# MASTER DOCUMENT REGISTER (MDR)

| | |
|---|---|
| **Opdrachtnemer:** | Sweco |
| **Projectnaam:** | Opwaardering KIJ-DIM-BVW380 |
| **Projectnummer:** | 003.430 |
| **Documentnummer MDR:** | 003.430.20 1554437 |
| **MDR revisie:** | 0.17 |
| **MDR revisie datum:** | 11-5-2026 |
| [redacted] | |
| | **zie tabblad 'Uitleg' voor uitleg per kolom** |

Lijnen algemeen
Mastmodellen en mastberekeningen
Funderingsconstructies
Aarding
Lijnarmaturen en kettingen

| Documentnummer / Meridiankenmerk | Documenttitel | RFA | Documentnummer opdrachtnemer | Documentnaam | Bestandsextensie |
|---|---|---|---|---|---|
| 1610100 | Rapportage Verzwaringen mastfundaties | 1610101 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Rapportage Verzwaringen mastfundaties | PDF |
| C1698865 | Bijlage 1_Blokpoer_3xbeton40x40_S+0_II_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 1_Blokpoer_3xbeton40x40_S+0_II_F4 | PDF |
| C1698866 | Bijlage 2_Blokpoer_3xbeton40x40_S+0_II_Mast 23_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 2_Blokpoer_3xbeton40x40_S+0_II_Mast 23_F4 | PDF |
| C1698867 | Bijlage 3_Blokpoer_3xbeton40x40_S+0_II_Mast 24_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 3_Blokpoer_3xbeton40x40_S+0_II_Mast 24_F4 | PDF |
| C1698868 | Bijlage 4_Balkrooster_5xbeton40x40_HA+0_Mast 37_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 4_Balkrooster_5xbeton40x40_HA+0_Mast 37_F4 | PDF |
| C1698869 | Bijlage 5_Blokpoer_3xbeton40x40_S+0_III_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 5_Blokpoer_3xbeton40x40_S+0_III_F4 | PDF |
| C1698870 | Bijlage 6_Blokpoer_3xbeton40x40_S+6_Mast 69_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 6_Blokpoer_3xbeton40x40_S+6_Mast 69_F4 | PDF |
| C1698871 | Bijlage 7_Blokpoer_3xbeton40x40_S+9_Mast 71_F4 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 7_Blokpoer_3xbeton40x40_S+9_Mast 71_F4 | PDF |
| C1698872 | Bijlage 8_Cilinderpoer75_1xLD1_S+0_III_Mast 86+142_F3 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 8_Cilinderpoer75_1xLD1_S+0_III_Mast 86+142_F3 | PDF |
| C1698873 | Bijlage 9_Cilinderpoer75_1xLD1_S+0_III_S+6_Mast 126+141+143_F3 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 9_Cilinderpoer75_1xLD1_S+0_III_S+6_Mast 126+141+143_F3 | PDF |
| ~~C1698874~~ | ~~Bijlage 10_Koppelframe_1xLD1_S+6_Mast 144_F3~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 10_Koppelframe_1xLD1_S+6_Mast 144_F3~~ | ~~PDF~~ |
| ~~C1698875~~ | ~~Bijlage 11_Balkrooster_5xbeton32x32_S+9_Mast 146_F5~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 11_Balkrooster_5xbeton32x32_S+9_Mast 146_F5~~ | ~~PDF~~ |
| ~~C1698876~~ | ~~Bijlage 12_Balkrooster_5xbeton32x32_S+9_Mast 147_F5~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 12_Balkrooster_5xbeton32x32_S+9_Mast 147_F5~~ | ~~PDF~~ |
| ~~C1698877~~ | ~~Bijlage 13_Blokpoer_2xLD1_S+12_Mast 148_F5~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 13_Blokpoer_2xLD1_S+12_Mast 148_F5~~ | ~~PDF~~ |
| C1698878 | Bijlage 14_Cilinderpoer75_1xLD1_S+9_Mast 150+151_F3 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 14_Cilinderpoer75_1xLD1_S+9_Mast 150+151_F3 | PDF |
| C1698880 | Bijlage 15_Cilinderpoer75_1xLD1_S+0_II_Mast 153_F3 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 15_Cilinderpoer75_1xLD1_S+0_II_Mast 153_F3 | PDF |
| C1698881 | Bijlage 16_Balkrooster_5xbeton40x40_S+24_Mast 157_F5 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 16_Balkrooster_5xbeton40x40_S+24_Mast 157_F5 | PDF |
| C1698882 | Bijlage 17_Balkrooster_5xbeton40x40_S+24_Mast 158_F5 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 17_Balkrooster_5xbeton40x40_S+24_Mast 158_F5 | PDF |
| C1698884 | Bijlage 18_Knaggen_LEKA219_310 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 18_Knaggen_LEKA219_310 | PDF |
| C1698885 | Bijlage 19_Knaggen_LEKA273_370 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 19_Knaggen_LEKA273_370 | PDF |
| C1698886 | Bijlage 20_Knaggen_LEKA324_470 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 20_Knaggen_LEKA324_470 | PDF |
| C1698887 | Bijlage 21_Knaggen_Buitenzijde LD1_Max | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 21_Knaggen_Buitenzijde LD1_Max | PDF |
| C1698888 | Bijlage 22_Knaggen_Buitenzijde LD1_Min | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 22_Knaggen_Buitenzijde LD1_Min | PDF |
| C1698889 | Bijlage 23_Knaggen_Buitenzijde LD1_Ballast | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 23_Knaggen_Buitenzijde LD1_Ballast | PDF |
| C1698890 | Bijlage 24_Toetsing_UC_Knaggen | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 24_Toetsing_UC_Knaggen | PDF |
| C1698895 | Bijlage 25_Doorsnedetoets_Blokpoer_3xbeton40x40 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 25_Doorsnedetoets_Blokpoer_3xbeton40x40 | PDF |
| ~~C1698896~~ | ~~Bijlage 26_Doorsnedetoets_Koppelframe_1xLD1~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 26_Doorsnedetoets_Koppelframe_1xLD1~~ | ~~PDF~~ |
| ~~C1698897~~ | ~~Bijlage 27_Doorsnedetoets_Blokpoer_2xLD1~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 27_Doorsnedetoets_Blokpoer_2xLD1~~ | ~~PDF~~ |
| C1698898 | Bijlage 28_Doorsnedetoets_Cilinderpoer75_1xLD1 | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 28_Doorsnedetoets_Cilinderpoer75_1xLD1 | PDF |
| C1698899 | Bijlage 29_Doorsnedetoets_Balkrooster | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 29_Doorsnedetoets_Balkrooster | PDF |
| C1698900 | Bijlage 30_Verzamel lijst doorsnedetoetsen | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 30_Verzamel lijst doorsnedetoetsen | PDF |
| C1698901 | Bijlage 31_Ballast_alle varianten | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 31_Ballast_alle varianten | PDF |
| C1700004 | Bijlage 32_Verzamel lijst ballast | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 32_Verzamel lijst ballast | PDF |
| C1700005 | Bijlage 33_Overzichtslijst mastfundaties | C1698902 | KIJ_BKK_DIM380-000-32-1004 | KIJ_BKK_DIM380-000-32-1004-Bijlage 33_Overzichtslijst mastfundaties | PDF |
| ~~C1700006~~ | ~~Bijlage 34_Doorsnedetoets_Mast 144~~ | ~~C1698902~~ | ~~KIJ_BKK_DIM380-000-32-1004~~ | ~~KIJ_BKK_DIM380-000-32-1004-Bijlage 34_Doorsnedetoets_Mast 144~~ | ~~PDF~~ |


TenneT C2 - Internal Information

KIJ_BKK_DIM380-000-32-1004
Meridian kenerk 1610100

# Opwaardering 380 kV-verbinding Krimpen aan den IJssel – Beverwijk (KIJ-BVW)

## Rapportage verzwaringen Mastfundaties



SWECO

# Lijst met aanpassingen

| Versie | Datum | Beschrijving van de wijziging | Herzien | Vrijgegeven door |
|---|---|---|---|---|
| D01 | 21-11-2025 | 1e uitgave | [redacted] | [redacted] |
| D02 | 19-02-2026 | 2e uitgave, verwerking RFA TenneT | [redacted] | [redacted] |
| D03 | 15-04-2026 | 3e uitgave, masten ‘De Ronde Venen’ aangepast | [redacted] | [redacted] |
| D04 | 21-05-2026 | 4e uitgave, LD1-palen profiel correctie | [redacted] | [redacted] |

| | |
|---|---|
| **Sweco Nederland B.V.** | Handelsregister 30129769 |
| **Onderwerp** | Opwaardering KIJ-BVW |
| **Projectnummer** | 51021552 |
| **Klant** | TenneT TSO B.V. |
| **Auteur** | [redacted] |
| **Gecontroleerd door** | [redacted] |
| **Vrijgegeven door** | [redacted] |
| **Datum** | 21-05-2026 |
| **Versie** | D04 |
| **Documentreferentie** | KIJ_BKK380_DIM380-000-32-1004-Uitwerking versterking |

# Inhoudsopgave


1 Inleiding ..... 4
1.1 Achtergrond ..... 4
1.2 Werkzaamheden ..... 4
1.3 Scope ..... 5
1.4 Toelichting bij versie D03 ..... 6
1.5 Toelichting bij versie D04 ..... 7

2 Aanpak ..... 8
3 Uitgangspunten ..... 9
3.1 Algemeen ..... 9
3.2 Toegepaste materialen ..... 12
3.3 Versterkingen criteria ..... 13

4 Berekeningen ..... 14
4.1 Versterkingen en toelichting ..... 15
4.2 Verbinding fundering aan nieuw en bestaande palen. ..... 17
4.3 Aansluitingen aan bestaande poeren + Doorsnedetoetsingen ..... 21
4.4 Ballastblokken aan bestaande fundering. ..... 23
4.5 Toetsing paalcapaciteiten ..... 28
~~4.6 Doorsnedetoets mast 144~~ ..... 31

5 Uitvoeringsaspecten ..... 33
5.1 Algemeen ..... 33
5.2 Funderingspalen ..... 33
5.3 Knaggen aan bestaande LD1 ..... 34
5.4 Wapening ..... 34
5.5 Aarding ..... 34
5.6 Specifieke punten ..... 35

Bijlagen ..... 36

# 1 Inleiding

## 1.1 Achtergrond

Om in de toekomst een grotere elektriciteitstransportcapaciteit te waarborgen, is het noodzakelijk om naast de nieuwbouw van hoogspanningsverbindingen ook bestaande verbindingen te upgraden. TenneT heeft het voornemen om de landelijke 380 kV ring, de 'ruggengraat' van het hoogspanningsnet in Nederland, op te waarderen. Dit project omvat onder andere het deelproject ‘Opwaardering 380 kV-verbinding Krimpen aan den IJssel – Beverwijk (KIJ-BVW)’. De werkzaamheden binnen dit project vallen onder de Rijkscoördinatieregeling.

## 1.2 Werkzaamheden

De opwaardering van de bestaande 380 kV-verbinding KIJ-BVW omvat diverse activiteiten. Centraal staat de vervanging van de huidige geleiders door nieuwe geleiders met een hogere capaciteit. Deze nieuwe geleiders zijn in staat meer stroom te transporteren doordat ze hogere temperaturen kunnen weerstaan zonder te ver door te hangen. Aangezien de huidige hoogspanningsverbinding inmiddels 50 jaar oud is, zullen ook andere componenten, zoals isolatorkettingen en bliksemdraden, worden vervangen om de levensduur te verlengen. Daarnaast worden de hoogspanningsmasten en de mastfunderingen opnieuw constructief beoordeeld, dit als onderdeel van de niet-omgevings vergunningplichtige werkzaamheden.

## 1.3 Scope

Dit document vormt de vervolgfase op het eerder uitgevoerde onderzoek – KIJ_BKK380_DIM380-000-32-1001-Resultaten onderzoek (toetsingen), versie D02 – naar de restcapaciteit van de constructieve onderdelen van de funderingen van de volgende lijn:

- **Lijn KIJ – BKK – DIM380**

In het voorgaande onderzoek (hoofdstuk 7) zijn de bestaande masten en funderingen getoetst conform de NEN8700-normen. Voor de onderdelen die niet voldeden aan de gestelde eisen, zijn in hoofdstuk 8 globale versterkingsmaatregelen voorgesteld binnen fase 1a en 1b. Deze voorstellen zijn gebaseerd op schetsmatige berekeningen en richten zich op de maakbaarheid, de verbindingen tussen mast, fundering en paal, en het behoud van operationele continuïteit, zoals het in dienst houden van de stroomvoorziening.

De versterkingen zijn ingedeeld in standaardtypen F1 t/m F5, variërend van ballastoplossingen (F1, F2) tot funderingsversterkingen met extra palen (F3, F4, F5). Voor complexe versterkingen (F5 specials) wordt gebruik gemaakt van SCIA vanwege de benodigde geavanceerde rekenmogelijkheden.

In deze fase (fase 2) worden de versterkingsmaatregelen verder uitgewerkt en constructief doorgerekend op DO-niveau. Dit omvat gedetailleerde constructieve en geotechnische berekeningen, modelanalyses en documentatie van alle relevante specificaties. De uitgangspunten uit fase 1 vormen hierbij de basis, waarbij de focus ligt op veiligheid, stabiliteit en uitvoerbaarheid van de voorgestelde versterkingen.

Voor dit project worden de volgende onderdelen constructief doorgerekend:

- **Fundering (team constructies):**
    - Balken en poeren (SCIA en Technosoft)
    - Verbindingen (Excel en IDEA StatiCa)
- **Palen (team geotechniek):**
    - Capaciteit en interactie palen (D-Foundations)

De resultaten van deze berekeningen vormen de basis voor de definitieve versterkingsmaatregelen en de uitvoeringsvoorbereiding. Hoewel de draagcapaciteiten van zowel de nieuwe als de bestaande funderingspalen door het team Geotechniek worden berekend, wordt de toetsing in dit document uitgevoerd door het team Constructies.

## 1.4 Toelichting bij versie D03

In versie D03 zijn aanpassingen in de rapportage verwerkt als gevolg van de hertoetsing op nieuwbouwniveau van alle masten in “De Ronde Venen”. Dit betreft de masten 128 t/m 148. De nieuwbouwtoets van deze masten is apart beschreven in de rapportages:

- KIJ_BKK380_DIM380-000-32-1006-Uitgangspuntennotitie De Ronde Venen
- KIJ_BKK380_DIM380-000-32-1008-Resultaten onderzoek (toetsingen) De Ronde Venen
- KIJ_BKK380_DIM380-000-32-1009-Uitwerking versterking De Ronde Venen

Als gevolg daarvan zijn de onderstaande berekeningsrapportages van het oorspronkelijke lijndeel 1 herzien.

- KIJ_BKK380_DIM380-000-32-1001-Resultaten onderzoek (toetsingen)
- KIJ_BKK380_DIM380-000-32-1004-Uitwerking versterking

In deze rapportages zijn alle teksten en toetsingen in het hoofdrapport met betrekking tot de masten 128 t/m 148 doorgehaald (~~doorgehaald~~). Ook zijn de bijlagen die volledig zijn vervallen gemarkeerd in de lijst met bijlagen.

## 1.5 Toelichting bij versie D04

In versie D03 zijn een aantal aanpassingen doorgevoerd:

- De in SCIA opgenomen modellering van de LD1 palen is aangepast. Als gevolg daarvan zijn de bijlagen 8, 9, 14, 15, 28, 30 en 33 herzien. De resultaten van deze herziening zijn in de rapportage verwerkt.
- Het eigen gewicht van de LD1 palen is voor de situaties die niet met SCIA zijn berekend in overeenstemming gebracht met de modellering die in SCIA is aangehouden. Het netto-effect is dat er een hoger eigen gewicht is meegenomen. Als gevolg hiervan is bijlage 33 aangepast en zijn de resultaten in de rapportage verwerkt.
- In enkele SCIA-modellen is gebleken dat vanuit de masten de belastingcombinaties met een hoog eigen gewicht bepalend zijn voor zowel de maatgevende druk als trekbelasting. In deze gevallen hebben wij deze bewuste belastingcombinaties nu ook met 0,9xEG gecombineerd. De bijlagen 8, 9, 14, 15, 28, 30 en 33 zijn op basis daarvan herzien.
- In enkele gevallen was in de toetsing van het geotechnische draagvermogen abusievelijk de optredende waarde in het aansluitvlak fundering-paal getoetst in plaats van de waarde op de punt van de paal. Dit heeft als gevolg dat wij besloten hebben om mast 68 niet te versterken. Hier was een versterking met ballast opgenomen.
- In lijn met de aanpassingen van versie D03 zijn wederom de waarden van de masten 128 t/m 148 doorgehaald en bijbehorende bijlagen gemarkeerd als vervallen. Wel zijn wijzigingen die invloed hadden op rekenresultaten van zowel het hoofdproject als het lijndeel De Ronde Venen ook bij De Ronde Venen doorgevoerd.

# 2 Aanpak

Het overall plan van aanpak voor dit project bestaat uit drie fasen:

- **Fase 1a:** Toetsing
- **Fase 1b:** Schetsontwerp versterkingen
- **Fase 2:** Uitwerking versterkingen

De fasen 1a en 1b zijn inmiddels afgerond. In deze fasen zijn de capaciteiten van verbindingen, betonconstructies en palen berekend en vergeleken met de optredende krachten, om te bepalen of de bestaande constructie voldoet aan de eisen conform NEN8700. De werkwijze is per onderdeel toegelicht en de resultaten zijn overzichtelijk weergegeven in tabellen en bijlagen. Voor onderdelen die niet voldeden, zijn globale versterkingsmaatregelen voorgesteld, waarbij maatgevende situaties zijn onderzocht om efficiënt met tijd en capaciteit om te gaan.

In dit document wordt fase 2 behandeld, waarin de voorgestelde versterkingen uit fase 1b verder worden uitgewerkt en constructief doorgerekend. De engineering vindt plaats op DO-niveau en omvat gedetailleerde berekeningen, modelanalyses en technische onderbouwing. De focus ligt op het realiseren van veilige, stabiele en uitvoerbare versterkingsmaatregelen, waarbij gebruik wordt gemaakt van geavanceerde rekenprogramma’s zoals SCIA, Technosoft en IDEA StatiCa.

# 3 Uitgangspunten

## 3.1 Algemeen

Voor de berekening en uitwerking van de versterkingen in fase 2 wordt verwezen naar de uitgangspuntennotitie: KIJ_BKK380_DIM380-000-32-1000-Uitgangspuntennotitie, versie D1.0

Ter bevordering van de leesbaarheid zijn enkele relevante uitgangspunten uit deze notitie overgenomen in dit document. Daarnaast zijn aanvullende uitgangspunten opgenomen die tijdens de uitwerking en berekening van de versterkingen zijn vastgesteld:

- **Algemene uitgangspunten voor versterkingen:**
    - Versterkingen in de vorm van ballast worden bepaald op basis van het tekort aan draagvermogen onder NEN8700, CC2, afkeurniveau en een referentieperiode van 30 jaar.
    - Versterkingen in de vorm van extra funderingspalen worden bepaald op basis van het tekort aan draagvermogen onder NEN8700, CC2, verbouwniveau en een referentieperiode van 50 jaar.
- **Materiaaleigenschappen en aannames:**
    - Voor het eigen gewicht van funderingspalen onder het grondwater is het soortelijk gewicht van de toegepaste materialen verlaagd met 10 kN/m³. Voor beton resulteert dit in een effectieve waarde van 13,5 kN/m³ (0,9 × (25 − 10)).
    - Voor de betonkwaliteit van bestaande constructies is uitgegaan van C13/16 in plaats van C12/15, zoals eerder vermeld in de uitgangspuntennotitie. Bij lokale toetsingen is een verhoging van de drukcapaciteit toegepast.
- **Restlevensduuronderzoek**

  Vanuit het veld- en bodemonderzoek (perceel 3) is een onderzoek uitgevoerd naar de mechanische eigenschappen van

het bestaande beton en staal. Uit drukproeven op geboorde betonkernen blijkt dat de betonkwaliteit aanzienlijk hoger is dan de in de assetdata vermelde klasse C13/16. Het statistische gemiddelde van de onderzochte kernen komt overeen met sterkteklasse C30/37. Daarnaast zijn de betonkernen onderzocht op carbonatatie en chloride-indringing, waarbij eveneens gunstige resultaten zijn vastgesteld.
Metingen van de staaldikte van de funderingspalen tonen aan dat de mate van corrosie relatief gering is. Op basis van deze bevindingen wordt geconcludeerd dat zowel het beton als het staal een resterende levensduur van meer dan 50 jaar hebben. Deze uitkomsten hebben een positief effect gehad op de toetsing van de knaggen, waardoor vrijwel alle knaggen van de bestaande funderingen konden worden goedgekeurd.
Hoewel deze hogere betonkwaliteit positief is voor de restlevensduur van de constructie, zal deze niet worden meegenomen in de berekeningen van fase 2. Het verwerken van deze aangepaste materiaaleigenschappen zou betekenen dat de toetsingen uit fase 1a en 1b volledig opnieuw moeten worden uitgevoerd. Gezien de beschikbare planning en het budget is dit binnen dit project niet haalbaar. Daarom blijven de oorspronkelijke uitgangspunten uit fase 1 leidend voor de uitwerking van de versterkingen in fase 2.

- **Specifieke uitgangspunten per mast:**
    - **Ontwikkeling Mast 76**

      Tijdens de toetsing van Mast 76, die oorspronkelijk was geclassificeerd als blokpoer 220 met drie betonpalen per mastpoot, is uit een aanvullende drone-inspectie gebleken dat de werkelijke situatie afwijkt van de ontwerptekeningen. In plaats van een blokpoer is een balkrooster toegepast dat de vier mastpoten met elkaar verbindt.

      Verder onderzoek in het veld wijst erop dat per hoek drie prefab palen zijn toegepast, aangevuld met vermoedelijk twee LD1-palen, wat resulteert in vijf palen per hoek. Opvallend is dat de paalconfiguratie niet symmetrisch rondom het zwaartepunt van de mast is uitgevoerd, maar vier keer in dezelfde oriëntatie is toegepast. Deze keuze is constructief niet logisch en er is vooralsnog geen verklaring voor gevonden.

      Gezien deze afwijkingen dient de berekening van de fundering opnieuw te worden uitgevoerd op basis van de actuele configuratie. De resultaten van deze herberekening zullen worden vastgelegd in een afzonderlijke rapportage, die aan het projectdossier wordt toegevoegd. Inmiddels is deze rapportage beschikbaar: KIJ_BKK380_DIM380-000-32-1010-Hertoetsing mast 76, versie D01

- **Mast 120:**

  Getoetst en akkoord bevonden op basis van LD1 palen, conform assetdata. Er zijn geen tekeningen beschikbaar ter bevestiging. Verificatie in het werk dient te worden uitgevoerd.

- ~~**Mast 146/147:**~~

  ~~Is getoetst met optie 1:~~

  - ~~Optie 1: 5× betonpaal per hoekpunt~~
  - ~~Optie 2: 1× LD1 paal per hoekpunt~~
    ~~Op basis van drone-inspectie lijkt optie 1 het meest waarschijnlijk. Het uitgangspunt is dat het fundament versterkt moet worden. Verificatie in het werk volgt.~~

- **Mast 156**:

  Getoetst op basis van een fundering met 2× MV palen + 1× LD1 paal + 2× Tubex palen. Het oudste deel wordt berekend met 2× MV + 1× LD1 palen, als meest waarschijnlijke scenario. Dit wijkt af van versterkingstekeningen van IOB/Movares. Verificatie in het werk volgt.

Deze uitgangspunten vormen de basis voor de berekeningen in fase 2 en worden waar nodig aangevuld met gegevens uit inspecties, assetdata en verificaties in het veld.

## 3.2 Toegepaste materialen

- Bestaand (uit assetdata)
  - Beton
    - K225 vergelijkbaar met C13/16 (was C12/15)*
    - Dekking onder 40 mm (4 cm uit assetdata)
    - Dekking overigens 30 mm (3 cm uit assetdata)
  - Wapening
    - Buig/trek QR40 vergelijkbaar met Feb400
    - Beugels QR24 vergelijkbaar met Feb220
  - Staal
    - Kwaliteit S235 (aangenomen)
  - Bouten
    - Kwaliteit 5.6 / 5Din
  - Ankers
    - Kwaliteit 4.6
- Nieuw
  - Beton
    - C30/37
    - Dekking rondom 45 mm
    - Milieuklasse XC4/XS1/XF3/XD3/XA3
  - Wapening
    - B500b
  - Staal
    - S355
  - Bouten
    - Klasse 8.8

* Uit het uitgevoerde restlevensduuronderzoek is gebleken dat de kwaliteit van het bestaande beton aanzienlijk hoger is dan eerder aangenomen op basis van assetdata. Waar in de uitgangspunten werd uitgegaan van betonkwaliteit C13/16, tonen statistische analyses aan dat de gemiddelde druksterkte overeenkomt met beton van kwaliteit C30/37.

## 3.3 Versterkingen criteria

- NEN8700 verbouw niveau:

In fase 2 worden de versterkingen van de funderingsconstructies uitgewerkt en doorgerekend op basis van het verbouwniveau van de NEN8700, voor gevolgklasse CC2 en een referentieperiode van 50 jaar. Dit betekent dat de constructieve veiligheid wordt beoordeeld met het oog op een duurzame versterking van bestaande constructies.

De bijbehorende partiële factoren die van toepassing zijn op deze verbouwniveau-berekeningen worden conform NEN8700 gehanteerd en zijn opgenomen in de volgende tabel:

| Partiële factoren bij verbouw | | | | |
|---|---|---|---|---|
| **Belastings-combinatie** | **Blijvende belastingen** | | **Overheersende veranderlijke belasting anders dan wind** [a] | **Wind maatgevende belasting** [a b] |
| | Ongunstig | Gunstig | | |
| (Vgl. 6.10a) | $\gamma_{Gj,sup}$ | $\gamma_{Gj,inf}$ | $\gamma_{Q,1}$ | $\gamma_{Q,1}$ |
| Gevolgklasse CC2 | 1,30 (1,20) | 0,90 | 1,30 | 1,40 |
| (Vgl. 6.10b) | $\xi \cdot \gamma_{Gj,sup}$ | $\gamma_{Gj,inf}$ | $\gamma_{Q,1}$ | $\gamma_{Q,1}$ |
| Gevolgklasse CC2 | 1,15 | 0,90 | 1,30 | 1,40 |

**Uitzondering op ballastversterkingen:**
Versterkingen die worden uitgevoerd in de vorm van ballast worden niet beoordeeld op verbouwniveau. In afwijking van het bovenstaande wordt bij deze versterkingen uitgegaan van het afkeurniveau van de NEN8700, eveneens voor gevolgklasse CC2, maar met een referentieperiode van 30 jaar. Zie ook de aanvullende uitgangspunten in hoofdstuk 3.

Daarnaast wordt het effect van de grondwaterstand meegenomen in de beschouwing van de krachten die kunnen ontstaan in de fundering. Dit is van invloed op het effectieve gewicht van funderingsmaterialen en de belasting op de palen.

# 4 Berekeningen

In dit hoofdstuk worden de berekeningen gepresenteerd die voortvloeien uit de voorgestelde versterkingsmaatregelen uit fase 1b. De focus ligt daarbij op de constructieve onderbouwing van de gekozen versterkingstypen (F1 t/m F5), waarbij gebruik wordt gemaakt van geavanceerde rekenmethoden en software.

In paragraaf 4.1 is een overzicht met toelichting gegeven op de diverse versterkingen.

In paragraaf 4.2 zijn de nieuw aan te brengen verbindingen van zowel nieuwe palen aan fundament als bestaande palen aan nieuwe fundament beschouwd. Deze verbindingen zijn doorgerekend met behulp van Excel en IDEA statica.

In paragraaf 4.3 is de verbinding van het nieuwe beton aan het bestaande beton en de doorsnedetoetsingen van het nieuwe beton opgenomen.

In paragraaf 4.4 zijn de versterkingen door middel van ballast beschouwd.

In paragraaf 4.5. zijn zowel de nieuwe als bestaande palen getoetst aan de door geotechniek  geadviseerde maximale draagvermogen. De reacties op de palen van meerpaalsconstructies zijn geanalyseerd met SCIA-Engineer.

~~In paragraaf 4.6 is een doorsnedetoetsing opgenomen van de koppelbalk bij mast 144.~~

Voor de belastingen vanuit de masten wordt verwezen naar de bijbehorende rapportages in PLS-Tower. Deze rapportages zijn opgesteld door de lijnengineers vanuit hoogspanning. De beschouwde belastingen zijn op verbouwniveau voor de versterkingen met palen en op afkeurniveau voor de versterkingen met ballast, en zijn beiden opgenomen in bijlage 33.

De geotechnische uitgangspunten zijn gebaseerd op de rapportage: KIJ_BKK380_DIM380-000-32-0004 Geotechnisch rapport (versterkingen), versie d.d. 21-11-2025

## 4.1 Versterkingen en toelichting

Zoals vastgesteld in het voorgaande onderzoek – KIJ_BKK380_DIM380-000-32-1001-Resultaten onderzoek (toetsingen), versie D02 – , voldoen bepaalde funderingen niet aan de eisen conform NEN8700. In hoofdstuk 8 van het betreffende onderzoek zijn daarvoor globaal versterkingsmaatregelen voorgesteld. Deze zijn ingedeeld in standaardtypen F1 t/m F5, variërend van ballastoplossingen (F1, F2) tot funderingsversterkingen met extra palen (F3, F4, F5). Voor de versterkingen met extra palen wordt gebruik gemaakt van SCIA, vanwege de benodigde geavanceerde rekenmogelijkheden.

In deze fase (fase 2) worden de versterkingen verder uitgewerkt op DO-niveau. Dit omvat gedetailleerde constructieve en geotechnische berekeningen, modelanalyses en technische documentatie. De uitgangspunten uit fase 1 blijven leidend, met als doel het realiseren van veilige, stabiele en uitvoerbare versterkingsmaatregelen binnen de gestelde planning en budget.

De berekeningen worden per type versterking uitgewerkt. Vervolgens wordt per type een toepassingsoverzicht toegevoegd waarin wordt aangegeven voor welke masten het betreffende versterkingstype van toepassing is. Specifieke aandachtspunten en afwijkingen per mast worden daarbij expliciet benoemd, zodat duidelijk is welke uitgangspunten en randvoorwaarden gelden voor de individuele mastfundaties.

- Versterking Blokpoer (220) (3xB) + ballast (F1)
- Lichte variant
    - Masten 7, 9, 14, 52, 56, 57, 65, 66, 90 en 111 (10 stuks)
- Zware variant
    - Masten 6, 18, 28 en 73 (4 stuks)
- Versterking Blokpoer (220) (3xB) + ballast met koppelbalk (F2)
    - Masten 13, 19, 22, 51, 53, 54, 55, 64, 118 en 123 (10 stuks)
- Versterking Blokpoer (220) (3xB) + 2 x paal (F4)
    - Masten 4, 5, 10, 16, 21, 23, 24, 26, 27, 29, 33, 34, 50, 58, 59, 69, 71 en 124 (18 stuks)
- Versterking Cilinderpoer (75) (1xLD1) + ballast (F1)
    - Masten 121, ~~128, 130, 131, 133, 134, 135, 136, 145~~ en 152 (10 stuks)
- Versterking Cilinderpoer (75) (1xLD1) + 2 x paal (F3)
    - Masten 86, 126, ~~141, 142, 143,~~ 150, 151 en 153 (8 stuks)
- ~~Versterking Koppelframe Cilinderpoer (75) (1xLD1) + 2x paal + koppelbalk (F5)~~
    - ~~Mast 144 (1 stuk)~~
- ~~Versterking Blokpoer (200) (2xLD1) + 2 x paal (F5)~~
    - ~~Mast 148 (1 stuk)~~
- Versterking balkenrooster (4xB) + 2 x paal (F5)

    - Mast 158 (1 stuk)
- Versterking balkenrooster (5xB) + 2 x paal (F5)
    - Mast 37 (1 stuk)
- Versterking balkenrooster (4xB) + 3 x paal (F5)
    - Mast 157 (1 stuk)
- ~~Versterking balkenrooster (5xB) + 3 x paal (F5)~~
    - ~~Masten 146 en 147 (2 stuks)~~
- Totaal 52 stuks

De onderstaande berekeningen zijn opgenomen in de volgende paragraven:

- Verbindingen (Excel/IDEA) – par. 4.2
    - Nieuwe palen aan nieuw beton
    - Bestaande palen aan nieuw beton
- Verbinding nieuwe beton aan bestaande (Excel) – par. 4.3
- Doorsnede toets beton (Excel) – par. 4.3
- Versterkingen door middel van ballast (Excel) – par. 4.4
- Toetsing palen (SCIA/GEO) – par 4.5
    - Nieuwe palen
    - Bestaande palen
- ~~Doorsnedetoetsing mast 144 (SCIA) – par 4.6~~

## 4.2 Verbinding fundering aan nieuw en bestaande palen.

De aansluiting van de LEKA-palen op de betonnen fundering wordt gerealiseerd door middel van knaggen. Deze knaggen zijn gedimensioneerd voor drie paaldiameters, te weten 219/310 mm, 273/370 mm en 324/470 mm, met draagcapaciteiten variërend van 1469 kN tot 2234 kN. De onderliggende berekeningen zijn opgenomen in de bijlagen 18 tot en met 20:

- Bijlage 18 Capaciteit knaggen aan palen 219/310 mm
- Bijlage 19 Capaciteit knaggen aan palen 273/370 mm
- Bijlage 20 Capaciteit knaggen aan palen 324/470 mm

Op dezelfde wijze is ook de capaciteit bepaald van de knaggen die aan de buitenzijde van de bestaande LD1 palen gelast moeten worden. Er is een zware variant uitgerekend (bijlage 21) en een minder zware variant (bijlage 22). Tevens is berekend welke knaggen bij de versterking met ballast toegepast worden. De onderliggende berekeningen zijn opgenomen in de bijlagen 21 tot en met 23:

- Bijlage 21 Capaciteit knaggen aan LD1 palen (maximaal)
- Bijlage 22 Capaciteit knaggen aan LD1 palen (minimaal)
- Bijlage 23 Capaciteit knaggen aan LD1 palen (ballast)

De knaggen aan de buitenzijde van de LD1 palen dragen de krachten via de nieuwe betonconstructie over naar de nieuwe LEKA-palen. Door deze constructieve koppeling wordt de kracht die vanuit de LEKA-paal in de bestaande paal moet worden ingeleid verdubbeld.

Voor de ballastsituatie geldt dat het gewicht van de ballast via de knaggen overgedragen moet kunnen worden. Praktisch zijn in deze situatie dezelfde knaggen toegepast als bij de versterkingen met palen.

In deze paragraaf is een overzichtstabel – tabel 4-1 – weergegeven waarin de paalbelastingen en de corresponderende capaciteiten van de knaggen zijn samengevat. De volledige weergave van deze tabel is opgenomen in bijlage 24.

In versie D02 van deze rapportage is een aanpassing doorgevoerd in de excelsheet waarmee de knaggen worden berekend. Diverse opmerkingen vanuit RFA procedure zijn hierin verwerkt.

Tabel 4-1 Resultaten toetsing knaggen

| Mast | Paaltype | Maximale drukkracht in één LEKA-paal [kN] | Maximale trekkracht in één LEKA-paal [kN] | Capaciteit knag [kN/paal] | Capaciteit knag best. paal [kN/paal] | UC knag druk [kN] | UC knag trek [kN] | UC knag best. paal [kN] | Locatie berekening knag |
|---|---|---|---|---|---|---|---|---|---|
| **4** | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| **5** | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| **6** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **7** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **9** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **10** | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| **13** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **14** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **16** | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| **18** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **19** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **21** | Rond 273/370 | 251,3 | 355,8 | 1867 | | 0,13 | 0,19 | | Bijlage 19 |
| **22** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **23** | Rond 324/470 | 438,1 | 353,4 | 2234 | | 0,20 | 0,16 | | Bijlage 20 |
| **24** | Rond 273/370 | 412,7 | 257,8 | 1867 | | 0,22 | 0,14 | | Bijlage 19 |
| **26** | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| **27** | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| **28** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **29** | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| **33** | Rond 273/370 | 251,3 | 355,8 | 1867 | | 0,13 | 0,19 | | Bijlage 19 |
| **34** | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| **37** | Rond 219/310 | 180,7 | 8,6 | 1469 | | 0,12 | 0,01 | | Bijlage 18 |

| Mast | Paaltype | Maximale drukkracht in één LEKA-paal [kN] | Maximale trekkracht in één LEKA-paal [kN] | Capaciteit knag [kN/paal] | Capaciteit knag best. paal [kN/paal] | UC knag druk [kN] | UC knag trek [kN] | UC knag best. paal [kN] | Locatie berekening knag |
|---|---|---|---|---|---|---|---|---|---|
| **50** | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| **51** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **52** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **53** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **54** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **55** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **56** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **57** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **58** | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| **59** | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| **64** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **65** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **66** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **69** | Rond 219/310 | 400,0 | 233,7 | 1469 | | 0,27 | 0,16 | | Bijlage 18 |
| **71** | Rond 219/310 | 139,7 | 272,2 | 1469 | | 0,10 | 0,19 | | Bijlage 18 |
| **73** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **86** | Rond 324/470 | 153,2 | 138,6 | 2234 | 1920 | 0,07 | 0,06 | 0,16 | Bijlage 20 & 22 |
| **90** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **111** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **118** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **121** | Ballast | 294,8 | 0,0 | | 1920 | | | 0,15 | Bijlage 23 |
| **123** | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| **124** | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| **126** | Rond 324/470 | 210,4 | 63,4 | 2234 | 1920 | 0,09 | 0,03 | 0,26 | Bijlage 20 & 22 |
| ~~**128**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**130**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**131**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**133**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |

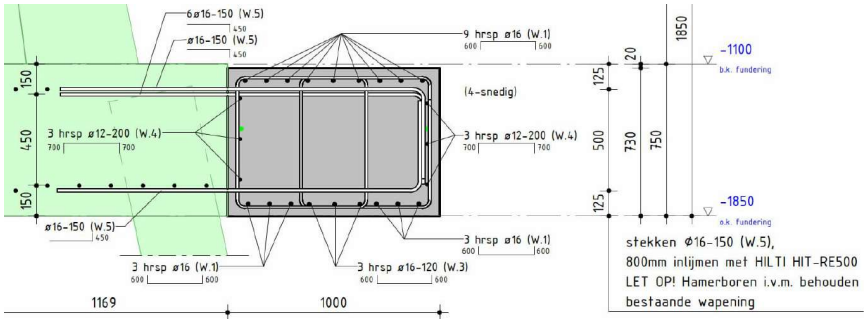
| Mast | Paaltype | Maximale drukkracht in één LEKA-paal [kN] | Maximale trekkracht in één LEKA-paal [kN] | Capaciteit knag [kN/paal] | Capaciteit knag best. paal [kN/paal] | UC knag druk [kN] | UC knag trek [kN] | UC knag best. paal [kN] | Locatie berekening knag |
|---|---|---|---|---|---|---|---|---|---|
| ~~**134**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**135**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**136**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**141**~~ | ~~Rond 324/470~~ | ~~210,4~~ | ~~63,4~~ | ~~2234~~ | ~~1920~~ | ~~0,09~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20 & 22~~ |
| ~~**142**~~ | ~~Rond324/470~~ | ~~245,4~~ | ~~66,1~~ | ~~2234~~ | ~~1920~~ | ~~0,11~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20 & 22~~ |
| ~~**143**~~ | ~~Rond 324/470~~ | ~~210,4~~ | ~~63,4~~ | ~~2234~~ | ~~1920~~ | ~~0,09~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20 & 22~~ |
| ~~**144**~~ | ~~Rond 219/310~~ | ~~850,1~~ | ~~289,1~~ | ~~1469~~ | ~~2720~~ | ~~0,58~~ | ~~0,20~~ | ~~0,63~~ | ~~Bijlage 18 & 21~~ |
| ~~**145**~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | - | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~**146 optie 1**~~ | ~~Rond 219/310~~ | ~~413,5~~ | ~~0,0~~ | ~~1469~~ | | ~~0,28~~ | ~~0,00~~ | | ~~Bijlage 18~~ |
| ~~**147 optie 1**~~ | ~~Rond219/310~~ | ~~214,6~~ | ~~133,8~~ | ~~1469~~ | | ~~0,15~~ | ~~0,09~~ | | ~~Bijlage 18~~ |
| ~~**148**~~ | ~~Rond 219/310~~ | ~~464,0~~ | ~~257,2~~ | ~~1469~~ | | ~~0,32~~ | ~~0,18~~ | | ~~Bijlage 18~~ |
| **150** | Rond 324/470 | 337,9 | 169,3 | 2234 | 1920 | 0,15 | 0,08 | 0,35 | Bijlage 20 & 22 |
| **151** | Rond 324/470 | 337,9 | 169,3 | 2234 | 1920 | 0,15 | 0,08 | 0,35 | Bijlage 20 & 22 |
| **152** | Ballast | 294,8 | 0,0 | | 1920 | | | 0,15 | Bijlage 23 |
| **153** | Rond 324/470 | 320,9 | 92,1 | 2234 | 1920 | 0,14 | 0,04 | 0,33 | Bijlage 20 & 22 |
| **157** | Rond 219/310 | 408,7 | 133,4 | 1469 | | 0,28 | 0,09 | | Bijlage 18 |
| **158** | Rond 219/310 | 197,1 | 37,2 | 1469 | | 0,13 | 0,03 | | Bijlage 18 |

## Conclusie

Zoals weergegeven in tabel 4.1 voldoen zowel de knaggenverbindingen van de LEKA-palen in de betonnen poeren als de knaggenverbindingen van de bestaande palen aan de nieuw te realiseren betonnen fundering aan de gestelde eisen.

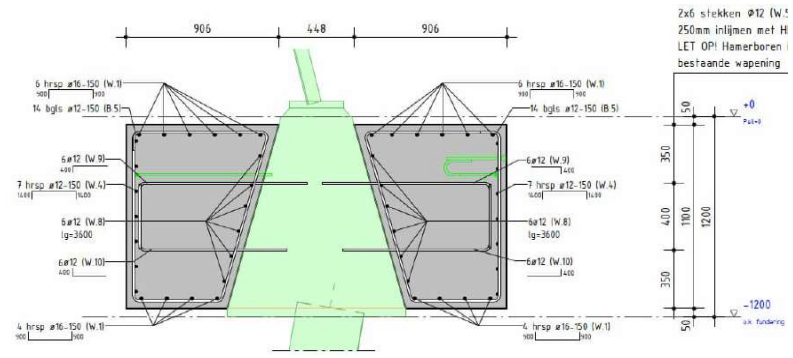
# 4.3 Aansluitingen aan bestaande poeren + Doorsnedetoetsingen

Voor het verbinden van in het werk te storten betonnen balken en poeren met de bestaande betonnen poeren, zodat krachten vanuit ballast en palen correct worden overgedragen, is het noodzakelijk om wapening in te boren en te verlijmen. Bij het ontwerp en de uitvoering moet rekening worden gehouden met de geometrie van de bestaande betonnen onderdelen.




Figuur 4-1: Rechte aansluiting

Bij de balken en enkele blokpoeren, die vrijwel rechthoekig van vorm zijn, vindt de krachtsoverdracht voornamelijk plaats via wrijving tussen het bestaande en het nieuwe beton. Daarnaast moet een relatief lage splijtkracht worden overgebracht door middel van ingelijmde wapening, die voorkomt dat de stortnaad openbreekt en zorgt voor een stabiele verbinding.




Figuur 4-2: Schuine aansluiting

Voor de 3B-poer, die trapeziumvormig is, ligt de situatie complexer. Door deze vorm kunnen drukkrachten relatief eenvoudig via het contactoppervlak worden overgedragen. De overdracht van trekkrachten daarentegen vormt een uitdaging, aangezien beton van nature slecht trekspanningen kan opnemen. Om deze reden moet de volledige trekkracht via de ingelijmde wapening worden

overgebracht; wrijving tussen de contactvlakken levert hier vrijwel geen bijdrage.

In de doorsnedetoetsen van de nieuw te storten betonnen funderingen (bijlagen 25 t/m 29) is de benodigde wapening voor de diverse contactvlakken berekend. De resultaten van deze berekeningen zijn verwerkt in de bijbehorende tekeningen.

**Conclusie**

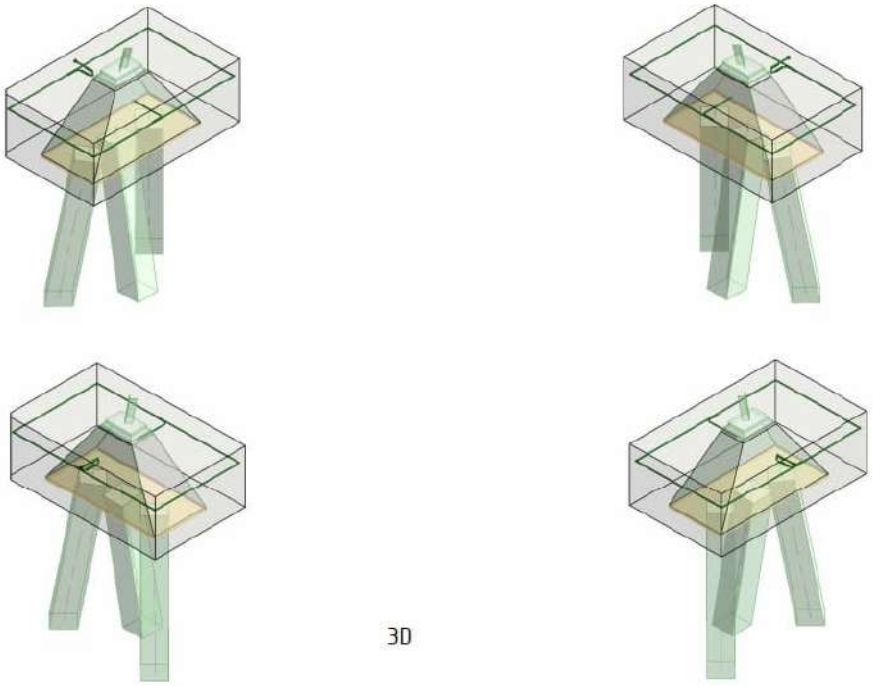
Voor een betrouwbare verbinding tussen nieuw te storten beton en bestaande poeren is het essentieel om ingelijmde wapening toe te passen, afgestemd op de geometrie van de bestaande constructie. Bij rechthoekige aansluitingen wordt de krachtsoverdracht voornamelijk gerealiseerd via wrijving, aangevuld met wapening om splijtkrachten op te nemen. Bij trapeziumvormige poeren, zoals de 3B-poer, moet de volledige trekkracht via wapening worden overgebracht, aangezien wrijving hier geen bijdrage levert. De benodigde wapening voor alle contactvlakken is berekend en verwerkt in de bijbehorende tekeningen, zoals vastgelegd in bijlagen 25 t/m 29.

## 4.4 Ballastblokken aan bestaande fundering.

Voor het verhogen van de capaciteit van de bestaande fundering, waar een relatief gering tekort op de trekcapaciteit van de palen aanwezig is, wordt ballast in de vorm van in het werk gestorte beton aan de bestaande fundering gekoppeld. Dit zorgt voor een effectieve overdracht van krachten en een stabiele constructie.

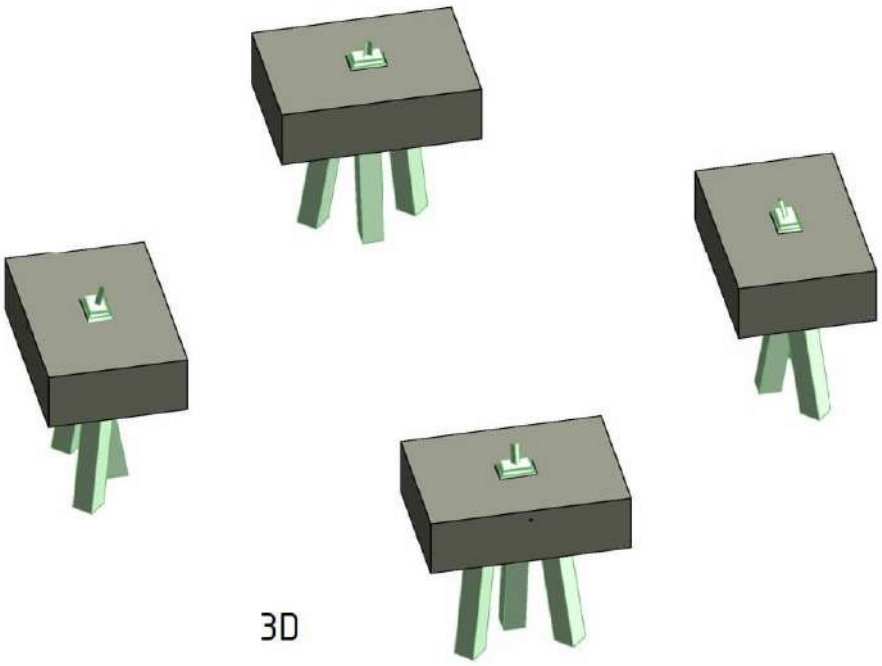
De belasting wordt verantwoord door middel van de overzichtstabel 4-2 waarin de verschillende ballastconfiguraties zijn opgenomen. De berekeningen van de verschillende configuraties is opgenomen in bijlage 31. De tabel met resultaten is ook in bijlage 32 opgenomen.

- **Ballast licht**



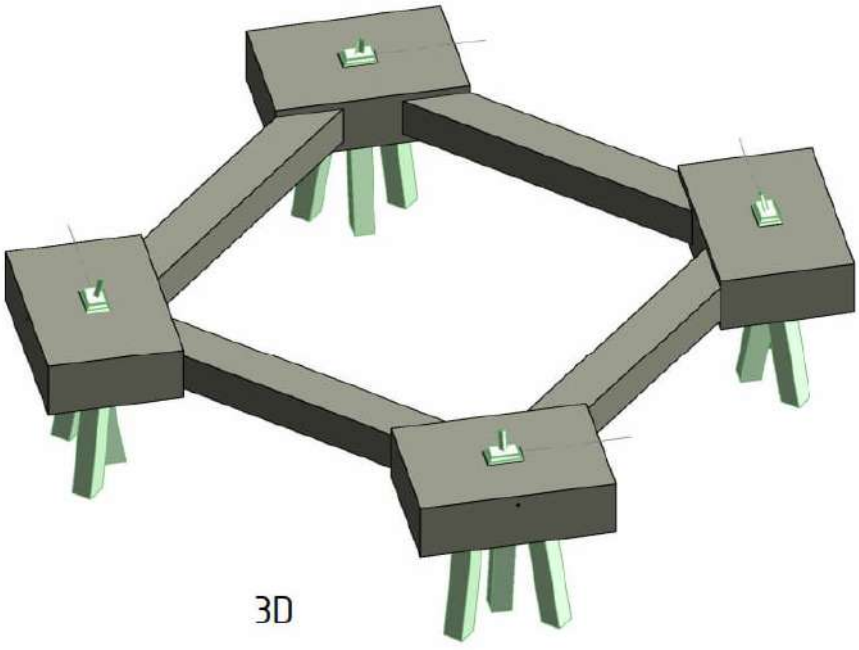

Figuur 4-3 Blokpoer (220) (3xB) + Ballast licht

- **Ballast zwaar**



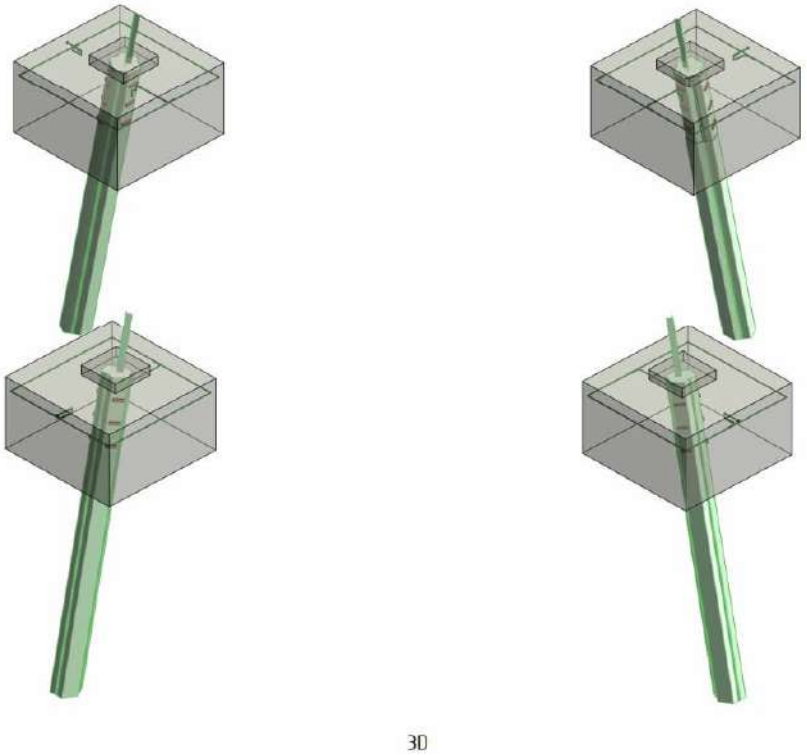

Figuur 4-4 Blokpoer (220) (3xB) + Ballast zwaar

- **Ballast zwaar + koppelbalk**




Figuur 4-5 Blokpoer (220) (3xB) + Ballast + Koppelbalk

- **Ballast aan LD1-paal**




Figuur 4-6 Cilinderpoer (75) (1xLD1) + Ballast

Tabel 4-2 Resultaten toetsingen versterkingen met ballast

| Mast | | GEO | GEO | Bestaande palen | | Ballast blokken | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Paaltype | Druk-capaciteit enkele paal [kN] | Trek-capaciteit enkele paal [kN] | Maximale drukkracht in één fundatiepaal [kN] | Maximale trekkracht in één fundatiepaal [kN] | Max. belasting door ballast | Min. belasting door ballast | Versterking | Cat. | Poer type | UC op druk in paal | UC op trek in paal |
| **4** | 40*40 cm bet. | 753 | 198 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **5** | 40*40 cm bet. | 793 | 170 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **6** | 40*40 cm bet. | 1340 | 242 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,47 | 0,96 |
| **7** | 40*40 cm bet. | 1400 | 263 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,42 | 0,96 |
| **9** | 40*40 cm bet. | 1577 | 266 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,37 | 0,95 |
| **10** | 40*40 cm bet. | 669 | 170 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **13** | 40*40 cm bet. | 1011 | 224 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,66 | 0,97 |
| **14** | 40*40 cm bet. | 1289 | 268 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,46 | 0,94 |
| **16** | 40*40 cm bet. | 888 | 171 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **18** | 40*40 cm bet. | 1169 | 250 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,54 | 0,93 |
| **19** | 40*40 cm bet. | 979 | 234 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,68 | 0,93 |
| **21** | 40*40 cm bet. | 873 | 190 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22** | 40*40 cm bet. | 1270 | 237 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,52 | 0,91 |
| **23** | 40*40 cm bet. | 396 | 89 | 396,0 | 0,1 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **24** | 40*40 cm bet. | 462 | 128 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **26** | 40*40 cm bet. | 703 | 186 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **27** | 40*40 cm bet. | 706 | 167 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **28** | 40*40 cm bet. | 1199 | 246 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,52 | 0,95 |
| **29** | 40*40 cm bet. | 559 | 179 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **33** | 40*40 cm bet. | 638 | 168 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **34** | 40*40 cm bet. | 587 | 183 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **37** | 40*40 cm bet. | 664 | 100 | 459,7 | 100,0 | | | Aanstorting met 2 palen | F5 | Balkrooster (5*B) | | |
| **50** | 40*40 cm bet. | 812 | 175 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **51** | 40*40 cm bet. | 1063 | 228 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,58 | 0,95 |
| **52** | 40*40 cm bet. | 1478 | 269 | 423,0 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,32 | 0,94 |
| **53** | 40*40 cm bet. | 1481 | 228 | 423,0 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,37 | 0,95 |
| **54** | 40*40 cm bet. | 1233 | 240 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,50 | 0,90 |
| **55** | 40*40 cm bet. | 1401 | 228 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,44 | 0,95 |
| **56** | 40*40 cm bet. | 1580 | 256 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,34 | 0,99 |
| **57** | 40*40 cm bet. | 1699 | 271 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,32 | 0,93 |
| **58** | 40*40 cm bet. | 1232 | 147 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **59** | 40*40 cm bet. | 930 | 135 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **64** | 40*40 cm bet. | 1239 | 226 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,50 | 0,96 |
| **65** | 40*40 cm bet. | 1526 | 260 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,35 | 0,97 |
| **66** | 40*40 cm bet. | 1319 | 270 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,41 | 0,94 |
| **69** | 40*40 cm bet. | 384 | 136 | 384,0 | 136,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |

| **Mast** | | **GEO** | **GEO** | **Bestaande palen** | | **Ballast blokken** | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Paaltype** | **Druk-capaciteit enkele paal [kN]** | **Trek-capaciteit enkele paal [kN]** | **Maximale drukkracht in één fundatiepaal [kN]** | **Maximale trekkracht in één fundatiepaal [kN]** | **Max. belasting door ballast** | **Min. belasting door ballast** | **Versterking** | **Cat.** | **Poer type** | **UC op druk in paal** | **UC op trek in paal** |
| **71** | 40*40 cm bet. | 896 | 176 | 735,0 | 176,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **73** | 40*40 cm bet. | 1569 | 250 | 491,9 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,37 | 0,93 |
| **86** | LD1+p | 909 | 178 | 800,0 | 178,0 | | | Extra palen (2 stuks) | F3 | Cilinderpoer (75) (1*LD1) | | |
| **90** | 40*40 cm bet. | 1324 | 263 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,41 | 0,96 |
| **111** | 40*40 cm bet. | 1376 | 257 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,39 | 0,98 |
| **118** | 40*40 cm bet. | 1288 | 236 | | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,10 | 0,92 |
| **121** | LD1+p | 1627 | 387 | 756,9 | 479,8 | 296,1 | 133,3 | Ballast (let op knaggen) | F1 | Cilinderpoer (75) (1*LD1) | 0,65 | 0,90 |
| **123** | 40*40 cm bet. | 1180 | 222 | 423,0 | 275,0 | 129,3 | 58,2 | Ballast + Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,47 | 0,98 |
| **124** | 40*40 cm bet. | 962 | 132 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **126** | LD1+p | 908 | 270 | 900,0 | 194,0 | | | Extra palen (2 stuks) (let op knaggen) | F3 | Cilinderpoer (75) (1*LD1) | | |
| ~~**128**~~ | ~~LD1+p~~ | ~~1319~~ | ~~322~~ | ~~678,4~~ | ~~434,7~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,74~~ | ~~0,94~~ |
| ~~**130**~~ | ~~LD1+p~~ | ~~1454~~ | ~~348~~ | ~~677,8~~ | ~~435,1~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,67~~ | ~~0,87~~ |
| ~~**131**~~ | ~~LD1+p~~ | ~~1245~~ | ~~409~~ | ~~754,9~~ | ~~481,3~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,84~~ | ~~0,85~~ |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~133~~ | ~~LD1+p~~ | ~~1223~~ | ~~413~~ | ~~678,9~~ | ~~434,3~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,80~~ | ~~0,73~~ |
| ~~134~~ | ~~LD1+p~~ | ~~1505~~ | ~~428~~ | ~~677,8~~ | ~~435,1~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,65~~ | ~~0,71~~ |
| ~~135~~ | ~~LD1+p~~ | ~~1457~~ | ~~317~~ | ~~678,4~~ | ~~434,7~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,67~~ | ~~0,95~~ |
| ~~136~~ | ~~LD1+p~~ | ~~1271~~ | ~~319~~ | ~~676,8~~ | ~~435,9~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,77~~ | ~~0,95~~ |
| ~~141~~ | ~~LD1+p~~ | ~~900~~ | ~~194~~ | ~~900,0~~ | ~~194,0~~ | | | ~~Extra palen (2 stuks)~~ | ~~F3~~ | ~~Cilinderpoer (75) (1*LD1)~~ | - | - |
| ~~142~~ | ~~LD1+p~~ | ~~800~~ | ~~203~~ | ~~800,0~~ | ~~178,0~~ | | | ~~Extra palen (2 stuks)~~ | ~~F3~~ | ~~Cilinderpoer (75) (1*LD1)~~ | - | - |
| ~~143~~ | ~~LD1+p~~ | ~~986~~ | ~~226~~ | ~~900,0~~ | ~~194,0~~ | | | ~~Extra palen (2 stuks)~~ | ~~F3~~ | ~~Cilinderpoer (75) (1*LD1)~~ | - | - |
| ~~144~~ | ~~LD1+p~~ | ~~868~~ | ~~234~~ | ~~868,0~~ | ~~234,0~~ | | | ~~Extra palen (2 stuks) lijnpoer~~ | ~~F3~~ | ~~Koppelframe (Cilinderpoer 1*LD1)~~ | - | - |
| ~~145~~ | ~~LD1+p~~ | ~~1900~~ | ~~414~~ | ~~754,9~~ | ~~481,3~~ | ~~296,1~~ | ~~133,3~~ | ~~Ballast~~ | ~~F1~~ | ~~Cilinderpoer (75) (1*LD1)~~ | ~~0,55~~ | ~~0,84~~ |
| ~~146 optie 1~~ | ~~32*32 cm bet.~~ | ~~84~~ | ~~1~~ | ~~84,0~~ | ~~0,0~~ | | | ~~Aanstorting met 3 palen om fundament grotendeels over te nemen~~ | ~~F5 fundatievernieuwing~~ | ~~Balkrooster (5*B)~~ | - | - |
| ~~147 optie 1~~ | ~~32*32 cm bet.~~ | ~~411~~ | ~~31~~ | ~~218,5~~ | ~~17,6~~ | | | ~~Aanstorting met 3 palen om fundament grotendeels over te nemen~~ | ~~F5 fundatievernieuwing~~ | ~~Balkrooster (5*B)~~ | - | - |
| ~~148~~ | ~~2 LD1+p~~ | ~~859~~ | ~~190~~ | ~~859,0~~ | ~~190,0~~ | | | ~~Blokpoer met 2 extra palen~~ | ~~F5~~ | ~~Blokpoer(200) (2*LD1)~~ | - | - |
| **150** | LD1+p | 1469 | 275 | 956,0 | 229,0 | | | Extra palen (2 stuks) | F3 | Cilinderpoer (75) (1*LD1) | | |
| **151** | LD1+p | 956 | 229 | 798,0 | 551,3 | | | Extra palen (2 stuks) (let op knaggen) | F3 | Cilinderpoer (75) (1*LD1) | | |
| **152** | LD1+p | 1572 | 436 | 798,0 | 551,0 | 296,1 | 133,3 | Ballast (let op knaggen) | F1 | Cilinderpoer (75) (1*LD1) | 0,70 | 0,96 |
| **153** | LD1+p | 839 | 239 | 839,0 | 239,0 | | | Extra palen (2 stuks) | F3 | Cilinderpoer (75) (1*LD1) | | |
| **157** | 40*40 cm bet. | 468 | 345 | 360,4 | 213,0 | | | Aanstorting met 3 palen | F5 | Balkrooster (4*B) | | |
| **158** | 40*40 cm bet. | 1583 | 281 | 551,5 | 243,2 | | | Aanstorting met 2 palen | F5 | Balkrooster (4*B) | | |

## Conclusie

Door toepassing van ballast in combinatie met zorgvuldig ontworpen verbindingen en ingelijmde wapening wordt de trekcapaciteit van de fundering effectief verhoogd, conform de eisen voor stabiliteit en krachtoverdracht.

## 4.5 Toetsing paalcapaciteiten

De krachten uit de SCIA-berekening van de fundering worden getoetst aan de hand van de capaciteiten van de palen. De resultaten worden in tabelvorm weergegeven.

De berekeningen en modelinvoer zijn te vinden in de bijlagen 1 t/m 17, daarnaast wordt verwezen naar de overzichtslijst in bijlage 33.

Tabel 4-3 Resultaten toetsing paaldraagvermogens na versterking

| **Resultaten toetsingen paaldraagvermogens na versterking** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Mast** | **Paaltype** | **$F_{Rd,druk}$ [kN]** | **$F_{Rd,trek}$ [kN]** | **$F_{Ed,druk}$ [kN]** | **$F_{Ed,trek}$ [kN]** | **UC druk** | **UC trek** | **Maatgevende U.C.** | **Bijlage ##** |
| **4** | 40*40 cm bet. | 753,0 | 198,0 | 559,0 | 132,0 | 0,74 | 0,67 | 0,96 | 1 |
| | Rond 219/310 | 1031,0 | 371,0 | 251,3 | 355,8 | 0,24 | 0,96 | | 1 |
| **5** | 40*40 cm bet. | 793,0 | 170,0 | 559,0 | 132,0 | 0,70 | 0,78 | 0,97 | 1 |
| | Rond 219/310 | 1021,0 | 367,0 | 251,3 | 355,8 | 0,25 | 0,97 | | 1 |
| **6** | 40*40 cm bet. | 1340 | 242,0 | 537,2 | 308,4 | 0,46 | 0,86 | 0,86 | n.v.t. |
| **7** | 40*40 cm bet. | 1400 | 263,0 | 537,2 | 308,4 | 0,41 | 0,91 | 0,91 | n.v.t. |
| **9** | 40*40 cm bet. | 1577 | 266,0 | 537,2 | 308,4 | 0,37 | 0,90 | 0,90 | n.v.t. |
| **10** | 40*40 cm bet. | 669,0 | 170,0 | 559,0 | 132,0 | 0,84 | 0,78 | 0,97 | 1 |
| | Rond 219/310 | 935,0 | 368,0 | 251,3 | 355,8 | 0,27 | 0,97 | | 1 |
| **13** | 40*40 cm bet. | 1011 | 224,0 | 537,2 | 308,4 | 0,53 | 0,81 | 0,81 | n.v.t. |
| **14** | 40*40 cm bet. | 1289 | 268,0 | 537,2 | 308,4 | 0,45 | 0,89 | 0,89 | n.v.t. |
| **16** | 40*40 cm bet. | 888,0 | 171,0 | 559,0 | 132,0 | 0,63 | 0,77 | 0,93 | 1 |
| | Rond 324/470 | 1192,0 | 381,0 | 251,3 | 355,8 | 0,21 | 0,93 | | 1 |
| **18** | 40*40 cm bet. | 1169 | 250,0 | 537,2 | 308,4 | 0,52 | 0,84 | 0,84 | n.v.t. |
| **19** | 40*40 cm bet. | 979 | 234,0 | 537,2 | 308,4 | 0,55 | 0,78 | 0,78 | n.v.t. |
| **21** | 40*40 cm bet. | 873,0 | 190,0 | 559,0 | 132,0 | 0,64 | 0,69 | 0,94 | 1 |
| | Rond 273/370 | 1053,0 | 377,0 | 251,3 | 355,8 | 0,24 | 0,94 | | 1 |
| **22** | 40*40 cm bet. | 1270 | 237,0 | 537,2 | 308,4 | 0,42 | 0,77 | 0,77 | n.v.t. |
| **23** | 40*40 cm bet. | 396,0 | 89,0 | 396,0 | 0,1 | 1,00 | 0,00 | 1,00 | 2 |
| | Rond 324/470 | 858,0 | 424,0 | 438,1 | 353,4 | 0,51 | 0,83 | | 2 |
| **24** | 40*40 cm bet. | 462,0 | 128,0 | 462,0 | 128,0 | 1,00 | 1,00 | 1,00 | 3 |
| | Rond 273/370 | 781,0 | 370,0 | 412,7 | 257,8 | 0,53 | 0,70 | | 3 |
| **26** | 40*40 cm bet. | 703,0 | 186,0 | 559,0 | 132,0 | 0,80 | 0,71 | 0,95 | 1 |
| | Rond 219/310 | 981,0 | 376,0 | 251,3 | 355,8 | 0,26 | 0,95 | | 1 |
| **27** | 40*40 cm bet. | 706,0 | 167,0 | 559,0 | 132,0 | 0,79 | 0,79 | 0,93 | 1 |
| | Rond 219/310 | 1068,0 | 384,0 | 251,3 | 355,8 | 0,24 | 0,93 | | 1 |
| **28** | 40*40 cm bet. | 1199 | 246,0 | 537,2 | 308,4 | 0,51 | 0,85 | 0,85 | n.v.t. |
| **29** | 40*40 cm bet. | 559,0 | 179,0 | 559,0 | 132,0 | 1,00 | 0,74 | 1,00 | 1 |
| | Rond 324/470 | 1184,0 | 387,0 | 251,3 | 355,8 | 0,21 | 0,92 | | 1 |
| **33** | 40*40 cm bet. | 638,0 | 168,0 | 559,0 | 132,0 | 0,88 | 0,79 | 0,92 | 1 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rond 273/370 | 1266,0 | 387,0 | 251,3 | 355,8 | 0,20 | 0,92 | | 1 |
| **34** | 40*40 cm bet. | 587,0 | 183,0 | 559,0 | 132,0 | 0,95 | 0,72 | 0,95 | 1 |
| | Rond 324/470 | 1078,0 | 385,0 | 251,3 | 355,8 | 0,23 | 0,92 | | 1 |
| **37** | 40*40 cm bet. | 664,0 | 100,0 | 459,7 | 100,0 | 0,69 | 1,00 | 1,00 | 4 |
| | Rond 219/310 | 377,0 | 93,0 | 180,7 | 8,6 | 0,48 | 0,09 | | 4 |
| **50** | 40*40 cm bet. | 812,0 | 175,0 | 462,0 | 128,0 | 0,57 | 0,73 | 0,73 | 5 |
| | Rond 219/310 | 802,0 | 272,0 | 278,9 | 138,8 | 0,35 | 0,51 | | 5 |
| **51** | 40*40 cm bet. | 1063 | 228,0 | 491,9 | 295,3 | 0,46 | 0,92 | 0,92 | n.v.t. |
| **52** | 40*40 cm bet. | 1478 | 269,0 | 423,0 | 300,0 | 0,31 | 0,89 | 0,89 | n.v.t. |
| **53** | 40*40 cm bet. | 1481 | 228,0 | 423,0 | 300,0 | 0,29 | 0,80 | 0,80 | n.v.t. |
| **54** | 40*40 cm bet. | 1233 | 240,0 | 491,9 | 295,3 | 0,40 | 0,76 | 0,76 | n.v.t. |
| **55** | 40*40 cm bet. | 1401 | 228,0 | 491,9 | 295,3 | 0,35 | 0,80 | 0,80 | n.v.t. |
| **56** | 40*40 cm bet. | 1580 | 256,0 | 491,9 | 295,3 | 0,34 | 0,94 | 0,94 | n.v.t. |
| **57** | 40*40 cm bet. | 1699 | 271,0 | 491,9 | 295,3 | 0,31 | 0,88 | 0,88 | n.v.t. |
| **58** | 40*40 cm bet. | 1232,0 | 147,0 | 462,0 | 128,0 | 0,38 | 0,87 | 0,87 | 5 |
| | Rond 219/310 | 897,0 | 291,0 | 278,9 | 138,8 | 0,31 | 0,48 | | 5 |
| **59** | 40*40 cm bet. | 930,0 | 135,0 | 462,0 | 128,0 | 0,50 | 0,95 | 0,95 | 5 |
| | Rond 219/310 | 1026,0 | 292,0 | 278,9 | 138,8 | 0,27 | 0,48 | | 5 |
| **64** | 40*40 cm bet. | 1239 | 226,0 | 491,9 | 0,0 | 0,40 | 0,81 | 0,81 | n.v.t. |
| **65** | 40*40 cm bet. | 1526 | 260,0 | 491,9 | 295,3 | 0,35 | 0,92 | 0,92 | n.v.t. |
| **66** | 40*40 cm bet. | 1319 | 270,0 | 491,9 | 295,3 | 0,40 | 0,89 | 0,89 | n.v.t. |
| **69** | 40*40 cm bet. | 384,0 | 136,0 | 384,0 | 136,0 | 1,00 | 1,00 | 1,00 | 6 |
| | Rond 219/310 | 946,0 | 351,0 | 400,0 | 233,7 | 0,42 | 0,67 | | 6 |
| **71** | 40*40 cm bet. | 896,0 | 176,0 | 735,0 | 176,0 | 0,82 | 1,00 | 1,00 | 7 |
| | Rond 219/310 | 1072,0 | 344,0 | 139,7 | 272,2 | 0,13 | 0,79 | | 7 |
| **73** | 40*40 cm bet. | 1569 | 250,0 | 491,9 | 295,3 | 0,36 | 0,84 | 0,84 | n.v.t. |
| **86** | LD1+p | 909,0 | 178,0 | 800,0 | 178,0 | 0,88 | 1,00 | 1,00 | 8 |
| | Rond 324/470 | 718,0 | 192,0 | 153,2 | 138,6 | 0,21 | 0,72 | | 8 |
| **90** | 40*40 cm bet. | 1324 | 263,0 | 491,9 | 295,3 | 0,40 | 0,91 | 0,91 | n.v.t. |
| **111** | 40*40 cm bet. | 1376 | 257,0 | 491,9 | 295,3 | 0,39 | 0,93 | 0,93 | n.v.t. |
| **118** | 40*40 cm bet. | 1288 | 236,0 | 0,0 | 295,3 | 0,00 | 0,77 | 0,77 | n.v.t. |
| **121** | LD1+p | 1627,0 | 387,0 | 756,9 | 479,8 | 0,60 | 0,89 | 0,89 | n.v.t. |
| **123** | 40*40 cm bet. | 1180 | 222,0 | 423,0 | 300,0 | 0,36 | 0,82 | 0,82 | n.v.t. |
| **124** | 40*40 cm bet. | 962,0 | 132,0 | 462,0 | 128,0 | 0,48 | 0,97 | 0,97 | 5 |
| | Rond 219/310 | 1027,0 | 305,0 | 278,9 | 138,8 | 0,27 | 0,46 | | 5 |
| **126** | LD1+p | 908,0 | 270,0 | 857,7 | 194,0 | 0,94 | 0,72 | 0,94 | 9 |
| | Rond 324/470 | 849,0 | 295,0 | 189,5 | 99,3 | 0,22 | 0,34 | | 9 |
| ~~**128**~~ | ~~LD1+p~~ | ~~1319,0~~ | ~~322,0~~ | ~~678,4~~ | ~~434,7~~ | ~~0,69~~ | ~~0,93~~ | ~~0,93~~ | ~~n.v.t.~~ |
| ~~**130**~~ | ~~LD1+p~~ | ~~1454,0~~ | ~~348,0~~ | ~~677,8~~ | ~~435,1~~ | ~~0,62~~ | ~~0,86~~ | ~~0,86~~ | ~~n.v.t.~~ |
| ~~**131**~~ | ~~LD1+p~~ | ~~1245~~ | ~~409,0~~ | ~~754,9~~ | ~~481,3~~ | ~~0,79~~ | ~~0,84~~ | ~~0,84~~ | ~~n.v.t.~~ |
| ~~**133**~~ | ~~LD1+p~~ | ~~1223,0~~ | ~~413,0~~ | ~~678,9~~ | ~~434,3~~ | ~~0,74~~ | ~~0,72~~ | ~~0,74~~ | ~~n.v.t.~~ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ~~134~~ | ~~LD1+p~~ | ~~1505,0~~ | ~~428,0~~ | ~~677,8~~ | ~~435,1~~ | ~~0,60~~ | ~~0,70~~ | ~~0,70~~ | ~~n.v.t.~~ |
| ~~135~~ | ~~LD1+p~~ | ~~1457~~ | ~~317,0~~ | ~~678,4~~ | ~~434,7~~ | ~~0,62~~ | ~~0,94~~ | ~~0,94~~ | ~~n.v.t.~~ |
| ~~136~~ | ~~LD1+p~~ | ~~1271,0~~ | ~~319,0~~ | ~~676,8~~ | ~~435,9~~ | ~~0,71~~ | ~~0,94~~ | ~~0,94~~ | ~~n.v.t.~~ |
| ~~141~~ | ~~LD1+p~~ | ~~900,0~~ | ~~194,0~~ | ~~900,0~~ | ~~194,0~~ | ~~1,00~~ | ~~1,00~~ | ~~1,00~~ | ~~9~~ |
| | ~~Rond 324/470~~ | ~~716,0~~ | ~~207,0~~ | ~~210,4~~ | ~~63,4~~ | ~~0,29~~ | ~~0,31~~ | | ~~9~~ |
| ~~142~~ | ~~LD1+p~~ | ~~800,0~~ | ~~203,0~~ | ~~800,0~~ | ~~178,0~~ | ~~1,00~~ | ~~0,88~~ | ~~1,00~~ | ~~8~~ |
| | ~~Rond 324/470~~ | ~~667,0~~ | ~~220,0~~ | ~~245,4~~ | ~~66,1~~ | ~~0,37~~ | ~~0,30~~ | | ~~8~~ |
| ~~143~~ | ~~LD1+p~~ | ~~986,0~~ | ~~226,0~~ | ~~900,0~~ | ~~194,0~~ | ~~0,91~~ | ~~0,86~~ | ~~0,91~~ | ~~9~~ |
| | ~~Rond 324/470~~ | ~~806,0~~ | ~~234,0~~ | ~~210,4~~ | ~~63,4~~ | ~~0,26~~ | ~~0,27~~ | | ~~9~~ |
| ~~144~~ | ~~LD1+p~~ | ~~868,0~~ | ~~234,0~~ | ~~868,0~~ | ~~234,0~~ | ~~1,00~~ | ~~1,00~~ | ~~1,00~~ | ~~10~~ |
| | ~~Rond 219/310~~ | ~~1343,0~~ | ~~453,0~~ | ~~850,1~~ | ~~289,1~~ | ~~0,63~~ | ~~0,64~~ | | ~~10~~ |
| ~~145~~ | ~~LD1+p~~ | ~~1900,0~~ | ~~414,0~~ | ~~754,9~~ | ~~481,3~~ | ~~0,52~~ | ~~0,83~~ | ~~0,83~~ | ~~n.v.t.~~ |
| ~~146 optie 1~~ | ~~32*32 cm bet.~~ | ~~84,0~~ | ~~1,0~~ | ~~84,0~~ | ~~0,0~~ | ~~1,00~~ | ~~0,00~~ | ~~1,00~~ | ~~11~~ |
| | ~~Rond 219/310~~ | ~~668,0~~ | ~~179,0~~ | ~~413,5~~ | ~~0,0~~ | ~~0,62~~ | ~~0,00~~ | | ~~11~~ |
| ~~147 optie 1~~ | ~~32*32 cm bet.~~ | ~~411,0~~ | ~~31,0~~ | ~~218,5~~ | ~~17,6~~ | ~~0,53~~ | ~~0,57~~ | ~~0,93~~ | ~~12~~ |
| | ~~Rond 219/310~~ | ~~545,0~~ | ~~144,0~~ | ~~214,6~~ | ~~133,8~~ | ~~0,39~~ | ~~0,93~~ | | ~~12~~ |
| ~~148~~ | ~~2 LD1+p~~ | ~~859,0~~ | ~~190,0~~ | ~~859,0~~ | ~~190,0~~ | ~~1,00~~ | ~~1,00~~ | ~~1,00~~ | ~~13~~ |
| | ~~Rond 219/310~~ | ~~1256,0~~ | ~~336,0~~ | ~~464,0~~ | ~~257,2~~ | ~~0,37~~ | ~~0,77~~ | | ~~13~~ |
| **150** | LD1+p | 1469,0 | 275,0 | 956,0 | 229,0 | 0,65 | 0,83 | 0,83 | 14 |
| | Rond 324/470 | 993,0 | 256,0 | 289,6 | 213,8 | 0,29 | 0,79 | | 14 |
| **151** | LD1+p | 956,0 | 229,0 | 956,0 | 229,0 | 1,00 | 1,00 | 1,00 | 14 |
| | Rond 324/470 | 955,0 | 271,0 | 289,6 | 213,8 | 0,30 | 0,79 | | 14 |
| **152** | LD1+p | 1572,0 | 436,0 | 798,0 | 551,3 | 0,65 | 0,95 | 0,95 | n.v.t. |
| **153** | LD1+p | 839,0 | 239,0 | 839,0 | 239,0 | 1,00 | 1,00 | 1,00 | 15 |
| | Rond 324/470 | 799,0 | 237,0 | 215,7 | 175,2 | 0,27 | 0,75 | | 15 |
| **157** | 40*40 cm bet. | 468,0 | 345,0 | 360,4 | 213,0 | 0,77 | 0,62 | 0,77 | 16 |
| | Rond 219/310 | 973,0 | 233,0 | 408,7 | 133,4 | 0,42 | 0,57 | | 16 |
| **158** | 40*40 cm bet. | 1583,0 | 281,0 | 551,5 | 243,2 | 0,35 | 0,87 | 0,87 | 17 |
| | Rond 219/310 | 654,0 | 177,0 | 197,1 | 37,2 | 0,30 | 0,21 | | 17 |

In de voorgaande hoofdstuk 4 zijn de toetsingen uitgevoerd op de verbindingen, betondoorsneden en paaldraagvermogens. De resultaten zijn toegevoegd aan de Excel-bestand waarin alle assetdata is verzameld dat als volgt is opgebouwd:

- Mastkenmerken,
    - Nummer,
    - Type,
    - Hoogte,
- Fundering gegevens,
    - Palen,

        - Type,
        - Aantal,
        - Lengte,
        - Paalpunt,
        - Schoor,
    - Poeren,
        - Afmetingen,
    - Balken,
        - Afmetingen,
- Verankering gegevens,
    - Mastpoot aan fundering,
    - Fundering aan paal,
- Resultaten berekeningen,
    - Modellen,
    - Uitgangspunten,
    - Trek/druk krachten in palen,
- Input belastingen vanuit Hoogspanning,
    - Afkeur,
    - Verbouw,
- Toetsing,
    - Verankeringen,
    - Paalcapaciteiten,
- Versterkingen
    - Categorie F1 t/m F5

Bovenstaande gegevens zijn opgenomen in bijlage 33.

## 4.6 Doorsnedetoets mast 144

De berekening van mast 144 is herzien ten opzichte van versie D01 van deze rapportage. Er is gekozen om het fundament te voorzien van een nieuwe betonnen koppelbalk welke uiteindelijk de functie van de huidige DIN30 koppelbalk overneemt.

Deze koppelbalk vormt een essentieel onderdeel in de overdracht van verticale en horizontale krachten tussen de te versterken funderingspoeren. De bestaande cilinderpoeren worden versterkt met 2 extra palen.

De uitgangspunten zijn conform hoofdstuk 3 uit deze rapportage. In afwijking van overige SCIA-modellen is de toegepaste wapening in het SCIA-model opgenomen en rechtstreeks getoetst in deze berekeningssoftware. Deze toetsing is opgenomen in bijlage 34 van deze rapportage.

**Invoer en toetsing SCIA-model**

Voor de versterkingsmaatregel wordt uitgegaan van een rechthoekige betonnen koppelbalk met de volgende afmetingen:

- Hoogte: 750 mm
- Breedte: 600 mm

Op basis van ontwerpberekeningen is de volgende wapening in SCIA Engineer aangebracht:

- Onderwapening: 4Ø16
- Bovenwapening: 4Ø16 + 3Ø16
- Flankwapening: 2Ø10
- Beugels: Ø10-200 mm (2-snedig)

De volgende toetsingen zijn volgens Eurocode/NEN-EN 1992 uitgevoerd:

- Buigingstoets (ULS)
  Controle op de benodigde langswapening in verband met de maatgevende positieve en negatieve buigmomenten als mede optredende normaalkrachten.
- Dwarskrachttoets (ULS)
  Verificatie van de benodigde dwarskrachtwapening (beugels) op basis van de optredende dwarskrachten/wringing en de capaciteit van de betondoorsnede.

Voor de balk (750×600) tonen de SCIA-controles in bijlage 34 aan dat wordt voldaan aan de ULS:

- N–M interactie (UC_max = 0,95)
- Dwarskracht (UC_shear,max = 0,60)
- Torsie (UC_tor,max = 0,42)
- Gecombineerde afschuivingtorsie (UC_total,max = 0,94).

**Definitief gekozen wapening**

Op basis van de rekenresultaten is de toegepaste wapening als volgt:

- Onderwapening: 4Ø16
- Bovenwapening: 4Ø16 + 3Ø16

*Waarvan 3Ø16 aanvullend wordt toegepast over een lengte van 3,0 meter ter plaatse van de hoeken naast de poer*

- Flankwapening: 2Ø10
- Beugels: Ø10-200 mm (3-snedig) in overeenstemming met de detaillering bepalingen

# 5 Uitvoeringsaspecten

Ten aanzien van de uitvoering van de diverse versterkingen zijn er een aantal uitvoeringsaspecten die in deze berekeningsrapportage aandacht krijgen. Deze aspecten worden daarmee zowel op tekening als in onderhavige rapportage benoemd.

## 5.1 Algemeen

Alle aansluitvlakken tussen bestaand beton en nieuw beton dienen te worden opgeruwd. De ruwheid dient daarbij groter of gelijk te zijn aan 3 mm. Dit kan worden bereikt door mechanisch opruwen (bijv. stralen, haken, frezen) tot een ruweheid van ≥ 3 mm of betonvlak te profileren met groeven of ribbels ≥ 5 mm diep. Daar waar een coating aanwezig is dient deze ter plaatse van het aansluitvlak verwijderd te worden.

Alle wapening dient conform tekening aangebracht te worden, waarbij de dekking 45 mm bedraagt. Deze dekking is inclusief de normtechnische uitvoeringstolerantie van 5 mm.

Alle beton dient te voldoen aan sterkteklasse en milieuklasse zoals op tekening vermeld is. Er zijn verschillende milieuklassen van toepassing, waarmee wordt voldaan aan de verschillende TenneT eisen.

Alle in te lijmen wapening dient conform tekening en conform verwerkingsrichtlijnen van leverancier verwerkt te worden.

Alle maatvoering op tekening dient in het werk gecontroleerd te worden. Dit geldt ook voor alle aangeleverde tekeningen met RD coördinaten.

Daar waar bestaande funderingsconstructies gecoat zijn dient ook de versterking van een beschermende coating voorzien te worden.

## 5.2 Funderingspalen

Alle nieuwe palen worden toegepast in een dikte van t=12,5 mm. Dit is inclusief corrossietoeslag, waarmee wordt voldaan aan TenneT eisen.

De palen dienen aangebracht te worden met een tolerantie van maximaal 50 mm in willekeurige richting. Grotere paalafmetingen dienen gemeld te worden en kunnen leiden tot aanpassingen in de versterkingsoplossing.

De palen worden voorzien van een praktische wapeningskorf afhankelijk van de gekozen paaldiameter. De schachtdiameters zijn resp. ø219, ø273 en ø324 mm en de korf is daarop afgestemd. De wapeningskorf dient omgezet te worden onder de aanwezige bovenwapening en gekoppeld met de wapeningskorf (t.b.v. aarding) Dekking tussen buis en korf is 30 mm.

Alle palen dienen uitgevoerd te worden met groutinjectie, conform geotechnisch advies.

Alle nieuwe funderingspalen dienen voorzien te worden van ringdeuvels aan de buitenzijde van de paal gelast. Een en ander overeenkomstig details op het palenplan.

## 5.3 Knaggen aan bestaande LD1

Bij diverse versterkingen dienen knaggen gelast te worden aan de bestaande LD1 palen. Ten behoeve van het aanbrengen van deze knaggen dient de aanwezige betonschil om deze palen verwijderd te worden, een en ander overeenkomstig tekeningen.

De afmetingen van deze knaggen en de lasdikte van deze knaggen is op het matenplan aangegeven.

## 5.4 Wapening

Bij het uitwerken van de wapening dient rekening gehouden te worden met de mogelijkheid van paalafwijkingen.

- Daar waar mogelijk mogen de beugels naast de palen uitgevoerd worden als dubbele haarspeld. De voorwaarde daarbij is dat er voldoende overlappingslas gerealiseerd kan worden.
- Daar waar het niet mogelijk is om dubbele haarspelden toe te passen in plaats van beugels dienen extra beugels meegeleverd te worden, waarbij deze beugels resp. 25 en 50 mm breder en 25 en 50 mm smaller worden uitgevoerd. Daarmee kan de wapening eenvoudig worden aangepast aan de gerealiseerde funderingspaal.

## 5.5 Aarding

Dit is een raakvlak met de constructie. De aardingsvoorzieningen moeten worden aangebracht conform de vormtekeningen van de versterkingen. Op deze tekening zijn de benodigde specificaties aangegeven in legenda en details.

## 5.6 Specifieke punten

~~**Blokpoer (200) (2xLD1) + 2 extra palen**~~

~~Bij dit fundament is het noodzakelijk om sparingen door het bestaande betonblok te maken ten behoeve van de benodigde trekbanden in het fundament. Deze sparingen dienen aangebracht te worden alvorens de palen worden aangebracht. Tevens is het belangrijk dat de geboorde gaten worden gecontroleerd en vastgelegd, indien daarbij afwijkingen optreden (bijv. raken van wapening) dient dit gemeld te worden bij opdrachtgever.~~

**Balkrooster (4xB) en Balkrooster (5xB) + 2/3 extra palen**

Bij deze versterking is het belangrijk dat de posities van de bestaande funderingspalen worden verkend alvorens de nieuwe palen aan te brengen.

**Cilinderpoeren (75) (1xLD1) + 2 extra palen**

Deze versterking is gevoelig voor paalafwijkingen uit het vlak. Paalafwijkingen groter dan 50 mm uit het vlak kunnen leiden tot de toepassing van extra palen ten einde de optredende krachten ten gevolge van paalmisstand af te kunnen dragen.

# Bijlagen

Bijlage 1 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST-S+0 - II F4 (60 bladzijden)

Bijlage 2 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST- F4 mast 23 (71 bladzijden)

Bijlage 3 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST- F4 mast 24 (61 bladzijden)

Bijlage 4 uitvoer SCIA - Balkrooster-5xBeton40x40 mast 37 (71 bladzijden)

Bijlage 5 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST-S+0 - III F4 (62 bladzijden)

Bijlage 6 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST-69 F4 (59 bladzijden)

Bijlage 7 uitvoer SCIA - Blokpoer-3xBeton40x40-MAST-71 F4 (62 bladzijden)

Bijlage 8 uitvoer SCIA - F3 Cilinder 75 + palen S III 86+~~142~~ (52 bladzijden)

Bijlage 9 uitvoer SCIA - F3 Cilinder 75 + palen S III (52 bladzijden)

~~Bijlage 10 uitvoer SCIA - Koppelframe-1xLD1 F3 (67 bladzijden)~~

~~Bijlage 11 uitvoer SCIA - Balkrooster-5xBeton32x32 mast 146 (65 bladzijden)~~

~~Bijlage 12 uitvoer SCIA - Balkrooster-5xBeton32x32 mast 147 (57 bladzijden)~~

~~Bijlage 13 uitvoer SCIA - Blokpoer-2xLD1 mast 148 (67 bladzijden)~~

Bijlage 14 uitvoer SCIA - F3 Cilinder 75 + palen - S+9 (52 bladzijden)

Bijlage 15 uitvoer SCIA - Cilinder 75 + palen S II (58 bladzijden)

Bijlage 16 uitvoer SCIA - Balkrooster-5xBeton40x40 mast 157 (80 bladzijden)

Bijlage 17 uitvoer SCIA - Balkrooster-5xBeton40x40 mast 158 (79 bladzijden)

Bijlage 18 uitvoer Knaggen - Leka 219

Bijlage 19 uitvoer Knaggen - Leka 273

Bijlage 20 uitvoer Knaggen - Leka 324

Bijlage 21 uitvoer Knaggen - Buitenzijde LD1 (max)

Bijlage 22 uitvoer Knaggen - Buitenzijde LD1 (min)

Bijlage 23 uitvoer Knaggen - Buitenzijde LD1 Ballast

Bijlage 24 UC Knaggen

Bijlage 25 doorsnede toets Blokpoer_3B

~~Bijlage 26 doorsnede toets Cilinderpoer 75 LD1 (Koppelframe)~~

~~Bijlage 27 doorsnede toets Blokpoer 2 x LD1~~

Bijlage 28 doorsnede toets Cilinderpoer 75_LD1

Bijlage 29 doorsnede toets Balkrooster

Bijlage 30 Verzamellijst krachten doorsnedetoetsen

Bijlage 31 Ballast - alle varianten

Bijlage 32 Verzamel lijst

Bijlage 33 Overzichtslijst mastfundaties

~~Bijlage 34 uitvoer SCIA – Koppelframe - Toetsresultaten Betonnen Balk~~

Together with our clients and the collective knowledge of our 22,000 architects, engineers and other specialists, we co-create solutions that address urbanisation, capture the power of digitalisation, and make our societies more sustainable.

Sweco – Transforming society together

SWECO

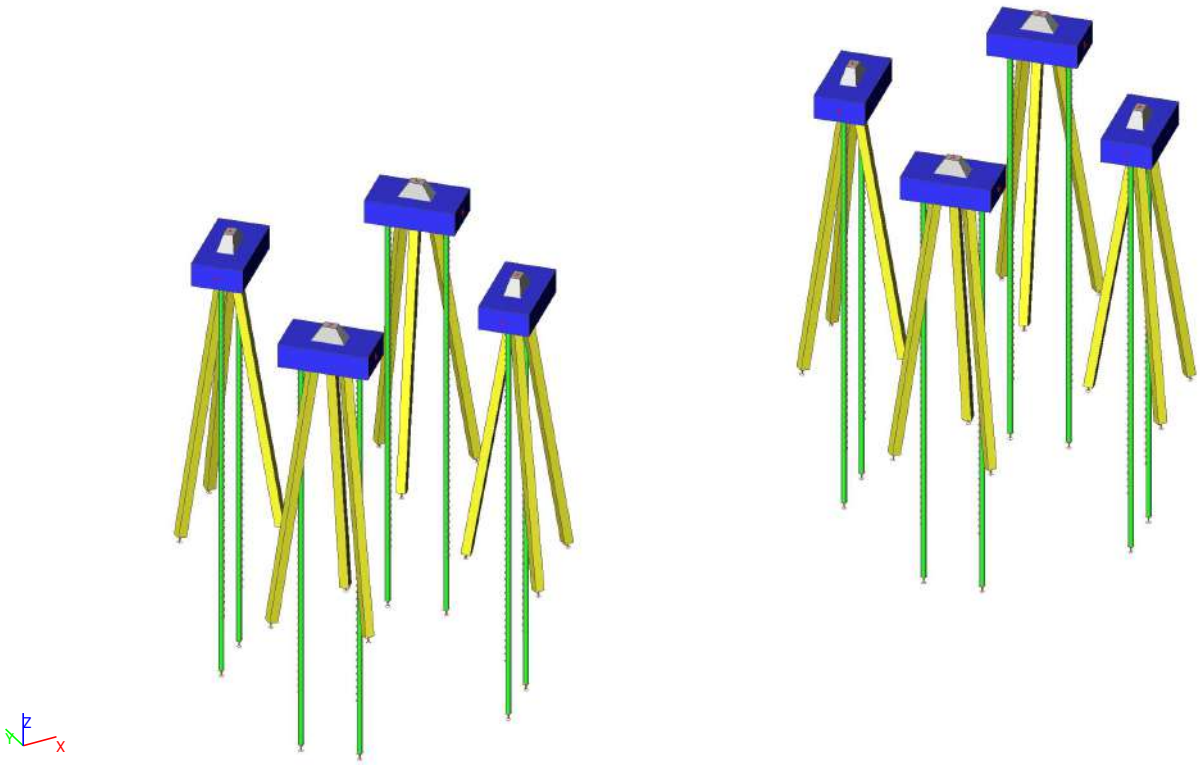
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Knopen 3
5.2. Analyse model met knopen 4
5.3. Staven 4
5.4. Analyse model met Staven 5
5.5. Knoopsteunpunten 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Lijnsteunpunten op staven 7
5.8. Analyse model met Lijnondersteuningen 17
5.9. Analyse model met Lijnondersteuningen 18
5.10. Niet-lineaire functies 19
6. Belastingen 30
6.1. Belastingsgevallen 30
6.1.1. Belastingsgevallen - high max Wnd ;45° 30
6.1.1.1. Puntlast op knoop 30
6.1.2. Belastingsgevallen - high max Wnd ;135° 31
6.1.2.1. Puntlast op knoop 32
6.1.3. Belastingsgevallen - high max Wnd ;225° 33
6.1.3.1. Puntlast op knoop 34
6.1.4. Belastingsgevallen - high max Wnd ;315° 34
6.1.4.1. Puntlast op knoop 35
6.1.5. Belastingsgevallen - low max Wnd ;45° 36
6.1.5.1. Puntlast op knoop 37
6.1.6. Belastingsgevallen - low max Wnd ;135° 37
6.1.6.1. Puntlast op knoop 38
6.1.7. Belastingsgevallen - low max Wnd ;225° 39
6.1.7.1. Puntlast op knoop 40
6.1.8. Belastingsgevallen - low max Wnd ;315° 40
6.1.8.1. Puntlast op knoop 41
6.1.9. Belastingsgevallen - EG_fundering 42
6.2. Niet-lineaire combinaties 43
6.3. Resultaatklasses 43
7. Resultaten 44
7.1. Reacties van de palen 44
7.1.1. Reactions; R_z 44
7.1.2. Reacties 44
7.1.3. Reacties 44
7.1.4. Reacties 45
7.2. Krachten van de Funderingspalen 51
7.2.1. Interne 1D- krachten; N 51
7.2.2. Interne 1D- krachten; V_y 51
7.2.3. Interne 1D- krachten; V_z 52
7.2.4. Interne 1D- krachten; M_x 52
7.2.5. Interne 1D- krachten; M_y 53
7.2.6. Interne 1D- krachten; M_z 53
7.2.7. Interne 1D-krachten 54
7.2.8. Interne 1D-krachten 54
7.3. Krachten van de Poeren 56
7.3.1. Interne 1D-krachten 56
7.4. Krachten van de Funderingsbalken 57
7.4.1. Interne 1D- krachten; N 57
7.4.2. Interne 1D- krachten; V_y 57
7.4.3. Interne 1D- krachten; V_z 58
7.4.4. Interne 1D- krachten; M_x 58
7.4.5. Interne 1D- krachten; M_y 59
7.4.6. Interne 1D- krachten; M_z 59
7.4.7. Interne 1D-krachten 60

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Blokpoer 3xBeton40x40 Mast-S+0 Wnd_II |
| Auteur | [redacted] |
| Datum | 28-01-2028 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 112 |
| Aantal staven : | 56 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 4 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

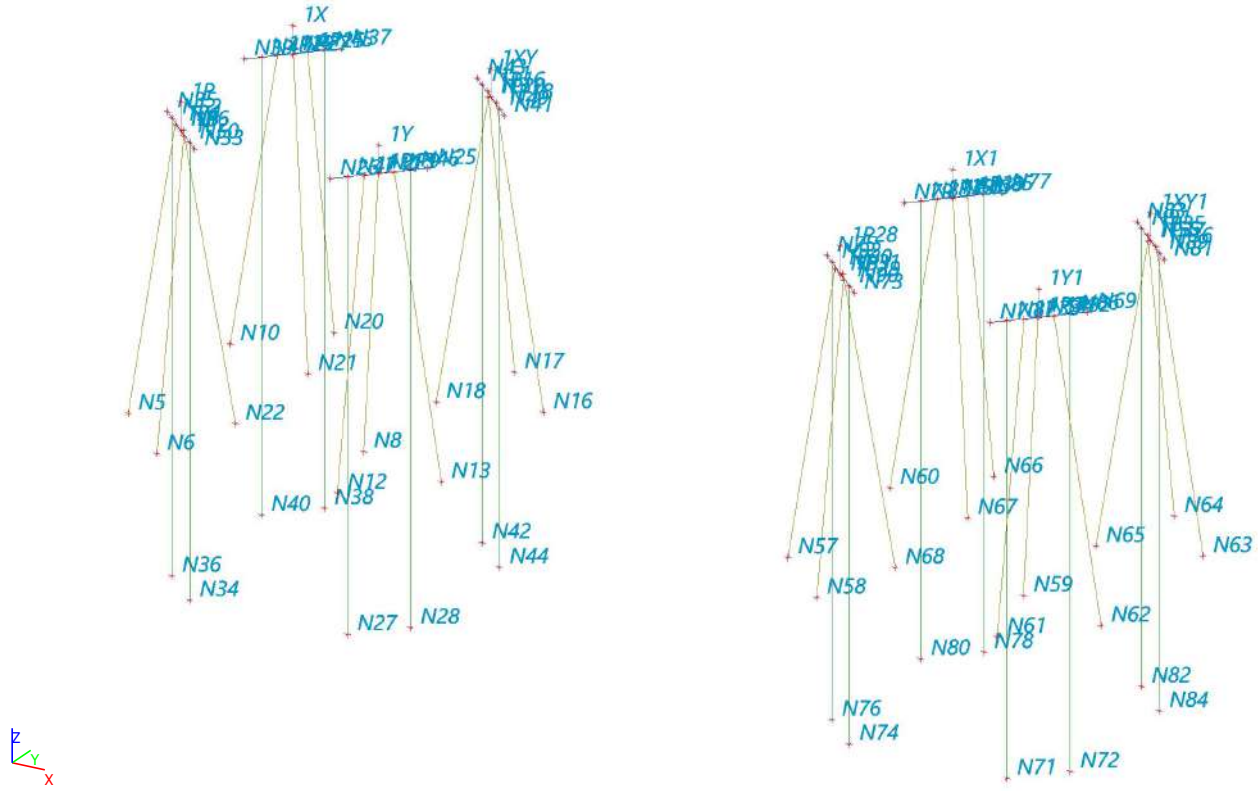
# 5. Geometrie

## 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -2,621 | 0,400 | -12,822 |
| N6 | 0,400 | -2,621 | -12,822 |
| N8 | 7,417 | 1,583 | -12,822 |
| N10 | -2,621 | 8,600 | -12,822 |
| N12 | 8,600 | -2,621 | -12,822 |
| N13 | 11,621 | 0,400 | -12,822 |
| N16 | 11,621 | 8,600 | -12,822 |
| N17 | 8,600 | 11,621 | -12,822 |
| N18 | 7,417 | 7,417 | -12,822 |
| N20 | 0,400 | 11,621 | -12,822 |
| N21 | 1,583 | 7,417 | -12,822 |
| N22 | 1,583 | 1,583 | -12,822 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -19,612 |
| N28 | 9,919 | 0,919 | -19,612 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -19,612 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -19,612 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -19,612 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -19,612 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -19,612 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -19,612 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N53 | 30,000 | 0,000 | 0,000 |
| 1P28 | 30,000 | 0,000 | 1,200 |
| 1P29 | 30,400 | -0,480 | 0,000 |
| 1P30 | 29,520 | 0,400 | 0,000 |
| 1P31 | 30,070 | 0,070 | 0,000 |
| N54 | 39,000 | 0,000 | 0,000 |
| 1Y1 | 39,000 | 0,000 | 1,200 |
| 1P32 | 39,480 | 0,400 | 0,000 |
| 1P33 | 38,600 | -0,480 | 0,000 |
| 1P34 | 38,930 | 0,070 | 0,000 |
| N55 | 39,000 | 9,000 | 0,000 |
| 1XY1 | 39,000 | 9,000 | 1,200 |
| 1P35 | 38,600 | 9,480 | 0,000 |
| 1P36 | 39,480 | 8,600 | 0,000 |
| 1P37 | 38,930 | 8,930 | 0,000 |
| N56 | 30,000 | 9,000 | 0,000 |
| 1X1 | 30,000 | 9,000 | 1,200 |
| 1P38 | 29,520 | 8,600 | 0,000 |
| 1P39 | 30,400 | 9,480 | 0,000 |
| 1P40 | 30,070 | 8,930 | 0,000 |
| N57 | 27,379 | 0,400 | -12,822 |
| N58 | 30,400 | -2,621 | -12,822 |
| N59 | 37,417 | 1,583 | -12,822 |
| N60 | 27,379 | 8,600 | -12,822 |
| N61 | 38,600 | -2,621 | -12,822 |
| N62 | 41,621 | 0,400 | -12,822 |
| N63 | 41,621 | 8,600 | -12,822 |
| N64 | 38,600 | 11,621 | -12,822 |
| N65 | 37,417 | 7,417 | -12,822 |
| N66 | 30,400 | 11,621 | -12,822 |
| N67 | 31,583 | 7,417 | -12,822 |
| N68 | 31,583 | 1,583 | -12,822 |
| N69 | 40,414 | 1,414 | 0,000 |
| N70 | 37,586 | -1,414 | 0,000 |
| N71 | 38,081 | -0,919 | -19,612 |
| N72 | 39,919 | 0,919 | -19,612 |
| N73 | 31,414 | -1,414 | 0,000 |
| N74 | 30,919 | -0,919 | -19,612 |
| N75 | 28,586 | 1,414 | 0,000 |
| N76 | 29,081 | 0,919 | -19,612 |
| N77 | 31,414 | 10,414 | 0,000 |
| N78 | 30,919 | 9,919 | -19,612 |
| N79 | 28,586 | 7,586 | 0,000 |
| N80 | 29,081 | 8,081 | -19,612 |
| N81 | 40,414 | 7,586 | 0,000 |
| N82 | 38,081 | 9,919 | -19,612 |
| N83 | 37,586 | 10,414 | 0,000 |
| N84 | 39,919 | 8,081 | -19,612 |
| N85 | 30,919 | 9,919 | 0,000 |
| N86 | 39,919 | 0,919 | 0,000 |
| N87 | 38,081 | -0,919 | 0,000 |
| N88 | 29,081 | 8,081 | 0,000 |
| N89 | 39,919 | 8,081 | 0,000 |
| N90 | 30,919 | -0,919 | 0,000 |
| N91 | 38,081 | 9,919 | 0,000 |
| N92 | 29,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

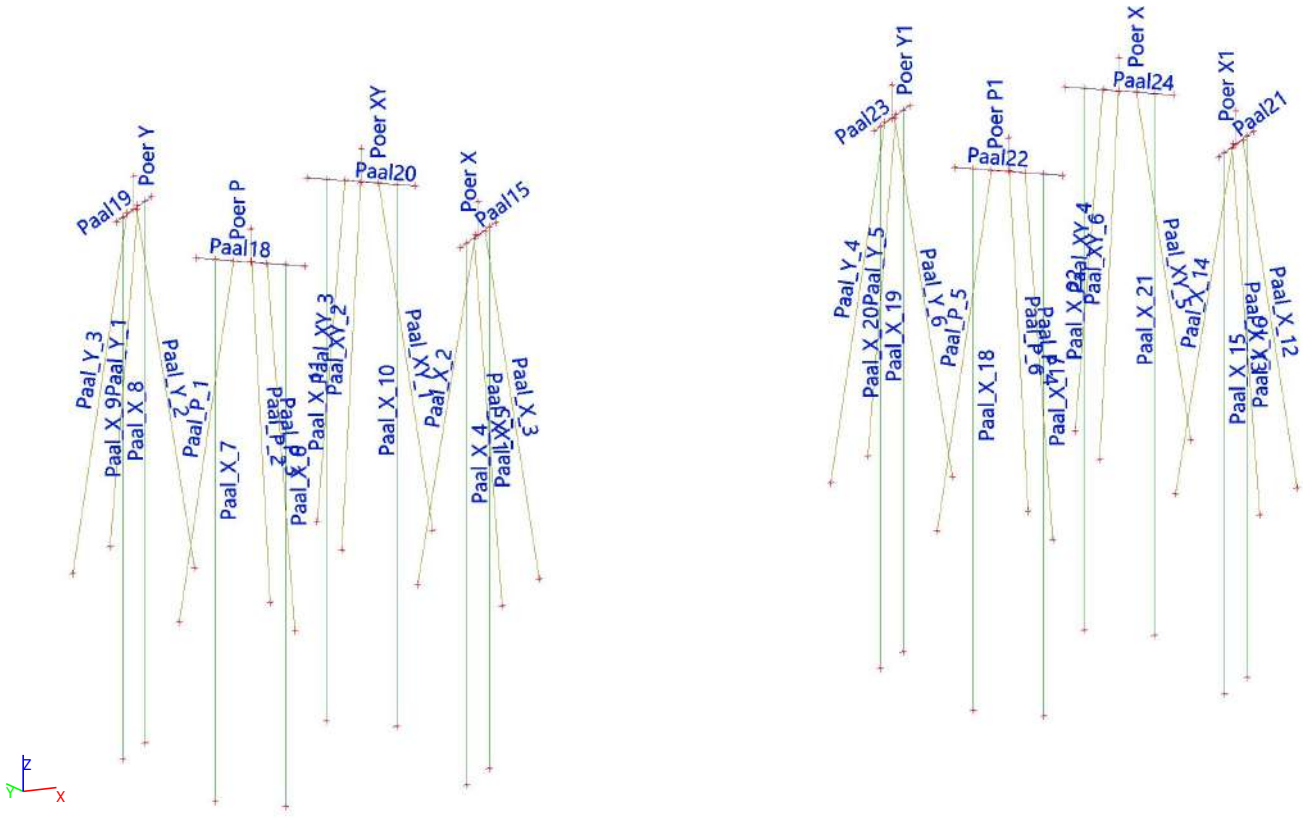



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | Balk (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | Balk (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | Balk (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | Balk (80) |
| Paal21 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N70 | N69 | Balk (80) |
| Paal22 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N73 | N75 | Balk (80) |
| Paal23 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N77 | N79 | Balk (80) |
| Paal24 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N83 | N81 | Balk (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P20 | N18 | Kolom (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P9 | N13 | Kolom (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | Kolom (100) |
| Poer P1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N53 | 1P28 | Kolom (100) |
| Paal_P_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P30 | N57 | Kolom (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | Kolom (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P4 | N5 | Kolom (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P6 | N22 | Kolom (100) |
| Paal_P_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P29 | N58 | Kolom (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P18 | N16 | Kolom (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P16 | N17 | Kolom (100) |
| Paal_XY_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P35 | N64 | Kolom (100) |
| Paal_XY_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P36 | N63 | Kolom (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P11 | N12 | Kolom (100) |
| Poer X1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N54 | 1Y1 | Kolom (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | Kolom (100) |
| Poer XY1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N55 | 1XY1 | Kolom (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | Kolom (100) |
| Poer Y1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N56 | 1X1 | Kolom (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P2 | N6 | Kolom (100) |
| Paal_P_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P31 | N68 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_XY_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P37 | N65 | Kolom (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P13 | N8 | Kolom (100) |
| Paal_X_4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N47 | N27 | Kolom (100) |
| Paal_X_5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N46 | N28 | Kolom (100) |
| Paal_X_6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N50 | N34 | Kolom (100) |
| Paal_X_7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N52 | N36 | Kolom (100) |
| Paal_X_8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N45 | N38 | Kolom (100) |
| Paal_X_9 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N48 | N40 | Kolom (100) |
| Paal_X_10 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N49 | N44 | Kolom (100) |
| Paal_X_11 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N51 | N42 | Kolom (100) |
| Paal_X_12 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P32 | N62 | Kolom (100) |
| Paal_X_13 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P33 | N61 | Kolom (100) |
| Paal_X_14 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P34 | N59 | Kolom (100) |
| Paal_X_15 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N87 | N71 | Kolom (100) |
| Paal_X_16 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N86 | N72 | Kolom (100) |
| Paal_X_17 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N90 | N74 | Kolom (100) |
| Paal_X_18 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N92 | N76 | Kolom (100) |
| Paal_X_19 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N85 | N78 | Kolom (100) |
| Paal_X_20 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N88 | N80 | Kolom (100) |
| Paal_X_21 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N89 | N84 | Kolom (100) |
| Paal_X_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N91 | N82 | Kolom (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P25 | N20 | Kolom (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P27 | N21 | Kolom (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P23 | N10 | Kolom (100) |
| Paal_Y_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P38 | N60 | Kolom (100) |
| Paal_Y_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P39 | N66 | Kolom (100) |
| Paal_Y_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P40 | N67 | Kolom (100) |

## 5.4. Analyse model met Staven



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_2 | N22 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_1 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_2 | N8 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_1 | N16 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_2 | N18 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_1 | N20 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_2 | N21 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_Y_4 | N27 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_5 | N28 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_6 | N34 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_7 | N36 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_8 | N38 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_9 | N40 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_10 | N42 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_11 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_P_4 | N57 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_5 | N58 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_4 | N59 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_Y_12 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_X_5 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_6 | N62 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_4 | N63 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_5 | N64 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_XY_6 | N65 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_Y_13 | N66 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_14 | N67 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_P_6 | N68 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_Y_15 | N71 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_16 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_17 | N74 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_18 | N76 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_19 | N78 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_20 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_21 | N82 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_22 | N84 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | | | | | | | | |
| Veen15 | Lijn | Paal_XY_5 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen13 | Lijn | Paal_X_14 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen30 | Lijn | Paal_X_10 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen17 | Lijn | Paal_Y_4 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen26 | Lijn | Paal_X_6 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen34 | Lijn | Paal_X_17 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen32 | Lijn | Paal_X_15 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen | Lijn | Paal_P_3 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen16 | Lijn | Paal_XY_6 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen29 | Lijn | Paal_X_9 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen18 | Lijn | Paal_Y_5 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen9 | Lijn | Paal_Y_3 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen33 | Lijn | Paal_X_16 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen37 | Lijn | Paal_X_20 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | | | | | | | | |
| Veen19 | Lijn | Paal_Y_6<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen11 | Lijn | Paal_Y_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen2 | Lijn | Paal_P_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Lijn | Paal_X_5<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen6 | Lijn | Paal_XY_3<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen28 | Lijn | Paal_X_8<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen36 | Lijn | Paal_X_19<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen5 | Lijn | Paal_X_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen4 | Lijn | Paal_X_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Lijn | Paal_X_18<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen24 | Lijn | Paal_X_4<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen20 | Lijn | Paal_P_4<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen8 | Lijn | Paal_XY_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen23 | Lijn | Paal_X_12<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen38 | Lijn | Paal_X_21<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen1 | Lijn | Paal_P_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen7 | Lijn | Paal_XY_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen21 | Lijn | Paal_P_5<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen3 | Lijn | Paal_X_3<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen12 | Lijn | Paal_X_13<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen22 | Lijn | Paal_P_6<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen39 | Lijn | Paal_X_22<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen10 | Lijn | Paal_Y_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen27 | Lijn | Paal_X_7<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen14 | Lijn | Paal_XY_4<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen31 | Lijn | Paal_X_11<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| (PY-curve-1_V1)24 | Lijn | Paal_X_4<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)21 | Lijn | Paal_P_5<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)38 | Lijn | Paal_X_21<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)39 | Lijn | Paal_X_22<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)10 | Lijn | Paal_XY_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Lijn | Paal_X_10 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)15 | Lijn | Paal_XY_5<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)16 | Lijn | Paal_XY_6<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)3 | Lijn | Paal_X_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)25 | Lijn | Paal_X_5<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)34 | Lijn | Paal_X_17<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)17 | Lijn | Paal_Y_4<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Lijn | Paal_X_11<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)1 | Lijn | Paal_P_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)19 | Lijn | Paal_Y_6<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)13 | Lijn | Paal_X_14<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)11 | Lijn | Paal_Y_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Lijn | Paal_X_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Lijn | Paal_Y_5<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)32 | Lijn | Paal_X_15<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)29 | Lijn | Paal_X_9<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)6 | Lijn | Paal_Y_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)5 | Lijn | Paal_XY_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)23 | Lijn | Paal_X_12<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Lijn | Paal_X_8<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)35 | Lijn | Paal_X_18<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)37 | Lijn | Paal_X_20<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)36 | Lijn | Paal_X_19<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)8 | Lijn | Paal_P_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Lijn | Paal_P_4<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)2 | Lijn | Paal_X_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Lijn | Paal_XY_4<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)26 | Lijn | Paal_X_6<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)12 | Lijn | Paal_X_13<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1) | Lijn | Paal_P_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)27 | Lijn | Paal_X_7<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)33 | Lijn | Paal_X_16<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)7 | Lijn | Paal_Y_3 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)22 | Lijn | Paal_P_6<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)4 | Lijn | Paal_XY_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)24 | Lijn | Paal_X_4<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)7 | Lijn | Paal_Y_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)38 | Lijn | Paal_X_21<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)28 | Lijn | Paal_X_8<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)3 | Lijn | Paal_X_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)37 | Lijn | Paal_X_20<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)34 | Lijn | Paal_X_17<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)35 | Lijn | Paal_X_18<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)6 | Lijn | Paal_Y_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)1 | Lijn | Paal_P_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Lijn | Paal_X_16<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)11 | Lijn | Paal_Y_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Lijn | Paal_X_15<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)30 | Lijn | Paal_X_10<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)18 | Lijn | Paal_Y_5<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)36 | Lijn | Paal_X_19<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)17 | Lijn | Paal_Y_4<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)29 | Lijn | Paal_X_9<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)16 | Lijn | Paal_XY_6<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)10 | Lijn | Paal_XY_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Lijn | Paal_Y_6<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)15 | Lijn | Paal_XY_5<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Lijn | Paal_P_4<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)2 | Lijn | Paal_X_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Lijn | Paal_X_7<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)9 | Lijn | Paal_X_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)13 | Lijn | Paal_X_14<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)31 | Lijn | Paal_X_11<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2) | Lijn | Paal_P_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)39 | Lijn | Paal_X_22 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | | | | | | | | |
| (PY-curve-1_V2)4 | Lijn | Paal_XY_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)12 | Lijn | Paal_X_13<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)26 | Lijn | Paal_X_6<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)23 | Lijn | Paal_X_12<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Lijn | Paal_P_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Lijn | Paal_X_5<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)22 | Lijn | Paal_P_6<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)14 | Lijn | Paal_XY_4<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Lijn | Paal_XY_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Lijn | Paal_P_5<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3)7 | Lijn | Paal_Y_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Lijn | Paal_P_4<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Lijn | Paal_X_4<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3) | Lijn | Paal_P_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Lijn | Paal_X_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Lijn | Paal_P_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Lijn | Paal_X_22<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)38 | Lijn | Paal_X_21<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)37 | Lijn | Paal_X_20<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)36 | Lijn | Paal_X_19<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)6 | Lijn | Paal_Y_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Lijn | Paal_X_18<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)34 | Lijn | Paal_X_17<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)33 | Lijn | Paal_X_16<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)31 | Lijn | Paal_X_11<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)32 | Lijn | Paal_X_15<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)19 | Lijn | Paal_Y_6<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Lijn | Paal_X_10<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)5 | Lijn | Paal_XY_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)18 | Lijn | Paal_Y_5<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)2 | Lijn | Paal_X_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)29 | Lijn | Paal_X_9 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,000 | | | | | | | | |
| (PY-curve-1_V3)17 | Lijn | Paal_Y_4<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)10 | Lijn | Paal_XY_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Lijn | Paal_XY_6<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)28 | Lijn | Paal_X_8<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)15 | Lijn | Paal_XY_5<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)14 | Lijn | Paal_XY_4<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)9 | Lijn | Paal_X_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Lijn | Paal_X_7<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)4 | Lijn | Paal_XY_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Lijn | Paal_X_14<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Lijn | Paal_X_13<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Lijn | Paal_X_6<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)23 | Lijn | Paal_X_12<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Lijn | Paal_P_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)11 | Lijn | Paal_Y_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Lijn | Paal_X_5<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)21 | Lijn | Paal_P_5<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Lijn | Paal_P_6<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)20 | Lijn | Paal_P_4<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)38 | Lijn | Paal_X_21<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)37 | Lijn | Paal_X_20<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)6 | Lijn | Paal_Y_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)36 | Lijn | Paal_X_19<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)34 | Lijn | Paal_X_17<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)39 | Lijn | Paal_X_22<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)33 | Lijn | Paal_X_16<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)31 | Lijn | Paal_X_11<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)5 | Lijn | Paal_XY_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)32 | Lijn | Paal_X_15<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)35 | Lijn | Paal_X_18<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)2 | Lijn | Paal_X_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Lijn | Paal_Y_2 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | | | | | | | | |
| (PY-curve-1_V4)19 | Lijn | Paal_Y_6<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)30 | Lijn | Paal_X_10<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)18 | Lijn | Paal_Y_5<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Lijn | Paal_XY_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)29 | Lijn | Paal_X_9<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)17 | Lijn | Paal_Y_4<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Lijn | Paal_XY_6<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)28 | Lijn | Paal_X_8<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)15 | Lijn | Paal_XY_5<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Lijn | Paal_X_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Lijn | Paal_XY_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Lijn | Paal_XY_4<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)27 | Lijn | Paal_X_7<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)13 | Lijn | Paal_X_14<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)26 | Lijn | Paal_X_6<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)12 | Lijn | Paal_X_13<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4) | Lijn | Paal_P_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Lijn | Paal_P_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Lijn | Paal_X_12<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)25 | Lijn | Paal_X_5<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)1 | Lijn | Paal_P_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Lijn | Paal_P_6<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Lijn | Paal_P_5<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Lijn | Paal_X_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Lijn | Paal_Y_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)24 | Lijn | Paal_X_4<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V5)20 | Lijn | Paal_P_4<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)11 | Lijn | Paal_XY_1<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)10 | Lijn | Paal_X_3<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)9 | Lijn | Paal_XY_3<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)8 | Lijn | Paal_X_1<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)7 | Lijn | Paal_XY_2 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

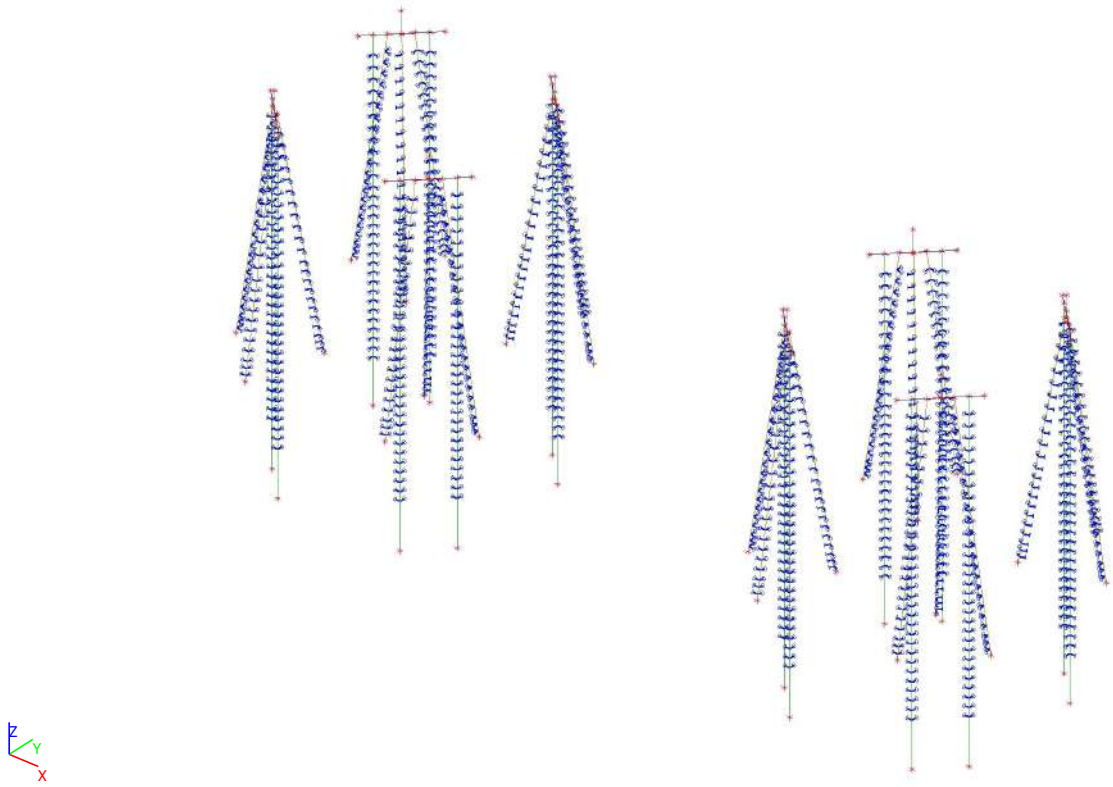
| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,700 | | | | | | | | |
| (PY-curve-1_V5)6 | Lijn | Paal_X_2<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)5 | Lijn | Paal_Y_2<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)4 | Lijn | Paal_P_2<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)3 | Lijn | Paal_Y_1<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)2 | Lijn | Paal_P_3<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)1 | Lijn | Paal_Y_3<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5) | Lijn | Paal_P_1<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)19 | Lijn | Paal_Y_6<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)18 | Lijn | Paal_Y_5<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)17 | Lijn | Paal_Y_4<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)16 | Lijn | Paal_XY_6<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)15 | Lijn | Paal_XY_5<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)14 | Lijn | Paal_XY_4<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)13 | Lijn | Paal_X_14<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)12 | Lijn | Paal_X_13<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)23 | Lijn | Paal_X_12<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)22 | Lijn | Paal_P_6<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)21 | Lijn | Paal_P_5<br>LCS | 12,000<br>12,700 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)31 | Lijn | Paal_X_11<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)39 | Lijn | Paal_X_22<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)30 | Lijn | Paal_X_10<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)29 | Lijn | Paal_X_5<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)28 | Lijn | Paal_X_4<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)38 | Lijn | Paal_X_21<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)27 | Lijn | Paal_X_9<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)26 | Lijn | Paal_X_8<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)25 | Lijn | Paal_X_7<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)37 | Lijn | Paal_X_20<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)24 | Lijn | Paal_X_6<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)36 | Lijn | Paal_X_19<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)35 | Lijn | Paal_X_18<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)34 | Lijn | Paal_X_17 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 13,000 | | | | | | | | |
| (PY-curve-1_V5)33 | Lijn | Paal_X_16<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)32 | Lijn | Paal_X_15<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V6)13 | Lijn | Paal_X_20<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)12 | Lijn | Paal_X_18<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)11 | Lijn | Paal_X_17<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)10 | Lijn | Paal_X_16<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)9 | Lijn | Paal_X_15<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)8 | Lijn | Paal_X_11<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)7 | Lijn | Paal_X_10<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)14 | Lijn | Paal_X_21<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)6 | Lijn | Paal_X_9<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)5 | Lijn | Paal_X_8<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)4 | Lijn | Paal_X_7<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)3 | Lijn | Paal_X_6<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)2 | Lijn | Paal_X_5<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)1 | Lijn | Paal_X_4<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6) | Lijn | Paal_X_19<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)15 | Lijn | Paal_X_22<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V7)15 | Lijn | Paal_X_22<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)13 | Lijn | Paal_X_20<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)12 | Lijn | Paal_X_19<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)11 | Lijn | Paal_X_18<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)10 | Lijn | Paal_X_17<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)9 | Lijn | Paal_X_16<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)8 | Lijn | Paal_X_15<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)7 | Lijn | Paal_X_11<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)14 | Lijn | Paal_X_21<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)6 | Lijn | Paal_X_10<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)5 | Lijn | Paal_X_9<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)4 | Lijn | Paal_X_8<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)3 | Lijn | Paal_X_7<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)2 | Lijn | Paal_X_6 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | | | | | | | | |
| (PY-curve-1_V7)1 | Lijn | Paal_X_5<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7) | Lijn | Paal_X_4<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V8)15 | Lijn | Paal_X_22<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)13 | Lijn | Paal_X_20<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)12 | Lijn | Paal_X_19<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)11 | Lijn | Paal_X_18<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)10 | Lijn | Paal_X_17<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)9 | Lijn | Paal_X_16<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)8 | Lijn | Paal_X_15<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)7 | Lijn | Paal_X_11<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)14 | Lijn | Paal_X_21<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)6 | Lijn | Paal_X_10<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)5 | Lijn | Paal_X_9<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)4 | Lijn | Paal_X_8<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)3 | Lijn | Paal_X_7<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)2 | Lijn | Paal_X_6<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)1 | Lijn | Paal_X_5<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8) | Lijn | Paal_X_4<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V9)15 | Lijn | Paal_X_21<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)13 | Lijn | Paal_X_18<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)12 | Lijn | Paal_X_17<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)11 | Lijn | Paal_X_16<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)10 | Lijn | Paal_X_15<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)9 | Lijn | Paal_X_10<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)8 | Lijn | Paal_X_9<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)7 | Lijn | Paal_X_7<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)14 | Lijn | Paal_X_20<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)6 | Lijn | Paal_X_6<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)5 | Lijn | Paal_X_5<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)4 | Lijn | Paal_X_4<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)3 | Lijn | Paal_X_22<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)2 | Lijn | Paal_X_19 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |

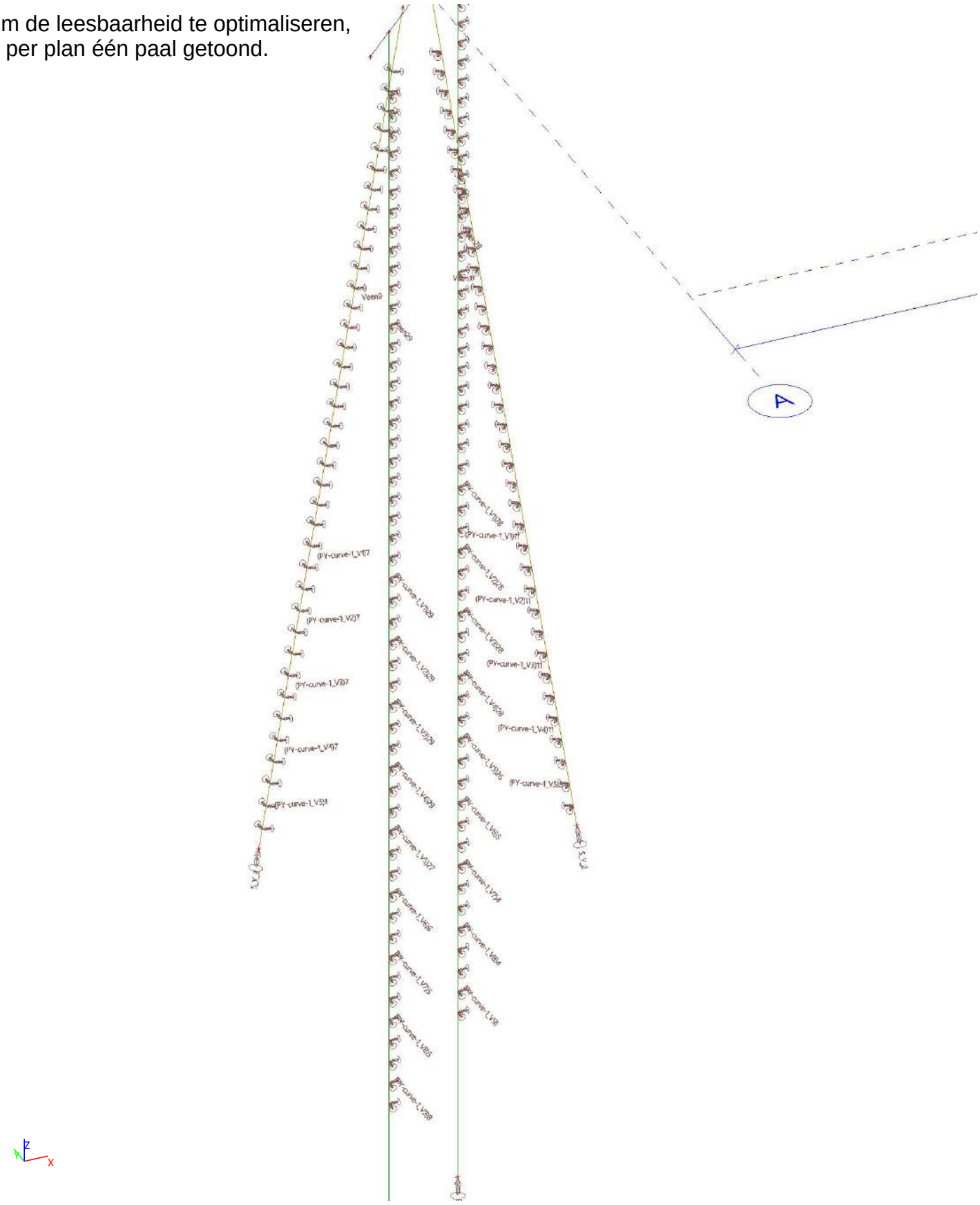
| Naam | Type | Staaf | Pos $x_1$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | | | | | | | | |
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-1_V9)1 | Lijn | Paal_X_11 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-1_V9) | Lijn | Paal_X_8 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| | | LCS | 17,000 | | | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

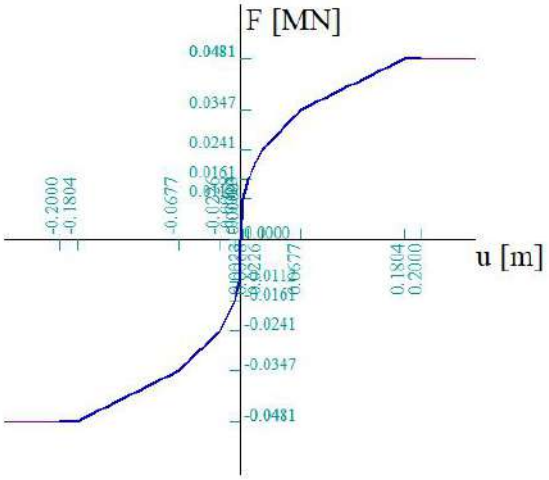
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

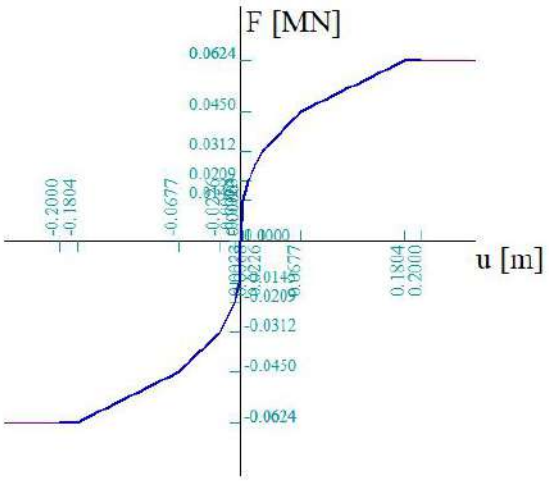
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1 | Verplaatsing | -2,0000e-01[m] / -4,8130e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Tekenen



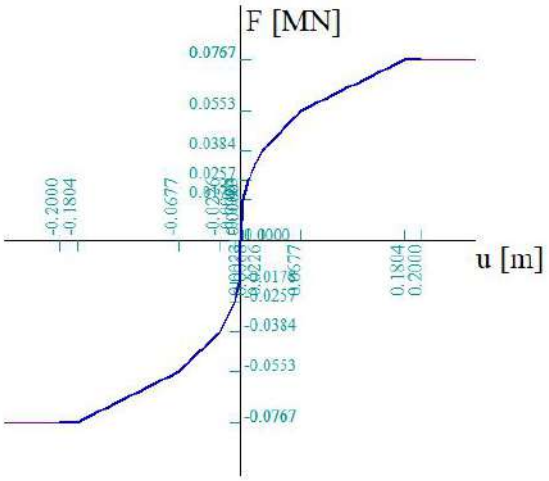

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2 | Verplaatsing | -2,0000e-01[m] / -6,2400e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3 | Verplaatsing | -2,0000e-01[m] / -7,6737e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

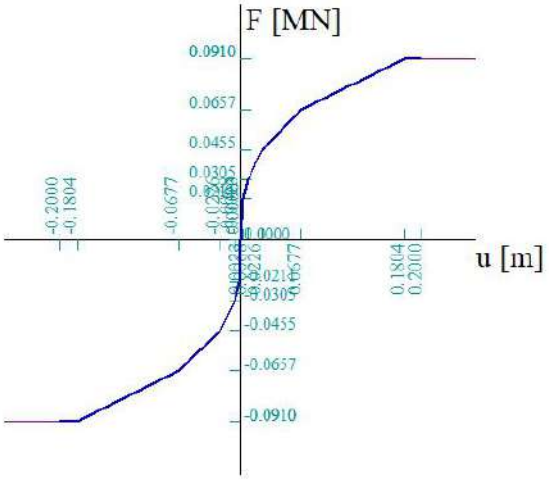
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4 | Verplaatsing | -2,0000e-01[m] / -9,1041e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |

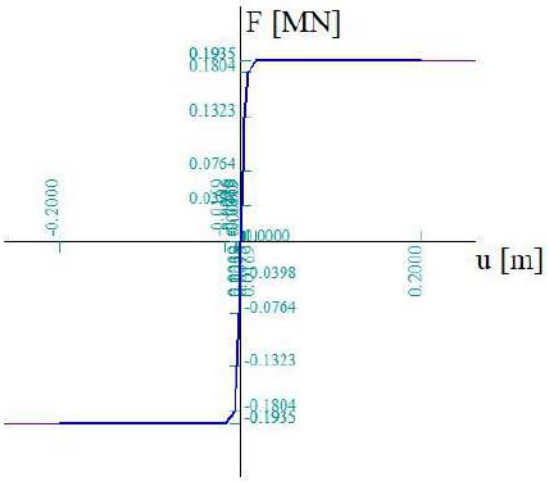
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5 | Verplaatsing | -2,0000e-01[m] / -1,9349e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -1,9349e-01[MN] | | |
| | | -7,5167e-03[m] / -1,8041e-01[MN] | | |
| | | -3,7583e-03[m] / -1,3226e-01[MN] | | |
| | | -1,8792e-03[m] / -7,6422e-02[MN] | | |
| | | -9,3958e-04[m] / -3,9826e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 3,9826e-02[MN] | | |
| | | 1,8792e-03[m] / 7,6422e-02[MN] | | |
| | | 3,7583e-03[m] / 1,3226e-01[MN] | | |
| | | 7,5167e-03[m] / 1,8041e-01[MN] | | |
| | | 1,6913e-02[m] / 1,9349e-01[MN] | | |
| | | 2,0000e-01[m] / 1,9349e-01[MN] | | |

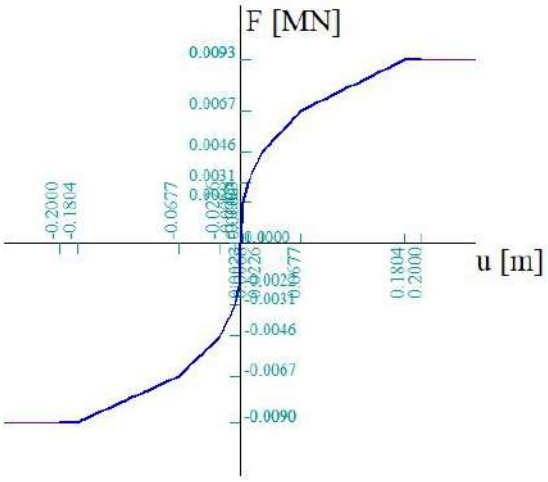
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -2,0000e-01[m] / -9,0000e-03[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |

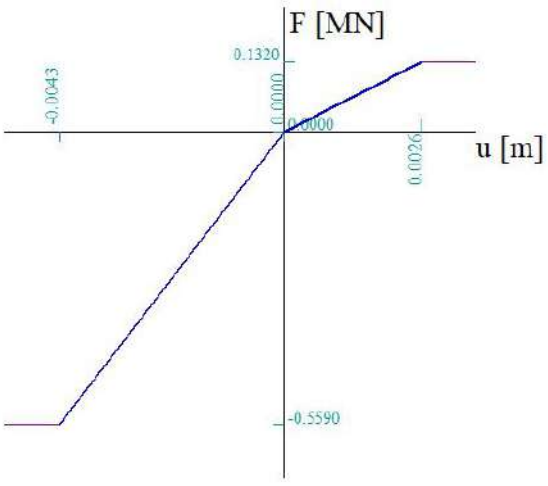
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Tekenen



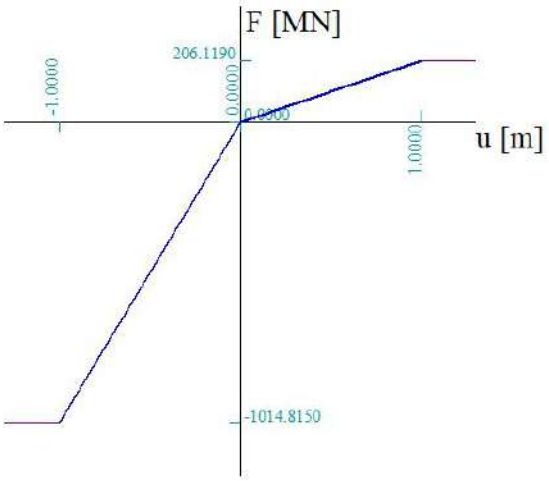

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+0-paalpunt_cap275kN .min.B. | Verplaatsing | -4,3100e-03[m] / -5,5900e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,6300e-03[m] / 1,3200e-01[MN] | | |

Tekenen



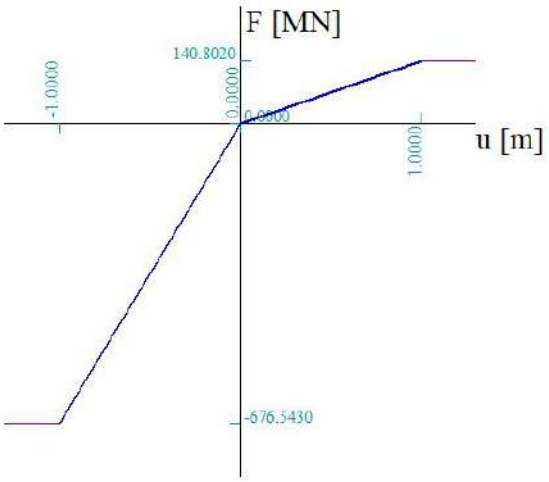

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Verplaatsing | -1,0000e+00[m] / -1,0148e+03[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,0612e+02[MN] | | |

Tekenen



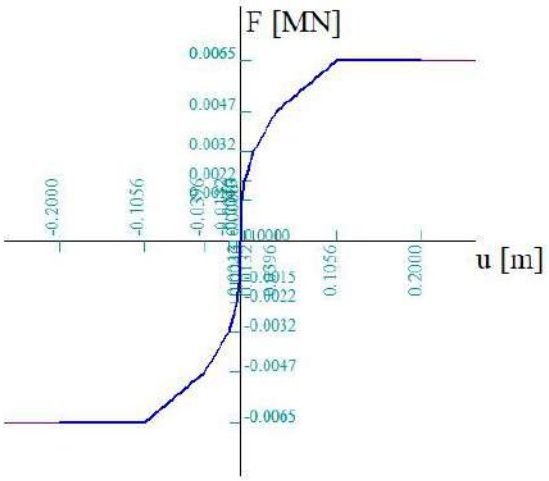

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Verplaatsing | -1,0000e+00[m] / -6,7654e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,4080e+02[MN] | | |

Tekenen



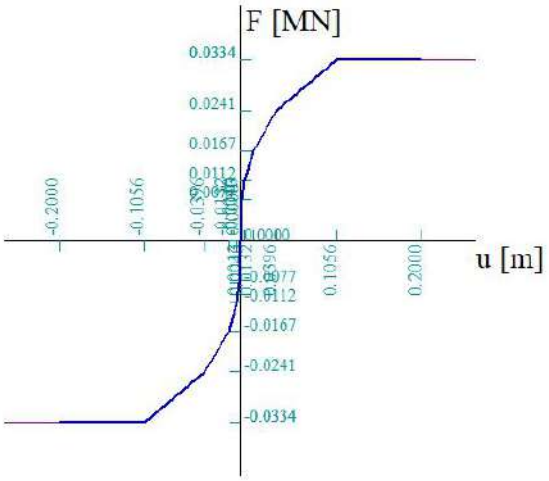

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen.B | Verplaatsing | -2,0000e-01[m] / -6,4600e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -6,4600e-03[MN] | | |
| | | -3,9600e-02[m] / -4,6585e-03[MN] | | |
| | | -1,3200e-02[m] / -3,2300e-03[MN] | | |
| | | -3,9600e-03[m] / -2,1623e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4992e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4992e-03[MN] | | |
| | | 3,9600e-03[m] / 2,1623e-03[MN] | | |
| | | 1,3200e-02[m] / 3,2300e-03[MN] | | |
| | | 3,9600e-02[m] / 4,6585e-03[MN] | | |
| | | 1,0560e-01[m] / 6,4600e-03[MN] | | |
| | | 2,0000e-01[m] / 6,4600e-03[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1.B | Verplaatsing | -2,0000e-01[m] / -3,3356e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -3,3356e-02[MN] | | |
| | | -3,9600e-02[m] / -2,4054e-02[MN] | | |
| | | -1,3200e-02[m] / -1,6678e-02[MN] | | |
| | | -3,9600e-03[m] / -1,1165e-02[MN] | | |
| | | -1,3200e-03[m] / -7,7412e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 7,7412e-03[MN] | | |
| | | 3,9600e-03[m] / 1,1165e-02[MN] | | |
| | | 1,3200e-02[m] / 1,6678e-02[MN] | | |
| | | 3,9600e-02[m] / 2,4054e-02[MN] | | |
| | | 1,0560e-01[m] / 3,3356e-02[MN] | | |
| | | 2,0000e-01[m] / 3,3356e-02[MN] | | |

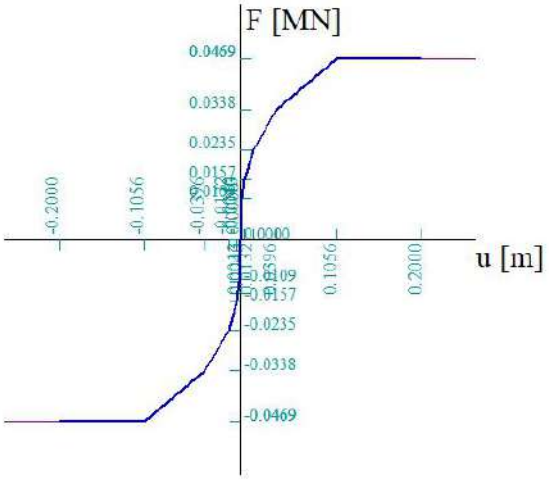
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2.B | Verplaatsing | -2,0000e-01[m] / -4,6912e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -4,6912e-02[MN] | | |
| | | -3,9600e-02[m] / -3,3829e-02[MN] | | |
| | | -1,3200e-02[m] / -2,3456e-02[MN] | | |
| | | -3,9600e-03[m] / -1,5702e-02[MN] | | |
| | | -1,3200e-03[m] / -1,0887e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,0887e-02[MN] | | |
| | | 3,9600e-03[m] / 1,5702e-02[MN] | | |
| | | 1,3200e-02[m] / 2,3456e-02[MN] | | |

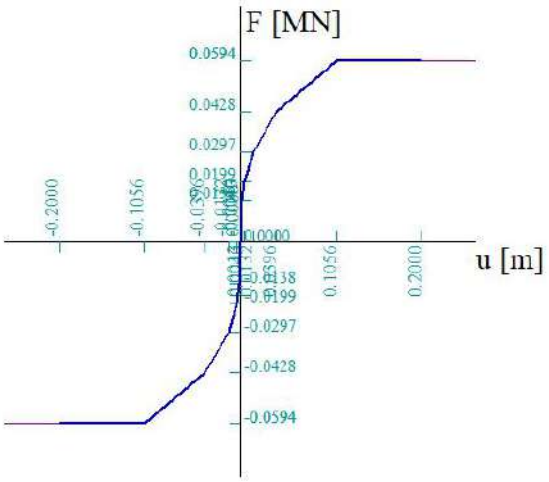
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 3,9600e-02[m] / 3,3829e-02[MN] | | |
| | | 1,0560e-01[m] / 4,6912e-02[MN] | | |
| | | 2,0000e-01[m] / 4,6912e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3.B | Verplaatsing | -2,0000e-01[m] / -5,9400e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

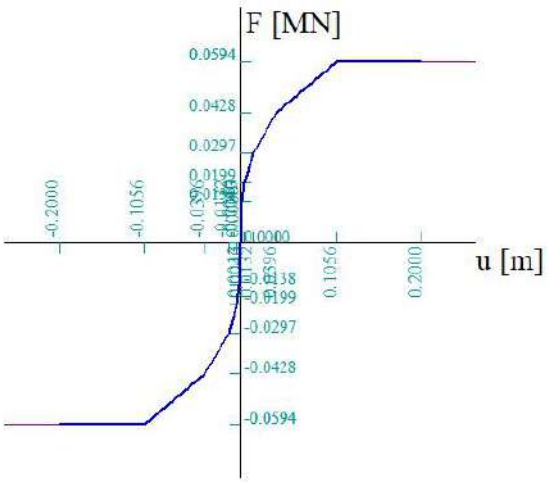
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4.B | Verplaatsing | -2,0000e-01[m] / -5,9400e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |

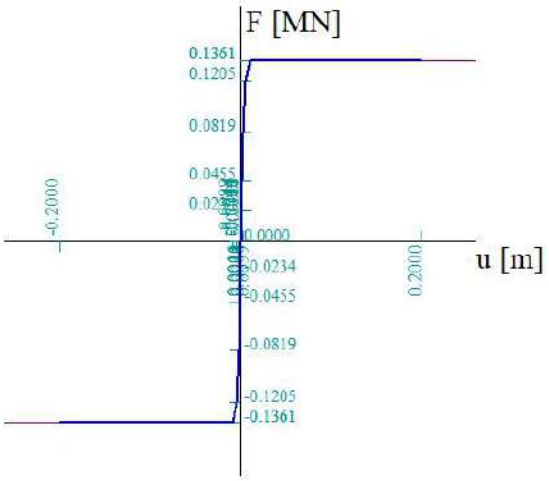
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

Tekenen



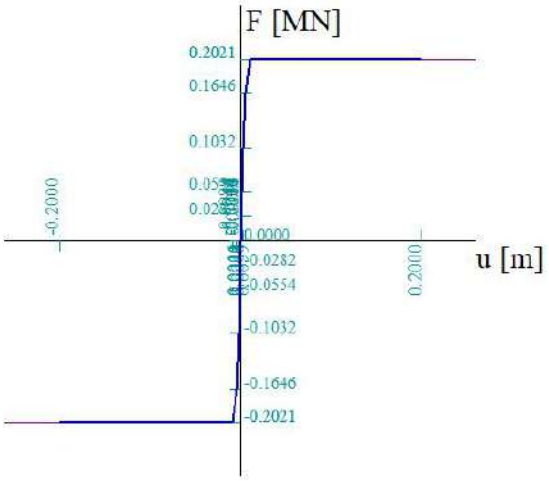

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5.B | Verplaatsing | -2,0000e-01[m] / -1,3606e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,3606e-01[MN] | | |
| | | -4,4000e-03[m] / -1,2049e-01[MN] | | |
| | | -2,2000e-03[m] / -8,1906e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5496e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3416e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3416e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5496e-02[MN] | | |
| | | 2,2000e-03[m] / 8,1906e-02[MN] | | |
| | | 4,4000e-03[m] / 1,2049e-01[MN] | | |
| | | 9,9000e-03[m] / 1,3606e-01[MN] | | |
| | | 2,0000e-01[m] / 1,3606e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6.B | Verplaatsing | -2,0000e-01[m] / -2,0212e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,0212e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6461e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0317e-01[MN] | | |
| | | -1,1000e-03[m] / -5,5351e-02[MN] | | |
| | | -5,5000e-04[m] / -2,8200e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,8200e-02[MN] | | |
| | | 1,1000e-03[m] / 5,5351e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0317e-01[MN] | | |
| | | 4,4000e-03[m] / 1,6461e-01[MN] | | |
| | | 9,9000e-03[m] / 2,0212e-01[MN] | | |
| | | 2,0000e-01[m] / 2,0212e-01[MN] | | |

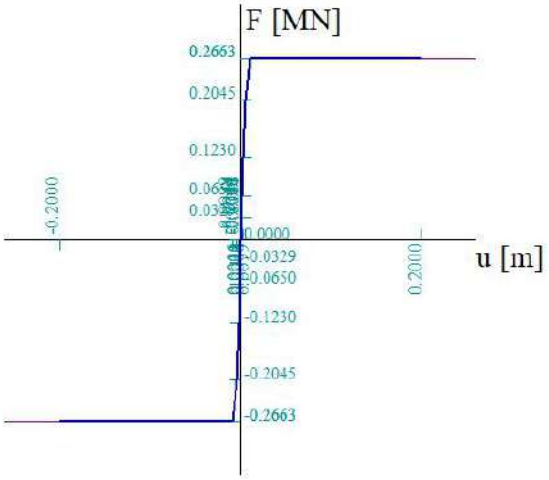
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7.B | Verplaatsing | -2,0000e-01[m] / -2,6632e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,6632e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0449e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2296e-01[MN] | | |
| | | -1,1000e-03[m] / -6,4953e-02[MN] | | |
| | | -5,5000e-04[m] / -3,2949e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,2949e-02[MN] | | |
| | | 1,1000e-03[m] / 6,4953e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2296e-01[MN] | | |

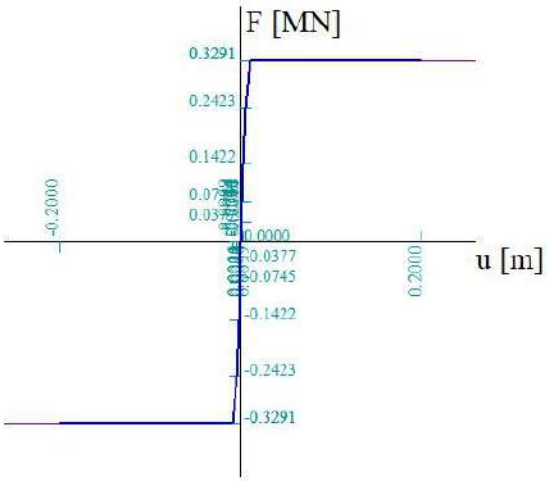
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 2,0449e-01[MN] | | |
| | | 9,9000e-03[m] / 2,6632e-01[MN] | | |
| | | 2,0000e-01[m] / 2,6632e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8.B | Verplaatsing | -2,0000e-01[m] / -3,2908e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,2908e-01[MN] | | |
| | | -4,4000e-03[m] / -2,4234e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4217e-01[MN] | | |
| | | -1,1000e-03[m] / -7,4465e-02[MN] | | |
| | | -5,5000e-04[m] / -3,7686e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,7686e-02[MN] | | |
| | | 1,1000e-03[m] / 7,4465e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4217e-01[MN] | | |
| | | 4,4000e-03[m] / 2,4234e-01[MN] | | |
| | | 9,9000e-03[m] / 3,2908e-01[MN] | | |
| | | 2,0000e-01[m] / 3,2908e-01[MN] | | |

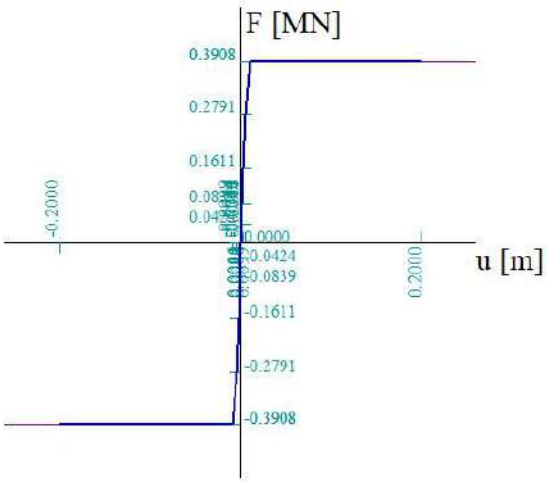
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9.B | Verplaatsing | -2,0000e-01[m] / -3,9077e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,9077e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7909e-01[MN] | | |
| | | -2,2000e-03[m] / -1,6111e-01[MN] | | |

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -8,3936e-02[MN] | | |
| | | -5,5000e-04[m] / -4,2418e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,2418e-02[MN] | | |
| | | 1,1000e-03[m] / 8,3936e-02[MN] | | |
| | | 2,2000e-03[m] / 1,6111e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7909e-01[MN] | | |
| | | 9,9000e-03[m] / 3,9077e-01[MN] | | |
| | | 2,0000e-01[m] / 3,9077e-01[MN] | | |

Tekenen

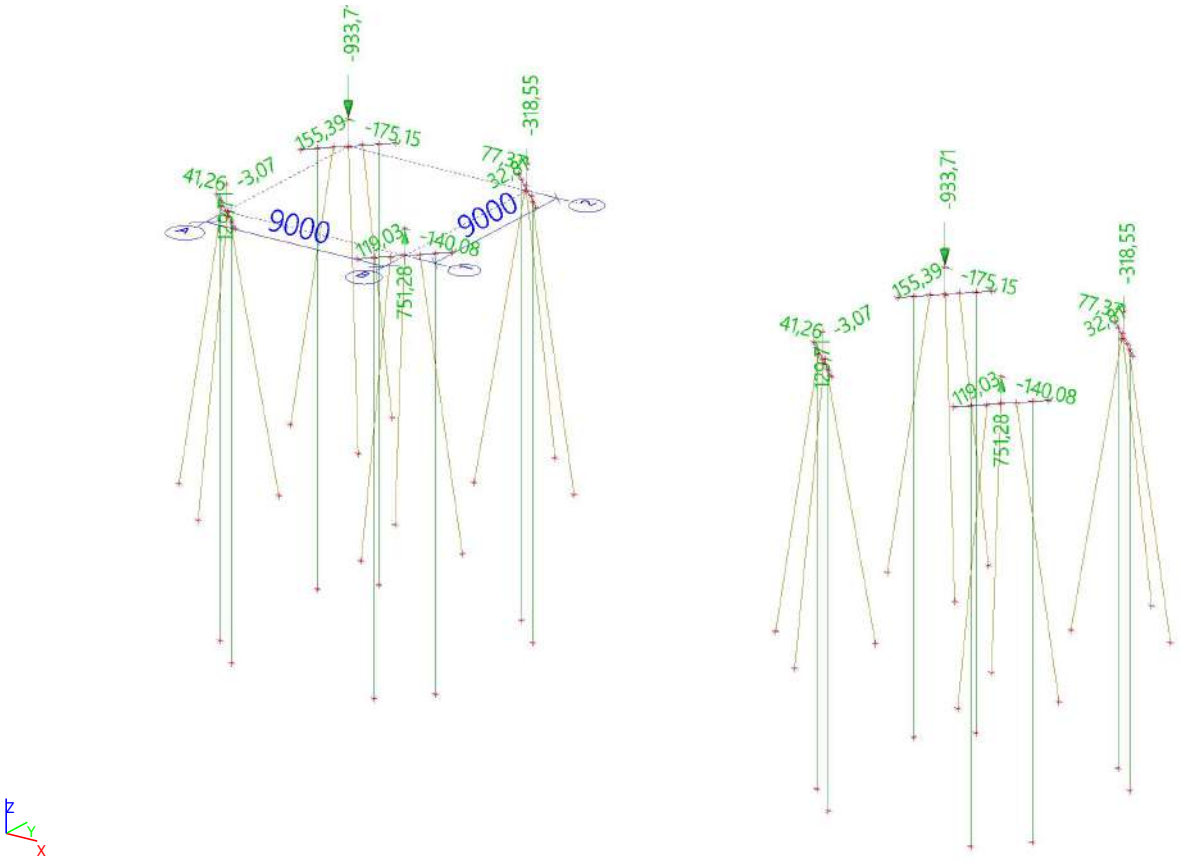


# 6. Belastingen

## 6.1. Belastingsgevallen

### 6.1.1. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



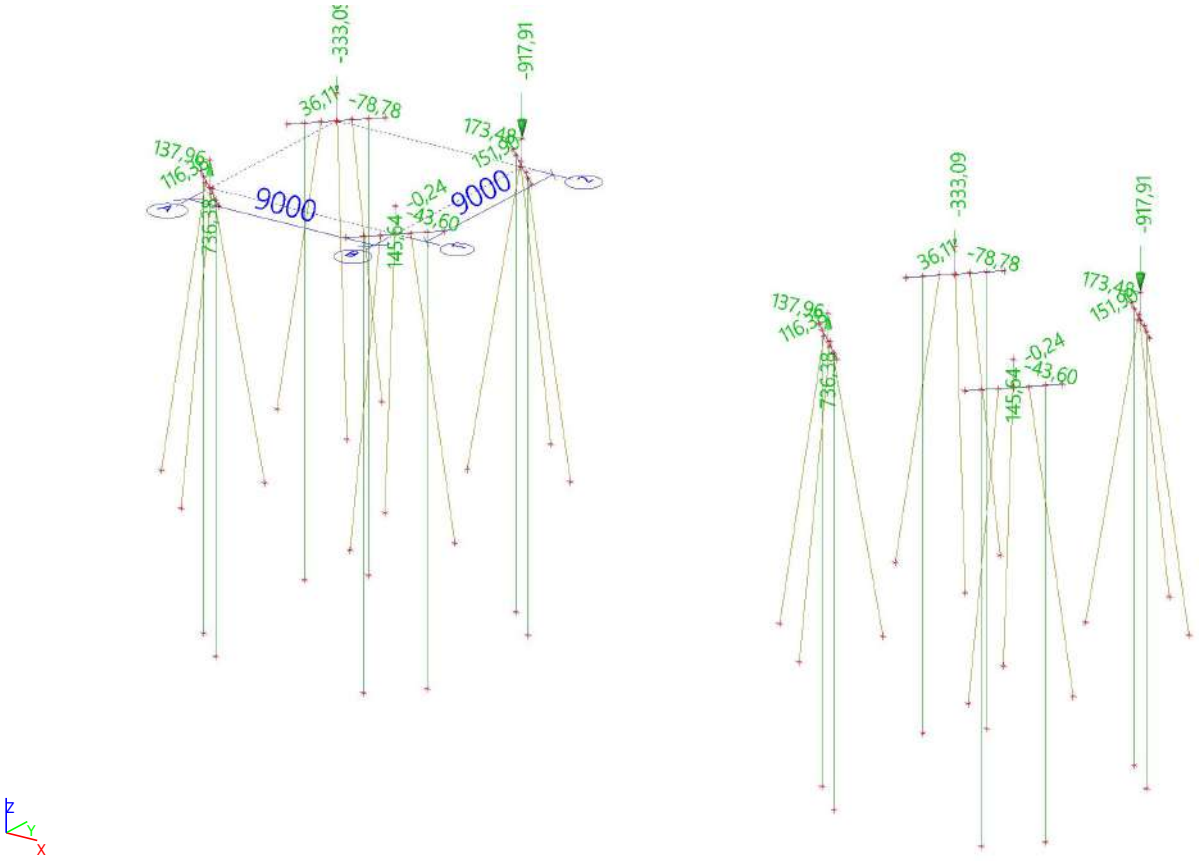

#### *6.1.1.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1P_X1 | 1P28 | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y1 | 1P28 | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z1 | 1P28 | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |

### 6.1.2. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



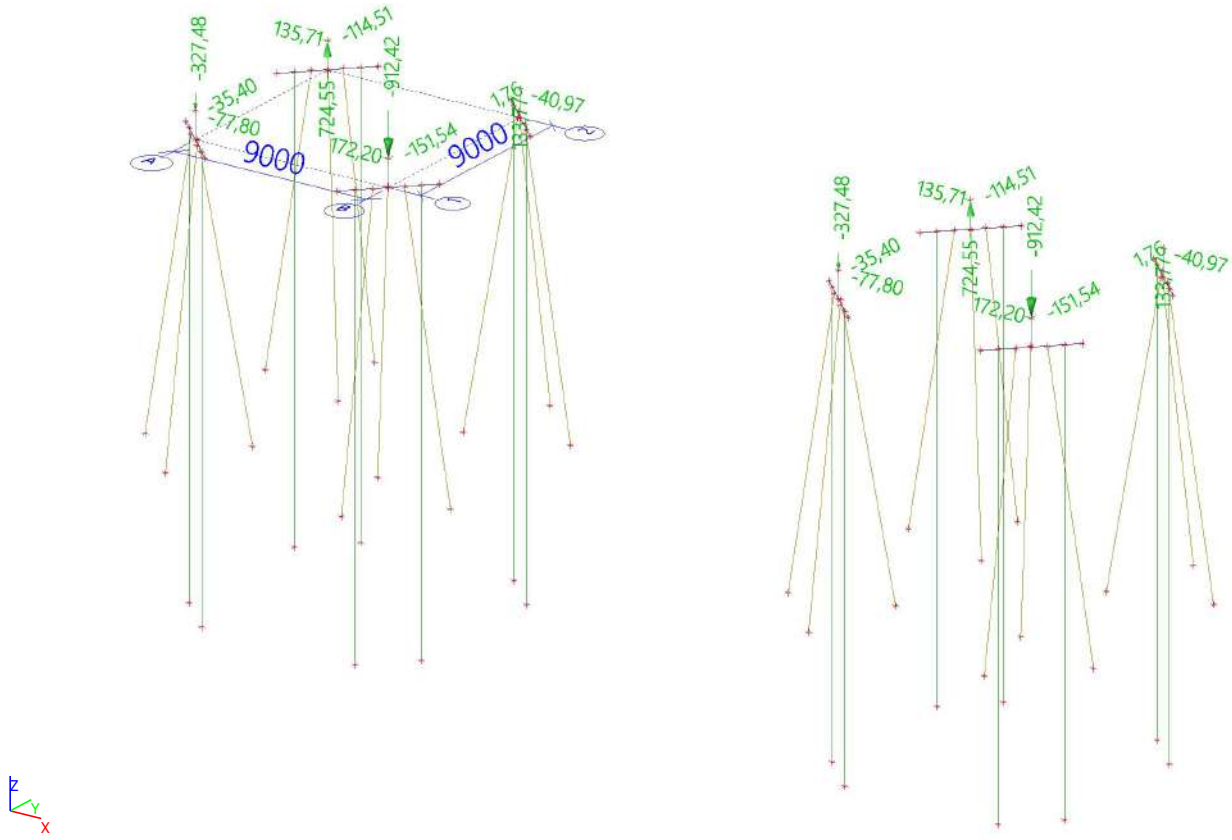

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1P_X1 | 1P28 | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y1 | 1P28 | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd | 1P28 | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |

### 6.1.3. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

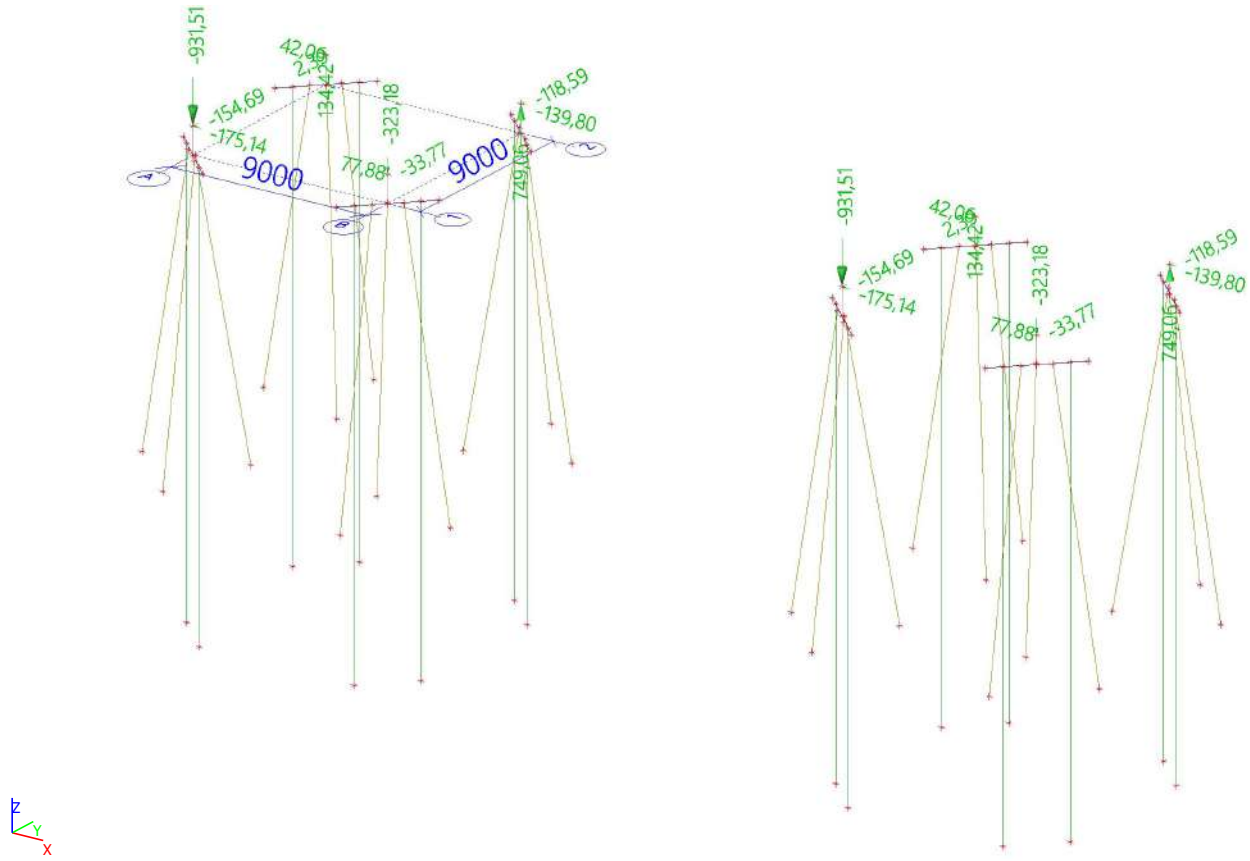


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1P_X1 | 1P28 | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y1 | 1P28 | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z1 | 1P28 | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |

### 6.1.4. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



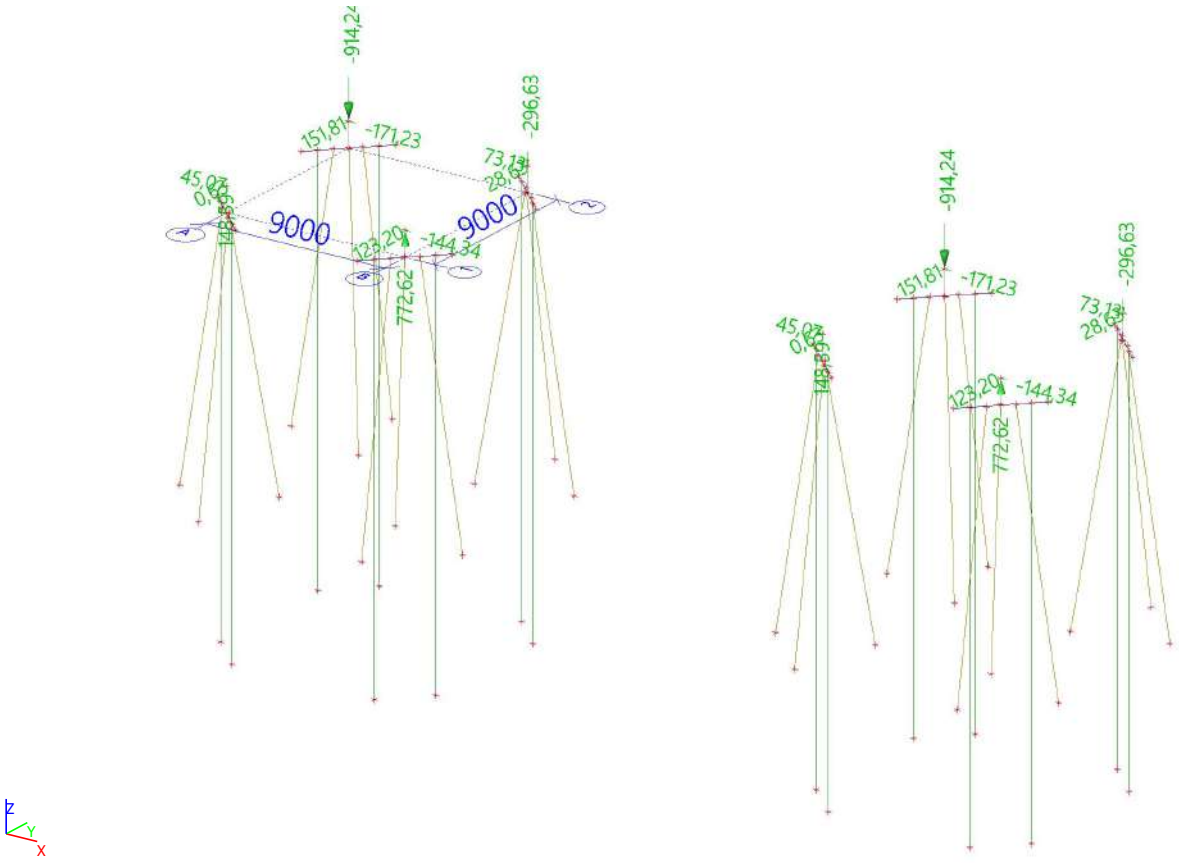

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1P_X1 | 1P28 | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y1 | 1P28 | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd | 1P28 | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |

### 6.1.5. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

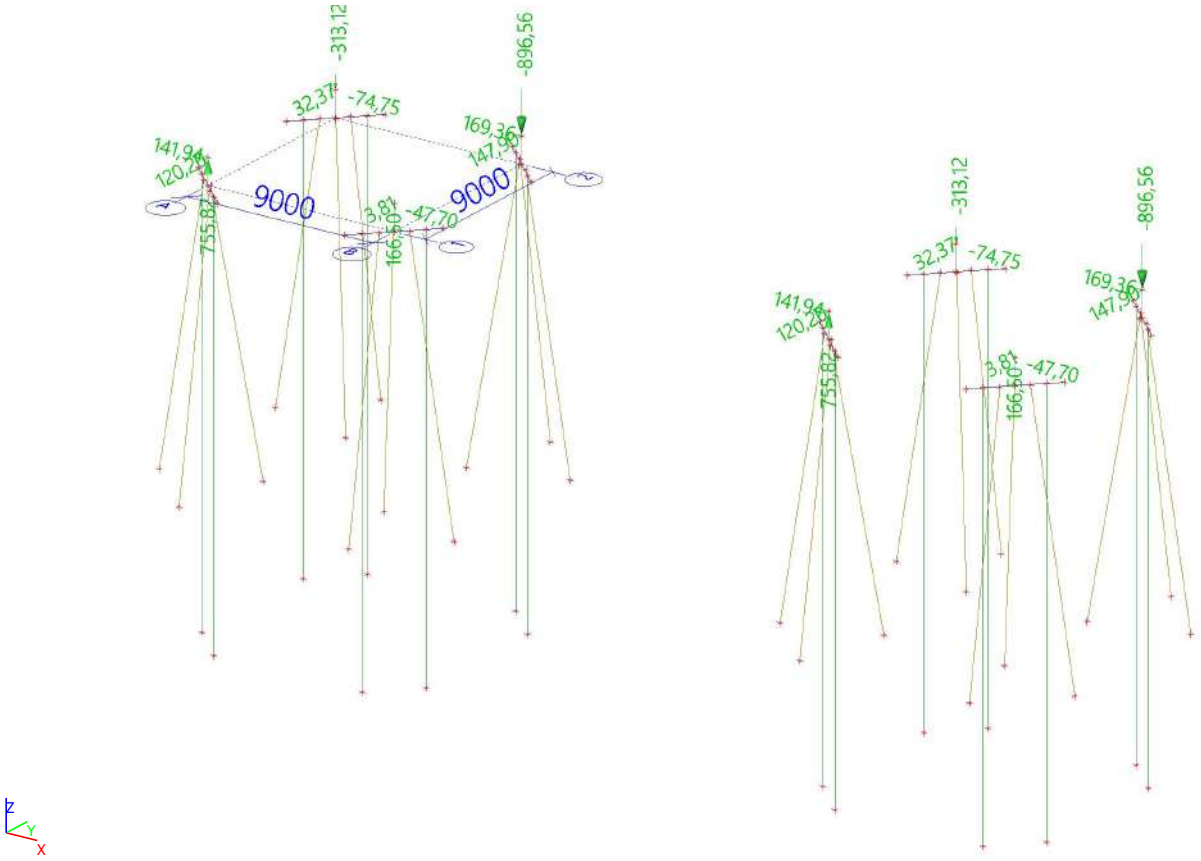


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1P_X1 | 1P28 | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y1 | 1P28 | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z1 | 1P28 | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



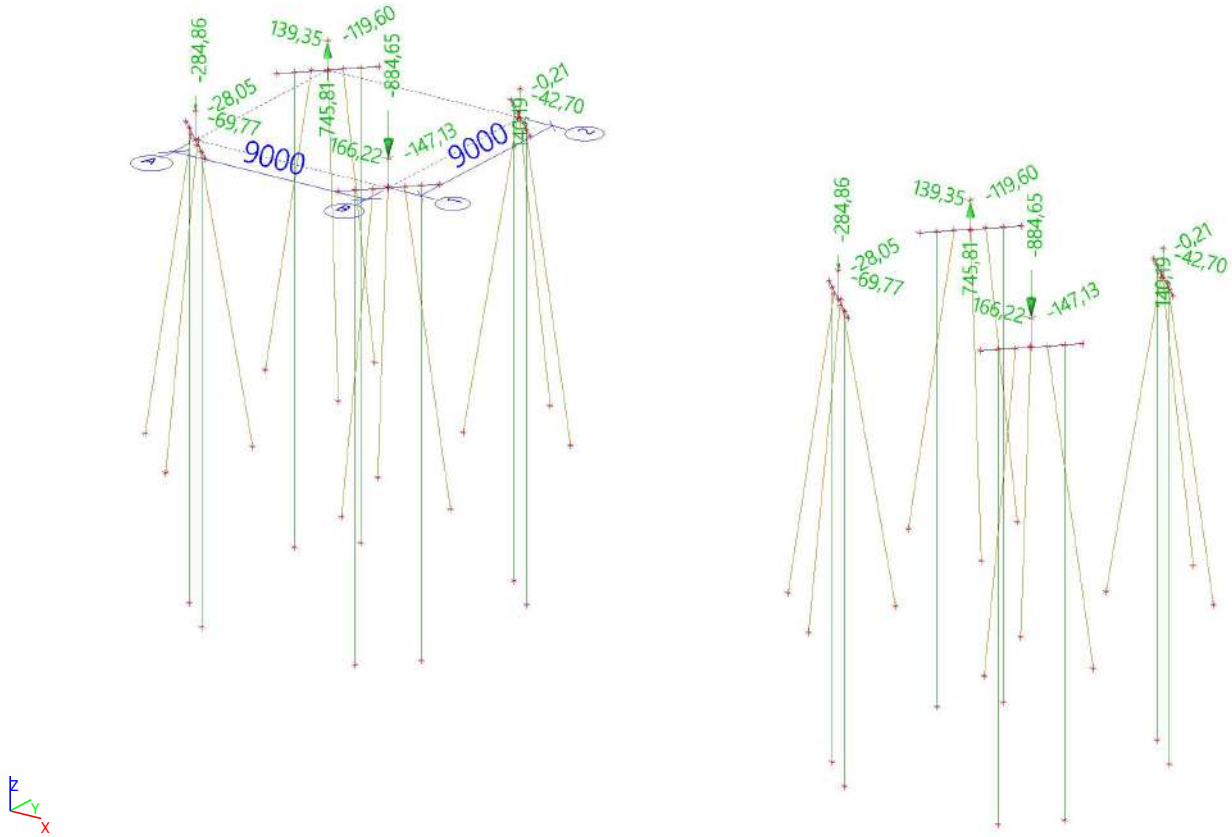

### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1P_X1 | 1P28 | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y1 | 1P28 | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd | 1P28 | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

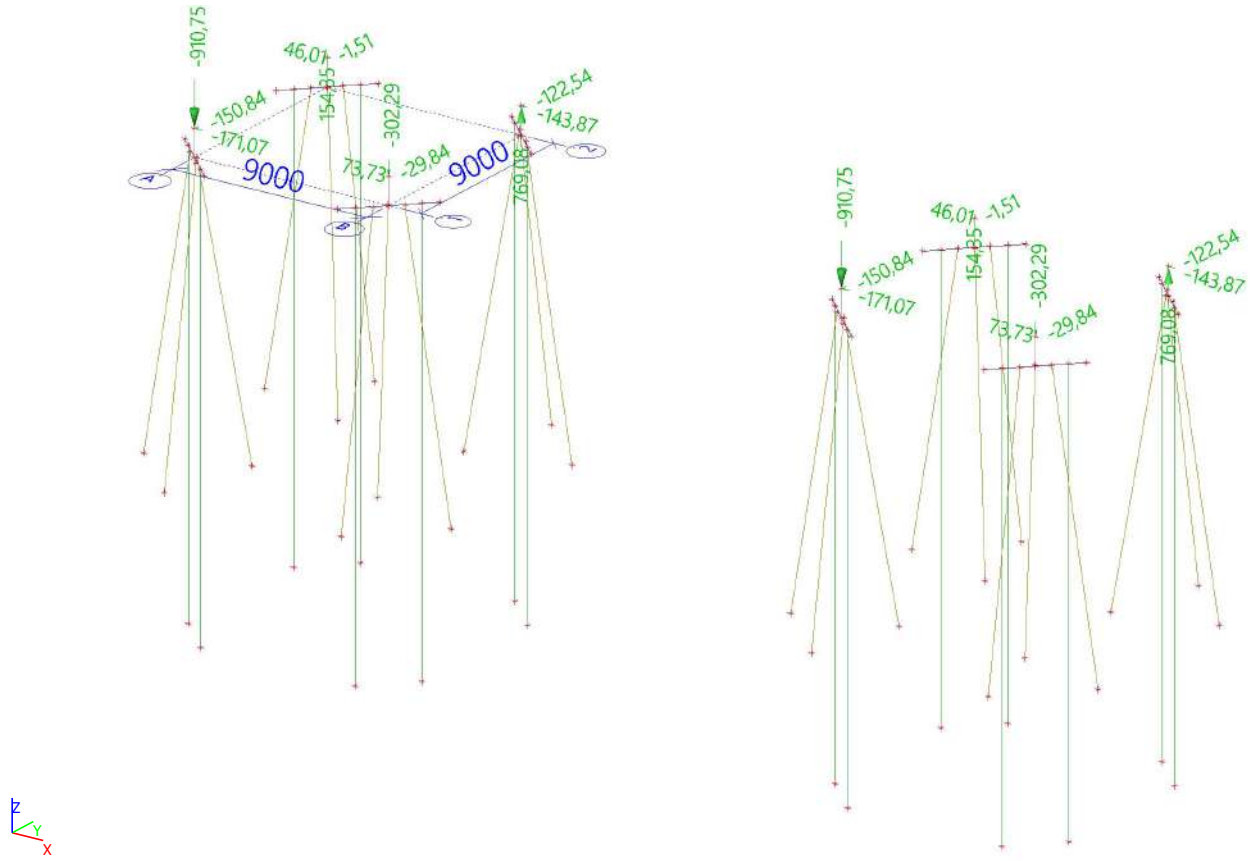


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1P_X1 | 1P28 | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y1 | 1P28 | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z1 | 1P28 | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



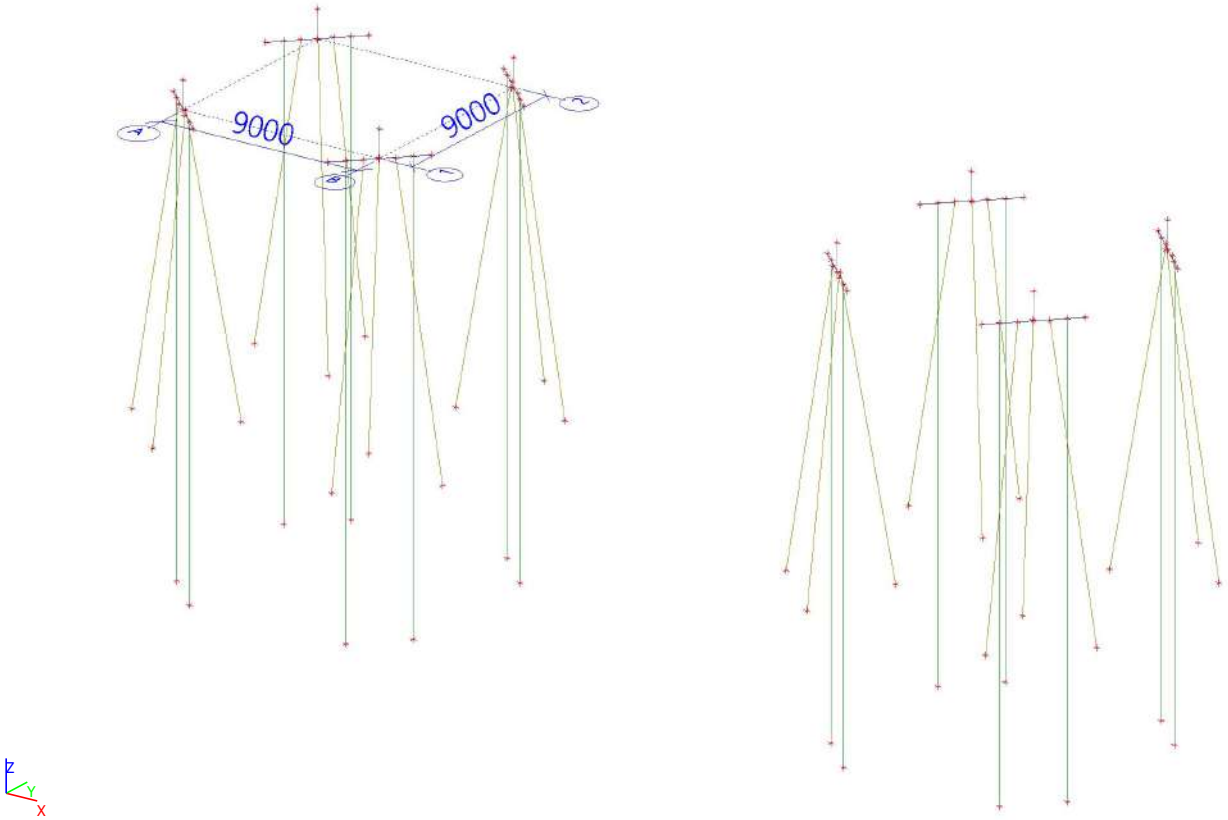

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1P_X1 | 1P28 | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y1 | 1P28 | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd | 1P28 | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |

### 6.1.9. Belastingsgevallen - EG_fundering

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |



## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Resultaatklasses

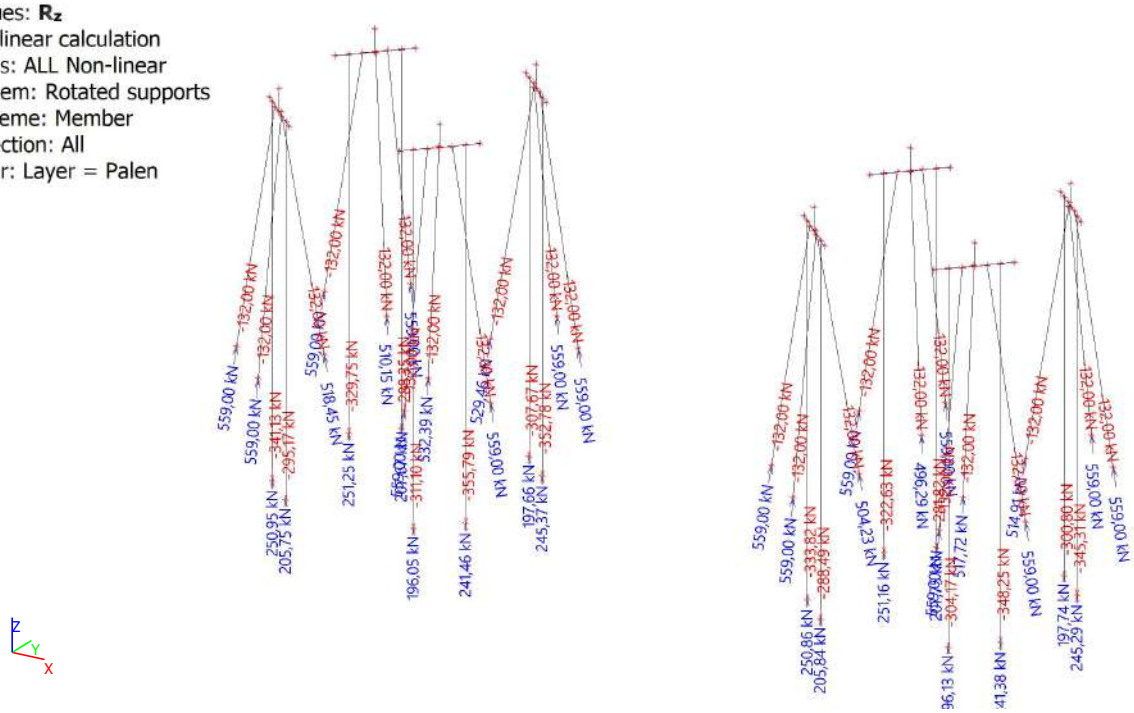
| Naam | Lijst |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_6/N65 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 514,91 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 510,15 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 517,72 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 523,04 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **559,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear

Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-355,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **251,25** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 219,88 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 290,00 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | 512,85 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **518,45** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | -22,44 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 255,76 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 216,19 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 137,08 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **532,39** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **559,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 213,48 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 286,82 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 132,17 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 523,04 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **529,46** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 260,50 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 222,44 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 119,26 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_2/N21 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **510,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 133,07 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **196,05** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-311,10** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **241,46** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-355,79** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-295,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **205,75** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-341,13** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **250,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-288,35** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **207,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-329,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **251,25** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-352,78** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **245,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-307,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_10/N42 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **197,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 222,43 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_4/N57 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N57 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 292,93 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | 501,56 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 133,34 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **504,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | -16,51 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | -8,26 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 185,65 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | -25,44 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **517,72** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 124,78 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 182,28 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_4/N63 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 289,82 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

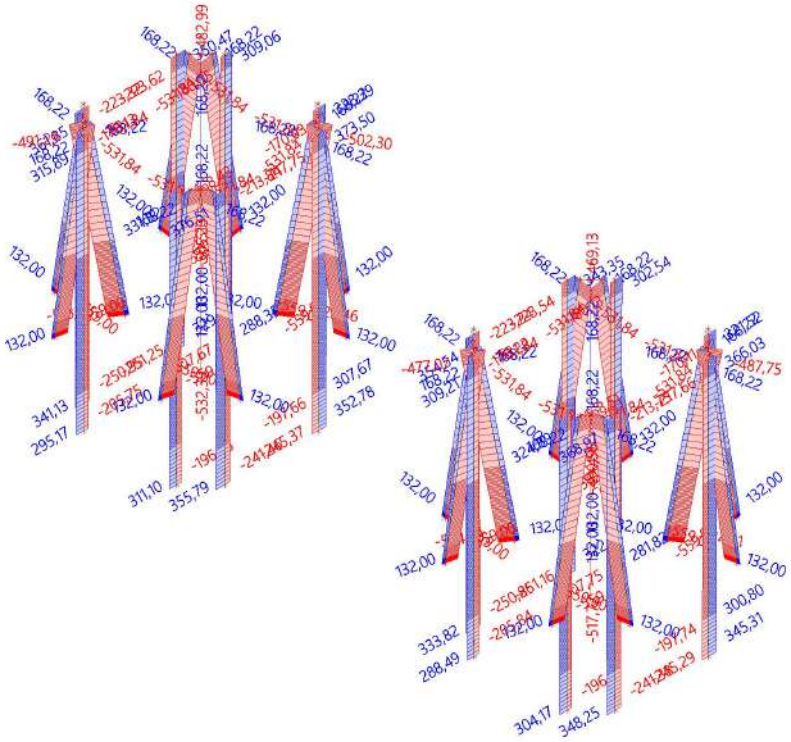
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_4/N63 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 134,06 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 511,43 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **514,91** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **559,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | -27,01 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 192,43 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **559,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **-132,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **496,29** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 134,93 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **196,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-304,17** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **241,38** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-348,25** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_17/N74 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-288,49** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_17/N74 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **205,84** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_18/N76 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-333,82** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_18/N76 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **250,86** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_19/N78 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-281,82** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_19/N78 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **207,75** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_20/N80 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-322,63** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_20/N80 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **251,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_22/N84 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-345,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_22/N84 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **245,29** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_21/N82 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-300,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_21/N82 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **197,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

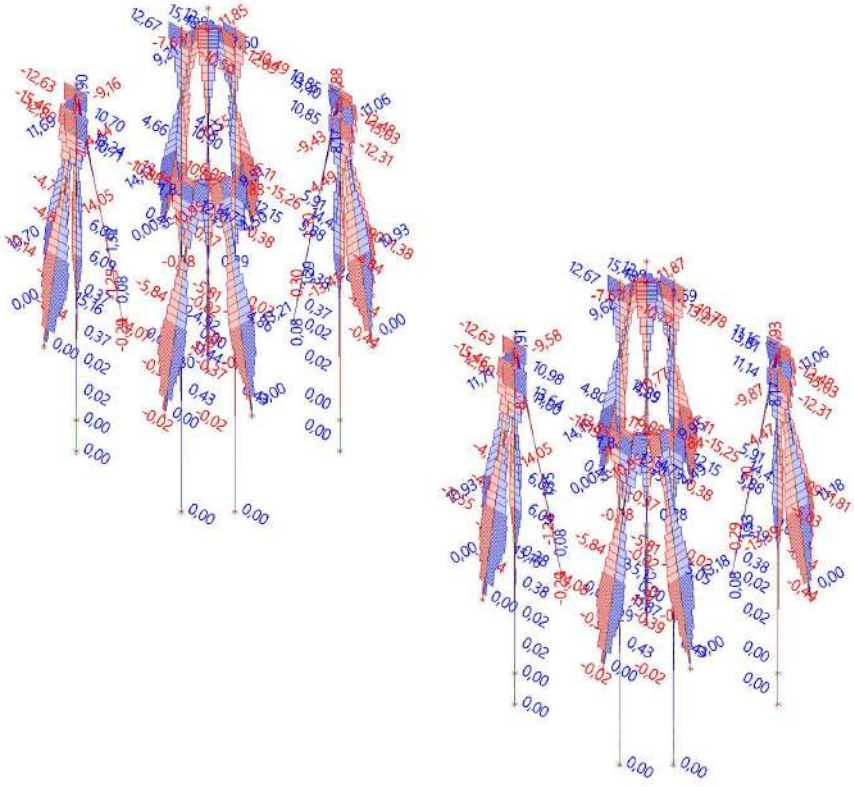
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



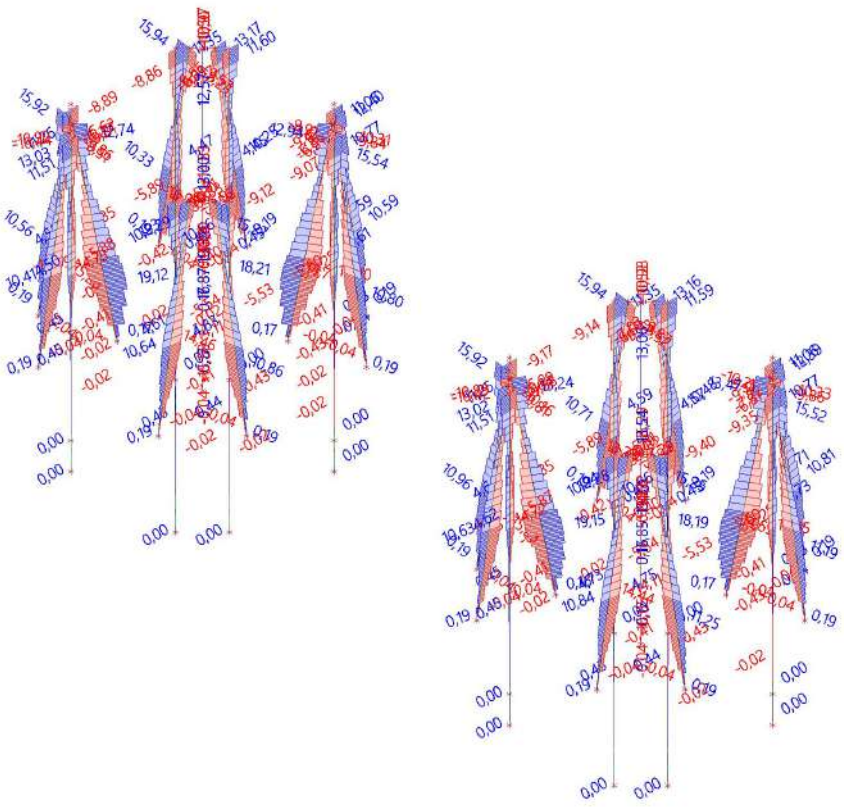
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



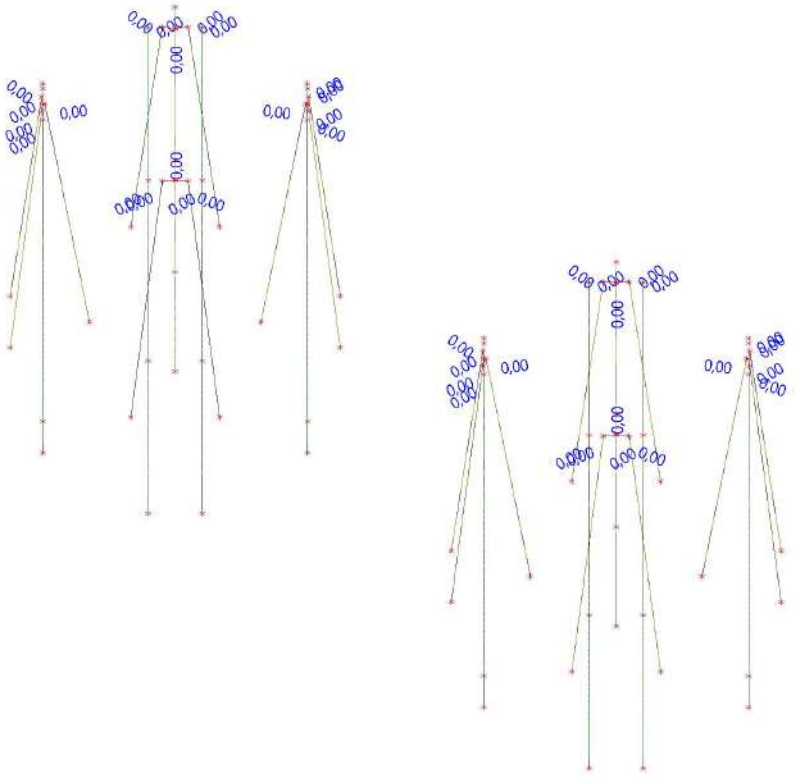
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



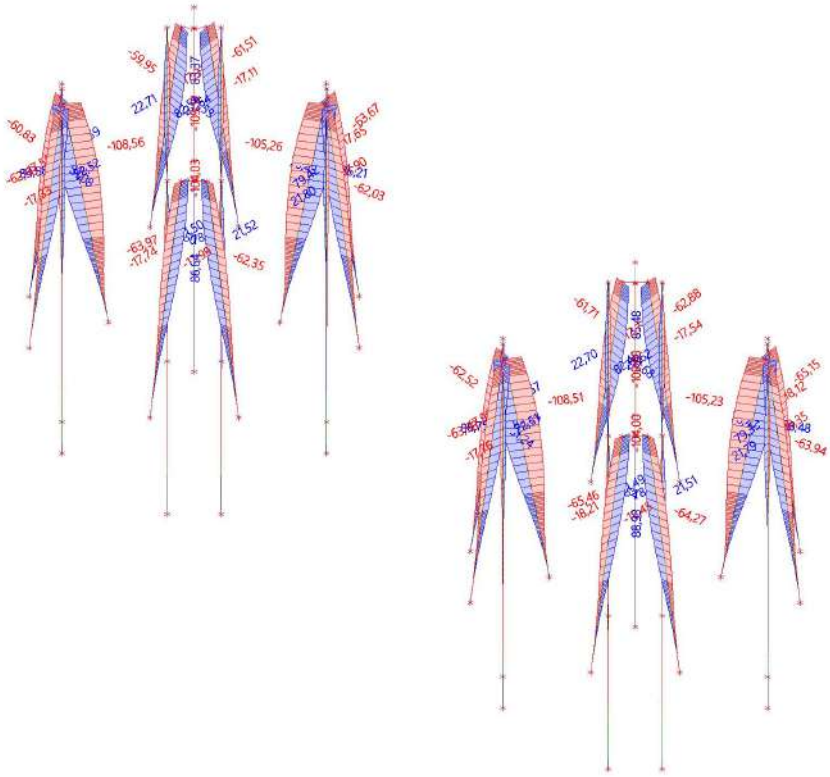
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



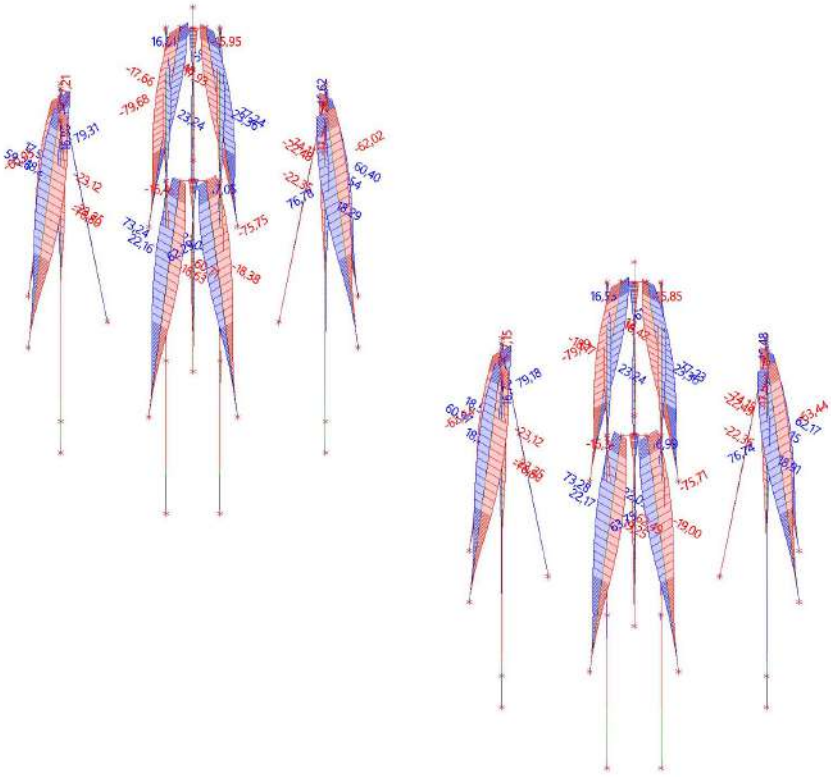
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 13,000 | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-559,00** | 0,00 | 0,19 | 0,00 | 0,00 | 0,00 |
| Paal_P_3 | 0,000 | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **168,22** | 12,37 | -5,00 | **0,00** | -49,46 | 26,45 |
| Paal_P_4 | 0,000 | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -522,78 | **-15,46** | 13,02 | 0,00 | 55,30 | -38,93 |
| Paal_Y_1 | 0,000 | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -522,78 | **15,48** | 13,17 | 0,00 | 55,28 | 39,34 |
| Paal_X_14 | 8,500+ | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -508,84 | -1,28 | **-16,05** | 0,00 | 41,10 | 3,77 |
| Paal_Y_2 | 9,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 142,45 | 1,19 | **19,34** | 0,00 | -47,08 | -3,01 |
| Paal_Y_2 | 2,750- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 161,77 | -4,69 | -3,74 | 0,00 | **-109,12** | -0,98 |
| Paal_X_14 | 3,625- | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -497,22 | 2,94 | 1,16 | 0,00 | **88,93** | 4,33 |
| Paal_Y_3 | 3,625- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -531,66 | -0,92 | 3,25 | 0,00 | 81,53 | **-79,68** |
| Paal_P_1 | 3,625- | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -531,66 | 0,79 | 3,25 | 0,00 | 81,08 | **79,31** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_9 | 19,612 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-251,25** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_5 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | **376,51** | -10,88 | -9,12 | **0,00** | 2,50 | 7,73 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_17 | 0,000 | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -178,22 | **-12,80** | 11,51 | 0,00 | -4,70 | 8,45 |
| Paal_X_15 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 324,89 | -11,19 | **-9,82** | 0,00 | 4,48 | 7,73 |
| Paal_X_8 | 0,000 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -180,05 | **12,83** | **11,60** | 0,00 | -4,81 | -8,42 |
| Paal_X_16 | 3,625- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 365,61 | -2,82 | -1,55 | 0,00 | **-18,45** | -18,88 |
| Paal_X_9 | 3,625- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -228,11 | 3,41 | 2,50 | 0,00 | **22,71** | 22,86 |
| Paal_X_6 | 4,500- | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -183,85 | -0,52 | -0,22 | 0,00 | 22,33 | **-23,25** |
| Paal_X_8 | 4,500- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -185,77 | 0,52 | -0,19 | 0,00 | 22,48 | **23,36** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

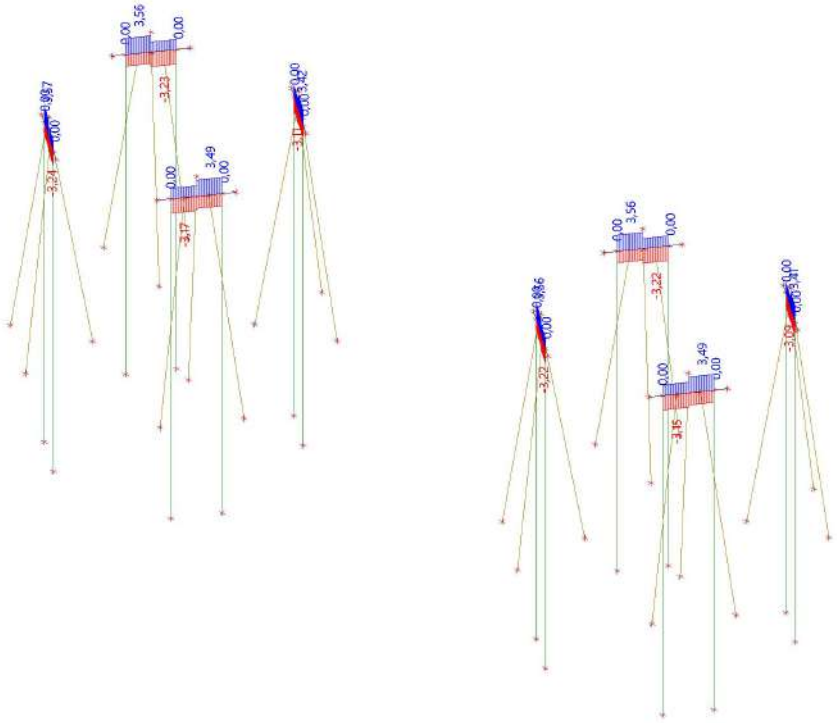
Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer X | 1,200 | low max Wnd ;45° - EG_gunstig | **772,62** | -189,18 | -14,95 | **0,00** | 0,00 | 0,00 |
| Poer X | 0,000 | low max Wnd ;45° - EG_gunstig | 742,85 | **-189,18** | -14,95 | 0,00 | 17,94 | **227,02** |
| Poer XY | 0,000 | high max Wnd ;45° - EG_ongunstig | -358,24 | 77,91 | **-31,51** | 0,00 | **37,81** | -93,49 |
| Poer P | 0,000 | low max Wnd ;45° - EG_gunstig | 118,82 | -32,31 | **31,42** | 0,00 | **-37,71** | 38,78 |
| Poer Y | 0,000 | high max Wnd ;45° - EG_ongunstig | **-973,40** | **233,73** | 13,97 | 0,00 | -16,77 | **-280,47** |

## 7.4. Krachten van de Funderingsbalken

### 7.4.1. Interne 1D- krachten; N

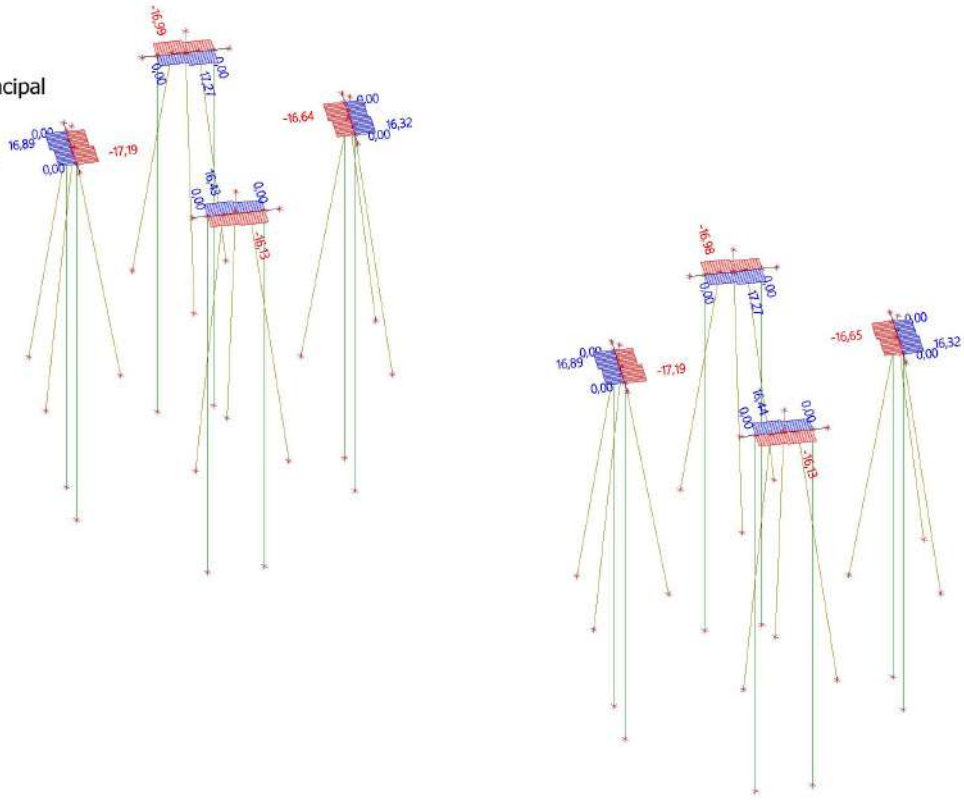
Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.2. Interne 1D- krachten; V_y

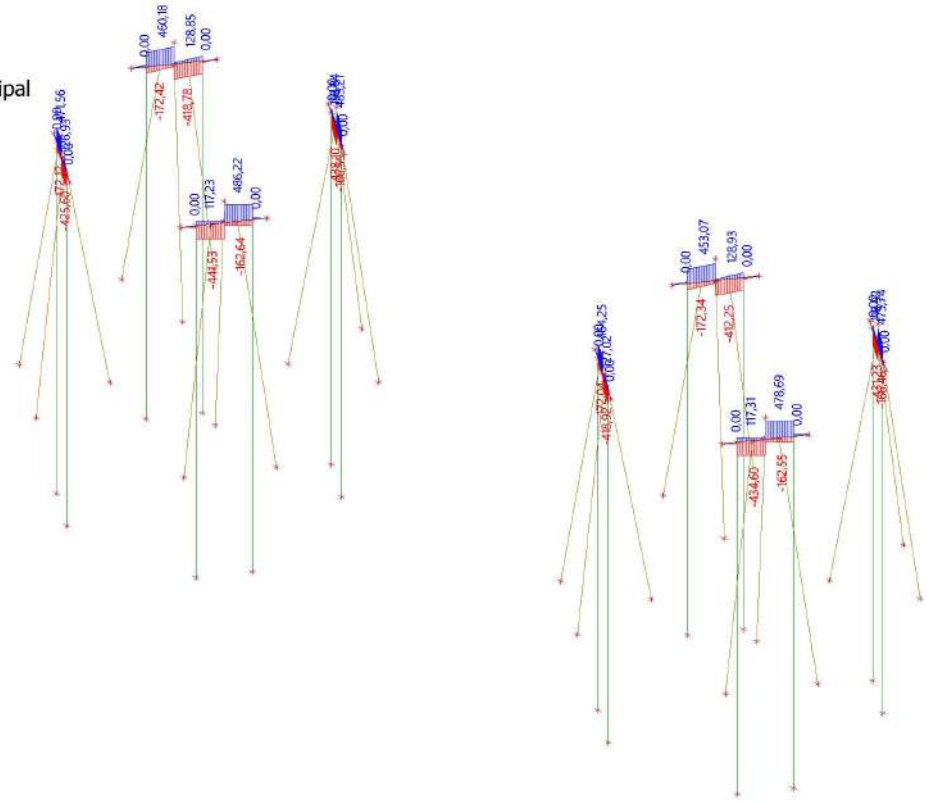
Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





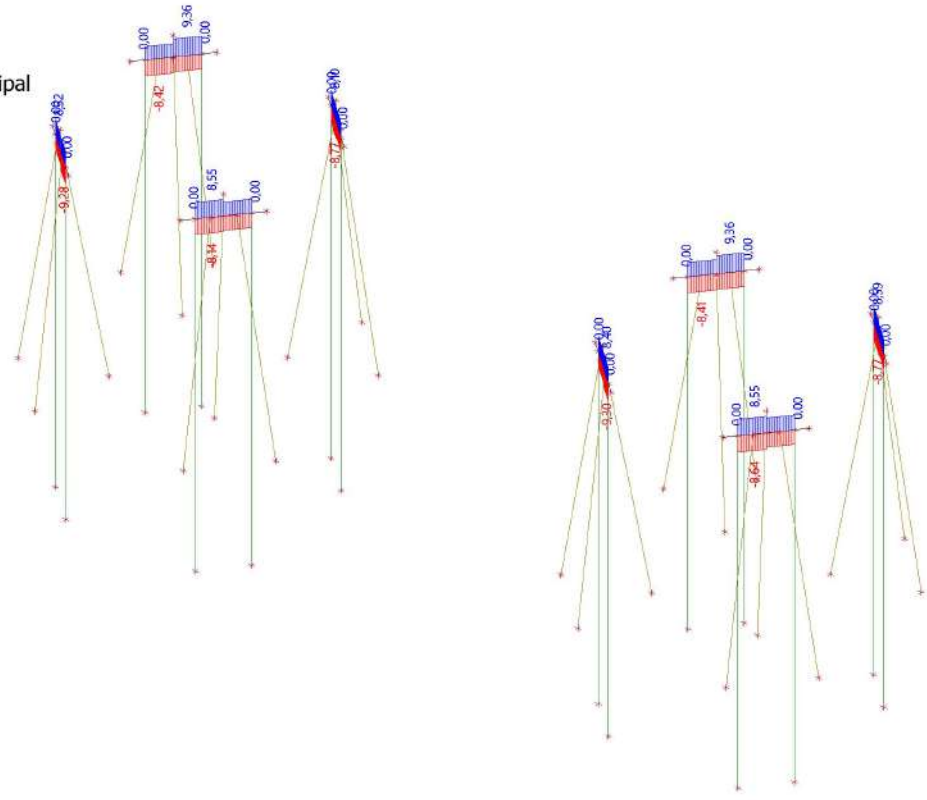
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



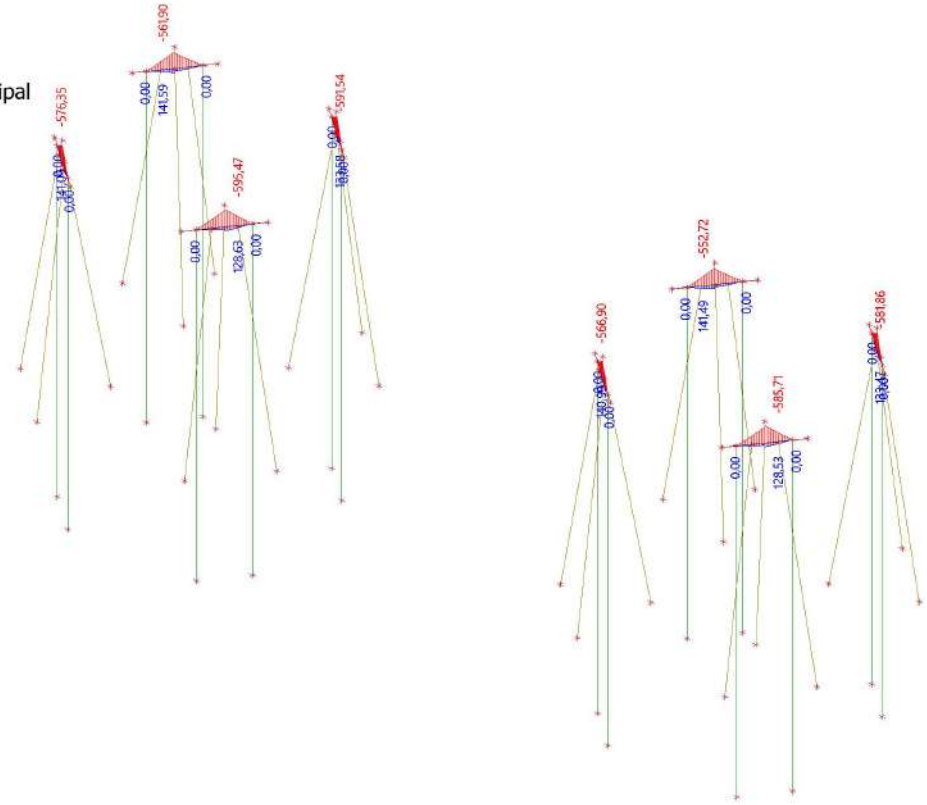
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



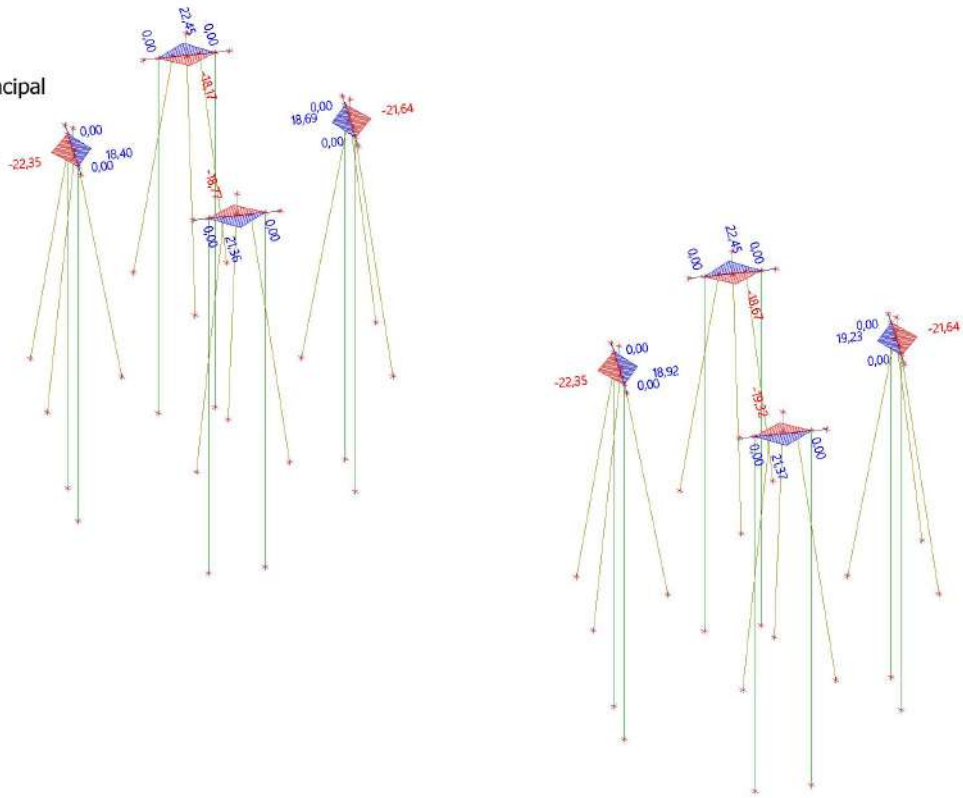
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer




### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Lijnpoer

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Paal18 | 0,700+ | low max Wnd ;45° - EG_gunstig | **-3,24** | 2,80 | 18,79 | 1,38 | -19,25 | 0,00 |
| Paal18 | 2,000+ | low max Wnd ;45° - EG_gunstig | **3,57** | -2,05 | 99,99 | 0,01 | -90,75 | 2,67 |
| Paal15 | 2,000- | low max Wnd ;45° - EG_gunstig | -0,95 | -14,44 | **-441,53** | -8,14 | -543,38 | -18,77 |
| Paal23 | 0,700+ | high max Wnd ;45° - EG_ongunstig | 0,88 | 17,27 | 128,93 | **9,36** | -15,38 | 0,00 |
| Paal15 | 2,000+ | low max Wnd ;45° - EG_gunstig | 1,25 | 14,14 | **486,22** | 7,23 | **-595,47** | -18,39 |
| Paal19 | 2,000+ | high max Wnd ;45° - EG_ongunstig | -0,93 | -16,99 | -77,34 | -8,42 | **141,59** | 22,08 |
| Paal22 | 2,000- | high max Wnd ;315° - EG_ongunstig | 0,91 | **-17,19** | 31,93 | **-9,30** | 88,05 | **-22,35** |
| Paal19 | 2,000- | high max Wnd ;45° - EG_ongunstig | 0,87 | **17,27** | 33,77 | 9,36 | 90,33 | **22,45** |

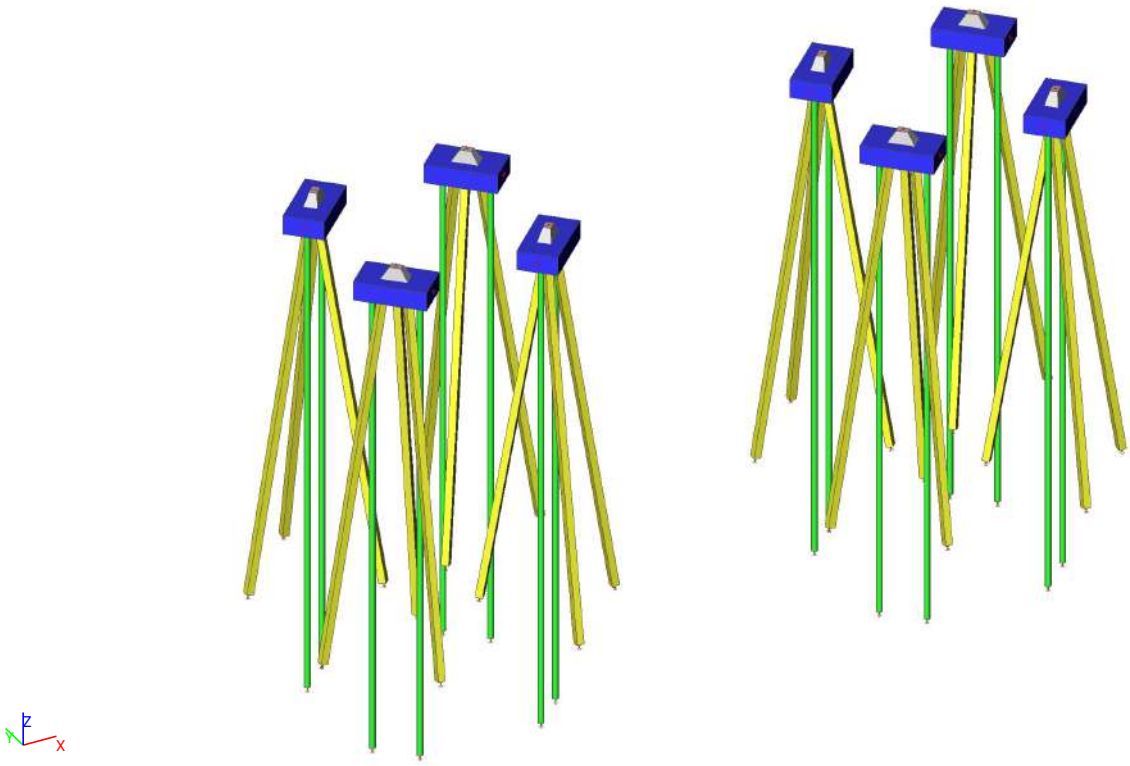
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Knopen 3
5.2. Analyse model met knopen 4
5.3. Staven 4
5.4. Analyse model met Staven 5
5.5. Knoopsteunpunten 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Lijnsteunpunten op staven 7
5.8. Analyse model met Lijnondersteuningen 21
5.9. Analyse model met Lijnondersteuningen 22
5.10. Niet-lineaire functies 23
6. Belastingen 31
6.1. Belastingsgevallen 31
6.1.1. Belastingsgevallen - high max Wnd ;45° 31
6.1.1.1. Puntlast op knoop 31
6.1.2. Belastingsgevallen - high max Wnd ;135° 32
6.1.2.1. Puntlast op knoop 33
6.1.3. Belastingsgevallen - high max Wnd ;225° 34
6.1.3.1. Puntlast op knoop 35
6.1.4. Belastingsgevallen - high max Wnd ;315° 35
6.1.4.1. Puntlast op knoop 36
6.1.5. Belastingsgevallen - low max Wnd ;45° 37
6.1.5.1. Puntlast op knoop 38
6.1.6. Belastingsgevallen - low max Wnd ;135° 38
6.1.6.1. Puntlast op knoop 39
6.1.7. Belastingsgevallen - low max Wnd ;225° 40
6.1.7.1. Puntlast op knoop 41
6.1.8. Belastingsgevallen - low max Wnd ;315° 41
6.1.8.1. Puntlast op knoop 42
6.1.9. Belastingsgevallen - EG_fundering 43
6.2. Niet-lineaire combinaties 44
6.3. Resultaatklasses 44
7. Resultaten 45
7.1. Reacties van de palen 45
7.1.1. Reactions; R_z 45
7.1.2. Reacties 45
7.1.3. Reacties 45
7.1.4. Reacties 46
7.2. Krachten van de Funderingspalen 52
7.2.1. Interne 1D- krachten; N 52
7.2.2. Interne 1D- krachten; V_y 52
7.2.3. Interne 1D- krachten; V_z 53
7.2.4. Interne 1D- krachten; M_x 53
7.2.5. Interne 1D- krachten; M_y 54
7.2.6. Interne 1D- krachten; M_z 54
7.2.7. Interne 1D-krachten 55
7.2.8. Interne 1D-krachten 55
7.3. Krachten van de Poeren 57
7.3.1. Interne 1D-krachten 57
7.4. Krachten van de Funderingsbalken 58
7.4.1. Interne 1D- krachten; N 58
7.4.2. Interne 1D- krachten; V_y 58
7.4.3. Interne 1D- krachten; V_z 59
7.4.4. Interne 1D- krachten; M_x 59
7.4.5. Interne 1D- krachten; M_y 60
7.4.6. Interne 1D- krachten; M_z 60
7.4.7. Interne 1D-krachten 61

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Blokpoer 3xBeton40x40 Mast-S+0 mast 23 |
| Auteur | [redacted] |
| Datum | 28-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 112 |
| Aantal staven : | 56 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 4 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

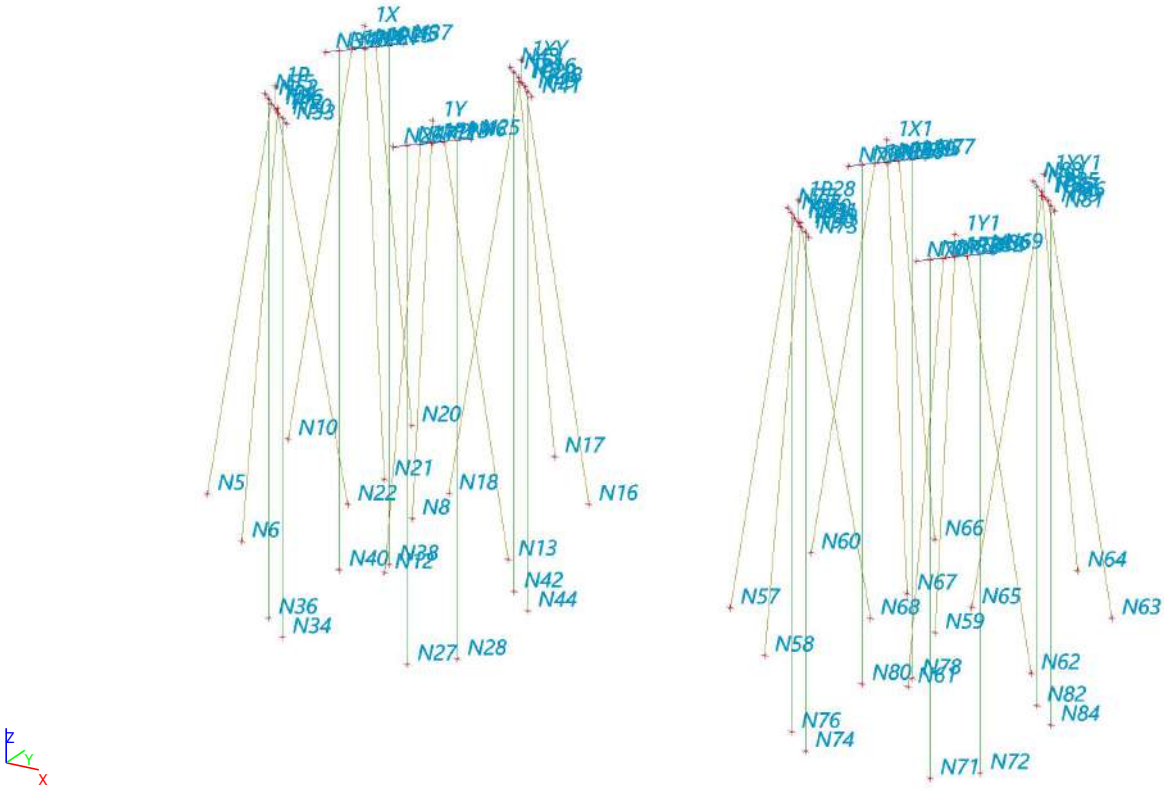
# 5. Geometrie

## 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -4,123 | 0,400 | -21,816 |
| N6 | 0,400 | -4,123 | -21,816 |
| N8 | 6,356 | 2,644 | -21,816 |
| N10 | -4,123 | 8,600 | -21,816 |
| N12 | 8,600 | -4,123 | -21,816 |
| N13 | 13,123 | 0,400 | -21,816 |
| N16 | 13,123 | 8,600 | -21,816 |
| N17 | 8,600 | 13,123 | -21,816 |
| N18 | 6,356 | 6,356 | -21,816 |
| N20 | 0,400 | 13,123 | -21,816 |
| N21 | 2,644 | 6,356 | -21,816 |
| N22 | 2,644 | 2,644 | -21,816 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -28,050 |
| N28 | 9,919 | 0,919 | -28,050 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -28,050 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -28,050 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -28,050 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -28,050 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -28,050 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -28,050 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N53 | 30,000 | 0,000 | 0,000 |
| 1P28 | 30,000 | 0,000 | 1,200 |
| 1P29 | 30,400 | -0,480 | 0,000 |
| 1P30 | 29,520 | 0,400 | 0,000 |
| 1P31 | 30,070 | 0,070 | 0,000 |
| N54 | 39,000 | 0,000 | 0,000 |
| 1Y1 | 39,000 | 0,000 | 1,200 |
| 1P32 | 39,480 | 0,400 | 0,000 |
| 1P33 | 38,600 | -0,480 | 0,000 |
| 1P34 | 38,930 | 0,070 | 0,000 |
| N55 | 39,000 | 9,000 | 0,000 |
| 1XY1 | 39,000 | 9,000 | 1,200 |
| 1P35 | 38,600 | 9,480 | 0,000 |
| 1P36 | 39,480 | 8,600 | 0,000 |
| 1P37 | 38,930 | 8,930 | 0,000 |
| N56 | 30,000 | 9,000 | 0,000 |
| 1X1 | 30,000 | 9,000 | 1,200 |
| 1P38 | 29,520 | 8,600 | 0,000 |
| 1P39 | 30,400 | 9,480 | 0,000 |
| 1P40 | 30,070 | 8,930 | 0,000 |
| N57 | 25,877 | 0,400 | -21,816 |
| N58 | 30,400 | -4,123 | -21,816 |
| N59 | 36,356 | 2,644 | -21,816 |
| N60 | 25,877 | 8,600 | -21,816 |
| N61 | 38,600 | -4,123 | -21,816 |
| N62 | 43,123 | 0,400 | -21,816 |
| N63 | 43,123 | 8,600 | -21,816 |
| N64 | 38,600 | 13,123 | -21,816 |
| N65 | 36,356 | 6,356 | -21,816 |
| N66 | 30,400 | 13,123 | -21,816 |
| N67 | 32,644 | 6,356 | -21,816 |
| N68 | 32,644 | 2,644 | -21,816 |
| N69 | 40,414 | 1,414 | 0,000 |
| N70 | 37,586 | -1,414 | 0,000 |
| N71 | 38,081 | -0,919 | -28,050 |
| N72 | 39,919 | 0,919 | -28,050 |
| N73 | 31,414 | -1,414 | 0,000 |
| N74 | 30,919 | -0,919 | -28,050 |
| N75 | 28,586 | 1,414 | 0,000 |
| N76 | 29,081 | 0,919 | -28,050 |
| N77 | 31,414 | 10,414 | 0,000 |
| N78 | 30,919 | 9,919 | -28,050 |
| N79 | 28,586 | 7,586 | 0,000 |
| N80 | 29,081 | 8,081 | -28,050 |
| N81 | 40,414 | 7,586 | 0,000 |
| N82 | 38,081 | 9,919 | -28,050 |
| N83 | 37,586 | 10,414 | 0,000 |
| N84 | 39,919 | 8,081 | -28,050 |
| N85 | 30,919 | 9,919 | 0,000 |
| N86 | 39,919 | 0,919 | 0,000 |
| N87 | 38,081 | -0,919 | 0,000 |
| N88 | 29,081 | 8,081 | 0,000 |
| N89 | 39,919 | 8,081 | 0,000 |
| N90 | 30,919 | -0,919 | 0,000 |
| N91 | 38,081 | 9,919 | 0,000 |
| N92 | 29,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

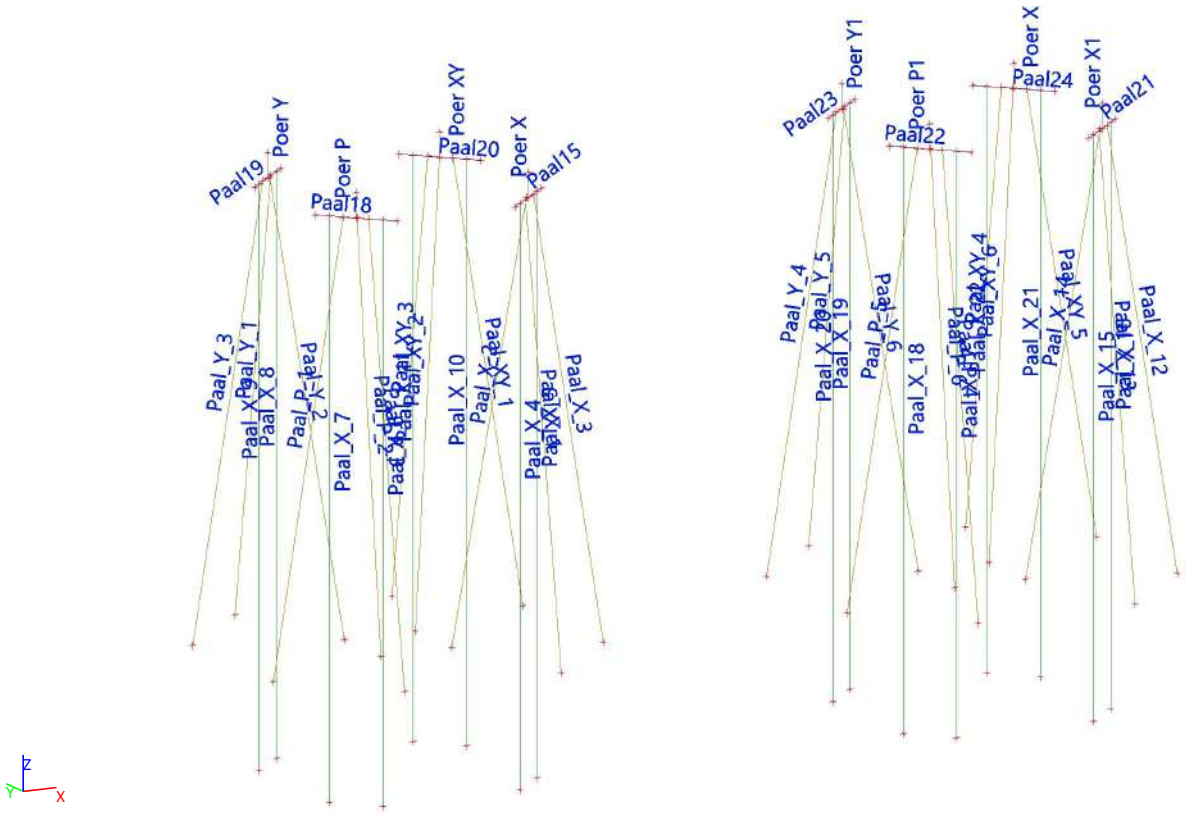



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | Balk (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | Balk (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | Balk (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | Balk (80) |
| Paal21 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N70 | N69 | Balk (80) |
| Paal22 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N73 | N75 | Balk (80) |
| Paal23 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N77 | N79 | Balk (80) |
| Paal24 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N83 | N81 | Balk (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P20 | N18 | Kolom (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P9 | N13 | Kolom (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | Kolom (100) |
| Poer P1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N53 | 1P28 | Kolom (100) |
| Paal_P_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P30 | N57 | Kolom (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | Kolom (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P4 | N5 | Kolom (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P6 | N22 | Kolom (100) |
| Paal_P_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P29 | N58 | Kolom (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P18 | N16 | Kolom (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P16 | N17 | Kolom (100) |
| Paal_XY_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P35 | N64 | Kolom (100) |
| Paal_XY_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P36 | N63 | Kolom (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P11 | N12 | Kolom (100) |
| Poer X1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N54 | 1Y1 | Kolom (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | Kolom (100) |
| Poer XY1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N55 | 1XY1 | Kolom (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | Kolom (100) |
| Poer Y1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N56 | 1X1 | Kolom (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P2 | N6 | Kolom (100) |
| Paal_P_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P31 | N68 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_XY_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P37 | N65 | Kolom (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P13 | N8 | Kolom (100) |
| Paal_X_4 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N47 | N27 | Kolom (100) |
| Paal_X_5 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N46 | N28 | Kolom (100) |
| Paal_X_6 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N50 | N34 | Kolom (100) |
| Paal_X_7 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N52 | N36 | Kolom (100) |
| Paal_X_8 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N45 | N38 | Kolom (100) |
| Paal_X_9 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N48 | N40 | Kolom (100) |
| Paal_X_10 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N49 | N44 | Kolom (100) |
| Paal_X_11 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N51 | N42 | Kolom (100) |
| Paal_X_12 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P32 | N62 | Kolom (100) |
| Paal_X_13 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P33 | N61 | Kolom (100) |
| Paal_X_14 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P34 | N59 | Kolom (100) |
| Paal_X_15 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N87 | N71 | Kolom (100) |
| Paal_X_16 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N86 | N72 | Kolom (100) |
| Paal_X_17 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N90 | N74 | Kolom (100) |
| Paal_X_18 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N92 | N76 | Kolom (100) |
| Paal_X_19 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N85 | N78 | Kolom (100) |
| Paal_X_20 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N88 | N80 | Kolom (100) |
| Paal_X_21 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N89 | N84 | Kolom (100) |
| Paal_X_22 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 28,050 | N91 | N82 | Kolom (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P25 | N20 | Kolom (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P27 | N21 | Kolom (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P23 | N10 | Kolom (100) |
| Paal_Y_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P38 | N60 | Kolom (100) |
| Paal_Y_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P39 | N66 | Kolom (100) |
| Paal_Y_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 22,118 | 1P40 | N67 | Kolom (100) |

## 5.4. Analyse model met Staven



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_2 | N22 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_1 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_2 | N8 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_1 | N16 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_2 | N18 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_1 | N20 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_2 | N21 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_Y_4 | N27 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_5 | N28 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_6 | N34 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_7 | N36 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_8 | N38 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_9 | N40 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_10 | N42 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_11 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_P_4 | N57 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_5 | N58 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_4 | N59 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_Y_12 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_X_5 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_6 | N62 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_4 | N63 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_5 | N64 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_XY_6 | N65 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_Y_13 | N66 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_14 | N67 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_P_6 | N68 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_Y_15 | N71 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_16 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_17 | N74 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_18 | N76 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_19 | N78 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_20 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_21 | N82 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_22 | N84 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen19 | Lijn | Paal_X_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Lijn | Paal_X_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen10 | Lijn | Paal_Y_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen18 | Lijn | Paal_X_10 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen34 | Lijn | Paal_X_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen8 | Lijn | Paal_XY_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen21 | Lijn | Paal_P_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen7 | Lijn | Paal_XY_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen13 | Lijn | Paal_X_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen3 | Lijn | Paal_X_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen16 | Lijn | Paal_X_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen6 | Lijn | Paal_XY_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen31 | Lijn | Paal_Y_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen26 | Lijn | Paal_XY_4 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen39 | Lijn | Paal_X_22 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen11 | Lijn | Paal_Y_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen23 | Lijn | Paal_X_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen12 | Lijn | Paal_X_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen20 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen22 | Lijn | Paal_P_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen38 | Lijn | Paal_X_21 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen | Lijn | Paal_P_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen32 | Lijn | Paal_X_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen28 | Lijn | Paal_XY_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen36 | Lijn | Paal_X_19 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen17 | Lijn | Paal_X_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen33 | Lijn | Paal_X_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen5 | Lijn | Paal_X_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen24 | Lijn | Paal_X_13 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen37 | Lijn | Paal_X_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Lijn | Paal_X_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen1 | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen4 | Lijn | Paal_X_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen14 | Lijn | Paal_X_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen29 | Lijn | Paal_Y_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen27 | Lijn | Paal_XY_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen15 | Lijn | Paal_X_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen2 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen9 | Lijn | Paal_Y_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen30 | Lijn | Paal_Y_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| (PY-curve-1_V1)12 | Lijn | Paal_X_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)21 | Lijn | Paal_P_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Lijn | Paal_P_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)35 | Lijn | Paal_X_18 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)7 | Lijn | Paal_Y_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)39 | Lijn | Paal_X_22 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)38 | Lijn | Paal_X_21 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)34 | Lijn | Paal_X_17 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)3 | Lijn | Paal_X_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)36 | Lijn | Paal_X_19 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)16 | Lijn | Paal_X_8 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)6 | Lijn | Paal_Y_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)1 | Lijn | Paal_P_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)27 | Lijn | Paal_XY_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)11 | Lijn | Paal_Y_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)10 | Lijn | Paal_XY_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)33 | Lijn | Paal_X_16 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)32 | Lijn | Paal_X_15 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Lijn | Paal_XY_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)5 | Lijn | Paal_XY_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)37 | Lijn | Paal_X_20 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)24 | Lijn | Paal_X_13 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)19 | Lijn | Paal_X_11 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)2 | Lijn | Paal_X_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)15 | Lijn | Paal_X_7 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Lijn | Paal_X_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Lijn | Paal_X_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Lijn | Paal_Y_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)25 | Lijn | Paal_X_14 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1) | Lijn | Paal_P_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)26 | Lijn | Paal_XY_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Lijn | Paal_Y_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)13 | Lijn | Paal_X_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)23 | Lijn | Paal_X_12 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)22 | Lijn | Paal_P_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)17 | Lijn | Paal_X_9 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)29 | Lijn | Paal_Y_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)8 | Lijn | Paal_P_2 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)4 | Lijn | Paal_XY_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Lijn | Paal_X_10 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)12 | Lijn | Paal_X_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Lijn | Paal_P_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Lijn | Paal_P_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)6 | Lijn | Paal_Y_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)7 | Lijn | Paal_Y_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)1 | Lijn | Paal_P_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)36 | Lijn | Paal_X_19 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)37 | Lijn | Paal_X_20 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)35 | Lijn | Paal_X_18 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)38 | Lijn | Paal_X_21 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)30 | Lijn | Paal_Y_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2) | Lijn | Paal_P_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Lijn | Paal_X_11 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)28 | Lijn | Paal_XY_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)3 | Lijn | Paal_X_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Lijn | Paal_X_15 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)18 | Lijn | Paal_X_10 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)34 | Lijn | Paal_X_17 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)11 | Lijn | Paal_Y_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Lijn | Paal_XY_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)16 | Lijn | Paal_X_8 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)17 | Lijn | Paal_X_9 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Lijn | Paal_X_16 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)29 | Lijn | Paal_Y_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)10 | Lijn | Paal_XY_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Lijn | Paal_XY_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)39 | Lijn | Paal_X_22 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)2 | Lijn | Paal_X_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)14 | Lijn | Paal_X_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)24 | Lijn | Paal_X_13 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-1_V2)15 | Lijn | Paal_X_7 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Lijn | Paal_X_14 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)9 | Lijn | Paal_X_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)4 | Lijn | Paal_XY_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Lijn | Paal_P_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)22 | Lijn | Paal_P_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)26 | Lijn | Paal_XY_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)13 | Lijn | Paal_X_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)31 | Lijn | Paal_Y_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)23 | Lijn | Paal_X_12 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3)7 | Lijn | Paal_Y_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Lijn | Paal_X_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Lijn | Paal_P_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Lijn | Paal_X_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Lijn | Paal_P_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Lijn | Paal_X_22 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3) | Lijn | Paal_P_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)37 | Lijn | Paal_X_20 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)6 | Lijn | Paal_Y_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)34 | Lijn | Paal_X_17 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)17 | Lijn | Paal_X_9 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)36 | Lijn | Paal_X_19 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Lijn | Paal_X_18 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)11 | Lijn | Paal_Y_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)19 | Lijn | Paal_X_11 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)5 | Lijn | Paal_XY_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Lijn | Paal_Y_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)2 | Lijn | Paal_X_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)28 | Lijn | Paal_XY_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)10 | Lijn | Paal_XY_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Lijn | Paal_X_8 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)18 | Lijn | Paal_X_10 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-1_V3)29 | Lijn | Paal_Y_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)32 | Lijn | Paal_X_15 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Lijn | Paal_XY_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Lijn | Paal_P_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)9 | Lijn | Paal_X_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)4 | Lijn | Paal_XY_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)31 | Lijn | Paal_Y_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Lijn | Paal_X_13 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)15 | Lijn | Paal_X_7 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)14 | Lijn | Paal_X_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Lijn | Paal_X_14 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)23 | Lijn | Paal_X_12 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Lijn | Paal_XY_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Lijn | Paal_P_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Lijn | Paal_X_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)33 | Lijn | Paal_X_16 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)38 | Lijn | Paal_X_21 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)21 | Lijn | Paal_P_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)20 | Lijn | Paal_P_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)38 | Lijn | Paal_X_21 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)6 | Lijn | Paal_Y_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)37 | Lijn | Paal_X_20 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)36 | Lijn | Paal_X_19 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)34 | Lijn | Paal_X_17 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)35 | Lijn | Paal_X_18 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)33 | Lijn | Paal_X_16 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)2 | Lijn | Paal_X_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)32 | Lijn | Paal_X_15 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)5 | Lijn | Paal_XY_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Lijn | Paal_Y_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)31 | Lijn | Paal_Y_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)18 | Lijn | Paal_X_10 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-1_V4)30 | Lijn | Paal_Y_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)19 | Lijn | Paal_X_11 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Lijn | Paal_XY_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)28 | Lijn | Paal_XY_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Lijn | Paal_X_8 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)27 | Lijn | Paal_XY_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)29 | Lijn | Paal_Y_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)17 | Lijn | Paal_X_9 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Lijn | Paal_XY_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Lijn | Paal_X_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)26 | Lijn | Paal_XY_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Lijn | Paal_X_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)24 | Lijn | Paal_X_13 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)25 | Lijn | Paal_X_14 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Lijn | Paal_P_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4) | Lijn | Paal_P_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Lijn | Paal_X_12 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)1 | Lijn | Paal_P_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Lijn | Paal_P_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)15 | Lijn | Paal_X_7 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Lijn | Paal_P_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)39 | Lijn | Paal_X_22 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Lijn | Paal_X_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)13 | Lijn | Paal_X_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Lijn | Paal_Y_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)12 | Lijn | Paal_X_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V5)20 | Lijn | Paal_P_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)19 | Lijn | Paal_X_11 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)39 | Lijn | Paal_X_22 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)18 | Lijn | Paal_X_10 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)17 | Lijn | Paal_X_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)16 | Lijn | Paal_X_4 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-1_V5)38 | Lijn | Paal_X_21 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)15 | Lijn | Paal_X_9 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)14 | Lijn | Paal_X_8 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)13 | Lijn | Paal_X_7 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)37 | Lijn | Paal_X_20 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)12 | Lijn | Paal_X_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)11 | Lijn | Paal_XY_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)36 | Lijn | Paal_X_19 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)9 | Lijn | Paal_XY_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)35 | Lijn | Paal_X_18 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)10 | Lijn | Paal_X_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)5 | Lijn | Paal_Y_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)4 | Lijn | Paal_P_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)34 | Lijn | Paal_X_17 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)3 | Lijn | Paal_Y_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)7 | Lijn | Paal_XY_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)2 | Lijn | Paal_P_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)8 | Lijn | Paal_X_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)6 | Lijn | Paal_X_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)1 | Lijn | Paal_Y_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)33 | Lijn | Paal_X_16 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5) | Lijn | Paal_P_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)31 | Lijn | Paal_Y_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)30 | Lijn | Paal_Y_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)32 | Lijn | Paal_X_15 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)29 | Lijn | Paal_Y_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)27 | Lijn | Paal_XY_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)28 | Lijn | Paal_XY_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)26 | Lijn | Paal_XY_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)25 | Lijn | Paal_X_14 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)24 | Lijn | Paal_X_13 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)23 | Lijn | Paal_X_12 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-1_V5)22 | Lijn | Paal_P_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)21 | Lijn | Paal_P_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V6)13 | Lijn | Paal_Y_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)12 | Lijn | Paal_Y_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)11 | Lijn | Paal_Y_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)10 | Lijn | Paal_XY_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)9 | Lijn | Paal_XY_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)8 | Lijn | Paal_XY_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)7 | Lijn | Paal_X_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)14 | Lijn | Paal_X_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)6 | Lijn | Paal_X_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)5 | Lijn | Paal_X_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)4 | Lijn | Paal_P_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)3 | Lijn | Paal_P_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)2 | Lijn | Paal_P_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)1 | Lijn | Paal_XY_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6) | Lijn | Paal_X_12 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)39 | Lijn | Paal_X_22 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)37 | Lijn | Paal_X_20 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)36 | Lijn | Paal_X_19 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)35 | Lijn | Paal_X_18 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)34 | Lijn | Paal_X_17 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)33 | Lijn | Paal_X_16 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)32 | Lijn | Paal_X_15 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)31 | Lijn | Paal_Y_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)30 | Lijn | Paal_Y_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)29 | Lijn | Paal_Y_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)28 | Lijn | Paal_XY_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)27 | Lijn | Paal_XY_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)26 | Lijn | Paal_X_14 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)25 | Lijn | Paal_X_13 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)24 | Lijn | Paal_P_6 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-1_V6)23 | Lijn | Paal_P_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)38 | Lijn | Paal_X_21 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)22 | Lijn | Paal_P_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)21 | Lijn | Paal_X_11 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)20 | Lijn | Paal_X_10 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)19 | Lijn | Paal_X_9 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)18 | Lijn | Paal_X_8 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)17 | Lijn | Paal_X_7 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)16 | Lijn | Paal_X_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)15 | Lijn | Paal_X_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V7)39 | Lijn | Paal_X_22 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)37 | Lijn | Paal_X_20 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)36 | Lijn | Paal_X_19 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)35 | Lijn | Paal_X_18 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)33 | Lijn | Paal_X_16 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)32 | Lijn | Paal_X_15 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)31 | Lijn | Paal_Y_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)29 | Lijn | Paal_Y_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)28 | Lijn | Paal_XY_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)27 | Lijn | Paal_XY_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)26 | Lijn | Paal_X_14 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)25 | Lijn | Paal_X_13 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)24 | Lijn | Paal_P_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)23 | Lijn | Paal_P_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)22 | Lijn | Paal_P_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)21 | Lijn | Paal_X_11 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)20 | Lijn | Paal_X_10 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)19 | Lijn | Paal_X_9 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)18 | Lijn | Paal_X_8 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)17 | Lijn | Paal_X_7 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)16 | Lijn | Paal_X_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)15 | Lijn | Paal_X_5 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-1_V7)30 | Lijn | Paal_Y_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)14 | Lijn | Paal_X_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)13 | Lijn | Paal_Y_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)12 | Lijn | Paal_Y_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)11 | Lijn | Paal_Y_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)34 | Lijn | Paal_X_17 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)10 | Lijn | Paal_XY_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)9 | Lijn | Paal_XY_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)8 | Lijn | Paal_XY_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)7 | Lijn | Paal_X_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)38 | Lijn | Paal_X_21 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)6 | Lijn | Paal_X_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)5 | Lijn | Paal_X_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)4 | Lijn | Paal_P_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)3 | Lijn | Paal_P_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)2 | Lijn | Paal_P_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)1 | Lijn | Paal_XY_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7) | Lijn | Paal_X_12 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V8)39 | Lijn | Paal_X_22 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)37 | Lijn | Paal_X_20 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)36 | Lijn | Paal_X_19 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)35 | Lijn | Paal_X_18 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)34 | Lijn | Paal_X_17 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)33 | Lijn | Paal_X_16 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)32 | Lijn | Paal_X_15 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)31 | Lijn | Paal_Y_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)29 | Lijn | Paal_Y_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)28 | Lijn | Paal_XY_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)27 | Lijn | Paal_XY_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)25 | Lijn | Paal_X_13 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)24 | Lijn | Paal_P_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)23 | Lijn | Paal_P_5 | 15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |

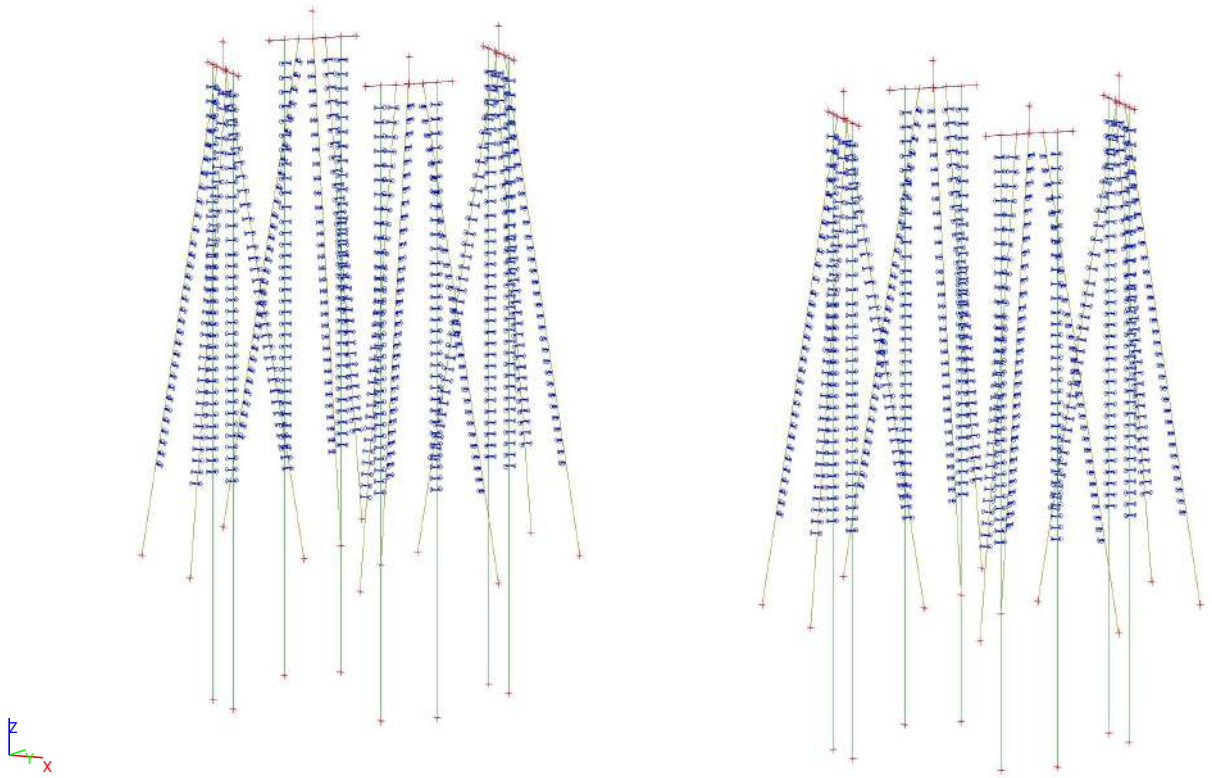
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16,000 | | | | | | | | |
| (PY-curve-1_V8)22 | Lijn | Paal_P_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)21 | Lijn | Paal_X_11 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)20 | Lijn | Paal_X_10 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)19 | Lijn | Paal_X_9 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)26 | Lijn | Paal_X_14 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)18 | Lijn | Paal_X_8 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)17 | Lijn | Paal_X_7 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)16 | Lijn | Paal_X_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)15 | Lijn | Paal_X_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)30 | Lijn | Paal_Y_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)14 | Lijn | Paal_X_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)13 | Lijn | Paal_Y_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)12 | Lijn | Paal_Y_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)11 | Lijn | Paal_Y_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)10 | Lijn | Paal_XY_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)9 | Lijn | Paal_XY_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)8 | Lijn | Paal_XY_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)7 | Lijn | Paal_X_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)38 | Lijn | Paal_X_21 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)6 | Lijn | Paal_X_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)5 | Lijn | Paal_X_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)4 | Lijn | Paal_P_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)3 | Lijn | Paal_P_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)2 | Lijn | Paal_P_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)1 | Lijn | Paal_XY_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8) | Lijn | Paal_X_12 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V9)39 | Lijn | Paal_X_22 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)37 | Lijn | Paal_X_20 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)36 | Lijn | Paal_X_19 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)35 | Lijn | Paal_X_18 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)33 | Lijn | Paal_X_16 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)32 | Lijn | Paal_X_15 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-1_V9)31 | Lijn | Paal_Y_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)29 | Lijn | Paal_Y_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)28 | Lijn | Paal_XY_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)27 | Lijn | Paal_XY_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)26 | Lijn | Paal_X_14 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)25 | Lijn | Paal_X_13 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)24 | Lijn | Paal_P_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)23 | Lijn | Paal_P_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)22 | Lijn | Paal_P_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)21 | Lijn | Paal_X_11 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)20 | Lijn | Paal_X_10 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)19 | Lijn | Paal_X_9 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)18 | Lijn | Paal_X_8 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)17 | Lijn | Paal_X_7 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)16 | Lijn | Paal_X_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)15 | Lijn | Paal_X_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)30 | Lijn | Paal_Y_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)14 | Lijn | Paal_X_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)13 | Lijn | Paal_Y_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)12 | Lijn | Paal_Y_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)11 | Lijn | Paal_Y_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)34 | Lijn | Paal_X_17 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)10 | Lijn | Paal_XY_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)9 | Lijn | Paal_XY_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)8 | Lijn | Paal_XY_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)7 | Lijn | Paal_X_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)38 | Lijn | Paal_X_21 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)6 | Lijn | Paal_X_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)5 | Lijn | Paal_X_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)4 | Lijn | Paal_P_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)3 | Lijn | Paal_P_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)2 | Lijn | Paal_P_3 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-1_V9)1 | Lijn | Paal_XY_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9) | Lijn | Paal_X_12 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V10)39 | Lijn | Paal_X_22 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)37 | Lijn | Paal_X_20 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)36 | Lijn | Paal_X_19 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)35 | Lijn | Paal_X_18 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)34 | Lijn | Paal_X_17 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)33 | Lijn | Paal_X_16 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)32 | Lijn | Paal_X_15 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)31 | Lijn | Paal_Y_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)29 | Lijn | Paal_Y_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)28 | Lijn | Paal_XY_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)27 | Lijn | Paal_XY_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)25 | Lijn | Paal_X_13 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)24 | Lijn | Paal_P_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)23 | Lijn | Paal_P_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)22 | Lijn | Paal_P_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)21 | Lijn | Paal_X_11 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)20 | Lijn | Paal_X_10 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)19 | Lijn | Paal_X_9 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)18 | Lijn | Paal_X_8 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)17 | Lijn | Paal_X_7 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)16 | Lijn | Paal_X_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)15 | Lijn | Paal_X_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)26 | Lijn | Paal_X_14 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)30 | Lijn | Paal_Y_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)14 | Lijn | Paal_X_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)13 | Lijn | Paal_Y_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)12 | Lijn | Paal_Y_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)11 | Lijn | Paal_Y_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)10 | Lijn | Paal_XY_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)9 | Lijn | Paal_XY_1 | 17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |

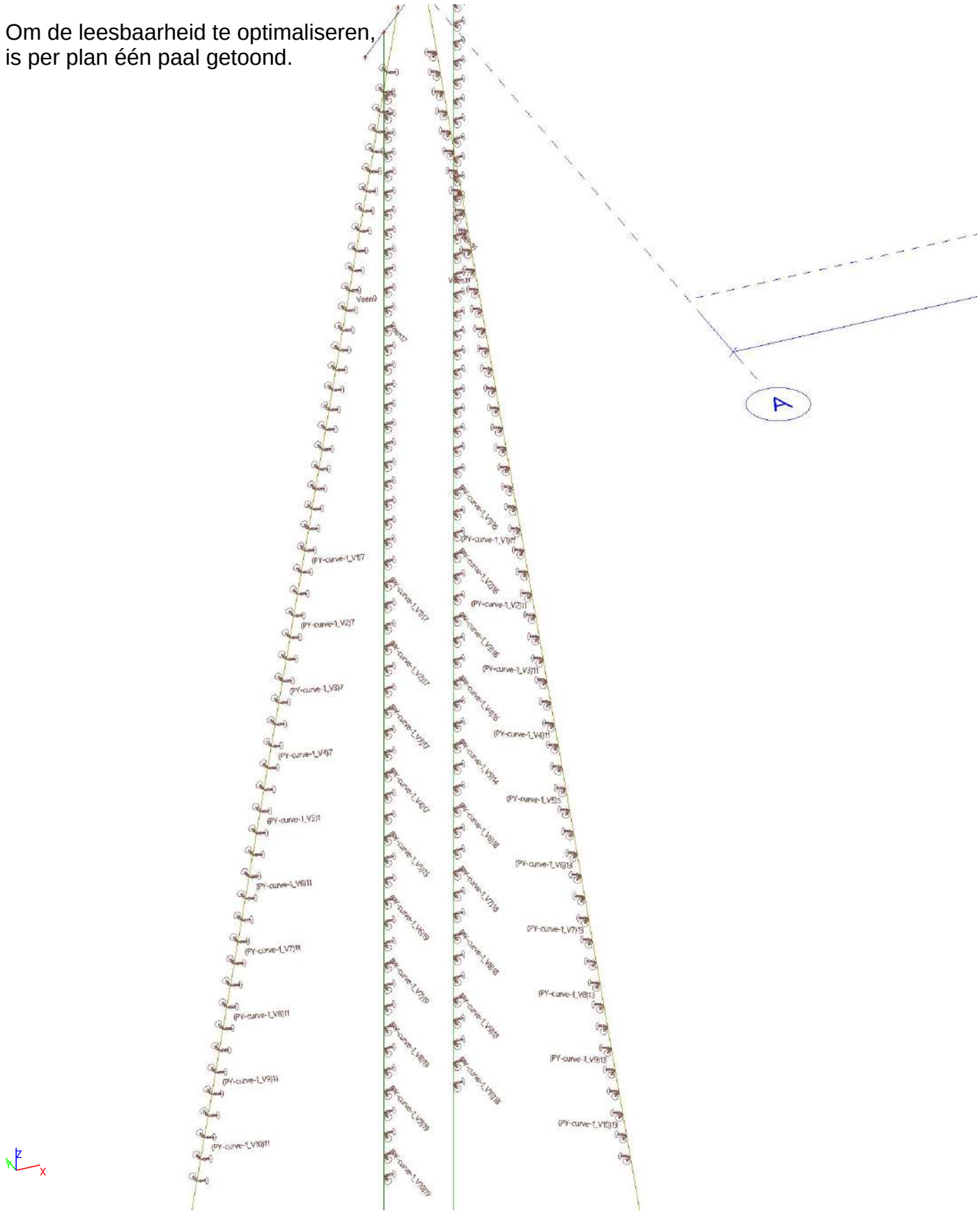
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 18,000 | | | | | | | | |
| (PY-curve-1_V10)8 | Lijn | Paal_XY_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)7 | Lijn | Paal_X_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)38 | Lijn | Paal_X_21 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)6 | Lijn | Paal_X_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)5 | Lijn | Paal_X_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)4 | Lijn | Paal_P_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)3 | Lijn | Paal_P_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)2 | Lijn | Paal_P_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)1 | Lijn | Paal_XY_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10) | Lijn | Paal_X_12 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

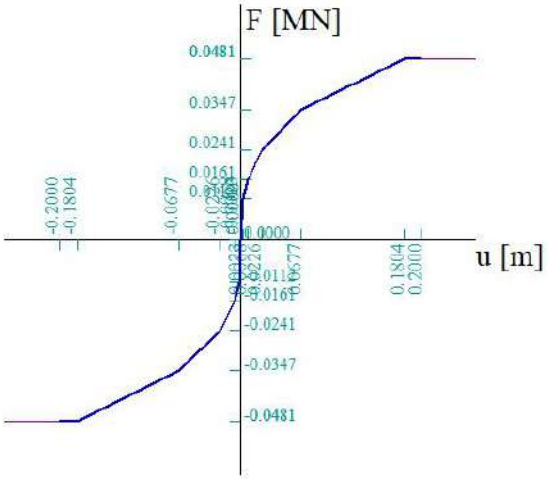
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

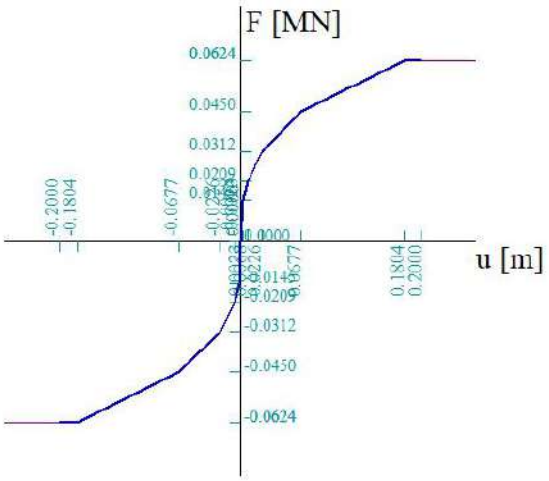
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1 | Verplaatsing | -2,0000e-01[m] / -4,8130e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Tekenen



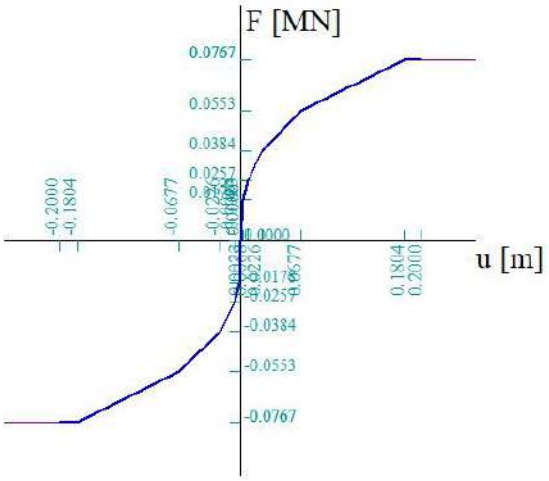

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2 | Verplaatsing | -2,0000e-01[m] / -6,2400e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3 | Verplaatsing | -2,0000e-01[m] / -7,6737e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

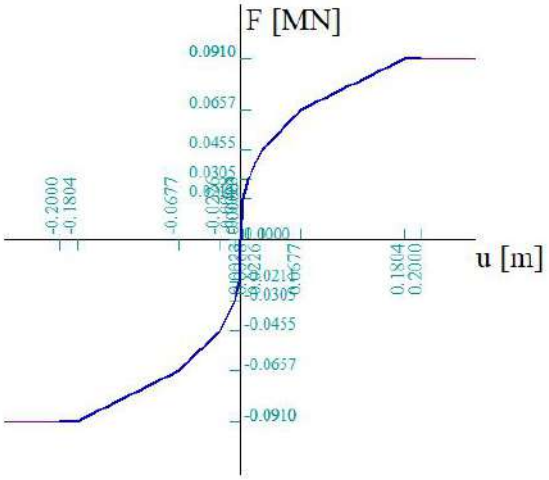
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4 | Verplaatsing | -2,0000e-01[m] / -9,1041e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |

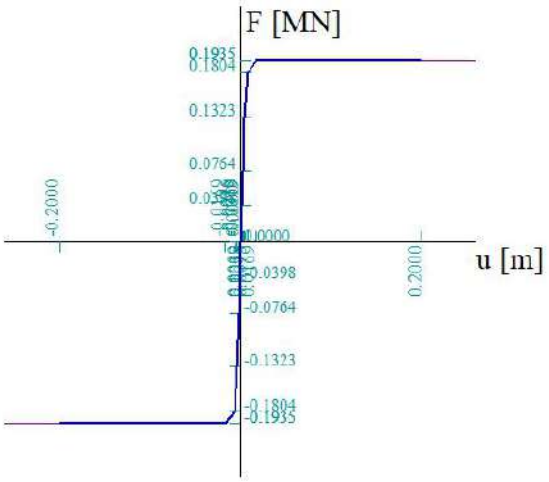
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5 | Verplaatsing | -2,0000e-01[m] / -1,9349e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -1,9349e-01[MN] | | |
| | | -7,5167e-03[m] / -1,8041e-01[MN] | | |
| | | -3,7583e-03[m] / -1,3226e-01[MN] | | |
| | | -1,8792e-03[m] / -7,6422e-02[MN] | | |
| | | -9,3958e-04[m] / -3,9826e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 3,9826e-02[MN] | | |
| | | 1,8792e-03[m] / 7,6422e-02[MN] | | |
| | | 3,7583e-03[m] / 1,3226e-01[MN] | | |
| | | 7,5167e-03[m] / 1,8041e-01[MN] | | |
| | | 1,6913e-02[m] / 1,9349e-01[MN] | | |
| | | 2,0000e-01[m] / 1,9349e-01[MN] | | |

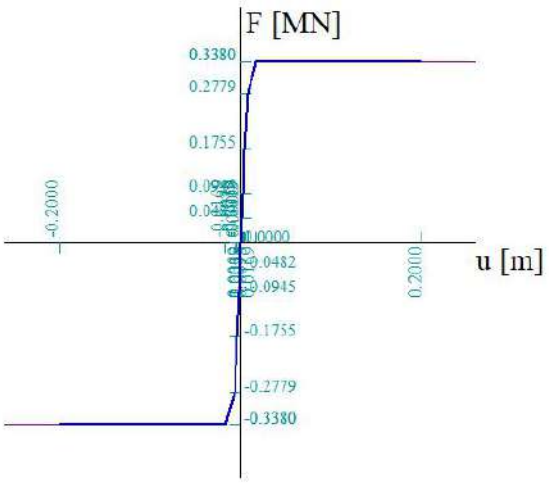
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6 | Verplaatsing | -2,0000e-01[m] / -3,3802e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -3,3802e-01[MN] | | |
| | | -7,5167e-03[m] / -2,7792e-01[MN] | | |
| | | -3,7583e-03[m] / -1,7553e-01[MN] | | |

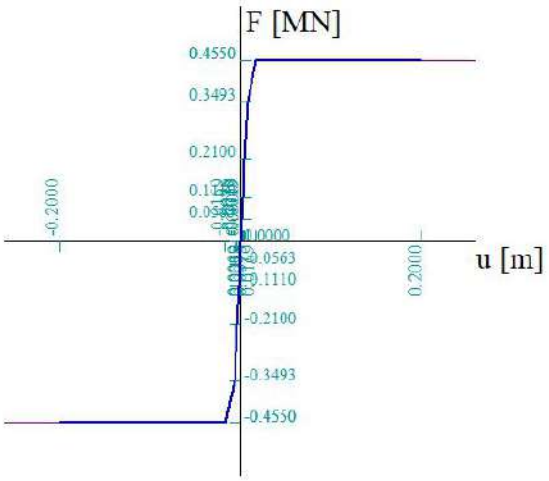
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,8792e-03[m] / -9,4450e-02[MN] | | |
| | | -9,3958e-04[m] / -4,8161e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 4,8161e-02[MN] | | |
| | | 1,8792e-03[m] / 9,4450e-02[MN] | | |
| | | 3,7583e-03[m] / 1,7553e-01[MN] | | |
| | | 7,5167e-03[m] / 2,7792e-01[MN] | | |
| | | 1,6913e-02[m] / 3,3802e-01[MN] | | |
| | | 2,0000e-01[m] / 3,3802e-01[MN] | | |

Tekenen



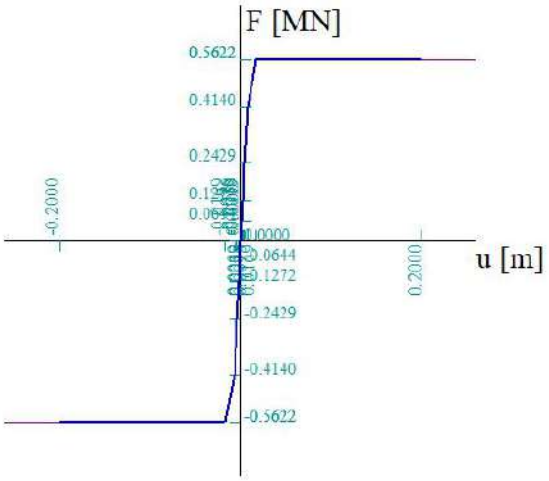

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7 | Verplaatsing | -2,0000e-01[m] / -4,5496e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -4,5496e-01[MN] | | |
| | | -7,5167e-03[m] / -3,4934e-01[MN] | | |
| | | -3,7583e-03[m] / -2,1005e-01[MN] | | |
| | | -1,8792e-03[m] / -1,1096e-01[MN] | | |
| | | -9,3958e-04[m] / -5,6288e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 5,6288e-02[MN] | | |
| | | 1,8792e-03[m] / 1,1096e-01[MN] | | |
| | | 3,7583e-03[m] / 2,1005e-01[MN] | | |
| | | 7,5167e-03[m] / 3,4934e-01[MN] | | |
| | | 1,6913e-02[m] / 4,5496e-01[MN] | | |
| | | 2,0000e-01[m] / 4,5496e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8 | Verplaatsing | -2,0000e-01[m] / -5,6217e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -5,6217e-01[MN] | | |
| | | -7,5167e-03[m] / -4,1399e-01[MN] | | |
| | | -3,7583e-03[m] / -2,4287e-01[MN] | | |
| | | -1,8792e-03[m] / -1,2721e-01[MN] | | |
| | | -9,3958e-04[m] / -6,4380e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 6,4380e-02[MN] | | |
| | | 1,8792e-03[m] / 1,2721e-01[MN] | | |
| | | 3,7583e-03[m] / 2,4287e-01[MN] | | |
| | | 7,5167e-03[m] / 4,1399e-01[MN] | | |
| | | 1,6913e-02[m] / 5,6217e-01[MN] | | |
| | | 2,0000e-01[m] / 5,6217e-01[MN] | | |

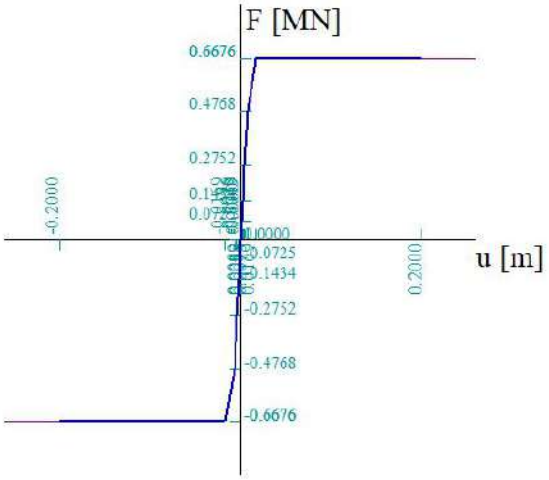
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9 | Verplaatsing | -2,0000e-01[m] / -6,6756e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -6,6756e-01[MN] | | |
| | | -7,5167e-03[m] / -4,7677e-01[MN] | | |
| | | -3,7583e-03[m] / -2,7523e-01[MN] | | |
| | | -1,8792e-03[m] / -1,4339e-01[MN] | | |
| | | -9,3958e-04[m] / -7,2463e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 7,2463e-02[MN] | | |
| | | 1,8792e-03[m] / 1,4339e-01[MN] | | |
| | | 3,7583e-03[m] / 2,7523e-01[MN] | | |

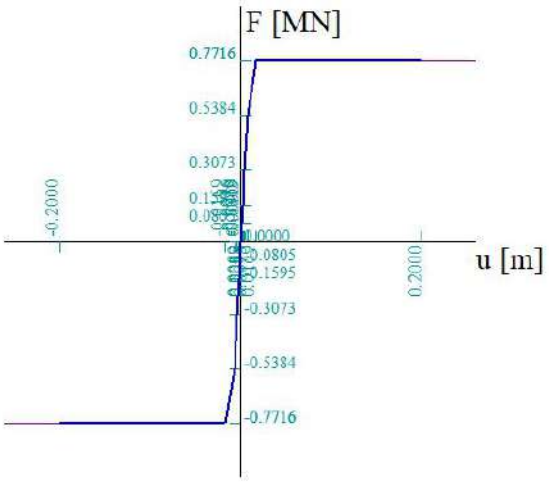
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 7,5167e-03[m] / 4,7677e-01[MN] | | |
| | | 1,6913e-02[m] / 6,6756e-01[MN] | | |
| | | 2,0000e-01[m] / 6,6756e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V10 | Verplaatsing | -2,0000e-01[m] / -7,7164e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -7,7164e-01[MN] | | |
| | | -7,5167e-03[m] / -5,3843e-01[MN] | | |
| | | -3,7583e-03[m] / -3,0734e-01[MN] | | |
| | | -1,8792e-03[m] / -1,5953e-01[MN] | | |
| | | -9,3958e-04[m] / -8,0542e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 8,0542e-02[MN] | | |
| | | 1,8792e-03[m] / 1,5953e-01[MN] | | |
| | | 3,7583e-03[m] / 3,0734e-01[MN] | | |
| | | 7,5167e-03[m] / 5,3843e-01[MN] | | |
| | | 1,6913e-02[m] / 7,7164e-01[MN] | | |
| | | 2,0000e-01[m] / 7,7164e-01[MN] | | |

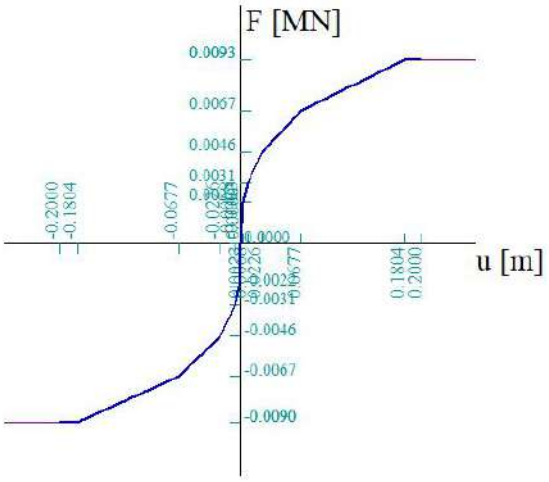
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -2,0000e-01[m] / -9,0000e-03[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |

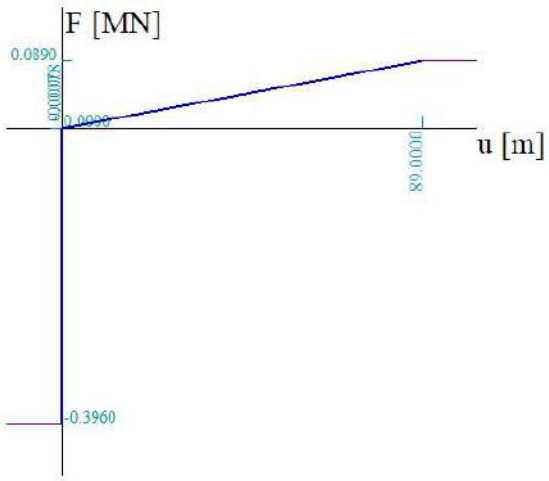
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Tekenen



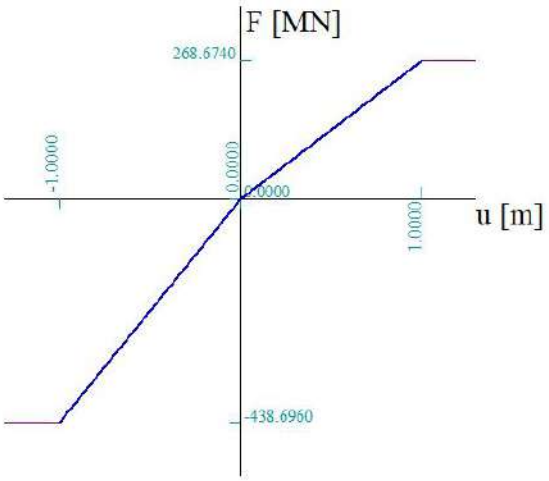

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+0-paalpunt_cap275kN .min.B. | Verplaatsing | -7,8300e-03[m] / -3,9600e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 8,9000e+01[m] / 8,9000e-02[MN] | | |

Tekenen



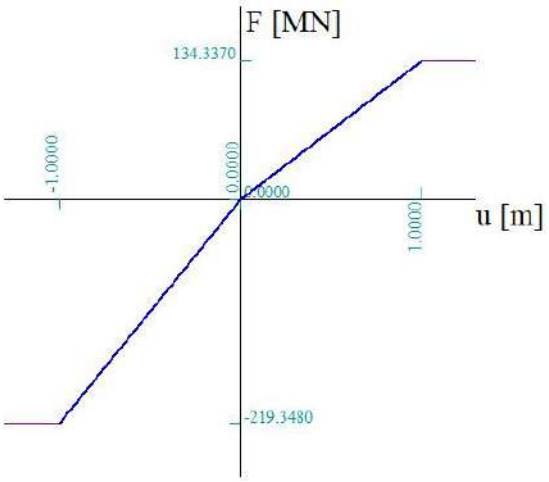

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Verplaatsing | -1,0000e+00[m] / -4,3870e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,6867e+02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Verplaatsing | -1,0000e+00[m] / -2,1935e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,3434e+02[MN] | | |

Tekenen

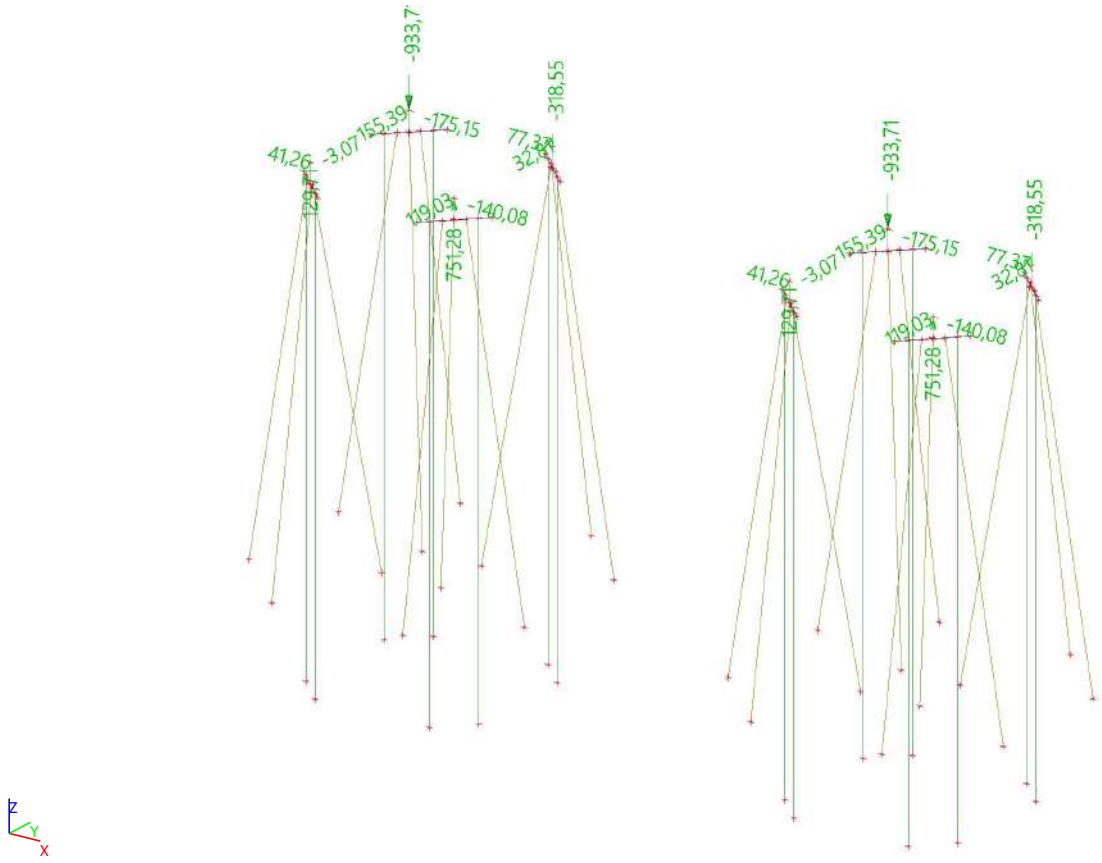


# 6. Belastingen

## 6.1. Belastingsgevallen

### 6.1.1. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




#### *6.1.1.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1P_X1 | 1P28 | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y1 | 1P28 | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z1 | 1P28 | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |

### 6.1.2. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1P_X1 | 1P28 | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y1 | 1P28 | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd | 1P28 | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |

### 6.1.3. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

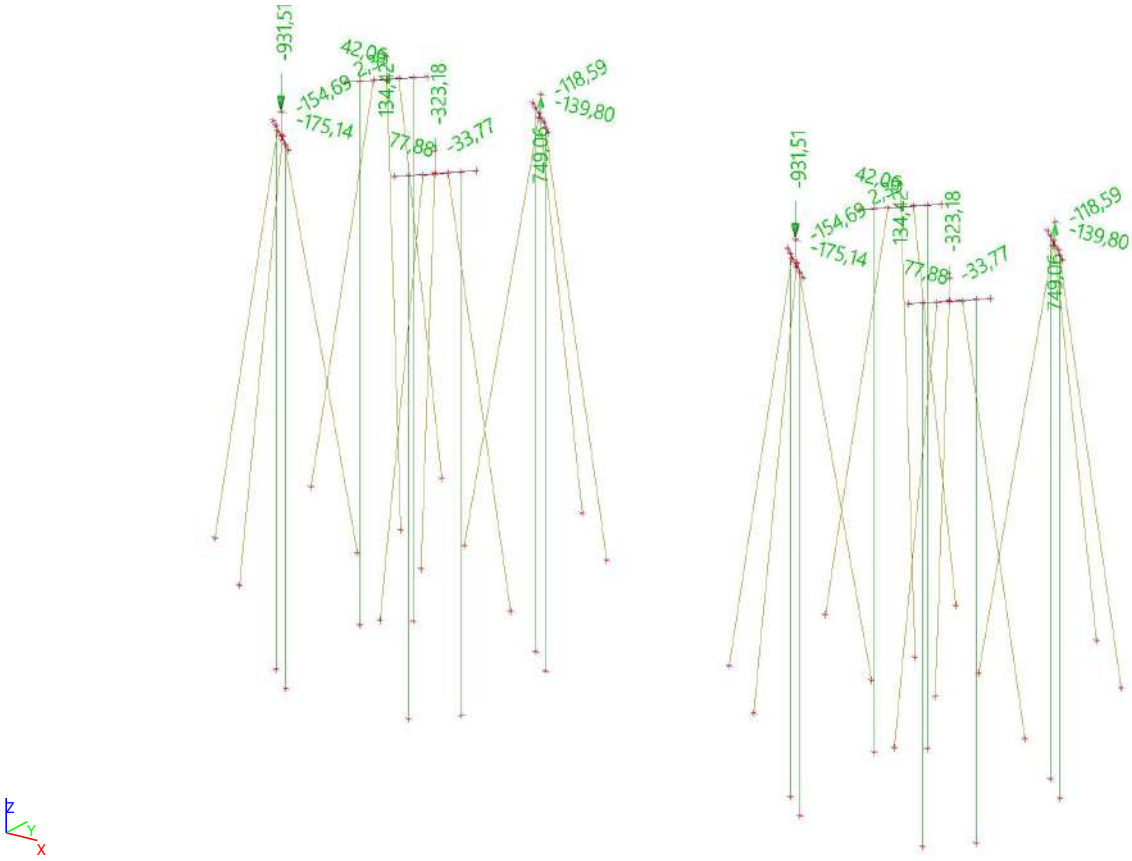


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1P_X1 | 1P28 | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y1 | 1P28 | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z1 | 1P28 | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |

### 6.1.4. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



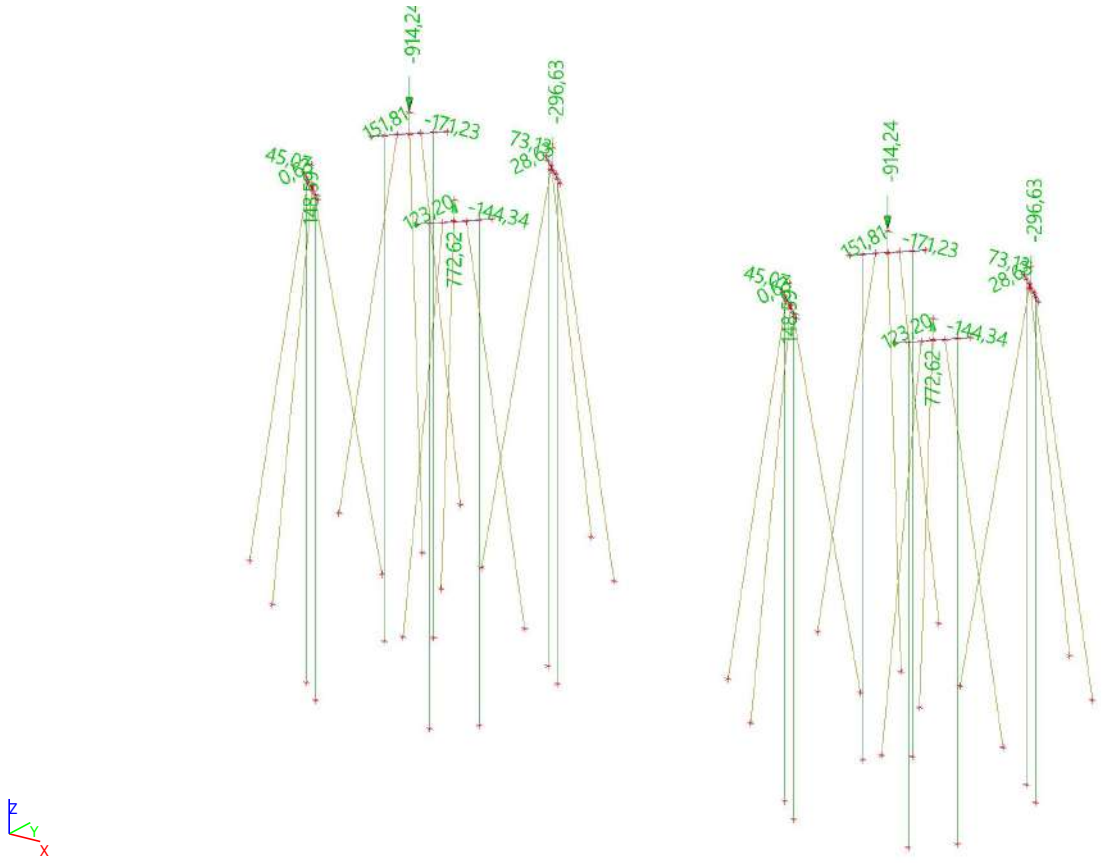

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1P_X1 | 1P28 | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y1 | 1P28 | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd | 1P28 | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |

### 6.1.5. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1P_X1 | 1P28 | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y1 | 1P28 | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z1 | 1P28 | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



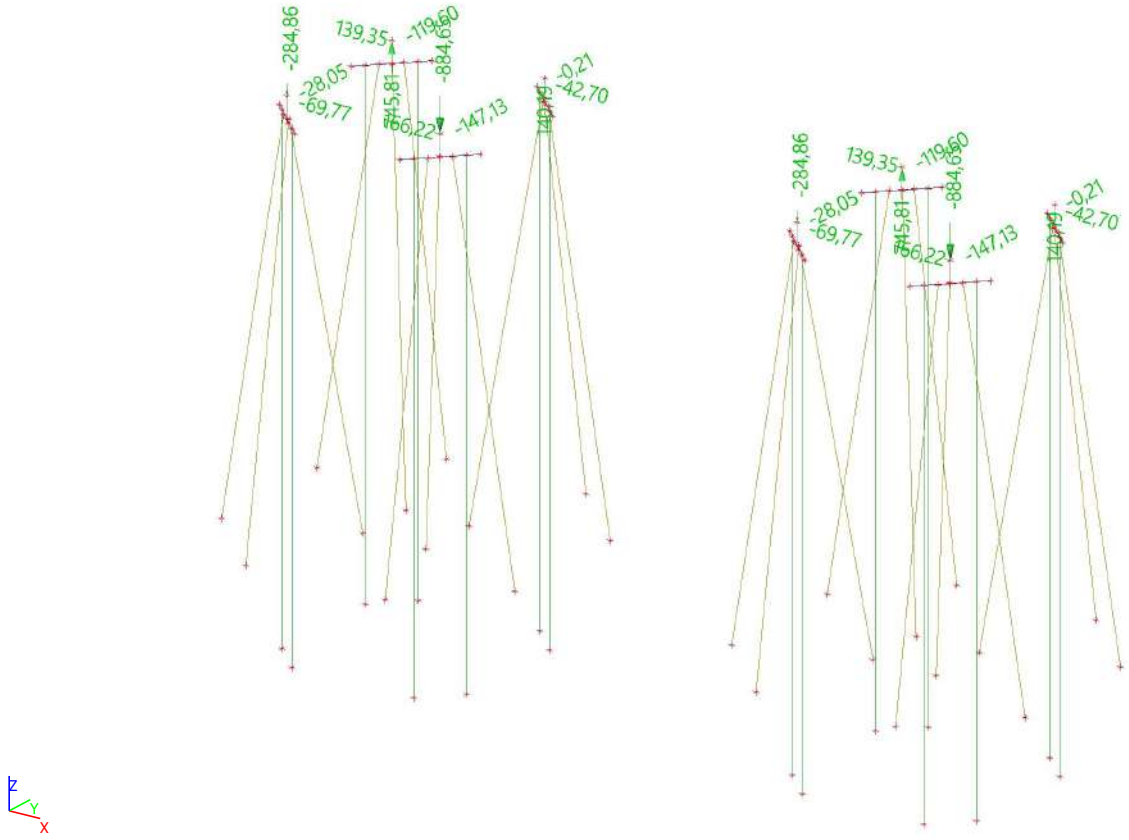

### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1P_X1 | 1P28 | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y1 | 1P28 | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd | 1P28 | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

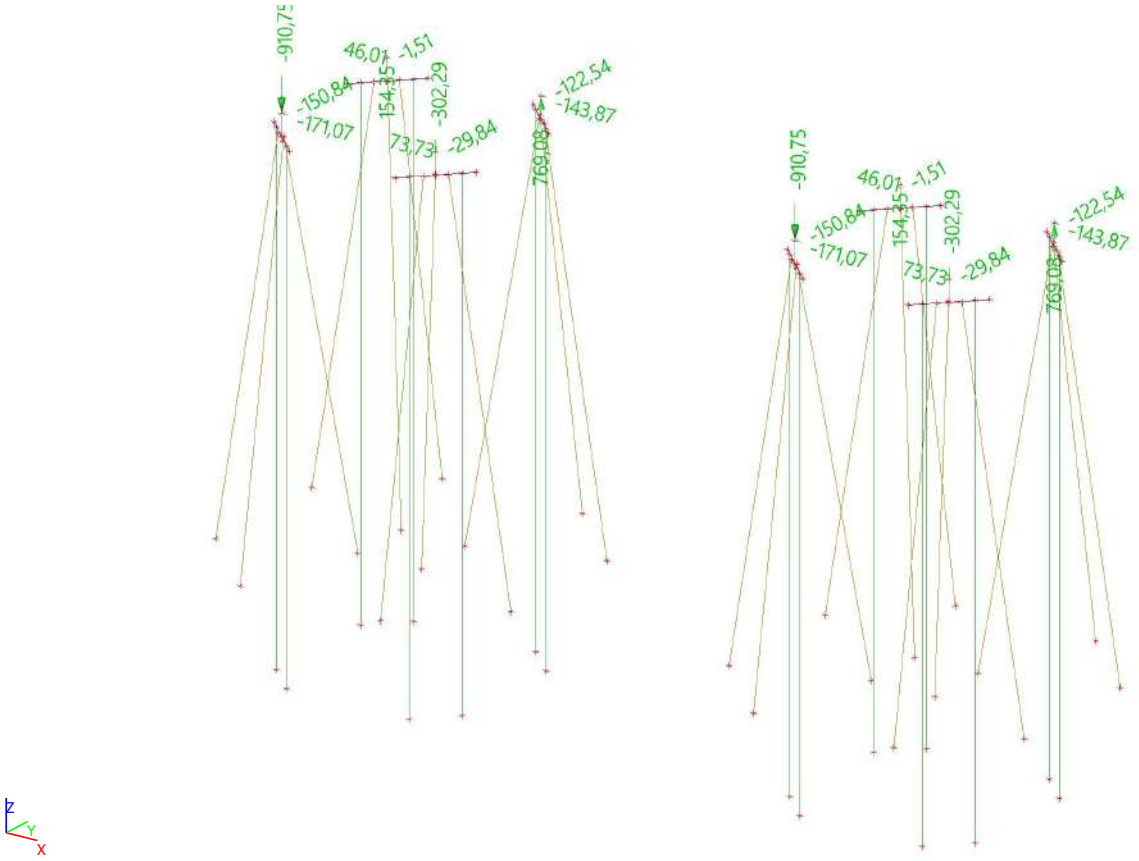


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1P_X1 | 1P28 | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y1 | 1P28 | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z1 | 1P28 | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



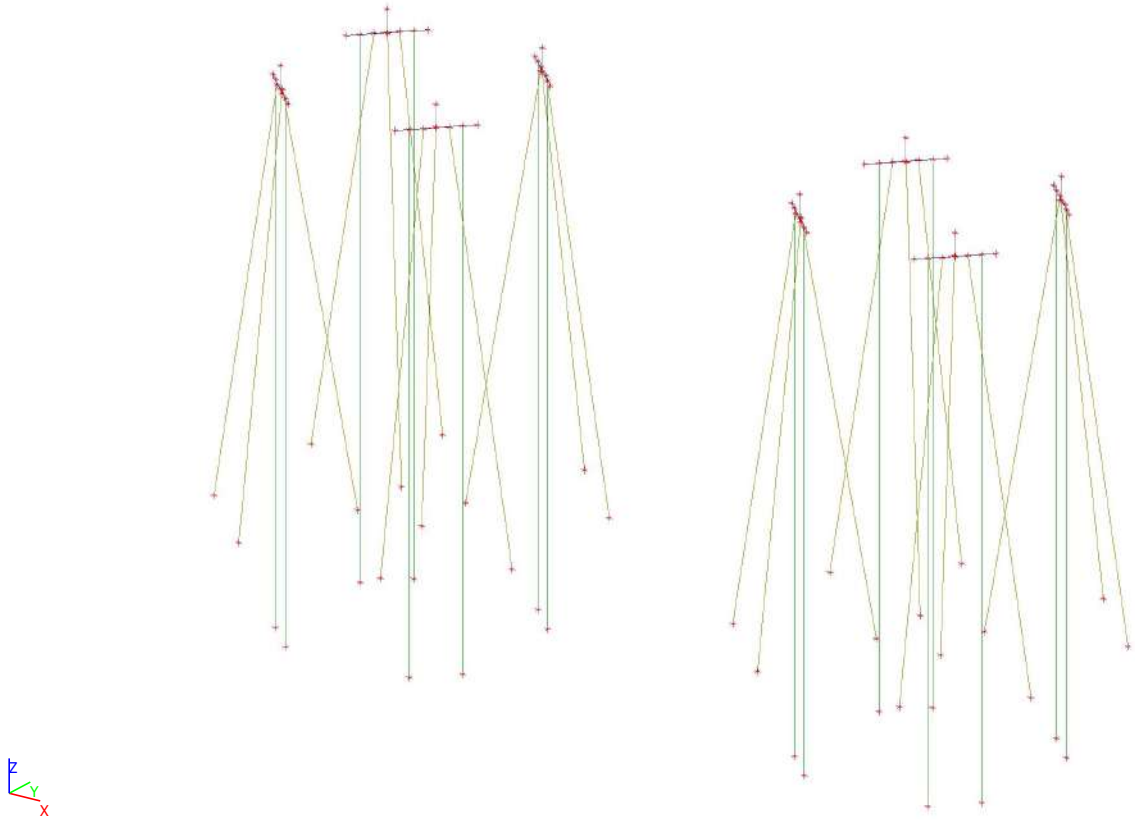

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1P_X1 | 1P28 | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y1 | 1P28 | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd | 1P28 | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |

### 6.1.9. Belastingsgevallen - EG_fundering

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |



## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Resultaatklasses

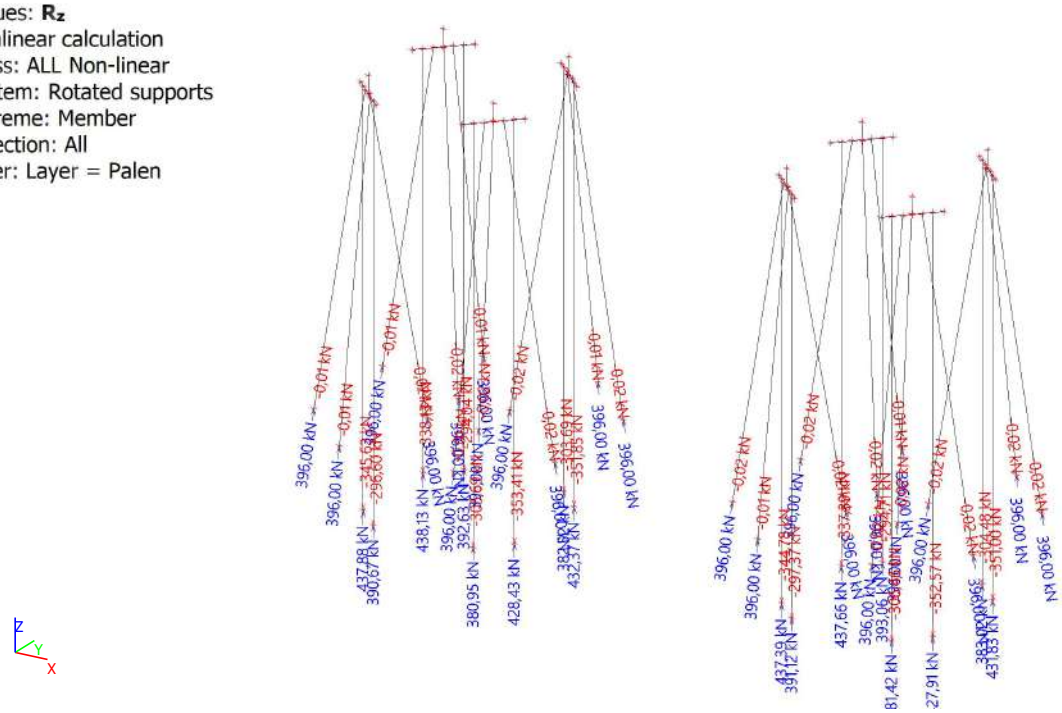
| Naam | Lijst |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen



### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_12/N60 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 226,60 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 178,94 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | 396,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 396,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear

Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS323.9/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-353,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **438,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.1.4. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 131,93 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **396,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 18,94 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 208,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 82,70 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 95,34 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 207,20 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_3/N13 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 181,03 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | 21,29 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 163,37 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 87,16 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 98,74 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 161,40 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **396,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 135,31 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | 178,94 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 205,46 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 95,75 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | -0,02 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;135° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 80,22 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_3/N10 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 184,95 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 210,76 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 51,98 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 167,97 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 84,11 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 96,31 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **380,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-305,69** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **428,43** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-353,41** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-296,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **390,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-345,62** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **437,88** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-294,04** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **392,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-338,13** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **438,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-351,85** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **432,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-303,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_10/N42 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **382,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 142,47 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 180,14 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **396,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N57 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 224,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 106,37 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 89,74 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 192,98 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_6/N62 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 223,37 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 177,57 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

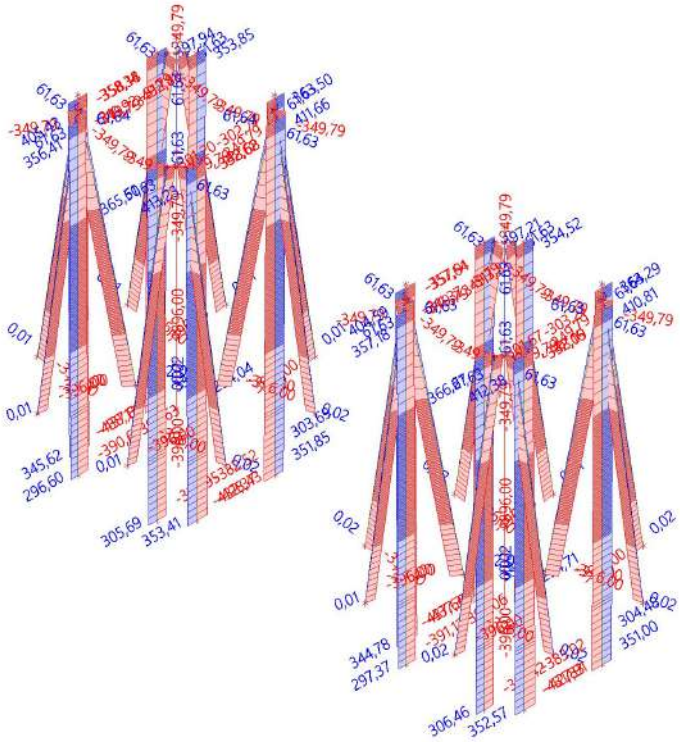
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_5/N61 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 59,04 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 93,72 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 175,65 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | 190,89 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 221,77 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | 87,59 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;135° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **396,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 106,67 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **396,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 226,60 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | 153,03 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 34,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_13/N66 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-0,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **396,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 8,32 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **-0,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **396,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 91,00 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **381,42** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-306,46** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **427,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-352,57** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_17/N74 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-297,37** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_17/N74 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **391,12** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_18/N76 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-344,78** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_18/N76 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **437,39** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_19/N78 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-294,71** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_19/N78 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **393,06** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_20/N80 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-337,39** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_20/N80 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **437,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_22/N84 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-351,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_22/N84 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **431,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_21/N82 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-304,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_21/N82 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **383,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

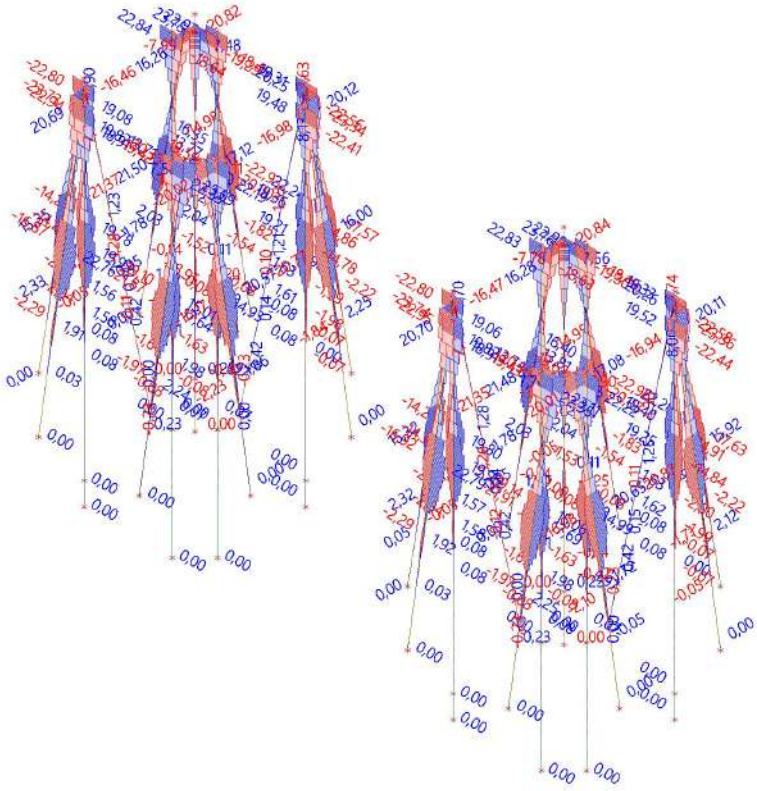
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



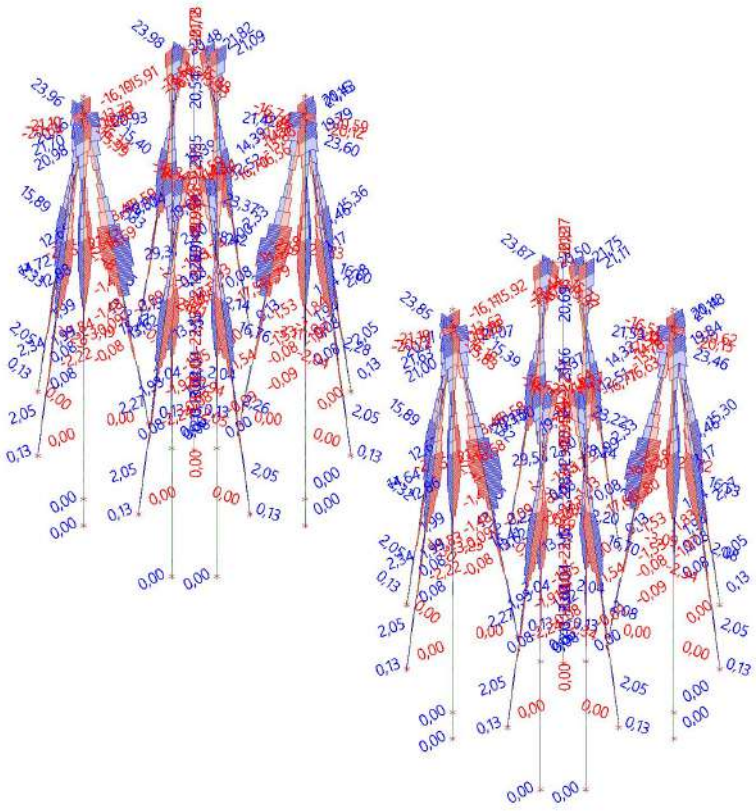
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



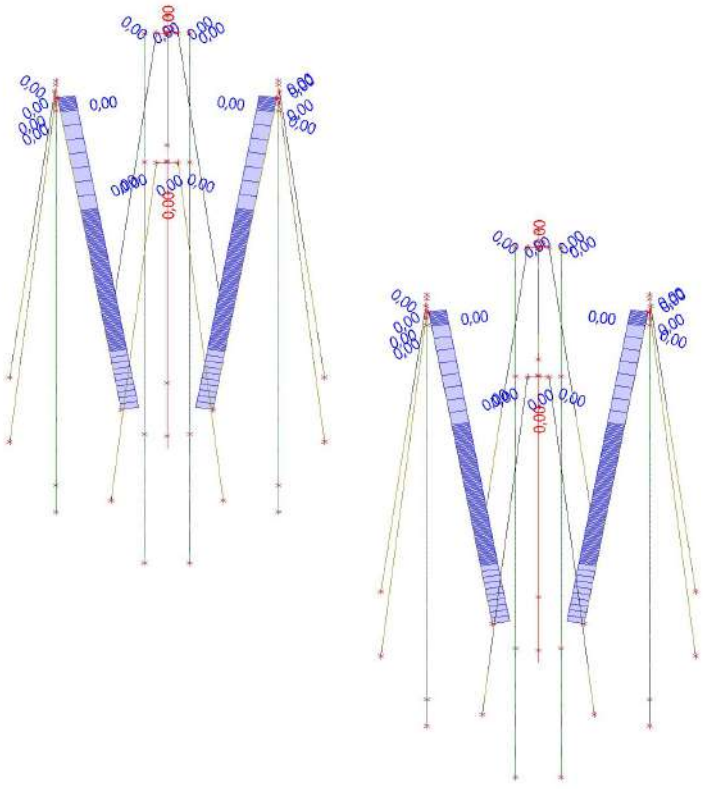
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



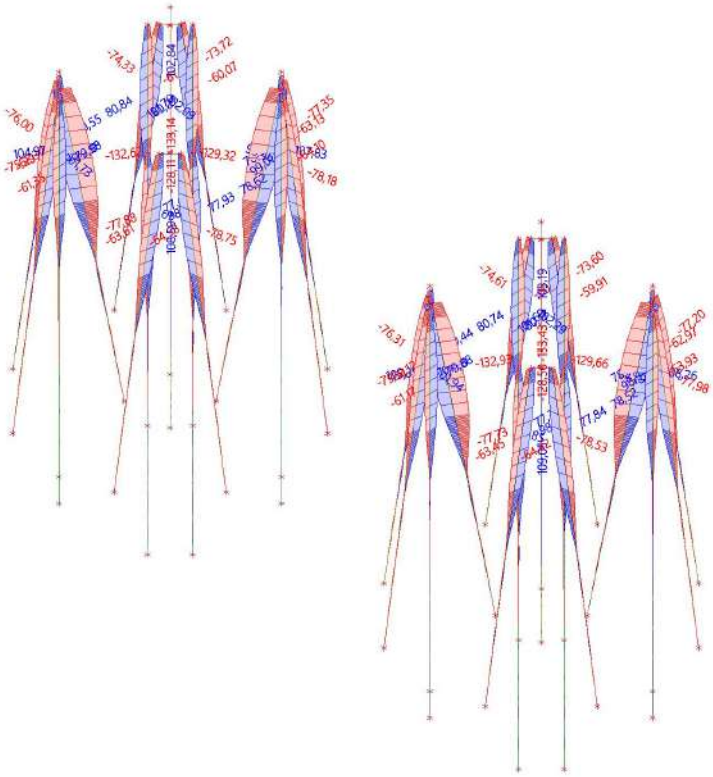
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



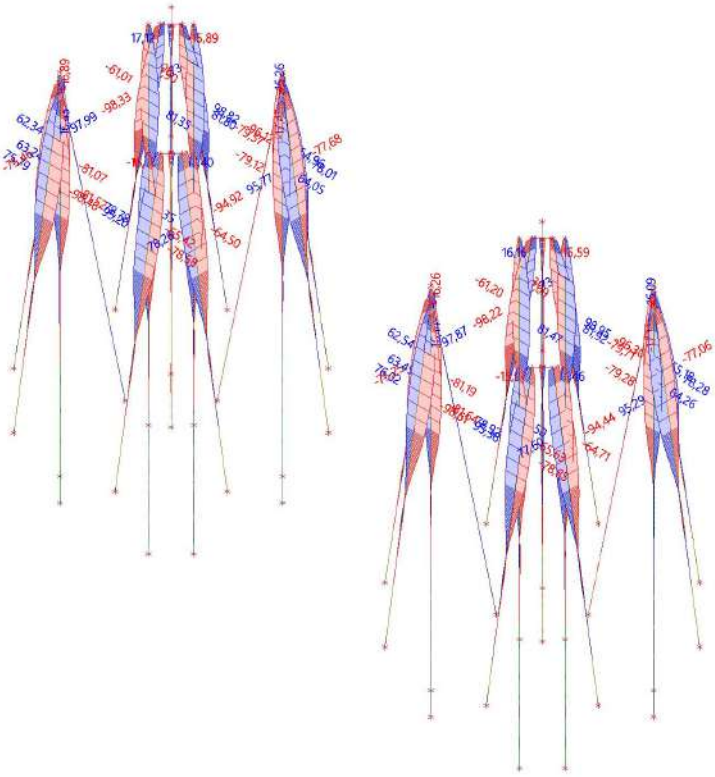
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 22,118 | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-396,00** | 0,00 | 0,13 | 0,00 | 0,00 | 0,00 |
| Paal_Y_2 | 0,000 | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **61,64** | -7,40 | -20,72 | **0,00** | -77,12 | 15,85 |
| Paal_P_4 | 0,000 | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -334,38 | **-23,74** | 21,63 | 0,00 | 44,73 | -28,30 |
| Paal_Y_5 | 0,000 | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -334,38 | **23,76** | 21,75 | 0,00 | 44,70 | 28,64 |
| Paal_X_2 | 9,000+ | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -369,64 | -1,20 | **-23,53** | 0,00 | 63,31 | 3,00 |
| Paal_Y_6 | 10,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 33,08 | 1,06 | **29,75** | 0,00 | -61,56 | -1,74 |
| Paal_P_2 | 0,000 | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 61,64 | 7,62 | -20,64 | **0,00** | -76,92 | -16,42 |
| Paal_Y_6 | 4,500- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 50,32 | -1,42 | -2,66 | 0,00 | **-133,43** | -4,96 |
| Paal_X_14 | 4,500- | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -358,28 | 1,44 | 2,32 | 0,00 | **109,05** | 5,39 |
| Paal_P_4 | 5,375- | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -348,14 | -1,38 | -1,98 | 0,00 | 99,57 | **-98,61** |
| Paal_Y_5 | 5,375- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -348,14 | 1,37 | -1,93 | 0,00 | 100,00 | **98,95** |

## 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS323.9/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_9 | 28,050 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | **-438,13** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_5 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS323.9/10.0) | **413,23** | -19,59 | -16,70 | **0,00** | -21,71 | -9,85 |
| Paal_X_17 | 0,000 | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -311,37 | **-22,95** | 21,00 | 0,00 | 21,94 | -15,25 |
| Paal_X_8 | 9,000+ | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -339,89 | -20,00 | **-18,81** | 0,00 | 46,73 | 51,77 |
| Paal_X_19 | 0,000 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -313,31 | **22,98** | **21,11** | 0,00 | 21,83 | 15,47 |
| Paal_X_5 | 4,500- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS323.9/10.0) | 404,56 | -3,44 | -1,15 | 0,00 | **-64,58** | -64,50 |
| Paal_X_9 | 4,500- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -369,93 | 4,86 | 3,00 | 0,00 | **80,84** | 80,74 |
| Paal_X_17 | 5,375- | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -325,41 | -0,76 | -0,60 | 0,00 | 79,35 | **-81,64** |
| Paal_X_19 | 5,375- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -327,35 | 0,76 | -0,54 | 0,00 | 79,70 | **81,92** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

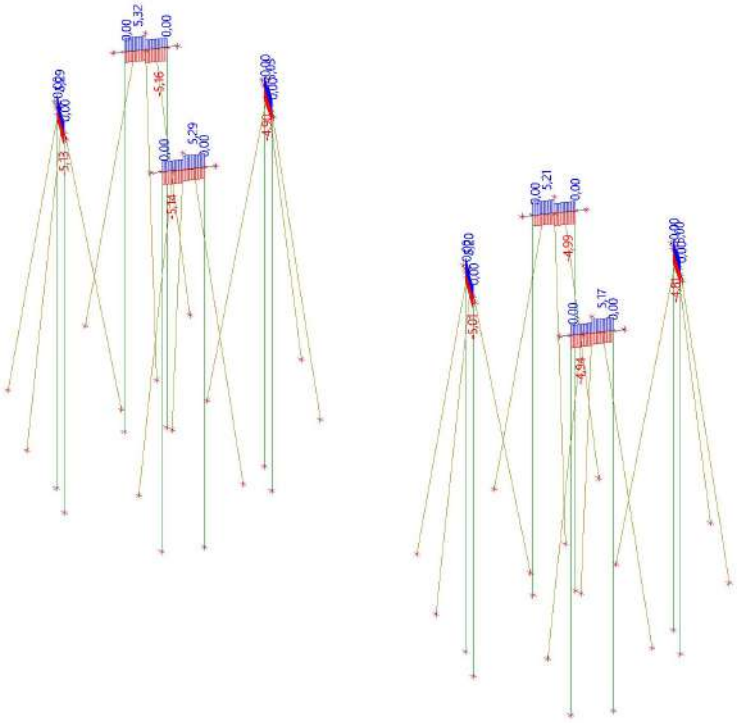
Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Poer - Rectangle (2200,00; 1060,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer X | 1,200 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | **772,62** | -189,18 | -14,95 | **0,00** | 0,00 | 0,00 |
| Poer X | 0,000 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | 742,85 | **-189,18** | -14,95 | 0,00 | 17,94 | **227,02** |
| Poer XY | 0,000 | high max Wnd ;45° - EG_ongunstig | Poer - Rectangle (2200,00; 1060,00) | -358,24 | 77,91 | **-31,51** | 0,00 | **37,81** | -93,49 |
| Poer P | 0,000 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | 118,82 | -32,31 | **31,42** | 0,00 | **-37,71** | 38,78 |
| Poer Y | 0,000 | high max Wnd ;45° - EG_ongunstig | Poer - Rectangle (2200,00; 1060,00) | **-973,40** | **233,73** | 13,97 | 0,00 | -16,77 | **-280,47** |

## 7.4. Krachten van de Funderingsbalken

### 7.4.1. Interne 1D- krachten; N

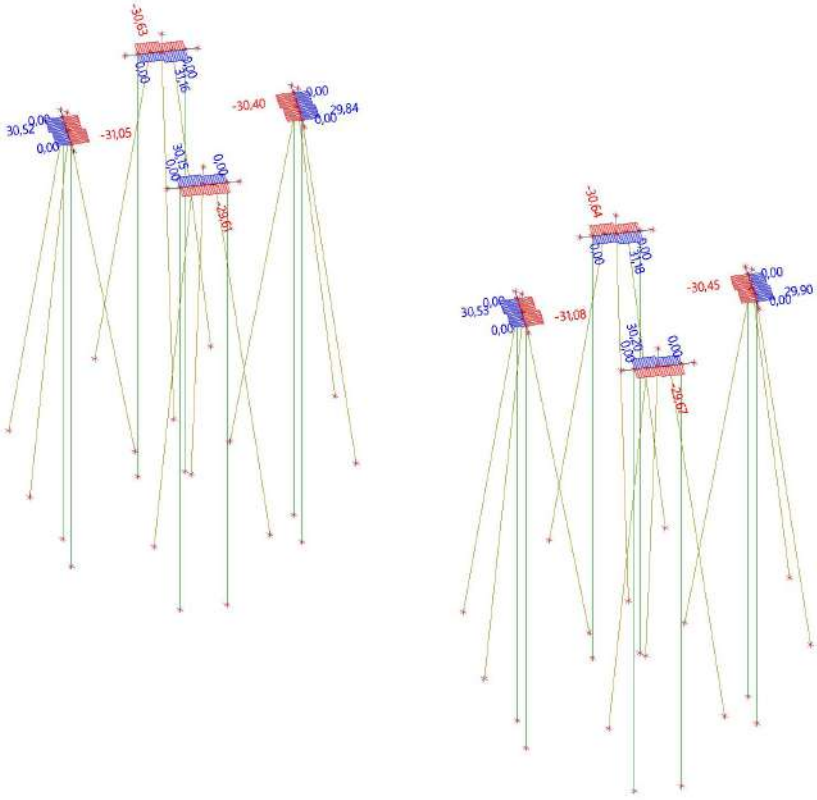
Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.2. Interne 1D- krachten; V_y

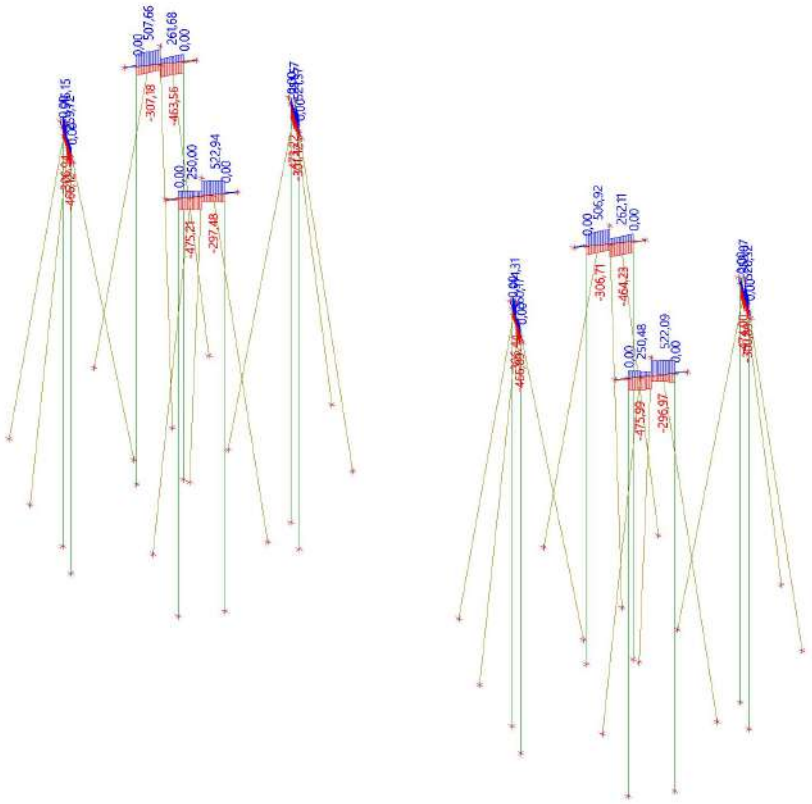
Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

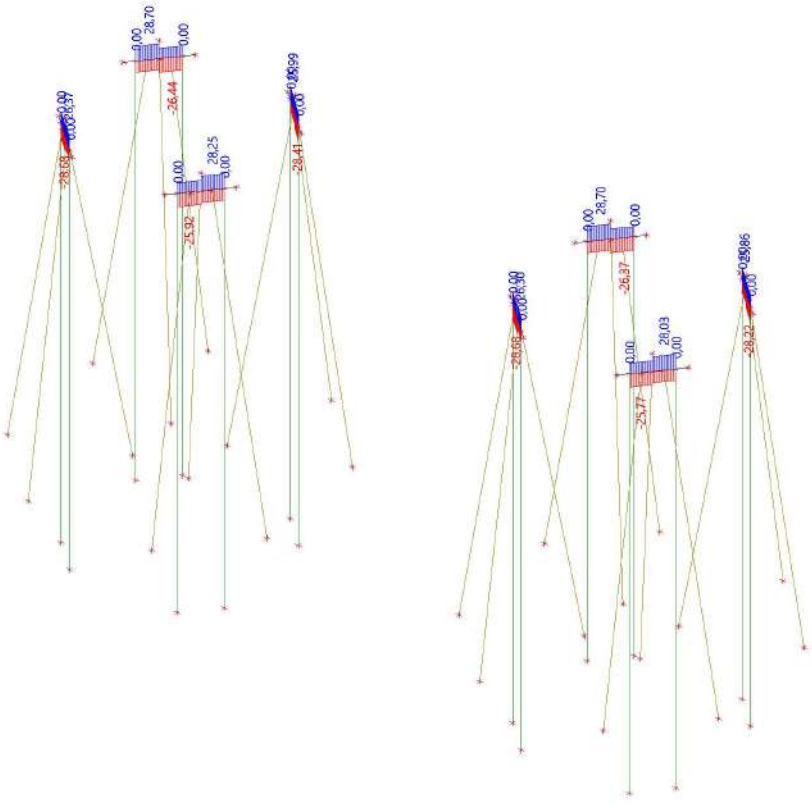






### 7.4.4. Interne 1D- krachten; M_x

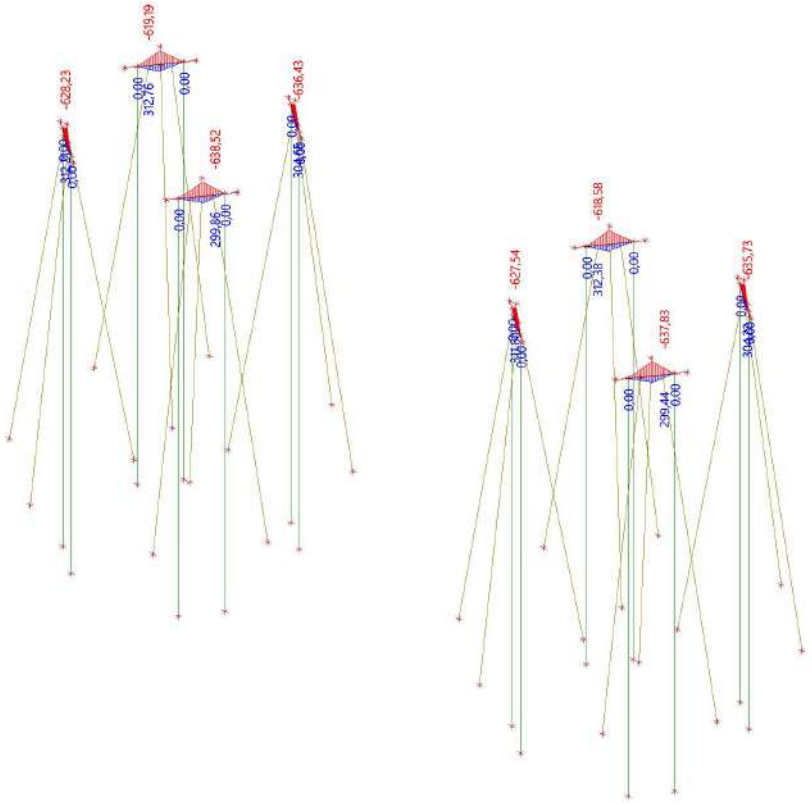
Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.5. Interne 1D- krachten; M_y

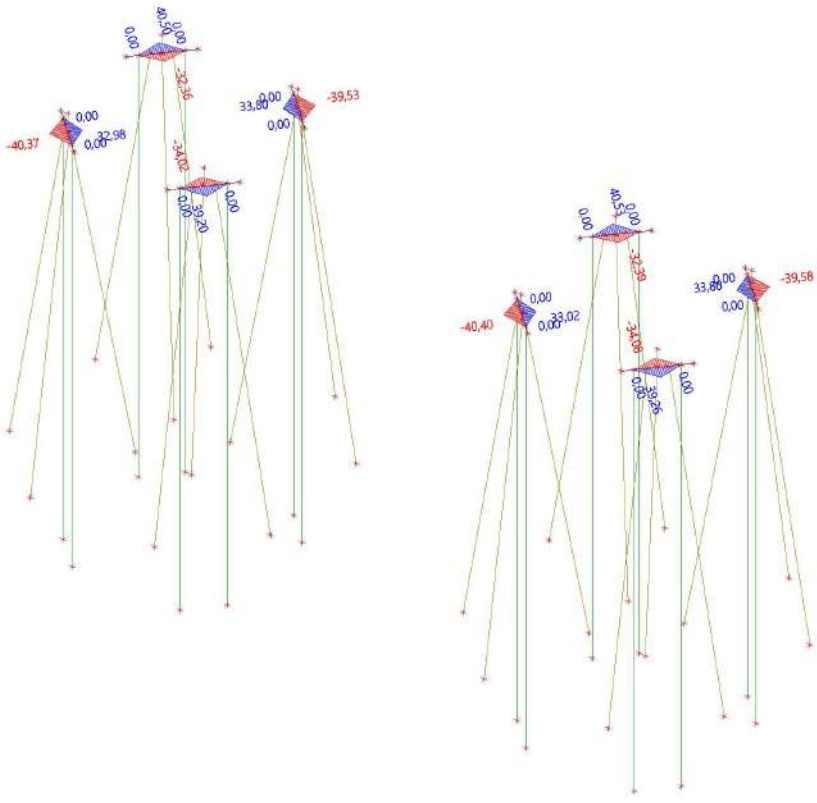
Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






## 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = lijnpoer - Rectangle (1100,00; 2260,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal19 | 0,700+ | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **-5,16** | -4,34 | 56,21 | 3,92 | -24,75 | 0,00 |
| Paal19 | 2,000+ | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **5,32** | 3,96 | 80,73 | -4,87 | -60,34 | -5,15 |
| Paal21 | 2,000- | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,27 | -26,21 | **-475,99** | 20,05 | -589,25 | -34,08 |
| Paal22 | 2,000+ | high max Wnd ;315° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,71 | 30,53 | -211,36 | **-28,68** | 311,80 | -39,68 |
| Paal23 | 2,000+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,65 | -30,64 | -211,63 | **28,70** | 312,38 | 39,83 |
| Paal15 | 2,000+ | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 2,04 | 25,66 | **522,94** | -22,31 | **-638,52** | -33,35 |
| Paal19 | 2,000+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,66 | -30,63 | -212,10 | 28,70 | **312,76** | 39,82 |
| Paal22 | 2,000- | high max Wnd ;315° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,38 | **-31,08** | 165,09 | 26,30 | 263,23 | **-40,40** |
| Paal23 | 2,000- | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,32 | **31,18** | 167,03 | -26,37 | 265,52 | **40,53** |

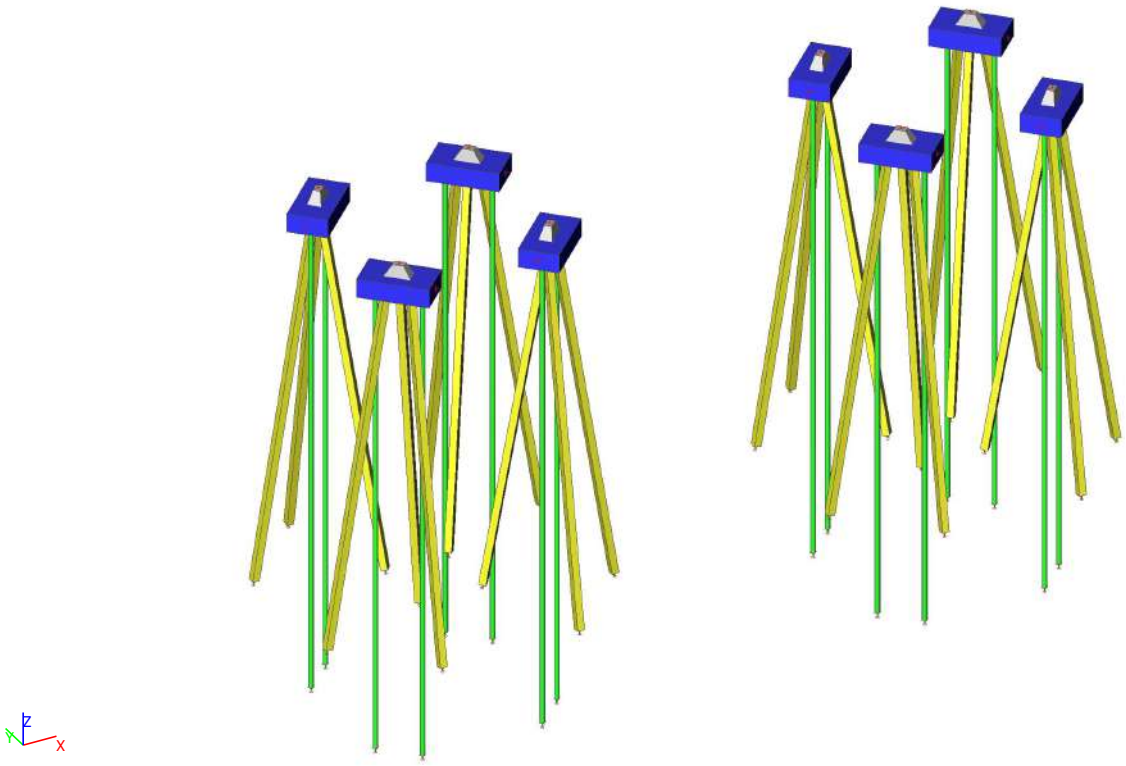
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Knopen 3
5.2. Analyse model met knopen 4
5.3. Staven 4
5.4. Analyse model met Staven 5
5.5. Knoopsteunpunten 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Lijnsteunpunten op staven 7
5.8. Analyse model met Lijnondersteuningen 21
5.9. Analyse model met Lijnondersteuningen 22
5.10. Niet-lineaire functies 23
6. Belastingen 31
6.1. Belastingsgevallen 31
6.1.1. Belastingsgevallen - high max Wnd ;45° 31
6.1.1.1. Puntlast op knoop 31
6.1.2. Belastingsgevallen - high max Wnd ;135° 32
6.1.2.1. Puntlast op knoop 33
6.1.3. Belastingsgevallen - high max Wnd ;225° 34
6.1.3.1. Puntlast op knoop 35
6.1.4. Belastingsgevallen - high max Wnd ;315° 35
6.1.4.1. Puntlast op knoop 36
6.1.5. Belastingsgevallen - low max Wnd ;45° 37
6.1.5.1. Puntlast op knoop 38
6.1.6. Belastingsgevallen - low max Wnd ;135° 38
6.1.6.1. Puntlast op knoop 39
6.1.7. Belastingsgevallen - low max Wnd ;225° 40
6.1.7.1. Puntlast op knoop 41
6.1.8. Belastingsgevallen - low max Wnd ;315° 41
6.1.8.1. Puntlast op knoop 42
6.1.9. Belastingsgevallen - EG_fundering 43
6.2. Niet-lineaire combinaties 44
6.3. Resultaatklasses 44
7. Resultaten 45
7.1. Reacties van de palen 45
7.1.1. Reactions; R_z 45
7.1.2. Reacties 45
7.1.3. Reacties 45
7.1.4. Reacties 46
7.2. Krachten van de Funderingspalen 52
7.2.1. Interne 1D- krachten; N 52
7.2.2. Interne 1D- krachten; V_y 52
7.2.3. Interne 1D- krachten; V_z 53
7.2.4. Interne 1D- krachten; M_x 53
7.2.5. Interne 1D- krachten; M_y 54
7.2.6. Interne 1D- krachten; M_z 54
7.2.7. Interne 1D-krachten 55
7.2.8. Interne 1D-krachten 55
7.3. Krachten van de Poeren 57
7.3.1. Interne 1D-krachten 57
7.4. Krachten van de Funderingsbalken 58
7.4.1. Interne 1D- krachten; N 58
7.4.2. Interne 1D- krachten; V_y 58
7.4.3. Interne 1D- krachten; V_z 59
7.4.4. Interne 1D- krachten; M_x 59
7.4.5. Interne 1D- krachten; M_y 60
7.4.6. Interne 1D- krachten; M_z 60
7.4.7. Interne 1D-krachten 61

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Blokpoer 3xBeton40x40 Mast 24 |
| Auteur | [redacted] |
| Datum | 28-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 112 |
| Aantal staven : | 56 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 4 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

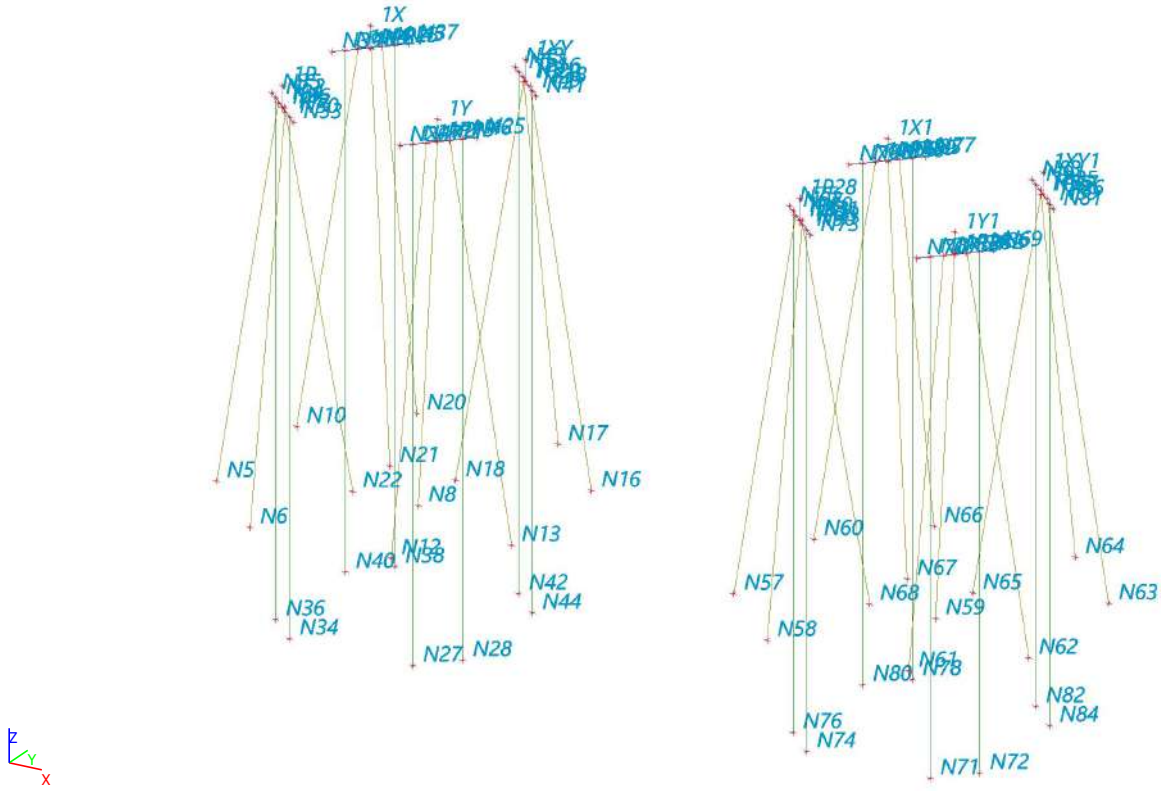
# 5. Geometrie

## 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -4,051 | 0,400 | -21,382 |
| N6 | 0,400 | -4,051 | -21,382 |
| N8 | 6,407 | 2,593 | -21,382 |
| N10 | -4,051 | 8,600 | -21,382 |
| N12 | 8,600 | -4,051 | -21,382 |
| N13 | 13,051 | 0,400 | -21,382 |
| N16 | 13,051 | 8,600 | -21,382 |
| N17 | 8,600 | 13,051 | -21,382 |
| N18 | 6,407 | 6,407 | -21,382 |
| N20 | 0,400 | 13,051 | -21,382 |
| N21 | 2,593 | 6,407 | -21,382 |
| N22 | 2,593 | 2,593 | -21,382 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -28,500 |
| N28 | 9,919 | 0,919 | -28,500 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -28,500 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -28,500 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -28,500 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -28,500 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -28,500 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -28,500 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N53 | 30,000 | 0,000 | 0,000 |
| 1P28 | 30,000 | 0,000 | 1,200 |
| 1P29 | 30,400 | -0,480 | 0,000 |
| 1P30 | 29,520 | 0,400 | 0,000 |
| 1P31 | 30,070 | 0,070 | 0,000 |
| N54 | 39,000 | 0,000 | 0,000 |
| 1Y1 | 39,000 | 0,000 | 1,200 |
| 1P32 | 39,480 | 0,400 | 0,000 |
| 1P33 | 38,600 | -0,480 | 0,000 |
| 1P34 | 38,930 | 0,070 | 0,000 |
| N55 | 39,000 | 9,000 | 0,000 |
| 1XY1 | 39,000 | 9,000 | 1,200 |
| 1P35 | 38,600 | 9,480 | 0,000 |
| 1P36 | 39,480 | 8,600 | 0,000 |
| 1P37 | 38,930 | 8,930 | 0,000 |
| N56 | 30,000 | 9,000 | 0,000 |
| 1X1 | 30,000 | 9,000 | 1,200 |
| 1P38 | 29,520 | 8,600 | 0,000 |
| 1P39 | 30,400 | 9,480 | 0,000 |
| 1P40 | 30,070 | 8,930 | 0,000 |
| N57 | 25,949 | 0,400 | -21,382 |
| N58 | 30,400 | -4,051 | -21,382 |
| N59 | 36,407 | 2,593 | -21,382 |
| N60 | 25,949 | 8,600 | -21,382 |
| N61 | 38,600 | -4,051 | -21,382 |
| N62 | 43,051 | 0,400 | -21,382 |
| N63 | 43,051 | 8,600 | -21,382 |
| N64 | 38,600 | 13,051 | -21,382 |
| N65 | 36,407 | 6,407 | -21,382 |
| N66 | 30,400 | 13,051 | -21,382 |
| N67 | 32,593 | 6,407 | -21,382 |
| N68 | 32,593 | 2,593 | -21,382 |
| N69 | 40,414 | 1,414 | 0,000 |
| N70 | 37,586 | -1,414 | 0,000 |
| N71 | 38,081 | -0,919 | -28,500 |
| N72 | 39,919 | 0,919 | -28,500 |
| N73 | 31,414 | -1,414 | 0,000 |
| N74 | 30,919 | -0,919 | -28,500 |
| N75 | 28,586 | 1,414 | 0,000 |
| N76 | 29,081 | 0,919 | -28,500 |
| N77 | 31,414 | 10,414 | 0,000 |
| N78 | 30,919 | 9,919 | -28,500 |
| N79 | 28,586 | 7,586 | 0,000 |
| N80 | 29,081 | 8,081 | -28,500 |
| N81 | 40,414 | 7,586 | 0,000 |
| N82 | 38,081 | 9,919 | -28,500 |
| N83 | 37,586 | 10,414 | 0,000 |
| N84 | 39,919 | 8,081 | -28,500 |
| N85 | 30,919 | 9,919 | 0,000 |
| N86 | 39,919 | 0,919 | 0,000 |
| N87 | 38,081 | -0,919 | 0,000 |
| N88 | 29,081 | 8,081 | 0,000 |
| N89 | 39,919 | 8,081 | 0,000 |
| N90 | 30,919 | -0,919 | 0,000 |
| N91 | 38,081 | 9,919 | 0,000 |
| N92 | 29,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

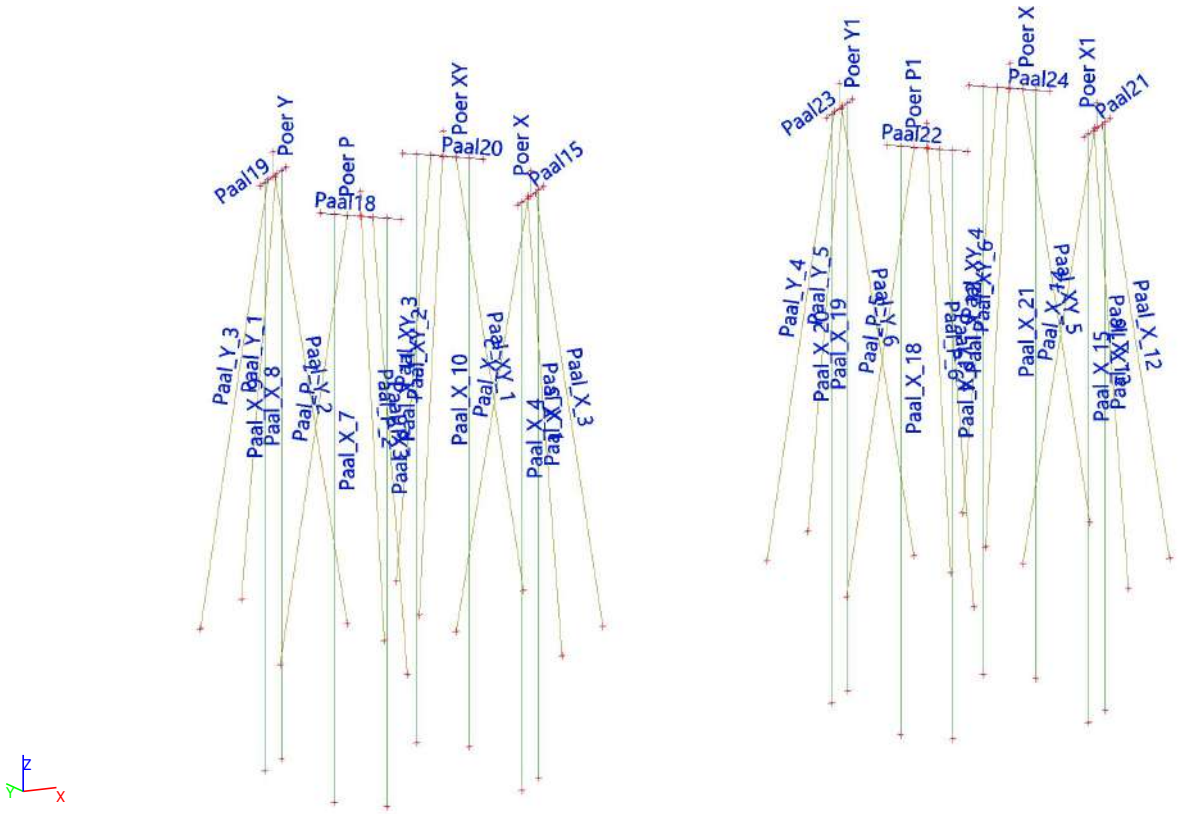



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | Balk (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | Balk (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | Balk (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | Balk (80) |
| Paal21 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N70 | N69 | Balk (80) |
| Paal22 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N73 | N75 | Balk (80) |
| Paal23 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N77 | N79 | Balk (80) |
| Paal24 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N83 | N81 | Balk (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P20 | N18 | Kolom (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P9 | N13 | Kolom (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | Kolom (100) |
| Poer P1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N53 | 1P28 | Kolom (100) |
| Paal_P_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P30 | N57 | Kolom (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | Kolom (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P4 | N5 | Kolom (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P6 | N22 | Kolom (100) |
| Paal_P_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P29 | N58 | Kolom (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P18 | N16 | Kolom (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P16 | N17 | Kolom (100) |
| Paal_XY_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P35 | N64 | Kolom (100) |
| Paal_XY_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P36 | N63 | Kolom (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P11 | N12 | Kolom (100) |
| Poer X1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N54 | 1Y1 | Kolom (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | Kolom (100) |
| Poer XY1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N55 | 1XY1 | Kolom (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | Kolom (100) |
| Poer Y1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N56 | 1X1 | Kolom (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P2 | N6 | Kolom (100) |
| Paal_P_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P31 | N68 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_XY_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P37 | N65 | Kolom (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P13 | N8 | Kolom (100) |
| Paal_X_4 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N47 | N27 | Kolom (100) |
| Paal_X_5 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N46 | N28 | Kolom (100) |
| Paal_X_6 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N50 | N34 | Kolom (100) |
| Paal_X_7 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N52 | N36 | Kolom (100) |
| Paal_X_8 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N45 | N38 | Kolom (100) |
| Paal_X_9 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N48 | N40 | Kolom (100) |
| Paal_X_10 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N49 | N44 | Kolom (100) |
| Paal_X_11 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N51 | N42 | Kolom (100) |
| Paal_X_12 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P32 | N62 | Kolom (100) |
| Paal_X_13 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P33 | N61 | Kolom (100) |
| Paal_X_14 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P34 | N59 | Kolom (100) |
| Paal_X_15 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N87 | N71 | Kolom (100) |
| Paal_X_16 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N86 | N72 | Kolom (100) |
| Paal_X_17 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N90 | N74 | Kolom (100) |
| Paal_X_18 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N92 | N76 | Kolom (100) |
| Paal_X_19 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N85 | N78 | Kolom (100) |
| Paal_X_20 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N88 | N80 | Kolom (100) |
| Paal_X_21 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N89 | N84 | Kolom (100) |
| Paal_X_22 | LEKA Paal - type e (CHS273.0/10.0) | S 235 | 28,500 | N91 | N82 | Kolom (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P25 | N20 | Kolom (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P27 | N21 | Kolom (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P23 | N10 | Kolom (100) |
| Paal_Y_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P38 | N60 | Kolom (100) |
| Paal_Y_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P39 | N66 | Kolom (100) |
| Paal_Y_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 21,678 | 1P40 | N67 | Kolom (100) |

## 5.4. Analyse model met Staven



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_2 | N22 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_1 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_2 | N8 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_1 | N16 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_2 | N18 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_1 | N20 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_2 | N21 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_Y_4 | N27 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_5 | N28 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_6 | N34 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_7 | N36 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_8 | N38 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_9 | N40 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_10 | N42 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_11 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_P_4 | N57 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_5 | N58 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_4 | N59 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_Y_12 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_X_5 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_6 | N62 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_4 | N63 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_5 | N64 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_XY_6 | N65 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_Y_13 | N66 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_14 | N67 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_P_6 | N68 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_Y_15 | N71 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_16 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_17 | N74 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_18 | N76 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_19 | N78 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_20 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_21 | N82 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_22 | N84 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen19 | Lijn | Paal_X_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Lijn | Paal_X_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen10 | Lijn | Paal_Y_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen18 | Lijn | Paal_X_10 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen34 | Lijn | Paal_X_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen8 | Lijn | Paal_XY_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen21 | Lijn | Paal_P_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen7 | Lijn | Paal_XY_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen13 | Lijn | Paal_X_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen3 | Lijn | Paal_X_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen16 | Lijn | Paal_X_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen6 | Lijn | Paal_XY_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen31 | Lijn | Paal_Y_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen26 | Lijn | Paal_XY_4 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen39 | Lijn | Paal_X_22 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen11 | Lijn | Paal_Y_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen23 | Lijn | Paal_X_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen12 | Lijn | Paal_X_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen20 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen22 | Lijn | Paal_P_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen38 | Lijn | Paal_X_21 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen | Lijn | Paal_P_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen32 | Lijn | Paal_X_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen28 | Lijn | Paal_XY_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen36 | Lijn | Paal_X_19 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen17 | Lijn | Paal_X_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen33 | Lijn | Paal_X_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen5 | Lijn | Paal_X_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen24 | Lijn | Paal_X_13 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen37 | Lijn | Paal_X_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Lijn | Paal_X_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen1 | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen4 | Lijn | Paal_X_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen14 | Lijn | Paal_X_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen29 | Lijn | Paal_Y_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen27 | Lijn | Paal_XY_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen15 | Lijn | Paal_X_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen2 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen9 | Lijn | Paal_Y_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen30 | Lijn | Paal_Y_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| (PY-curve-1_V1)12 | Lijn | Paal_X_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)21 | Lijn | Paal_P_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Lijn | Paal_P_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)35 | Lijn | Paal_X_18 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)7 | Lijn | Paal_Y_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)39 | Lijn | Paal_X_22 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)38 | Lijn | Paal_X_21 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)34 | Lijn | Paal_X_17 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)3 | Lijn | Paal_X_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)36 | Lijn | Paal_X_19 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)16 | Lijn | Paal_X_8 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)6 | Lijn | Paal_Y_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)1 | Lijn | Paal_P_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)27 | Lijn | Paal_XY_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)11 | Lijn | Paal_Y_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)10 | Lijn | Paal_XY_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)33 | Lijn | Paal_X_16 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)32 | Lijn | Paal_X_15 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Lijn | Paal_XY_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)5 | Lijn | Paal_XY_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)37 | Lijn | Paal_X_20 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)24 | Lijn | Paal_X_13 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)19 | Lijn | Paal_X_11 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)2 | Lijn | Paal_X_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)15 | Lijn | Paal_X_7 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Lijn | Paal_X_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Lijn | Paal_X_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Lijn | Paal_Y_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)25 | Lijn | Paal_X_14 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1) | Lijn | Paal_P_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)26 | Lijn | Paal_XY_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Lijn | Paal_Y_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)13 | Lijn | Paal_X_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)23 | Lijn | Paal_X_12 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)22 | Lijn | Paal_P_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)17 | Lijn | Paal_X_9 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)29 | Lijn | Paal_Y_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)8 | Lijn | Paal_P_2 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)4 | Lijn | Paal_XY_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Lijn | Paal_X_10 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)12 | Lijn | Paal_X_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Lijn | Paal_P_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Lijn | Paal_P_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)6 | Lijn | Paal_Y_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)7 | Lijn | Paal_Y_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)1 | Lijn | Paal_P_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)36 | Lijn | Paal_X_19 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)37 | Lijn | Paal_X_20 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)35 | Lijn | Paal_X_18 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)38 | Lijn | Paal_X_21 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)30 | Lijn | Paal_Y_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2) | Lijn | Paal_P_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Lijn | Paal_X_11 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)28 | Lijn | Paal_XY_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)3 | Lijn | Paal_X_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Lijn | Paal_X_15 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)18 | Lijn | Paal_X_10 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)34 | Lijn | Paal_X_17 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)11 | Lijn | Paal_Y_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Lijn | Paal_XY_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)16 | Lijn | Paal_X_8 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)17 | Lijn | Paal_X_9 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Lijn | Paal_X_16 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)29 | Lijn | Paal_Y_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)10 | Lijn | Paal_XY_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Lijn | Paal_XY_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)39 | Lijn | Paal_X_22 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)2 | Lijn | Paal_X_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)14 | Lijn | Paal_X_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)24 | Lijn | Paal_X_13 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-1_V2)15 | Lijn | Paal_X_7 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Lijn | Paal_X_14 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)9 | Lijn | Paal_X_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)4 | Lijn | Paal_XY_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Lijn | Paal_P_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)22 | Lijn | Paal_P_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)26 | Lijn | Paal_XY_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)13 | Lijn | Paal_X_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)31 | Lijn | Paal_Y_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)23 | Lijn | Paal_X_12 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3)7 | Lijn | Paal_Y_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Lijn | Paal_X_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Lijn | Paal_P_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Lijn | Paal_X_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Lijn | Paal_P_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Lijn | Paal_X_22 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3) | Lijn | Paal_P_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)37 | Lijn | Paal_X_20 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)6 | Lijn | Paal_Y_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)34 | Lijn | Paal_X_17 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)17 | Lijn | Paal_X_9 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)36 | Lijn | Paal_X_19 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Lijn | Paal_X_18 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)11 | Lijn | Paal_Y_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)19 | Lijn | Paal_X_11 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)5 | Lijn | Paal_XY_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Lijn | Paal_Y_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)2 | Lijn | Paal_X_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)28 | Lijn | Paal_XY_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)10 | Lijn | Paal_XY_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Lijn | Paal_X_8 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)18 | Lijn | Paal_X_10 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-1_V3)29 | Lijn | Paal_Y_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)32 | Lijn | Paal_X_15 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Lijn | Paal_XY_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Lijn | Paal_P_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)9 | Lijn | Paal_X_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)4 | Lijn | Paal_XY_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)31 | Lijn | Paal_Y_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Lijn | Paal_X_13 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)15 | Lijn | Paal_X_7 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)14 | Lijn | Paal_X_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Lijn | Paal_X_14 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)23 | Lijn | Paal_X_12 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Lijn | Paal_XY_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Lijn | Paal_P_6 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Lijn | Paal_X_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)33 | Lijn | Paal_X_16 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)38 | Lijn | Paal_X_21 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)21 | Lijn | Paal_P_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)20 | Lijn | Paal_P_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)38 | Lijn | Paal_X_21 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)6 | Lijn | Paal_Y_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)37 | Lijn | Paal_X_20 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)36 | Lijn | Paal_X_19 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)34 | Lijn | Paal_X_17 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)35 | Lijn | Paal_X_18 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)33 | Lijn | Paal_X_16 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)2 | Lijn | Paal_X_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)32 | Lijn | Paal_X_15 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)5 | Lijn | Paal_XY_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Lijn | Paal_Y_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)31 | Lijn | Paal_Y_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)18 | Lijn | Paal_X_10 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-1_V4)30 | Lijn | Paal_Y_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)19 | Lijn | Paal_X_11 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Lijn | Paal_XY_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)28 | Lijn | Paal_XY_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Lijn | Paal_X_8 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)27 | Lijn | Paal_XY_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)29 | Lijn | Paal_Y_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)17 | Lijn | Paal_X_9 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Lijn | Paal_XY_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Lijn | Paal_X_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)26 | Lijn | Paal_XY_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Lijn | Paal_X_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)24 | Lijn | Paal_X_13 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)25 | Lijn | Paal_X_14 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Lijn | Paal_P_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4) | Lijn | Paal_P_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Lijn | Paal_X_12 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)1 | Lijn | Paal_P_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Lijn | Paal_P_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)15 | Lijn | Paal_X_7 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Lijn | Paal_P_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)39 | Lijn | Paal_X_22 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Lijn | Paal_X_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)13 | Lijn | Paal_X_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Lijn | Paal_Y_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)12 | Lijn | Paal_X_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V5)20 | Lijn | Paal_P_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)19 | Lijn | Paal_X_11 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)39 | Lijn | Paal_X_22 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)18 | Lijn | Paal_X_10 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)17 | Lijn | Paal_X_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)16 | Lijn | Paal_X_4 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-1_V5)38 | Lijn | Paal_X_21 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)15 | Lijn | Paal_X_9 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)14 | Lijn | Paal_X_8 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)13 | Lijn | Paal_X_7 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)37 | Lijn | Paal_X_20 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)12 | Lijn | Paal_X_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)11 | Lijn | Paal_XY_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)36 | Lijn | Paal_X_19 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)9 | Lijn | Paal_XY_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)35 | Lijn | Paal_X_18 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)10 | Lijn | Paal_X_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)5 | Lijn | Paal_Y_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)4 | Lijn | Paal_P_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)34 | Lijn | Paal_X_17 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)3 | Lijn | Paal_Y_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)7 | Lijn | Paal_XY_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)2 | Lijn | Paal_P_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)8 | Lijn | Paal_X_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)6 | Lijn | Paal_X_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)1 | Lijn | Paal_Y_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)33 | Lijn | Paal_X_16 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5) | Lijn | Paal_P_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)31 | Lijn | Paal_Y_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)30 | Lijn | Paal_Y_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)32 | Lijn | Paal_X_15 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)29 | Lijn | Paal_Y_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)27 | Lijn | Paal_XY_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)28 | Lijn | Paal_XY_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)26 | Lijn | Paal_XY_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)25 | Lijn | Paal_X_14 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)24 | Lijn | Paal_X_13 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)23 | Lijn | Paal_X_12 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-1_V5)22 | Lijn | Paal_P_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)21 | Lijn | Paal_P_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V6)13 | Lijn | Paal_Y_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)12 | Lijn | Paal_Y_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)11 | Lijn | Paal_Y_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)10 | Lijn | Paal_XY_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)9 | Lijn | Paal_XY_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)8 | Lijn | Paal_XY_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)7 | Lijn | Paal_X_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)14 | Lijn | Paal_X_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)6 | Lijn | Paal_X_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)5 | Lijn | Paal_X_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)4 | Lijn | Paal_P_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)3 | Lijn | Paal_P_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)2 | Lijn | Paal_P_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)1 | Lijn | Paal_XY_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6) | Lijn | Paal_X_12 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)39 | Lijn | Paal_X_22 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)37 | Lijn | Paal_X_20 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)36 | Lijn | Paal_X_19 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)35 | Lijn | Paal_X_18 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)34 | Lijn | Paal_X_17 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)33 | Lijn | Paal_X_16 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)32 | Lijn | Paal_X_15 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)31 | Lijn | Paal_Y_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)30 | Lijn | Paal_Y_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)29 | Lijn | Paal_Y_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)28 | Lijn | Paal_XY_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)27 | Lijn | Paal_XY_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)26 | Lijn | Paal_X_14 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)25 | Lijn | Paal_X_13 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)24 | Lijn | Paal_P_6 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-1_V6)23 | Lijn | Paal_P_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)38 | Lijn | Paal_X_21 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)22 | Lijn | Paal_P_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)21 | Lijn | Paal_X_11 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)20 | Lijn | Paal_X_10 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)19 | Lijn | Paal_X_9 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)18 | Lijn | Paal_X_8 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)17 | Lijn | Paal_X_7 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)16 | Lijn | Paal_X_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V6)15 | Lijn | Paal_X_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6 | PY-curve-1_V6 |
| (PY-curve-1_V7)39 | Lijn | Paal_X_22 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)37 | Lijn | Paal_X_20 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)36 | Lijn | Paal_X_19 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)35 | Lijn | Paal_X_18 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)33 | Lijn | Paal_X_16 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)32 | Lijn | Paal_X_15 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)31 | Lijn | Paal_Y_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)29 | Lijn | Paal_Y_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)28 | Lijn | Paal_XY_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)27 | Lijn | Paal_XY_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)26 | Lijn | Paal_X_14 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)25 | Lijn | Paal_X_13 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)24 | Lijn | Paal_P_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)23 | Lijn | Paal_P_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)22 | Lijn | Paal_P_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)21 | Lijn | Paal_X_11 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)20 | Lijn | Paal_X_10 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)19 | Lijn | Paal_X_9 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)18 | Lijn | Paal_X_8 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)17 | Lijn | Paal_X_7 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)16 | Lijn | Paal_X_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)15 | Lijn | Paal_X_5 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-1_V7)30 | Lijn | Paal_Y_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)14 | Lijn | Paal_X_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)13 | Lijn | Paal_Y_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)12 | Lijn | Paal_Y_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)11 | Lijn | Paal_Y_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)34 | Lijn | Paal_X_17 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)10 | Lijn | Paal_XY_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)9 | Lijn | Paal_XY_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)8 | Lijn | Paal_XY_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)7 | Lijn | Paal_X_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)38 | Lijn | Paal_X_21 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)6 | Lijn | Paal_X_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)5 | Lijn | Paal_X_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)4 | Lijn | Paal_P_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)3 | Lijn | Paal_P_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)2 | Lijn | Paal_P_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7)1 | Lijn | Paal_XY_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V7) | Lijn | Paal_X_12 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7 | PY-curve-1_V7 |
| (PY-curve-1_V8)39 | Lijn | Paal_X_22 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)37 | Lijn | Paal_X_20 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)36 | Lijn | Paal_X_19 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)35 | Lijn | Paal_X_18 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)34 | Lijn | Paal_X_17 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)33 | Lijn | Paal_X_16 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)32 | Lijn | Paal_X_15 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)31 | Lijn | Paal_Y_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)29 | Lijn | Paal_Y_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)28 | Lijn | Paal_XY_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)27 | Lijn | Paal_XY_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)25 | Lijn | Paal_X_13 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)24 | Lijn | Paal_P_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)23 | Lijn | Paal_P_5 | 15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |

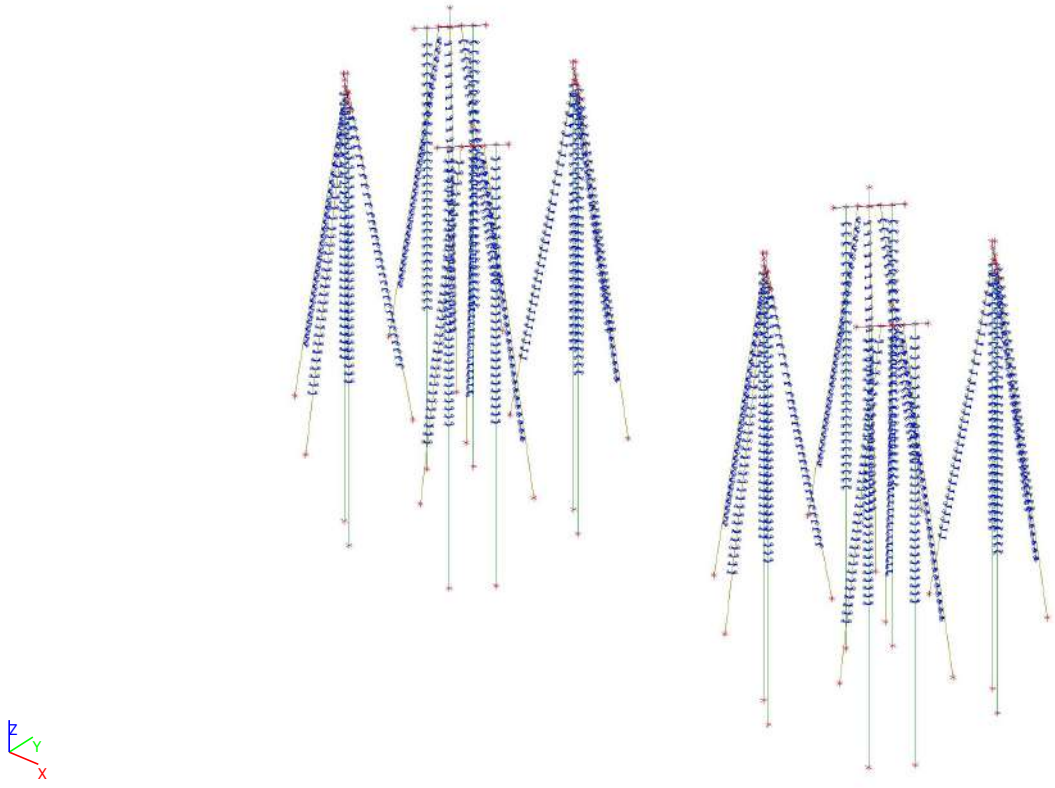
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16,000 | | | | | | | | |
| (PY-curve-1_V8)22 | Lijn | Paal_P_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)21 | Lijn | Paal_X_11 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)20 | Lijn | Paal_X_10 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)19 | Lijn | Paal_X_9 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)26 | Lijn | Paal_X_14 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)18 | Lijn | Paal_X_8 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)17 | Lijn | Paal_X_7 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)16 | Lijn | Paal_X_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)15 | Lijn | Paal_X_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)30 | Lijn | Paal_Y_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)14 | Lijn | Paal_X_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)13 | Lijn | Paal_Y_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)12 | Lijn | Paal_Y_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)11 | Lijn | Paal_Y_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)10 | Lijn | Paal_XY_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)9 | Lijn | Paal_XY_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)8 | Lijn | Paal_XY_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)7 | Lijn | Paal_X_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)38 | Lijn | Paal_X_21 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)6 | Lijn | Paal_X_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)5 | Lijn | Paal_X_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)4 | Lijn | Paal_P_2 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)3 | Lijn | Paal_P_1 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)2 | Lijn | Paal_P_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8)1 | Lijn | Paal_XY_5 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V8) | Lijn | Paal_X_12 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8 | PY-curve-1_V8 |
| (PY-curve-1_V9)39 | Lijn | Paal_X_22 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)37 | Lijn | Paal_X_20 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)36 | Lijn | Paal_X_19 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)35 | Lijn | Paal_X_18 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)33 | Lijn | Paal_X_16 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)32 | Lijn | Paal_X_15 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-1_V9)31 | Lijn | Paal_Y_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)29 | Lijn | Paal_Y_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)28 | Lijn | Paal_XY_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)27 | Lijn | Paal_XY_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)26 | Lijn | Paal_X_14 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)25 | Lijn | Paal_X_13 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)24 | Lijn | Paal_P_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)23 | Lijn | Paal_P_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)22 | Lijn | Paal_P_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)21 | Lijn | Paal_X_11 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)20 | Lijn | Paal_X_10 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)19 | Lijn | Paal_X_9 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)18 | Lijn | Paal_X_8 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)17 | Lijn | Paal_X_7 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)16 | Lijn | Paal_X_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)15 | Lijn | Paal_X_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)30 | Lijn | Paal_Y_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)14 | Lijn | Paal_X_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)13 | Lijn | Paal_Y_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)12 | Lijn | Paal_Y_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)11 | Lijn | Paal_Y_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)34 | Lijn | Paal_X_17 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)10 | Lijn | Paal_XY_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)9 | Lijn | Paal_XY_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)8 | Lijn | Paal_XY_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)7 | Lijn | Paal_X_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)38 | Lijn | Paal_X_21 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)6 | Lijn | Paal_X_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)5 | Lijn | Paal_X_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)4 | Lijn | Paal_P_2 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)3 | Lijn | Paal_P_1 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9)2 | Lijn | Paal_P_3 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-1_V9)1 | Lijn | Paal_XY_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V9) | Lijn | Paal_X_12 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9 | PY-curve-1_V9 |
| (PY-curve-1_V10)39 | Lijn | Paal_X_22 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)37 | Lijn | Paal_X_20 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)36 | Lijn | Paal_X_19 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)35 | Lijn | Paal_X_18 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)34 | Lijn | Paal_X_17 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)33 | Lijn | Paal_X_16 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)32 | Lijn | Paal_X_15 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)31 | Lijn | Paal_Y_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)29 | Lijn | Paal_Y_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)28 | Lijn | Paal_XY_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)27 | Lijn | Paal_XY_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)25 | Lijn | Paal_X_13 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)24 | Lijn | Paal_P_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)23 | Lijn | Paal_P_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)22 | Lijn | Paal_P_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)21 | Lijn | Paal_X_11 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)20 | Lijn | Paal_X_10 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)19 | Lijn | Paal_X_9 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)18 | Lijn | Paal_X_8 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)17 | Lijn | Paal_X_7 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)16 | Lijn | Paal_X_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)15 | Lijn | Paal_X_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)26 | Lijn | Paal_X_14 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)30 | Lijn | Paal_Y_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)14 | Lijn | Paal_X_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)13 | Lijn | Paal_Y_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)12 | Lijn | Paal_Y_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)11 | Lijn | Paal_Y_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)10 | Lijn | Paal_XY_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)9 | Lijn | Paal_XY_1 | 17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |

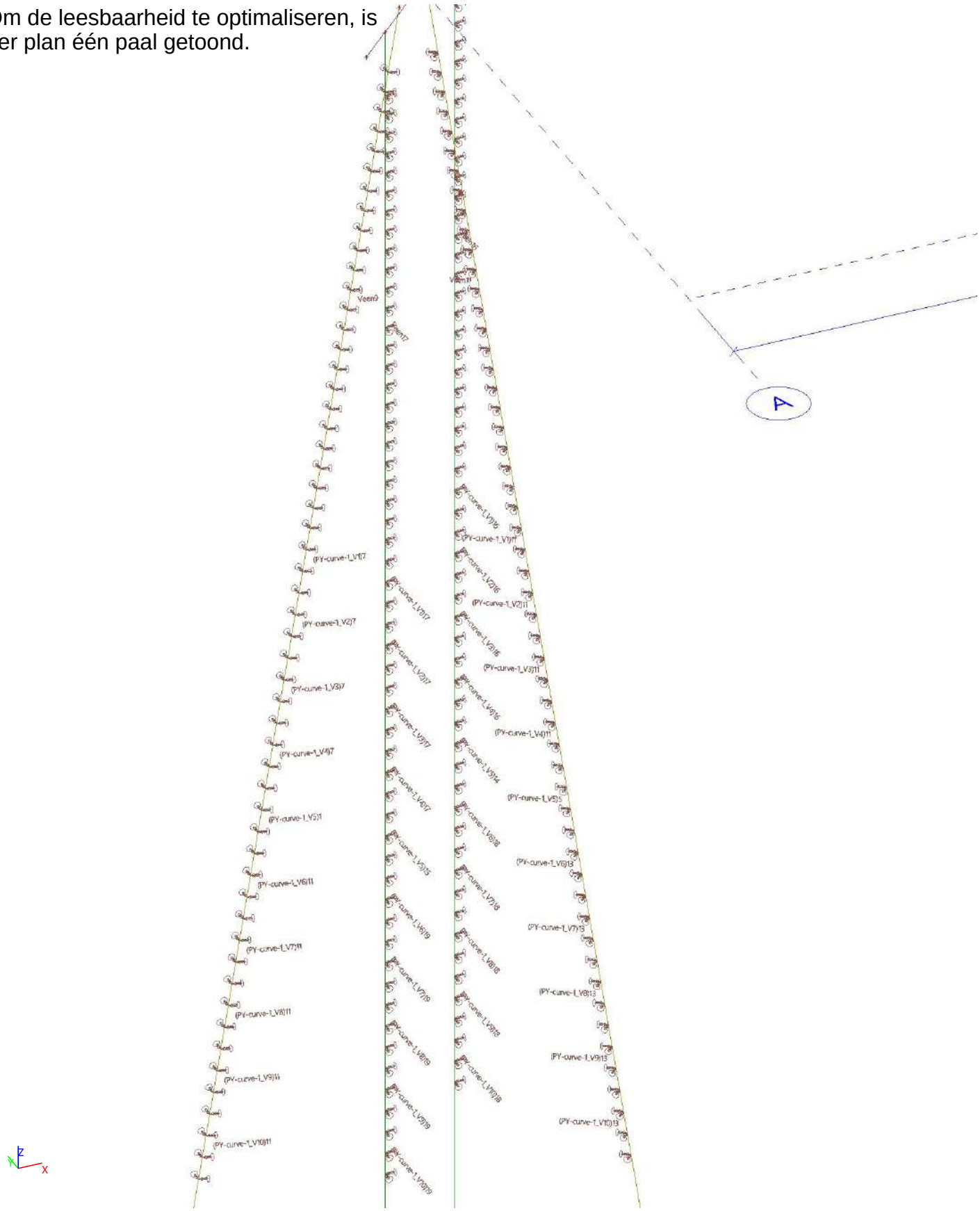
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 18,000 | | | | | | | | |
| (PY-curve-1_V10)8 | Lijn | Paal_XY_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)7 | Lijn | Paal_X_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)38 | Lijn | Paal_X_21 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)6 | Lijn | Paal_X_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)5 | Lijn | Paal_X_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)4 | Lijn | Paal_P_2 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)3 | Lijn | Paal_P_1 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)2 | Lijn | Paal_P_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10)1 | Lijn | Paal_XY_5 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |
| (PY-curve-1_V10) | Lijn | Paal_X_12 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10 | PY-curve-1_V10 |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

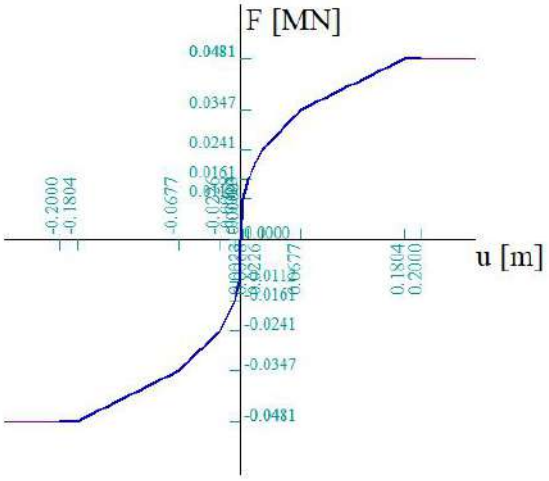
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

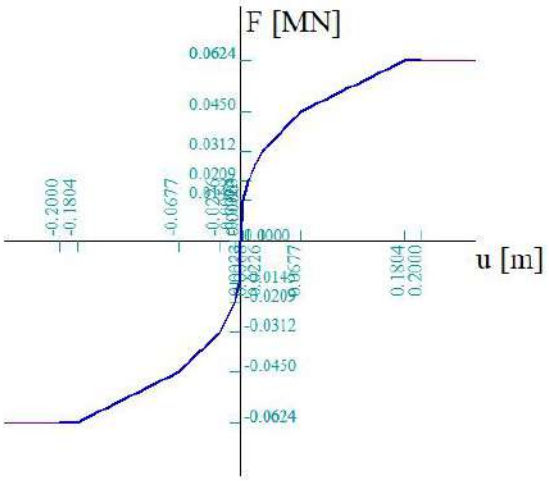
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1 | Verplaatsing | -2,0000e-01[m] / -4,8130e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Tekenen



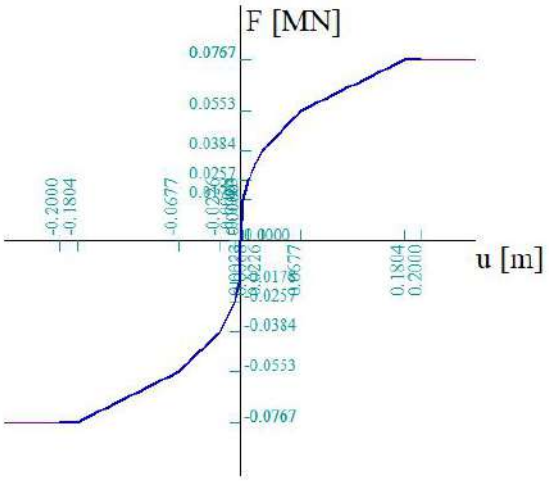

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2 | Verplaatsing | -2,0000e-01[m] / -6,2400e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3 | Verplaatsing | -2,0000e-01[m] / -7,6737e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

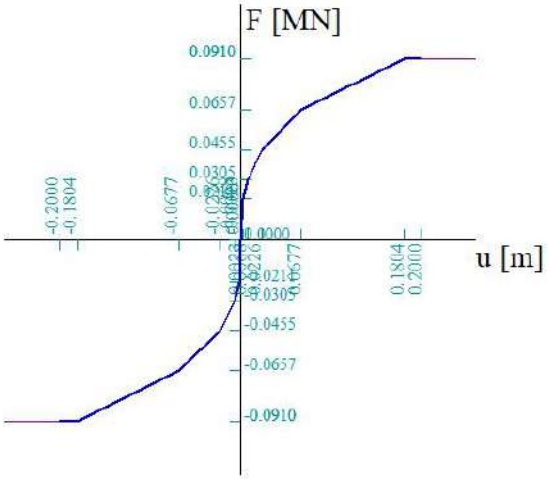
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4 | Verplaatsing | -2,0000e-01[m] / -9,1041e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |

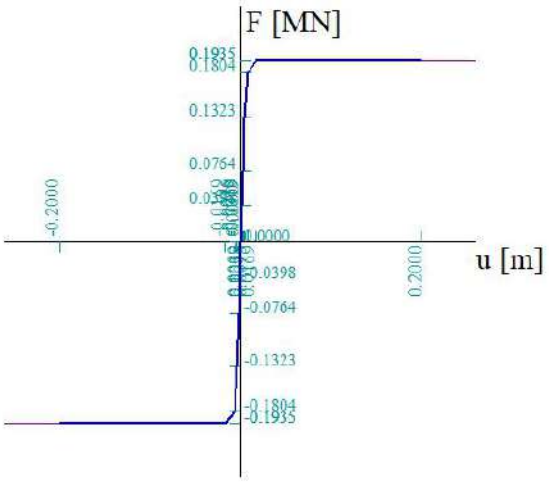
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5 | Verplaatsing | -2,0000e-01[m] / -1,9349e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -1,9349e-01[MN] | | |
| | | -7,5167e-03[m] / -1,8041e-01[MN] | | |
| | | -3,7583e-03[m] / -1,3226e-01[MN] | | |
| | | -1,8792e-03[m] / -7,6422e-02[MN] | | |
| | | -9,3958e-04[m] / -3,9826e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 3,9826e-02[MN] | | |
| | | 1,8792e-03[m] / 7,6422e-02[MN] | | |
| | | 3,7583e-03[m] / 1,3226e-01[MN] | | |
| | | 7,5167e-03[m] / 1,8041e-01[MN] | | |
| | | 1,6913e-02[m] / 1,9349e-01[MN] | | |
| | | 2,0000e-01[m] / 1,9349e-01[MN] | | |

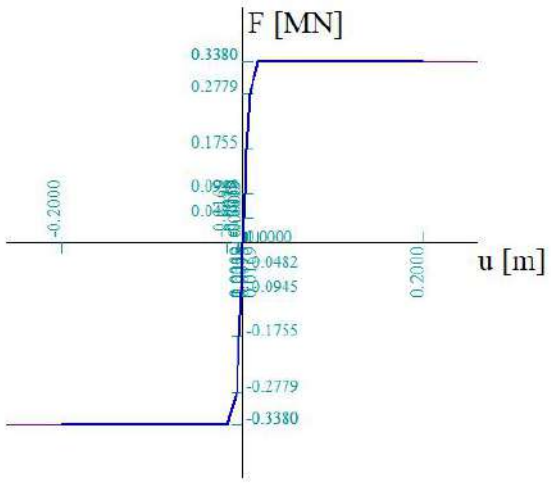
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6 | Verplaatsing | -2,0000e-01[m] / -3,3802e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -3,3802e-01[MN] | | |
| | | -7,5167e-03[m] / -2,7792e-01[MN] | | |
| | | -3,7583e-03[m] / -1,7553e-01[MN] | | |

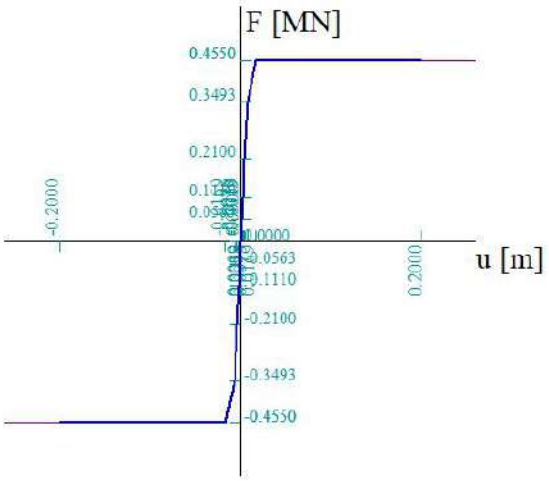
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,8792e-03[m] / -9,4450e-02[MN] | | |
| | | -9,3958e-04[m] / -4,8161e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 4,8161e-02[MN] | | |
| | | 1,8792e-03[m] / 9,4450e-02[MN] | | |
| | | 3,7583e-03[m] / 1,7553e-01[MN] | | |
| | | 7,5167e-03[m] / 2,7792e-01[MN] | | |
| | | 1,6913e-02[m] / 3,3802e-01[MN] | | |
| | | 2,0000e-01[m] / 3,3802e-01[MN] | | |

Tekenen



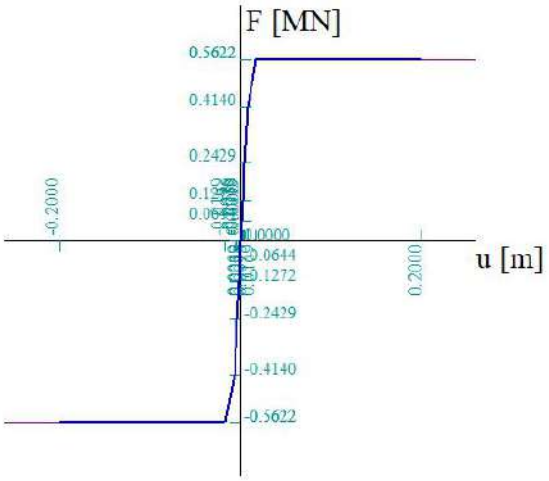

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7 | Verplaatsing | -2,0000e-01[m] / -4,5496e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -4,5496e-01[MN] | | |
| | | -7,5167e-03[m] / -3,4934e-01[MN] | | |
| | | -3,7583e-03[m] / -2,1005e-01[MN] | | |
| | | -1,8792e-03[m] / -1,1096e-01[MN] | | |
| | | -9,3958e-04[m] / -5,6288e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 5,6288e-02[MN] | | |
| | | 1,8792e-03[m] / 1,1096e-01[MN] | | |
| | | 3,7583e-03[m] / 2,1005e-01[MN] | | |
| | | 7,5167e-03[m] / 3,4934e-01[MN] | | |
| | | 1,6913e-02[m] / 4,5496e-01[MN] | | |
| | | 2,0000e-01[m] / 4,5496e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8 | Verplaatsing | -2,0000e-01[m] / -5,6217e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -5,6217e-01[MN] | | |
| | | -7,5167e-03[m] / -4,1399e-01[MN] | | |
| | | -3,7583e-03[m] / -2,4287e-01[MN] | | |
| | | -1,8792e-03[m] / -1,2721e-01[MN] | | |
| | | -9,3958e-04[m] / -6,4380e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 6,4380e-02[MN] | | |
| | | 1,8792e-03[m] / 1,2721e-01[MN] | | |
| | | 3,7583e-03[m] / 2,4287e-01[MN] | | |
| | | 7,5167e-03[m] / 4,1399e-01[MN] | | |
| | | 1,6913e-02[m] / 5,6217e-01[MN] | | |
| | | 2,0000e-01[m] / 5,6217e-01[MN] | | |

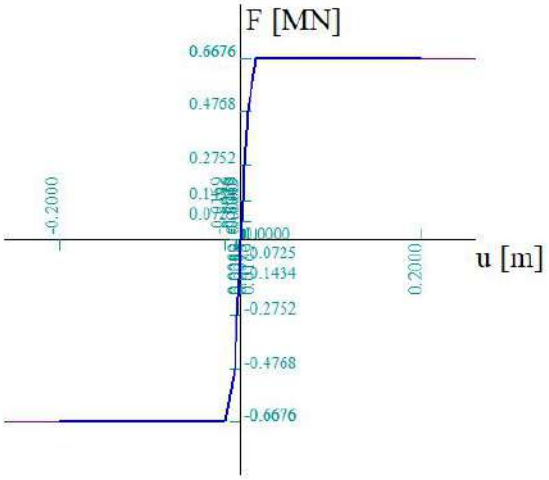
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9 | Verplaatsing | -2,0000e-01[m] / -6,6756e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -6,6756e-01[MN] | | |
| | | -7,5167e-03[m] / -4,7677e-01[MN] | | |
| | | -3,7583e-03[m] / -2,7523e-01[MN] | | |
| | | -1,8792e-03[m] / -1,4339e-01[MN] | | |
| | | -9,3958e-04[m] / -7,2463e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 7,2463e-02[MN] | | |
| | | 1,8792e-03[m] / 1,4339e-01[MN] | | |
| | | 3,7583e-03[m] / 2,7523e-01[MN] | | |

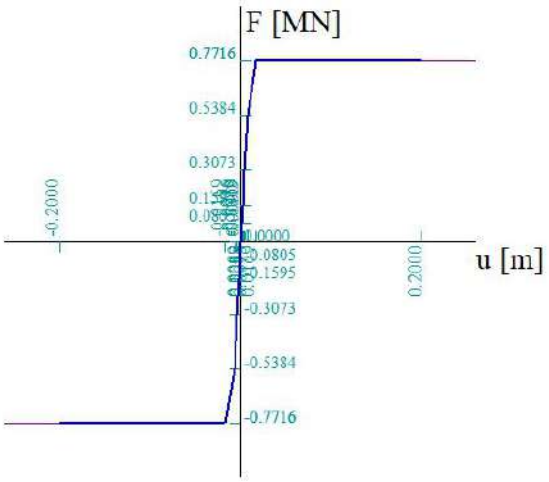
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 7,5167e-03[m] / 4,7677e-01[MN] | | |
| | | 1,6913e-02[m] / 6,6756e-01[MN] | | |
| | | 2,0000e-01[m] / 6,6756e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V10 | Verplaatsing | -2,0000e-01[m] / -7,7164e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -7,7164e-01[MN] | | |
| | | -7,5167e-03[m] / -5,3843e-01[MN] | | |
| | | -3,7583e-03[m] / -3,0734e-01[MN] | | |
| | | -1,8792e-03[m] / -1,5953e-01[MN] | | |
| | | -9,3958e-04[m] / -8,0542e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 8,0542e-02[MN] | | |
| | | 1,8792e-03[m] / 1,5953e-01[MN] | | |
| | | 3,7583e-03[m] / 3,0734e-01[MN] | | |
| | | 7,5167e-03[m] / 5,3843e-01[MN] | | |
| | | 1,6913e-02[m] / 7,7164e-01[MN] | | |
| | | 2,0000e-01[m] / 7,7164e-01[MN] | | |

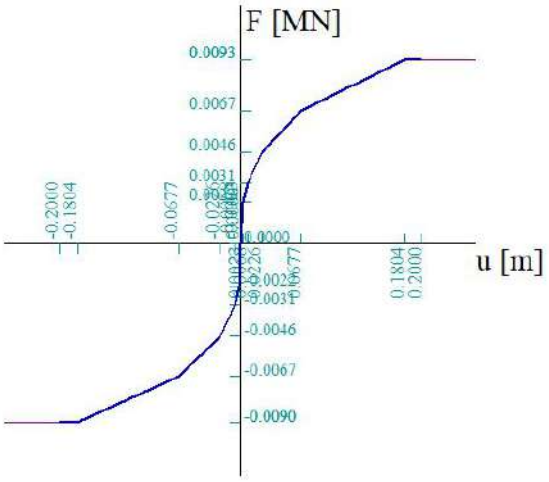
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -2,0000e-01[m] / -9,0000e-03[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |

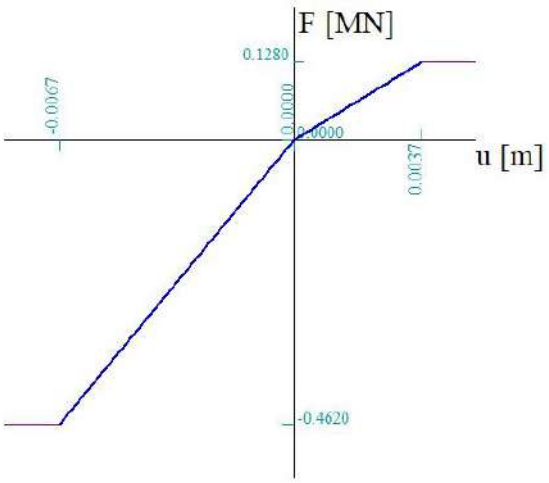
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Tekenen



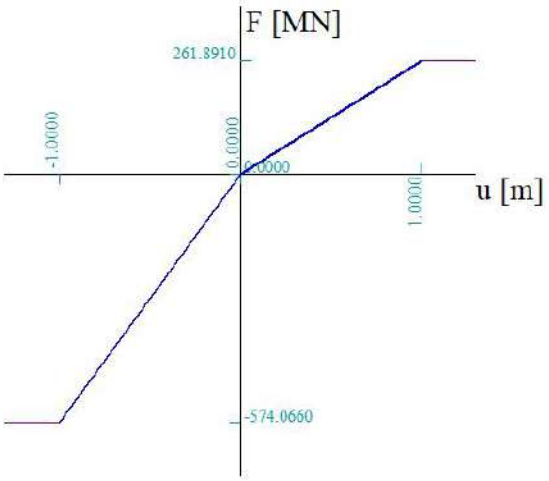

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+0-paalpunt_cap275kN .min.B. | Verplaatsing | -6,7200e-03[m] / -4,6200e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 3,6700e-03[m] / 1,2800e-01[MN] | | |

Tekenen



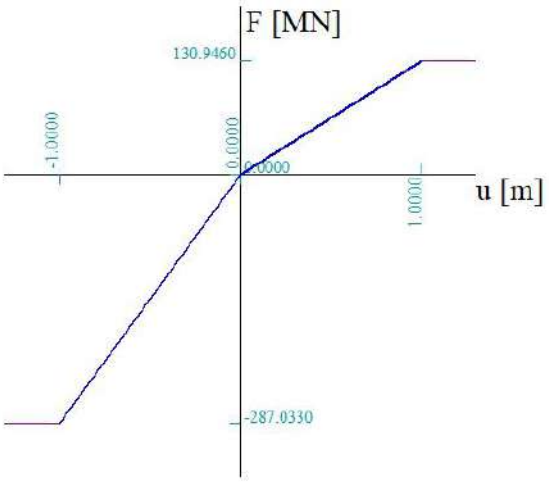

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Verplaatsing | -1,0000e+00[m] / -5,7407e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,6189e+02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Verplaatsing | -1,0000e+00[m] / -2,8703e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,3095e+02[MN] | | |

Tekenen



# 6. Belastingen

## 6.1. Belastingsgevallen

### 6.1.1. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




#### *6.1.1.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1P_X1 | 1P28 | high max Wnd ;45° | GCS | X | Kracht | 41,26 |
| high max Wnd ;45°_1P_Y1 | 1P28 | high max Wnd ;45° | GCS | Y | Kracht | -3,07 |
| high max Wnd ;45°_1P_Z1 | 1P28 | high max Wnd ;45° | GCS | Z | Kracht | 129,71 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Kracht | -140,08 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Kracht | 119,03 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Kracht | 751,28 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Kracht | 77,37 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Kracht | 32,81 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Kracht | -318,55 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Kracht | -175,15 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Kracht | 155,39 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Kracht | -933,71 |

### 6.1.2. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1P_X1 | 1P28 | high max Wnd ;135° | GCS | X | Kracht | 137,96 |
| high max Wnd ;135°_1P_Y1 | 1P28 | high max Wnd ;135° | GCS | Y | Kracht | 116,38 |
| high max Wnd | 1P28 | high max Wnd ;135° | GCS | Z | Kracht | 736,38 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Kracht | -43,60 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Kracht | -0,24 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Kracht | 145,64 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Kracht | 173,48 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Kracht | 151,90 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Kracht | -917,91 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Kracht | -78,78 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Kracht | 36,11 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Kracht | -333,09 |

### 6.1.3. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

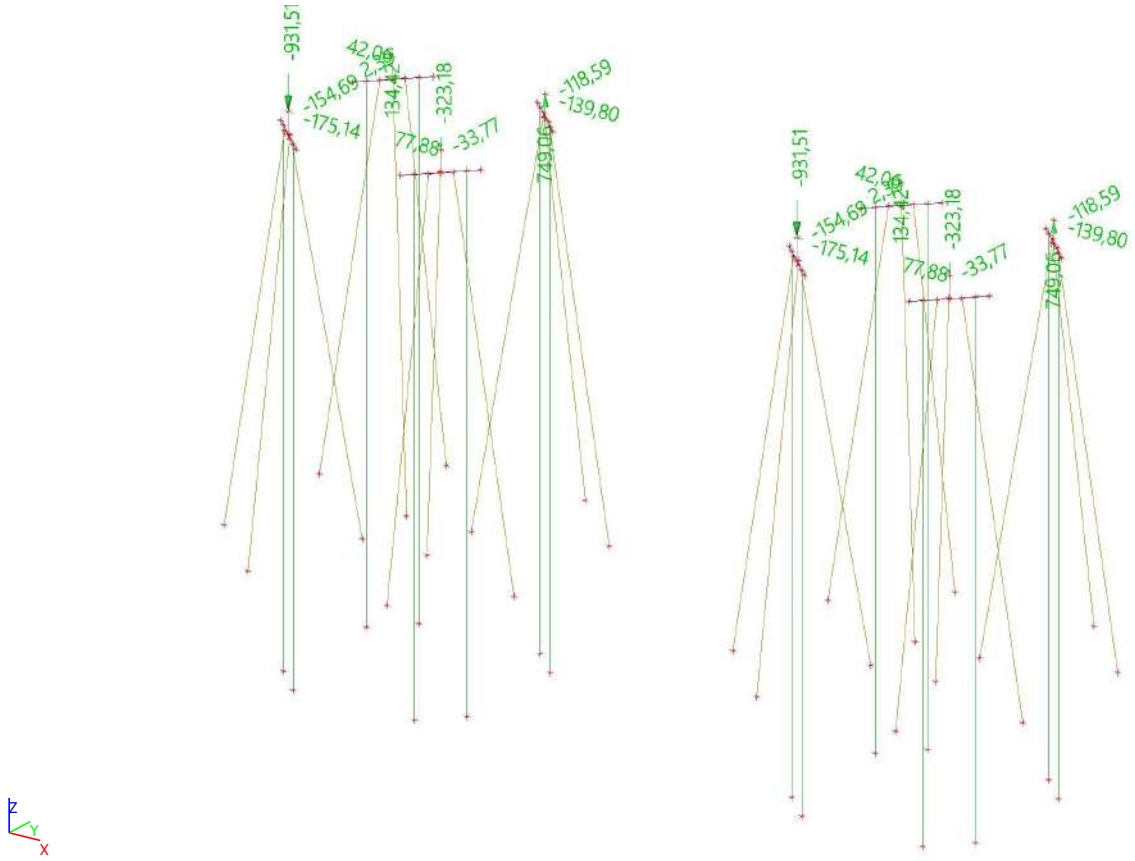


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1P_X1 | 1P28 | high max Wnd ;225° | GCS | X | Kracht | -77,80 |
| high max Wnd ;225°_1P_Y1 | 1P28 | high max Wnd ;225° | GCS | Y | Kracht | -35,40 |
| high max Wnd ;225°_1P_Z1 | 1P28 | high max Wnd ;225° | GCS | Z | Kracht | -327,48 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Kracht | 172,20 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Kracht | -151,54 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Kracht | -912,42 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Kracht | -40,97 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Kracht | 1,76 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Kracht | 133,77 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Kracht | 135,71 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Kracht | -114,51 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Kracht | 724,55 |

### 6.1.4. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1P_X1 | 1P28 | high max Wnd ;315° | GCS | X | Kracht | -175,14 |
| high max Wnd ;315°_1P_Y1 | 1P28 | high max Wnd ;315° | GCS | Y | Kracht | -154,69 |
| high max Wnd | 1P28 | high max Wnd ;315° | GCS | Z | Kracht | -931,51 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Kracht | 77,88 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Kracht | -33,77 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Kracht | -323,18 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Kracht | -139,80 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Kracht | -118,59 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Kracht | 749,06 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Kracht | 42,06 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Kracht | 2,39 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Kracht | 134,42 |

### 6.1.5. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

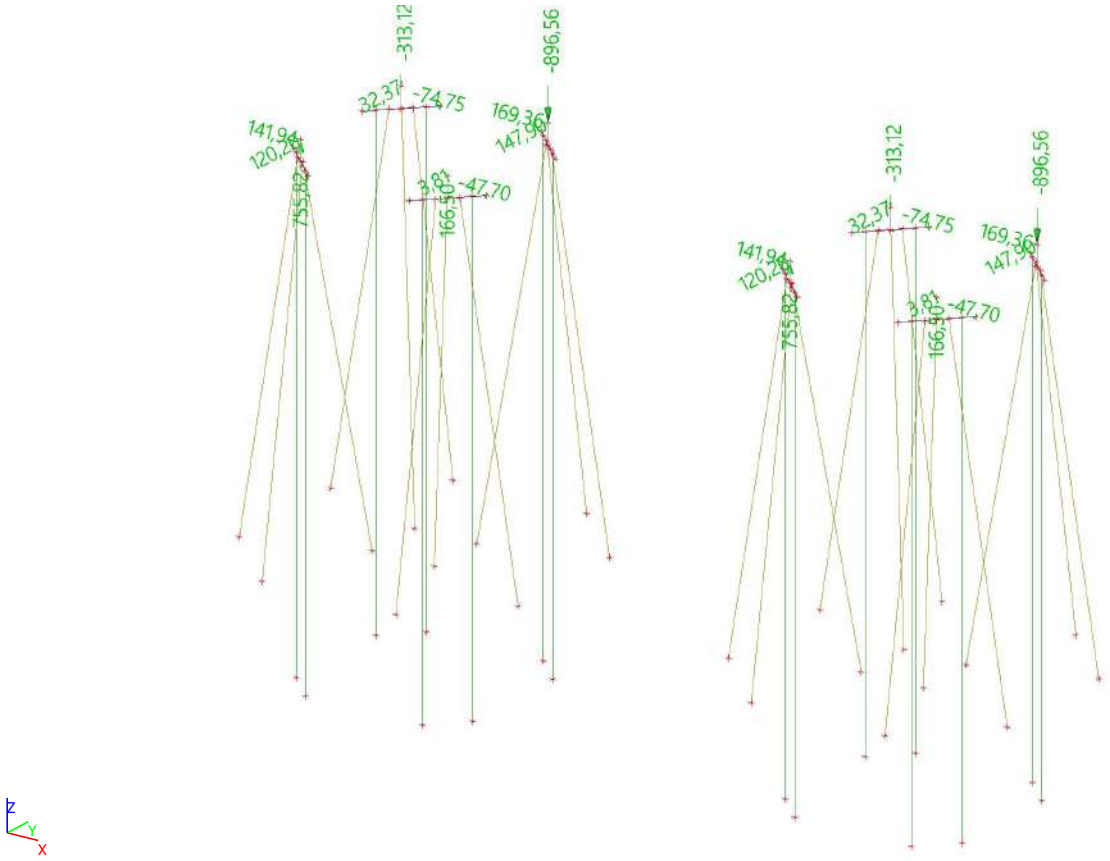


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1P_X1 | 1P28 | low max Wnd ;45° | GCS | X | Kracht | 45,07 |
| low max Wnd ;45°_1P_Y1 | 1P28 | low max Wnd ;45° | GCS | Y | Kracht | 0,63 |
| low max Wnd ;45°_1P_Z1 | 1P28 | low max Wnd ;45° | GCS | Z | Kracht | 148,59 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Kracht | -144,34 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Kracht | 123,20 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Kracht | 772,62 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Kracht | 73,13 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Kracht | 28,63 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Kracht | -296,63 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Kracht | -171,23 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Kracht | 151,81 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Kracht | -914,24 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1P_X1 | 1P28 | low max Wnd ;135° | GCS | X | Kracht | 141,94 |
| low max Wnd ;135°_1P_Y1 | 1P28 | low max Wnd ;135° | GCS | Y | Kracht | 120,20 |
| low max Wnd | 1P28 | low max Wnd ;135° | GCS | Z | Kracht | 755,82 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Kracht | -47,70 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Kracht | 3,81 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Kracht | 166,50 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Kracht | 169,36 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Kracht | 147,90 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Kracht | -896,56 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Kracht | -74,75 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Kracht | -313,12 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1P_X1 | 1P28 | low max Wnd ;225° | GCS | X | Kracht | -69,77 |
| low max Wnd ;225°_1P_Y1 | 1P28 | low max Wnd ;225° | GCS | Y | Kracht | -28,05 |
| low max Wnd ;225°_1P_Z1 | 1P28 | low max Wnd ;225° | GCS | Z | Kracht | -284,86 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Kracht | 166,22 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Kracht | -147,13 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Kracht | -884,65 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Kracht | -42,70 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Kracht | -0,21 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Kracht | 140,19 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Kracht | 139,35 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Kracht | -119,60 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Kracht | 745,81 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1P_X1 | 1P28 | low max Wnd ;315° | GCS | X | Kracht | -171,07 |
| low max Wnd ;315°_1P_Y1 | 1P28 | low max Wnd ;315° | GCS | Y | Kracht | -150,84 |
| low max Wnd | 1P28 | low max Wnd ;315° | GCS | Z | Kracht | -910,75 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Kracht | 73,73 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Kracht | -29,84 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Kracht | -302,29 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Kracht | -143,87 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Kracht | -122,54 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Kracht | 769,08 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Kracht | 46,01 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Kracht | -1,51 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Kracht | 154,35 |

### 6.1.9. Belastingsgevallen - EG_fundering

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |



## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Resultaatklasses

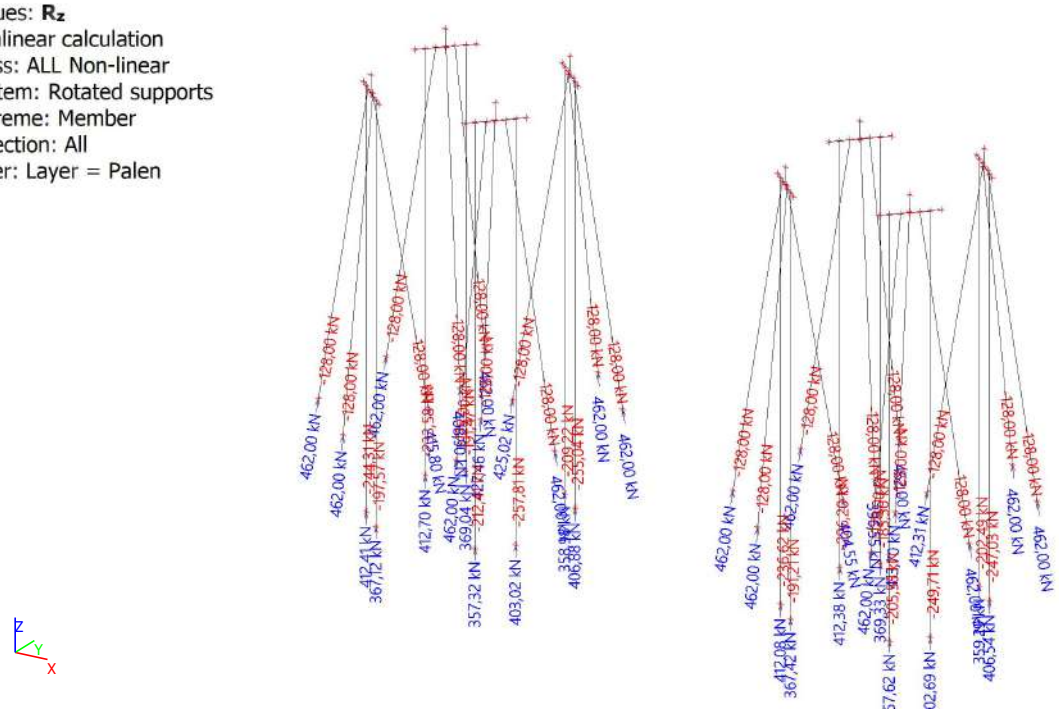
| Naam | Lijst |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen



### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_6/N65 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 412,31 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 401,55 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 413,70 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 408,90 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear

Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS273.0/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-257,81** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **412,70** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 63,69 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | 203,17 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **462,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 413,26 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **415,80** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 115,16 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 244,57 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_1/N12 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 191,77 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 119,05 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **427,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 103,72 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 61,68 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 96,42 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 115,63 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **425,02** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 216,81 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 62,08 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 116,28 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_2/N21 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **408,90** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | -3,45 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **357,32** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-212,41** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **403,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-257,81** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-197,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **367,12** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-244,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **412,41** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-191,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **369,04** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-233,58** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **412,70** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-255,04** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **406,88** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-209,22** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_10/N42 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **358,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 204,82 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_4/N57 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 257,29 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **462,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 103,87 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 401,55 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;135° - EG_ongunstig | 0,00 | 0,00 | **404,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 0,69 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 256,38 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 168,51 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **413,70** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 108,41 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_5/N64 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 199,60 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

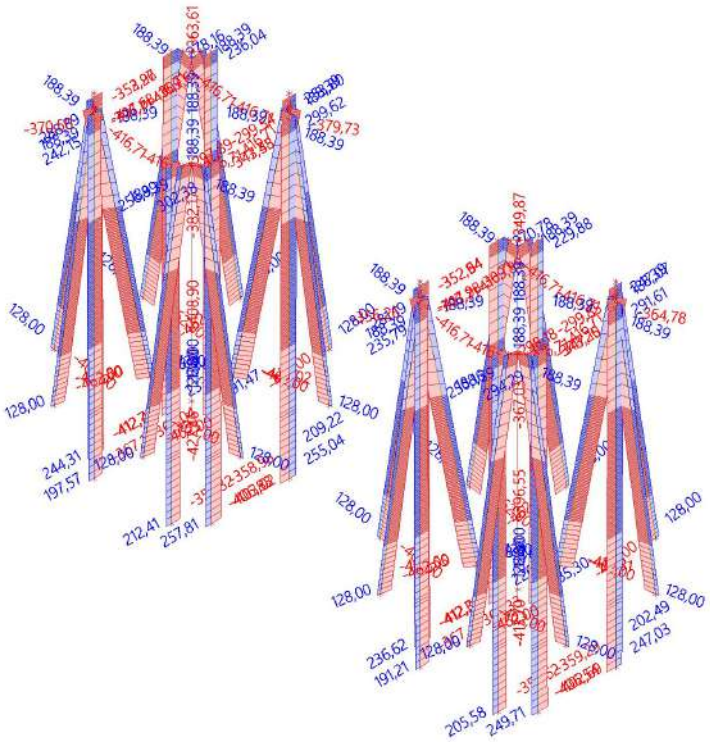
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_4/N63 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 254,59 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 13,15 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 410,08 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 123,12 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | **412,31** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 259,97 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **462,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **-128,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 105,28 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 395,16 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;225° - EG_ongunstig | 0,00 | 0,00 | **396,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 123,77 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **357,62** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-205,58** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **402,69** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-249,71** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_17/N74 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-191,21** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_17/N74 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **367,42** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_18/N76 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-236,62** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_18/N76 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **412,08** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_19/N78 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-185,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_19/N78 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **369,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_20/N80 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-226,20** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_20/N80 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **412,38** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_22/N84 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-247,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_22/N84 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **406,54** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_21/N82 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-202,49** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_21/N82 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **359,29** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

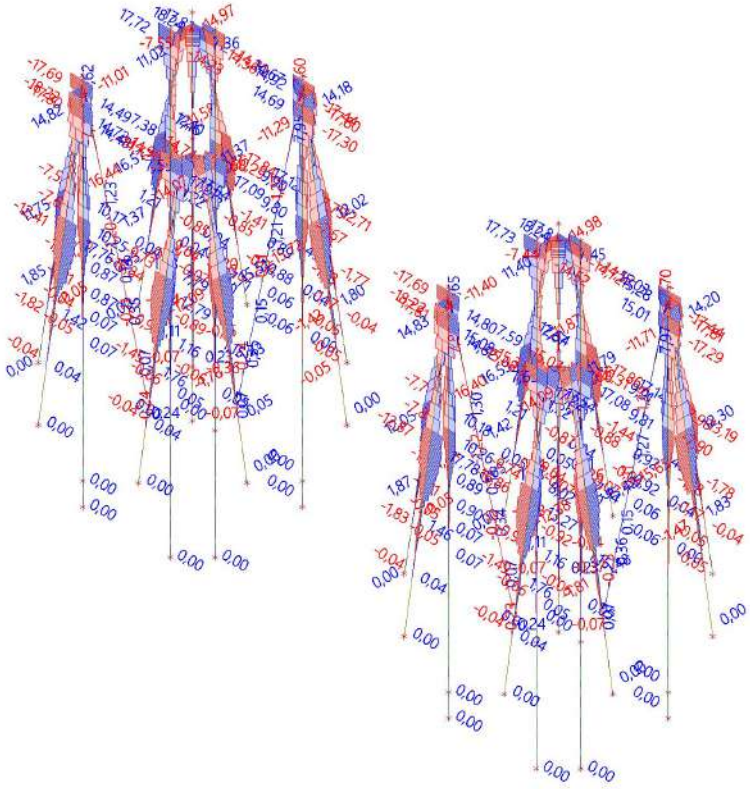
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



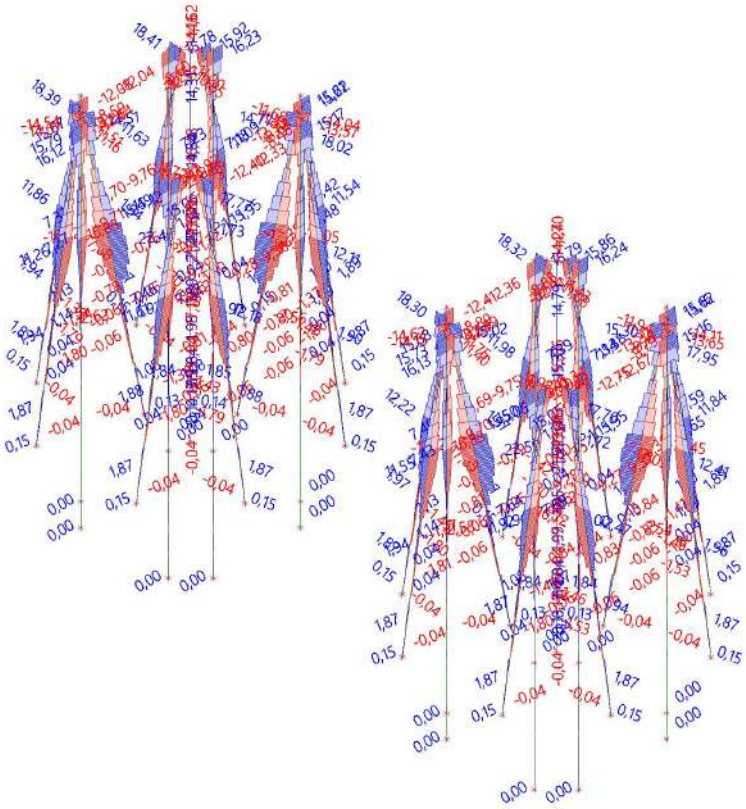
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



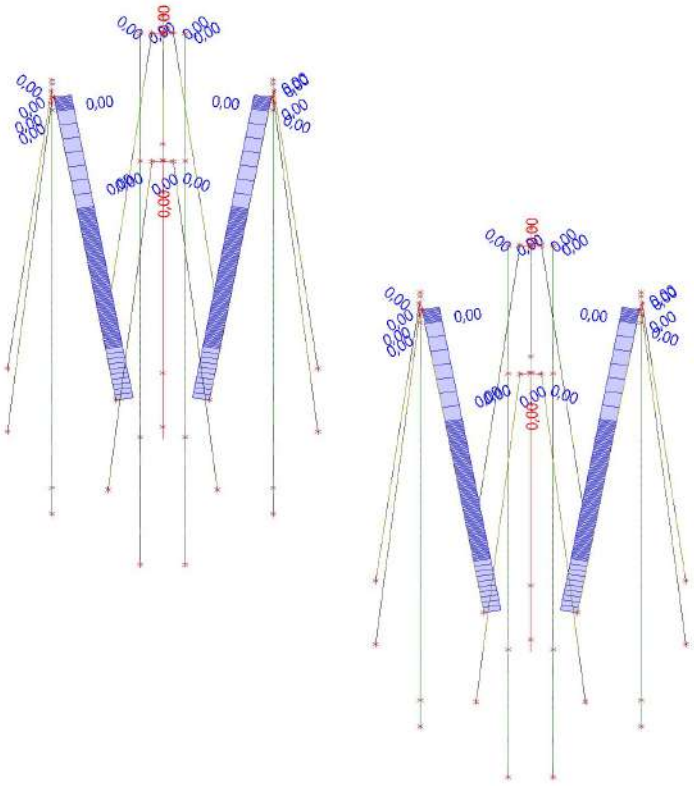
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



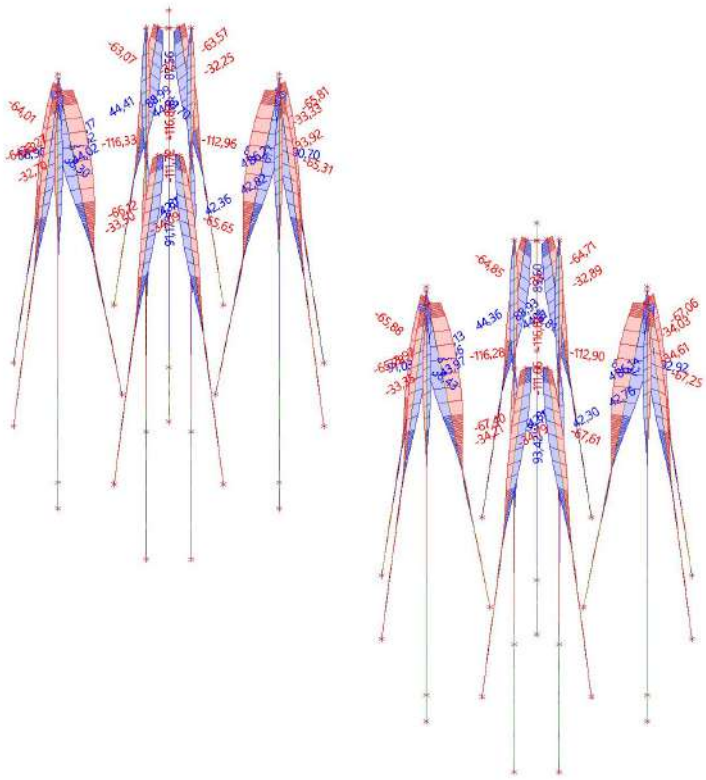
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



### 7.2.5. Interne 1D- krachten; M_y

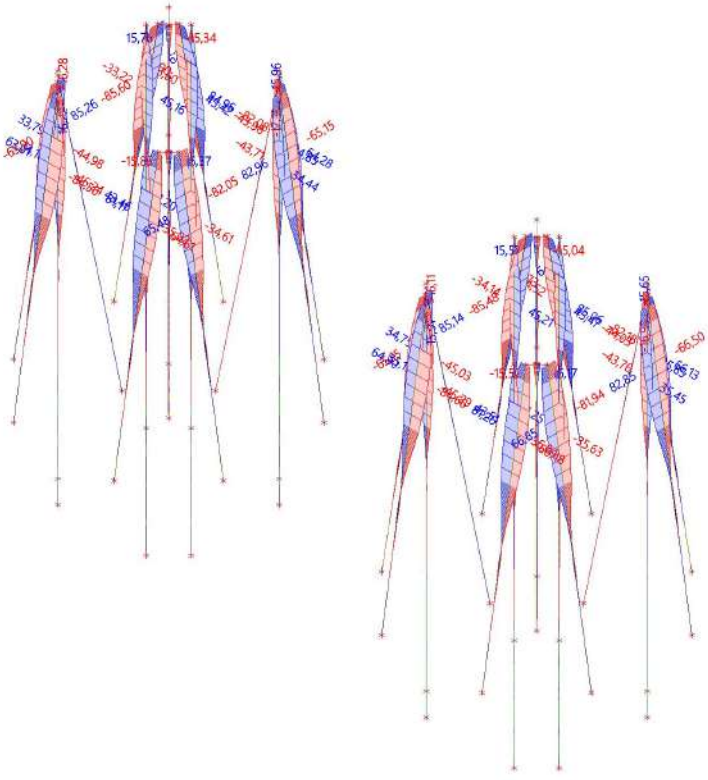
Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen





### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen





### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 21,678 | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-462,00** | 0,00 | 0,15 | 0,00 | 0,00 | 0,00 |
| Paal_P_4 | 0,000 | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -401,61 | **-18,22** | 15,73 | 0,00 | 53,09 | -36,40 |
| Paal_Y_5 | 0,000 | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -401,61 | **18,24** | 15,86 | 0,00 | 53,06 | 36,75 |
| Paal_Y_3 | 9,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -427,38 | 16,57 | **-17,70** | 0,00 | 42,73 | -39,79 |
| Paal_Y_6 | 9,500+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 161,23 | 1,14 | **22,63** | **0,00** | -50,03 | -2,32 |
| Paal_P_2 | 0,000 | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **188,39** | 7,62 | -14,07 | **0,00** | -84,29 | -16,28 |
| Paal_Y_2 | 4,000- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 178,64 | -2,23 | -0,71 | 0,00 | **-116,87** | -4,22 |
| Paal_X_14 | 4,000- | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -374,35 | 2,24 | 0,93 | 0,00 | **93,42** | 5,03 |
| Paal_Y_3 | 3,625- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -410,49 | -3,31 | 5,06 | 0,00 | 88,21 | **-85,60** |
| Paal_P_1 | 3,625- | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -410,49 | 3,20 | 5,06 | 0,00 | 87,81 | **85,26** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS273.0/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_9 | 28,500 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | **-412,70** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_5 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS273.0/10.0) | **302,38** | -14,74 | -12,40 | **0,00** | -5,34 | 2,51 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_17 | 0,000 | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | -307,98 | **-17,81** | 16,13 | 0,00 | 3,52 | 1,52 |
| Paal_X_15 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS273.0/10.0) | 250,16 | -15,08 | **-13,34** | 0,00 | -2,37 | 2,07 |
| Paal_X_19 | 0,000 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | -309,89 | **17,84** | **16,24** | 0,00 | 3,39 | -1,40 |
| Paal_X_16 | 3,625- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS273.0/10.0) | 289,30 | -4,37 | -2,65 | 0,00 | **-34,79** | -34,83 |
| Paal_X_9 | 4,500- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | -361,73 | 1,75 | 0,44 | 0,00 | **44,41** | 45,16 |
| Paal_X_17 | 4,500- | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | -316,45 | -1,80 | 0,74 | 0,00 | 43,97 | **-45,29** |
| Paal_X_19 | 4,500- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS273.0/10.0) | -318,36 | 1,80 | 0,79 | 0,00 | 44,21 | **45,47** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

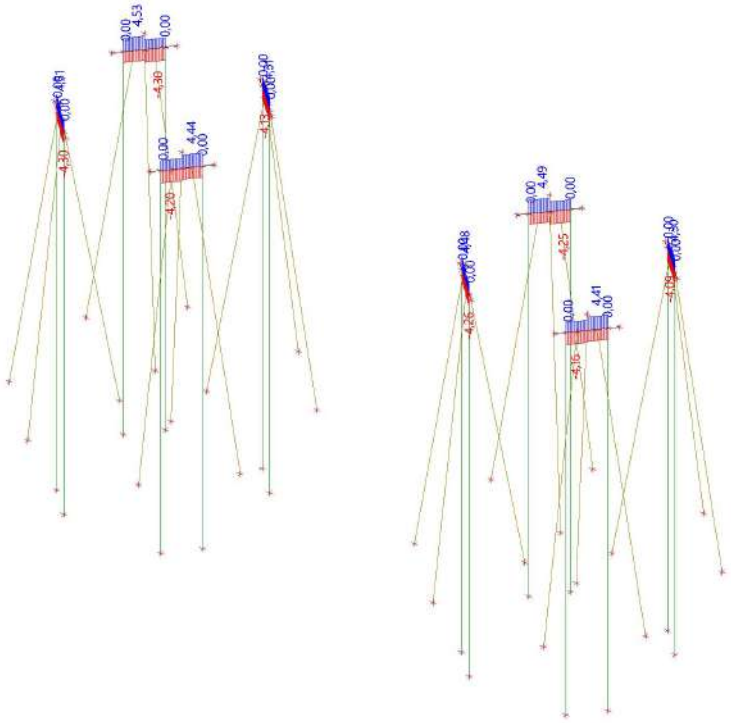
Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Poer - Rectangle (2200,00; 1060,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer X | 1,200 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | **772,62** | -189,18 | -14,95 | **0,00** | 0,00 | 0,00 |
| Poer X | 0,000 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | 742,85 | **-189,18** | -14,95 | 0,00 | 17,94 | **227,02** |
| Poer XY | 0,000 | high max Wnd ;45° - EG_ongunstig | Poer - Rectangle (2200,00; 1060,00) | -358,24 | 77,91 | **-31,51** | 0,00 | **37,81** | -93,49 |
| Poer P | 0,000 | low max Wnd ;45° - EG_gunstig | Poer - Rectangle (2200,00; 1060,00) | 118,82 | -32,31 | **31,42** | 0,00 | **-37,71** | 38,78 |
| Poer Y | 0,000 | high max Wnd ;45° - EG_ongunstig | Poer - Rectangle (2200,00; 1060,00) | **-973,40** | **233,73** | 13,97 | 0,00 | -16,77 | **-280,47** |

## 7.4. Krachten van de Funderingsbalken

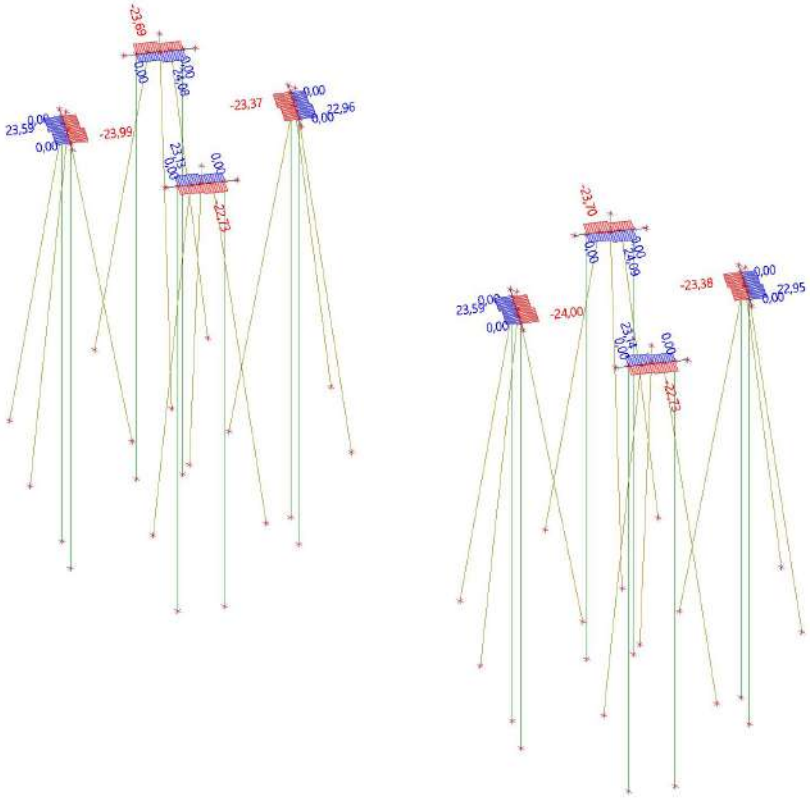
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



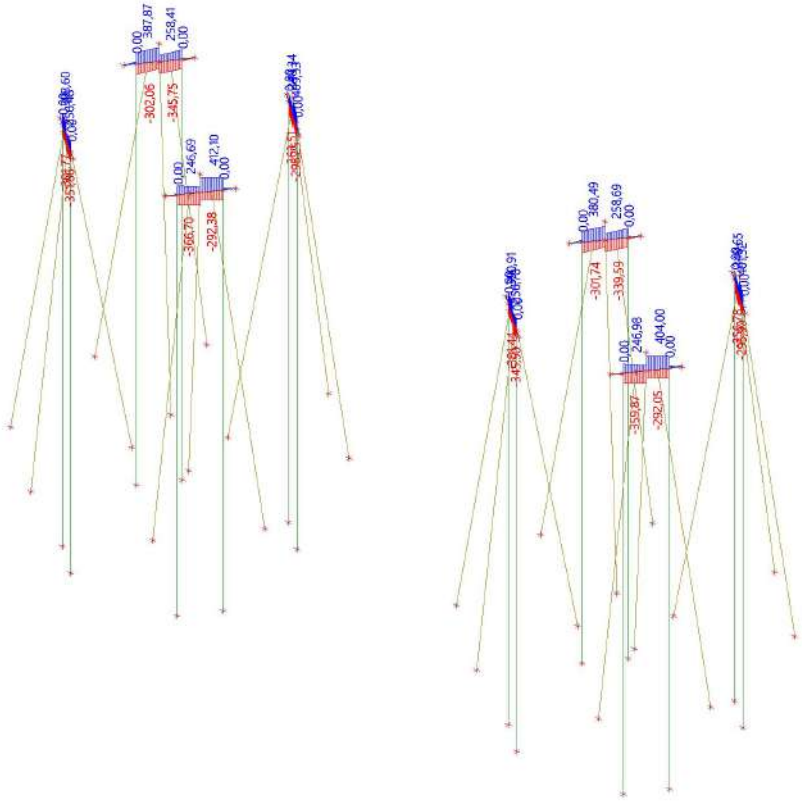
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



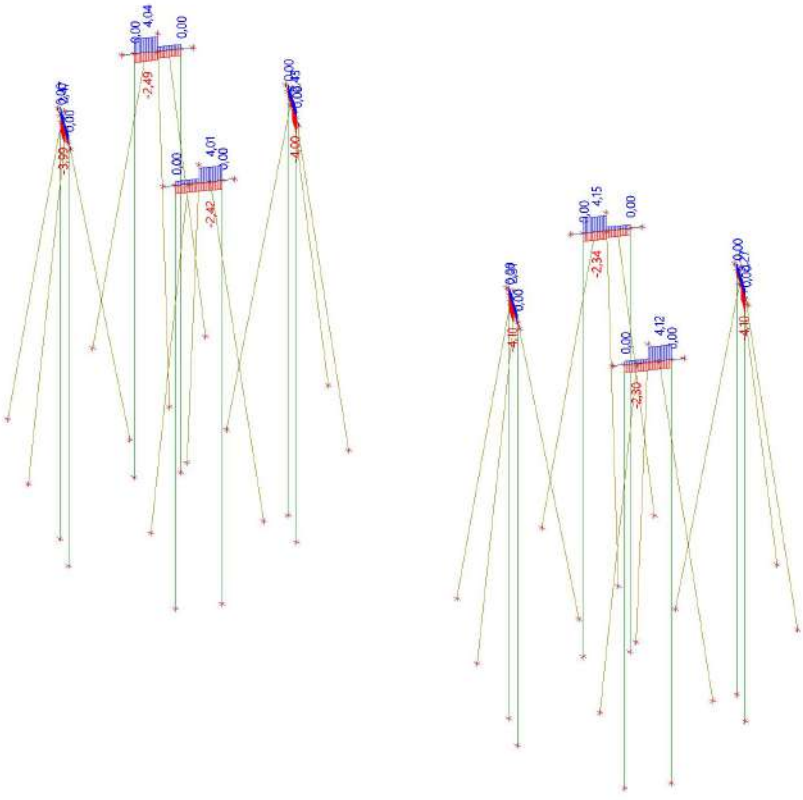
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



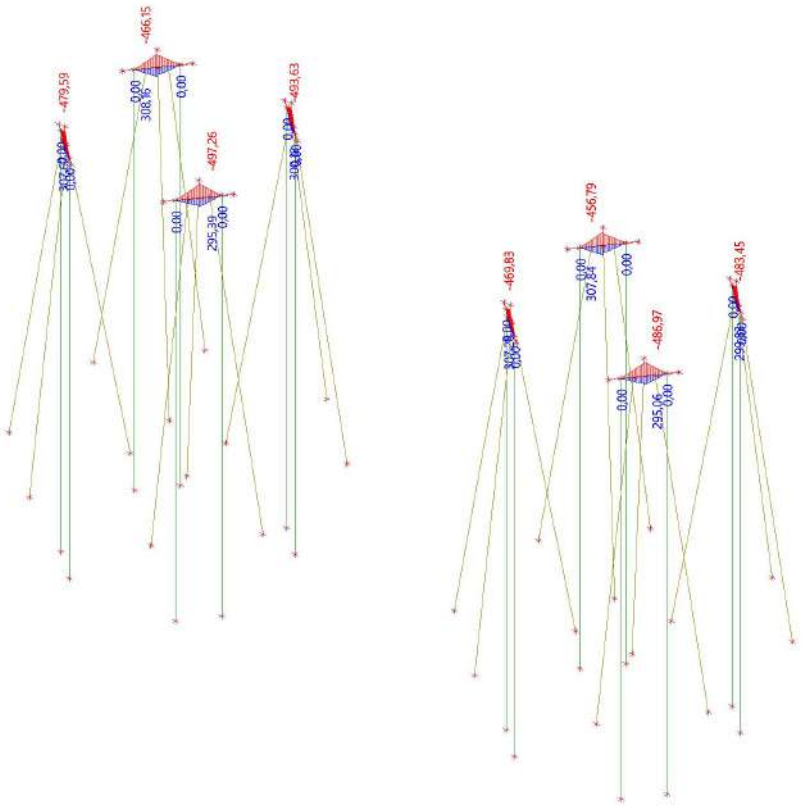
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

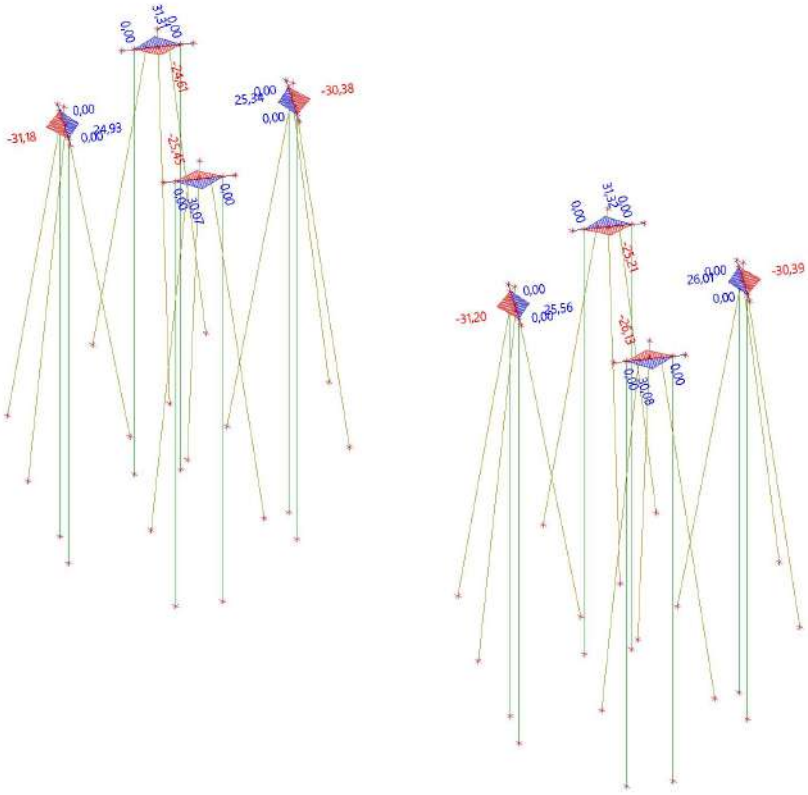






### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = lijnpoer - Rectangle (1100,00; 2260,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal18 | 0,700+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **-4,30** | 3,42 | 66,93 | 0,11 | -26,14 | 0,00 |
| Paal19 | 2,000+ | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **4,53** | 3,37 | 82,57 | -1,64 | -65,54 | -4,38 |
| Paal15 | 2,000- | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,23 | -19,58 | **-366,70** | 0,62 | -447,12 | -25,45 |
| Paal24 | 2,000+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -3,76 | 6,51 | -63,98 | **-4,10** | 118,12 | -8,47 |
| Paal23 | 2,000+ | high max Wnd ;135° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -3,57 | -6,79 | -66,14 | **4,15** | 121,30 | 8,83 |
| Paal15 | 2,000+ | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,65 | 19,19 | **412,10** | -2,00 | **-497,26** | -24,94 |
| Paal19 | 2,000+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,37 | -23,69 | -206,98 | 2,91 | **308,16** | 30,80 |
| Paal22 | 2,000- | high max Wnd ;315° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,19 | **-24,00** | 161,70 | 1,42 | 257,65 | **-31,20** |
| Paal23 | 2,000- | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,13 | **24,09** | 163,61 | -1,41 | 259,96 | **31,32** |

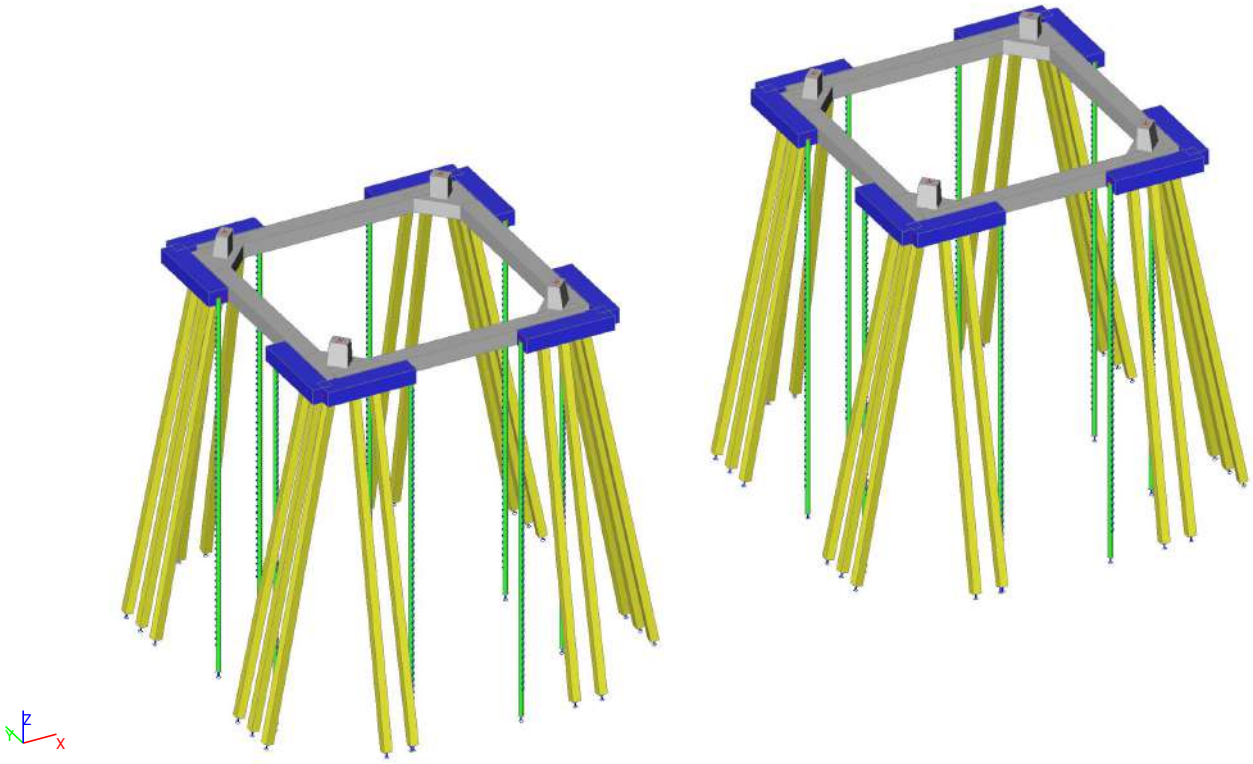
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
4.1. Materialen 3
4.2. Doorsneden 3
4.3. Analyse model met doorsneden 5
4.4. Analyse model met doorsneden 5
4.5. Instellingen net 6
5. Geometrie 6
5.1. Knopen 6
5.2. Analyse model met knopen 8
5.3. Staven 8
5.4. Analyse model met Staven 10
5.5. Knoopsteunpunten 10
5.6. Analyse model met Knoopondersteuningen 11
5.7. Lijnsteunpunten op staven 12
5.8. Analyse model met Lijnondersteuningen 31
5.9. Analyse model met Lijnondersteuningen 32
5.10. Niet-lineaire functies 32
6. Belastingen 50
6.1. Belastingsgevallen 50
6.1.1. Belastingsgevallen - E.G. 50
6.1.2. Belastingsgevallen - hL Bck + Wnd ;135° 50
6.1.2.1. Puntlast op knoop 51
6.1.3. Belastingsgevallen - hL Bck + Wnd ;270° 52
6.1.3.1. Puntlast op knoop 53
6.1.4. Belastingsgevallen - hL Ahd + Wnd ;315° 53
6.1.4.1. Puntlast op knoop 54
6.1.5. Belastingsgevallen - hL Ahd + Wnd ;45° 55
6.1.5.1. Puntlast op knoop 56
6.2. Niet-lineaire combinaties 56
6.3. Resultaatklasses 57
7. Resultaten 58
7.1. Reacties van de palen 58
7.1.1. Reactions; R_z 58
7.1.2. Reacties 58
7.1.3. Reacties 58
7.1.4. Reacties 59
7.2. Krachten van de Funderingspalen 63
7.2.1. Interne 1D- krachten; N 63
7.2.2. Interne 1D- krachten; V_y 63
7.2.3. Interne 1D- krachten; V_z 64
7.2.4. Interne 1D- krachten; M_x 64
7.2.5. Interne 1D- krachten; M_y 65
7.2.6. Interne 1D- krachten; M_z 65
7.2.7. Interne 1D-krachten 66
7.2.8. Interne 1D-krachten 66
7.3. Krachten van de Poeren 68
7.3.1. Interne 1D-krachten 68
7.4. Krachten van de Funderingsbalken 69
7.4.1. Interne 1D- krachten; N 69
7.4.2. Interne 1D- krachten; V_y 69
7.4.3. Interne 1D- krachten; V_z 70
7.4.4. Interne 1D- krachten; M_x 70
7.4.5. Interne 1D- krachten; M_y 71
7.4.6. Interne 1D- krachten; M_z 71
7.4.7. Interne 1D-krachten 72
7.4.8. Interne 1D-krachten 72

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-DIM 380kV |
| Onderdeel | Balkrooster 5xBeton40x40 mast 37 |
| Auteur | [redacted] |
| Datum | 30-4-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 168 |
| Aantal staven : | 88 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 5 |
| Aantal belastingsgevallen : | 5 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,810 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materialen

Staal EC3

| Naam | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Onderlimiet [mm] | Bovenlimiet [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |

| Naam | Type | ρ [kg/m³] | Dichtheid in natte toestand [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| C20/25 Ongescheurd | Beton | 1500,0 | 2600,0 | 2,4000e+04 | 0.2 | 0,00 | 20,00 | |
| C20/25 Gescheurd | Beton | 2500,0 | 2600,0 | 8,0000e+03 | 0.2 | 0,00 | 20,00 | |
| C30/37 Gescheurd | Beton | 2500,0 | 2600,0 | 1,1000e+04 | 0.2 | 0,00 | 30,00 | |
| C30/37 | Beton | 2400,0 | 2600,0 | 3,2800e+04 | 0.2 | 0,00 | 30,00 | |

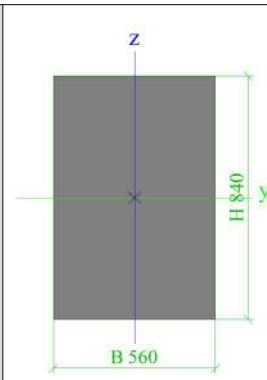
| Verklaring van symbolen | |
|---|---|
| Dichtheid in natte toestand | De waarde van de dichtheid van het kenmerk nieuwe toestand wordt alleen gebruikt als een samengesteld dek wordt ingevoerd en rekening wordt gehouden met de belasting van het eigengewicht. |

Wapening EC2

| Naam | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 500B | Betonstaal | 7850,0 | 2,0000e+05 | 8,3333e+04 | 0,00 | 500,0 |

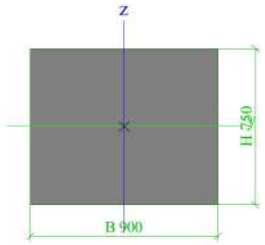
## 4.2. Doorsneden

| Poer.Opstort | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 840; 560 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 4,7040e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 3,9200e-01 | 3,9200e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,8000e+00 | 2,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 280 | 420 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,7660e-02 | 1,2293e-02 |
| $i_y$ [mm], $i_z$ [mm] | 242 | 162 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 6,5856e-02 | 4,3904e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 2,8888e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

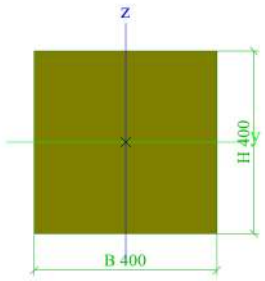
| Afbeelding |  | |
|---|---|---|



| Balk | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 750; 900 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 6,7500e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 5,6250e-01 | 5,6250e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,3000e+00 | 3,3000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,1641e-02 | 4,5563e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 260 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 8,4375e-02 | 1,0125e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |

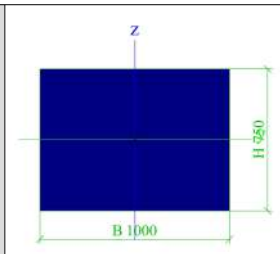
| | | |
|---|---|---|
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 6,3112e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |



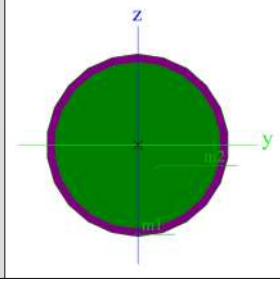
| **Funderingspaal** | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 400; 400 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Ongescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 1,6000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 1,3333e-01 | 1,3333e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,6000e+00 | 1,6000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 200 | 200 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,1333e-03 | 2,1333e-03 |
| $i_y$ [mm], $i_z$ [mm] | 115 | 115 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 1,0667e-02 | 1,0667e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 3,6027e-03 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |



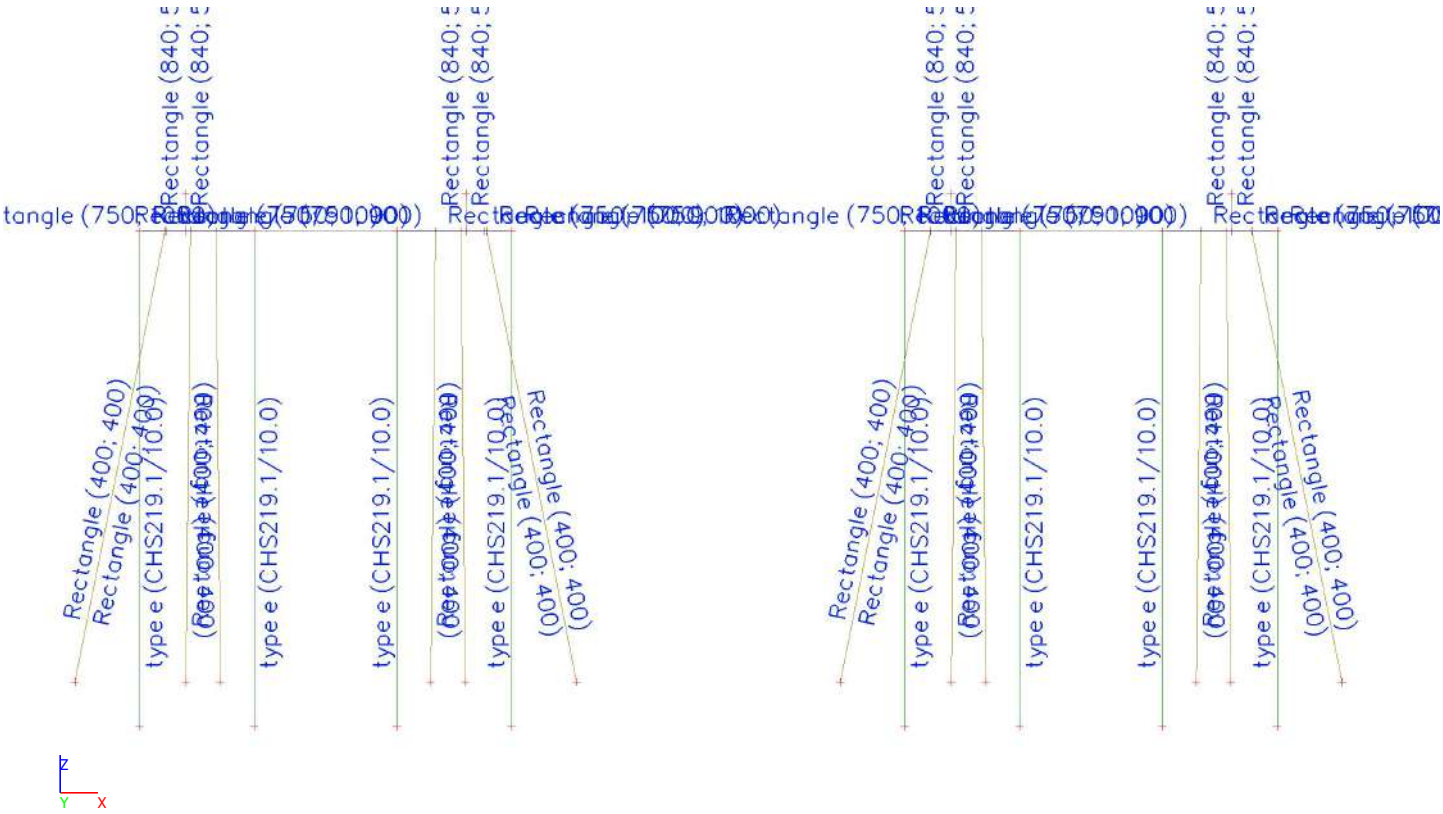
| **Ringbalk** | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 750; 1000 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C30/37 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 7,5000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 6,2517e-01 | 6,2531e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,5000e+00 | 3,5000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,5156e-02 | 6,2500e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 289 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 9,3750e-02 | 1,2500e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 7,6159e-02 | 2,7801e-04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| Afbeelding | | |
|---|---|---|
| |  | |

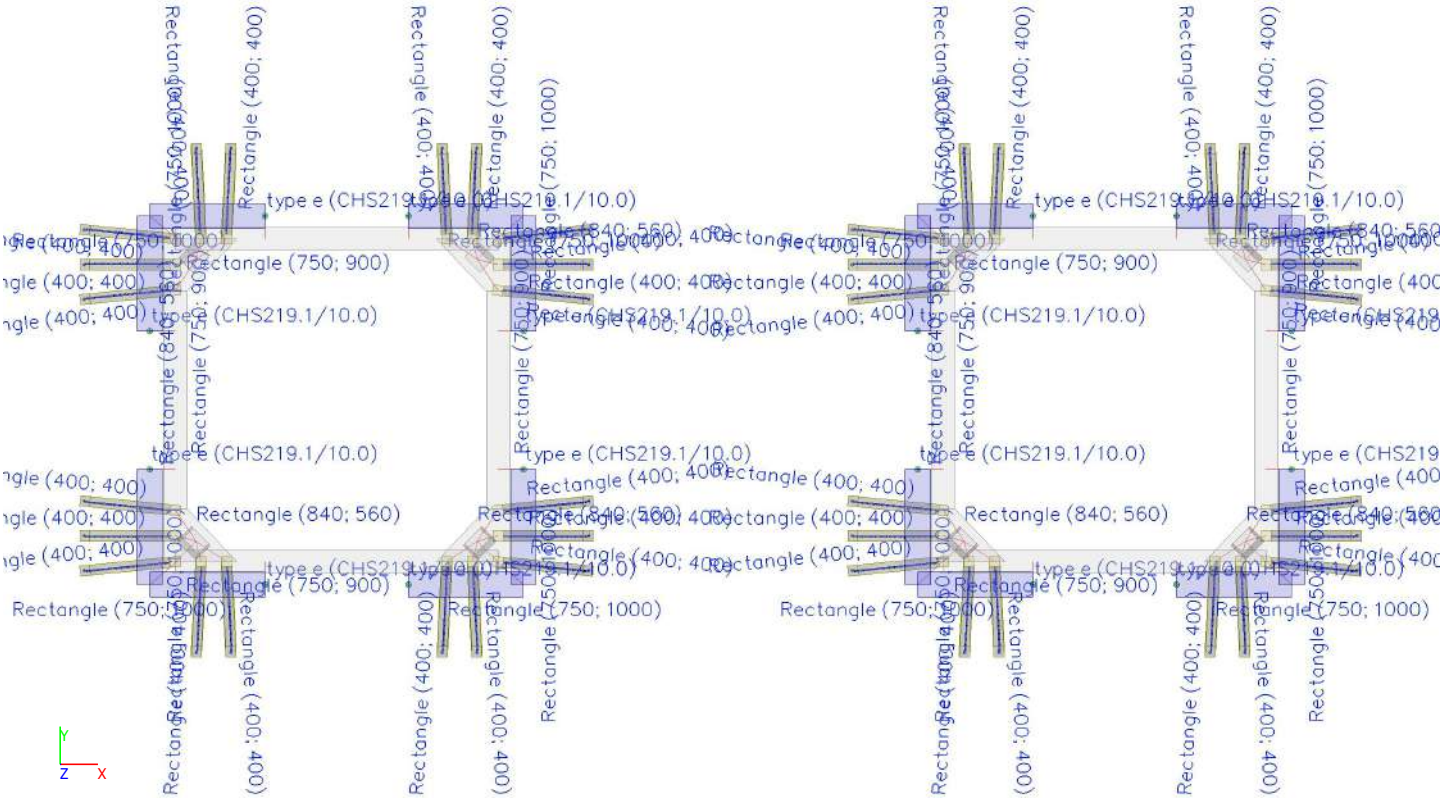


| **LEKA Paal** | | |
|---|---|---|
| Type | type e | |
| Gedetailleerd | CHS219.1/10.0 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | S 235 | |
| | C30/37 | |
| Bouwwijze | beton | |
| Knik y-y, Knik z-z | a | a |
| A [m²] | 1,1430e-02 | |
| $A_y$ [m²], $A_z$ [m²] | 8,7249e-03 | 8,7249e-03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 110 | 110 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 4,8013e-05 | 4,8013e-05 |
| $i_y$ [mm], $i_z$ [mm] | 65 | 65 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 4,3827e-04 | 4,3827e-04 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 4,9123e-04 | 4,9123e-04 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 9,8040e-05 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Instellingen net

| Naam | NetInstelling1 |
|---|---|
| Generatie van variabele excentriciteiten op elementen in plaats van constante excentriciteiten | × |
| Generatie van knopen op staven | × |
| Elastisch net | ✓ |
| Pas automatische netverfijning toe | × |
| Constructie-entiteiten verbinden | ✓ |
| Verdeling op consoles en variabele staven | 5 |
| Verdeling voor integratiestrook en 2D-1D upgrade | 50 |
| Gemiddeld aantal 1D-netelementen op rechte 1D-elementen | 5 |
| Gemiddelde grootte van 2D-netelement [m] | 0,250 |
| Gemiddelde grootte van 1D-element op gebogen 1D-elementen [m] | 0,200 |
| Minimum lengte van staafelement [m] | 0,100 |
| Maximum lengte van staafelement [m] | 1000,000 |
| Gemiddelde grootte van voorspankabels, elementen op elastische bedding, niet-lineaire grondveer [m] | 1,000 |
| Maximale hoek uit het vlak van vierhoekig element [mrad] | 30,0 |
| Minimale afstand tussen definitiepunt en -lijn [m] | 0,001 |
| Gemiddelde afmeting van paneelelement [m] | 1,000 |
| Netverfijning volgens het liggertype | Geen |
| Definitie van netelementen afmetingen voor panelen | Handmatig |

# 5. Geometrie

## 5.1. Knopen

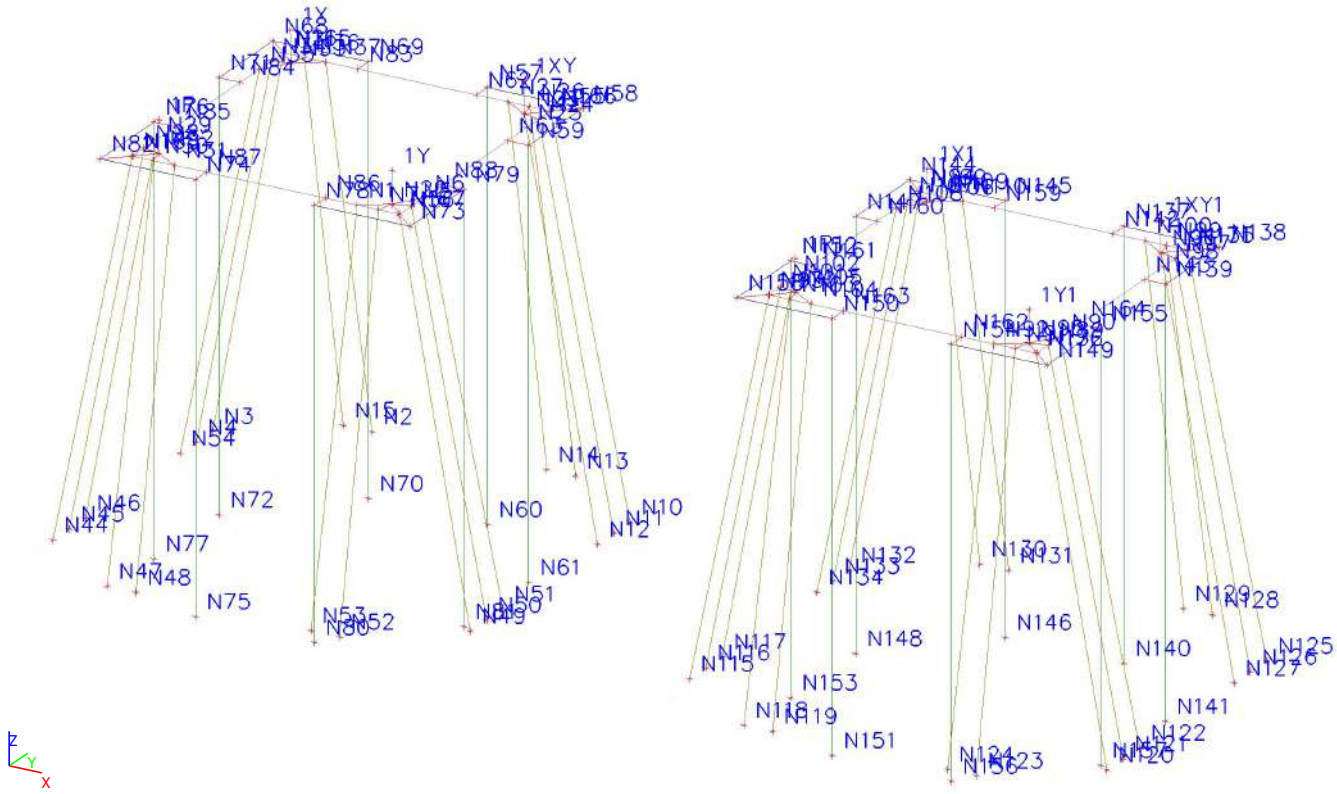
| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N5 | 13,000 | 1,400 | 0,000 |
| N6 | 13,000 | 2,400 | 0,000 |
| N7 | 12,000 | 0,400 | 0,000 |
| N1 | 11,000 | 0,400 | 0,000 |
| N17 | 0,400 | 0,400 | 0,000 |
| N21 | 0,400 | 13,000 | 0,000 |
| 1Y | 12,200 | 1,200 | 1,475 |
| N22 | 12,200 | 1,200 | 0,000 |
| N23 | 12,200 | 12,200 | 0,000 |
| 1XY | 12,200 | 12,200 | 1,475 |
| N24 | 13,000 | 12,000 | 0,000 |
| N25 | 13,000 | 11,000 | 0,000 |
| N26 | 12,000 | 13,000 | 0,000 |
| N27 | 11,000 | 13,000 | 0,000 |
| N28 | 0,400 | 1,400 | 0,000 |
| N29 | 0,400 | 2,400 | 0,000 |
| N30 | 1,400 | 0,400 | 0,000 |
| N31 | 2,400 | 0,400 | 0,000 |
| 1P | 1,200 | 1,200 | 1,475 |
| N32 | 1,200 | 1,200 | 0,000 |
| N33 | 1,200 | 12,200 | 0,000 |
| 1X | 1,200 | 12,187 | 1,475 |
| N34 | 0,400 | 12,000 | 0,000 |
| N35 | 0,400 | 11,000 | 0,000 |
| N36 | 1,400 | 13,000 | 0,000 |
| N37 | 2,400 | 13,000 | 0,000 |
| N38 | 12,200 | 1,200 | 0,000 |
| N39 | 1,200 | 1,200 | 0,000 |
| N40 | 12,200 | 12,200 | 0,000 |
| N41 | 1,200 | 12,200 | 0,000 |
| N44 | -3,129 | 0,047 | -17,647 |
| N45 | -3,129 | 1,400 | -17,647 |
| N46 | -3,129 | 2,753 | -17,647 |
| N47 | 1,224 | -3,129 | -17,647 |
| N48 | 2,576 | -3,129 | -17,647 |
| N49 | 16,529 | 0,047 | -17,647 |
| N50 | 16,529 | 1,400 | -17,647 |
| N51 | 16,529 | 2,753 | -17,647 |
| N52 | 12,176 | -3,129 | -17,647 |
| N53 | 10,824 | -3,129 | -17,647 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N10 | 16,529 | 13,353 | -17,647 |
| N11 | 16,529 | 12,000 | -17,647 |
| N12 | 16,529 | 10,647 | -17,647 |
| N13 | 12,176 | 16,529 | -17,647 |
| N14 | 10,824 | 16,529 | -17,647 |
| N15 | 1,224 | 16,529 | -17,647 |
| N2 | 2,576 | 16,529 | -17,647 |
| N3 | -3,129 | 13,353 | -17,647 |
| N4 | -3,129 | 12,000 | -17,647 |
| N54 | -3,129 | 10,647 | -17,647 |
| N55 | 13,000 | 13,000 | 0,000 |
| N56 | 13,000 | 0,400 | 0,000 |
| N57 | 9,500 | 13,900 | 0,000 |
| N58 | 14,000 | 13,900 | 0,000 |
| N59 | 14,000 | 9,400 | 0,000 |
| N60 | 9,500 | 13,900 | -19,400 |
| N61 | 14,000 | 9,400 | -19,400 |
| N62 | 9,500 | 13,000 | 0,000 |
| N63 | 13,000 | 9,400 | 0,000 |
| N68 | -0,600 | 13,900 | 0,000 |
| N69 | 3,900 | 13,900 | 0,000 |
| N70 | 3,900 | 13,900 | -19,400 |
| N71 | -0,600 | 9,400 | 0,000 |
| N72 | -0,600 | 9,400 | -19,400 |
| N73 | 14,000 | -0,500 | 0,000 |
| N74 | 3,900 | -0,500 | 0,000 |
| N75 | 3,900 | -0,500 | -19,400 |
| N76 | -0,600 | 4,000 | 0,000 |
| N77 | -0,600 | 4,000 | -19,400 |
| N78 | 9,500 | -0,500 | 0,000 |
| N79 | 14,000 | 4,000 | 0,000 |
| N80 | 9,500 | -0,500 | -19,400 |
| N81 | 14,000 | 4,000 | -19,400 |
| N82 | -0,600 | -0,500 | 0,000 |
| N83 | 3,900 | 13,000 | 0,000 |
| N84 | 0,400 | 9,400 | 0,000 |
| N85 | 0,400 | 4,000 | 0,000 |
| N86 | 9,500 | 0,400 | 0,000 |
| N87 | 3,900 | 0,400 | 0,000 |
| N88 | 13,000 | 4,000 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N89 | 43,000 | 1,400 | 0,000 |
| N90 | 43,000 | 2,400 | 0,000 |
| N91 | 42,000 | 0,400 | 0,000 |
| N92 | 41,000 | 0,400 | 0,000 |
| N93 | 30,400 | 0,400 | 0,000 |
| N94 | 30,400 | 13,000 | 0,000 |
| 1Y1 | 42,200 | 1,200 | 1,475 |
| N95 | 42,200 | 1,200 | 0,000 |
| N96 | 42,200 | 12,200 | 0,000 |
| 1XY1 | 42,200 | 12,200 | 1,475 |
| N97 | 43,000 | 12,000 | 0,000 |
| N98 | 43,000 | 11,000 | 0,000 |
| N99 | 42,000 | 13,000 | 0,000 |
| N100 | 41,000 | 13,000 | 0,000 |
| N101 | 30,400 | 1,400 | 0,000 |
| N102 | 30,400 | 2,400 | 0,000 |
| N103 | 31,400 | 0,400 | 0,000 |
| N104 | 32,400 | 0,400 | 0,000 |
| 1P1 | 31,200 | 1,200 | 1,475 |
| N105 | 31,200 | 1,200 | 0,000 |
| N106 | 31,200 | 12,200 | 0,000 |
| 1X1 | 31,200 | 12,187 | 1,475 |
| N107 | 30,400 | 12,000 | 0,000 |
| N108 | 30,400 | 11,000 | 0,000 |
| N109 | 31,400 | 13,000 | 0,000 |
| N110 | 32,400 | 13,000 | 0,000 |
| N111 | 42,200 | 1,200 | 0,000 |
| N112 | 31,200 | 1,200 | 0,000 |
| N113 | 42,200 | 12,200 | 0,000 |
| N114 | 31,200 | 12,200 | 0,000 |
| N115 | 26,871 | 0,047 | -17,647 |
| N116 | 26,871 | 1,400 | -17,647 |
| N117 | 26,871 | 2,753 | -17,647 |
| N118 | 31,224 | -3,129 | -17,647 |
| N119 | 32,576 | -3,129 | -17,647 |
| N120 | 46,529 | 0,047 | -17,647 |
| N121 | 46,529 | 1,400 | -17,647 |
| N122 | 46,529 | 2,753 | -17,647 |
| N123 | 42,176 | -3,129 | -17,647 |
| N124 | 40,824 | -3,129 | -17,647 |
| N125 | 46,529 | 13,353 | -17,647 |
| N126 | 46,529 | 12,000 | -17,647 |
| N127 | 46,529 | 10,647 | -17,647 |
| N128 | 42,176 | 16,529 | -17,647 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N129 | 40,824 | 16,529 | -17,647 |
| N130 | 31,224 | 16,529 | -17,647 |
| N131 | 32,576 | 16,529 | -17,647 |
| N132 | 26,871 | 13,353 | -17,647 |
| N133 | 26,871 | 12,000 | -17,647 |
| N134 | 26,871 | 10,647 | -17,647 |
| N135 | 43,000 | 13,000 | 0,000 |
| N136 | 43,000 | 0,400 | 0,000 |
| N137 | 39,500 | 13,900 | 0,000 |
| N138 | 44,000 | 13,900 | 0,000 |
| N139 | 44,000 | 9,400 | 0,000 |
| N140 | 39,500 | 13,900 | -19,400 |
| N141 | 44,000 | 9,400 | -19,400 |
| N142 | 39,500 | 13,000 | 0,000 |
| N143 | 43,000 | 9,400 | 0,000 |
| N144 | 29,400 | 13,900 | 0,000 |
| N145 | 33,900 | 13,900 | 0,000 |
| N146 | 33,900 | 13,900 | -19,400 |
| N147 | 29,400 | 9,400 | 0,000 |
| N148 | 29,400 | 9,400 | -19,400 |
| N149 | 44,000 | -0,500 | 0,000 |
| N150 | 33,900 | -0,500 | 0,000 |
| N151 | 33,900 | -0,500 | -19,400 |
| N152 | 29,400 | 4,000 | 0,000 |
| N153 | 29,400 | 4,000 | -19,400 |
| N154 | 39,500 | -0,500 | 0,000 |
| N155 | 44,000 | 4,000 | 0,000 |
| N156 | 39,500 | -0,500 | -19,400 |
| N157 | 44,000 | 4,000 | -19,400 |
| N158 | 29,400 | -0,500 | 0,000 |
| N159 | 33,900 | 13,000 | 0,000 |
| N160 | 30,400 | 9,400 | 0,000 |
| N161 | 30,400 | 4,000 | 0,000 |
| N162 | 39,500 | 0,400 | 0,000 |
| N163 | 33,900 | 0,400 | 0,000 |
| N164 | 43,000 | 4,000 | 0,000 |
| N165 | 0,450 | 13,000 | 0,000 |
| N166 | 12,950 | 13,000 | 0,000 |
| N167 | 12,950 | 0,400 | 0,000 |
| N168 | 0,450 | 0,400 | 0,000 |
| N169 | 30,400 | 12,950 | 0,000 |
| N170 | 30,400 | 0,450 | 0,000 |
| N171 | 43,000 | 12,950 | 0,000 |
| N172 | 43,000 | 0,450 | 0,000 |

## 5.2. Analyse model met knopen

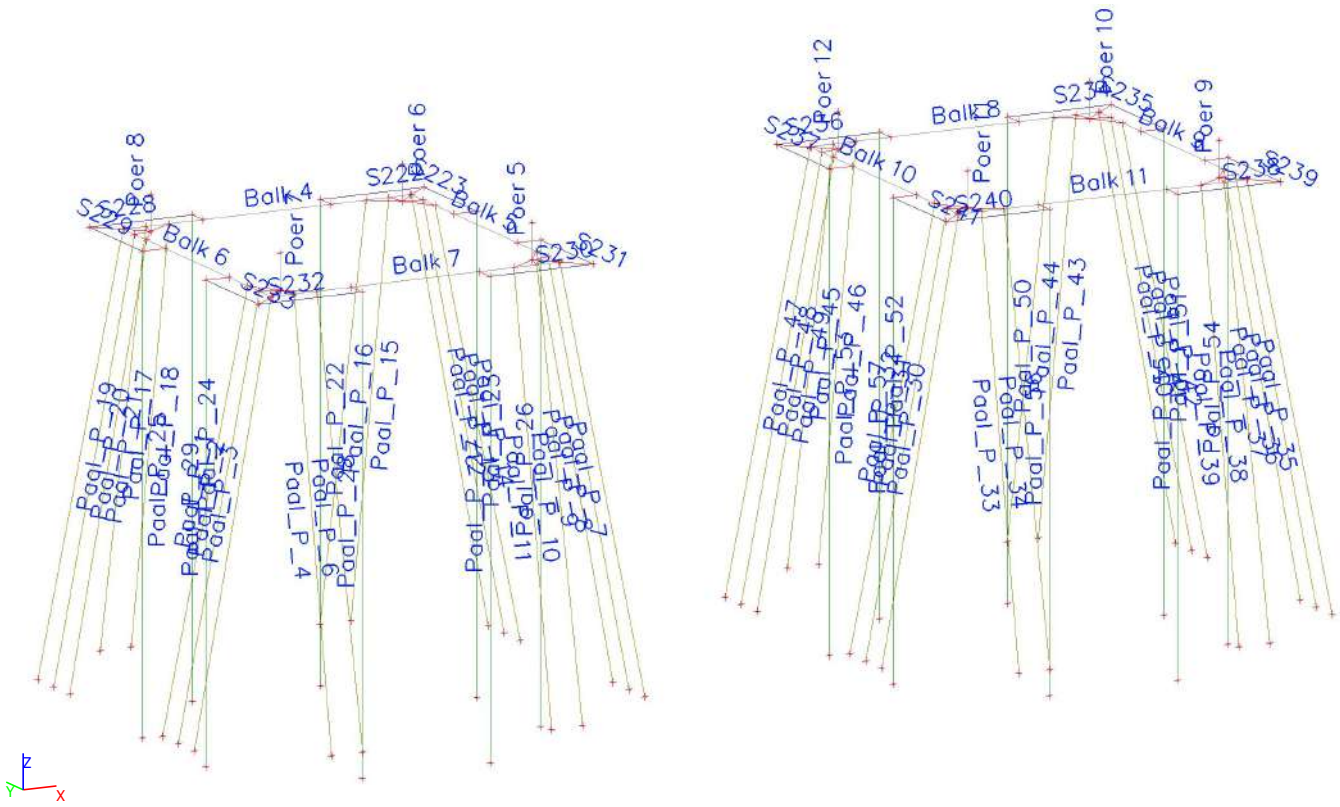



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Balk 4 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N55 | N21 | Balk (80) |
| Balk 5 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N55 | Balk (80) |
| Balk 6 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N17 | N21 | Balk (80) |
| Balk 7 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N17 | Balk (80) |
| Balk 8 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N135 | N94 | Balk (80) |
| Balk 9 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N136 | N135 | Balk (80) |
| Balk 10 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N93 | N94 | Balk (80) |
| Balk 11 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N136 | N93 | Balk (80) |
| S222 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N57 | N58 | Balk (80) |
| S223 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N59 | N58 | Balk (80) |
| S228 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N69 | N68 | Balk (80) |
| S229 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N71 | N68 | Balk (80) |
| S230 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N78 | N73 | Balk (80) |
| S231 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N79 | N73 | Balk (80) |
| S232 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N74 | N82 | Balk (80) |
| S233 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N76 | N82 | Balk (80) |
| S234 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N137 | N138 | Balk (80) |
| S235 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N139 | N138 | Balk (80) |
| S236 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N145 | N144 | Balk (80) |
| S237 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N147 | N144 | Balk (80) |
| S238 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N154 | N149 | Balk (80) |
| S239 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N155 | N149 | Balk (80) |
| S240 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N150 | N158 | Balk (80) |
| S241 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N152 | N158 | Balk (80) |
| Poer 6 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N23 | 1XY | Kolom (100) |
| Poer 11 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N105 | 1P1 | Kolom (100) |
| Poer 12 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N106 | 1X1 | Kolom (100) |
| Paal_P_3 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N17 | N44 | Kolom (100) |
| Paal_P_4 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N30 | N47 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_P_6 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N31 | N48 | Kolom (100) |
| Paal_P_14 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N25 | N12 | Kolom (100) |
| Paal_P_17 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N36 | N15 | Kolom (100) |
| Paal_P_18 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N37 | N2 | Kolom (100) |
| Paal_P_19 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N21 | N3 | Kolom (100) |
| Paal_P_20 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N34 | N4 | Kolom (100) |
| Paal_P_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N57 | N60 | Kolom (100) |
| Paal_P_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N79 | N81 | Kolom (100) |
| Paal_P_30 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N93 | N115 | Kolom (100) |
| Paal_P_31 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N101 | N116 | Kolom (100) |
| Paal_P_32 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N102 | N117 | Kolom (100) |
| Paal_P_34 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N104 | N119 | Kolom (100) |
| Paal_P_35 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N136 | N120 | Kolom (100) |
| Paal_P_36 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N89 | N121 | Kolom (100) |
| Paal_P_38 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N91 | N123 | Kolom (100) |
| Paal_P_39 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N92 | N124 | Kolom (100) |
| Paal_P_40 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N135 | N125 | Kolom (100) |
| Poer 5 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N22 | 1Y | Kolom (100) |
| Poer 7 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N32 | 1P | Kolom (100) |
| Poer 8 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N33 | 1X | Kolom (100) |
| Poer 9 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N95 | 1Y1 | Kolom (100) |
| Poer 10 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N96 | 1XY1 | Kolom (100) |
| Paal_P_1 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N29 | N46 | Kolom (100) |
| Paal_P_2 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N28 | N45 | Kolom (100) |
| Paal_P_7 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N56 | N49 | Kolom (100) |
| Paal_P_33 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N103 | N118 | Kolom (100) |
| Paal_P_21 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N35 | N54 | Kolom (100) |
| Paal_P_8 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N5 | N50 | Kolom (100) |
| Paal_P_9 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N6 | N51 | Kolom (100) |
| Paal_P_37 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N90 | N122 | Kolom (100) |
| Paal_P_10 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N7 | N52 | Kolom (100) |
| Paal_P_11 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N1 | N53 | Kolom (100) |
| Paal_P_12 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N55 | N10 | Kolom (100) |
| Paal_P_13 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N24 | N11 | Kolom (100) |
| Paal_P_15 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N26 | N13 | Kolom (100) |
| Paal_P_16 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N27 | N14 | Kolom (100) |
| Paal_P_23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N59 | N61 | Kolom (100) |
| Paal_P_24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N69 | N70 | Kolom (100) |
| Paal_P_25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N71 | N72 | Kolom (100) |
| Paal_P_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N78 | N80 | Kolom (100) |
| Paal_P_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N74 | N75 | Kolom (100) |
| Paal_P_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N76 | N77 | Kolom (100) |
| Paal_P_41 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N97 | N126 | Kolom (100) |
| Paal_P_42 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N98 | N127 | Kolom (100) |
| Paal_P_43 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N99 | N128 | Kolom (100) |
| Paal_P_44 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N100 | N129 | Kolom (100) |
| Paal_P_45 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N109 | N130 | Kolom (100) |
| Paal_P_46 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,997 | N110 | N131 | Kolom (100) |
| Paal_P_47 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N94 | N132 | Kolom (100) |
| Paal_P_48 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 17,996 | N107 | N133 | Kolom (100) |
| Paal_P_49 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 18,000 | N108 | N134 | Kolom (100) |
| Paal_P_50 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N137 | N140 | Kolom (100) |
| Paal_P_51 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N139 | N141 | Kolom (100) |
| Paal_P_52 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N145 | N146 | Kolom (100) |
| Paal_P_53 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N147 | N148 | Kolom (100) |
| Paal_P_54 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N155 | N157 | Kolom (100) |
| Paal_P_55 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N154 | N156 | Kolom (100) |
| Paal_P_56 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N150 | N151 | Kolom (100) |
| Paal_P_57 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,400 | N152 | N153 | Kolom (100) |

## 5.4. Analyse model met Staven

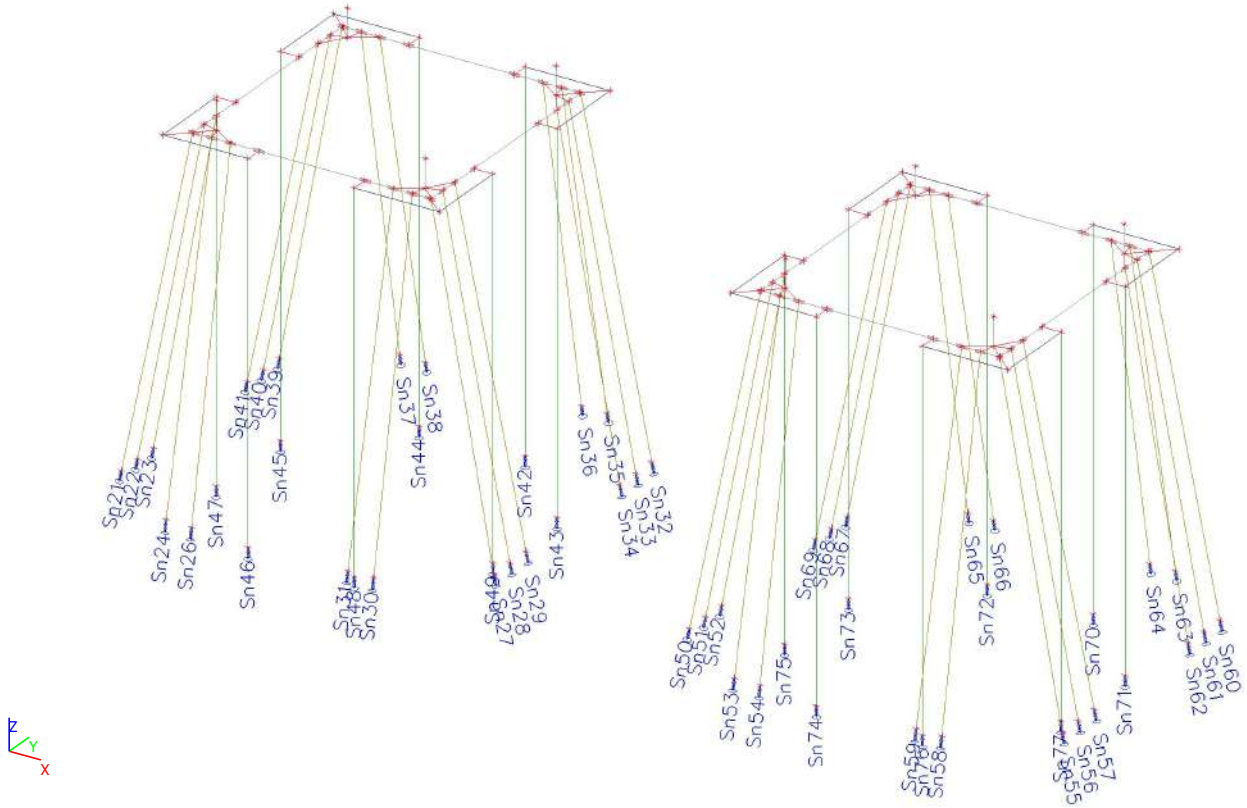



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn21 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn22 | N45 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn23 | N46 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn24 | N47 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn26 | N48 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn27 | N49 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn28 | N50 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn29 | N51 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn30 | N52 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn31 | N53 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn32 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn33 | N11 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn34 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn35 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn36 | N14 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn37 | N15 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn38 | N2 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn39 | N3 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn40 | N4 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn41 | N54 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn42 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn43 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn44 | N70 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn45 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn46 | N75 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn47 | N77 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn48 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn49 | N81 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn50 | N115 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn51 | N116 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn52 | N117 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn53 | N118 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn54 | N119 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn55 | N120 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn56 | N121 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn57 | N122 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn58 | N123 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn59 | N124 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn60 | N125 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn61 | N126 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn62 | N127 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn63 | N128 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn64 | N129 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn65 | N130 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn66 | N131 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn67 | N132 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn68 | N133 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn69 | N134 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn70 | N140 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn71 | N141 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn72 | N146 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn73 | N148 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn74 | N151 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn75 | N153 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn76 | N156 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn77 | N157 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| Veen | Lijn | Paal_P_1 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| Veen3 | Lijn | Paal_P_2 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| Veen4 | Lijn | Paal_P_3 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)1 | Lijn | Paal_P_3 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)3 | Lijn | Paal_P_2 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)4 | Lijn | Paal_P_1 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2) | Lijn | Paal_P_3 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)1 | Lijn | Paal_P_2 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)2 | Lijn | Paal_P_1 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3) | Lijn | Paal_P_3 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)19 | Lijn | Paal_P_2 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)12 | Lijn | Paal_P_1 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)8 | Lijn | Paal_P_3 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)17 | Lijn | Paal_P_2 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)16 | Lijn | Paal_P_1 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)18 | Lijn | Paal_P_3 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5) | Lijn | Paal_P_2 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)1 | Lijn | Paal_P_1 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)6 | Lijn | Paal_P_3 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)9 | Lijn | Paal_P_2 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)11 | Lijn | Paal_P_1 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)14 | Lijn | Paal_P_3 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)16 | Lijn | Paal_P_2 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)15 | Lijn | Paal_P_1 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)12 | Lijn | Paal_P_3 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)4 | Lijn | Paal_P_2 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)3 | Lijn | Paal_P_1 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)14 | Lijn | Paal_P_3 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)13 | Lijn | Paal_P_2 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)12 | Lijn | Paal_P_1 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)7 | Lijn | Paal_P_3 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V10)6 | Lijn | Paal_P_2<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)5 | Lijn | Paal_P_1<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen18 | Lijn | Paal_P_4<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)14 | Lijn | Paal_P_4<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)7 | Lijn | Paal_P_4<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)5 | Lijn | Paal_P_4<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)3 | Lijn | Paal_P_4<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)3 | Lijn | Paal_P_4<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)10 | Lijn | Paal_P_4<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)8 | Lijn | Paal_P_4<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)1 | Lijn | Paal_P_4<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)10 | Lijn | Paal_P_4<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)11 | Lijn | Paal_P_4<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen9 | Lijn | Paal_P_6<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)18 | Lijn | Paal_P_6<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)9 | Lijn | Paal_P_6<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)8 | Lijn | Paal_P_6<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)2 | Lijn | Paal_P_6<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)4 | Lijn | Paal_P_6<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)13 | Lijn | Paal_P_6<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)3 | Lijn | Paal_P_6<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)6 | Lijn | Paal_P_6<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)6 | Lijn | Paal_P_6<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)9 | Lijn | Paal_P_6<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen8 | Lijn | Paal_P_7<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)19 | Lijn | Paal_P_7<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)12 | Lijn | Paal_P_7<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)10 | Lijn | Paal_P_7<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)13 | Lijn | Paal_P_7<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)5 | Lijn | Paal_P_7<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)14 | Lijn | Paal_P_7<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)11 | Lijn | Paal_P_7<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V8)7 | Lijn | Paal_P_7<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)4 | Lijn | Paal_P_7<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)3 | Lijn | Paal_P_7<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen16 | Lijn | Paal_P_8<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)8 | Lijn | Paal_P_8<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)14 | Lijn | Paal_P_8<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)9 | Lijn | Paal_P_8<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)5 | Lijn | Paal_P_8<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)6 | Lijn | Paal_P_8<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)19 | Lijn | Paal_P_8<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)9 | Lijn | Paal_P_8<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)10 | Lijn | Paal_P_8<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)7 | Lijn | Paal_P_8<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)17 | Lijn | Paal_P_8<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen13 | Lijn | Paal_P_9<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)2 | Lijn | Paal_P_9<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)16 | Lijn | Paal_P_9<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)1 | Lijn | Paal_P_9<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)18 | Lijn | Paal_P_9<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)7 | Lijn | Paal_P_9<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)17 | Lijn | Paal_P_9<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)6 | Lijn | Paal_P_9<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)9 | Lijn | Paal_P_9<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)1 | Lijn | Paal_P_9<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)1 | Lijn | Paal_P_9<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen10 | Lijn | Paal_P_10<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)15 | Lijn | Paal_P_10<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)18 | Lijn | Paal_P_10<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)11 | Lijn | Paal_P_10<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)12 | Lijn | Paal_P_10<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)8 | Lijn | Paal_P_10<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6) | Lijn | Paal_P_10<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V7)1 | Lijn | Paal_P_10 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)17 | Lijn | Paal_P_10 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)16 | Lijn | Paal_P_10 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)12 | Lijn | Paal_P_10 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen5 | Lijn | Paal_P_11 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)16 | Lijn | Paal_P_11 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)4 | Lijn | Paal_P_11 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)15 | Lijn | Paal_P_11 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)14 | Lijn | Paal_P_11 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)9 | Lijn | Paal_P_11 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)1 | Lijn | Paal_P_11 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)12 | Lijn | Paal_P_11 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)18 | Lijn | Paal_P_11 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)17 | Lijn | Paal_P_11 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10) | Lijn | Paal_P_11 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen7 | Lijn | Paal_P_12 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)10 | Lijn | Paal_P_12 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)19 | Lijn | Paal_P_12 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)2 | Lijn | Paal_P_12 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)6 | Lijn | Paal_P_12 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)11 | Lijn | Paal_P_12 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)8 | Lijn | Paal_P_12 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)17 | Lijn | Paal_P_12 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)16 | Lijn | Paal_P_12 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)15 | Lijn | Paal_P_12 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)15 | Lijn | Paal_P_12 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen21 | Lijn | Paal_P_13 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)12 | Lijn | Paal_P_13 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)3 | Lijn | Paal_P_13 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)16 | Lijn | Paal_P_13 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)15 | Lijn | Paal_P_13 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)12 | Lijn | Paal_P_13 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V6)7 | Lijn | Paal_P_13<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)2 | Lijn | Paal_P_13<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)14 | Lijn | Paal_P_13<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9) | Lijn | Paal_P_13<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)2 | Lijn | Paal_P_13<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen6 | Lijn | Paal_P_14<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)13 | Lijn | Paal_P_14<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)17 | Lijn | Paal_P_14<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)4 | Lijn | Paal_P_14<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)11 | Lijn | Paal_P_14<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)2 | Lijn | Paal_P_14<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)18 | Lijn | Paal_P_14<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)7 | Lijn | Paal_P_14<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8) | Lijn | Paal_P_14<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)2 | Lijn | Paal_P_14<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)18 | Lijn | Paal_P_14<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen14 | Lijn | Paal_P_15<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)7 | Lijn | Paal_P_15<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)15 | Lijn | Paal_P_15<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)13 | Lijn | Paal_P_15<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)7 | Lijn | Paal_P_15<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)13 | Lijn | Paal_P_15<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)16 | Lijn | Paal_P_15<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)10 | Lijn | Paal_P_15<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)8 | Lijn | Paal_P_15<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)3 | Lijn | Paal_P_15<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)14 | Lijn | Paal_P_15<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen20 | Lijn | Paal_P_16<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)17 | Lijn | Paal_P_16<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)13 | Lijn | Paal_P_16<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)18 | Lijn | Paal_P_16<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4) | Lijn | Paal_P_16<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V5)14 | Lijn | Paal_P_16 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)3 | Lijn | Paal_P_16 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7) | Lijn | Paal_P_16 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)15 | Lijn | Paal_P_16 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)5 | Lijn | Paal_P_16 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)13 | Lijn | Paal_P_16 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen19 | Lijn | Paal_P_17 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)6 | Lijn | Paal_P_17 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)11 | Lijn | Paal_P_17 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)7 | Lijn | Paal_P_17 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)1 | Lijn | Paal_P_17 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)15 | Lijn | Paal_P_17 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)5 | Lijn | Paal_P_17 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)5 | Lijn | Paal_P_17 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)5 | Lijn | Paal_P_17 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)8 | Lijn | Paal_P_17 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)10 | Lijn | Paal_P_17 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen11 | Lijn | Paal_P_18 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)9 | Lijn | Paal_P_18 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)8 | Lijn | Paal_P_18 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)14 | Lijn | Paal_P_18 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)10 | Lijn | Paal_P_18 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)16 | Lijn | Paal_P_18 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)12 | Lijn | Paal_P_18 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)4 | Lijn | Paal_P_18 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)13 | Lijn | Paal_P_18 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)11 | Lijn | Paal_P_18 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)4 | Lijn | Paal_P_18 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen17 | Lijn | Paal_P_19 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)11 | Lijn | Paal_P_19 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)6 | Lijn | Paal_P_19 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)6 | Lijn | Paal_P_19 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V4)4 | Lijn | Paal_P_19<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)10 | Lijn | Paal_P_19<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)2 | Lijn | Paal_P_19<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)13 | Lijn | Paal_P_19<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)2 | Lijn | Paal_P_19<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)18 | Lijn | Paal_P_19<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)16 | Lijn | Paal_P_19<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen15 | Lijn | Paal_P_20<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)5 | Lijn | Paal_P_20<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)10 | Lijn | Paal_P_20<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)17 | Lijn | Paal_P_20<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)9 | Lijn | Paal_P_20<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)17 | Lijn | Paal_P_20<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)15 | Lijn | Paal_P_20<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)18 | Lijn | Paal_P_20<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)11 | Lijn | Paal_P_20<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)9 | Lijn | Paal_P_20<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)8 | Lijn | Paal_P_20<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen12 | Lijn | Paal_P_21<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1) | Lijn | Paal_P_21<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)5 | Lijn | Paal_P_21<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)3 | Lijn | Paal_P_21<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)19 | Lijn | Paal_P_21<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)19 | Lijn | Paal_P_21<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)4 | Lijn | Paal_P_21<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)19 | Lijn | Paal_P_21<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)19 | Lijn | Paal_P_21<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)19 | Lijn | Paal_P_21<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)19 | Lijn | Paal_P_21<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen22 | Lijn | Paal_P_22<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)20 | Lijn | Paal_P_22<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)20 | Lijn | Paal_P_22<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V3)20 | Lijn | Paal_P_22 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)20 | Lijn | Paal_P_22 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)20 | Lijn | Paal_P_22 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)20 | Lijn | Paal_P_22 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)20 | Lijn | Paal_P_22 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)20 | Lijn | Paal_P_22 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)20 | Lijn | Paal_P_22 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)20 | Lijn | Paal_P_22 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen23 | Lijn | Paal_P_23 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)21 | Lijn | Paal_P_23 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)21 | Lijn | Paal_P_23 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)21 | Lijn | Paal_P_23 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)21 | Lijn | Paal_P_23 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)21 | Lijn | Paal_P_23 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)21 | Lijn | Paal_P_23 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)21 | Lijn | Paal_P_23 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)21 | Lijn | Paal_P_23 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)21 | Lijn | Paal_P_23 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)21 | Lijn | Paal_P_23 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen24 | Lijn | Paal_P_24 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)22 | Lijn | Paal_P_24 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)22 | Lijn | Paal_P_24 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)22 | Lijn | Paal_P_24 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)22 | Lijn | Paal_P_24 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)22 | Lijn | Paal_P_24 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)22 | Lijn | Paal_P_24 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)22 | Lijn | Paal_P_24 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)22 | Lijn | Paal_P_24 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)22 | Lijn | Paal_P_24 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)22 | Lijn | Paal_P_24 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen25 | Lijn | Paal_P_25 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)23 | Lijn | Paal_P_25 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V2)23 | Lijn | Paal_P_25 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)23 | Lijn | Paal_P_25 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)23 | Lijn | Paal_P_25 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)23 | Lijn | Paal_P_25 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)23 | Lijn | Paal_P_25 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)23 | Lijn | Paal_P_25 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)23 | Lijn | Paal_P_25 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)23 | Lijn | Paal_P_25 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)23 | Lijn | Paal_P_25 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen26 | Lijn | Paal_P_26 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)24 | Lijn | Paal_P_26 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)24 | Lijn | Paal_P_26 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)24 | Lijn | Paal_P_26 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)24 | Lijn | Paal_P_26 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)24 | Lijn | Paal_P_26 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)24 | Lijn | Paal_P_26 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)24 | Lijn | Paal_P_26 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)24 | Lijn | Paal_P_26 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)24 | Lijn | Paal_P_26 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)24 | Lijn | Paal_P_26 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen27 | Lijn | Paal_P_27 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)25 | Lijn | Paal_P_27 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)25 | Lijn | Paal_P_27 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)25 | Lijn | Paal_P_27 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)25 | Lijn | Paal_P_27 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)25 | Lijn | Paal_P_27 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)25 | Lijn | Paal_P_27 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)25 | Lijn | Paal_P_27 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)25 | Lijn | Paal_P_27 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)25 | Lijn | Paal_P_27 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)25 | Lijn | Paal_P_27 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |
| Veen28 | Lijn | Paal_P_28 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V1)26 | Lijn | Paal_P_28<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)26 | Lijn | Paal_P_28<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)26 | Lijn | Paal_P_28<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)26 | Lijn | Paal_P_28<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)26 | Lijn | Paal_P_28<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)26 | Lijn | Paal_P_28<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)26 | Lijn | Paal_P_28<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)26 | Lijn | Paal_P_28<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)26 | Lijn | Paal_P_28<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)26 | Lijn | Paal_P_28<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen29 | Lijn | Paal_P_29<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)27 | Lijn | Paal_P_29<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)27 | Lijn | Paal_P_29<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)27 | Lijn | Paal_P_29<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)27 | Lijn | Paal_P_29<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)27 | Lijn | Paal_P_29<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)27 | Lijn | Paal_P_29<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)27 | Lijn | Paal_P_29<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)27 | Lijn | Paal_P_29<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)27 | Lijn | Paal_P_29<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)27 | Lijn | Paal_P_29<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen30 | Lijn | Paal_P_30<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)28 | Lijn | Paal_P_30<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)28 | Lijn | Paal_P_30<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)28 | Lijn | Paal_P_30<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)28 | Lijn | Paal_P_30<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)28 | Lijn | Paal_P_30<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)28 | Lijn | Paal_P_30<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)28 | Lijn | Paal_P_30<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)28 | Lijn | Paal_P_30<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)28 | Lijn | Paal_P_30<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)28 | Lijn | Paal_P_30<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| Veen31 | Lijn | Paal_P_31<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)29 | Lijn | Paal_P_31<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)29 | Lijn | Paal_P_31<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)29 | Lijn | Paal_P_31<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)29 | Lijn | Paal_P_31<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)29 | Lijn | Paal_P_31<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)29 | Lijn | Paal_P_31<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)29 | Lijn | Paal_P_31<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)29 | Lijn | Paal_P_31<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)29 | Lijn | Paal_P_31<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)29 | Lijn | Paal_P_31<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen32 | Lijn | Paal_P_32<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)30 | Lijn | Paal_P_32<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)30 | Lijn | Paal_P_32<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)30 | Lijn | Paal_P_32<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)30 | Lijn | Paal_P_32<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)30 | Lijn | Paal_P_32<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)30 | Lijn | Paal_P_32<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)30 | Lijn | Paal_P_32<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)30 | Lijn | Paal_P_32<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)30 | Lijn | Paal_P_32<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)30 | Lijn | Paal_P_32<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen33 | Lijn | Paal_P_33<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)31 | Lijn | Paal_P_33<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)31 | Lijn | Paal_P_33<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)31 | Lijn | Paal_P_33<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)31 | Lijn | Paal_P_33<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)31 | Lijn | Paal_P_33<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)31 | Lijn | Paal_P_33<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)31 | Lijn | Paal_P_33<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)31 | Lijn | Paal_P_33<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)31 | Lijn | Paal_P_33<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V10)31 | Lijn | Paal_P_33<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen34 | Lijn | Paal_P_34<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)32 | Lijn | Paal_P_34<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)32 | Lijn | Paal_P_34<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)32 | Lijn | Paal_P_34<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)32 | Lijn | Paal_P_34<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)32 | Lijn | Paal_P_34<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)32 | Lijn | Paal_P_34<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)32 | Lijn | Paal_P_34<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)32 | Lijn | Paal_P_34<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)32 | Lijn | Paal_P_34<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)32 | Lijn | Paal_P_34<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen35 | Lijn | Paal_P_35<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)33 | Lijn | Paal_P_35<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)33 | Lijn | Paal_P_35<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)33 | Lijn | Paal_P_35<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)33 | Lijn | Paal_P_35<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)33 | Lijn | Paal_P_35<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)33 | Lijn | Paal_P_35<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)33 | Lijn | Paal_P_35<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)33 | Lijn | Paal_P_35<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)33 | Lijn | Paal_P_35<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)33 | Lijn | Paal_P_35<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen36 | Lijn | Paal_P_36<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)34 | Lijn | Paal_P_36<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)34 | Lijn | Paal_P_36<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)34 | Lijn | Paal_P_36<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)34 | Lijn | Paal_P_36<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)34 | Lijn | Paal_P_36<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)34 | Lijn | Paal_P_36<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)34 | Lijn | Paal_P_36<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)34 | Lijn | Paal_P_36<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V9)34 | Lijn | Paal_P_36<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)34 | Lijn | Paal_P_36<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen37 | Lijn | Paal_P_37<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)35 | Lijn | Paal_P_37<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)35 | Lijn | Paal_P_37<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)35 | Lijn | Paal_P_37<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)35 | Lijn | Paal_P_37<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)35 | Lijn | Paal_P_37<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)35 | Lijn | Paal_P_37<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)35 | Lijn | Paal_P_37<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)35 | Lijn | Paal_P_37<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)35 | Lijn | Paal_P_37<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)35 | Lijn | Paal_P_37<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen38 | Lijn | Paal_P_38<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)36 | Lijn | Paal_P_38<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)36 | Lijn | Paal_P_38<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)36 | Lijn | Paal_P_38<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)36 | Lijn | Paal_P_38<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)36 | Lijn | Paal_P_38<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)36 | Lijn | Paal_P_38<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)36 | Lijn | Paal_P_38<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)36 | Lijn | Paal_P_38<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)36 | Lijn | Paal_P_38<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)36 | Lijn | Paal_P_38<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen39 | Lijn | Paal_P_39<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)37 | Lijn | Paal_P_39<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)37 | Lijn | Paal_P_39<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)37 | Lijn | Paal_P_39<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)37 | Lijn | Paal_P_39<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)37 | Lijn | Paal_P_39<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)37 | Lijn | Paal_P_39<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)37 | Lijn | Paal_P_39<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V8)37 | Lijn | Paal_P_39 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)37 | Lijn | Paal_P_39 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)37 | Lijn | Paal_P_39 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen40 | Lijn | Paal_P_40 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)38 | Lijn | Paal_P_40 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)38 | Lijn | Paal_P_40 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)38 | Lijn | Paal_P_40 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)38 | Lijn | Paal_P_40 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)38 | Lijn | Paal_P_40 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)38 | Lijn | Paal_P_40 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)38 | Lijn | Paal_P_40 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)38 | Lijn | Paal_P_40 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)38 | Lijn | Paal_P_40 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)38 | Lijn | Paal_P_40 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen41 | Lijn | Paal_P_41 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)39 | Lijn | Paal_P_41 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)39 | Lijn | Paal_P_41 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)39 | Lijn | Paal_P_41 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)39 | Lijn | Paal_P_41 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)39 | Lijn | Paal_P_41 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)39 | Lijn | Paal_P_41 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)39 | Lijn | Paal_P_41 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)39 | Lijn | Paal_P_41 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)39 | Lijn | Paal_P_41 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)39 | Lijn | Paal_P_41 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen42 | Lijn | Paal_P_42 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)40 | Lijn | Paal_P_42 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)40 | Lijn | Paal_P_42 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)40 | Lijn | Paal_P_42 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)40 | Lijn | Paal_P_42 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)40 | Lijn | Paal_P_42 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)40 | Lijn | Paal_P_42 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V7)40 | Lijn | Paal_P_42 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)40 | Lijn | Paal_P_42 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)40 | Lijn | Paal_P_42 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)40 | Lijn | Paal_P_42 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen43 | Lijn | Paal_P_43 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)41 | Lijn | Paal_P_43 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)41 | Lijn | Paal_P_43 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)41 | Lijn | Paal_P_43 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)41 | Lijn | Paal_P_43 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)41 | Lijn | Paal_P_43 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)41 | Lijn | Paal_P_43 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)41 | Lijn | Paal_P_43 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)41 | Lijn | Paal_P_43 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)41 | Lijn | Paal_P_43 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)41 | Lijn | Paal_P_43 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen44 | Lijn | Paal_P_44 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)42 | Lijn | Paal_P_44 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)42 | Lijn | Paal_P_44 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)42 | Lijn | Paal_P_44 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)42 | Lijn | Paal_P_44 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)42 | Lijn | Paal_P_44 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)42 | Lijn | Paal_P_44 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)42 | Lijn | Paal_P_44 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)42 | Lijn | Paal_P_44 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)42 | Lijn | Paal_P_44 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)42 | Lijn | Paal_P_44 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen45 | Lijn | Paal_P_45 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)43 | Lijn | Paal_P_45 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)43 | Lijn | Paal_P_45 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)43 | Lijn | Paal_P_45 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)43 | Lijn | Paal_P_45 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)43 | Lijn | Paal_P_45 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V6)43 | Lijn | Paal_P_45 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)43 | Lijn | Paal_P_45 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)43 | Lijn | Paal_P_45 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)43 | Lijn | Paal_P_45 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)43 | Lijn | Paal_P_45 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen46 | Lijn | Paal_P_46 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)44 | Lijn | Paal_P_46 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)44 | Lijn | Paal_P_46 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)44 | Lijn | Paal_P_46 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)44 | Lijn | Paal_P_46 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)44 | Lijn | Paal_P_46 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)44 | Lijn | Paal_P_46 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)44 | Lijn | Paal_P_46 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)44 | Lijn | Paal_P_46 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)44 | Lijn | Paal_P_46 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)44 | Lijn | Paal_P_46 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen47 | Lijn | Paal_P_47 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)45 | Lijn | Paal_P_47 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)45 | Lijn | Paal_P_47 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)45 | Lijn | Paal_P_47 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)45 | Lijn | Paal_P_47 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)45 | Lijn | Paal_P_47 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)45 | Lijn | Paal_P_47 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)45 | Lijn | Paal_P_47 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)45 | Lijn | Paal_P_47 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)45 | Lijn | Paal_P_47 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)45 | Lijn | Paal_P_47 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,750 | Vanaf begin | | | | | | |
| Veen48 | Lijn | Paal_P_48 | 1,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 8,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V1)46 | Lijn | Paal_P_48 | 8,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 9,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V2)46 | Lijn | Paal_P_48 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)46 | Lijn | Paal_P_48 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)46 | Lijn | Paal_P_48 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |

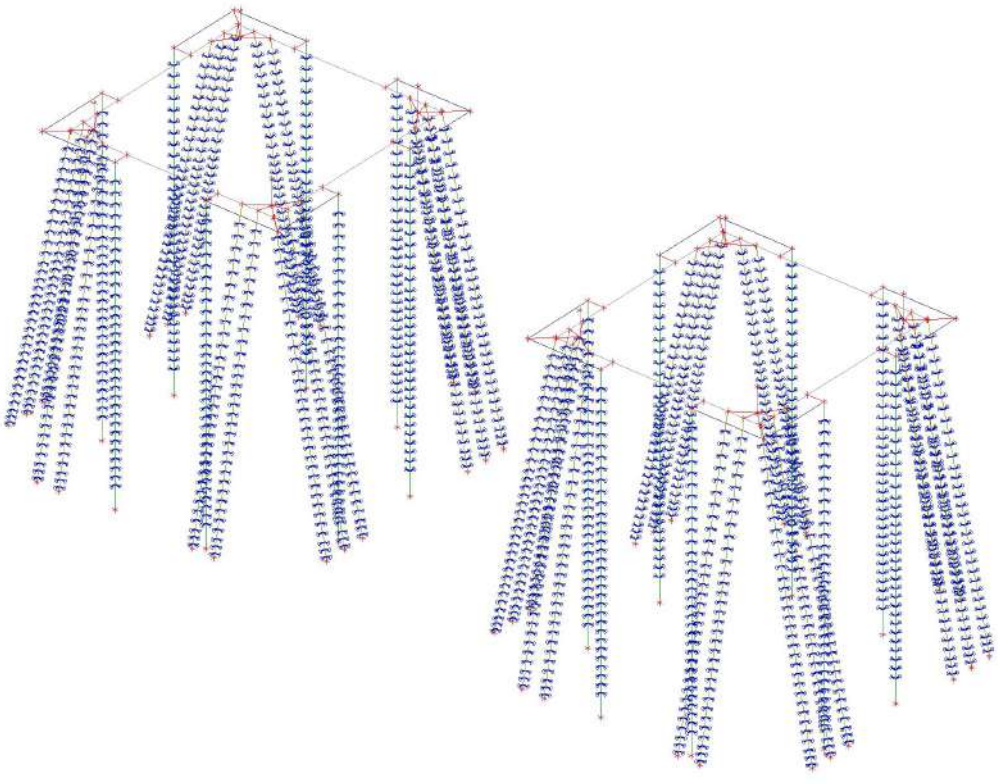
| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V5)46 | Lijn | Paal_P_48<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)46 | Lijn | Paal_P_48<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)46 | Lijn | Paal_P_48<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)46 | Lijn | Paal_P_48<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)46 | Lijn | Paal_P_48<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)46 | Lijn | Paal_P_48<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen49 | Lijn | Paal_P_49<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)47 | Lijn | Paal_P_49<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)47 | Lijn | Paal_P_49<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)47 | Lijn | Paal_P_49<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)47 | Lijn | Paal_P_49<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)47 | Lijn | Paal_P_49<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)47 | Lijn | Paal_P_49<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)47 | Lijn | Paal_P_49<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)47 | Lijn | Paal_P_49<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)47 | Lijn | Paal_P_49<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)47 | Lijn | Paal_P_49<br>LCS | 17,000<br>17,750 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen50 | Lijn | Paal_P_50<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)48 | Lijn | Paal_P_50<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)48 | Lijn | Paal_P_50<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)48 | Lijn | Paal_P_50<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)48 | Lijn | Paal_P_50<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)48 | Lijn | Paal_P_50<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)48 | Lijn | Paal_P_50<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)48 | Lijn | Paal_P_50<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)48 | Lijn | Paal_P_50<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)48 | Lijn | Paal_P_50<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)48 | Lijn | Paal_P_50<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen51 | Lijn | Paal_P_51<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)49 | Lijn | Paal_P_51<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)49 | Lijn | Paal_P_51<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)49 | Lijn | Paal_P_51<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V4)49 | Lijn | Paal_P_51<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)49 | Lijn | Paal_P_51<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)49 | Lijn | Paal_P_51<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)49 | Lijn | Paal_P_51<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)49 | Lijn | Paal_P_51<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)49 | Lijn | Paal_P_51<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)49 | Lijn | Paal_P_51<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen52 | Lijn | Paal_P_52<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)50 | Lijn | Paal_P_52<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)50 | Lijn | Paal_P_52<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)50 | Lijn | Paal_P_52<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)50 | Lijn | Paal_P_52<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)50 | Lijn | Paal_P_52<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)50 | Lijn | Paal_P_52<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)50 | Lijn | Paal_P_52<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)50 | Lijn | Paal_P_52<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)50 | Lijn | Paal_P_52<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)50 | Lijn | Paal_P_52<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen53 | Lijn | Paal_P_53<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)51 | Lijn | Paal_P_53<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)51 | Lijn | Paal_P_53<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)51 | Lijn | Paal_P_53<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)51 | Lijn | Paal_P_53<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)51 | Lijn | Paal_P_53<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)51 | Lijn | Paal_P_53<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)51 | Lijn | Paal_P_53<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)51 | Lijn | Paal_P_53<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)51 | Lijn | Paal_P_53<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)51 | Lijn | Paal_P_53<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen54 | Lijn | Paal_P_54<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)52 | Lijn | Paal_P_54<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)52 | Lijn | Paal_P_54<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

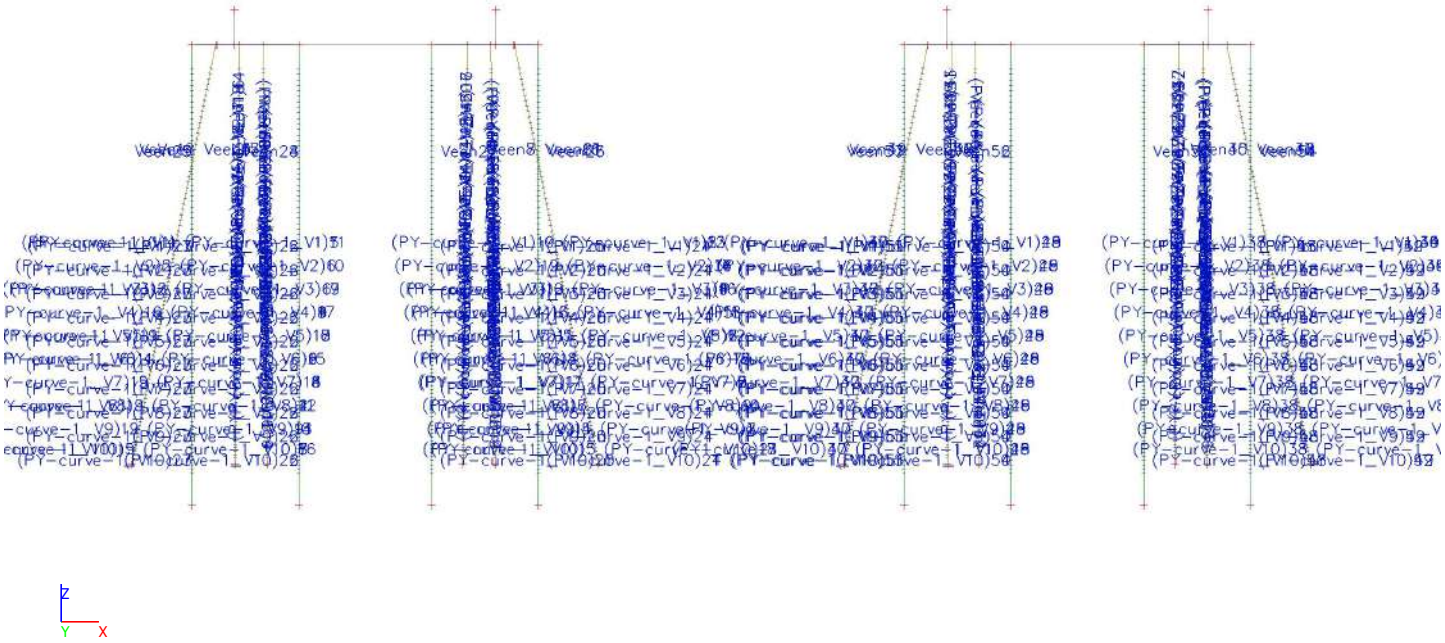
| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coör<br>Oors | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| (PY-curve-1_V3)52 | Lijn | Paal_P_54<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)52 | Lijn | Paal_P_54<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)52 | Lijn | Paal_P_54<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)52 | Lijn | Paal_P_54<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)52 | Lijn | Paal_P_54<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)52 | Lijn | Paal_P_54<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)52 | Lijn | Paal_P_54<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)52 | Lijn | Paal_P_54<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen55 | Lijn | Paal_P_55<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)53 | Lijn | Paal_P_55<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)53 | Lijn | Paal_P_55<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)53 | Lijn | Paal_P_55<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)53 | Lijn | Paal_P_55<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)53 | Lijn | Paal_P_55<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)53 | Lijn | Paal_P_55<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)53 | Lijn | Paal_P_55<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)53 | Lijn | Paal_P_55<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)53 | Lijn | Paal_P_55<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)53 | Lijn | Paal_P_55<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen56 | Lijn | Paal_P_56<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)54 | Lijn | Paal_P_56<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V2)54 | Lijn | Paal_P_56<br>LCS | 9,000<br>10,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V3)54 | Lijn | Paal_P_56<br>LCS | 10,000<br>11,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V4)54 | Lijn | Paal_P_56<br>LCS | 11,000<br>12,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V5)54 | Lijn | Paal_P_56<br>LCS | 12,000<br>13,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V6)54 | Lijn | Paal_P_56<br>LCS | 13,000<br>14,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V7)54 | Lijn | Paal_P_56<br>LCS | 14,000<br>15,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V8)54 | Lijn | Paal_P_56<br>LCS | 15,000<br>16,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V9)54 | Lijn | Paal_P_56<br>LCS | 16,000<br>17,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V10)54 | Lijn | Paal_P_56<br>LCS | 17,000<br>18,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| Veen57 | Lijn | Paal_P_57<br>LCS | 1,000<br>8,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| (PY-curve-1_V1)55 | Lijn | Paal_P_57<br>LCS | 8,000<br>9,000 | Abso<br>Vanaf begin | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |

| Naam | Type | Staaf | Pos $x_1$ [m] | Coör | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | Oors | | | | | | |
| (PY-curve-1_V2)55 | Lijn | Paal_P_57 | 9,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 10,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V3)55 | Lijn | Paal_P_57 | 10,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 11,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V4)55 | Lijn | Paal_P_57 | 11,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 12,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V5)55 | Lijn | Paal_P_57 | 12,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 13,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V6)55 | Lijn | Paal_P_57 | 13,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 14,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V7)55 | Lijn | Paal_P_57 | 14,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 15,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V8)55 | Lijn | Paal_P_57 | 15,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 16,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V9)55 | Lijn | Paal_P_57 | 16,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 17,000 | Vanaf begin | | | | | | |
| (PY-curve-1_V10)55 | Lijn | Paal_P_57 | 17,000 | Abso | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij |
| | | LCS | 18,000 | Vanaf begin | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



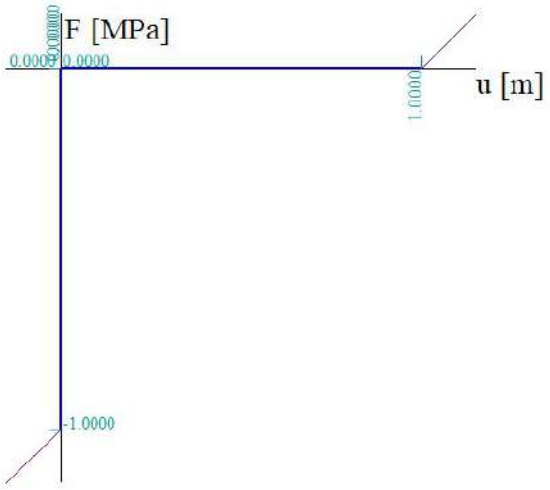
## 5.9. Analyse model met Lijnondersteuningen



## 5.10. Niet-lineaire functies

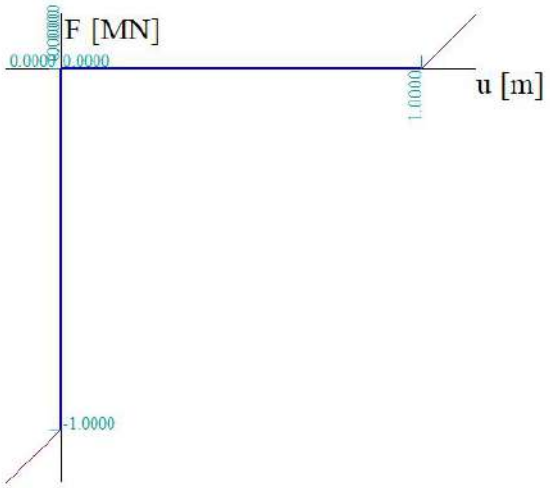
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| soil press only | Niet-lineair bedding | | Verend | Verend |

Tekenen



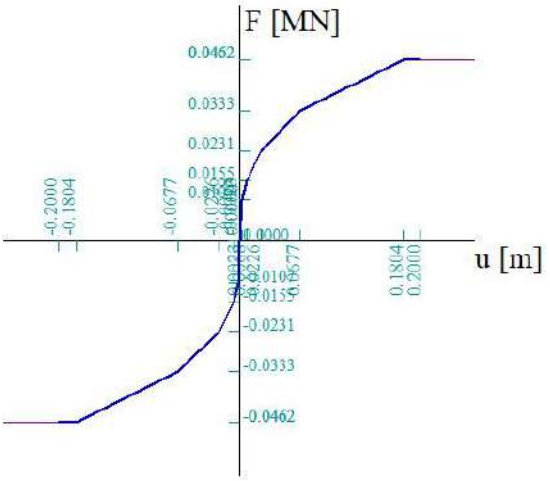

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| press only | Verplaatsing | -0.000001 / -1000000.000000 | Verend | Verend |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 0.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1 | Verplaatsing | -0.200000 / -46203.840000 | Vrij | Vrij |
| | | -0.180400 / -46203.840000 | | |
| | | -0.067650 / -33318.734193 | | |
| | | -0.022550 / -23101.920000 | | |
| | | -0.006765 / -15465.186458 | | |
| | | -0.002255 / -10722.961391 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 10722.961391 | | |
| | | 0.006765 / 15465.186458 | | |
| | | 0.022550 / 23101.920000 | | |
| | | 0.067650 / 33318.734193 | | |
| | | 0.180400 / 46203.840000 | | |
| | | 0.200000 / 46203.840000 | | |

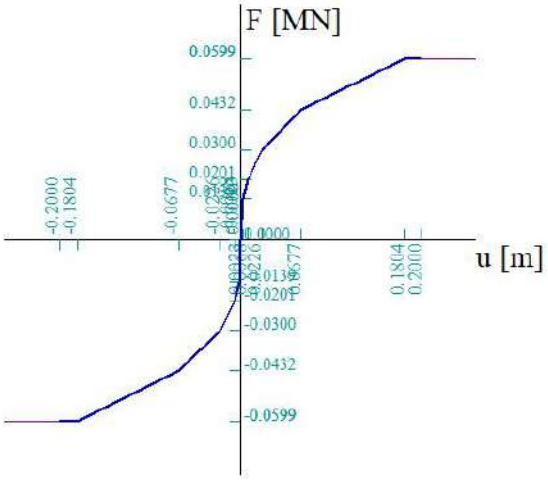
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2 | Verplaatsing | -0.200000 / -59935.680000 | Vrij | Vrij |
| | | -0.180400 / -59935.680000 | | |
| | | -0.067650 / -43221.104363 | | |
| | | -0.022550 / -29967.840000 | | |
| | | -0.006765 / -20061.459539 | | |
| | | -0.002255 / -13909.839151 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 13909.839151 | | |
| | | 0.006765 / 20061.459539 | | |

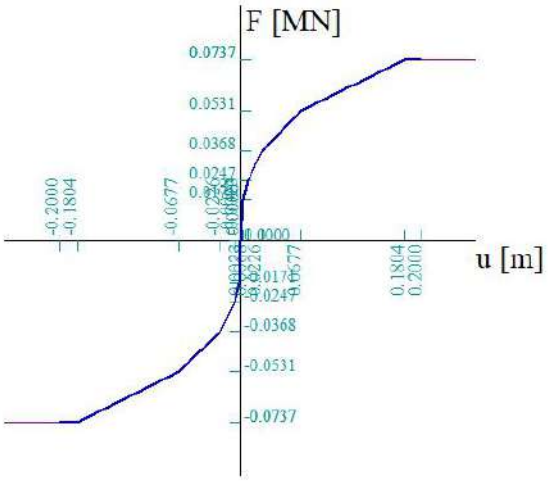
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.022550 / 29967.840000 | | |
| | | 0.067650 / 43221.104363 | | |
| | | 0.180400 / 59935.680000 | | |
| | | 0.200000 / 59935.680000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3 | Verplaatsing | -0.200000 / -73667.520000 | Vrij | Vrij |
| | | -0.180400 / -73667.520000 | | |
| | | -0.067650 / -53123.474533 | | |
| | | -0.022550 / -36833.760000 | | |
| | | -0.006765 / -24657.732619 | | |
| | | -0.002255 / -17096.716912 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 17096.716912 | | |
| | | 0.006765 / 24657.732619 | | |
| | | 0.022550 / 36833.760000 | | |
| | | 0.067650 / 53123.474533 | | |
| | | 0.180400 / 73667.520000 | | |
| | | 0.200000 / 73667.520000 | | |

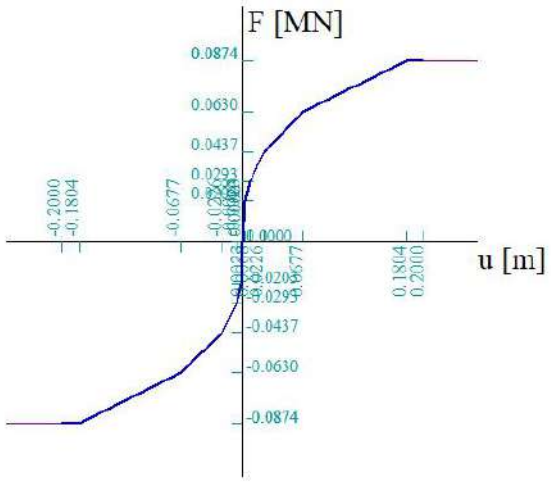
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4 | Verplaatsing | -0.200000 / -87399.360000 | Vrij | Vrij |
| | | -0.180400 / -87399.360000 | | |
| | | -0.067650 / -63025.844703 | | |

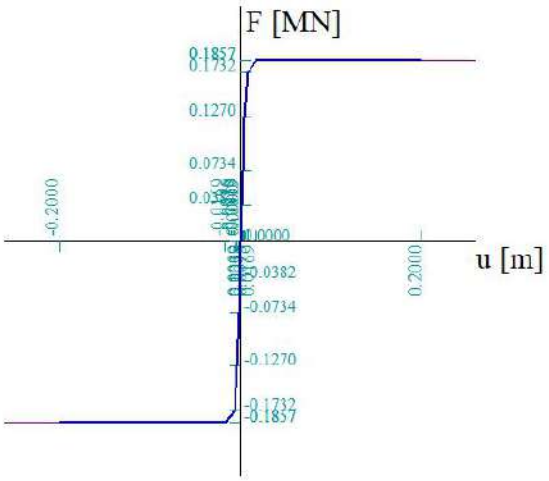
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.022550 / -43699.680000 | | |
| | | -0.006765 / -29254.005700 | | |
| | | -0.002255 / -20283.594672 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 20283.594672 | | |
| | | 0.006765 / 29254.005700 | | |
| | | 0.022550 / 43699.680000 | | |
| | | 0.067650 / 63025.844703 | | |
| | | 0.180400 / 87399.360000 | | |
| | | 0.200000 / 87399.360000 | | |

Tekenen



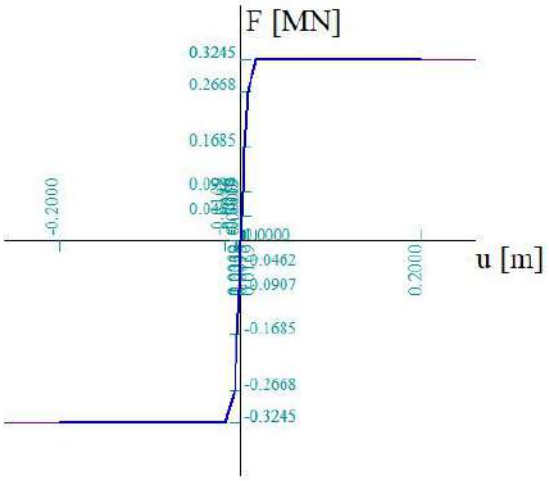

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5 | Verplaatsing | -0.200000 / -185749.581577 | Vrij | Vrij |
| | | -0.016913 / -185749.581577 | | |
| | | -0.007517 / -173191.521652 | | |
| | | -0.003758 / -126966.550767 | | |
| | | -0.001879 / -73364.887728 | | |
| | | -0.000940 / -38233.153457 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 38233.153457 | | |
| | | 0.001879 / 73364.887728 | | |
| | | 0.003758 / 126966.550767 | | |
| | | 0.007517 / 173191.521652 | | |
| | | 0.016913 / 185749.581577 | | |
| | | 0.200000 / 185749.581577 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6 | Verplaatsing | -0.200000 / -324503.959510 | Vrij | Vrij |
| | | -0.016913 / -324503.959510 | | |
| | | -0.007517 / -266801.170128 | | |
| | | -0.003758 / -168504.997582 | | |
| | | -0.001879 / -90672.108471 | | |
| | | -0.000940 / -46234.204284 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 46234.204284 | | |
| | | 0.001879 / 90672.108471 | | |
| | | 0.003758 / 168504.997582 | | |
| | | 0.007517 / 266801.170128 | | |
| | | 0.016913 / 324503.959510 | | |
| | | 0.200000 / 324503.959510 | | |

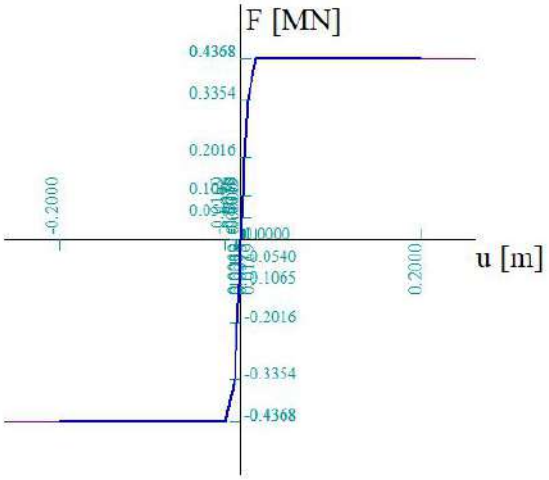
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7 | Verplaatsing | -0.200000 / -436765.819801 | Vrij | Vrij |
| | | -0.016913 / -436765.819801 | | |
| | | -0.007517 / -335362.730832 | | |
| | | -0.003758 / -201646.948699 | | |
| | | -0.001879 / -106522.716227 | | |
| | | -0.000940 / -54036.089272 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 54036.089272 | | |
| | | 0.001879 / 106522.716227 | | |
| | | 0.003758 / 201646.948699 | | |

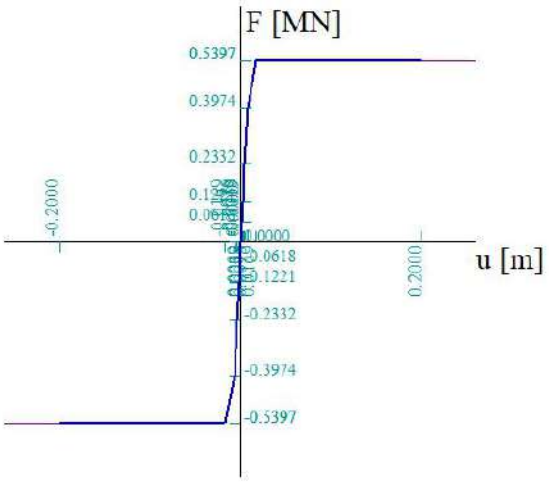
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.007517 / 335362.730832 | | |
| | | 0.016913 / 436765.819801 | | |
| | | 0.200000 / 436765.819801 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8 | Verplaatsing | -0.200000 / -539683.678038 | Vrij | Vrij |
| | | -0.016913 / -539683.678038 | | |
| | | -0.007517 / -397433.011814 | | |
| | | -0.003758 / -233158.398644 | | |
| | | -0.001879 / -122122.429030 | | |
| | | -0.000940 / -61804.852432 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 61804.852432 | | |
| | | 0.001879 / 122122.429030 | | |
| | | 0.003758 / 233158.398644 | | |
| | | 0.007517 / 397433.011814 | | |
| | | 0.016913 / 539683.678038 | | |
| | | 0.200000 / 539683.678038 | | |

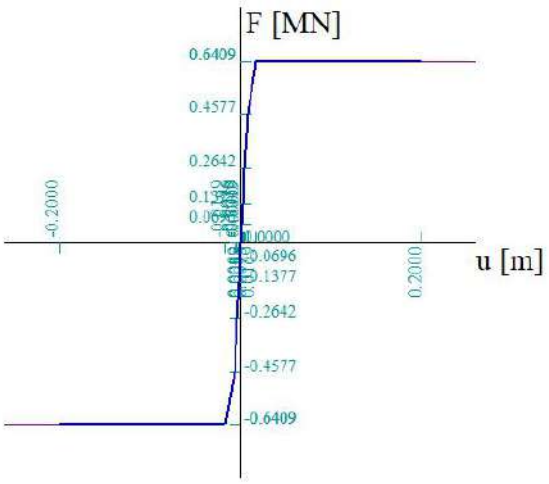
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9 | Verplaatsing | -0.200000 / -640861.931437 | Vrij | Vrij |
| | | -0.016913 / -640861.931437 | | |
| | | -0.007517 / -457700.088592 | | |
| | | -0.003758 / -264224.038576 | | |

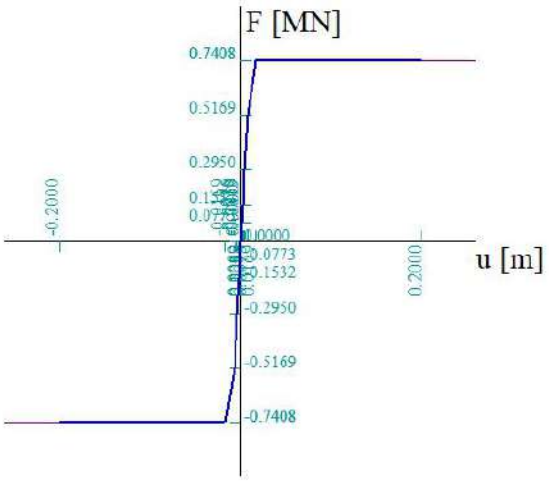
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.001879 / -137654.602914 | | |
| | | -0.000940 / -69564.742931 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 69564.742931 | | |
| | | 0.001879 / 137654.602914 | | |
| | | 0.003758 / 264224.038576 | | |
| | | 0.007517 / 457700.088592 | | |
| | | 0.016913 / 640861.931437 | | |
| | | 0.200000 / 640861.931437 | | |

Tekenen



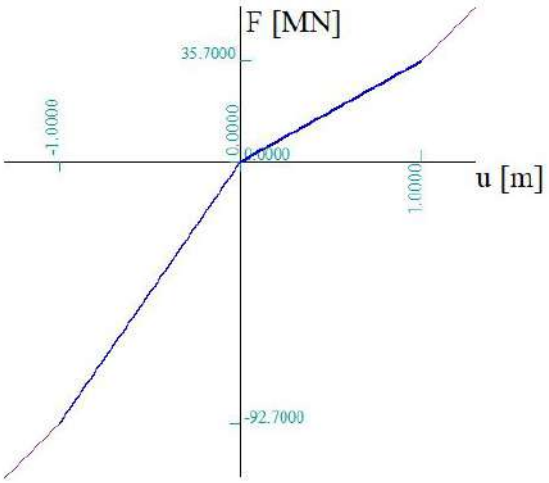

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V10 | Verplaatsing | -0.200000 / -740774.043969 | Vrij | Vrij |
| | | -0.016913 / -740774.043969 | | |
| | | -0.007517 / -516894.797403 | | |
| | | -0.003758 / -295043.983610 | | |
| | | -0.001879 / -153150.432455 | | |
| | | -0.000940 / -77319.889121 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000940 / 77319.889121 | | |
| | | 0.001879 / 153150.432455 | | |
| | | 0.003758 / 295043.983610 | | |
| | | 0.007517 / 516894.797403 | | |
| | | 0.016913 / 740774.043969 | | |
| | | 0.200000 / 740774.043969 | | |

Tekenen



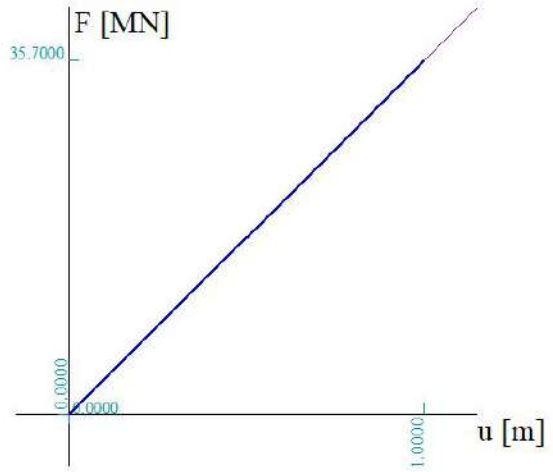

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| S+0 lower bound | Verplaatsing | -1.000000 / -92700000.000000 | Verend | Verend |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 35700000.000000 | | |

Tekenen



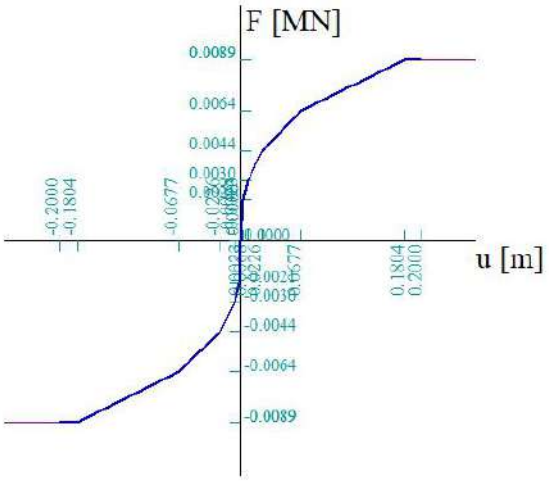

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| S+0 lower bound Trek | Verplaatsing | 0.000000 / 0.000000 | Verend | Vrij |
| | | 1.000000 / 35700000.000000 | | |

Tekenen



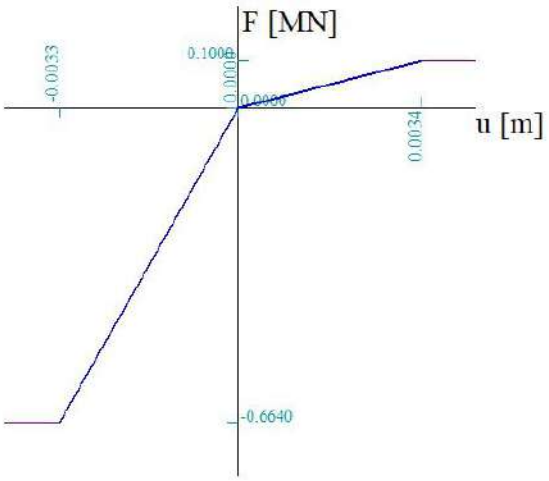

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -0.200000 / -8894.400000 | Vrij | Vrij |
| | | -0.180400 / -8894.400000 | | |
| | | -0.067650 / -6413.760000 | | |
| | | -0.022550 / -4447.680000 | | |
| | | -0.006765 / -2976.960000 | | |
| | | -0.002255 / -2064.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2064.000000 | | |
| | | 0.006765 / 2976.960000 | | |
| | | 0.022550 / 4447.680000 | | |
| | | 0.067650 / 6413.760000 | | |
| | | 0.180400 / 8894.400000 | | |
| | | 0.200000 / 8894.400000 | | |

Tekenen



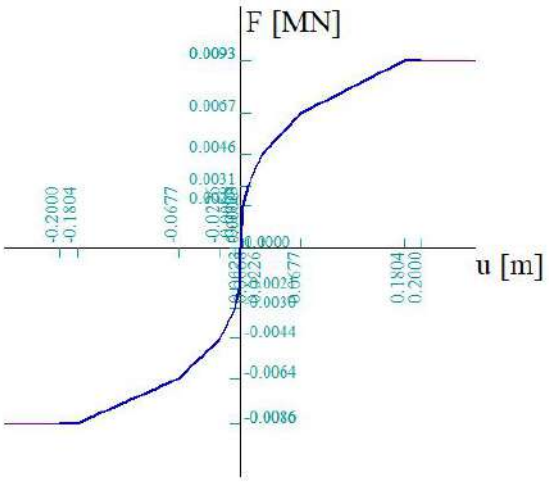

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt | Verplaatsing | -0.003320 / -664000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 0.003430 / 100000.000000 | | |

Tekenen



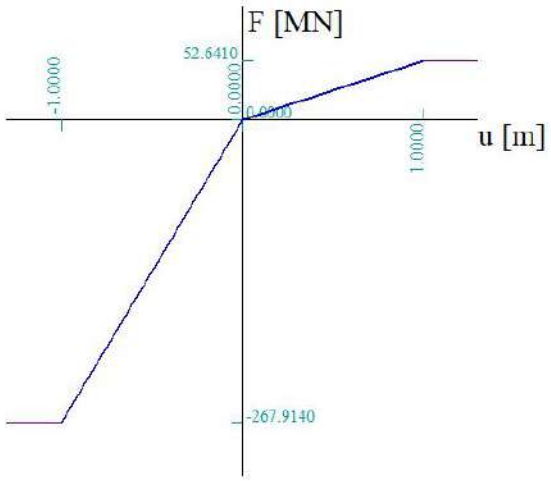

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen1 reduced | Verplaatsing | -0.200000 / -8640.000000 | Vrij | Vrij |
| | | -0.180400 / -8640.000000 | | |
| | | -0.067650 / -6432.000000 | | |
| | | -0.022550 / -4444.800000 | | |
| | | -0.006765 / -2976.000000 | | |
| | | -0.002255 / -2064.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3100.000000 | | |
| | | 0.022550 / 4630.000000 | | |
| | | 0.067650 / 6700.000000 | | |
| | | 0.180400 / 9270.000000 | | |
| | | 0.200000 / 9270.000000 | | |

Tekenen



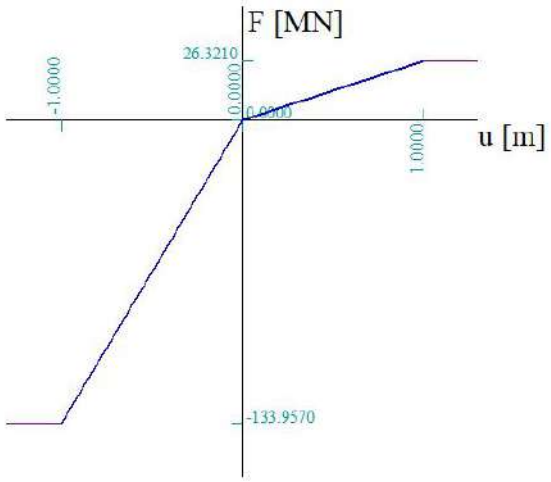

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.BG. | Verplaatsing | -1.000000 / -267914000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 52641000.000000 | | |

Tekenen



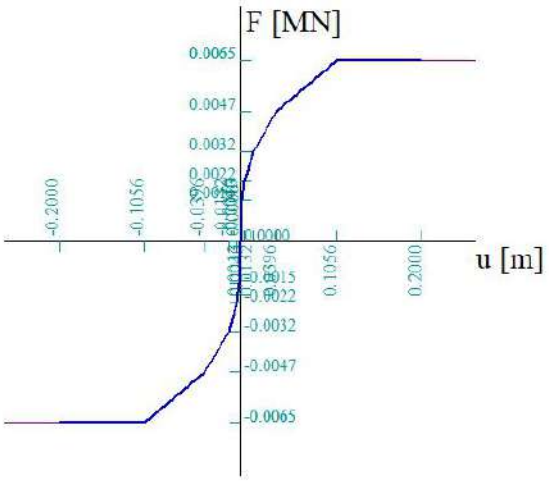

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Verplaatsing | -1.000000 / -133957000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 26321000.000000 | | |

Tekenen



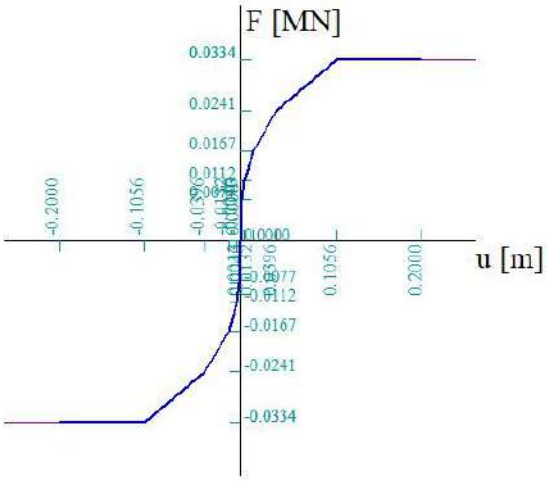

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen.B | Verplaatsing | -0.200000 / -6460.000000 | Vrij | Vrij |
| | | -0.105600 / -6460.000000 | | |
| | | -0.039600 / -4658.466112 | | |
| | | -0.013200 / -3230.000000 | | |
| | | -0.003960 / -2162.268429 | | |
| | | -0.001320 / -1499.233193 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 1499.233193 | | |
| | | 0.003960 / 2162.268429 | | |
| | | 0.013200 / 3230.000000 | | |
| | | 0.039600 / 4658.466112 | | |
| | | 0.105600 / 6460.000000 | | |
| | | 0.200000 / 6460.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1.B | Verplaatsing | -0.200000 / -33356.000000 | Vrij | Vrij |
| | | -0.105600 / -33356.000000 | | |
| | | -0.039600 / -24053.838334 | | |
| | | -0.013200 / -16678.000000 | | |
| | | -0.003960 / -11164.802741 | | |
| | | -0.001320 / -7741.241857 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 7741.241857 | | |
| | | 0.003960 / 11164.802741 | | |
| | | 0.013200 / 16678.000000 | | |
| | | 0.039600 / 24053.838334 | | |
| | | 0.105600 / 33356.000000 | | |
| | | 0.200000 / 33356.000000 | | |

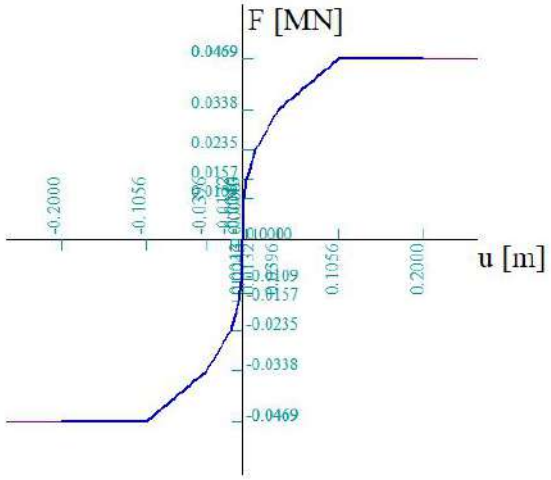
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2.B | Verplaatsing | -0.200000 / -46912.000000 | Vrij | Vrij |
| | | -0.105600 / -46912.000000 | | |
| | | -0.039600 / -33829.405921 | | |
| | | -0.013200 / -23456.000000 | | |
| | | -0.003960 / -15702.219277 | | |
| | | -0.001320 / -10887.310768 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 10887.310768 | | |
| | | 0.003960 / 15702.219277 | | |
| | | 0.013200 / 23456.000000 | | |

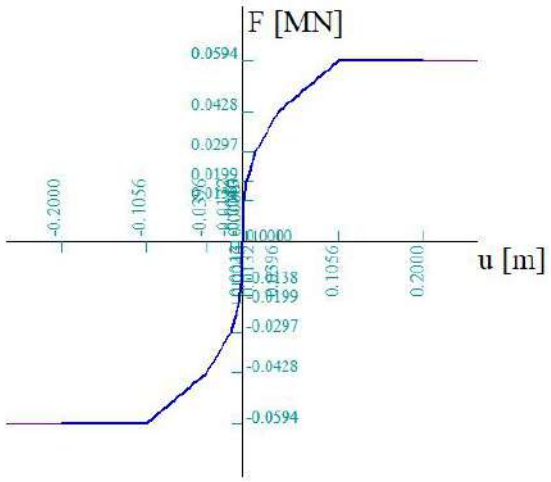
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.039600 / 33829.405921 | | |
| | | 0.105600 / 46912.000000 | | |
| | | 0.200000 / 46912.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3.B | Verplaatsing | -0.200000 / -59400.000000 | Vrij | Vrij |
| | | -0.105600 / -59400.000000 | | |
| | | -0.039600 / -42834.812238 | | |
| | | -0.013200 / -29700.000000 | | |
| | | -0.003960 / -19882.158617 | | |
| | | -0.001320 / -13785.518836 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 13785.518836 | | |
| | | 0.003960 / 19882.158617 | | |
| | | 0.013200 / 29700.000000 | | |
| | | 0.039600 / 42834.812238 | | |
| | | 0.105600 / 59400.000000 | | |
| | | 0.200000 / 59400.000000 | | |

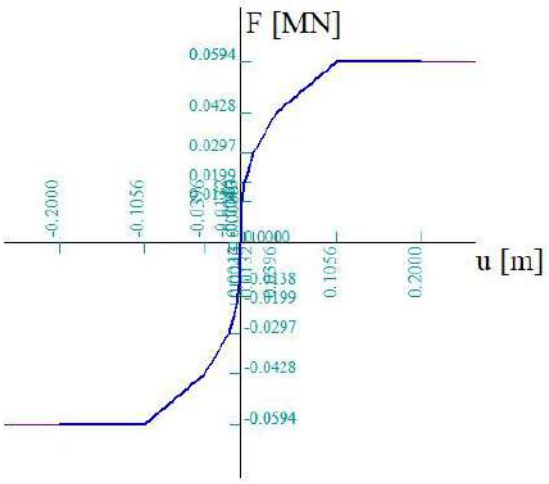
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4.B | Verplaatsing | -0.200000 / -59400.000000 | Vrij | Vrij |
| | | -0.105600 / -59400.000000 | | |
| | | -0.039600 / -42834.812238 | | |
| | | -0.013200 / -29700.000000 | | |

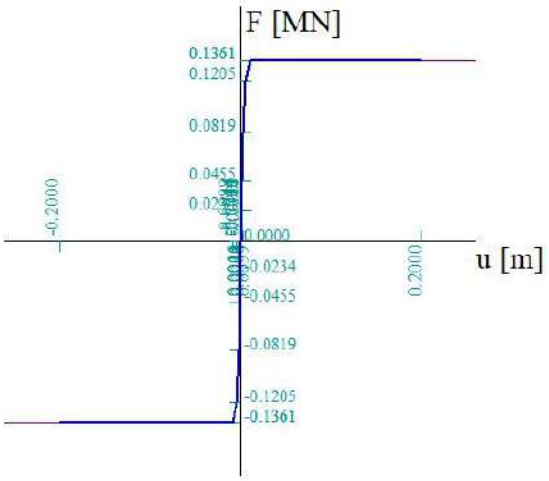
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.003960 / -19882.158617 | | |
| | | -0.001320 / -13785.518836 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 13785.518836 | | |
| | | 0.003960 / 19882.158617 | | |
| | | 0.013200 / 29700.000000 | | |
| | | 0.039600 / 42834.812238 | | |
| | | 0.105600 / 59400.000000 | | |
| | | 0.200000 / 59400.000000 | | |

Tekenen



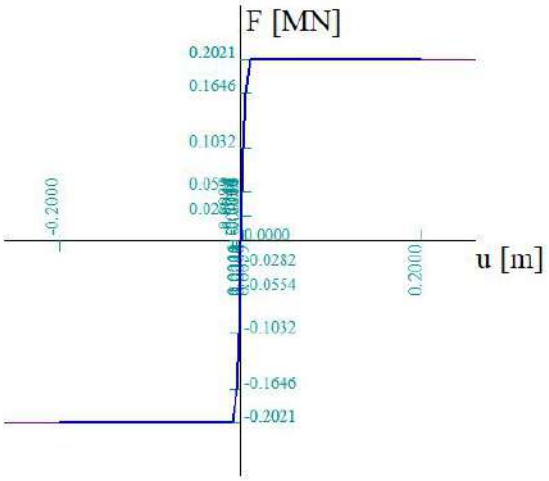

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5.B | Verplaatsing | -0.200000 / -136061.435780 | Vrij | Vrij |
| | | -0.009900 / -136061.435780 | | |
| | | -0.004400 / -120490.397152 | | |
| | | -0.002200 / -81905.788954 | | |
| | | -0.001100 / -45495.958980 | | |
| | | -0.000550 / -23416.484836 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 23416.484836 | | |
| | | 0.001100 / 45495.958980 | | |
| | | 0.002200 / 81905.788954 | | |
| | | 0.004400 / 120490.397152 | | |
| | | 0.009900 / 136061.435780 | | |
| | | 0.200000 / 136061.435780 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6.B | Verplaatsing | -0.200000 / -202115.170793 | Vrij | Vrij |
| | | -0.009900 / -202115.170793 | | |
| | | -0.004400 / -164609.181382 | | |
| | | -0.002200 / -103173.239353 | | |
| | | -0.001100 / -55351.307550 | | |
| | | -0.000550 / -28199.892288 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 28199.892288 | | |
| | | 0.001100 / 55351.307550 | | |
| | | 0.002200 / 103173.239353 | | |
| | | 0.004400 / 164609.181382 | | |
| | | 0.009900 / 202115.170793 | | |
| | | 0.200000 / 202115.170793 | | |

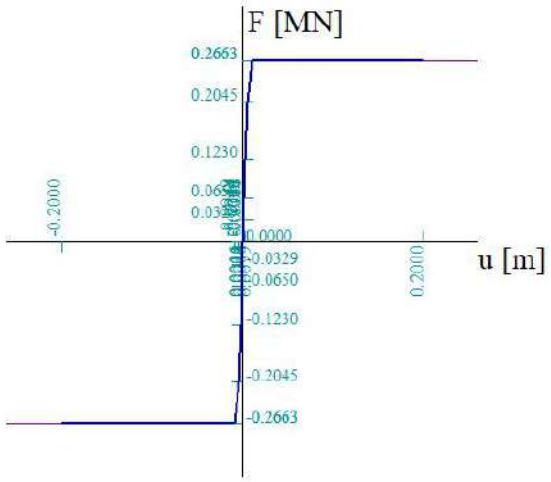
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7.B | Verplaatsing | -0.200000 / -266320.621830 | Vrij | Vrij |
| | | -0.009900 / -266320.621830 | | |
| | | -0.004400 / -204489.470019 | | |
| | | -0.002200 / -122955.456524 | | |
| | | -0.001100 / -64952.875748 | | |
| | | -0.000550 / -32948.834922 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 32948.834922 | | |
| | | 0.001100 / 64952.875748 | | |
| | | 0.002200 / 122955.456524 | | |

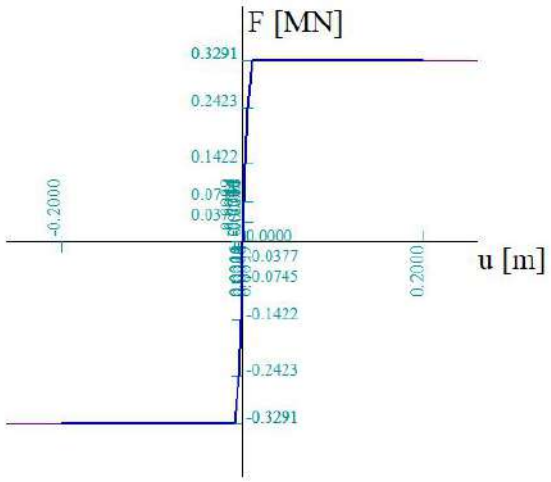
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.004400 / 204489.470019 | | |
| | | 0.009900 / 266320.621830 | | |
| | | 0.200000 / 266320.621830 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8.B | Verplaatsing | -0.200000 / -329075.413438 | Vrij | Vrij |
| | | -0.009900 / -329075.413438 | | |
| | | -0.004400 / -242337.202326 | | |
| | | -0.002200 / -142169.755271 | | |
| | | -0.001100 / -74464.895750 | | |
| | | -0.000550 / -37685.885629 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 37685.885629 | | |
| | | 0.001100 / 74464.895750 | | |
| | | 0.002200 / 142169.755271 | | |
| | | 0.004400 / 242337.202326 | | |
| | | 0.009900 / 329075.413438 | | |
| | | 0.200000 / 329075.413438 | | |

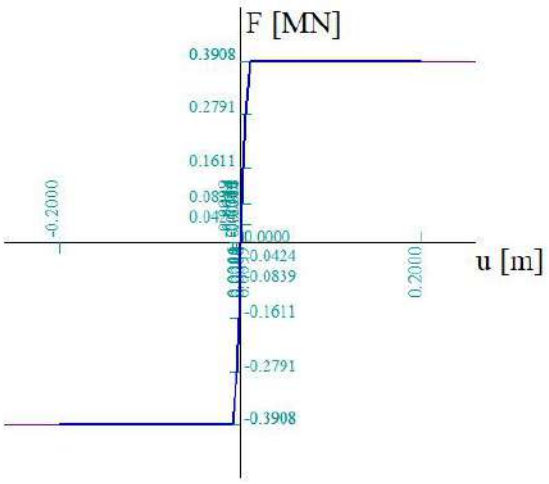
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9.B | Verplaatsing | -0.200000 / -390769.470388 | Vrij | Vrij |
| | | -0.009900 / -390769.470388 | | |
| | | -0.004400 / -279085.419873 | | |
| | | -0.002200 / -161112.218644 | | |

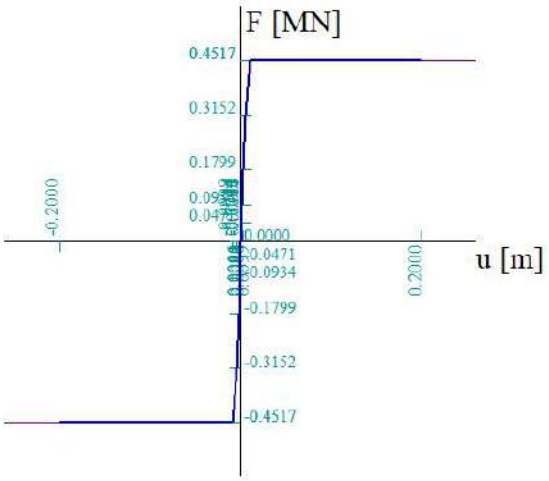
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.001100 / -83935.733484 | | |
| | | -0.000550 / -42417.526178 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 42417.526178 | | |
| | | 0.001100 / 83935.733484 | | |
| | | 0.002200 / 161112.218644 | | |
| | | 0.004400 / 279085.419873 | | |
| | | 0.009900 / 390769.470388 | | |
| | | 0.200000 / 390769.470388 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V10.B | Verplaatsing | -0.200000 / -451691.490225 | Vrij | Vrij |
| | | -0.009900 / -451691.490225 | | |
| | | -0.004400 / -315179.754514 | | |
| | | -0.002200 / -179904.868055 | | |
| | | -0.001100 / -93384.410034 | | |
| | | -0.000550 / -47146.273854 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 47146.273854 | | |
| | | 0.001100 / 93384.410034 | | |
| | | 0.002200 / 179904.868055 | | |
| | | 0.004400 / 315179.754514 | | |
| | | 0.009900 / 451691.490225 | | |
| | | 0.200000 / 451691.490225 | | |

Tekenen

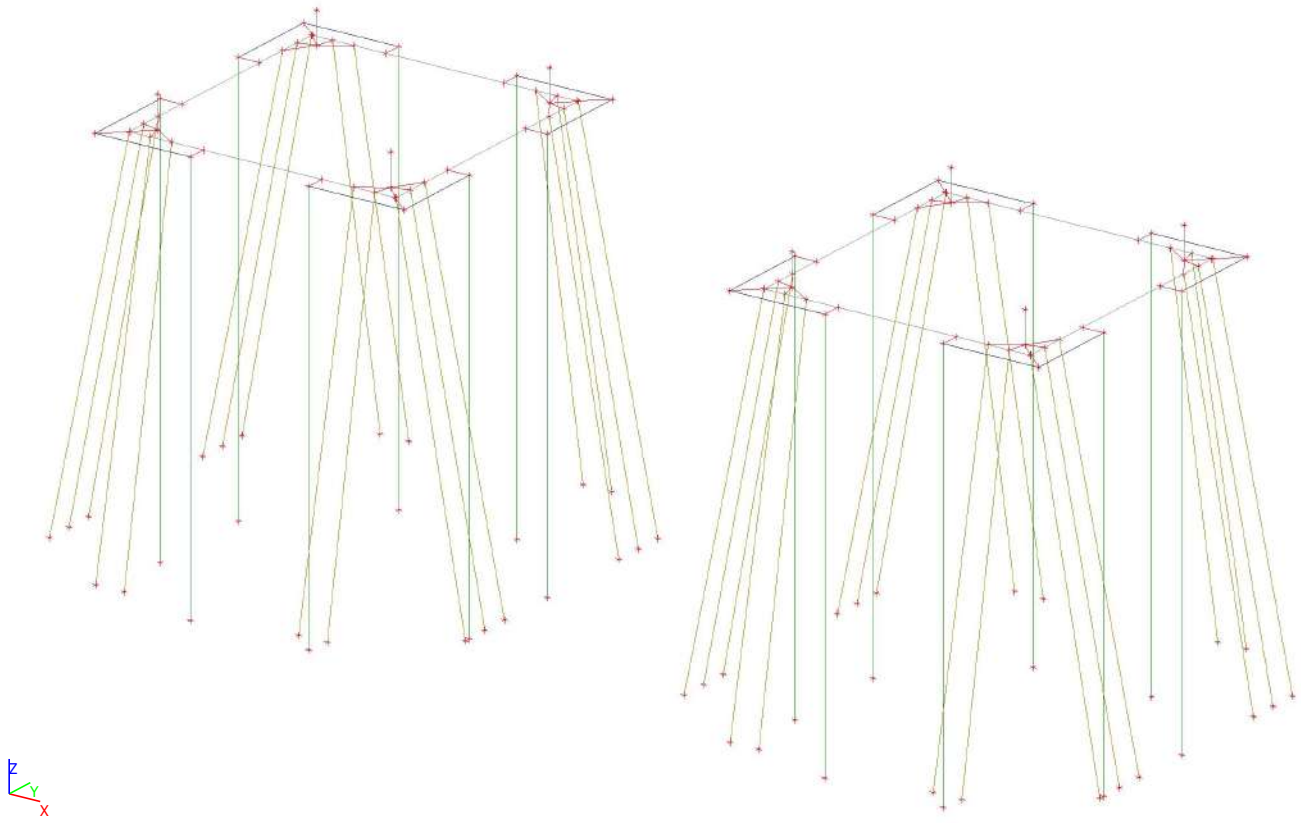

F [MN]
0.4517
0.3152
0.1799
-0.2000
0.0000
0.0471
0.0934
-0.1799
-0.3152
-0.4517
0.2000
u [m]

# 6. Belastingen

## 6.1. Belastingsgevallen

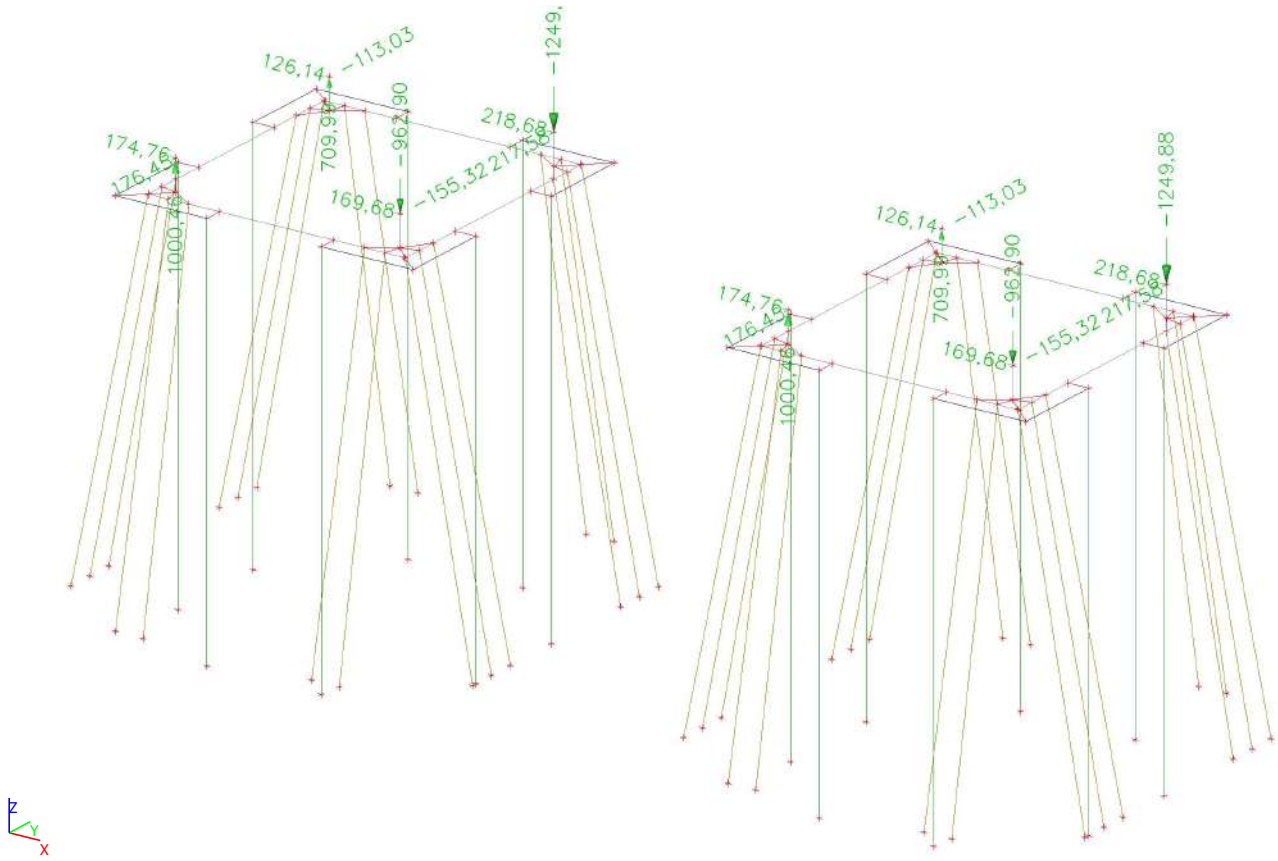
### 6.1.1. Belastingsgevallen - E.G.

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Type last | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |




### 6.1.2. Belastingsgevallen - hL Bck + Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Type last | | | |
| hL Bck + Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



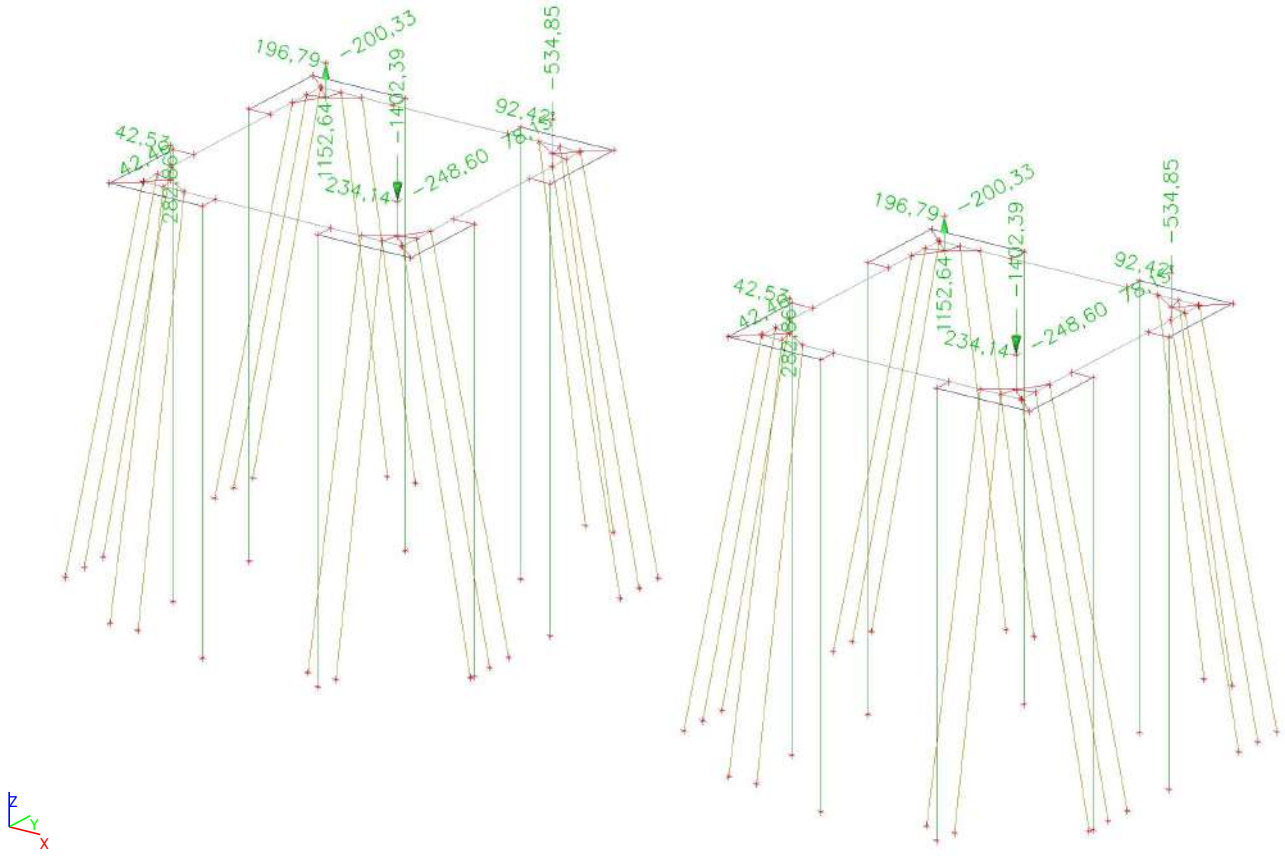

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| hL Bck + Wnd ;135°_1P_X | 1P | hL Bck + Wnd ;135° | GCS | X | Kracht | 174,76 |
| hL Bck + Wnd ;135°_1P_Y | 1P | hL Bck + Wnd ;135° | GCS | Y | Kracht | 176,45 |
| hL Bck + Wnd ;135°_1P_Z | 1P | hL Bck + Wnd ;135° | GCS | Z | Kracht | 1000,46 |
| hL Bck + Wnd ;135°_1X_X | 1X | hL Bck + Wnd ;135° | GCS | X | Kracht | 126,14 |
| hL Bck + Wnd ;135°_1X_Y | 1X | hL Bck + Wnd ;135° | GCS | Y | Kracht | -113,03 |
| hL Bck + Wnd ;135°_1X_Z | 1X | hL Bck + Wnd ;135° | GCS | Z | Kracht | 709,99 |
| hL Bck + Wnd ;135°_1XY_X | 1XY | hL Bck + Wnd ;135° | GCS | X | Kracht | 218,68 |
| hL Bck + Wnd ;135°_1XY_Y | 1XY | hL Bck + Wnd ;135° | GCS | Y | Kracht | 217,58 |
| hL Bck + Wnd ;135°_1XY_Z | 1XY | hL Bck + Wnd ;135° | GCS | Z | Kracht | -1249,88 |
| hL Bck + Wnd ;135°_1Y_X | 1Y | hL Bck + Wnd ;135° | GCS | X | Kracht | 169,68 |
| hL Bck + Wnd ;135°_1Y_Y | 1Y | hL Bck + Wnd ;135° | GCS | Y | Kracht | -155,32 |
| hL Bck + Wnd ;135°_1Y_Z | 1Y | hL Bck + Wnd ;135° | GCS | Z | Kracht | -962,90 |
| hL Bck + Wnd ;135°_1Y_X1 | 1Y1 | hL Bck + Wnd ;135° | GCS | X | Kracht | 169,68 |
| hL Bck + Wnd ;135°_1Y_Y1 | 1Y1 | hL Bck + Wnd ;135° | GCS | Y | Kracht | -155,32 |
| hL Bck + Wnd | 1Y1 | hL Bck + Wnd ;135° | GCS | Z | Kracht | -962,90 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| hL Bck + Wnd ;135°_1XY_X1 | 1XY1 | hL Bck + Wnd ;135° | GCS | X | Kracht | 218,68 |
| hL Bck + Wnd ;135°_1XY_Y1 | 1XY1 | hL Bck + Wnd ;135° | GCS | Y | Kracht | 217,58 |
| hL Bck + Wnd ;135°_1XY_Z1 | 1XY1 | hL Bck + Wnd ;135° | GCS | Z | Kracht | -1249,88 |
| hL Bck + Wnd ;135°_1P_X1 | 1P1 | hL Bck + Wnd ;135° | GCS | X | Kracht | 174,76 |
| hL Bck + Wnd ;135°_1P_Y1 | 1P1 | hL Bck + Wnd ;135° | GCS | Y | Kracht | 176,45 |
| hL Bck + Wnd ;135°_1P_Z1 | 1P1 | hL Bck + Wnd ;135° | GCS | Z | Kracht | 1000,46 |
| hL Bck + Wnd ;135°_1X_X1 | 1X1 | hL Bck + Wnd ;135° | GCS | X | Kracht | 126,14 |
| hL Bck + Wnd ;135°_1X_Y1 | 1X1 | hL Bck + Wnd ;135° | GCS | Y | Kracht | -113,03 |
| hL Bck + Wnd ;135°_1X_Z1 | 1X1 | hL Bck + Wnd ;135° | GCS | Z | Kracht | 709,99 |

### 6.1.3. Belastingsgevallen - hL Bck + Wnd ;270°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Type last | | | |
| hL Bck + Wnd ;270° | Standaard | Variabel<br>Statisch | LG4 | Kort | Geen |

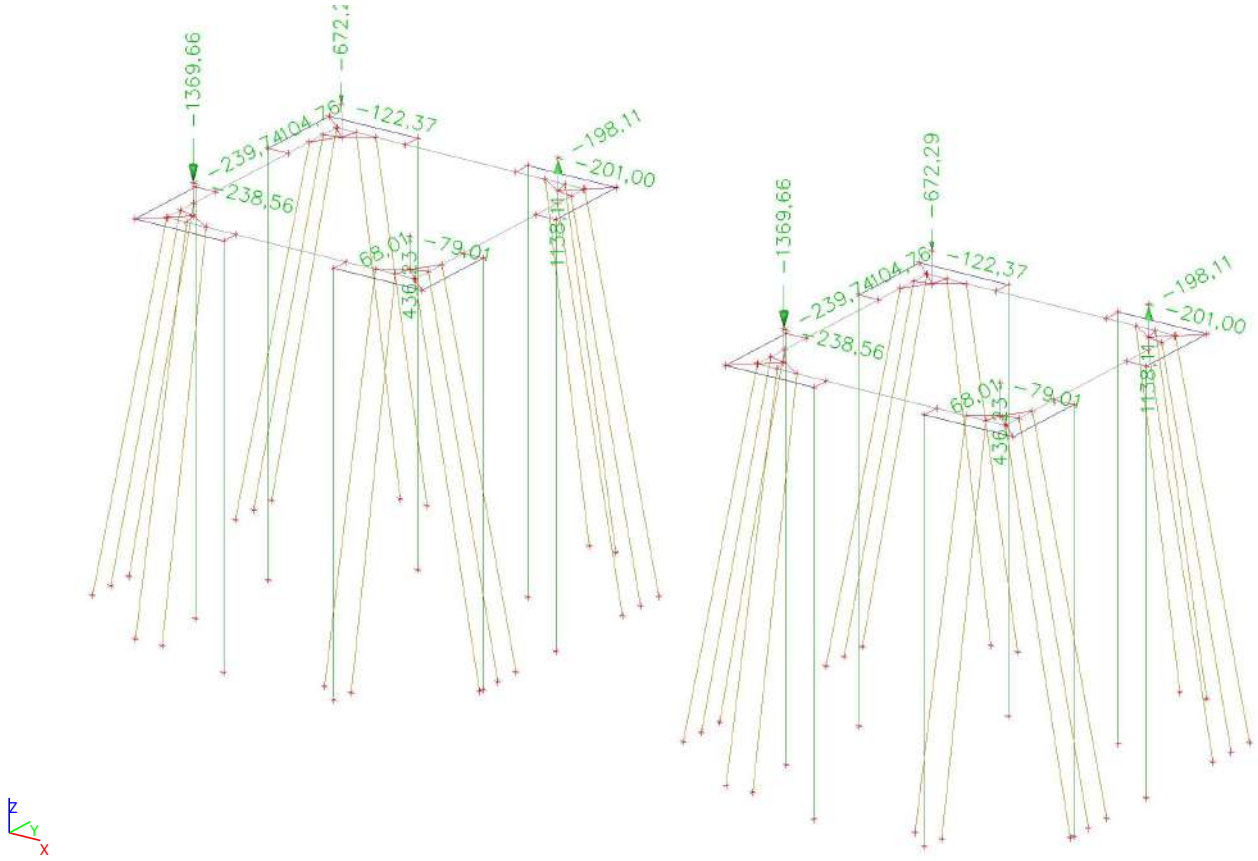


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| hL Bck + Wnd ;270°_1P_X | 1P | hL Bck + Wnd ;270° | GCS | X | Kracht | 42,53 |
| hL Bck + Wnd ;270°_1P_Y | 1P | hL Bck + Wnd ;270° | GCS | Y | Kracht | 42,46 |
| hL Bck + Wnd ;270°_1P_Z | 1P | hL Bck + Wnd ;270° | GCS | Z | Kracht | 282,86 |
| hL Bck + Wnd ;270°_1X_X | 1X | hL Bck + Wnd ;270° | GCS | X | Kracht | 196,79 |
| hL Bck + Wnd ;270°_1X_Y | 1X | hL Bck + Wnd ;270° | GCS | Y | Kracht | -200,33 |
| hL Bck + Wnd ;270°_1X_Z | 1X | hL Bck + Wnd ;270° | GCS | Z | Kracht | 1152,64 |
| hL Bck + Wnd ;270°_1XY_X | 1XY | hL Bck + Wnd ;270° | GCS | X | Kracht | 92,42 |
| hL Bck + Wnd ;270°_1XY_Y | 1XY | hL Bck + Wnd ;270° | GCS | Y | Kracht | 78,15 |
| hL Bck + Wnd ;270°_1XY_Z | 1XY | hL Bck + Wnd ;270° | GCS | Z | Kracht | -534,85 |
| hL Bck + Wnd ;270°_1Y_X | 1Y | hL Bck + Wnd ;270° | GCS | X | Kracht | 234,14 |
| hL Bck + Wnd ;270°_1Y_Y | 1Y | hL Bck + Wnd ;270° | GCS | Y | Kracht | -248,60 |
| hL Bck + Wnd ;270°_1Y_Z | 1Y | hL Bck + Wnd ;270° | GCS | Z | Kracht | -1402,39 |
| hL Bck + Wnd ;270°_1Y_X1 | 1Y1 | hL Bck + Wnd ;270° | GCS | X | Kracht | 234,14 |
| hL Bck + Wnd ;270°_1Y_Y1 | 1Y1 | hL Bck + Wnd ;270° | GCS | Y | Kracht | -248,60 |
| hL Bck + Wnd ;270°_1Y_Z1 | 1Y1 | hL Bck + Wnd ;270° | GCS | Z | Kracht | -1402,39 |
| hL Bck + Wnd ;270°_1XY_X1 | 1XY1 | hL Bck + Wnd ;270° | GCS | X | Kracht | 92,42 |
| hL Bck + Wnd ;270°_1XY_Y1 | 1XY1 | hL Bck + Wnd ;270° | GCS | Y | Kracht | 78,15 |
| hL Bck + Wnd ;270°_1XY_Z1 | 1XY1 | hL Bck + Wnd ;270° | GCS | Z | Kracht | -534,85 |
| hL Bck + Wnd ;270°_1P_X1 | 1P1 | hL Bck + Wnd ;270° | GCS | X | Kracht | 42,53 |
| hL Bck + Wnd ;270°_1P_Y1 | 1P1 | hL Bck + Wnd ;270° | GCS | Y | Kracht | 42,46 |
| hL Bck + Wnd ;270°_1P_Z1 | 1P1 | hL Bck + Wnd ;270° | GCS | Z | Kracht | 282,86 |
| hL Bck + Wnd ;270°_1X_X1 | 1X1 | hL Bck + Wnd ;270° | GCS | X | Kracht | 196,79 |
| hL Bck + Wnd ;270°_1X_Y1 | 1X1 | hL Bck + Wnd ;270° | GCS | Y | Kracht | -200,33 |
| hL Bck + Wnd ;270°_1X_Z1 | 1X1 | hL Bck + Wnd ;270° | GCS | Z | Kracht | 1152,64 |

### 6.1.4. Belastingsgevallen - hL Ahd + Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Type last | | | |
| hL Ahd + Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



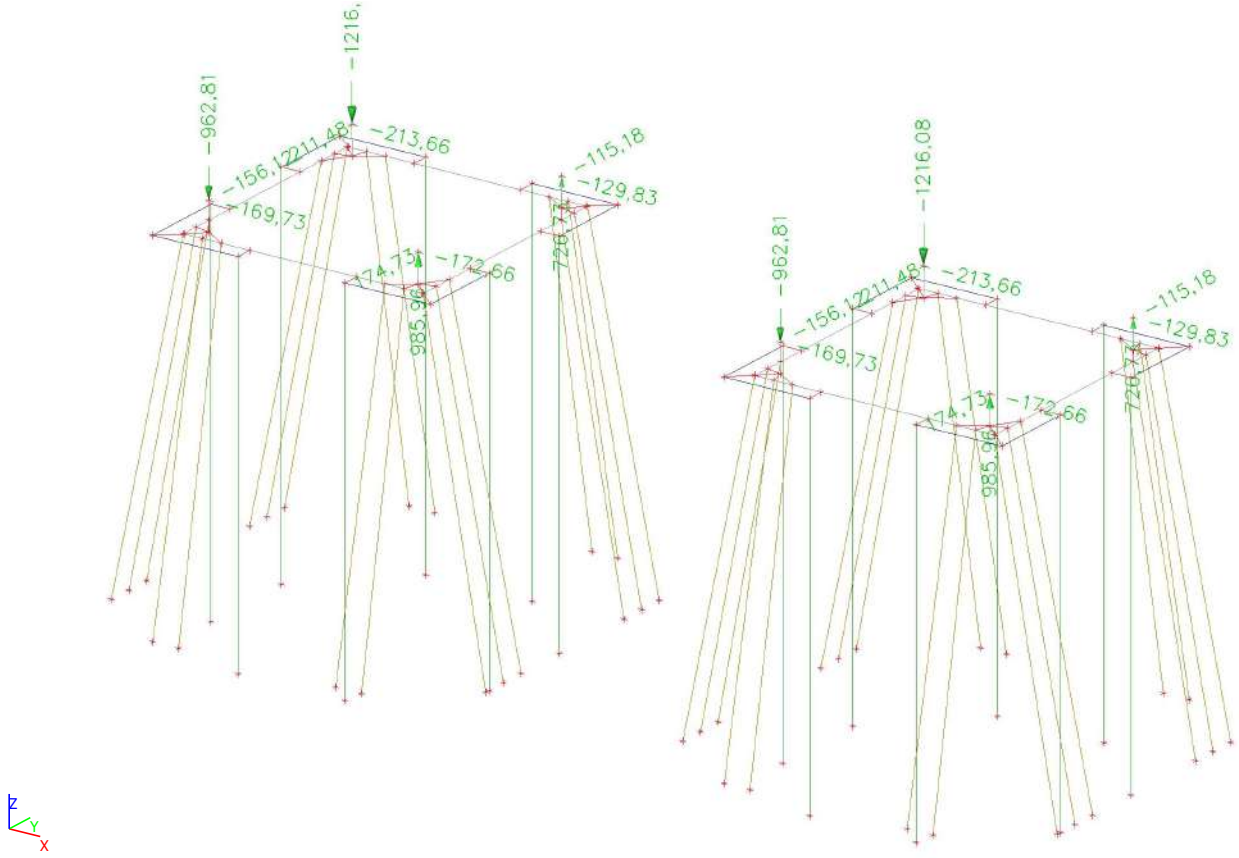

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| hL Ahd + Wnd ;315°_1P_X | 1P | hL Ahd + Wnd ;315° | GCS | X | Kracht | -238,56 |
| hL Ahd + Wnd ;315°_1P_Y | 1P | hL Ahd + Wnd ;315° | GCS | Y | Kracht | -239,74 |
| hL Ahd + Wnd ;315°_1P_Z | 1P | hL Ahd + Wnd ;315° | GCS | Z | Kracht | -1369,66 |
| hL Ahd + Wnd ;315°_1X_X | 1X | hL Ahd + Wnd ;315° | GCS | X | Kracht | -122,37 |
| hL Ahd + Wnd ;315°_1X_Y | 1X | hL Ahd + Wnd ;315° | GCS | Y | Kracht | 104,76 |
| hL Ahd + Wnd ;315°_1X_Z | 1X | hL Ahd + Wnd ;315° | GCS | Z | Kracht | -672,29 |
| hL Ahd + Wnd ;315°_1XY_X | 1XY | hL Ahd + Wnd ;315° | GCS | X | Kracht | -201,00 |
| hL Ahd + Wnd ;315°_1XY_Y | 1XY | hL Ahd + Wnd ;315° | GCS | Y | Kracht | -198,11 |
| hL Ahd + Wnd ;315°_1XY_Z | 1XY | hL Ahd + Wnd ;315° | GCS | Z | Kracht | 1138,11 |
| hL Ahd + Wnd ;315°_1Y_X | 1Y | hL Ahd + Wnd ;315° | GCS | X | Kracht | -79,01 |
| hL Ahd + Wnd ;315°_1Y_Y | 1Y | hL Ahd + Wnd ;315° | GCS | Y | Kracht | 68,01 |
| hL Ahd + Wnd ;315°_1Y_Z | 1Y | hL Ahd + Wnd ;315° | GCS | Z | Kracht | 436,23 |
| hL Ahd + Wnd ;315°_1Y_X1 | 1Y1 | hL Ahd + Wnd ;315° | GCS | X | Kracht | -79,01 |
| hL Ahd + Wnd ;315°_1Y_Y1 | 1Y1 | hL Ahd + Wnd ;315° | GCS | Y | Kracht | 68,01 |
| hL Ahd + Wnd | 1Y1 | hL Ahd + Wnd ;315° | GCS | Z | Kracht | 436,23 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1Y_Z1 | | | | | | |
| hL Ahd + Wnd ;315°_1XY_X1 | 1XY1 | hL Ahd + Wnd ;315° | GCS | X | Kracht | -201,00 |
| hL Ahd + Wnd ;315°_1XY_Y1 | 1XY1 | hL Ahd + Wnd ;315° | GCS | Y | Kracht | -198,11 |
| hL Ahd + Wnd ;315°_1XY_Z1 | 1XY1 | hL Ahd + Wnd ;315° | GCS | Z | Kracht | 1138,11 |
| hL Ahd + Wnd ;315°_1P_X1 | 1P1 | hL Ahd + Wnd ;315° | GCS | X | Kracht | -238,56 |
| hL Ahd + Wnd ;315°_1P_Y1 | 1P1 | hL Ahd + Wnd ;315° | GCS | Y | Kracht | -239,74 |
| hL Ahd + Wnd ;315°_1P_Z1 | 1P1 | hL Ahd + Wnd ;315° | GCS | Z | Kracht | -1369,66 |
| hL Ahd + Wnd ;315°_1X_X1 | 1X1 | hL Ahd + Wnd ;315° | GCS | X | Kracht | -122,37 |
| hL Ahd + Wnd ;315°_1X_Y1 | 1X1 | hL Ahd + Wnd ;315° | GCS | Y | Kracht | 104,76 |
| hL Ahd + Wnd ;315°_1X_Z1 | 1X1 | hL Ahd + Wnd ;315° | GCS | Z | Kracht | -672,29 |

### 6.1.5. Belastingsgevallen - hL Ahd + Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Type last | | | |
| hL Ahd + Wnd ;45° | Standaard | Variabel<br>Statisch | LG4 | Kort | Geen |



#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| hL Ahd + Wnd ;45°_1P_X | 1P | hL Ahd + Wnd ;45° | GCS | X | Kracht | -169,73 |
| hL Ahd + Wnd ;45°_1P_Y | 1P | hL Ahd + Wnd ;45° | GCS | Y | Kracht | -156,12 |
| hL Ahd + Wnd ;45°_1P_Z | 1P | hL Ahd + Wnd ;45° | GCS | Z | Kracht | -962,81 |
| hL Ahd + Wnd ;45°_1X_X | 1X | hL Ahd + Wnd ;45° | GCS | X | Kracht | -213,66 |
| hL Ahd + Wnd ;45°_1X_Y | 1X | hL Ahd + Wnd ;45° | GCS | Y | Kracht | 211,48 |
| hL Ahd + Wnd ;45°_1X_Z | 1X | hL Ahd + Wnd ;45° | GCS | Z | Kracht | -1216,08 |
| hL Ahd + Wnd ;45°_1XY_X | 1XY | hL Ahd + Wnd ;45° | GCS | X | Kracht | -129,83 |
| hL Ahd + Wnd ;45°_1XY_Y | 1XY | hL Ahd + Wnd ;45° | GCS | Y | Kracht | -115,18 |
| hL Ahd + Wnd ;45°_1XY_Z | 1XY | hL Ahd + Wnd ;45° | GCS | Z | Kracht | 726,73 |
| hL Ahd + Wnd ;45°_1Y_X | 1Y | hL Ahd + Wnd ;45° | GCS | X | Kracht | -172,66 |
| hL Ahd + Wnd ;45°_1Y_Y | 1Y | hL Ahd + Wnd ;45° | GCS | Y | Kracht | 174,73 |
| hL Ahd + Wnd ;45°_1Y_Z | 1Y | hL Ahd + Wnd ;45° | GCS | Z | Kracht | 985,96 |
| hL Ahd + Wnd ;45°_1Y_X1 | 1Y1 | hL Ahd + Wnd ;45° | GCS | X | Kracht | -172,66 |
| hL Ahd + Wnd ;45°_1Y_Y1 | 1Y1 | hL Ahd + Wnd ;45° | GCS | Y | Kracht | 174,73 |
| hL Ahd + Wnd ;45°_1Y_Z1 | 1Y1 | hL Ahd + Wnd ;45° | GCS | Z | Kracht | 985,96 |
| hL Ahd + Wnd ;45°_1XY_X1 | 1XY1 | hL Ahd + Wnd ;45° | GCS | X | Kracht | -129,83 |
| hL Ahd + Wnd ;45°_1XY_Y1 | 1XY1 | hL Ahd + Wnd ;45° | GCS | Y | Kracht | -115,18 |
| hL Ahd + Wnd ;45°_1XY_Z1 | 1XY1 | hL Ahd + Wnd ;45° | GCS | Z | Kracht | 726,73 |
| hL Ahd + Wnd ;45°_1P_X1 | 1P1 | hL Ahd + Wnd ;45° | GCS | X | Kracht | -169,73 |
| hL Ahd + Wnd ;45°_1P_Y1 | 1P1 | hL Ahd + Wnd ;45° | GCS | Y | Kracht | -156,12 |
| hL Ahd + Wnd ;45°_1P_Z1 | 1P1 | hL Ahd + Wnd ;45° | GCS | Z | Kracht | -962,81 |
| hL Ahd + Wnd ;45°_1X_X1 | 1X1 | hL Ahd + Wnd ;45° | GCS | X | Kracht | -213,66 |
| hL Ahd + Wnd ;45°_1X_Y1 | 1X1 | hL Ahd + Wnd ;45° | GCS | Y | Kracht | 211,48 |
| hL Ahd + Wnd ;45°_1X_Z1 | 1X1 | hL Ahd + Wnd ;45° | GCS | Z | Kracht | -1216,08 |

## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| hL Ahd + Wnd ;45° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | hL Ahd + Wnd ;45° | 1,00 |
| hL Bck + Wnd ;135° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | hL Bck + Wnd ;135° | 1,00 |
| hL Bck + Wnd ;270° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | hL Bck + Wnd ;270° | 1,00 |
| hL Ahd + Wnd ;270° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | hL Ahd + Wnd ;315° | 1,00 |
| lL Bck + Wnd ;135° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | hL Bck + Wnd ;135° | 1,00 |
| lL Bck + Wnd ;270° | Uiterste Grenstoestand | E.G. | 0,90 |

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| | | hL Bck + Wnd ;270° | 1,00 |
| lL Ahd + Wnd ;270° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | hL Ahd + Wnd ;315° | 1,00 |
| lL Ahd + Wnd ;45° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | hL Ahd + Wnd ;45° | 1,00 |

## 6.3. Resultaatklasses

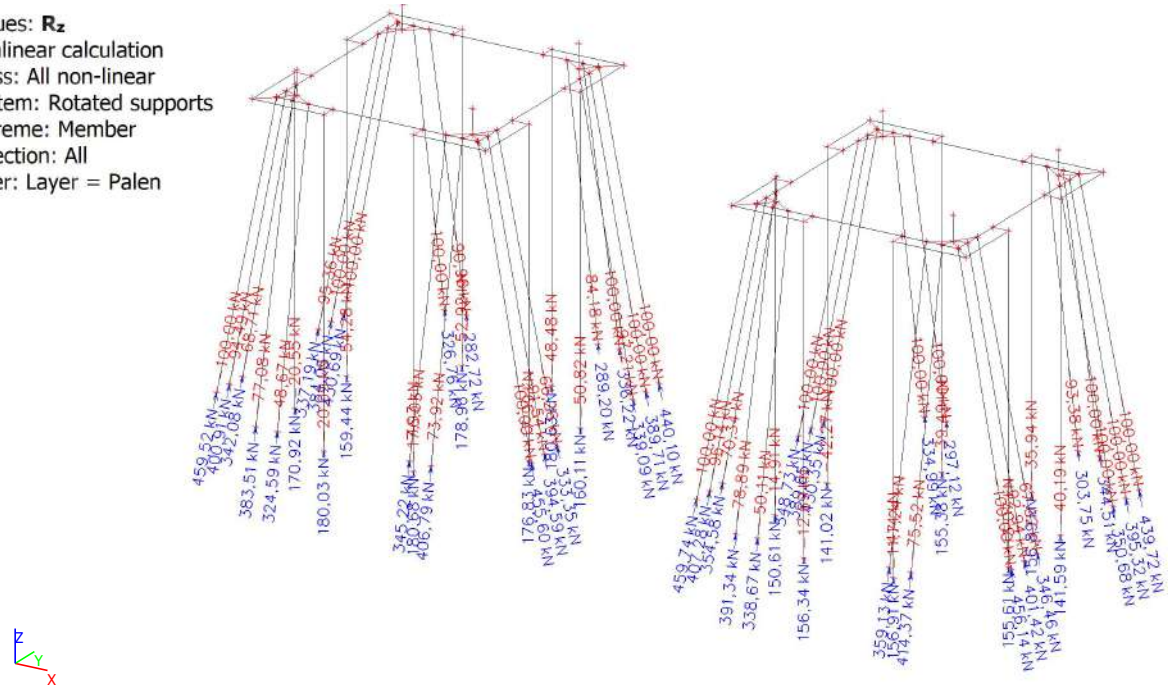
| Naam | Lijst |
|---|---|
| All non-linear | hL Ahd + Wnd ;45° |
| | hL Bck + Wnd ;135° |
| | hL Bck + Wnd ;270° |
| | hL Ahd + Wnd ;270° |
| | lL Bck + Wnd ;135° |
| | lL Bck + Wnd ;270° |
| | lL Ahd + Wnd ;270° |
| | lL Ahd + Wnd ;45° |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen



### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreme: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (400; 400)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn50/N115 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **459,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreme: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn45/N72 | lL Bck + Wnd ;270° | 0,00 | 0,00 | **-54,28** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn48/N80 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **180,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreme: Element
Selectie: Alle
Filter: Laag = Palen

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **459,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-94,49** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn22/N45 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **400,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-68,71** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **342,08** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-77,08** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn24/N47 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **383,51** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-48,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn26/N48 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **324,59** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **455,60** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-91,54** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn28/N50 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **394,58** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-66,26** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn29/N51 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **333,35** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-73,92** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn30/N52 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **406,79** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-46,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **345,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | hL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn32/N10 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **440,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn33/N11 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **389,71** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-97,21** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn34/N12 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **339,09** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn35/N13 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **336,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | lL Ahd + | 0,00 | 0,00 | **-84,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;270° | | | | | | | | |
| Sn36/N14 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **289,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **326,76** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-90,96** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **282,72** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **430,69** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **384,05** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-95,36** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **337,19** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn42/N60 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-48,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn42/N60 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **180,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn43/N61 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-50,82** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn43/N61 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **160,11** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn44/N70 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-52,92** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn44/N70 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **178,96** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn45/N72 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-54,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn45/N72 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **159,44** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn49/N81 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-17,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn49/N81 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **176,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn48/N80 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-17,93** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn48/N80 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **180,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn46/N75 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-20,09** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn46/N75 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **180,03** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn47/N77 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-20,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn47/N77 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **170,92** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn50/N115 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn50/N115 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **459,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn51/N116 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-96,14** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn51/N116 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **407,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn52/N117 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-70,34** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn52/N117 | hL Ahd + | **0,00** | **0,00** | **354,58** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

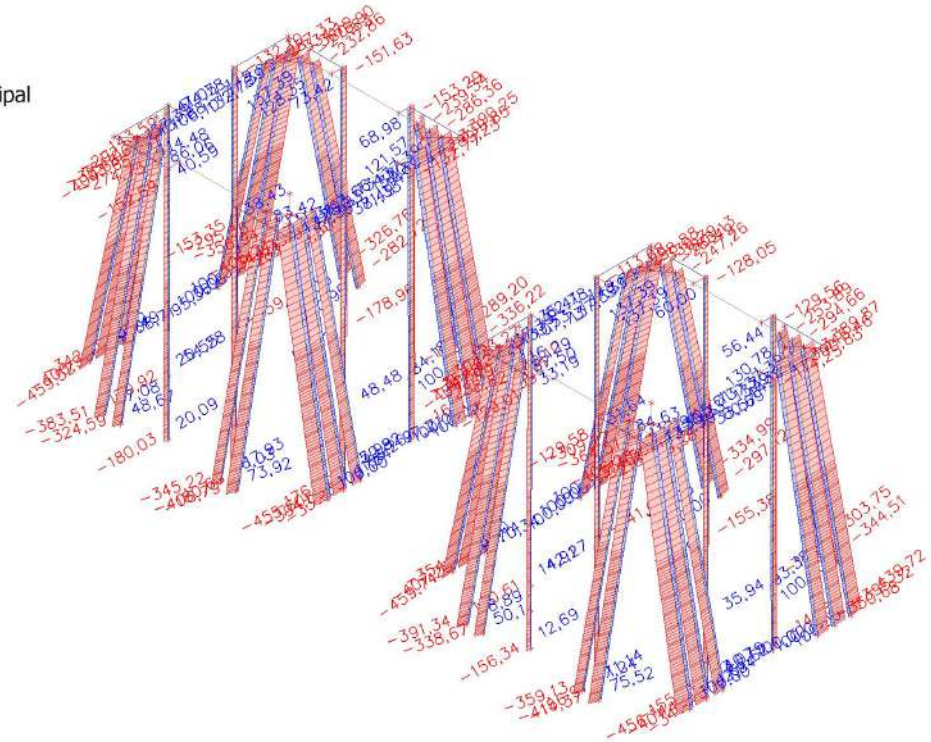
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;270° | | | | | | | | |
| Sn53/N118 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-78,89** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn53/N118 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **391,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn54/N119 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-50,11** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn54/N119 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **338,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn55/N120 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn55/N120 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **456,14** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn56/N121 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-92,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn56/N121 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **401,42** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn57/N122 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-67,62** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn57/N122 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **346,46** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn58/N123 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-75,52** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn58/N123 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **414,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn59/N124 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-47,24** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn59/N124 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **359,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn60/N125 | hL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn60/N125 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **439,72** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn61/N126 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn61/N126 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **395,32** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn62/N127 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn62/N127 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **350,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn63/N128 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-100,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn63/N128 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **344,51** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn64/N129 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-93,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn64/N129 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **303,75** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn65/N130 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn65/N130 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **334,99** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn66/N131 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn66/N131 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **297,12** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn67/N132 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn67/N132 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **430,35** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn68/N133 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn68/N133 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **389,65** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn69/N134 | lL Bck + | **0,00** | **0,00** | **-100,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;270° | | | | | | | | |
| Sn69/N134 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **348,73** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn70/N140 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-35,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn70/N140 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **156,89** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn71/N141 | lL Ahd + Wnd ;270° | 0,00 | 0,00 | **-40,19** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn71/N141 | hL Bck + Wnd ;135° | **0,00** | **0,00** | **141,59** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn72/N146 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-39,49** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn72/N146 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **155,38** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn73/N148 | lL Bck + Wnd ;270° | **0,00** | **0,00** | **-42,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn73/N148 | hL Ahd + Wnd ;45° | 0,00 | 0,00 | **141,02** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn77/N157 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-13,07** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn77/N157 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **155,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn76/N156 | lL Ahd + Wnd ;45° | 0,00 | 0,00 | **-11,14** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn76/N156 | hL Bck + Wnd ;270° | **0,00** | **0,00** | **156,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn74/N151 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-12,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn74/N151 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **156,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn75/N153 | lL Bck + Wnd ;135° | 0,00 | 0,00 | **-14,91** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn75/N153 | hL Ahd + Wnd ;270° | **0,00** | **0,00** | **150,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

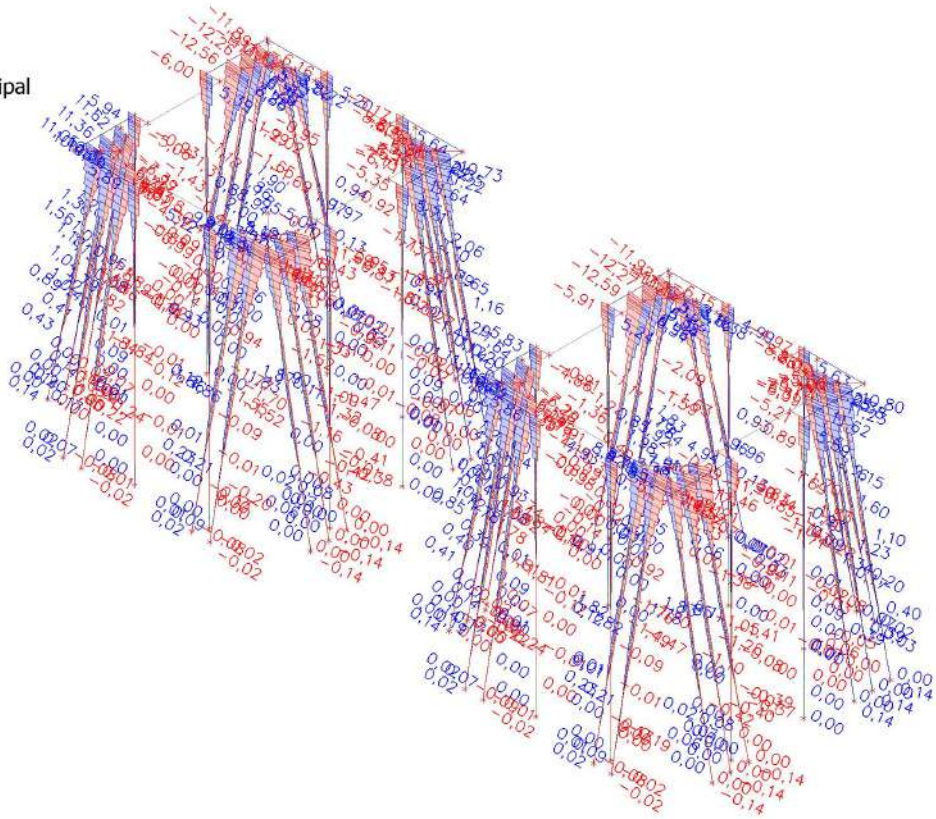
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



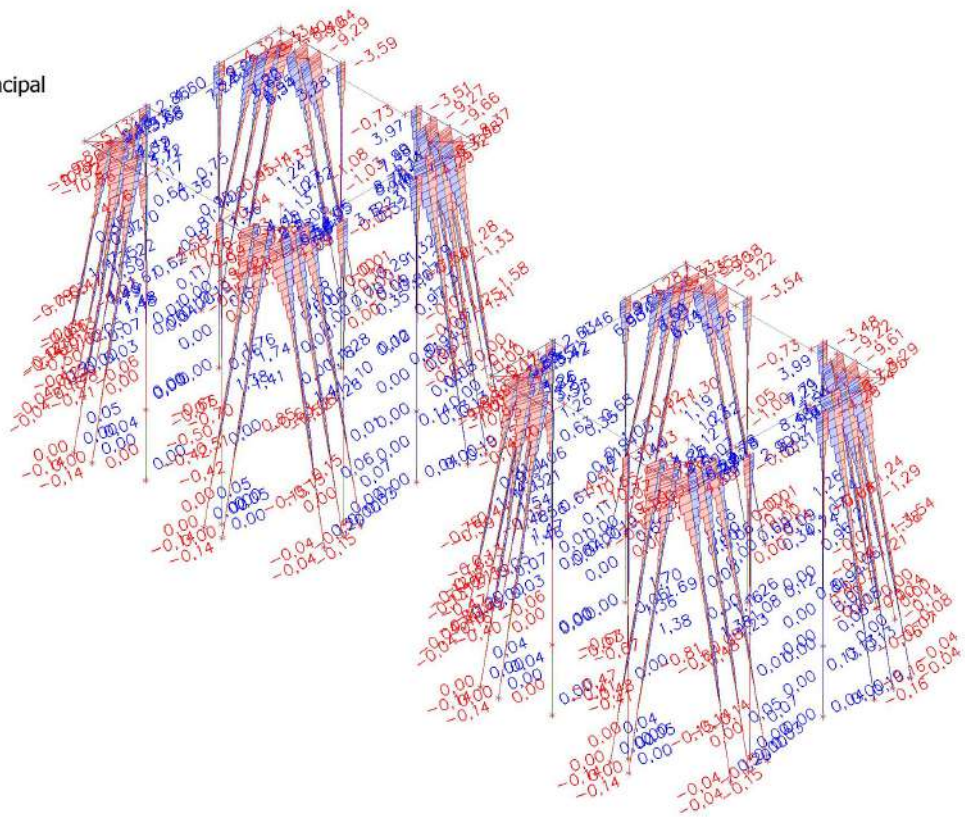
### 7.2.2. Interne 1D- krachten; V_y

Values: $V_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



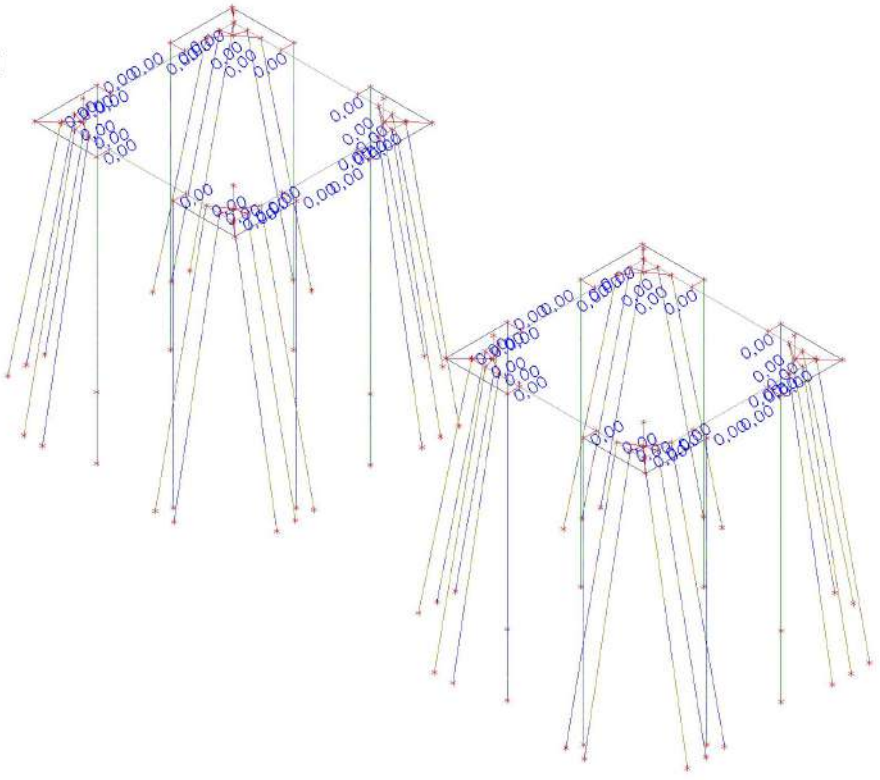
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



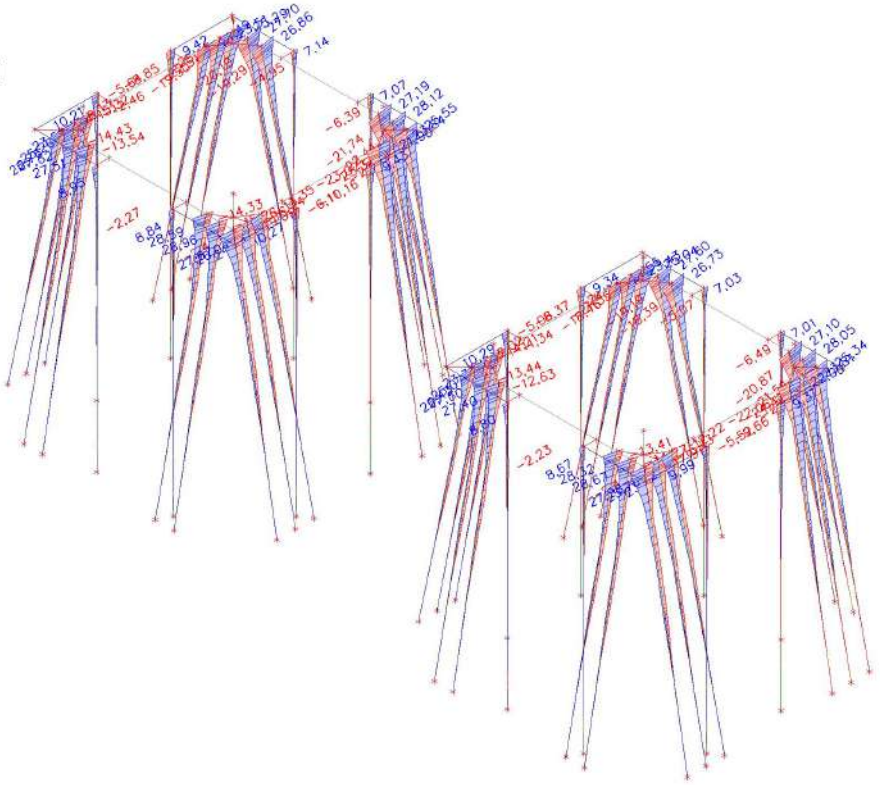
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



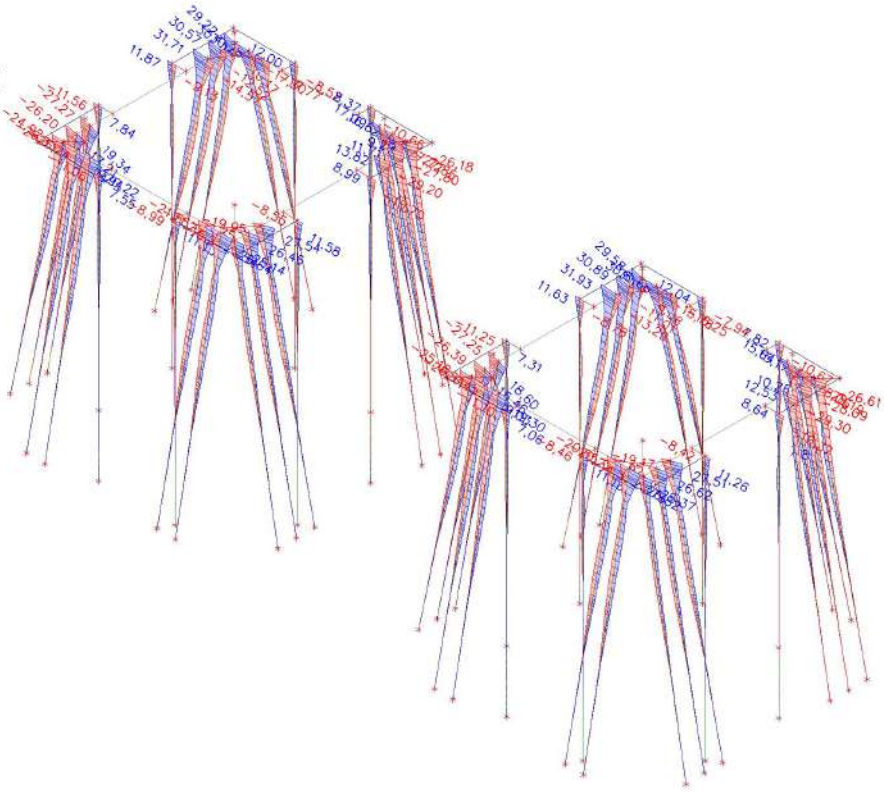
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (400; 400)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_30 | 18,000 | hL Ahd + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | **-459,74** | 0,00 | 0,20 | 0,00 | 0,00 | 0,00 |
| Paal_P_12 | 0,000 | hL Ahd + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | **149,86** | -0,96 | -0,12 | **0,00** | 10,58 | -8,68 |
| Paal_P_49 | 0,000 | lL Ahd + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -228,53 | **-12,59** | 6,98 | 0,00 | -18,46 | **31,93** |
| Paal_P_14 | 0,000 | lL Bck + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -197,94 | **11,64** | 8,71 | 0,00 | -23,07 | -29,20 |
| Paal_P_33 | 0,000 | hL Bck + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -87,22 | -7,25 | **-11,01** | 0,00 | 27,60 | 17,40 |
| Paal_P_12 | 0,200- | lL Bck + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -210,47 | 10,65 | **10,07** | 0,00 | -25,48 | -24,04 |
| Paal_P_12 | 0,000 | lL Bck + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -210,05 | 10,73 | 10,07 | 0,00 | **-27,49** | -26,18 |
| Paal_P_10 | 0,000 | lL Ahd + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -14,93 | 9,02 | -10,89 | 0,00 | **28,96** | -21,22 |
| Paal_P_42 | 0,000 | lL Bck + Wnd ;270° | Funderingspaal - Rectangle (400; 400) | -205,36 | 11,62 | 8,48 | 0,00 | -22,06 | **-29,30** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_27 | 19,400 | hL Bck + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | **-180,68** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_25 | 0,000 | lL Bck + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | **74,78** | 3,81 | 1,75 | **0,00** | 0,92 | -4,75 |
| Paal_P_24 | 0,000 | lL Ahd + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | -117,92 | **-6,16** | 3,24 | 0,00 | -4,95 | 12,00 |
| Paal_P_29 | 0,000 | lL Bck + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | -60,91 | -4,18 | **-5,13** | 0,00 | 10,21 | 6,99 |
| Paal_P_23 | 0,000 | lL Bck + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | -76,81 | 5,37 | **5,23** | 0,00 | **-10,16** | -10,52 |
| Paal_P_57 | 0,000 | hL Bck + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | -68,53 | -3,88 | -5,07 | 0,00 | **10,29** | 6,37 |
| Paal_P_29 | 0,000 | lL Ahd + | LEKA Paal - type | -95,95 | **5,94** | 2,86 | 0,00 | -5,64 | **-11,56** |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;45° | e (CHS219.1/10.0) | | | | | | |
| Paal_P_52 | 0,000 | lL Ahd + Wnd ;270° | LEKA Paal - type e (CHS219.1/10.0) | -96,16 | -6,15 | 3,26 | 0,00 | -5,07 | **12,04** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

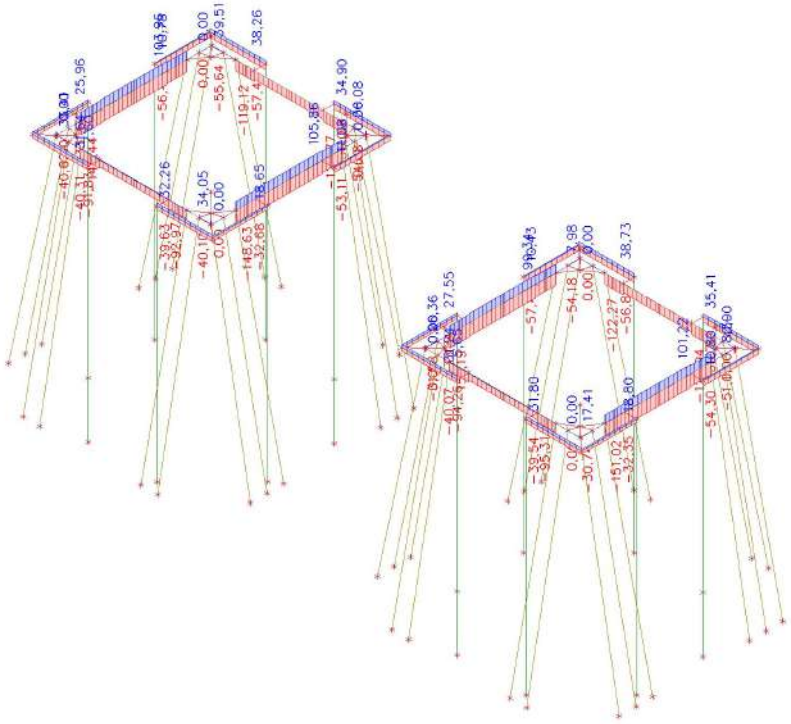
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer 5 | 0,000 | hL Bck + Wnd ;270° | **-1430,30** | **341,35** | -10,22 | -1,10 | 15,08 | -350,84 |
| Poer 8 | 1,475 | hL Bck + Wnd ;270° | **1154,36** | 273,62 | 4,69 | -0,06 | 0,00 | 13,85 |
| Poer 8 | 0,000 | hL Ahd + Wnd ;270° | -697,98 | -156,26 | **-16,80** | **1,80** | **24,66** | 156,80 |
| Poer 8 | 1,475 | hL Bck + Wnd ;135° | 710,96 | 164,69 | **13,70** | -0,16 | 0,00 | 8,53 |
| Poer 8 | 0,000 | lL Bck + Wnd ;135° | 692,36 | 164,81 | 13,59 | **-1,47** | **-20,13** | -167,06 |
| Poer 5 | 0,000 | lL Bck + Wnd ;270° | -1423,33 | 341,35 | -10,22 | -1,10 | 15,08 | **-351,14** |
| Poer 7 | 0,000 | lL Ahd + Wnd ;270° | -1390,60 | **-338,21** | -0,83 | 0,09 | 1,23 | **350,04** |

## 7.4. Krachten van de Funderingsbalken

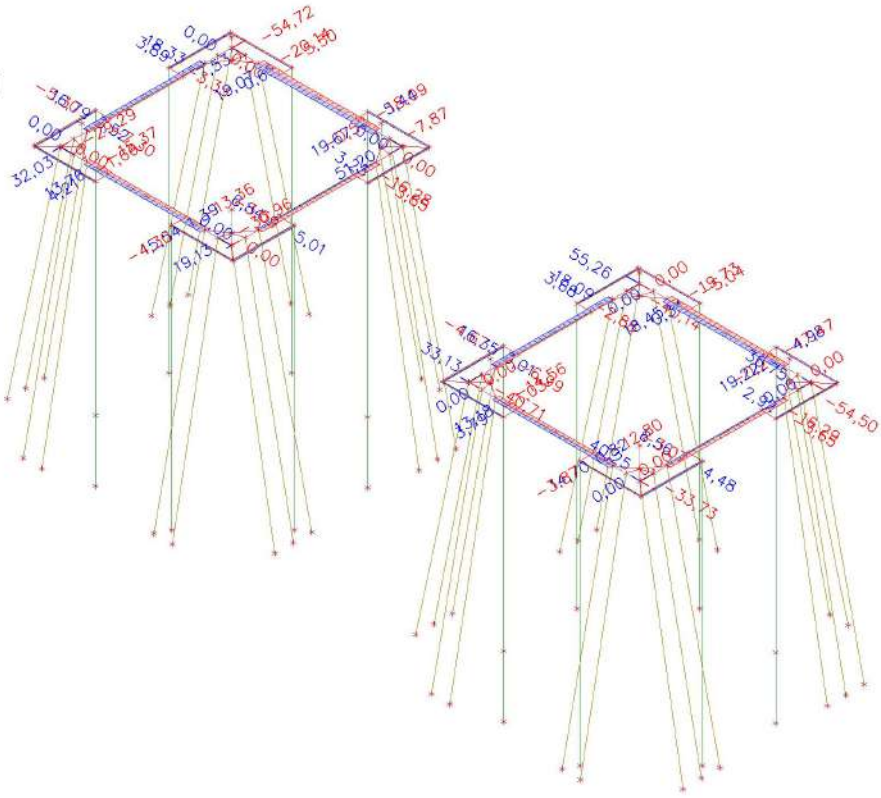
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



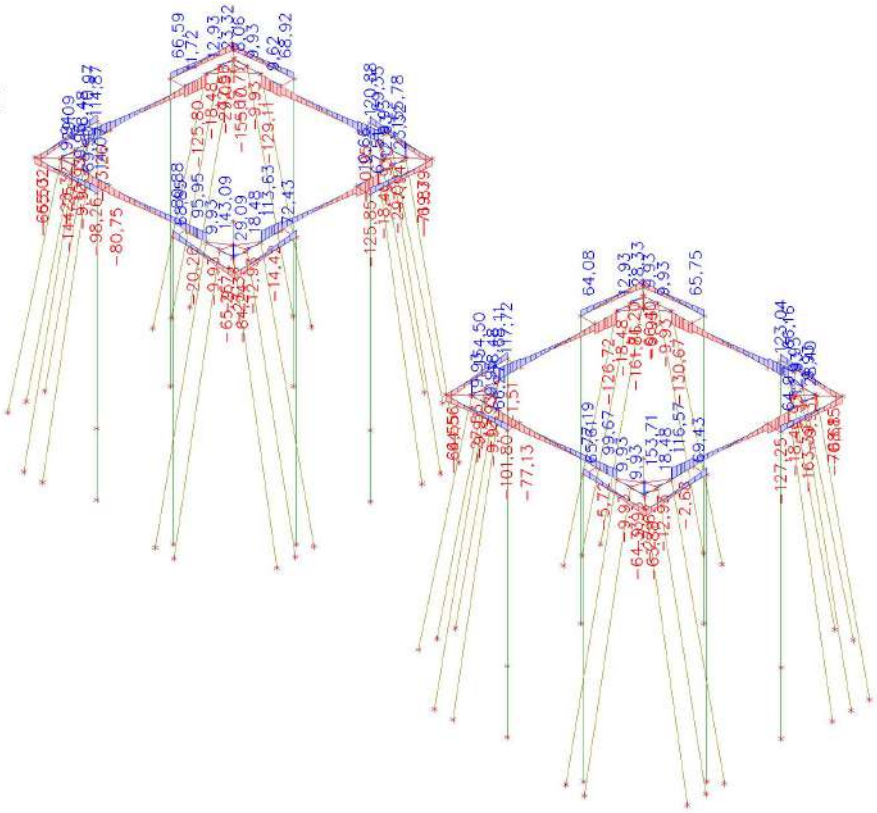
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



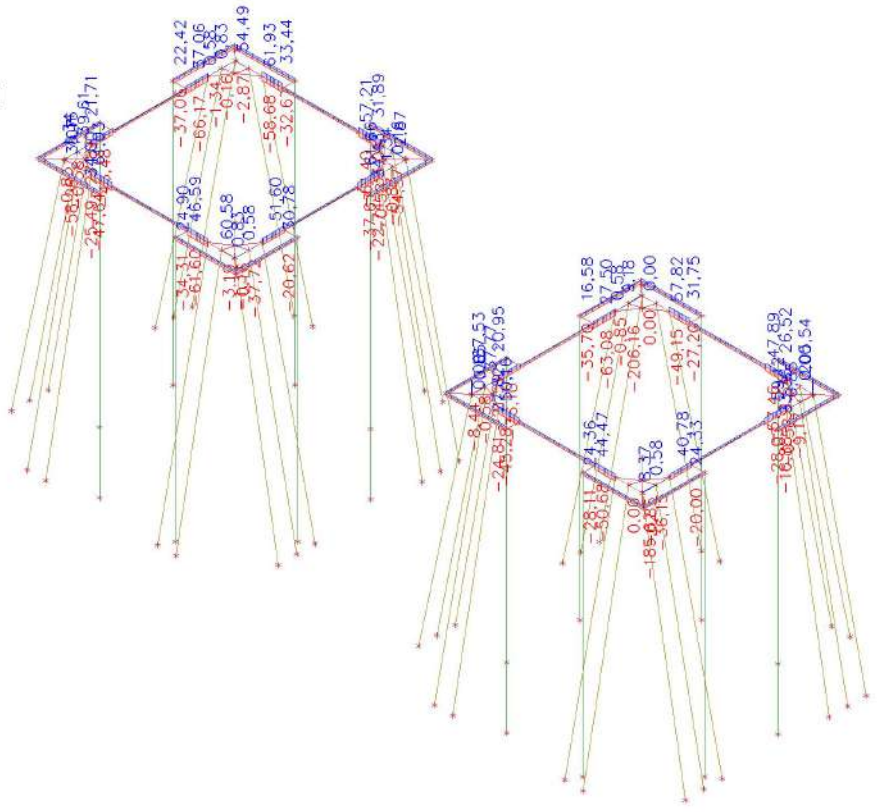
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



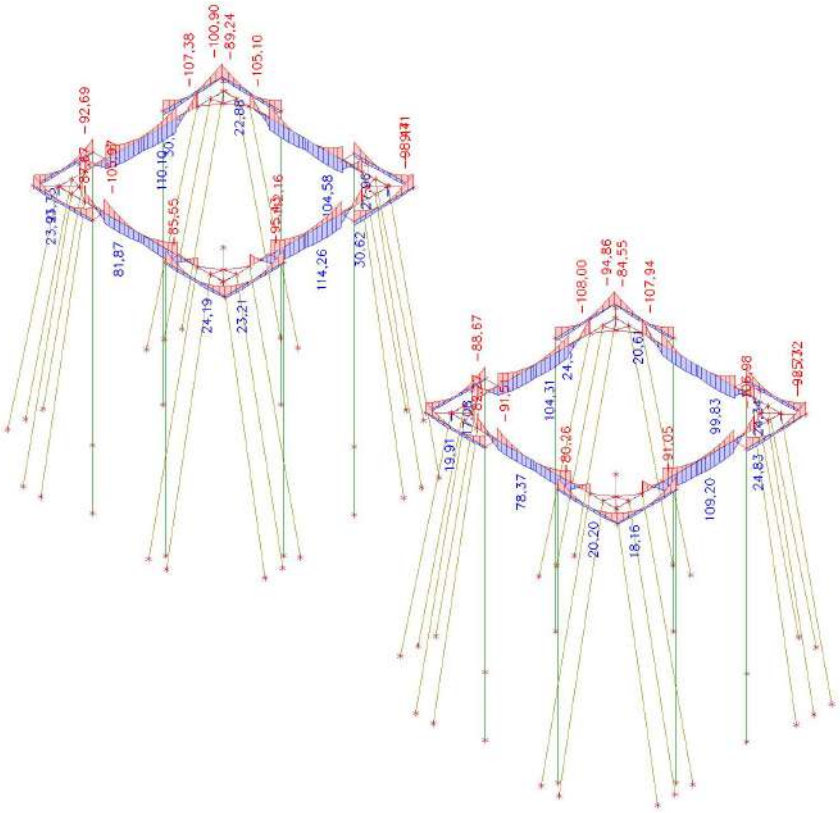
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



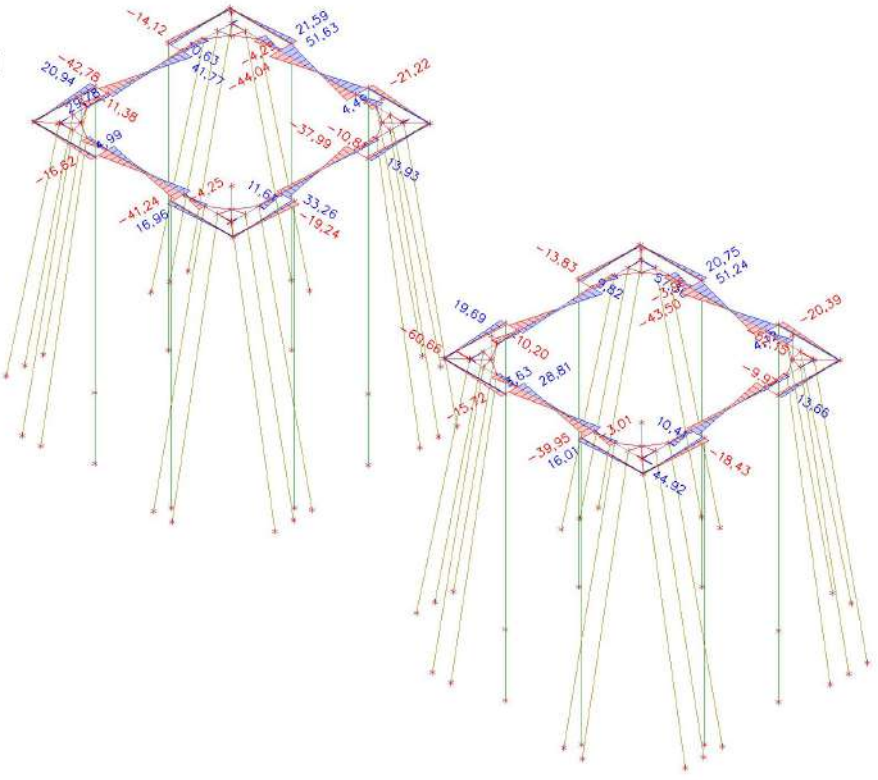
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Balk - Rectangle (750; 900)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Balk 10 | 2,000+ | lL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | **-151,19** | 16,35 | 76,54 | -23,39 | -59,71 | -25,14 |
| Balk 5 | 3,600+ | lL Bck + Wnd ;135° | Balk - Rectangle (750; 900) | **105,86** | -0,28 | 34,65 | -5,34 | -53,17 | -7,82 |
| Balk 4 | 12,550+ | lL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | -55,64 | **-54,72** | -137,83 | 44,17 | 73,95 | 7,76 |
| Balk 9 | 12,600 | hL Ahd + Wnd ;270° | Balk - Rectangle (750; 900) | -45,25 | -50,22 | **-163,39** | **205,54** | 52,54 | -44,44 |
| Balk 4 | 0,000 | hL Ahd + Wnd ;270° | Balk - Rectangle (750; 900) | -50,71 | 46,45 | **155,78** | -54,00 | 70,76 | 2,03 |
| Balk 10 | 12,550+ | hL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | -46,99 | 48,33 | -158,74 | **-206,16** | 57,52 | 46,90 |
| Balk 5 | 3,600+ | hL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | 76,15 | -2,65 | 67,74 | 12,70 | **-112,16** | 4,40 |
| Balk 5 | 7,560 | lL Ahd + Wnd ;270° | Balk - Rectangle (750; 900) | -135,36 | -13,19 | 1,54 | 20,51 | **114,26** | -18,99 |
| Balk 10 | 0,050- | lL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | 26,36 | -10,60 | 90,67 | 80,59 | 51,54 | **-60,66** |
| Balk 10 | 12,600 | lL Bck + Wnd ;270° | Balk - Rectangle (750; 900) | -54,18 | **55,26** | -138,25 | -182,79 | 42,30 | **57,36** |

### 7.4.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Ringbalk - Rectangle (750; 1000)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| S237 | 0,000 | lL Bck + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | **-57,45** | 1,30 | 11,59 | -35,70 | 20,61 | -1,37 |
| S236 | 0,000 | lL Ahd + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | **38,73** | -5,04 | 46,33 | -27,20 | -44,43 | 20,75 |
| S228 | 0,000 | lL Ahd + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | 38,26 | **-5,50** | 49,97 | -31,89 | -53,56 | **21,59** |
| S229 | 4,500 | hL Bck + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | -49,58 | 1,47 | **-72,56** | -27,38 | -96,96 | 3,88 |
| S231 | 0,000 | hL Bck + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | 18,65 | -1,43 | **72,43** | 30,78 | -95,43 | 4,36 |
| S229 | 4,500 | lL Bck + | Ringbalk - | -56,45 | 1,13 | -65,90 | **-37,06** | **-100,90** | 4,18 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;270° | Rectangle (750; 1000) | | | | | | |
| S223 | 0,450 | IL Ahd + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | -53,11 | -1,49 | 1,65 | **34,43** | **30,62** | 1,81 |
| S222 | 0,000 | IL Bck + Wnd ;270° | Ringbalk - Rectangle (750; 1000) | 34,90 | **5,44** | 47,64 | 31,11 | -45,71 | **-21,22** |

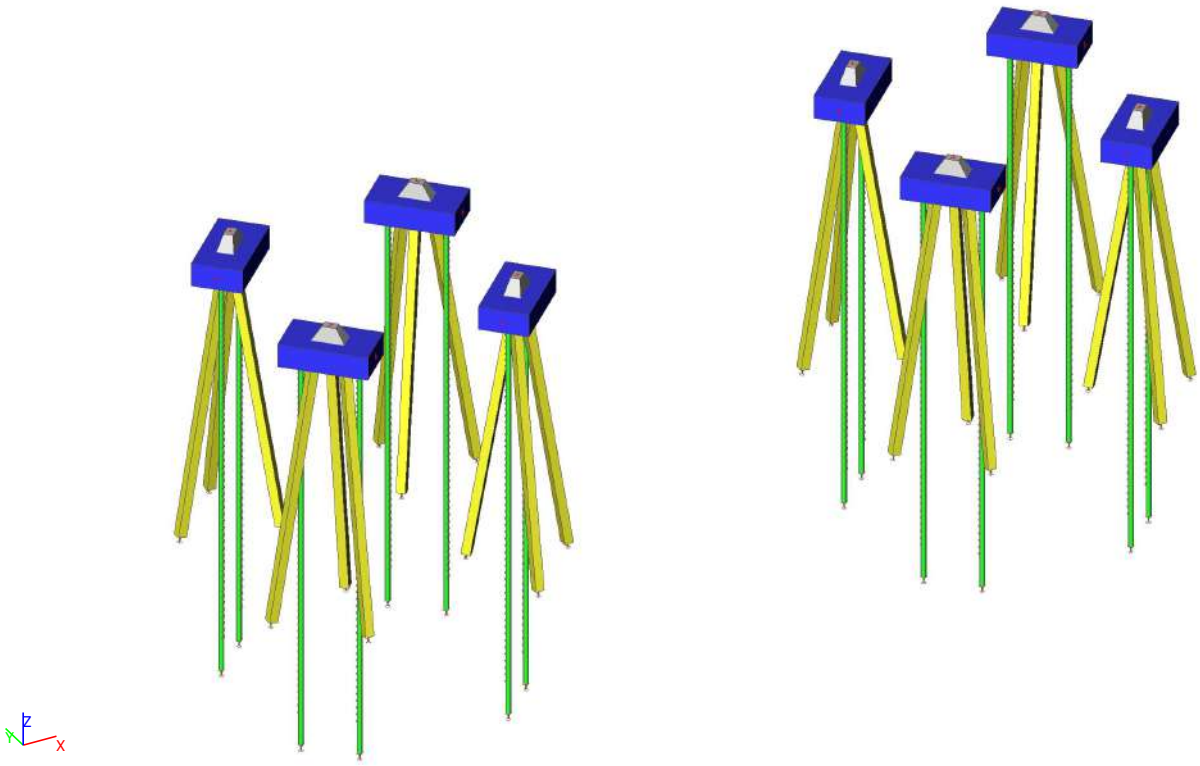
# 1. Table of contents

1. Table of contents 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Nodes 3
5.2. Analyse model met knopen 4
5.3. Members 4
5.4. Analyse model met Staven 5
5.5. Nodal supports 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Line supports on member 7
5.8. Analyse model met Lijnondersteuningen 18
5.9. Analyse model met Lijnondersteuningen 19
5.10. Nonlinear functions 19
6. Belastingen 32
6.1. Load cases 32
6.1.1. Load cases - high max Wnd ;45° 32
6.1.1.1. Point force in node 32
6.1.2. Load cases - high max Wnd ;135° 33
6.1.2.1. Point force in node 34
6.1.3. Load cases - high max Wnd ;225° 35
6.1.3.1. Point force in node 36
6.1.4. Load cases - high max Wnd ;315° 36
6.1.4.1. Point force in node 37
6.1.5. Load cases - low max Wnd ;45° 38
6.1.5.1. Point force in node 39
6.1.6. Load cases - low max Wnd ;135° 39
6.1.6.1. Point force in node 40
6.1.7. Load cases - low max Wnd ;225° 41
6.1.7.1. Point force in node 42
6.1.8. Load cases - low max Wnd ;315° 42
6.1.8.1. Point force in node 43
6.1.9. Load cases - EG_fundering 44
6.2. Nonlinear combinations 45
6.3. Result classes 45
7. Resultaten 46
7.1. Reacties van de palen 46
7.1.1. Reactions; R_z 46
7.1.2. Reactions 46
7.1.3. Reactions 46
7.1.4. Reactions 47
7.2. Krachten van de Funderingspalen 53
7.2.1. Interne 1D- krachten; N 53
7.2.2. Interne 1D- krachten; V_y 53
7.2.3. Interne 1D- krachten; V_z 54
7.2.4. Interne 1D- krachten; M_x 54
7.2.5. Interne 1D- krachten; M_y 55
7.2.6. Interne 1D- krachten; M_z 55
7.2.7. 1D internal forces 56
7.2.8. 1D internal forces 56
7.3. Krachten van de Poeren 58
7.3.1. 1D internal forces 58
7.4. Krachten van de Funderingsbalken 59
7.4.1. Interne 1D- krachten; N 59
7.4.2. Interne 1D- krachten; V_y 59
7.4.3. Interne 1D- krachten; V_z 60
7.4.4. Interne 1D- krachten; M_x 60
7.4.5. Interne 1D- krachten; M_y 61
7.4.6. Interne 1D- krachten; M_z 61
7.4.7. 1D internal forces 62

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Blokpoer-3xBeton40x40-MAST-S+0 - III F4 |
| Author | [redacted] |
| Date | 28-01-2026 |
| Structure | General XYZ |
| No. of nodes : | 112 |
| No. of beams : | 56 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 7 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



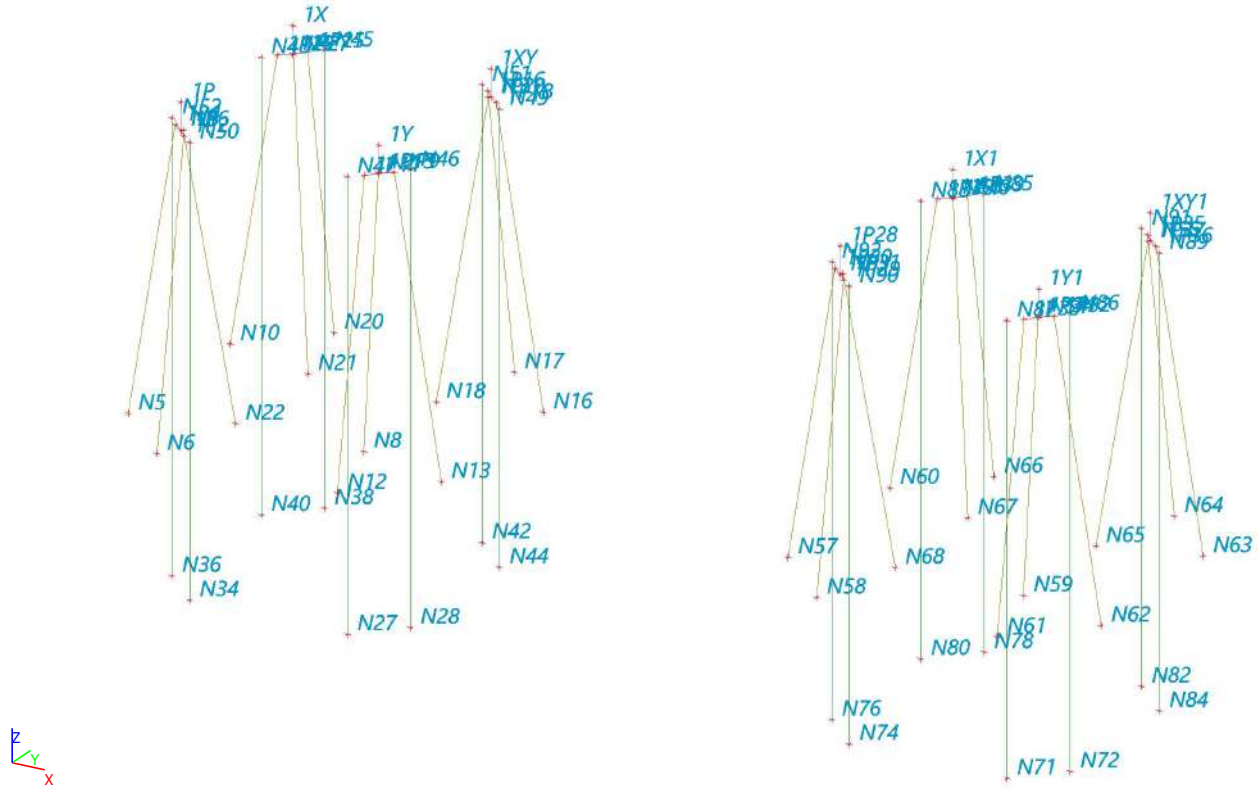
# 4. Modeleigenschappen

# 5. Geometrie

## 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -2,621 | 0,400 | -12,822 |
| N6 | 0,400 | -2,621 | -12,822 |
| N8 | 7,417 | 1,583 | -12,822 |
| N10 | -2,621 | 8,600 | -12,822 |
| N12 | 8,600 | -2,621 | -12,822 |
| N13 | 11,621 | 0,400 | -12,822 |
| N16 | 11,621 | 8,600 | -12,822 |
| N17 | 8,600 | 11,621 | -12,822 |
| N18 | 7,417 | 7,417 | -12,822 |
| N20 | 0,400 | 11,621 | -12,822 |
| N21 | 1,583 | 7,417 | -12,822 |
| N22 | 1,583 | 1,583 | -12,822 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -19,612 |
| N28 | 9,919 | 0,919 | -19,612 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -19,612 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -19,612 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -19,612 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -19,612 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -19,612 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -19,612 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |
| N53 | 30,000 | 0,000 | 0,000 |
| 1P28 | 30,000 | 0,000 | 1,200 |
| 1P29 | 30,400 | -0,480 | 0,000 |
| 1P30 | 29,520 | 0,400 | 0,000 |
| 1P31 | 30,070 | 0,070 | 0,000 |
| N54 | 39,000 | 0,000 | 0,000 |
| 1Y1 | 39,000 | 0,000 | 1,200 |
| 1P32 | 39,480 | 0,400 | 0,000 |
| 1P33 | 38,600 | -0,480 | 0,000 |
| 1P34 | 38,930 | 0,070 | 0,000 |
| N55 | 39,000 | 9,000 | 0,000 |
| 1XY1 | 39,000 | 9,000 | 1,200 |
| 1P35 | 38,600 | 9,480 | 0,000 |
| 1P36 | 39,480 | 8,600 | 0,000 |
| 1P37 | 38,930 | 8,930 | 0,000 |
| N56 | 30,000 | 9,000 | 0,000 |
| 1X1 | 30,000 | 9,000 | 1,200 |
| 1P38 | 29,520 | 8,600 | 0,000 |
| 1P39 | 30,400 | 9,480 | 0,000 |
| 1P40 | 30,070 | 8,930 | 0,000 |
| N57 | 27,379 | 0,400 | -12,822 |
| N58 | 30,400 | -2,621 | -12,822 |
| N59 | 37,417 | 1,583 | -12,822 |
| N60 | 27,379 | 8,600 | -12,822 |
| N61 | 38,600 | -2,621 | -12,822 |
| N62 | 41,621 | 0,400 | -12,822 |
| N63 | 41,621 | 8,600 | -12,822 |
| N64 | 38,600 | 11,621 | -12,822 |
| N65 | 37,417 | 7,417 | -12,822 |
| N66 | 30,400 | 11,621 | -12,822 |
| N67 | 31,583 | 7,417 | -12,822 |
| N68 | 31,583 | 1,583 | -12,822 |
| N69 | 40,414 | 1,414 | 0,000 |
| N70 | 37,586 | -1,414 | 0,000 |
| N71 | 38,081 | -0,919 | -19,612 |
| N72 | 39,919 | 0,919 | -19,612 |
| N73 | 31,414 | -1,414 | 0,000 |
| N74 | 30,919 | -0,919 | -19,612 |
| N75 | 28,586 | 1,414 | 0,000 |
| N76 | 29,081 | 0,919 | -19,612 |
| N77 | 31,414 | 10,414 | 0,000 |
| N78 | 30,919 | 9,919 | -19,612 |
| N79 | 28,586 | 7,586 | 0,000 |
| N80 | 29,081 | 8,081 | -19,612 |
| N81 | 40,414 | 7,586 | 0,000 |
| N82 | 38,081 | 9,919 | -19,612 |
| N83 | 37,586 | 10,414 | 0,000 |
| N84 | 39,919 | 8,081 | -19,612 |
| N85 | 30,919 | 9,919 | 0,000 |
| N86 | 39,919 | 0,919 | 0,000 |
| N87 | 38,081 | -0,919 | 0,000 |
| N88 | 29,081 | 8,081 | 0,000 |
| N89 | 39,919 | 8,081 | 0,000 |
| N90 | 30,919 | -0,919 | 0,000 |
| N91 | 38,081 | 9,919 | 0,000 |
| N92 | 29,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

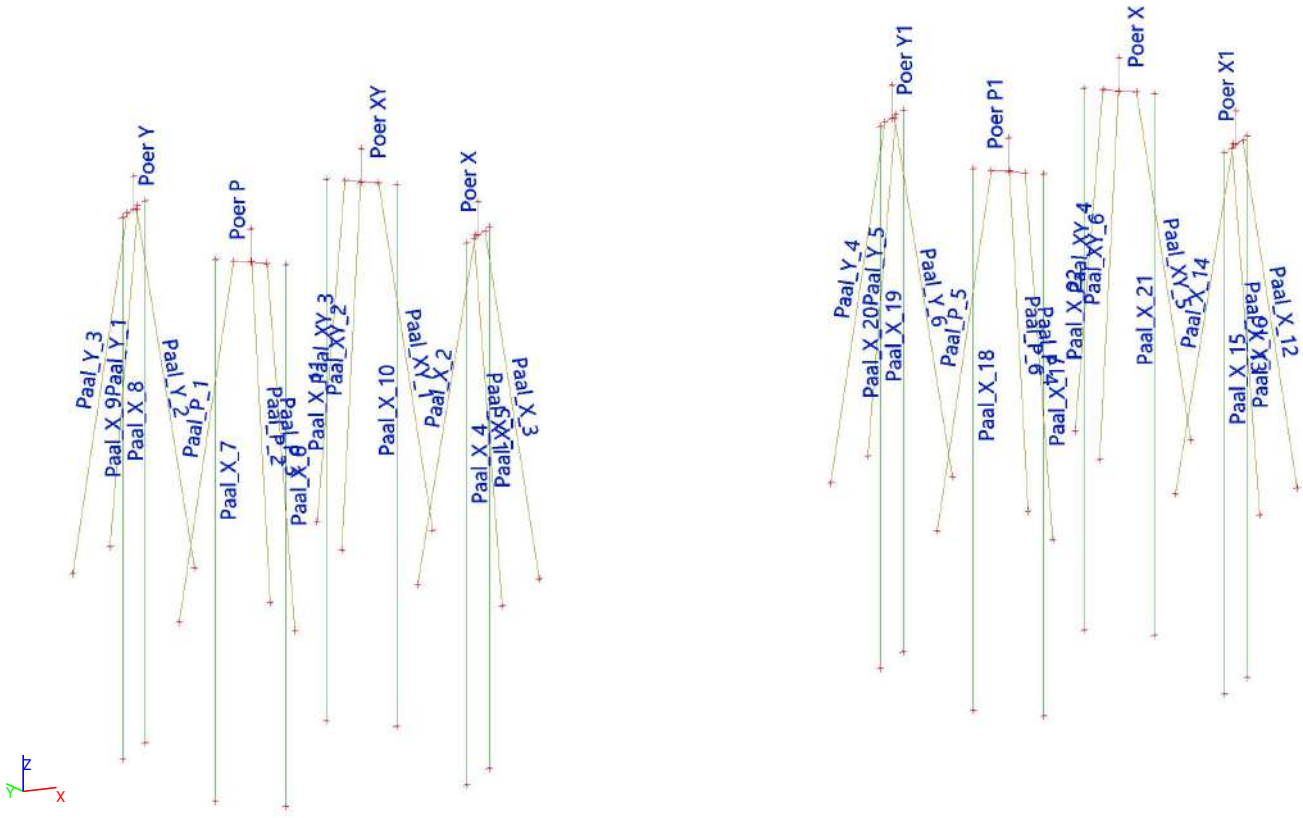



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | beam (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | beam (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | beam (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | beam (80) |
| Paal21 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N70 | N69 | beam (80) |
| Paal22 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N73 | N75 | beam (80) |
| Paal23 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N77 | N79 | beam (80) |
| Paal24 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N83 | N81 | beam (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P20 | N18 | column (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P9 | N13 | column (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | column (100) |
| Poer P1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N53 | 1P28 | column (100) |
| Paal_P_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P30 | N57 | column (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | column (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P4 | N5 | column (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P6 | N22 | column (100) |
| Paal_P_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P29 | N58 | column (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P18 | N16 | column (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P16 | N17 | column (100) |
| Paal_XY_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P35 | N64 | column (100) |
| Paal_XY_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P36 | N63 | column (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P11 | N12 | column (100) |
| Poer X1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N54 | 1Y1 | column (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | column (100) |
| Poer XY1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N55 | 1XY1 | column (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | column (100) |
| Poer Y1 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N56 | 1X1 | column (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P2 | N6 | column (100) |
| Paal_P_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P31 | N68 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P37 | N65 | column (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P13 | N8 | column (100) |
| Paal_X_4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N47 | N27 | column (100) |
| Paal_X_5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N46 | N28 | column (100) |
| Paal_X_6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N50 | N34 | column (100) |
| Paal_X_7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N52 | N36 | column (100) |
| Paal_X_8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N45 | N38 | column (100) |
| Paal_X_9 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N48 | N40 | column (100) |
| Paal_X_10 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N49 | N44 | column (100) |
| Paal_X_11 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N51 | N42 | column (100) |
| Paal_X_12 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P32 | N62 | column (100) |
| Paal_X_13 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P33 | N61 | column (100) |
| Paal_X_14 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P34 | N59 | column (100) |
| Paal_X_15 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N87 | N71 | column (100) |
| Paal_X_16 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N86 | N72 | column (100) |
| Paal_X_17 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N90 | N74 | column (100) |
| Paal_X_18 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N92 | N76 | column (100) |
| Paal_X_19 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N85 | N78 | column (100) |
| Paal_X_20 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N88 | N80 | column (100) |
| Paal_X_21 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N89 | N84 | column (100) |
| Paal_X_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 19,612 | N91 | N82 | column (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P25 | N20 | column (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P27 | N21 | column (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P23 | N10 | column (100) |
| Paal_Y_4 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P38 | N60 | column (100) |
| Paal_Y_5 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P39 | N66 | column (100) |
| Paal_Y_6 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P40 | N67 | column (100) |

## 5.4. Analyse model met Staven



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_P_2 | N22 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_1 | N12 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_2 | N8 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_1 | N16 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_2 | N18 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_1 | N20 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_2 | N21 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_Y_4 | N27 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_5 | N28 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_6 | N34 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_7 | N36 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_8 | N38 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_9 | N40 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_10 | N42 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_11 | N44 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_P_4 | N57 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_P_5 | N58 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_4 | N59 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry6,72 |
| S_Y_12 | N60 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_X_5 | N61 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_6 | N62 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_4 | N63 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_5 | N64 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_XY_6 | N65 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry6,72 |
| S_Y_13 | N66 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_14 | N67 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry-6,72 |
| S_P_6 | N68 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry-6,72 |
| S_Y_15 | N71 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_16 | N72 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_17 | N74 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_18 | N76 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_19 | N78 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_20 | N80 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_21 | N82 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_22 | N84 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Line supports on member

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen15 | Line | Paal_XY_5 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen26 | Line | Paal_X_6 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen27 | Line | Paal_X_7 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen18 | Line | Paal_Y_5 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen14 | Line | Paal_XY_4 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen3 | Line | Paal_X_3 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen32 | Line | Paal_X_15 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen16 | Line | Paal_XY_6 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen30 | Line | Paal_X_10 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen12 | Line | Paal_X_13 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen24 | Line | Paal_X_4 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen11 | Line | Paal_Y_2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen7 | Line | Paal_XY_1 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen19 | Line | Paal_Y_6 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen20 | Line | Paal_P_4 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen36 | Line | Paal_X_19 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen2 | Line | Paal_P_2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Line | Paal_X_5 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen9 | Line | Paal_Y_3 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen28 | Line | Paal_X_8 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen4 | Line | Paal_X_1 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen29 | Line | Paal_X_9 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen6 | Line | Paal_XY_3 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen17 | Line | Paal_Y_4 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen13 | Line | Paal_X_14 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen5 | Line | Paal_X_2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen22 | Line | Paal_P_6 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Line | Paal_X_18 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen38 | Line | Paal_X_21 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen10 | Line | Paal_Y_1 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen1 | Line | Paal_P_1 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen37 | Line | Paal_X_20 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen21 | Line | Paal_P_5 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen39 | Line | Paal_X_22 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen33 | Line | Paal_X_16 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen | Line | Paal_P_3 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen34 | Line | Paal_X_17 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| Veen23 | Line | Paal_X_12 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen8 | Line | Paal_XY_2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen31 | Line | Paal_X_11 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_Veen.B |
| (PY-curve-1_V1)24 | Line | Paal_X_4 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)21 | Line | Paal_P_5 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)38 | Line | Paal_X_21 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)19 | Line | Paal_Y_6 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)39 | Line | Paal_X_22 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)15 | Line | Paal_XY_5 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |

| Name | Type | Member | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)16 | Line | Paal_XY_6 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)3 | Line | Paal_X_3 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)34 | Line | Paal_X_17 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)17 | Line | Paal_Y_4 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Line | Paal_X_11 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)25 | Line | Paal_X_5 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)10 | Line | Paal_XY_2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Line | Paal_X_10 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)27 | Line | Paal_X_7 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)36 | Line | Paal_X_19 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)11 | Line | Paal_Y_2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Line | Paal_Y_5 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)6 | Line | Paal_Y_1 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)29 | Line | Paal_X_9 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)35 | Line | Paal_X_18 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)5 | Line | Paal_XY_3 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)23 | Line | Paal_X_12 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Line | Paal_X_8 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)37 | Line | Paal_X_20 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)1 | Line | Paal_P_3 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)32 | Line | Paal_X_15 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1) | Line | Paal_P_1 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)8 | Line | Paal_P_2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Line | Paal_X_2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Line | Paal_P_4 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)13 | Line | Paal_X_14 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)26 | Line | Paal_X_6 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)12 | Line | Paal_X_13 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)2 | Line | Paal_X_1 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)33 | Line | Paal_X_16 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)7 | Line | Paal_Y_3 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)22 | Line | Paal_P_6 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-1_V1)4 | Line | Paal_XY_1 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Line | Paal_XY_4 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)24 | Line | Paal_X_4 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)7 | Line | Paal_Y_3 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)38 | Line | Paal_X_21 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)28 | Line | Paal_X_8 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)3 | Line | Paal_X_3 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)37 | Line | Paal_X_20 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)34 | Line | Paal_X_17 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)35 | Line | Paal_X_18 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)6 | Line | Paal_Y_1 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)1 | Line | Paal_P_3 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Line | Paal_X_16 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)11 | Line | Paal_Y_2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Line | Paal_X_15 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)30 | Line | Paal_X_10 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)18 | Line | Paal_Y_5 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)36 | Line | Paal_X_19 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)17 | Line | Paal_Y_4 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)29 | Line | Paal_X_9 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)9 | Line | Paal_X_2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)16 | Line | Paal_XY_6 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)10 | Line | Paal_XY_2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Line | Paal_Y_6 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)15 | Line | Paal_XY_5 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Line | Paal_P_4 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)2 | Line | Paal_X_1 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Line | Paal_X_7 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2) | Line | Paal_P_1 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)13 | Line | Paal_X_14 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)31 | Line | Paal_X_11 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)39 | Line | Paal_X_22 | 9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-1_V2)12 | Line | Paal_X_13 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)4 | Line | Paal_XY_1 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)26 | Line | Paal_X_6 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)23 | Line | Paal_X_12 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)14 | Line | Paal_XY_4 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Line | Paal_P_2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Line | Paal_X_5 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)22 | Line | Paal_P_6 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Line | Paal_XY_3 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Line | Paal_P_5 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3)7 | Line | Paal_Y_3 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Line | Paal_P_4 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Line | Paal_X_4 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3) | Line | Paal_P_1 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Line | Paal_X_3 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Line | Paal_P_3 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Line | Paal_X_22 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)38 | Line | Paal_X_21 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)37 | Line | Paal_X_20 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)36 | Line | Paal_X_19 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)6 | Line | Paal_Y_1 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Line | Paal_X_18 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)34 | Line | Paal_X_17 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)33 | Line | Paal_X_16 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)31 | Line | Paal_X_11 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)32 | Line | Paal_X_15 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)19 | Line | Paal_Y_6 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Line | Paal_X_10 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)5 | Line | Paal_XY_3 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)18 | Line | Paal_Y_5 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)2 | Line | Paal_X_1 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)29 | Line | Paal_X_9 | 10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-1_V3)17 | Line | Paal_Y_4 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)10 | Line | Paal_XY_2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Line | Paal_XY_6 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)28 | Line | Paal_X_8 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)15 | Line | Paal_XY_5 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Line | Paal_X_7 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)9 | Line | Paal_X_2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)4 | Line | Paal_XY_1 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Line | Paal_X_14 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)14 | Line | Paal_XY_4 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Line | Paal_X_13 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Line | Paal_X_6 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)23 | Line | Paal_X_12 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Line | Paal_P_2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)11 | Line | Paal_Y_2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Line | Paal_X_5 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)21 | Line | Paal_P_5 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Line | Paal_P_6 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)20 | Line | Paal_P_4 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)38 | Line | Paal_X_21 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)37 | Line | Paal_X_20 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)6 | Line | Paal_Y_1 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)36 | Line | Paal_X_19 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)34 | Line | Paal_X_17 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)39 | Line | Paal_X_22 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)33 | Line | Paal_X_16 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)31 | Line | Paal_X_11 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)5 | Line | Paal_XY_3 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)32 | Line | Paal_X_15 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)35 | Line | Paal_X_18 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)2 | Line | Paal_X_1 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Line | Paal_Y_2 | 11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |

| Name | Type | Member | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-1_V4)19 | Line | Paal_Y_6 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)30 | Line | Paal_X_10 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)18 | Line | Paal_Y_5 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Line | Paal_XY_2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)29 | Line | Paal_X_9 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)17 | Line | Paal_Y_4 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Line | Paal_XY_6 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)28 | Line | Paal_X_8 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)15 | Line | Paal_XY_5 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Line | Paal_XY_1 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Line | Paal_X_2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Line | Paal_XY_4 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)27 | Line | Paal_X_7 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4) | Line | Paal_P_1 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)13 | Line | Paal_X_14 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)26 | Line | Paal_X_6 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)12 | Line | Paal_X_13 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Line | Paal_P_2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Line | Paal_X_12 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)25 | Line | Paal_X_5 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)1 | Line | Paal_P_3 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Line | Paal_P_6 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Line | Paal_P_5 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Line | Paal_X_3 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Line | Paal_Y_3 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)24 | Line | Paal_X_4 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V5)20 | Line | Paal_P_4 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)11 | Line | Paal_XY_1 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)10 | Line | Paal_X_3 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)9 | Line | Paal_XY_3 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)8 | Line | Paal_X_1 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)7 | Line | Paal_XY_2 | 12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,700 | | | | | | | | |
| (PY-curve-1_V5)6 | Line | Paal_X_2 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)5 | Line | Paal_Y_2 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)4 | Line | Paal_P_2 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)3 | Line | Paal_Y_1 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)2 | Line | Paal_P_3 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)1 | Line | Paal_Y_3 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5) | Line | Paal_P_1 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)19 | Line | Paal_Y_6 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)18 | Line | Paal_Y_5 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)17 | Line | Paal_Y_4 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)16 | Line | Paal_XY_6 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)15 | Line | Paal_XY_5 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)14 | Line | Paal_XY_4 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)13 | Line | Paal_X_14 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)12 | Line | Paal_X_13 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)23 | Line | Paal_X_12 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)22 | Line | Paal_P_6 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)21 | Line | Paal_P_5 | 12,000<br>12,700 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)31 | Line | Paal_X_11 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)39 | Line | Paal_X_22 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)30 | Line | Paal_X_10 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)29 | Line | Paal_X_5 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)28 | Line | Paal_X_4 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)38 | Line | Paal_X_21 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)27 | Line | Paal_X_9 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)26 | Line | Paal_X_8 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)25 | Line | Paal_X_7 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)37 | Line | Paal_X_20 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)24 | Line | Paal_X_6 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)36 | Line | Paal_X_19 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)35 | Line | Paal_X_18 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)34 | Line | Paal_X_17 | 12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |

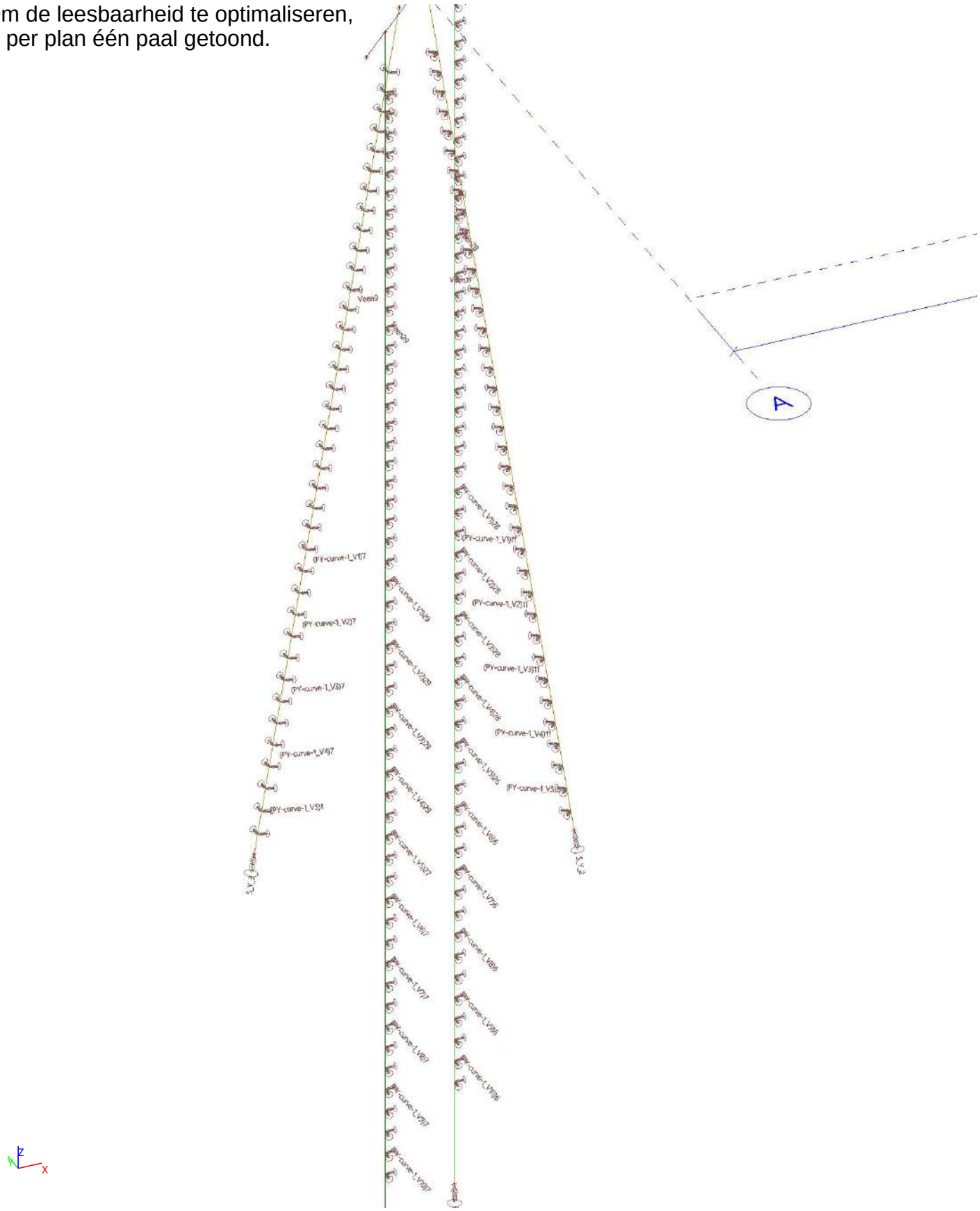
| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-1_V5)33 | Line | Paal_X_16 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)32 | Line | Paal_X_15 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V6)13 | Line | Paal_X_19 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)12 | Line | Paal_X_18 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)11 | Line | Paal_X_17 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)10 | Line | Paal_X_15 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)9 | Line | Paal_X_11 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)8 | Line | Paal_X_10 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)7 | Line | Paal_X_9 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)14 | Line | Paal_X_20 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)6 | Line | Paal_X_8 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)5 | Line | Paal_X_7 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)4 | Line | Paal_X_6 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)3 | Line | Paal_X_5 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)2 | Line | Paal_X_4 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)1 | Line | Paal_X_21 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6) | Line | Paal_X_16 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)15 | Line | Paal_X_22 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V7)15 | Line | Paal_X_22 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)13 | Line | Paal_X_19 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)12 | Line | Paal_X_18 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)11 | Line | Paal_X_17 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)10 | Line | Paal_X_15 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)9 | Line | Paal_X_11 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)8 | Line | Paal_X_10 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)7 | Line | Paal_X_9 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)14 | Line | Paal_X_20 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)6 | Line | Paal_X_8 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)5 | Line | Paal_X_7 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)4 | Line | Paal_X_6 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)3 | Line | Paal_X_5 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)2 | Line | Paal_X_4 | 14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-1_V7)1 | Line | Paal_X_21 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7) | Line | Paal_X_16 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V8)15 | Line | Paal_X_22 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)13 | Line | Paal_X_19 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)12 | Line | Paal_X_18 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)11 | Line | Paal_X_17 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)10 | Line | Paal_X_15 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)9 | Line | Paal_X_11 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)8 | Line | Paal_X_10 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)7 | Line | Paal_X_9 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)14 | Line | Paal_X_20 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)6 | Line | Paal_X_8 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)5 | Line | Paal_X_7 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)4 | Line | Paal_X_6 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)3 | Line | Paal_X_5 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)2 | Line | Paal_X_4 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)1 | Line | Paal_X_21 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8) | Line | Paal_X_16 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V9)15 | Line | Paal_X_22 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)13 | Line | Paal_X_19 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)12 | Line | Paal_X_18 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)11 | Line | Paal_X_17 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)10 | Line | Paal_X_15 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)9 | Line | Paal_X_11 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)8 | Line | Paal_X_10 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)7 | Line | Paal_X_9 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)14 | Line | Paal_X_20 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)6 | Line | Paal_X_8 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)5 | Line | Paal_X_7 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)4 | Line | Paal_X_6 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)3 | Line | Paal_X_5 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)2 | Line | Paal_X_4 | 16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |

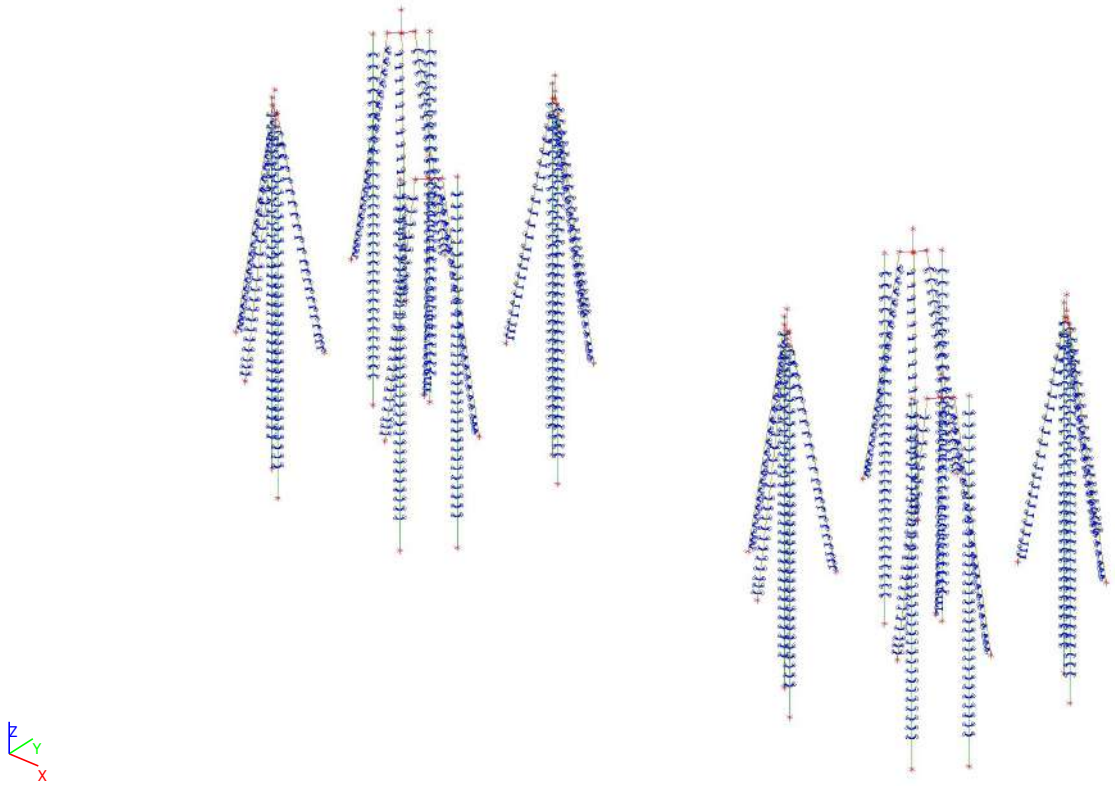
| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-1_V9)1 | Line | Paal_X_21 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9) | Line | Paal_X_16 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V10)15 | Line | Paal_X_22 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)13 | Line | Paal_X_19 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)12 | Line | Paal_X_18 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)11 | Line | Paal_X_17 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)10 | Line | Paal_X_15 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)9 | Line | Paal_X_11 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)8 | Line | Paal_X_10 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)7 | Line | Paal_X_9 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)14 | Line | Paal_X_20 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)6 | Line | Paal_X_8 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)5 | Line | Paal_X_7 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)4 | Line | Paal_X_6 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)3 | Line | Paal_X_5 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)2 | Line | Paal_X_4 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)1 | Line | Paal_X_21 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10) | Line | Paal_X_16 | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |

## 5.8. Analyse model met Lijnondersteuningen

Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



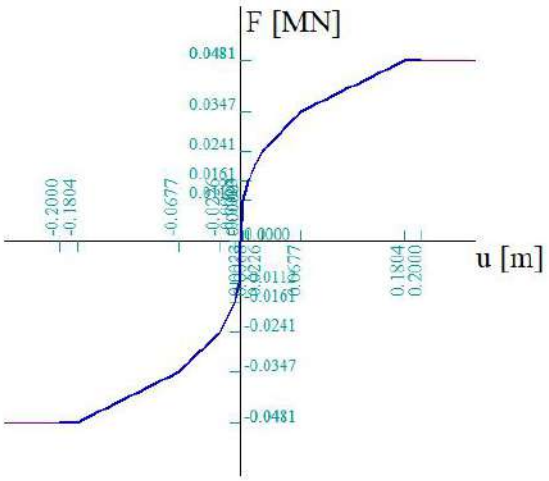
## 5.9. Analyse model met Lijnondersteuningen




## 5.10. Nonlinear functions

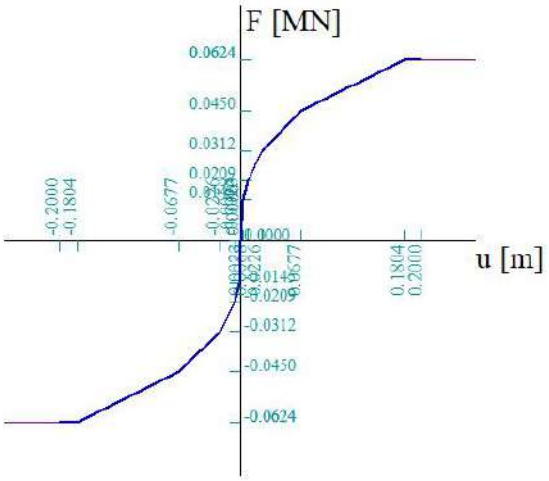
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V1 | Translation | -2,0000e-01[m] / -4,8130e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V2 | Translation | -2,0000e-01[m] / -6,2400e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

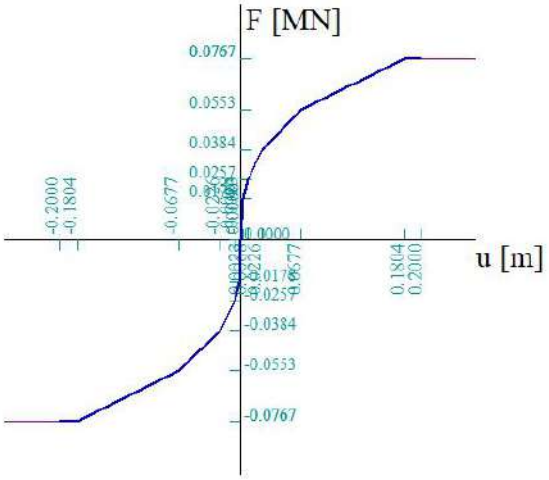
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V3 | Translation | -2,0000e-01[m] / -7,6737e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |

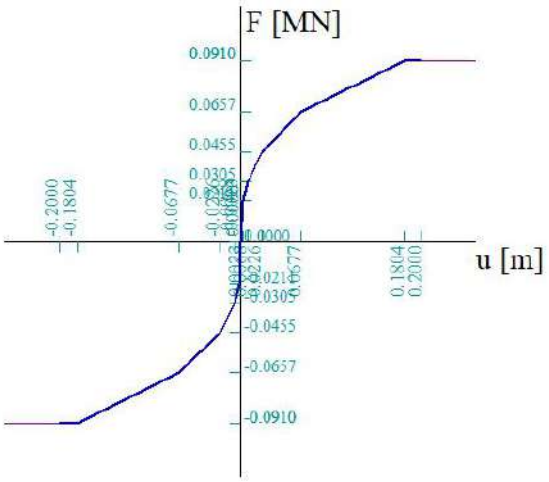
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V4 | Translation | -2,0000e-01[m] / -9,1041e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

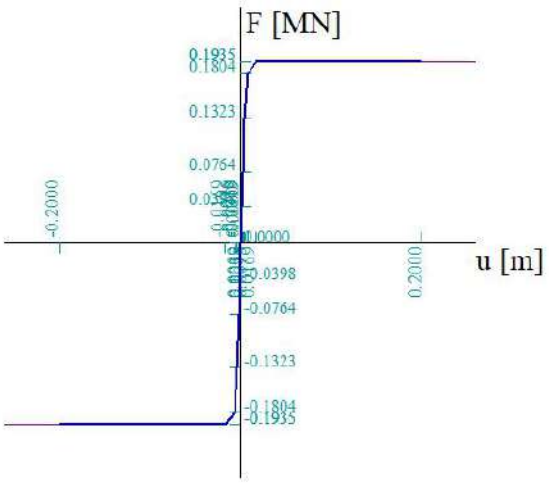
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V5 | Translation | -2,0000e-01[m] / -1,9349e-01[MN] | Free | Free |
| | | -1,6913e-02[m] / -1,9349e-01[MN] | | |
| | | -7,5167e-03[m] / -1,8041e-01[MN] | | |
| | | -3,7583e-03[m] / -1,3226e-01[MN] | | |

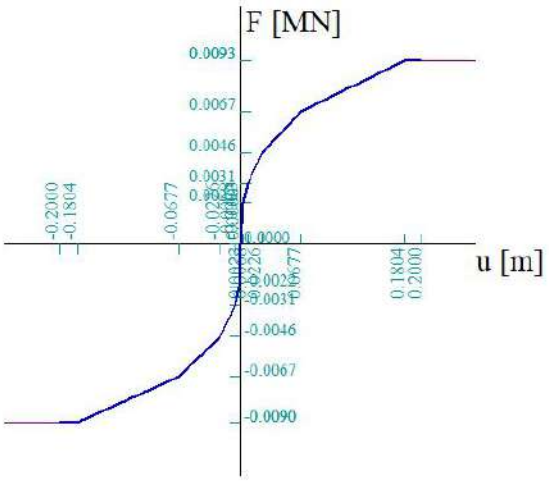
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,8792e-03[m] / -7,6422e-02[MN] | | |
| | | -9,3958e-04[m] / -3,9826e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 3,9826e-02[MN] | | |
| | | 1,8792e-03[m] / 7,6422e-02[MN] | | |
| | | 3,7583e-03[m] / 1,3226e-01[MN] | | |
| | | 7,5167e-03[m] / 1,8041e-01[MN] | | |
| | | 1,6913e-02[m] / 1,9349e-01[MN] | | |
| | | 2,0000e-01[m] / 1,9349e-01[MN] | | |

Drawing



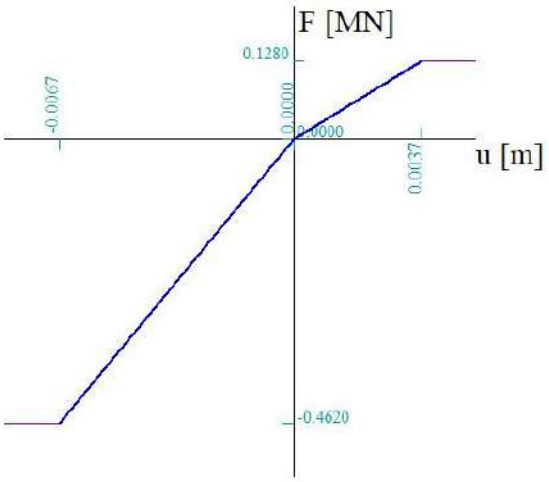

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen | Translation | -2,0000e-01[m] / -9,0000e-03[MN] | Free | Free |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Drawing



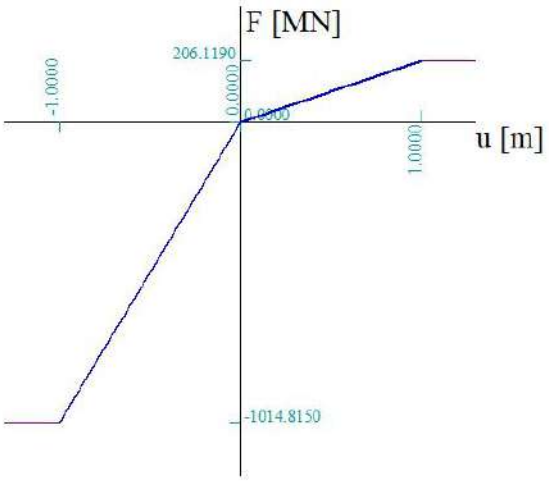

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-S+0-paalpunt_cap275kN .min.B. | Translation | -6,7200e-03[m] / -4,6200e-01[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 3,6700e-03[m] / 1,2800e-01[MN] | | |

Drawing



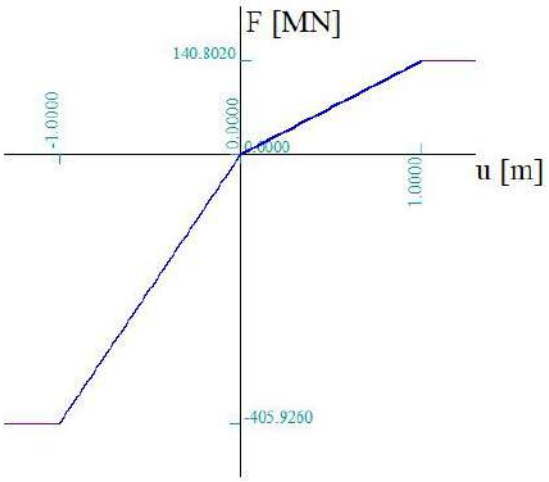

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Translation | -1,0000e+00[m] / -1,0148e+03[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,0612e+02[MN] | | |

Drawing



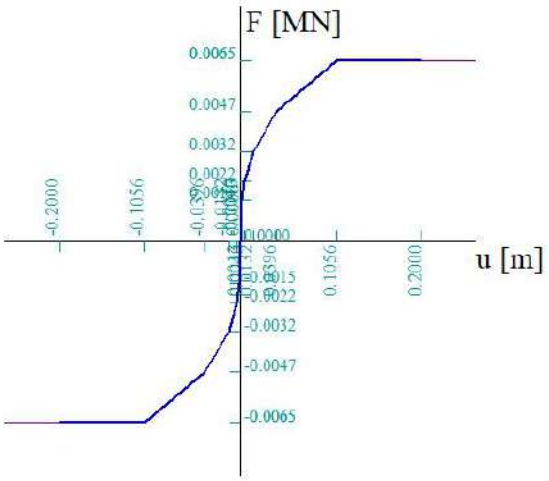

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Translation | -1,0000e+00[m] / -4,0593e+02[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,4080e+02[MN] | | |

Drawing



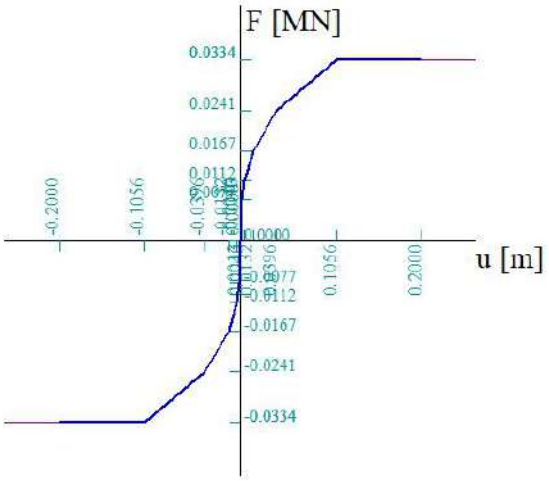

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen.B | Translation | -2,0000e-01[m] / -6,4600e-03[MN] | Free | Free |
| | | -1,0560e-01[m] / -6,4600e-03[MN] | | |
| | | -3,9600e-02[m] / -4,6585e-03[MN] | | |
| | | -1,3200e-02[m] / -3,2300e-03[MN] | | |
| | | -3,9600e-03[m] / -2,1623e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4992e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4992e-03[MN] | | |
| | | 3,9600e-03[m] / 2,1623e-03[MN] | | |
| | | 1,3200e-02[m] / 3,2300e-03[MN] | | |
| | | 3,9600e-02[m] / 4,6585e-03[MN] | | |
| | | 1,0560e-01[m] / 6,4600e-03[MN] | | |
| | | 2,0000e-01[m] / 6,4600e-03[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V1.B | Translation | -2,0000e-01[m] / -3,3356e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -3,3356e-02[MN] | | |
| | | -3,9600e-02[m] / -2,4054e-02[MN] | | |
| | | -1,3200e-02[m] / -1,6678e-02[MN] | | |
| | | -3,9600e-03[m] / -1,1165e-02[MN] | | |
| | | -1,3200e-03[m] / -7,7412e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 7,7412e-03[MN] | | |
| | | 3,9600e-03[m] / 1,1165e-02[MN] | | |
| | | 1,3200e-02[m] / 1,6678e-02[MN] | | |
| | | 3,9600e-02[m] / 2,4054e-02[MN] | | |
| | | 1,0560e-01[m] / 3,3356e-02[MN] | | |
| | | 2,0000e-01[m] / 3,3356e-02[MN] | | |

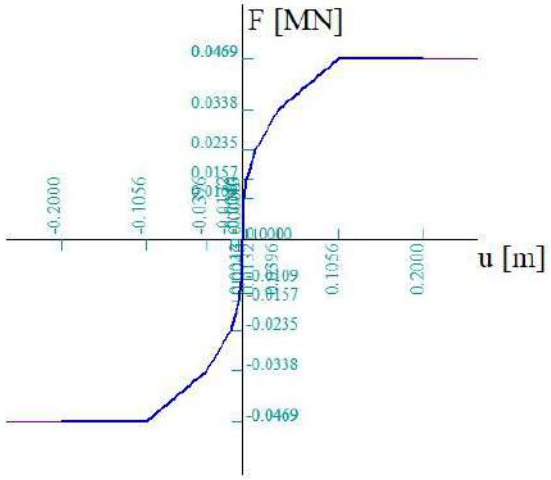
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V2.B | Translation | -2,0000e-01[m] / -4,6912e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -4,6912e-02[MN] | | |
| | | -3,9600e-02[m] / -3,3829e-02[MN] | | |
| | | -1,3200e-02[m] / -2,3456e-02[MN] | | |
| | | -3,9600e-03[m] / -1,5702e-02[MN] | | |
| | | -1,3200e-03[m] / -1,0887e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,0887e-02[MN] | | |
| | | 3,9600e-03[m] / 1,5702e-02[MN] | | |
| | | 1,3200e-02[m] / 2,3456e-02[MN] | | |

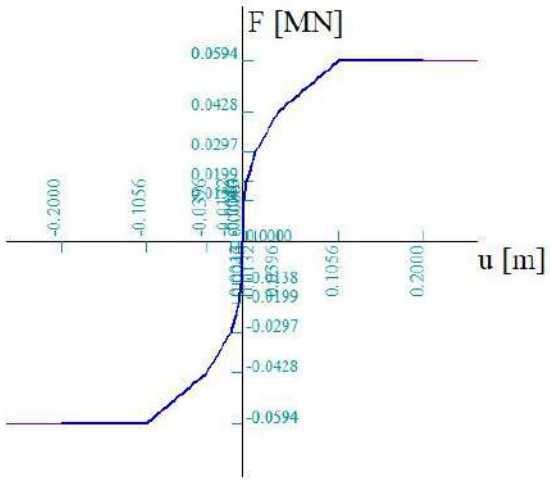
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 3,9600e-02[m] / 3,3829e-02[MN] | | |
| | | 1,0560e-01[m] / 4,6912e-02[MN] | | |
| | | 2,0000e-01[m] / 4,6912e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V3.B | Translation | -2,0000e-01[m] / -5,9400e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

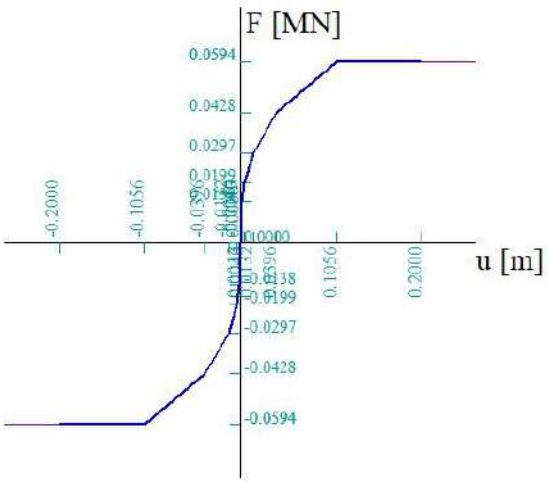
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V4.B | Translation | -2,0000e-01[m] / -5,9400e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |

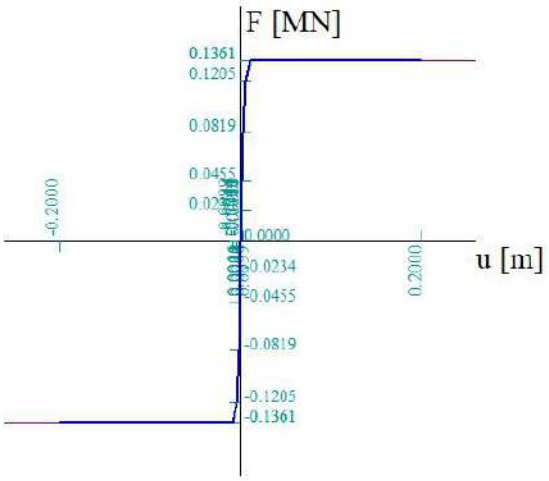
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

Drawing



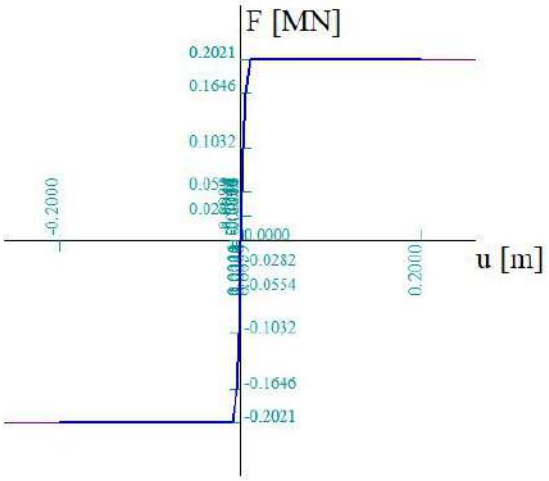

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V5.B | Translation | -2,0000e-01[m] / -1,3606e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -1,3606e-01[MN] | | |
| | | -4,4000e-03[m] / -1,2049e-01[MN] | | |
| | | -2,2000e-03[m] / -8,1906e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5496e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3416e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3416e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5496e-02[MN] | | |
| | | 2,2000e-03[m] / 8,1906e-02[MN] | | |
| | | 4,4000e-03[m] / 1,2049e-01[MN] | | |
| | | 9,9000e-03[m] / 1,3606e-01[MN] | | |
| | | 2,0000e-01[m] / 1,3606e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V6.B | Translation | -2,0000e-01[m] / -2,0212e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,0212e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6461e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0317e-01[MN] | | |
| | | -1,1000e-03[m] / -5,5351e-02[MN] | | |
| | | -5,5000e-04[m] / -2,8200e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,8200e-02[MN] | | |
| | | 1,1000e-03[m] / 5,5351e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0317e-01[MN] | | |
| | | 4,4000e-03[m] / 1,6461e-01[MN] | | |
| | | 9,9000e-03[m] / 2,0212e-01[MN] | | |
| | | 2,0000e-01[m] / 2,0212e-01[MN] | | |

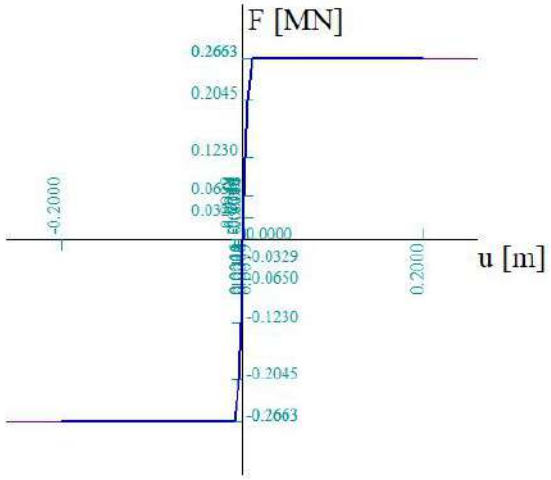
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V7.B | Translation | -2,0000e-01[m] / -2,6632e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,6632e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0449e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2296e-01[MN] | | |
| | | -1,1000e-03[m] / -6,4953e-02[MN] | | |
| | | -5,5000e-04[m] / -3,2949e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,2949e-02[MN] | | |
| | | 1,1000e-03[m] / 6,4953e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2296e-01[MN] | | |

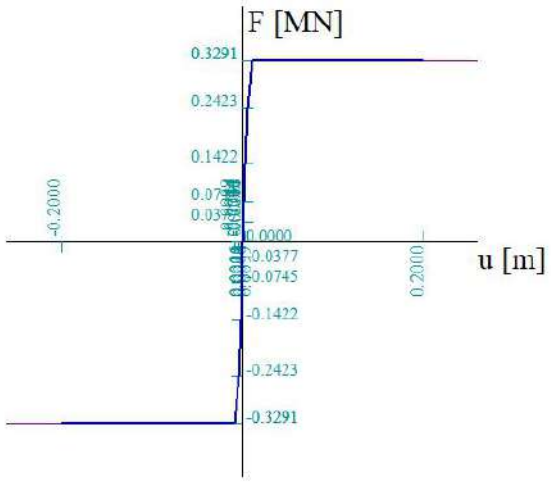
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 2,0449e-01[MN] | | |
| | | 9,9000e-03[m] / 2,6632e-01[MN] | | |
| | | 2,0000e-01[m] / 2,6632e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V8.B | Translation | -2,0000e-01[m] / -3,2908e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,2908e-01[MN] | | |
| | | -4,4000e-03[m] / -2,4234e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4217e-01[MN] | | |
| | | -1,1000e-03[m] / -7,4465e-02[MN] | | |
| | | -5,5000e-04[m] / -3,7686e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,7686e-02[MN] | | |
| | | 1,1000e-03[m] / 7,4465e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4217e-01[MN] | | |
| | | 4,4000e-03[m] / 2,4234e-01[MN] | | |
| | | 9,9000e-03[m] / 3,2908e-01[MN] | | |
| | | 2,0000e-01[m] / 3,2908e-01[MN] | | |

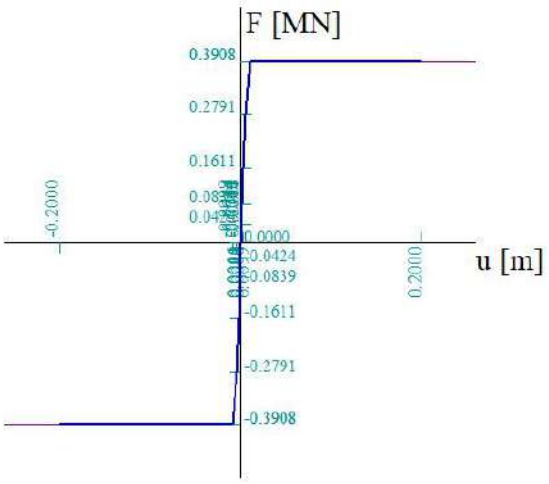
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V9.B | Translation | -2,0000e-01[m] / -3,9077e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,9077e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7909e-01[MN] | | |
| | | -2,2000e-03[m] / -1,6111e-01[MN] | | |

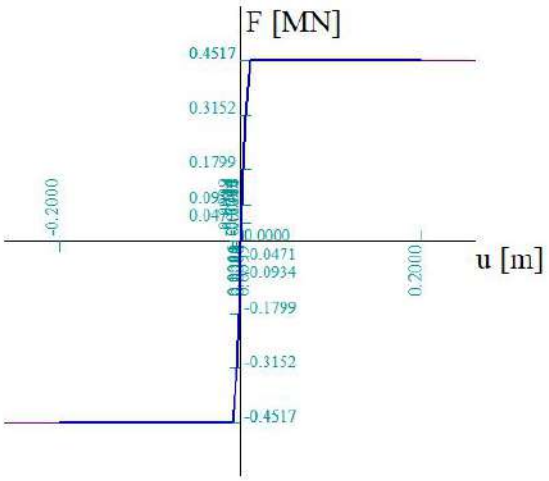
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -8,3936e-02[MN] | | |
| | | -5,5000e-04[m] / -4,2418e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,2418e-02[MN] | | |
| | | 1,1000e-03[m] / 8,3936e-02[MN] | | |
| | | 2,2000e-03[m] / 1,6111e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7909e-01[MN] | | |
| | | 9,9000e-03[m] / 3,9077e-01[MN] | | |
| | | 2,0000e-01[m] / 3,9077e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V10.B | Translation | -2,0000e-01[m] / -4,5169e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -4,5169e-01[MN] | | |
| | | -4,4000e-03[m] / -3,1518e-01[MN] | | |
| | | -2,2000e-03[m] / -1,7990e-01[MN] | | |
| | | -1,1000e-03[m] / -9,3384e-02[MN] | | |
| | | -5,5000e-04[m] / -4,7146e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,7146e-02[MN] | | |
| | | 1,1000e-03[m] / 9,3384e-02[MN] | | |
| | | 2,2000e-03[m] / 1,7990e-01[MN] | | |
| | | 4,4000e-03[m] / 3,1518e-01[MN] | | |
| | | 9,9000e-03[m] / 4,5169e-01[MN] | | |
| | | 2,0000e-01[m] / 4,5169e-01[MN] | | |

Drawing

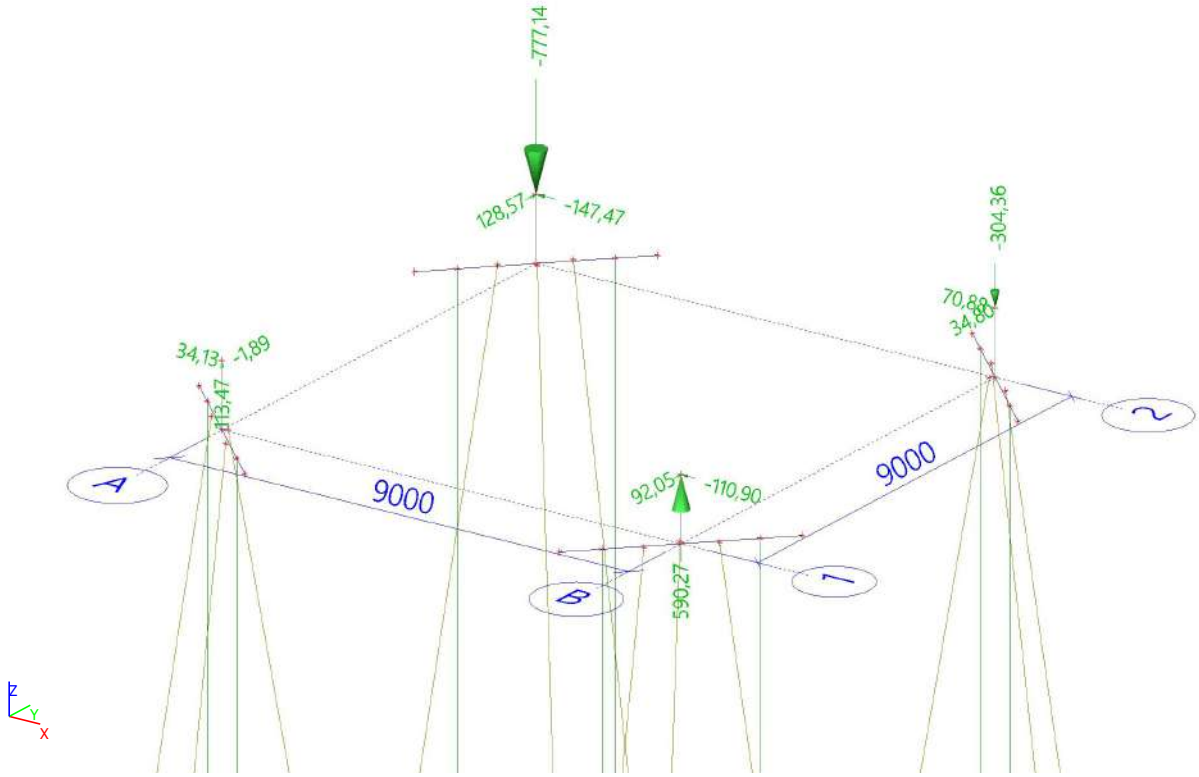

F [MN]
0.4517
0.3152
0.1799
0.0934
0.0471
0.0000
-0.2000
0.2000
u [m]
-0.0471
-0.0934
-0.1799
-0.3152
-0.4517

# 6. Belastingen

## 6.1. Load cases

### 6.1.1. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



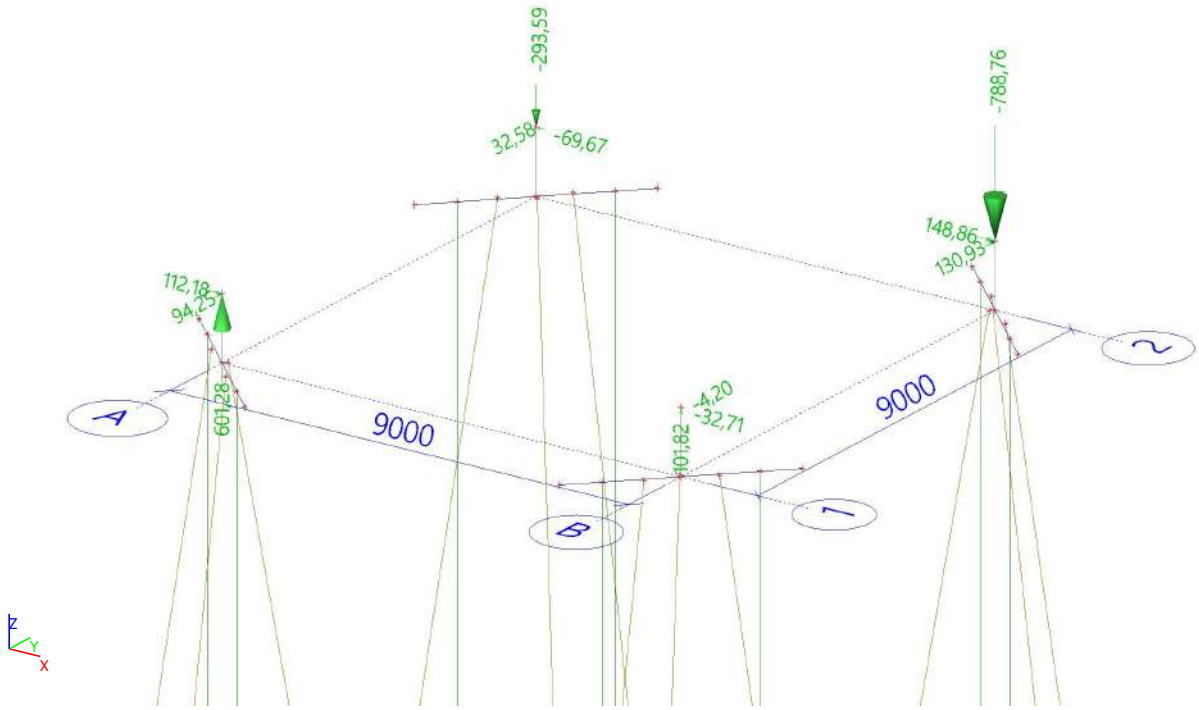

#### *6.1.1.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 113,47 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -777,14 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -304,36 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1P_X1 | 1P28 | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y1 | 1P28 | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd ;45°_1P_Z1 | 1P28 | high max Wnd ;45° | GCS | Z | Force | 113,47 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Force | -304,36 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Force | -777,14 |

### 6.1.2. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



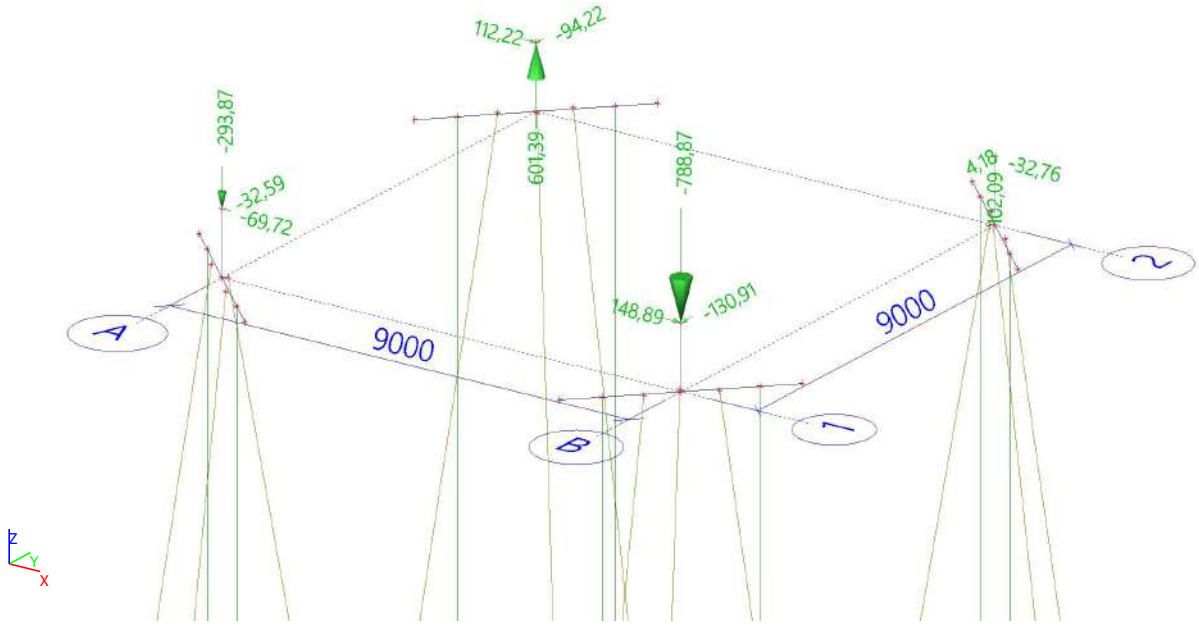

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 601,28 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -293,59 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1P_X1 | 1P28 | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y1 | 1P28 | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd | 1P28 | high max Wnd ;135° | GCS | Z | Force | 601,28 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Force | -293,59 |

### 6.1.3. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

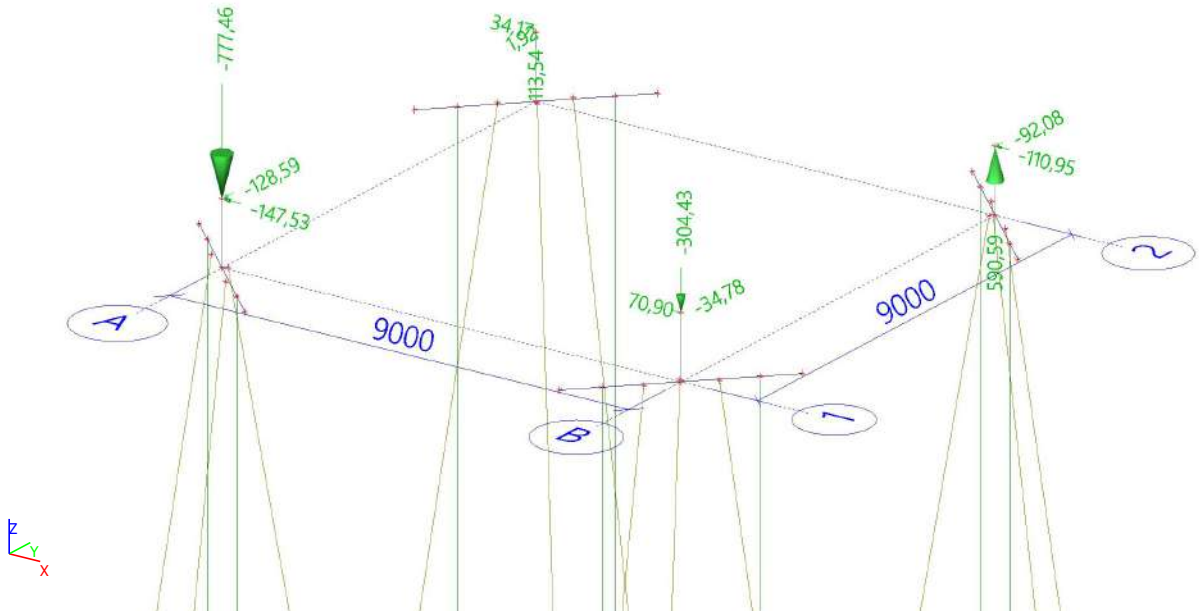


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 601,39 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1P_X1 | 1P28 | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y1 | 1P28 | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z1 | 1P28 | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Force | 601,39 |

### 6.1.4. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



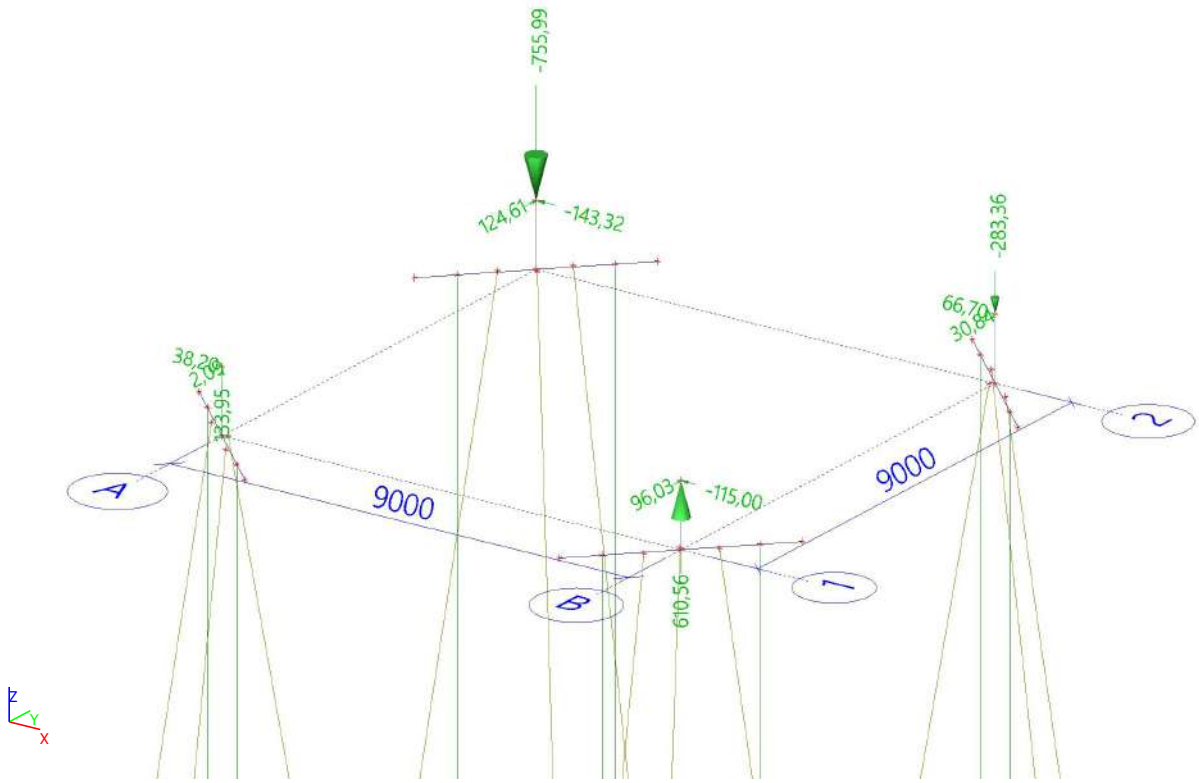

### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -777,46 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 113,54 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1P_X1 | 1P28 | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y1 | 1P28 | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd | 1P28 | high max Wnd ;315° | GCS | Z | Force | -777,46 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Force | 113,54 |

### 6.1.5. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

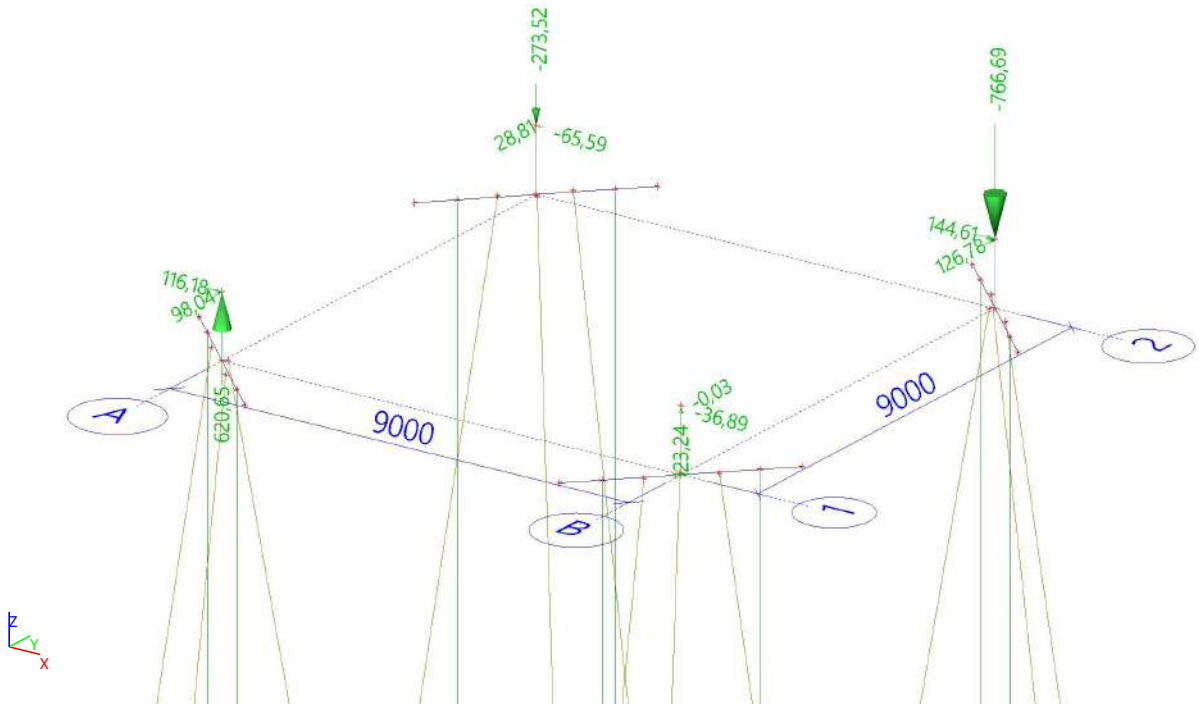


#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 133,95 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -755,99 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1P_X1 | 1P28 | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y1 | 1P28 | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd ;45°_1P_Z1 | 1P28 | low max Wnd ;45° | GCS | Z | Force | 133,95 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Force | -755,99 |

### 6.1.6. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



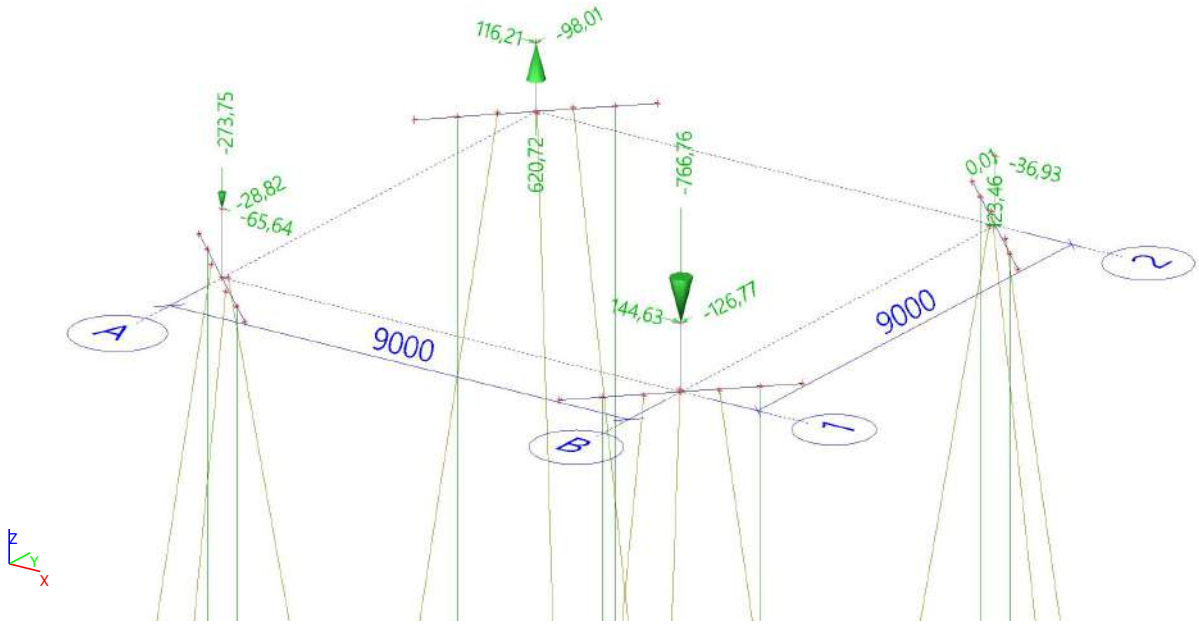

### 6.1.6.1. Point force in node

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 620,65 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -273,52 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1P_X1 | 1P28 | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y1 | 1P28 | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd | 1P28 | low max Wnd ;135° | GCS | Z | Force | 620,65 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Force | -273,52 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable<br>Static | LG4 | Short | None |

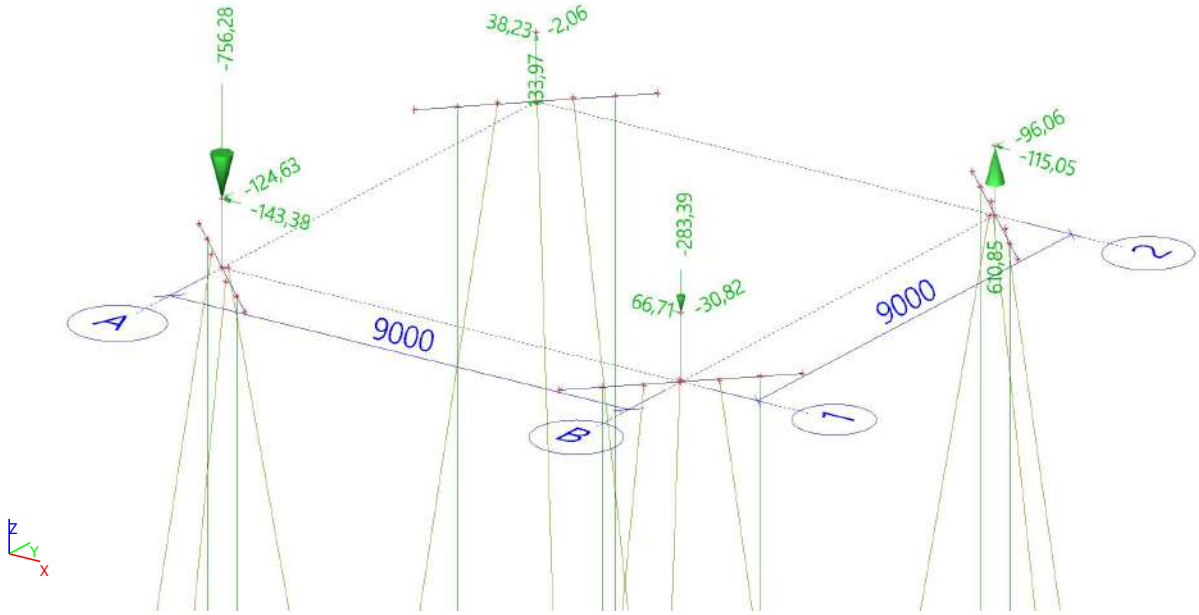


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 620,72 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1P_X1 | 1P28 | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y1 | 1P28 | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z1 | 1P28 | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Force | 620,72 |

### 6.1.8. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



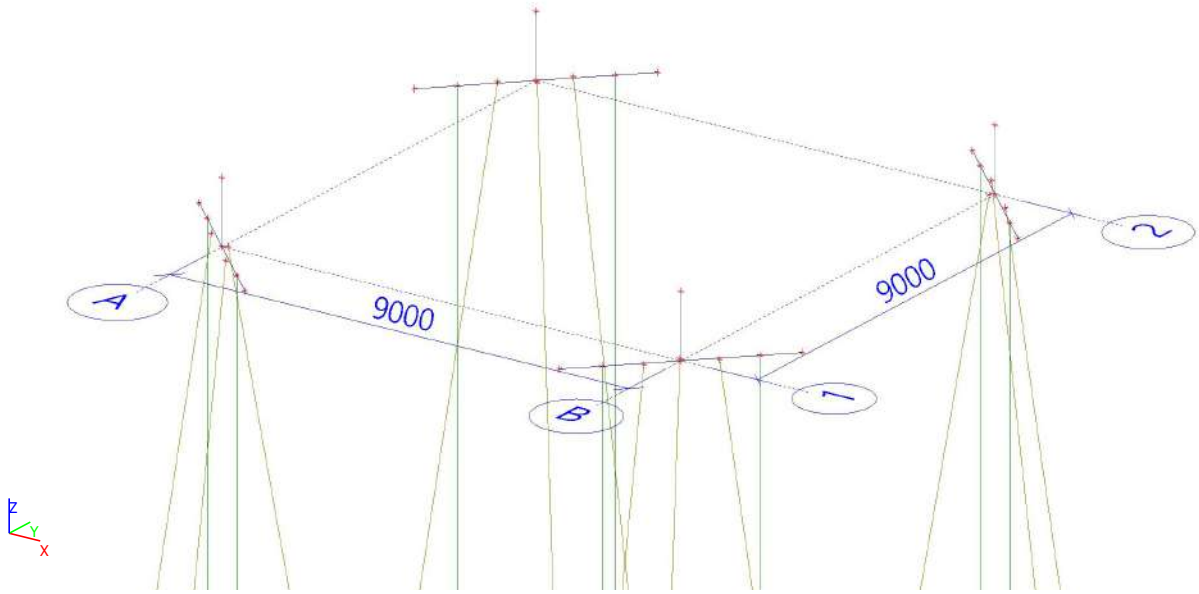

### *6.1.8.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -756,28 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 133,97 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1P_X1 | 1P28 | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y1 | 1P28 | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd | 1P28 | low max Wnd ;315° | GCS | Z | Force | -756,28 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Force | 133,97 |

### 6.1.9. Load cases - EG_fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |



## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Ultimate | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Ultimate | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Ultimate | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Ultimate | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Ultimate | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Ultimate | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Ultimate | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Ultimate | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Result classes

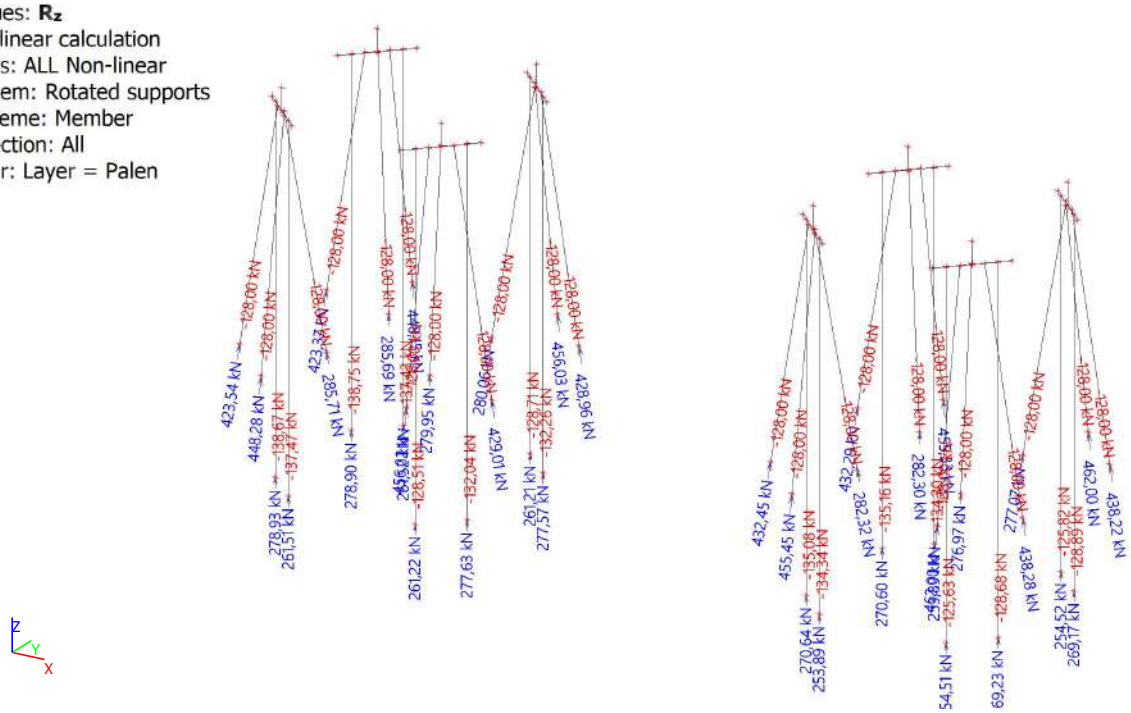
| Name | List |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = Paal 40x40 - Rectangle (400,00; 400,00)

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_4/N59 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 270,86 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 397,00 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 421,71 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Global
Selection: All

Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-138,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **278,93** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 421,71 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | 143,27 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **448,28** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 397,00 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **423,54** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 194,95 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | 282,75 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | **285,71** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | -8,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **429,01** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 402,02 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_1/N12 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 147,93 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 174,65 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;225° - EG_ongunstig | 0,00 | 0,00 | **456,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | -3,00 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | **279,95** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 277,20 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | 428,81 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **456,03** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | 172,25 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | high max Wnd ;135° - EG_ongunstig | 0,00 | 0,00 | **428,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 401,98 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 277,32 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **280,06** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 168,74 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **423,37** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 396,83 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_1/N20 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **448,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 421,59 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 87,20 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **285,69** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | -8,22 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **261,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,51** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **277,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-132,04** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-137,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **261,51** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-138,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **278,93** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-137,43** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **261,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-138,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **278,90** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-132,26** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **277,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,71** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_10/N42 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **261,21** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 149,40 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_5/N58 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **455,45** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N57 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **-128,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N57 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | **432,45** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 275,93 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 92,55 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | high max Wnd ;135° - EG_ongunstig | 0,00 | 0,00 | **282,32** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_6/N68 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 78,28 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_6/N62 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **438,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_6/N62 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 179,82 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | **462,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 154,12 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_5/N61 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | -4,38 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N59 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | 90,22 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | **276,97** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N59 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 270,86 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

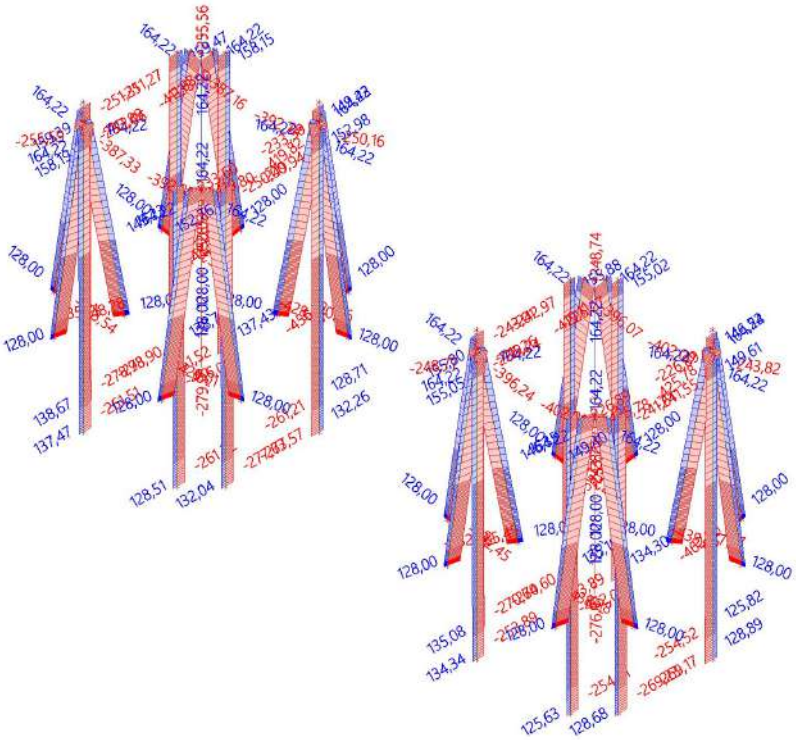
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_5/N64 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 182,58 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_5/N64 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **462,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_4/N63 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N63 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **438,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_4/N63 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 208,00 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | -4,39 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 270,98 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **277,07** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_6/N65 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 90,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_12/N60 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | **432,29** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_12/N60 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 404,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 149,34 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_13/N66 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **455,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_13/N66 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 427,48 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 275,90 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-128,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | **282,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_14/N67 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 78,27 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_15/N71 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **254,51** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_15/N71 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-125,63** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **269,23** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_16/N72 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-128,68** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_17/N74 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-134,34** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_17/N74 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **253,89** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_18/N76 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-135,08** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_18/N76 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **270,64** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_19/N78 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-134,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_19/N78 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **253,89** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_20/N80 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-135,16** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_20/N80 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **270,60** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_22/N84 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-128,89** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_22/N84 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **269,17** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_21/N82 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-125,82** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_21/N82 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **254,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

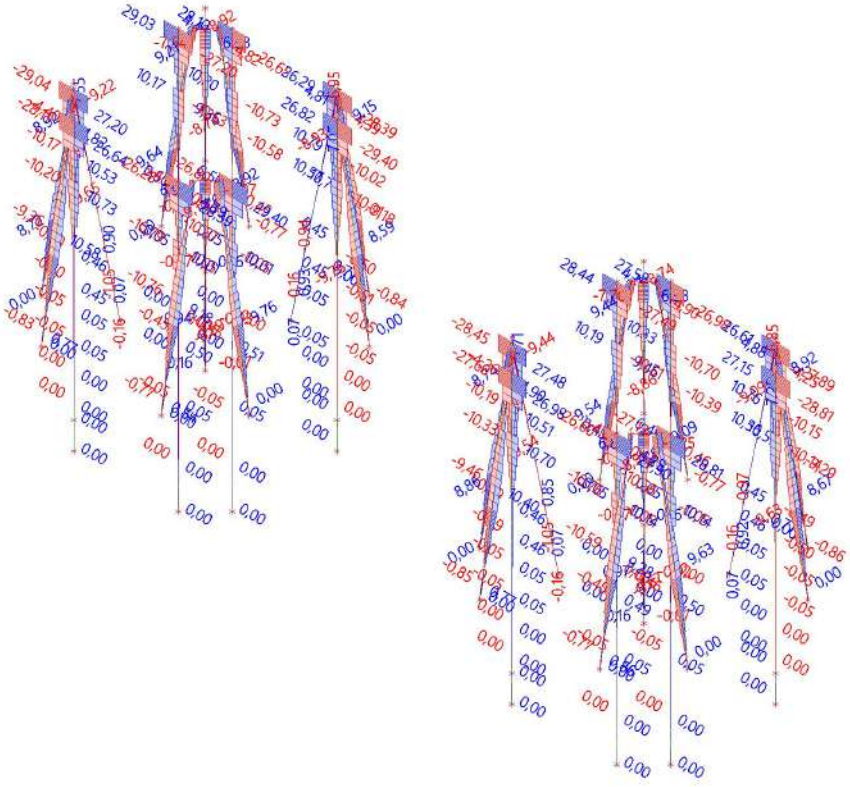
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



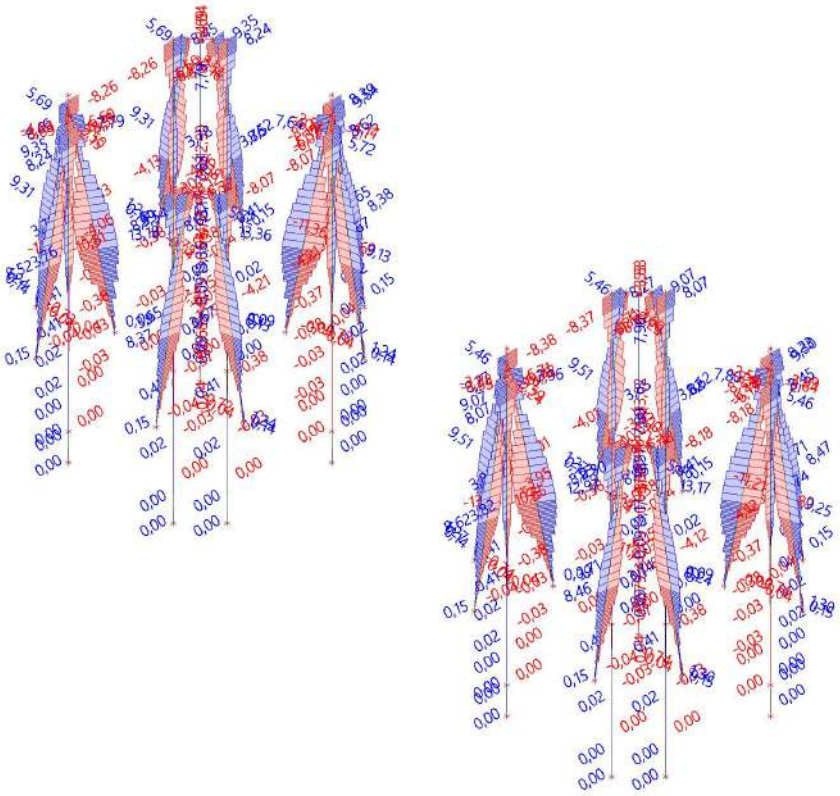
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



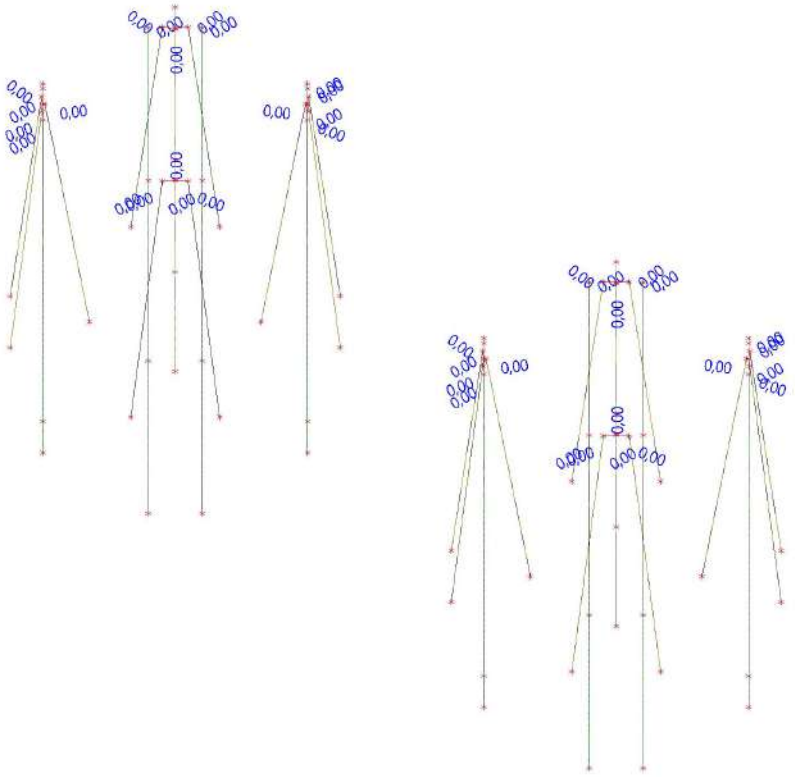
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



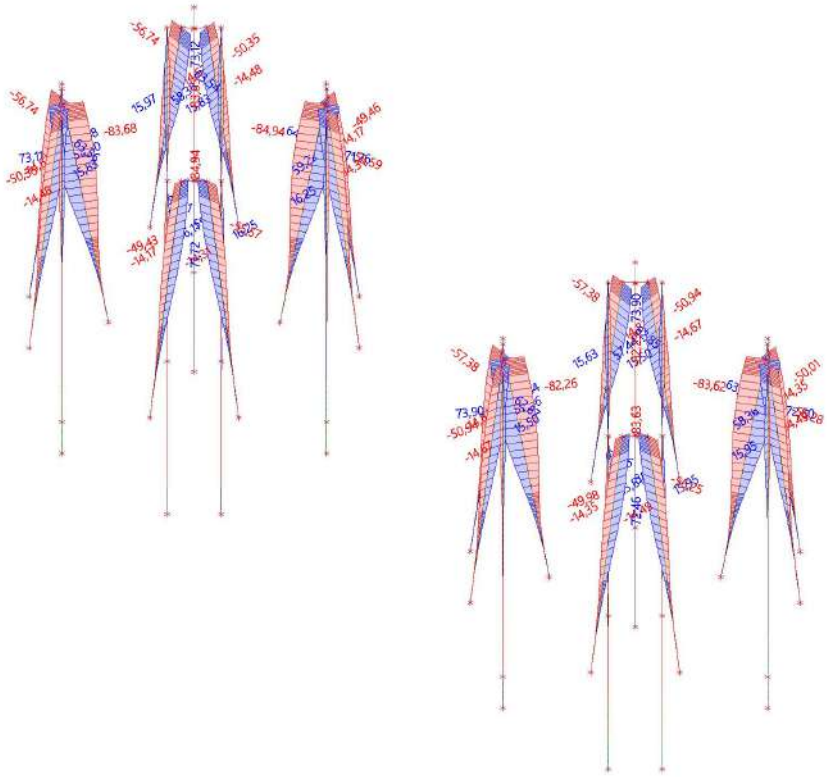
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



### 7.2.5. Interne 1D- krachten; M_y

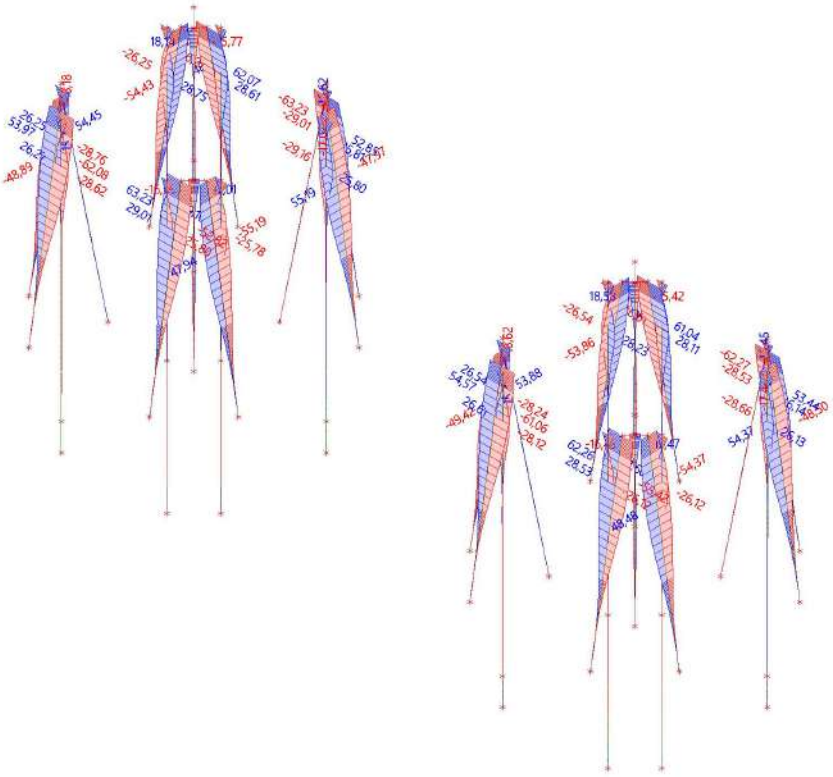
Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen





### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen





### 7.2.7. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Paal 40x40 - Rectangle (400,00; 400,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_13 | 13,000 | high max Wnd ;225° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-462,00** | 0,00 | 0,15 | 0,00 | 0,00 | 0,00 |
| Paal_P_3 | 0,000 | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **164,22** | 4,41 | -5,00 | **0,00** | -36,77 | 42,92 |
| Paal_X_1 | 6,250+ | high max Wnd ;225° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -438,43 | **-10,76** | -10,45 | 0,00 | 41,18 | 36,41 |
| Paal_XY_3 | 6,250+ | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -438,45 | **10,76** | -10,45 | 0,00 | 41,18 | -36,41 |
| Paal_Y_6 | 7,125+ | low max Wnd ;225° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -264,54 | 0,49 | **-13,02** | 0,00 | 38,19 | -4,28 |
| Paal_X_2 | 7,125+ | low max Wnd ;225° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 139,36 | -0,43 | **13,36** | 0,00 | -40,31 | 3,72 |
| Paal_X_2 | 1,875- | high max Wnd ;225° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 160,21 | 5,98 | -1,64 | 0,00 | **-84,94** | -4,42 |
| Paal_Y_6 | 2,750- | low max Wnd ;225° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -253,57 | -4,80 | 1,13 | 0,00 | **73,90** | 0,81 |
| Paal_XY_3 | 1,875- | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -423,82 | -2,41 | 6,84 | 0,00 | 56,73 | **-63,23** |
| Paal_X_1 | 1,875- | high max Wnd ;225° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -423,81 | 2,42 | 6,84 | 0,00 | 56,74 | **63,23** |

### 7.2.8. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_7 | 19,612 | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-278,93** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_9 | 0,000 | low max Wnd ;225° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | **159,47** | -27,20 | -8,26 | **0,00** | 3,81 | 23,92 |

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_10 | 0,000 | high max Wnd ;135° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -249,94 | **-29,40** | **8,62** | 0,00 | -3,02 | 25,51 |
| Paal_X_5 | 0,000 | high max Wnd ;225° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -250,00 | **29,40** | 8,62 | 0,00 | -3,01 | -25,52 |
| Paal_X_17 | 0,000 | low max Wnd ;135° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 155,05 | 26,98 | **-8,42** | 0,00 | 4,29 | -22,92 |
| Paal_X_18 | 3,625- | low max Wnd ;135° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 152,43 | -3,32 | -1,29 | 0,00 | **-14,82** | 23,63 |
| Paal_X_10 | 3,625- | high max Wnd ;135° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -254,43 | 3,17 | 1,28 | 0,00 | **16,25** | -26,39 |
| Paal_X_10 | 2,750- | high max Wnd ;135° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -253,20 | -7,53 | 3,94 | 0,00 | 15,13 | **-29,16** |
| Paal_X_5 | 2,750- | high max Wnd ;225° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -253,26 | 7,53 | 3,94 | 0,00 | 15,13 | **29,16** |

## 7.3. Krachten van de Poeren

### 7.3.1. 1D internal forces

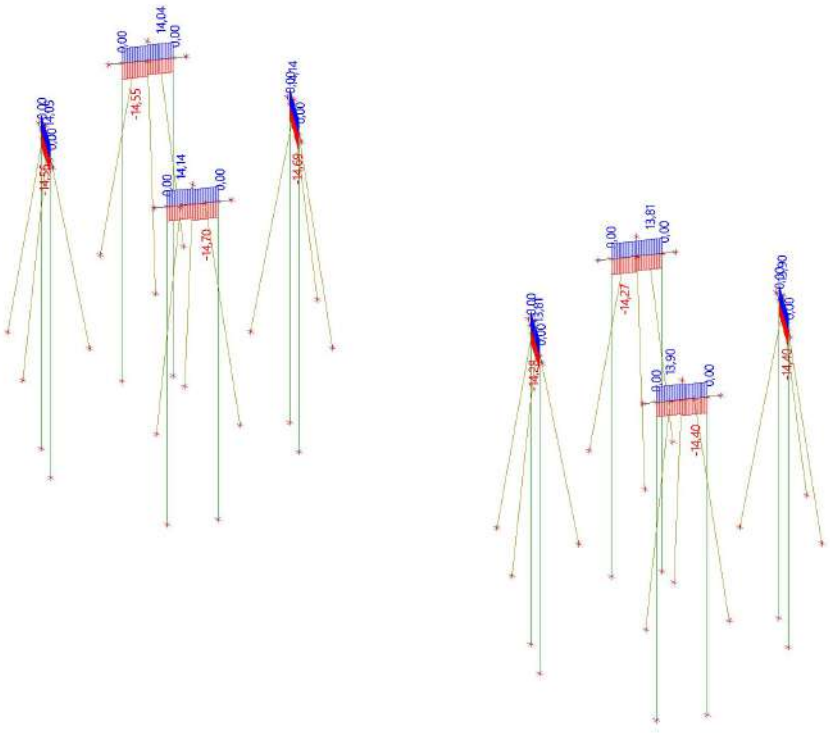
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Layer = Poeren

| Name | dx [m] | Case | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer Y | 1,200 | low max Wnd ;225° - EG_gunstig | **620,72** | -151,48 | -12,87 | **0,00** | 0,00 | 0,00 |
| Poer P | 0,000 | low max Wnd ;135° - EG_gunstig | 590,88 | **-151,48** | 12,83 | 0,00 | -15,39 | **181,77** |
| Poer P | 0,000 | high max Wnd ;225° - EG_ongunstig | -333,56 | 72,34 | **-26,25** | 0,00 | **31,51** | -86,81 |
| Poer Y | 0,000 | high max Wnd ;135° - EG_ongunstig | -333,28 | 72,30 | **26,23** | 0,00 | **-31,47** | -86,76 |
| Poer X | 0,000 | high max Wnd ;225° - EG_ongunstig | **-828,56** | **197,85** | 12,71 | 0,00 | -15,26 | **-237,42** |

## 7.4. Krachten van de Funderingsbalken

### 7.4.1. Interne 1D- krachten; N

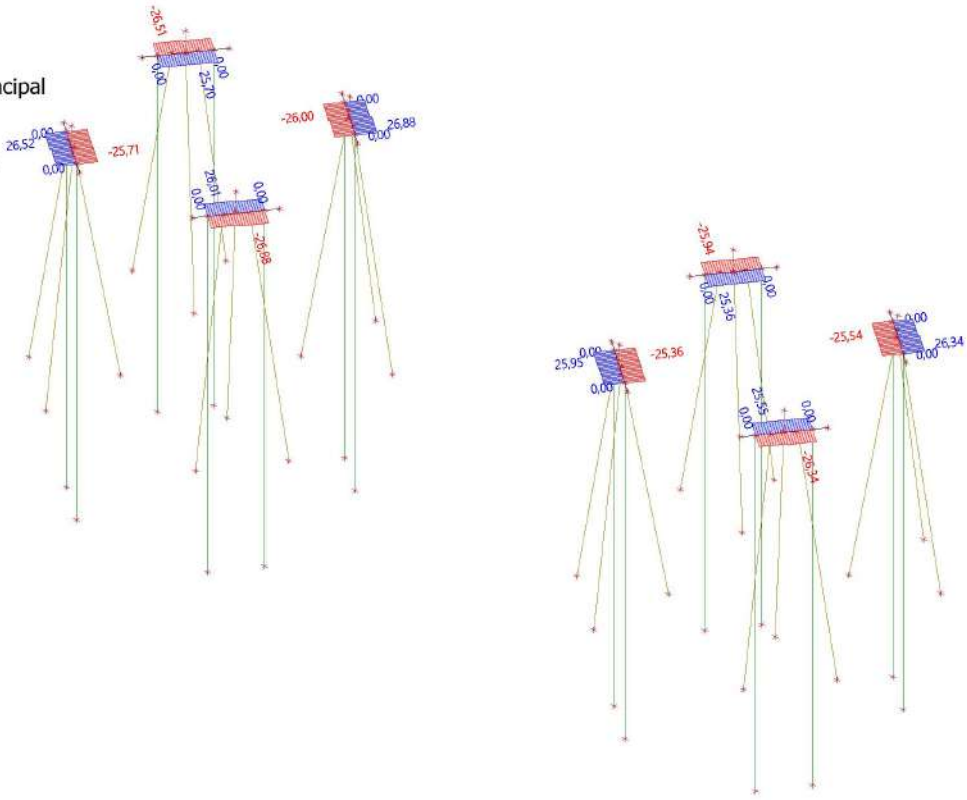
Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.2. Interne 1D- krachten; V_y

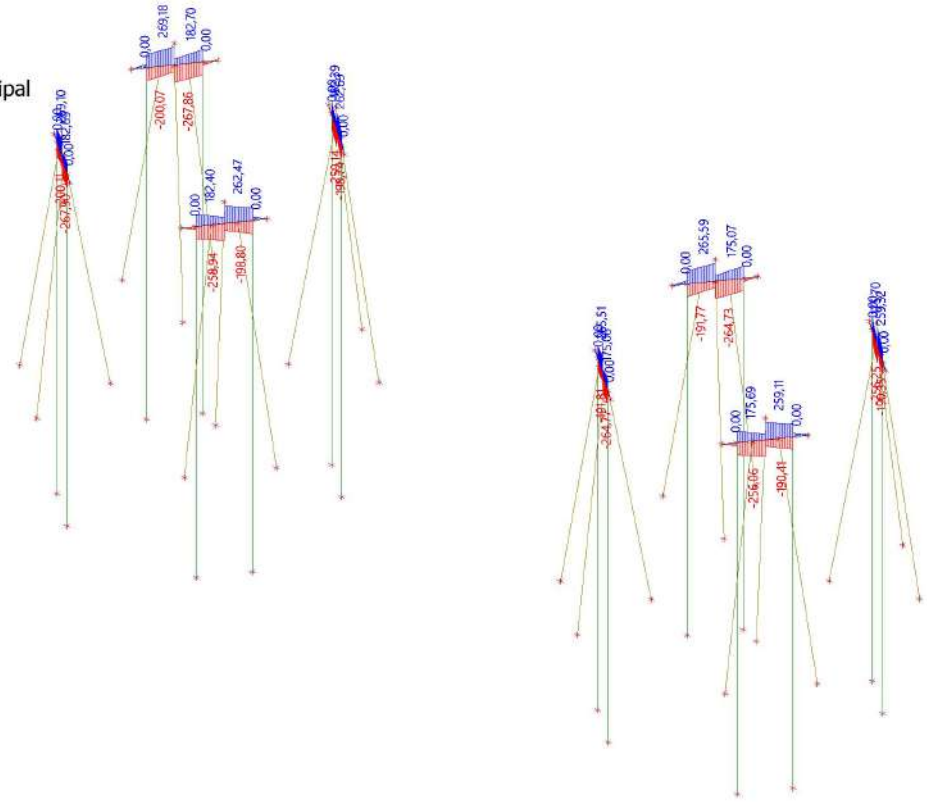
Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





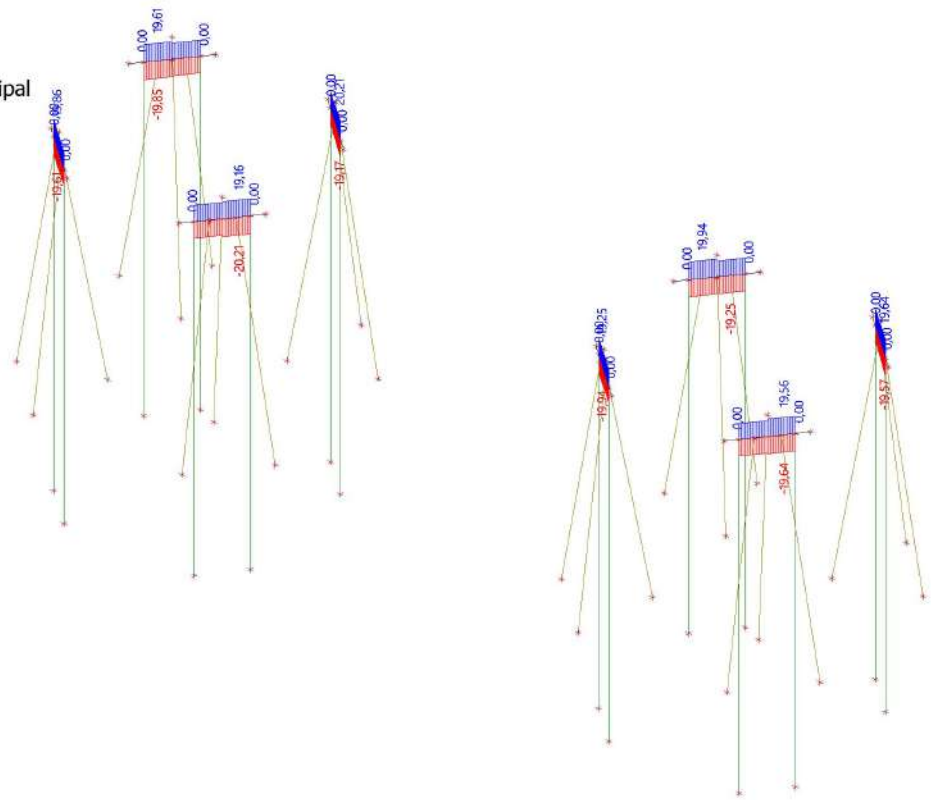
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



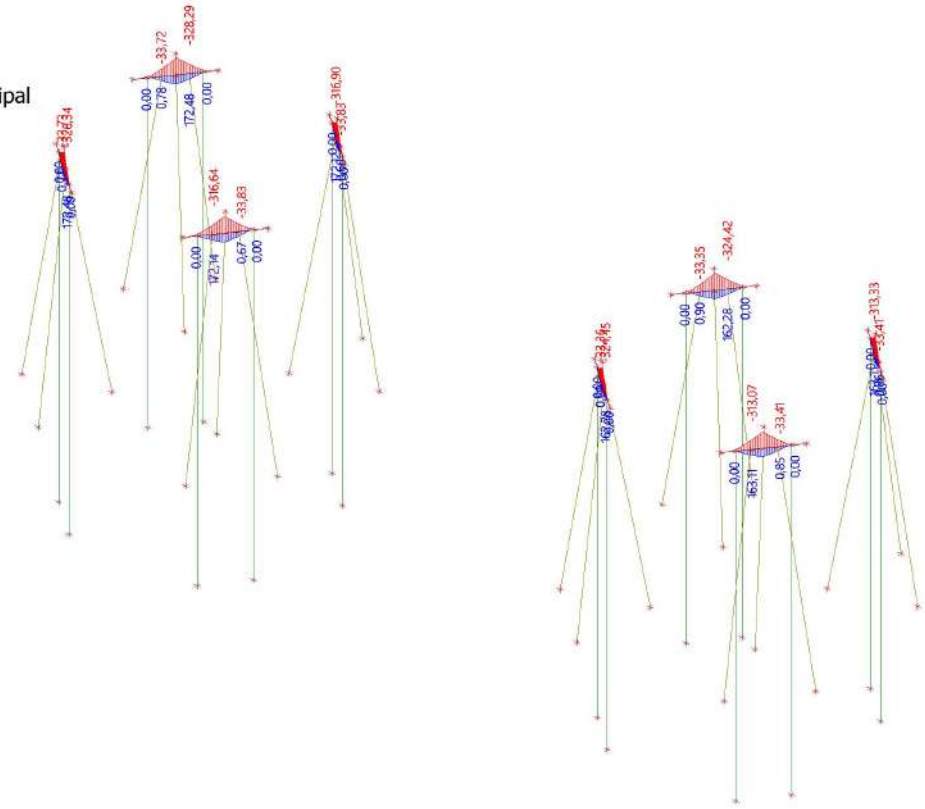
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



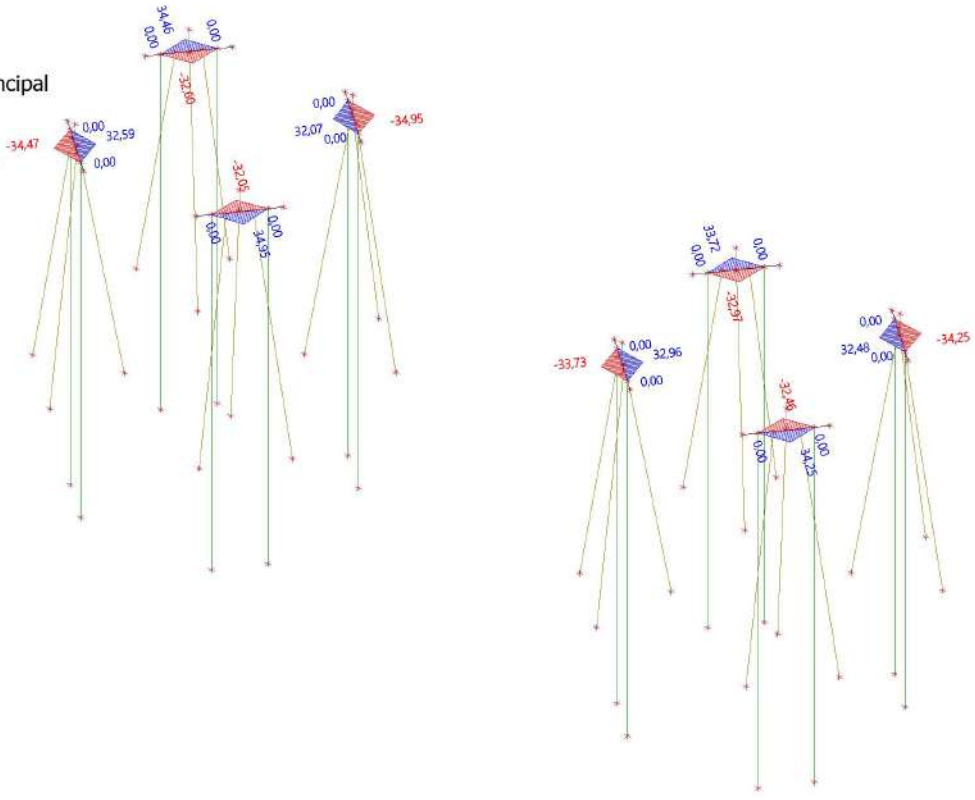
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



### 7.4.7. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Layer = Lijnpoer

| Name | dx [m] | Case | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Paal15 | 0,700+ | high max Wnd ;225° - EG_ongunstig | **14,14** | 26,01 | 182,40 | 18,20 | -3,18 | 0,00 |
| Paal15 | 2,000+ | high max Wnd ;225° - EG_ongunstig | **-14,70** | **-26,88** | -103,72 | -20,18 | 162,81 | **34,95** |
| Paal19 | 2,000+ | low max Wnd ;225° - EG_gunstig | 13,39 | 25,07 | **269,18** | 19,61 | -302,81 | -32,60 |
| Paal15 | 2,000+ | low max Wnd ;225° - EG_gunstig | -14,58 | -26,73 | -100,86 | **-20,21** | 148,28 | 34,75 |
| Paal20 | 2,000+ | low max Wnd ;135° - EG_gunstig | -14,58 | 26,73 | -100,83 | **20,21** | 148,24 | -34,75 |
| Paal18 | 2,000- | low max Wnd ;135° - EG_gunstig | -12,96 | 24,72 | **-267,90** | 18,86 | **-328,34** | 32,13 |
| Paal18 | 2,000- | high max Wnd ;315° - EG_ongunstig | 14,05 | -25,71 | 87,61 | -17,96 | **172,48** | -33,42 |
| Paal20 | 2,000+ | high max Wnd ;135° - EG_ongunstig | -14,69 | **26,88** | -103,66 | 20,18 | 162,73 | **-34,95** |

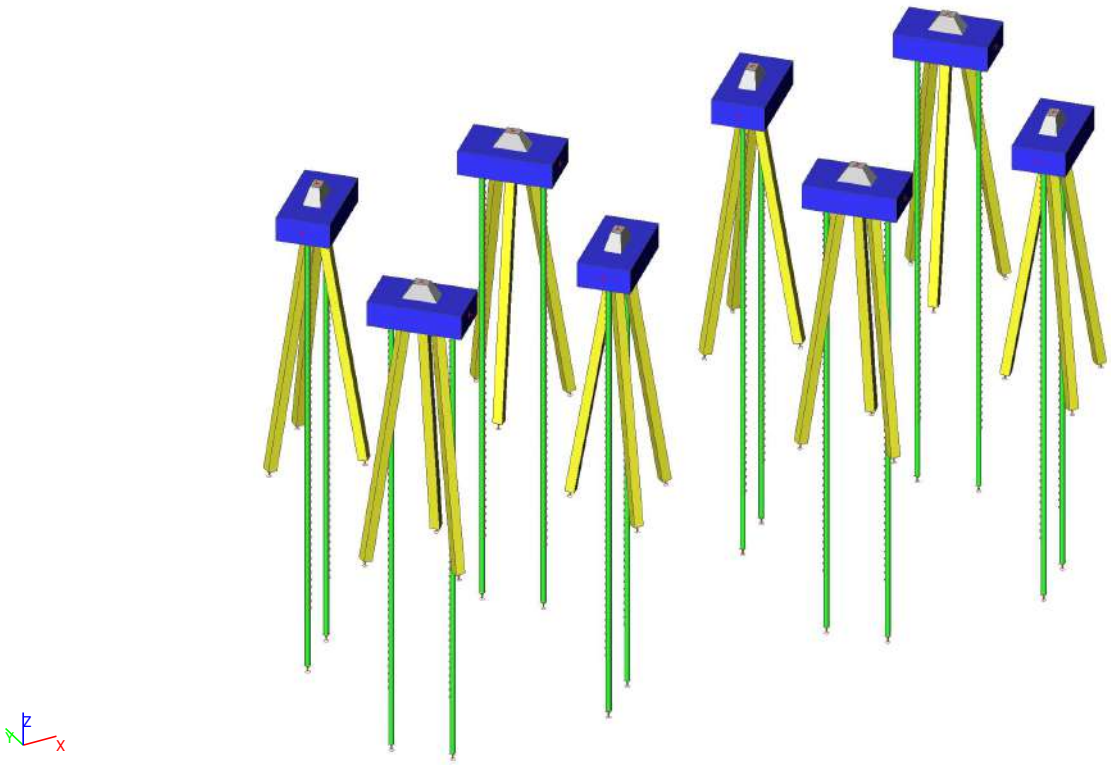
# 1. Table of contents

1. Table of contents 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Nodes 3
5.2. Analyse model met knopen 4
5.3. Members 4
5.4. Analyse model met Staven 5
5.5. Nodal supports 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Line supports on member 7
5.8. Analyse model met Lijnondersteuningen 17
5.9. Analyse model met Lijnondersteuningen 18
5.10. Nonlinear functions 19
6. Belastingen 30
6.1. Load cases 30
6.1.1. Load cases - high max Wnd ;45° 30
6.1.1.1. Point force in node 30
6.1.2. Load cases - high max Wnd ;135° 31
6.1.2.1. Point force in node 32
6.1.3. Load cases - high max Wnd ;225° 33
6.1.3.1. Point force in node 34
6.1.4. Load cases - high max Wnd ;315° 34
6.1.4.1. Point force in node 35
6.1.5. Load cases - low max Wnd ;45° 36
6.1.5.1. Point force in node 37
6.1.6. Load cases - low max Wnd ;135° 37
6.1.6.1. Point force in node 38
6.1.7. Load cases - low max Wnd ;225° 39
6.1.7.1. Point force in node 40
6.1.8. Load cases - low max Wnd ;315° 40
6.1.8.1. Point force in node 41
6.1.9. Load cases - EG_fundering 42
6.2. Nonlinear combinations 43
6.3. Result classes 43
7. Resultaten 44
7.1. Reacties van de palen 44
7.1.1. Reactions; R_z 44
7.1.2. Reactions 44
7.1.3. Reactions 44
7.1.4. Reactions 45
7.2. Krachten van de Funderingspalen 50
7.2.1. Interne 1D- krachten; N 50
7.2.2. Interne 1D- krachten; V_y 50
7.2.3. Interne 1D- krachten; V_z 51
7.2.4. Interne 1D- krachten; M_x 51
7.2.5. Interne 1D- krachten; M_y 52
7.2.6. Interne 1D- krachten; M_z 52
7.2.7. 1D internal forces 53
7.2.8. 1D internal forces 53
7.3. Krachten van de Poeren 55
7.3.1. 1D internal forces 55
7.4. Krachten van de Funderingsbalken 56
7.4.1. Interne 1D- krachten; N 56
7.4.2. Interne 1D- krachten; V_y 56
7.4.3. Interne 1D- krachten; V_z 57
7.4.4. Interne 1D- krachten; M_x 57
7.4.5. Interne 1D- krachten; M_y 58
7.4.6. Interne 1D- krachten; M_z 58
7.4.7. 1D internal forces 59

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Blokpoer 3xBeton40x40 Mast 69 |
| Author | [redacted] |
| Date | 28-01-2026 |
| Structure | General XYZ |
| No. of nodes : | 112 |
| No. of beams : | 56 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 7 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



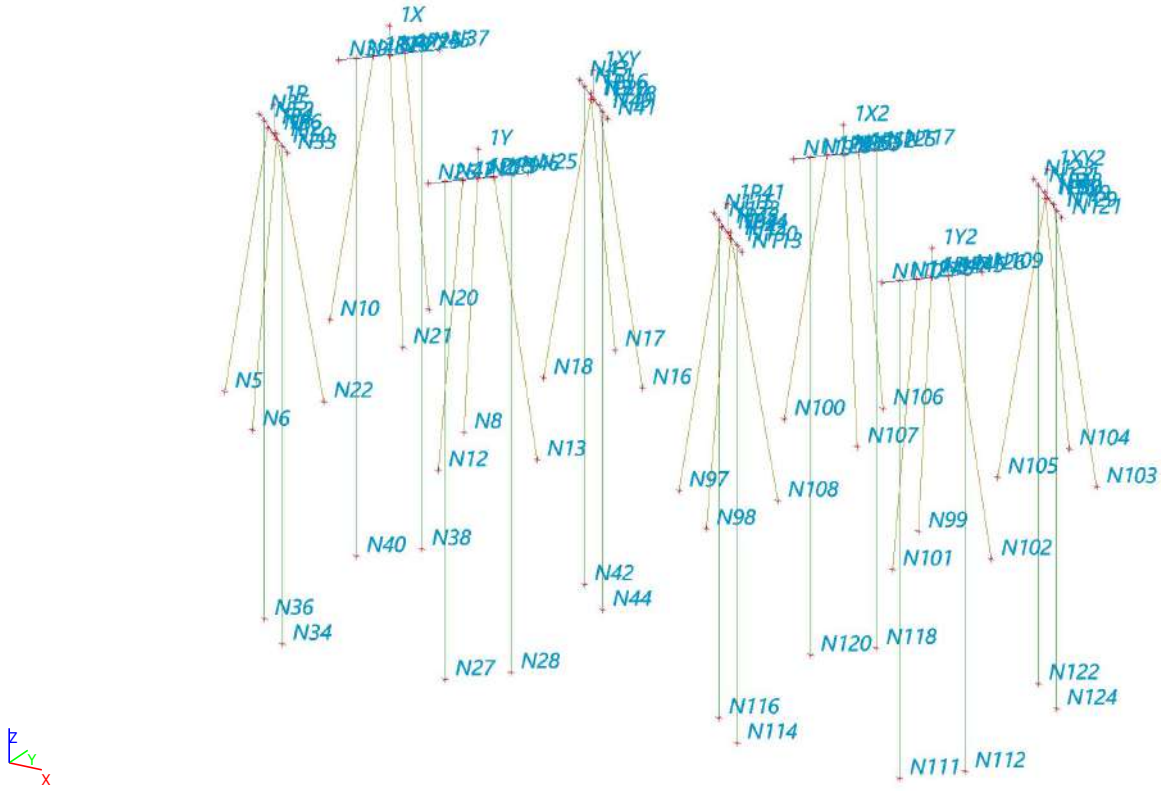
# 4. Modeleigenschappen

# 5. Geometrie

## 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -2,374 | 0,400 | -11,343 |
| N6 | 0,400 | -2,374 | -11,343 |
| N8 | 7,592 | 1,408 | -11,343 |
| N10 | -2,374 | 8,600 | -11,343 |
| N12 | 8,600 | -2,374 | -11,343 |
| N13 | 11,374 | 0,400 | -11,343 |
| N16 | 11,374 | 8,600 | -11,343 |
| N17 | 8,600 | 11,374 | -11,343 |
| N18 | 7,592 | 7,592 | -11,343 |
| N20 | 0,400 | 11,374 | -11,343 |
| N21 | 1,408 | 7,592 | -11,343 |
| N22 | 1,408 | 1,408 | -11,343 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -20,650 |
| N28 | 9,919 | 0,919 | -20,650 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -20,650 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -20,650 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -20,650 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -20,650 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -20,650 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -20,650 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |
| N93 | 20,000 | 0,000 | 0,000 |
| 1P41 | 20,000 | 0,000 | 1,200 |
| 1P42 | 20,400 | -0,480 | 0,000 |
| 1P43 | 19,520 | 0,400 | 0,000 |
| 1P44 | 20,070 | 0,070 | 0,000 |
| N94 | 29,000 | 0,000 | 0,000 |
| 1Y2 | 29,000 | 0,000 | 1,200 |
| 1P45 | 29,480 | 0,400 | 0,000 |
| 1P46 | 28,600 | -0,480 | 0,000 |
| 1P47 | 28,930 | 0,070 | 0,000 |
| N95 | 29,000 | 9,000 | 0,000 |
| 1XY2 | 29,000 | 9,000 | 1,200 |
| 1P48 | 28,600 | 9,480 | 0,000 |
| 1P49 | 29,480 | 8,600 | 0,000 |
| 1P50 | 28,930 | 8,930 | 0,000 |
| N96 | 20,000 | 9,000 | 0,000 |
| 1X2 | 20,000 | 9,000 | 1,200 |
| 1P51 | 19,520 | 8,600 | 0,000 |
| 1P52 | 20,400 | 9,480 | 0,000 |
| 1P53 | 20,070 | 8,930 | 0,000 |
| N97 | 17,626 | 0,400 | -11,343 |
| N98 | 20,400 | -2,374 | -11,343 |
| N99 | 27,592 | 1,408 | -11,343 |
| N100 | 17,626 | 8,600 | -11,343 |
| N101 | 28,600 | -2,374 | -11,343 |
| N102 | 31,374 | 0,400 | -11,343 |
| N103 | 31,374 | 8,600 | -11,343 |
| N104 | 28,600 | 11,374 | -11,343 |
| N105 | 27,592 | 7,592 | -11,343 |
| N106 | 20,400 | 11,374 | -11,343 |
| N107 | 21,408 | 7,592 | -11,343 |
| N108 | 21,408 | 1,408 | -11,343 |
| N109 | 30,414 | 1,414 | 0,000 |
| N110 | 27,586 | -1,414 | 0,000 |
| N111 | 28,081 | -0,919 | -20,650 |
| N112 | 29,919 | 0,919 | -20,650 |
| N113 | 21,414 | -1,414 | 0,000 |
| N114 | 20,919 | -0,919 | -20,650 |
| N115 | 18,586 | 1,414 | 0,000 |
| N116 | 19,081 | 0,919 | -20,650 |
| N117 | 21,414 | 10,414 | 0,000 |
| N118 | 20,919 | 9,919 | -20,650 |
| N119 | 18,586 | 7,586 | 0,000 |
| N120 | 19,081 | 8,081 | -20,650 |
| N121 | 30,414 | 7,586 | 0,000 |
| N122 | 28,081 | 9,919 | -20,650 |
| N123 | 27,586 | 10,414 | 0,000 |
| N124 | 29,919 | 8,081 | -20,650 |
| N125 | 20,919 | 9,919 | 0,000 |
| N126 | 29,919 | 0,919 | 0,000 |
| N127 | 28,081 | -0,919 | 0,000 |
| N128 | 19,081 | 8,081 | 0,000 |
| N129 | 29,919 | 8,081 | 0,000 |
| N130 | 20,919 | -0,919 | 0,000 |
| N131 | 28,081 | 9,919 | 0,000 |
| N132 | 19,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

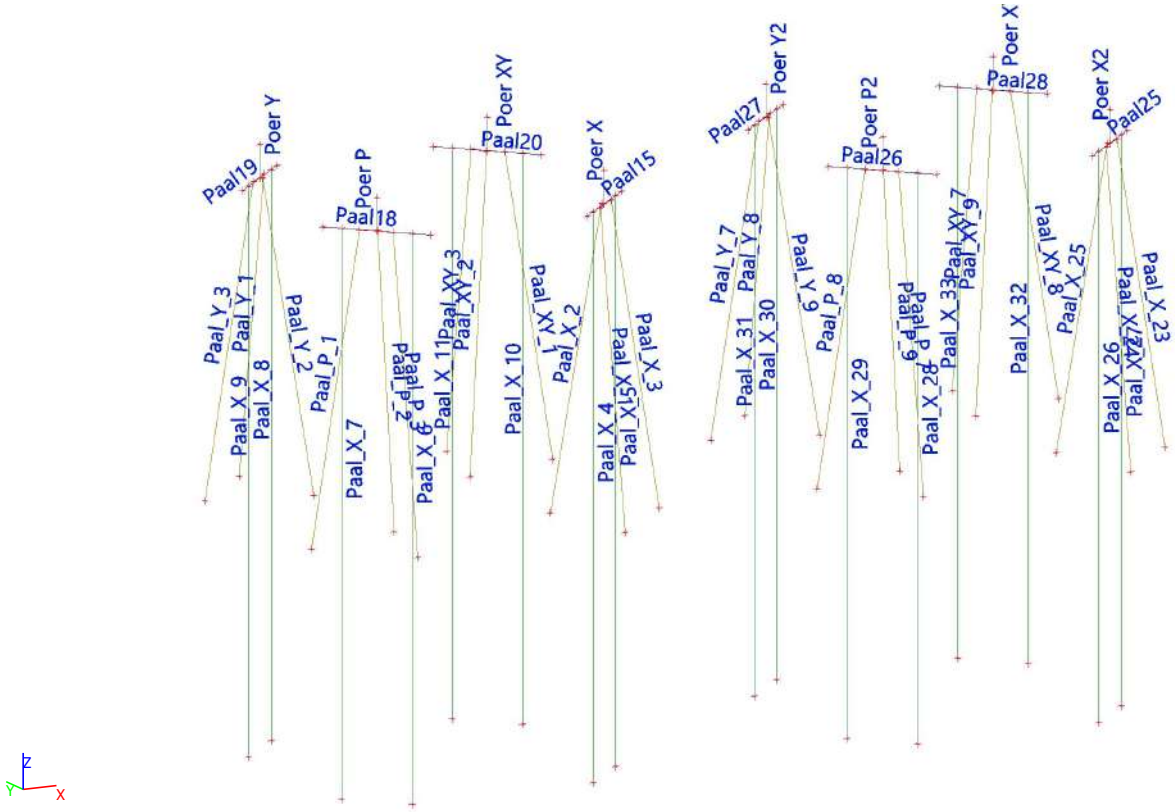



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | beam (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | beam (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | beam (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | beam (80) |
| Paal25 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N110 | N109 | beam (80) |
| Paal26 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N113 | N115 | beam (80) |
| Paal27 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N117 | N119 | beam (80) |
| Paal28 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N123 | N121 | beam (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P20 | N18 | column (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P9 | N13 | column (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | column (100) |
| Poer P2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N93 | 1P41 | column (100) |
| Paal_P_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P43 | N97 | column (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | column (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P4 | N5 | column (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P6 | N22 | column (100) |
| Paal_P_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P42 | N98 | column (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P18 | N16 | column (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P16 | N17 | column (100) |
| Paal_XY_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P48 | N104 | column (100) |
| Paal_XY_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P49 | N103 | column (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P11 | N12 | column (100) |
| Poer X2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N94 | 1Y2 | column (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | column (100) |
| Poer XY2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N95 | 1XY2 | column (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | column (100) |
| Poer Y2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N96 | 1X2 | column (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P2 | N6 | column (100) |
| Paal_P_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P44 | N108 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P50 | N105 | column (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P13 | N8 | column (100) |
| Paal_X_4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N47 | N27 | column (100) |
| Paal_X_5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N46 | N28 | column (100) |
| Paal_X_6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N50 | N34 | column (100) |
| Paal_X_7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N52 | N36 | column (100) |
| Paal_X_8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N45 | N38 | column (100) |
| Paal_X_9 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N48 | N40 | column (100) |
| Paal_X_10 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N49 | N44 | column (100) |
| Paal_X_11 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N51 | N42 | column (100) |
| Paal_X_23 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P45 | N102 | column (100) |
| Paal_X_24 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P46 | N101 | column (100) |
| Paal_X_25 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P47 | N99 | column (100) |
| Paal_X_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N127 | N111 | column (100) |
| Paal_X_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N126 | N112 | column (100) |
| Paal_X_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N130 | N114 | column (100) |
| Paal_X_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N132 | N116 | column (100) |
| Paal_X_30 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N125 | N118 | column (100) |
| Paal_X_31 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N128 | N120 | column (100) |
| Paal_X_32 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N129 | N124 | column (100) |
| Paal_X_33 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,650 | N131 | N122 | column (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P25 | N20 | column (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P27 | N21 | column (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P23 | N10 | column (100) |
| Paal_Y_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P51 | N100 | column (100) |
| Paal_Y_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P52 | N106 | column (100) |
| Paal_Y_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 11,500 | 1P53 | N107 | column (100) |

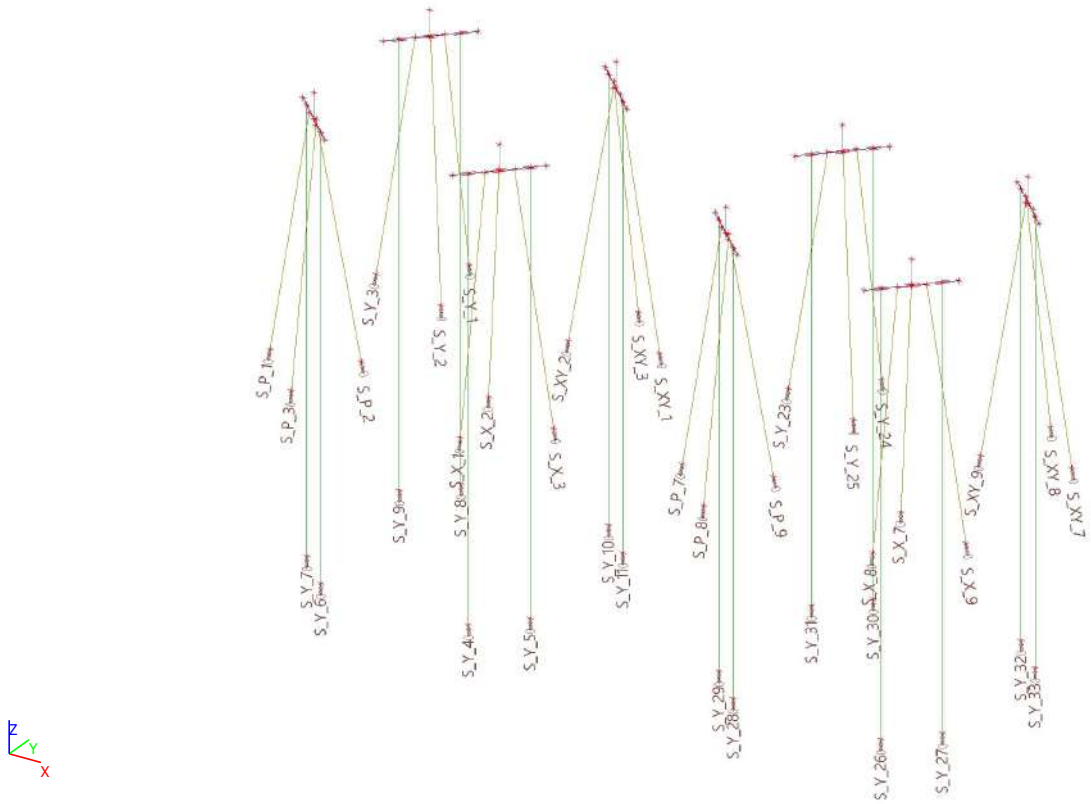
## 5.4. Analyse model met Staven



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_P_2 | N22 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_1 | N12 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_2 | N8 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_1 | N16 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_2 | N18 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_1 | N20 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_2 | N21 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_Y_4 | N27 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_5 | N28 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_6 | N34 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_7 | N36 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_8 | N38 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_9 | N40 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_10 | N42 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_11 | N44 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_P_7 | N97 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_P_8 | N98 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_7 | N99 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry6,72 |
| S_Y_23 | N100 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry9,50 |
| S_X_8 | N101 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-9,50 |
| S_X_9 | N102 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_7 | N103 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-9,50 |
| S_XY_8 | N104 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_XY_9 | N105 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry6,72 |
| S_Y_24 | N106 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx9,50 |
| S_Y_25 | N107 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-6,72;Ry-6,72 |
| S_P_9 | N108 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx6,72;Ry-6,72 |
| S_Y_26 | N111 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_27 | N112 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_28 | N114 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_29 | N116 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_30 | N118 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_31 | N120 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_32 | N122 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_Y_33 | N124 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Line supports on member

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen4 | Line | Paal_X_1<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen16 | Line | Paal_XY_9<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen39 | Line | Paal_X_33<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen33 | Line | Paal_X_27<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen23 | Line | Paal_X_23<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen17 | Line | Paal_Y_7<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen1 | Line | Paal_P_1<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen3 | Line | Paal_X_3<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Line | Paal_X_5<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen15 | Line | Paal_XY_8<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Line | Paal_X_29<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen6 | Line | Paal_XY_3<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen21 | Line | Paal_P_8<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen9 | Line | Paal_Y_3 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | | | | | | | | |
| Veen12 | Line | Paal_X_24 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen18 | Line | Paal_Y_8 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen26 | Line | Paal_X_6 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen19 | Line | Paal_Y_9 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen5 | Line | Paal_X_2 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen27 | Line | Paal_X_7 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen36 | Line | Paal_X_30 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen13 | Line | Paal_X_25 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen2 | Line | Paal_P_2 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen14 | Line | Paal_XY_7 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen20 | Line | Paal_P_7 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen11 | Line | Paal_Y_2 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen | Line | Paal_P_3 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen31 | Line | Paal_X_11 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen29 | Line | Paal_X_9 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen34 | Line | Paal_X_28 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen10 | Line | Paal_Y_1 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen24 | Line | Paal_X_4 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen38 | Line | Paal_X_32 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen22 | Line | Paal_P_9 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen28 | Line | Paal_X_8 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen37 | Line | Paal_X_31 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen7 | Line | Paal_XY_1 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen32 | Line | Paal_X_26 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen30 | Line | Paal_X_10 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen8 | Line | Paal_XY_2 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| (PY-curve-1_V1)10 | Line | Paal_XY_2 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)13 | Line | Paal_X_25 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)23 | Line | Paal_X_23 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)1 | Line | Paal_P_3 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)24 | Line | Paal_X_4 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)7 | Line | Paal_Y_3 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)6 | Line | Paal_Y_1<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)35 | Line | Paal_X_29<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)3 | Line | Paal_X_3<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Line | Paal_P_7<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Line | Paal_XY_7<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)33 | Line | Paal_X_27<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)22 | Line | Paal_P_9<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)21 | Line | Paal_P_8<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)38 | Line | Paal_X_32<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)37 | Line | Paal_X_31<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)19 | Line | Paal_Y_9<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)36 | Line | Paal_X_30<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)29 | Line | Paal_X_9<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1) | Line | Paal_P_1<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)34 | Line | Paal_X_28<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)5 | Line | Paal_XY_3<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Line | Paal_X_8<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)32 | Line | Paal_X_26<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)27 | Line | Paal_X_7<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)26 | Line | Paal_X_6<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)39 | Line | Paal_X_33<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)2 | Line | Paal_X_1<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Line | Paal_X_2<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Line | Paal_Y_8<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Line | Paal_X_10<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)15 | Line | Paal_XY_8<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)12 | Line | Paal_X_24<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)11 | Line | Paal_Y_2<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)16 | Line | Paal_XY_9<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Line | Paal_X_11<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)17 | Line | Paal_Y_7<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)25 | Line | Paal_X_5 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1.B | PY-curve-1_V1.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)4 | Line | Paal_XY_1<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)8 | Line | Paal_P_2<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)13 | Line | Paal_X_25<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)24 | Line | Paal_X_4<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)7 | Line | Paal_Y_3<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)23 | Line | Paal_X_23<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)22 | Line | Paal_P_9<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)3 | Line | Paal_X_3<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Line | Paal_P_8<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)6 | Line | Paal_Y_1<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Line | Paal_P_7<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)12 | Line | Paal_X_24<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)39 | Line | Paal_X_33<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)38 | Line | Paal_X_32<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)31 | Line | Paal_X_11<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)37 | Line | Paal_X_31<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)30 | Line | Paal_X_10<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)36 | Line | Paal_X_30<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)35 | Line | Paal_X_29<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)1 | Line | Paal_P_3<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)34 | Line | Paal_X_28<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)10 | Line | Paal_XY_2<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Line | Paal_X_27<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)29 | Line | Paal_X_9<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)28 | Line | Paal_X_8<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)2 | Line | Paal_X_1<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Line | Paal_X_26<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)9 | Line | Paal_X_2<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Line | Paal_Y_9<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Line | Paal_X_7<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)18 | Line | Paal_Y_8<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Line | Paal_XY_3 | 9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | | | | | | | | |
| (PY-curve-1_V2)26 | Line | Paal_X_6<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)4 | Line | Paal_XY_1<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2) | Line | Paal_P_1<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)16 | Line | Paal_XY_9<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)17 | Line | Paal_Y_7<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Line | Paal_P_2<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)15 | Line | Paal_XY_8<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Line | Paal_X_5<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)14 | Line | Paal_XY_7<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)11 | Line | Paal_Y_2<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3) | Line | Paal_P_1<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Line | Paal_X_4<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)7 | Line | Paal_Y_3<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Line | Paal_P_3<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Line | Paal_X_24<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)23 | Line | Paal_X_23<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Line | Paal_X_3<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Line | Paal_P_9<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)6 | Line | Paal_Y_1<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)21 | Line | Paal_P_8<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Line | Paal_P_7<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Line | Paal_X_33<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)31 | Line | Paal_X_11<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)38 | Line | Paal_X_32<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)11 | Line | Paal_Y_2<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)37 | Line | Paal_X_31<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)5 | Line | Paal_XY_3<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Line | Paal_X_10<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)36 | Line | Paal_X_30<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)2 | Line | Paal_X_1<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Line | Paal_X_29<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)29 | Line | Paal_X_9 | 10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,000 | | | | | | | | |
| (PY-curve-1_V3)10 | Line | Paal_XY_2<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)34 | Line | Paal_X_28<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)33 | Line | Paal_X_27<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)28 | Line | Paal_X_8<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)32 | Line | Paal_X_26<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)19 | Line | Paal_Y_9<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Line | Paal_X_7<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)18 | Line | Paal_Y_8<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)17 | Line | Paal_Y_7<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)4 | Line | Paal_XY_1<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)9 | Line | Paal_X_2<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Line | Paal_XY_9<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Line | Paal_P_2<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Line | Paal_X_6<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)15 | Line | Paal_XY_8<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Line | Paal_X_5<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)14 | Line | Paal_XY_7<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Line | Paal_X_25<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)12 | Line | Paal_X_24<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Line | Paal_X_23<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)6 | Line | Paal_Y_1<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Line | Paal_P_8<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Line | Paal_P_9<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)20 | Line | Paal_P_7<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)2 | Line | Paal_X_1<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)5 | Line | Paal_XY_3<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Line | Paal_Y_2<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Line | Paal_XY_2<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Line | Paal_XY_1<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Line | Paal_X_2<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)19 | Line | Paal_Y_9<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)18 | Line | Paal_Y_8 | 11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |

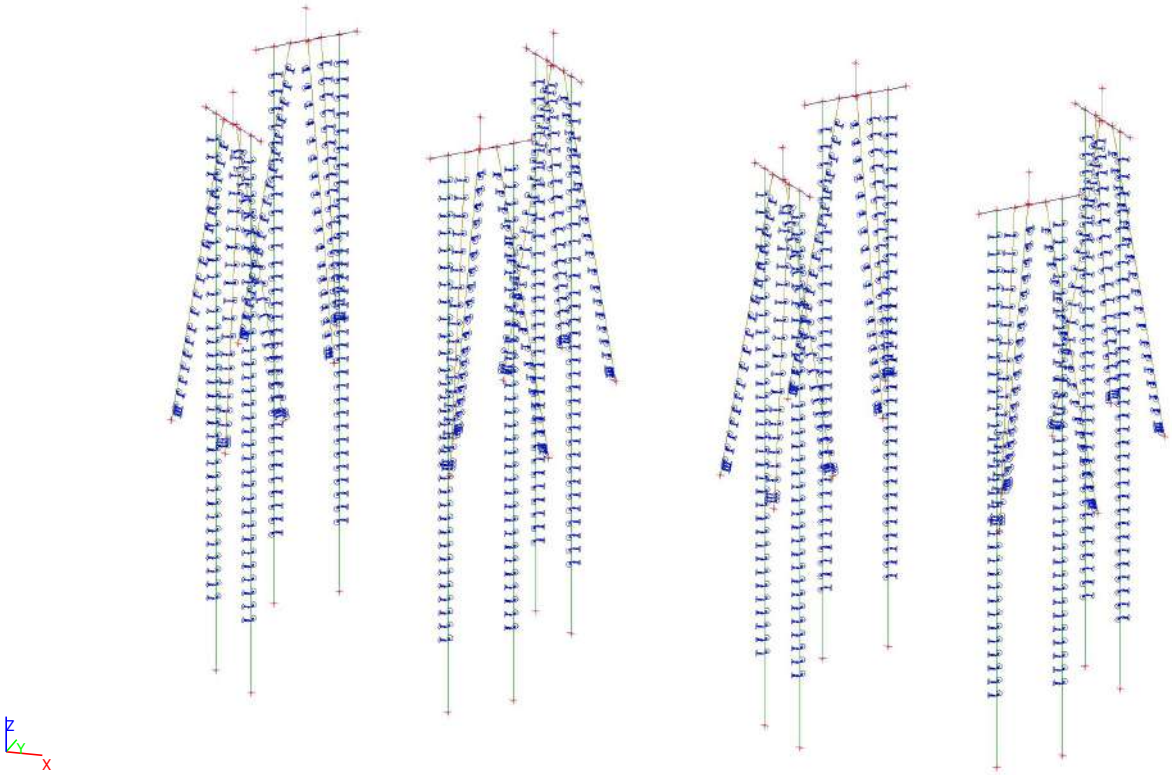
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,250 | | | | | | | | |
| (PY-curve-1_V4)17 | Line | Paal_Y_7<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Line | Paal_P_2<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Line | Paal_XY_9<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4) | Line | Paal_P_1<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)1 | Line | Paal_P_3<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Line | Paal_XY_7<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)15 | Line | Paal_XY_8<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Line | Paal_X_3<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)13 | Line | Paal_X_25<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Line | Paal_Y_3<br>LCS | 11,000<br>11,250 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)31 | Line | Paal_X_11<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)39 | Line | Paal_X_33<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)38 | Line | Paal_X_32<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)30 | Line | Paal_X_10<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)37 | Line | Paal_X_31<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)36 | Line | Paal_X_30<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)29 | Line | Paal_X_9<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)35 | Line | Paal_X_29<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)34 | Line | Paal_X_28<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)28 | Line | Paal_X_8<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)33 | Line | Paal_X_27<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)32 | Line | Paal_X_26<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)27 | Line | Paal_X_7<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)26 | Line | Paal_X_6<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)25 | Line | Paal_X_5<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)24 | Line | Paal_X_4<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V5)15 | Line | Paal_X_33<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)13 | Line | Paal_X_31<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)12 | Line | Paal_X_30<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)11 | Line | Paal_X_29<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)10 | Line | Paal_X_28<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)9 | Line | Paal_X_27 | 12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 13,000 | | | | | | | | |
| (PY-curve-1_V5)8 | Line | Paal_X_26<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)7 | Line | Paal_X_11<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)14 | Line | Paal_X_32<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)6 | Line | Paal_X_10<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)5 | Line | Paal_X_8<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)4 | Line | Paal_X_6<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)3 | Line | Paal_X_5<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)2 | Line | Paal_X_4<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)1 | Line | Paal_X_9<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5) | Line | Paal_X_7<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V6)15 | Line | Paal_X_33<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)13 | Line | Paal_X_31<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)12 | Line | Paal_X_30<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)11 | Line | Paal_X_29<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)10 | Line | Paal_X_28<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)9 | Line | Paal_X_27<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)8 | Line | Paal_X_26<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)7 | Line | Paal_X_11<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)14 | Line | Paal_X_32<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)6 | Line | Paal_X_10<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)5 | Line | Paal_X_8<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)4 | Line | Paal_X_6<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)3 | Line | Paal_X_5<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)2 | Line | Paal_X_4<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)1 | Line | Paal_X_9<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6) | Line | Paal_X_7<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V7)15 | Line | Paal_X_33<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)13 | Line | Paal_X_31<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)12 | Line | Paal_X_30<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)11 | Line | Paal_X_29<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)10 | Line | Paal_X_28<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)9 | Line | Paal_X_27 | 14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | | | | | | | | |
| (PY-curve-1_V7)8 | Line | Paal_X_26<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)7 | Line | Paal_X_11<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)14 | Line | Paal_X_32<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)6 | Line | Paal_X_10<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)5 | Line | Paal_X_8<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)4 | Line | Paal_X_6<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)3 | Line | Paal_X_5<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)2 | Line | Paal_X_4<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)1 | Line | Paal_X_9<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7) | Line | Paal_X_7<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V8)6 | Line | Paal_X_10<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)5 | Line | Paal_X_8<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)4 | Line | Paal_X_6<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)3 | Line | Paal_X_5<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)2 | Line | Paal_X_4<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)1 | Line | Paal_X_9<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8) | Line | Paal_X_7<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)15 | Line | Paal_X_33<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)14 | Line | Paal_X_32<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)13 | Line | Paal_X_31<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)12 | Line | Paal_X_30<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)11 | Line | Paal_X_29<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)10 | Line | Paal_X_28<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)9 | Line | Paal_X_27<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)8 | Line | Paal_X_26<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)7 | Line | Paal_X_11<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V9)15 | Line | Paal_X_33<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)13 | Line | Paal_X_31<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)12 | Line | Paal_X_30<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)11 | Line | Paal_X_29<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)10 | Line | Paal_X_28<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)9 | Line | Paal_X_27 | 16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |

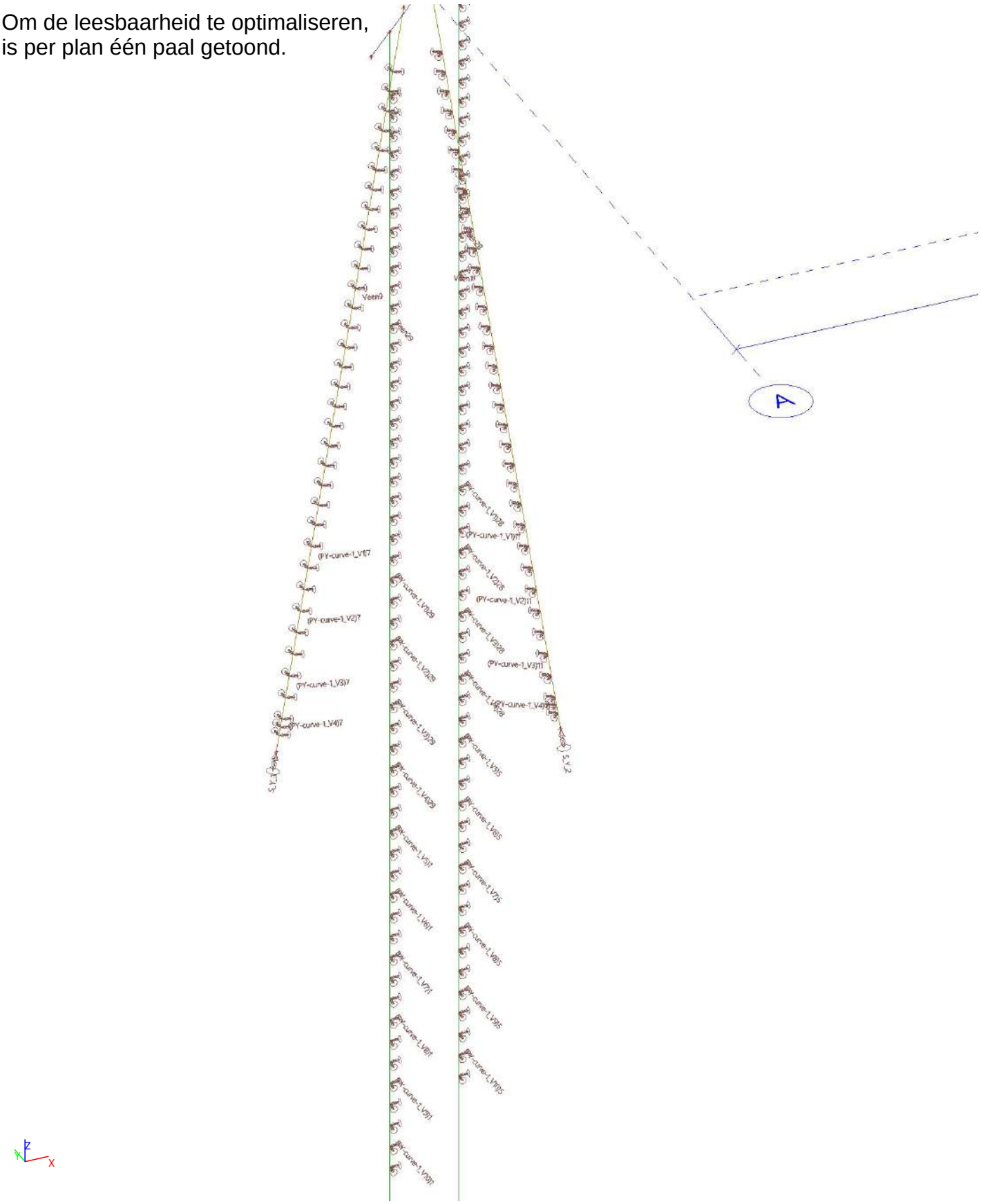
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-1_V9)8 | Line | Paal_X_26<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)7 | Line | Paal_X_11<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)14 | Line | Paal_X_32<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)6 | Line | Paal_X_10<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)5 | Line | Paal_X_8<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)4 | Line | Paal_X_6<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)3 | Line | Paal_X_5<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)2 | Line | Paal_X_4<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)1 | Line | Paal_X_9<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9) | Line | Paal_X_7<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V10)15 | Line | Paal_X_33<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)13 | Line | Paal_X_31<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)12 | Line | Paal_X_30<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)11 | Line | Paal_X_29<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)10 | Line | Paal_X_28<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)9 | Line | Paal_X_27<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)8 | Line | Paal_X_26<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)7 | Line | Paal_X_11<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)14 | Line | Paal_X_32<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)6 | Line | Paal_X_10<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)5 | Line | Paal_X_8<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)4 | Line | Paal_X_6<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)3 | Line | Paal_X_5<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)2 | Line | Paal_X_4<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)1 | Line | Paal_X_9<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10) | Line | Paal_X_7<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-1_V10.B | PY-curve-1_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

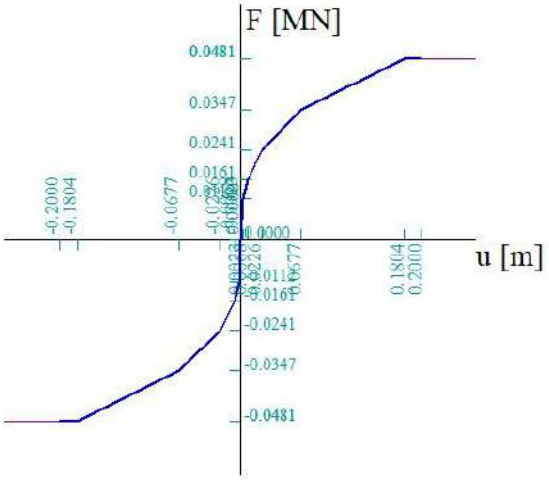
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Nonlinear functions

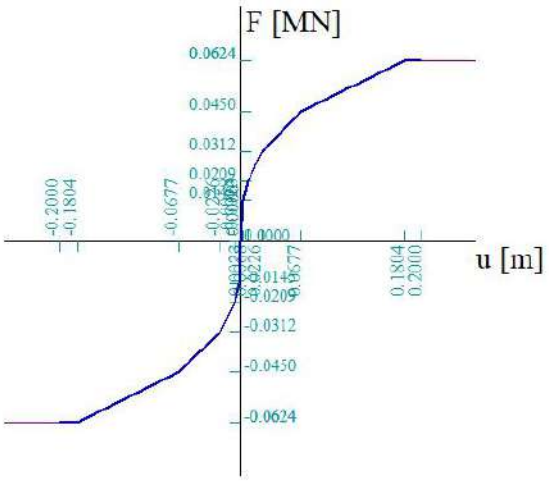
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V1 | Translation | -2,0000e-01[m] / -4,8130e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Drawing



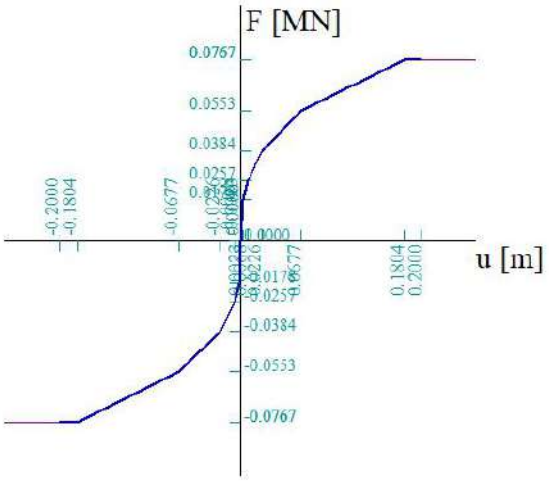

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V2 | Translation | -2,0000e-01[m] / -6,2400e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V3 | Translation | -2,0000e-01[m] / -7,6737e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

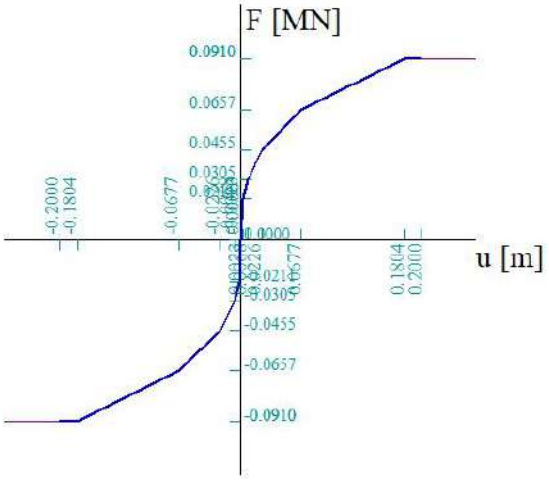
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V4 | Translation | -2,0000e-01[m] / -9,1041e-02[MN] | Free | Free |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |

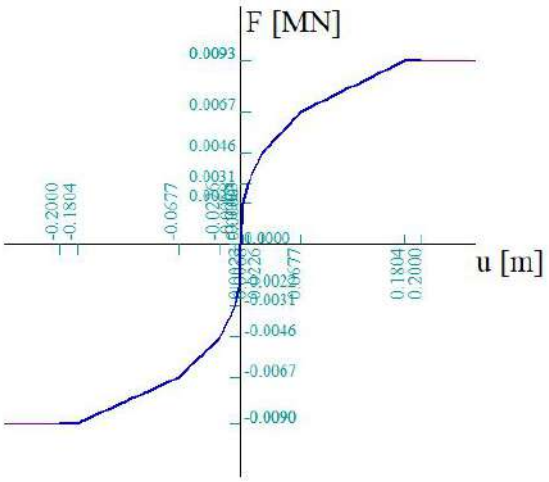
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

Drawing



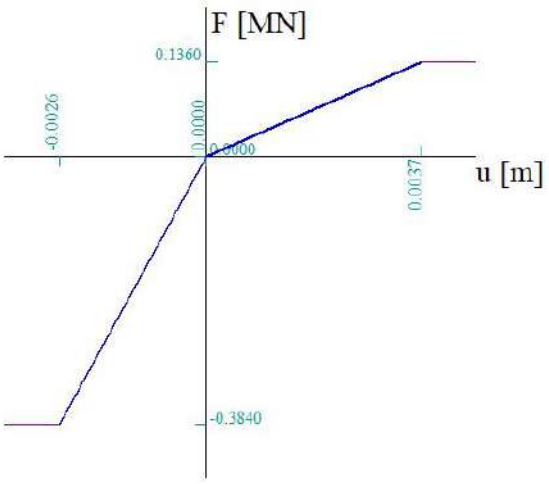

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen | Translation | -2,0000e-01[m] / -9,0000e-03[MN] | Free | Free |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Drawing



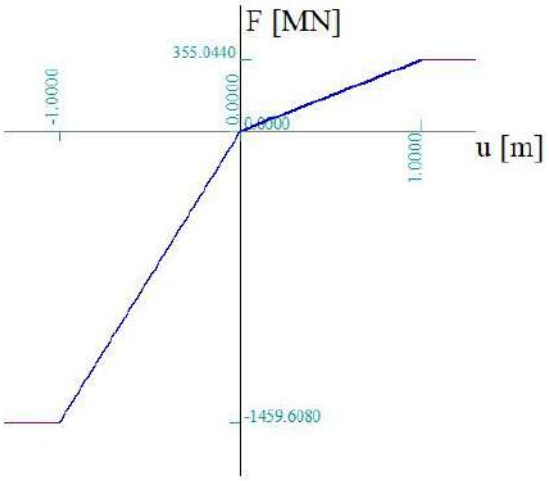

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-S+0-paalpunt_ mast69.B | Translation | -2,5600e-03[m] / -3,8400e-01[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 3,7500e-03[m] / 1,3600e-01[MN] | | |

Drawing



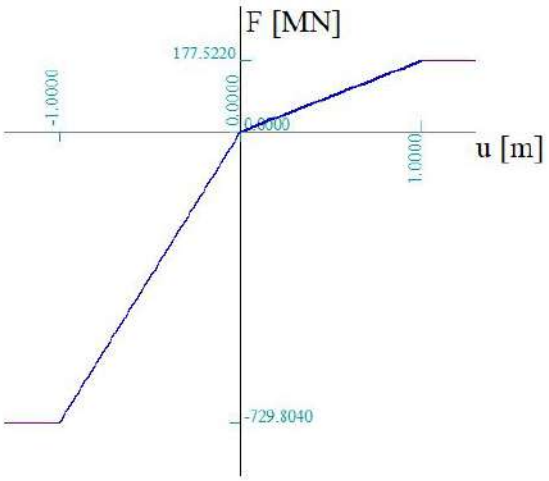

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA. BG. | Translation | -1,0000e+00[m] / -1,4596e+03[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 3,5504e+02[MN] | | |

Drawing



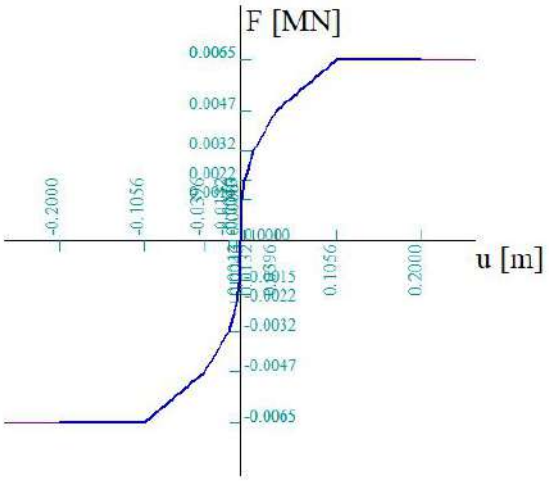

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA. OG. | Translation | -1,0000e+00[m] / -7,2980e+02[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,7752e+02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen.B | Translation | -2,0000e-01[m] / -6,4600e-03[MN] | Free | Free |
| | | -1,0560e-01[m] / -6,4600e-03[MN] | | |
| | | -3,9600e-02[m] / -4,6585e-03[MN] | | |
| | | -1,3200e-02[m] / -3,2300e-03[MN] | | |
| | | -3,9600e-03[m] / -2,1623e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4992e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4992e-03[MN] | | |
| | | 3,9600e-03[m] / 2,1623e-03[MN] | | |
| | | 1,3200e-02[m] / 3,2300e-03[MN] | | |
| | | 3,9600e-02[m] / 4,6585e-03[MN] | | |
| | | 1,0560e-01[m] / 6,4600e-03[MN] | | |
| | | 2,0000e-01[m] / 6,4600e-03[MN] | | |

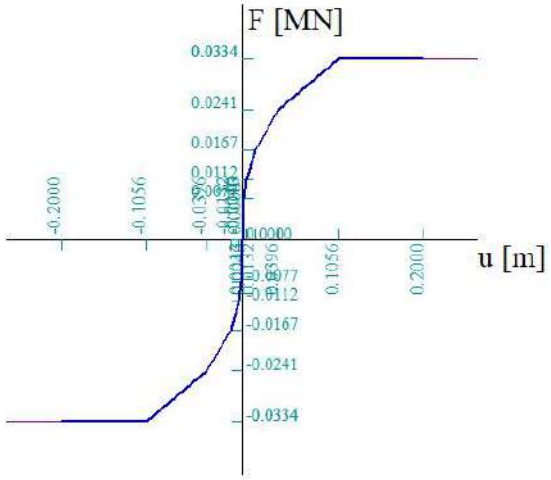
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V1.B | Translation | -2,0000e-01[m] / -3,3356e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -3,3356e-02[MN] | | |
| | | -3,9600e-02[m] / -2,4054e-02[MN] | | |
| | | -1,3200e-02[m] / -1,6678e-02[MN] | | |
| | | -3,9600e-03[m] / -1,1165e-02[MN] | | |
| | | -1,3200e-03[m] / -7,7412e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 7,7412e-03[MN] | | |
| | | 3,9600e-03[m] / 1,1165e-02[MN] | | |
| | | 1,3200e-02[m] / 1,6678e-02[MN] | | |

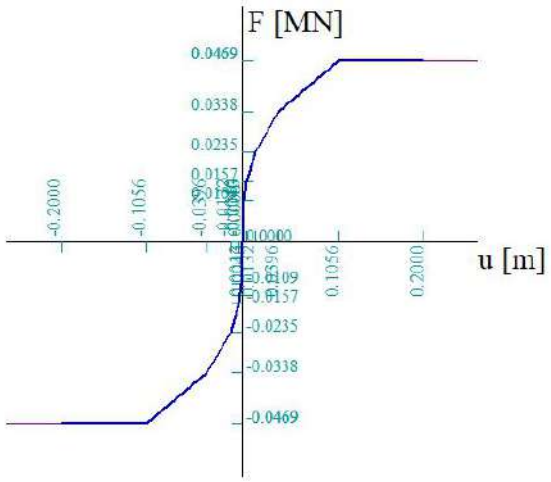
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 3,9600e-02[m] / 2,4054e-02[MN] | | |
| | | 1,0560e-01[m] / 3,3356e-02[MN] | | |
| | | 2,0000e-01[m] / 3,3356e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V2.B | Translation | -2,0000e-01[m] / -4,6912e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -4,6912e-02[MN] | | |
| | | -3,9600e-02[m] / -3,3829e-02[MN] | | |
| | | -1,3200e-02[m] / -2,3456e-02[MN] | | |
| | | -3,9600e-03[m] / -1,5702e-02[MN] | | |
| | | -1,3200e-03[m] / -1,0887e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,0887e-02[MN] | | |
| | | 3,9600e-03[m] / 1,5702e-02[MN] | | |
| | | 1,3200e-02[m] / 2,3456e-02[MN] | | |
| | | 3,9600e-02[m] / 3,3829e-02[MN] | | |
| | | 1,0560e-01[m] / 4,6912e-02[MN] | | |
| | | 2,0000e-01[m] / 4,6912e-02[MN] | | |

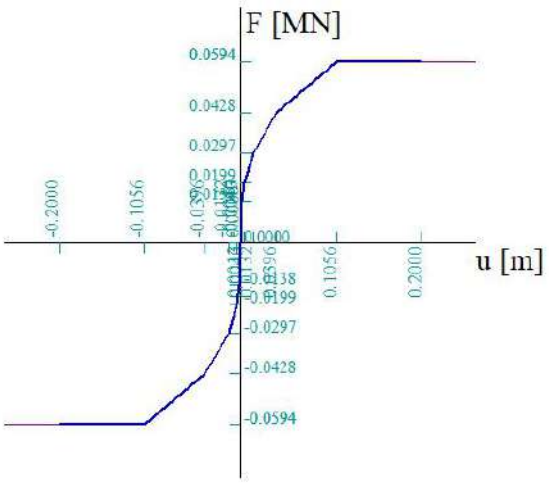
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V3.B | Translation | -2,0000e-01[m] / -5,9400e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |

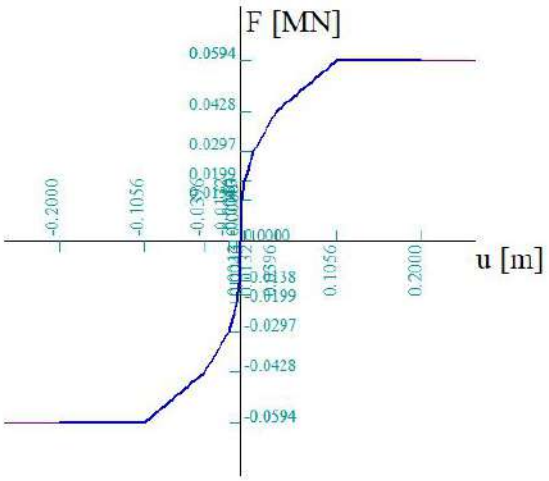
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

Drawing



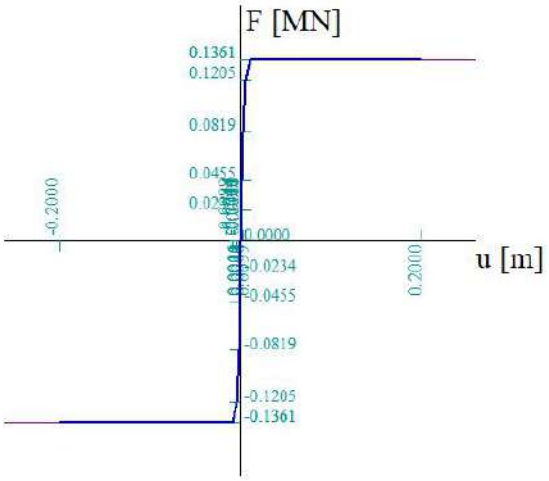

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V4.B | Translation | -2,0000e-01[m] / -5,9400e-02[MN] | Free | Free |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V5.B | Translation | -2,0000e-01[m] / -1,3606e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -1,3606e-01[MN] | | |
| | | -4,4000e-03[m] / -1,2049e-01[MN] | | |
| | | -2,2000e-03[m] / -8,1906e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5496e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3416e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3416e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5496e-02[MN] | | |
| | | 2,2000e-03[m] / 8,1906e-02[MN] | | |
| | | 4,4000e-03[m] / 1,2049e-01[MN] | | |
| | | 9,9000e-03[m] / 1,3606e-01[MN] | | |
| | | 2,0000e-01[m] / 1,3606e-01[MN] | | |

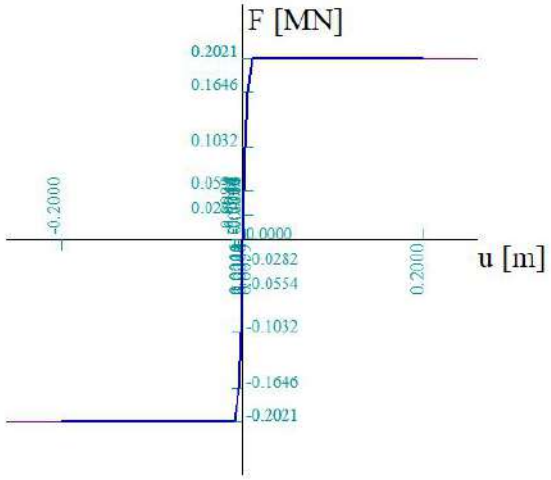
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V6.B | Translation | -2,0000e-01[m] / -2,0212e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,0212e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6461e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0317e-01[MN] | | |
| | | -1,1000e-03[m] / -5,5351e-02[MN] | | |
| | | -5,5000e-04[m] / -2,8200e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,8200e-02[MN] | | |
| | | 1,1000e-03[m] / 5,5351e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0317e-01[MN] | | |

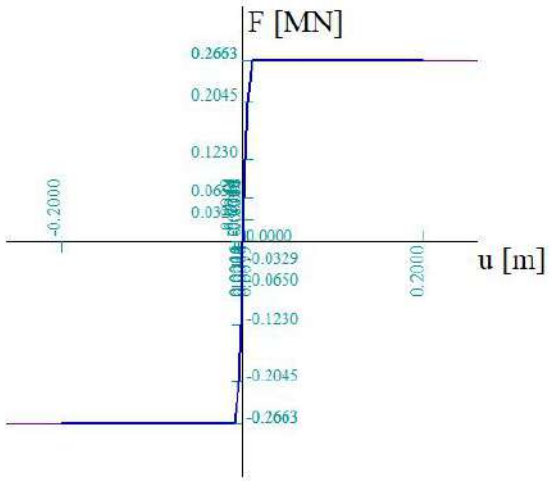
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 1,6461e-01[MN] | | |
| | | 9,9000e-03[m] / 2,0212e-01[MN] | | |
| | | 2,0000e-01[m] / 2,0212e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V7.B | Translation | -2,0000e-01[m] / -2,6632e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,6632e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0449e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2296e-01[MN] | | |
| | | -1,1000e-03[m] / -6,4953e-02[MN] | | |
| | | -5,5000e-04[m] / -3,2949e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,2949e-02[MN] | | |
| | | 1,1000e-03[m] / 6,4953e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2296e-01[MN] | | |
| | | 4,4000e-03[m] / 2,0449e-01[MN] | | |
| | | 9,9000e-03[m] / 2,6632e-01[MN] | | |
| | | 2,0000e-01[m] / 2,6632e-01[MN] | | |

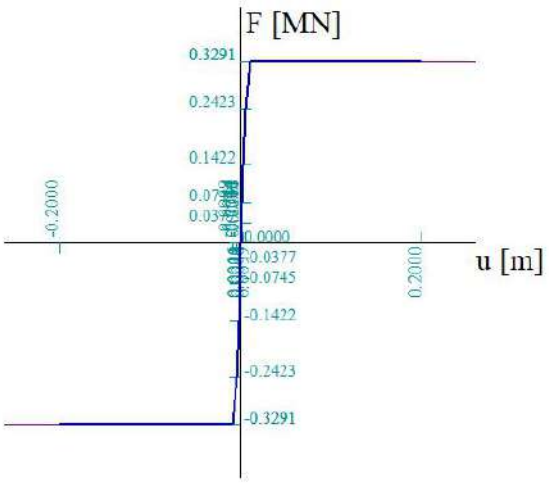
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V8.B | Translation | -2,0000e-01[m] / -3,2908e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,2908e-01[MN] | | |
| | | -4,4000e-03[m] / -2,4234e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4217e-01[MN] | | |

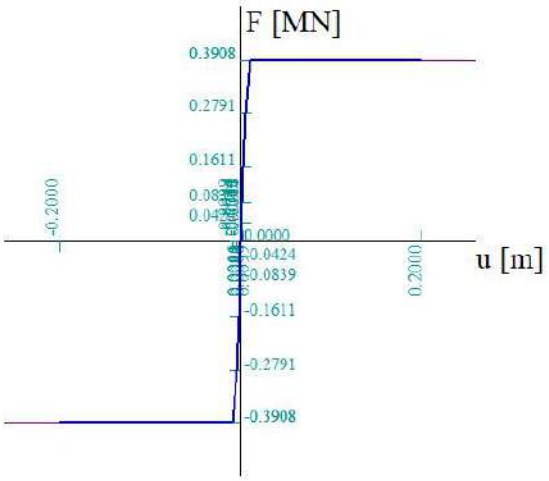
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -7,4465e-02[MN] | | |
| | | -5,5000e-04[m] / -3,7686e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,7686e-02[MN] | | |
| | | 1,1000e-03[m] / 7,4465e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4217e-01[MN] | | |
| | | 4,4000e-03[m] / 2,4234e-01[MN] | | |
| | | 9,9000e-03[m] / 3,2908e-01[MN] | | |
| | | 2,0000e-01[m] / 3,2908e-01[MN] | | |

Drawing



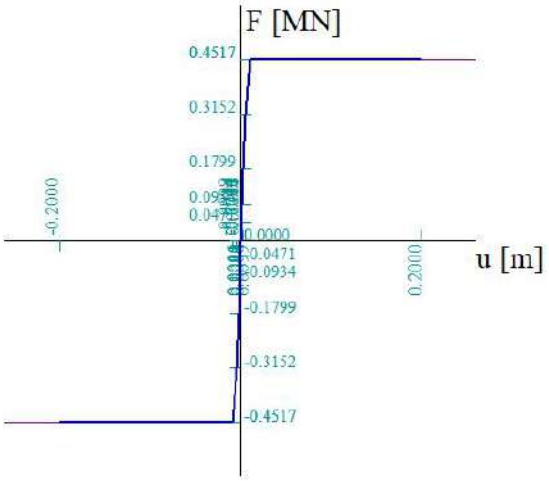

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V9.B | Translation | -2,0000e-01[m] / -3,9077e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,9077e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7909e-01[MN] | | |
| | | -2,2000e-03[m] / -1,6111e-01[MN] | | |
| | | -1,1000e-03[m] / -8,3936e-02[MN] | | |
| | | -5,5000e-04[m] / -4,2418e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,2418e-02[MN] | | |
| | | 1,1000e-03[m] / 8,3936e-02[MN] | | |
| | | 2,2000e-03[m] / 1,6111e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7909e-01[MN] | | |
| | | 9,9000e-03[m] / 3,9077e-01[MN] | | |
| | | 2,0000e-01[m] / 3,9077e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_V10.B | Translation | -2,0000e-01[m] / -4,5169e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -4,5169e-01[MN] | | |
| | | -4,4000e-03[m] / -3,1518e-01[MN] | | |
| | | -2,2000e-03[m] / -1,7990e-01[MN] | | |
| | | -1,1000e-03[m] / -9,3384e-02[MN] | | |
| | | -5,5000e-04[m] / -4,7146e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,7146e-02[MN] | | |
| | | 1,1000e-03[m] / 9,3384e-02[MN] | | |
| | | 2,2000e-03[m] / 1,7990e-01[MN] | | |
| | | 4,4000e-03[m] / 3,1518e-01[MN] | | |
| | | 9,9000e-03[m] / 4,5169e-01[MN] | | |
| | | 2,0000e-01[m] / 4,5169e-01[MN] | | |

Drawing

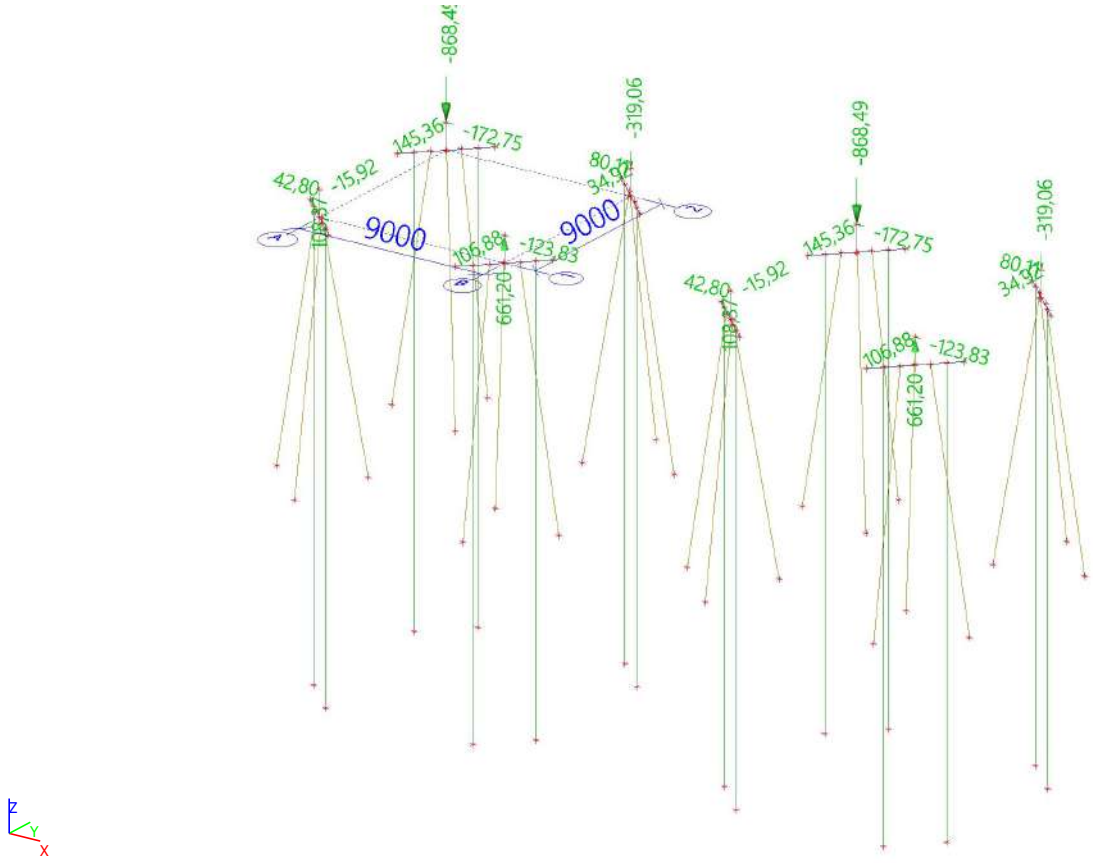


# 6. Belastingen

## 6.1. Load cases

### 6.1.1. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




#### *6.1.1.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 42,80 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -15,92 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 108,37 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -172,75 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 145,36 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -868,49 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 80,11 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 34,92 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -319,06 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -123,83 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 106,88 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 661,20 |
| high max Wnd ;45°_1P_X1 | 1P41 | high max Wnd ;45° | GCS | X | Force | 42,80 |
| high max Wnd ;45°_1P_Y1 | 1P41 | high max Wnd ;45° | GCS | Y | Force | -15,92 |
| high max Wnd ;45°_1P_Z1 | 1P41 | high max Wnd ;45° | GCS | Z | Force | 108,37 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Force | -123,83 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Force | 106,88 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Force | 661,20 |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Force | 80,11 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Force | 34,92 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Force | -319,06 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Force | -172,75 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Force | 145,36 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Force | -868,49 |

### 6.1.2. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



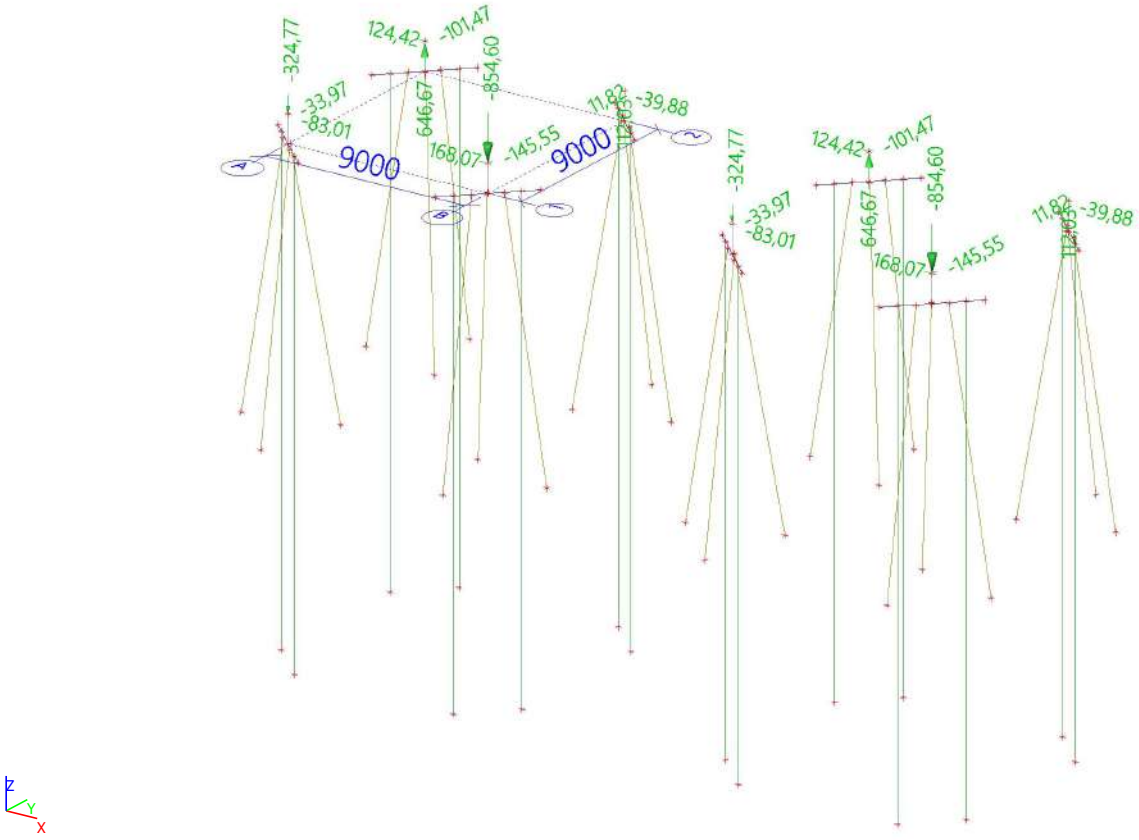

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 124,65 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 101,57 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 647,76 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -83,26 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 34,08 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -325,90 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 168,32 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 145,65 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -855,70 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -40,13 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -11,72 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 113,14 |
| high max Wnd ;135°_1P_X1 | 1P41 | high max Wnd ;135° | GCS | X | Force | 124,65 |
| high max Wnd ;135°_1P_Y1 | 1P41 | high max Wnd ;135° | GCS | Y | Force | 101,57 |
| high max Wnd | 1P41 | high max Wnd ;135° | GCS | Z | Force | 647,76 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Force | -40,13 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Force | -11,72 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Force | 113,14 |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Force | 168,32 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Force | 145,65 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Force | -855,70 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Force | -83,26 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Force | 34,08 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Force | -325,90 |

### 6.1.3. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

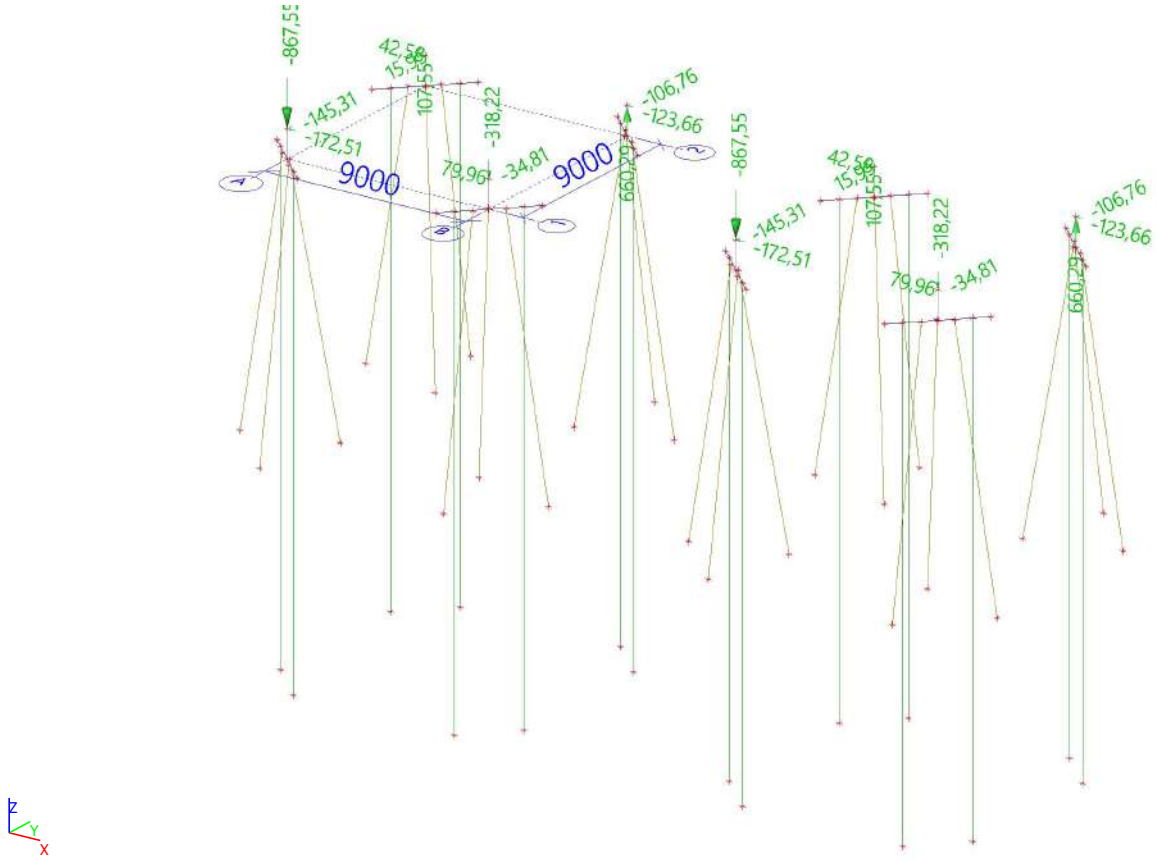


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -83,01 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -33,97 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -324,77 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 124,42 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -101,47 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 646,67 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -39,88 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 11,82 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 112,03 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 168,07 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -145,55 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -854,60 |
| high max Wnd ;225°_1P_X1 | 1P41 | high max Wnd ;225° | GCS | X | Force | -83,01 |
| high max Wnd ;225°_1P_Y1 | 1P41 | high max Wnd ;225° | GCS | Y | Force | -33,97 |
| high max Wnd ;225°_1P_Z1 | 1P41 | high max Wnd ;225° | GCS | Z | Force | -324,77 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Force | 168,07 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Force | -145,55 |
| high max Wnd ;225°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Force | -854,60 |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Force | -39,88 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Force | 11,82 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Force | 112,03 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Force | 124,42 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Force | -101,47 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Force | 646,67 |

### 6.1.4. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



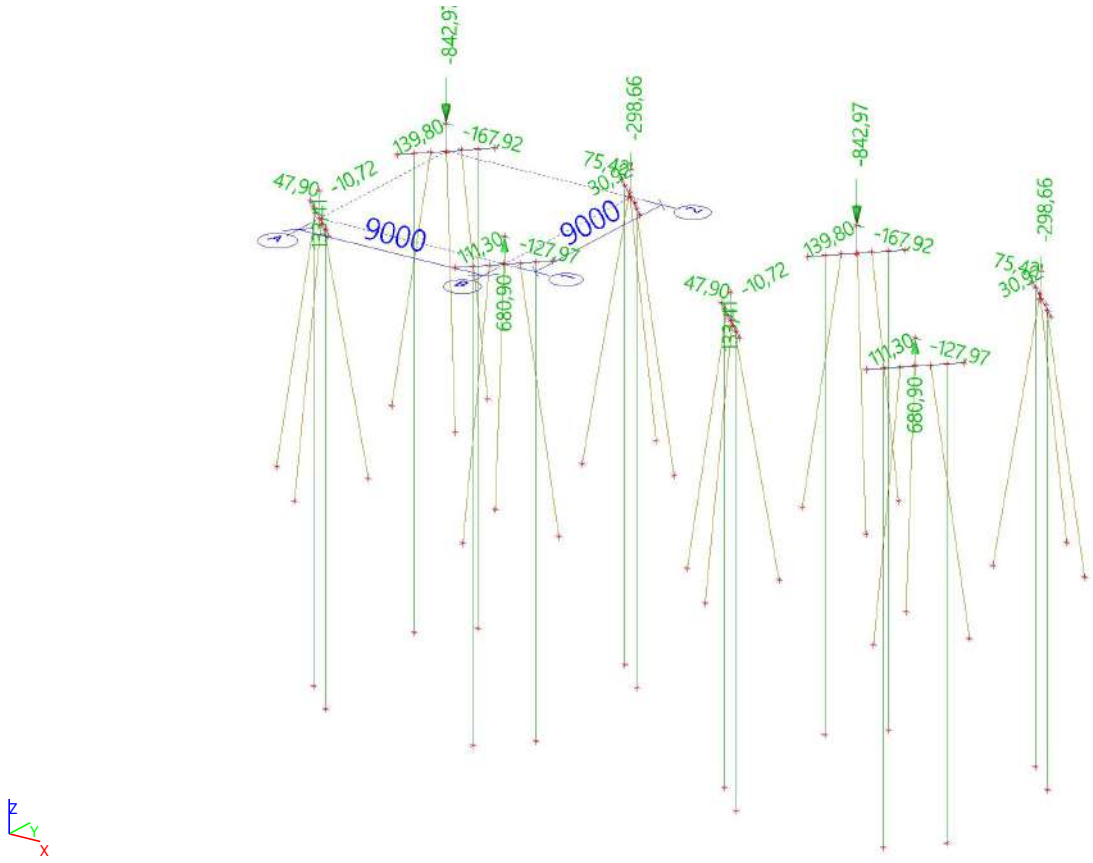

### 6.1.4.1. Point force in node

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -172,51 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -145,31 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -867,55 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 42,58 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 15,95 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 107,55 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -123,66 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -106,76 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 660,29 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 79,96 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -34,81 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -318,22 |
| high max Wnd ;315°_1P_X1 | 1P41 | high max Wnd ;315° | GCS | X | Force | -172,51 |
| high max Wnd ;315°_1P_Y1 | 1P41 | high max Wnd ;315° | GCS | Y | Force | -145,31 |
| high max Wnd | 1P41 | high max Wnd ;315° | GCS | Z | Force | -867,55 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Force | 79,96 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Force | -34,81 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Force | -318,22 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Force | -123,66 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Force | -106,76 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Force | 660,29 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Force | 42,58 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Force | 15,95 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Force | 107,55 |

### 6.1.5. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 47,90 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | -10,72 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 133,41 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -167,92 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 139,80 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -842,97 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 75,42 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 30,92 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -298,66 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -127,97 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 111,30 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 680,90 |
| low max Wnd ;45°_1P_X1 | 1P41 | low max Wnd ;45° | GCS | X | Force | 47,90 |
| low max Wnd ;45°_1P_Y1 | 1P41 | low max Wnd ;45° | GCS | Y | Force | -10,72 |
| low max Wnd ;45°_1P_Z1 | 1P41 | low max Wnd ;45° | GCS | Z | Force | 133,41 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Force | -127,97 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Force | 111,30 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Force | 680,90 |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Force | 75,42 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Force | 30,92 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Force | -298,66 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Force | -167,92 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Force | 139,80 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Force | -842,97 |

### 6.1.6. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



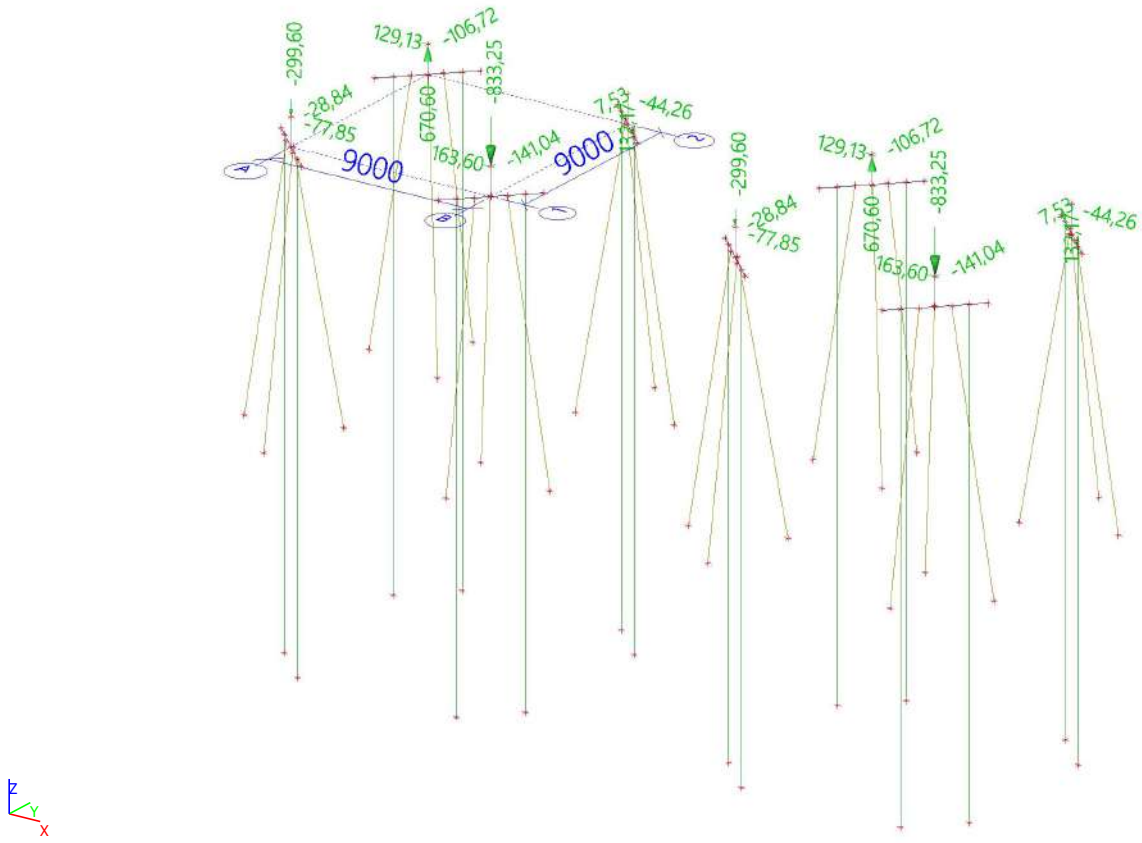

### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 129,30 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 106,84 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 671,51 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -78,04 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 28,99 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -300,62 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 163,84 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 141,09 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -834,18 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -44,53 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -7,47 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 133,18 |
| low max Wnd ;135°_1P_X1 | 1P41 | low max Wnd ;135° | GCS | X | Force | 129,30 |
| low max Wnd ;135°_1P_Y1 | 1P41 | low max Wnd ;135° | GCS | Y | Force | 106,84 |
| low max Wnd | 1P41 | low max Wnd ;135° | GCS | Z | Force | 671,51 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Force | -44,53 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Force | -7,47 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Force | 133,18 |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Force | 163,84 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Force | 141,09 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Force | -834,18 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Force | -78,04 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Force | 28,99 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Force | -300,62 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |

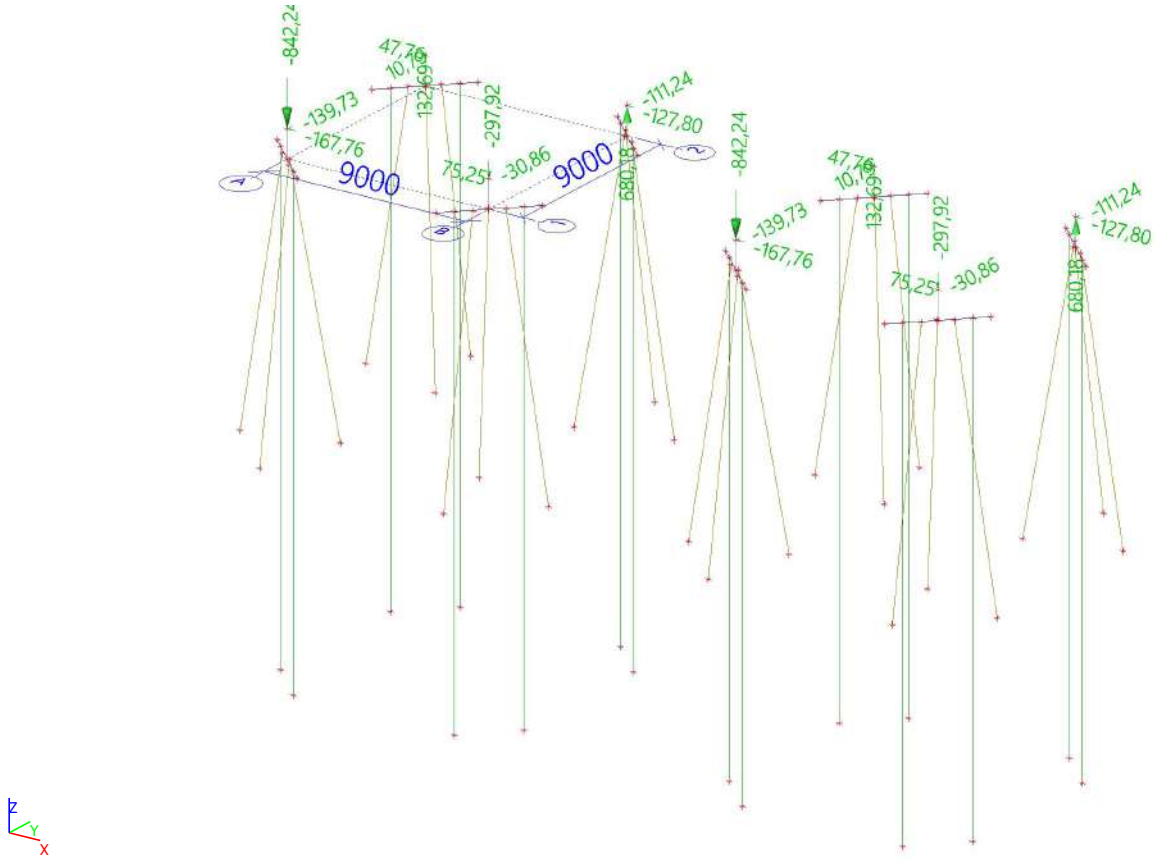


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -77,85 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -28,84 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -299,60 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 129,13 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -106,72 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 670,60 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -44,26 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 7,53 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 132,17 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 163,60 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -141,04 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -833,25 |
| low max Wnd ;225°_1P_X1 | 1P41 | low max Wnd ;225° | GCS | X | Force | -77,85 |
| low max Wnd ;225°_1P_Y1 | 1P41 | low max Wnd ;225° | GCS | Y | Force | -28,84 |
| low max Wnd ;225°_1P_Z1 | 1P41 | low max Wnd ;225° | GCS | Z | Force | -299,60 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Force | 163,60 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Force | -141,04 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Force | -833,25 |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Force | -44,26 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Force | 7,53 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Force | 132,17 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Force | 129,13 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Force | -106,72 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Force | 670,60 |

### 6.1.8. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



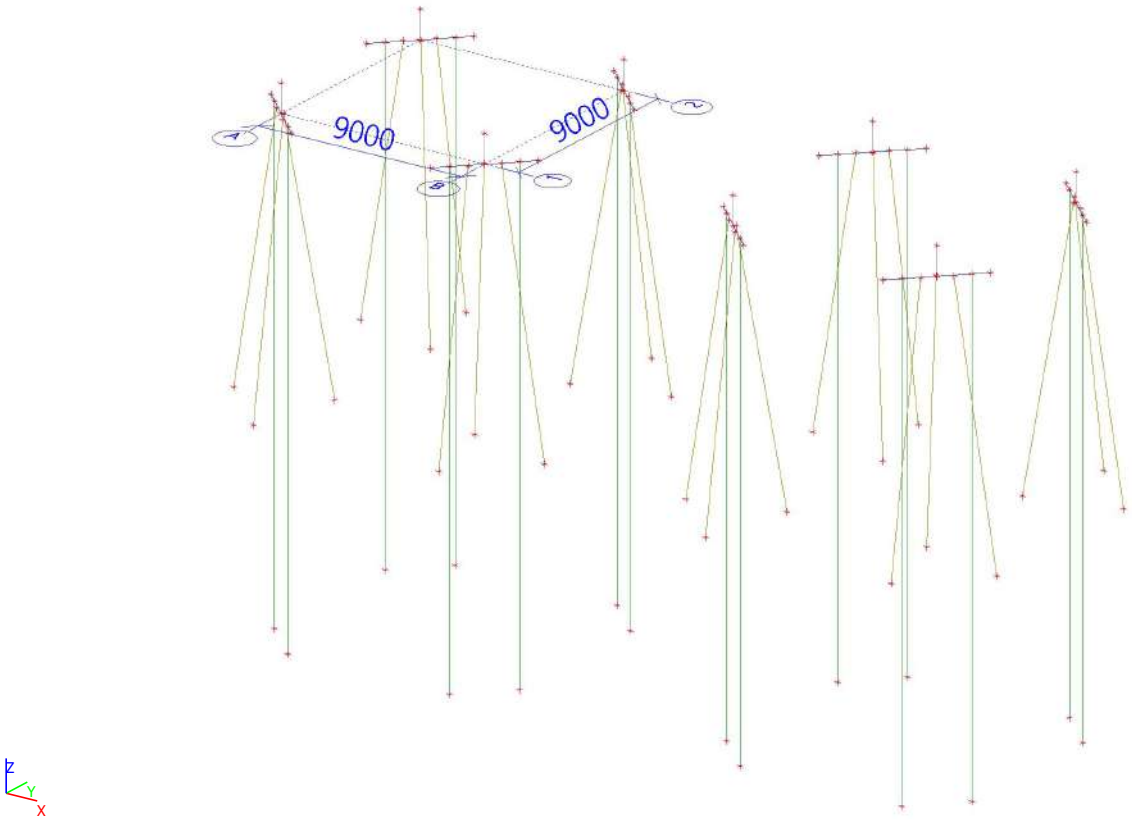

### 6.1.8.1. Point force in node

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -167,76 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -139,73 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -842,24 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 47,76 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | 10,79 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 132,69 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -127,80 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -111,24 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 680,18 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 75,25 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -30,86 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -297,92 |
| low max Wnd ;315°_1P_X1 | 1P41 | low max Wnd ;315° | GCS | X | Force | -167,76 |
| low max Wnd ;315°_1P_Y1 | 1P41 | low max Wnd ;315° | GCS | Y | Force | -139,73 |
| low max Wnd | 1P41 | low max Wnd ;315° | GCS | Z | Force | -842,24 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Force | 75,25 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Force | -30,86 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Force | -297,92 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Force | -127,80 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Force | -111,24 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Force | 680,18 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Force | 47,76 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Force | 10,79 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Force | 132,69 |

### 6.1.9. Load cases - EG_fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |



## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Ultimate | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Ultimate | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Ultimate | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Ultimate | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Ultimate | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Ultimate | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Ultimate | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Ultimate | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Result classes

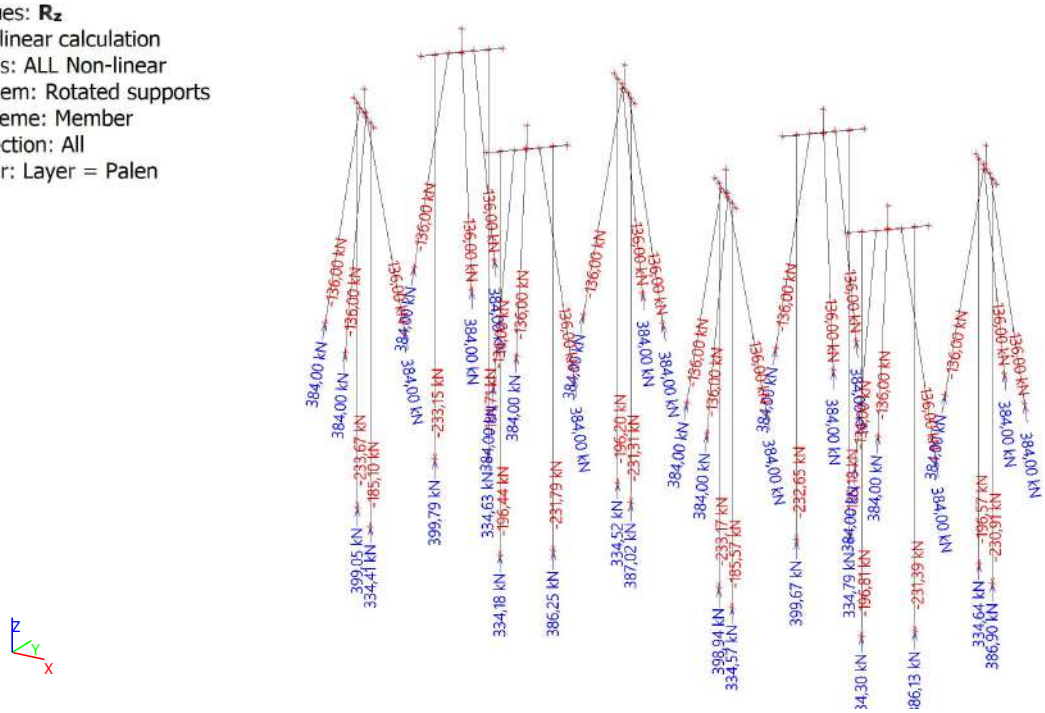
| Name | List |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = Paal 40x40 - Rectangle (400,00; 400,00)

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | -136,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | -136,00 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | -136,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Global
Selection: All

Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-233,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **399,79** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **-136,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | -19,84 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 225,43 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 124,52 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_3/N17 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 225,84 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | 271,06 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 124,10 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 276,92 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 189,56 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 123,62 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | -26,34 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **334,18** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-196,44** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **386,25** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-231,79** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-185,10** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **334,41** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-233,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **399,05** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-184,71** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **334,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-233,15** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **399,79** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-231,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **387,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-196,20** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_10/N42 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **334,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_8/N98 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 191,40 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_8/N98 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_8/N98 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_7/N97 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **-136,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_7/N97 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_9/N108 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 126,55 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_9/N108 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_9/N108 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_9/N108 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | -17,19 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

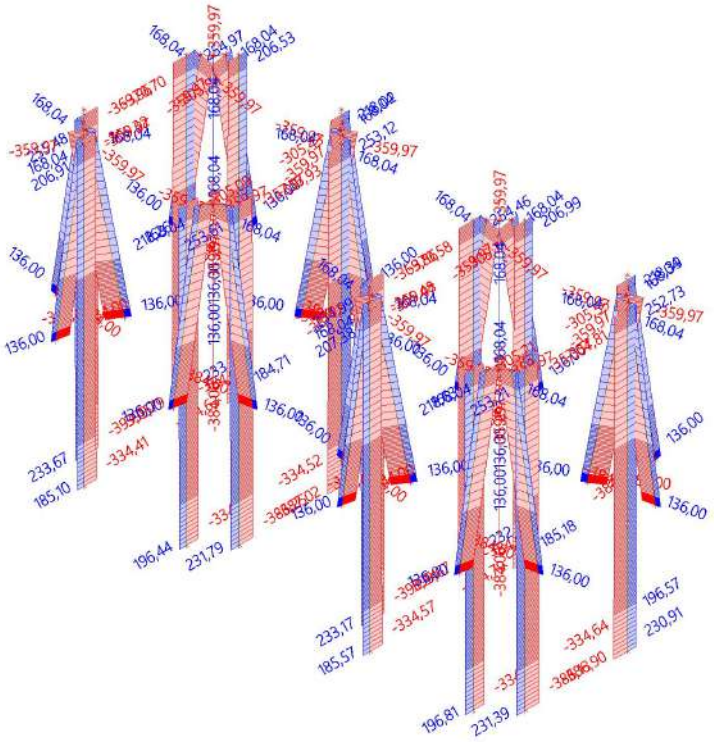
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_9/N102 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 309,28 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_9/N102 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_9/N102 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_8/N101 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | 228,60 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_8/N101 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_8/N101 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_7/N99 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 127,14 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_7/N99 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_7/N99 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_8/N104 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 229,02 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_8/N104 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_8/N104 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_7/N103 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 309,81 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_7/N103 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_7/N103 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_9/N105 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 126,74 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_9/N105 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_9/N105 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_23/N100 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_23/N100 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_23/N100 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 318,12 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_24/N106 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 229,44 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_24/N106 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_24/N106 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **384,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_25/N107 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-136,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_25/N107 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | **384,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_25/N107 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 126,25 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_26/N111 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **334,30** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_26/N111 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-196,81** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_27/N112 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **386,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_27/N112 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-231,39** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_28/N114 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-185,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_28/N114 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **334,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_29/N116 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-233,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_29/N116 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **398,94** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_30/N118 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-185,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_30/N118 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **334,79** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_31/N120 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-232,65** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_31/N120 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **399,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_33/N124 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-230,91** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_33/N124 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **386,90** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_32/N122 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-196,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_32/N122 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **334,64** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

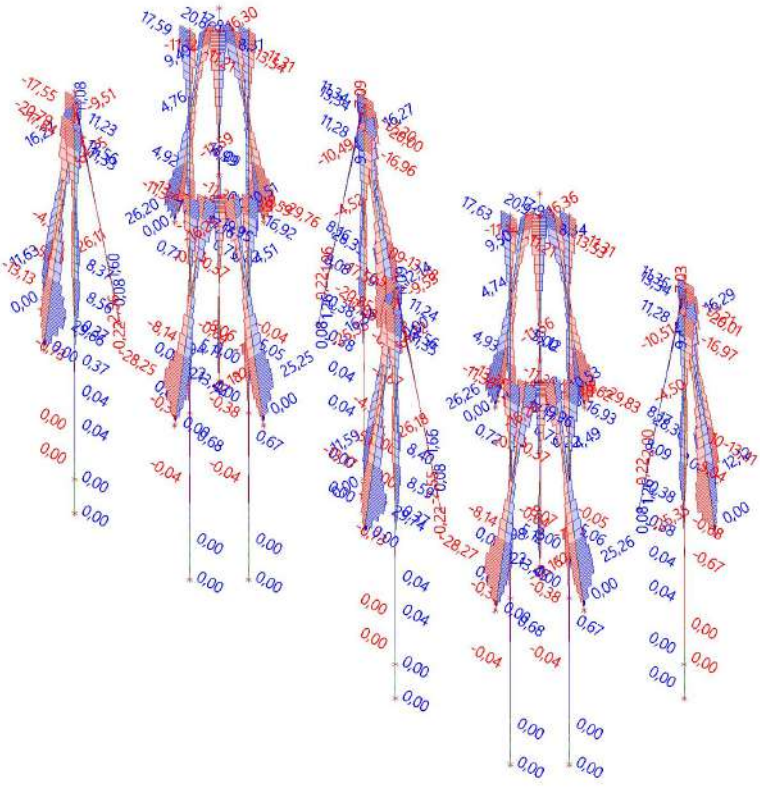
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



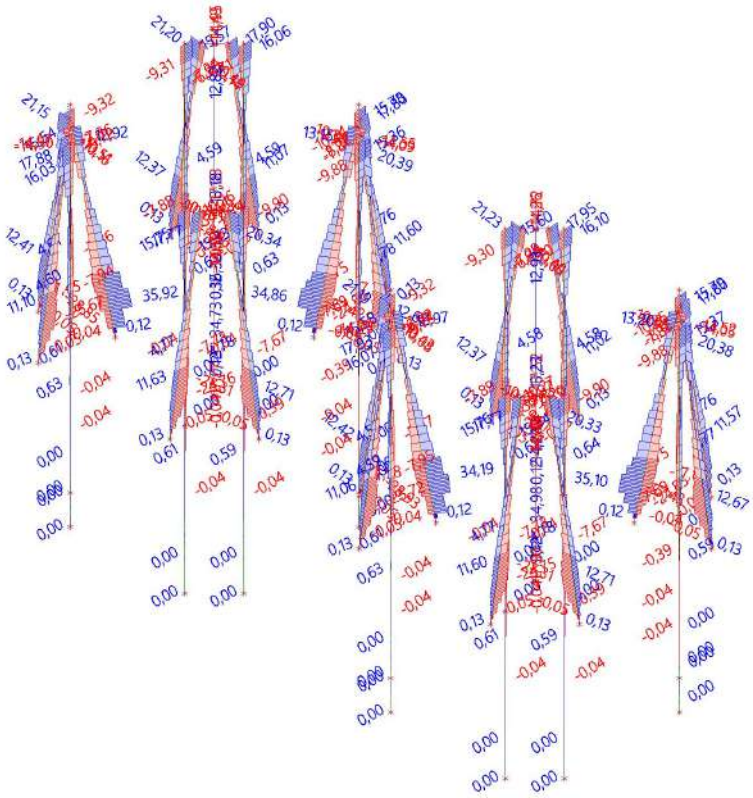
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



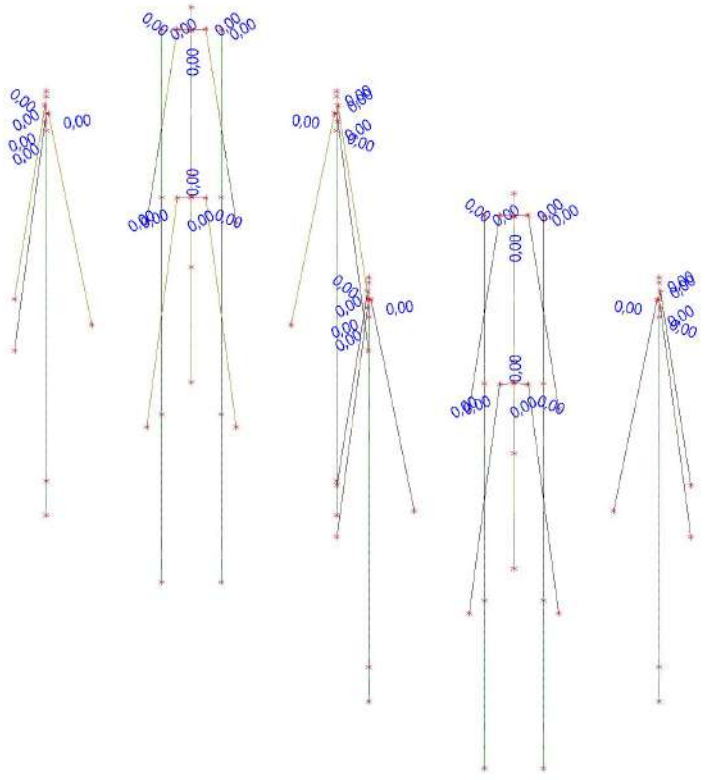
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



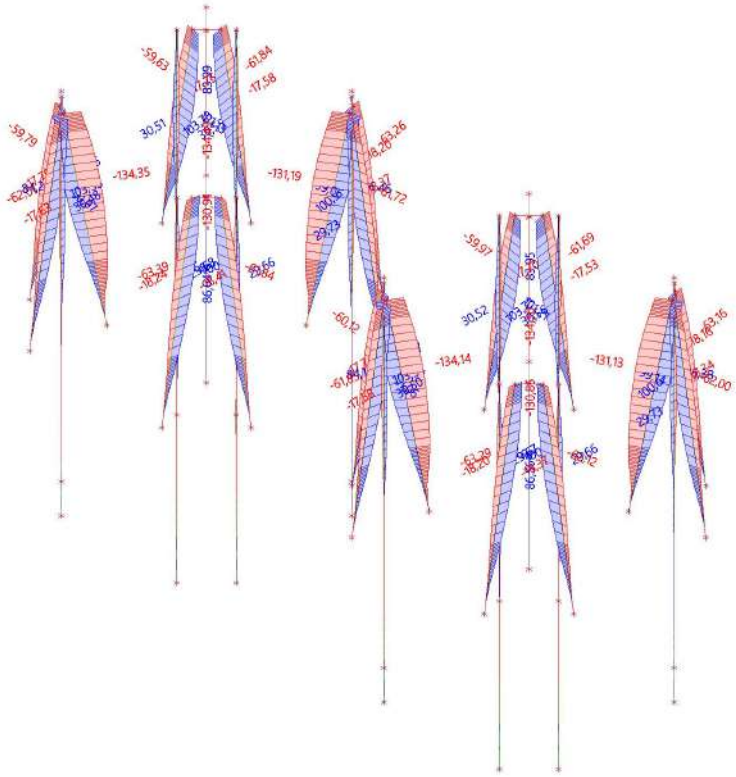
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



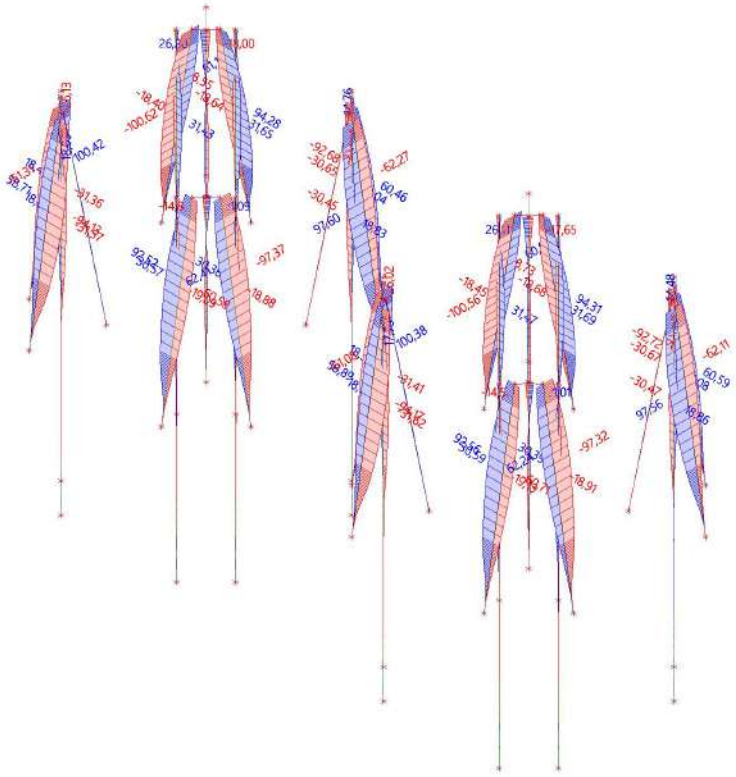
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Paal 40x40 - Rectangle (400,00; 400,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 11,500 | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-384,00** | 0,00 | 0,13 | 0,00 | 0,00 | 0,00 |
| Paal_P_3 | 0,000 | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **168,04** | 12,48 | -5,30 | **0,00** | -46,66 | 23,78 |
| Paal_Y_8 | 9,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -378,43 | **-29,83** | -25,79 | 0,00 | 40,63 | 47,28 |
| Paal_P_7 | 9,000+ | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -378,43 | **29,74** | -25,72 | 0,00 | 40,53 | -47,15 |
| Paal_Y_7 | 9,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -378,43 | 26,26 | **-29,01** | 0,00 | 45,28 | -41,87 |
| Paal_Y_2 | 9,000+ | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 141,57 | 2,61 | **36,32** | 0,00 | -56,95 | -4,33 |
| Paal_Y_2 | 3,625- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 159,16 | -5,27 | -0,80 | 0,00 | **-134,49** | -4,76 |
| Paal_Y_1 | 4,000- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -361,71 | 5,13 | 1,59 | 0,00 | **103,78** | 94,28 |
| Paal_Y_3 | 4,000- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -361,71 | -1,46 | 4,18 | 0,00 | 101,13 | **-100,62** |
| Paal_P_1 | 4,000- | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -361,71 | 1,46 | 4,15 | 0,00 | 100,97 | **100,42** |

### 7.2.8. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_9 | 20,650 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-399,79** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_7 | 0,000 | low max Wnd ;135° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | **255,48** | 11,23 | -9,32 | **0,00** | 3,39 | -8,98 |

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_28 | 0,000 | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -305,48 | **-17,88** | 16,07 | 0,00 | -11,75 | 17,49 |
| Paal_X_26 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 218,63 | -11,38 | **-10,27** | 0,00 | 5,93 | 8,62 |
| Paal_X_30 | 0,000 | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -305,71 | **17,92** | **16,10** | 0,00 | -11,76 | -17,56 |
| Paal_X_5 | 3,625- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 250,24 | -2,94 | -1,92 | 0,00 | **-18,41** | -18,66 |
| Paal_X_28 | 4,500- | high max Wnd ;315° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -311,21 | -2,85 | 1,71 | 0,00 | 30,50 | **-31,62** |
| Paal_X_30 | 4,500- | high max Wnd ;45° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -311,43 | 2,87 | 1,72 | 0,00 | **30,56** | **31,69** |

## 7.3. Krachten van de Poeren

### 7.3.1. 1D internal forces

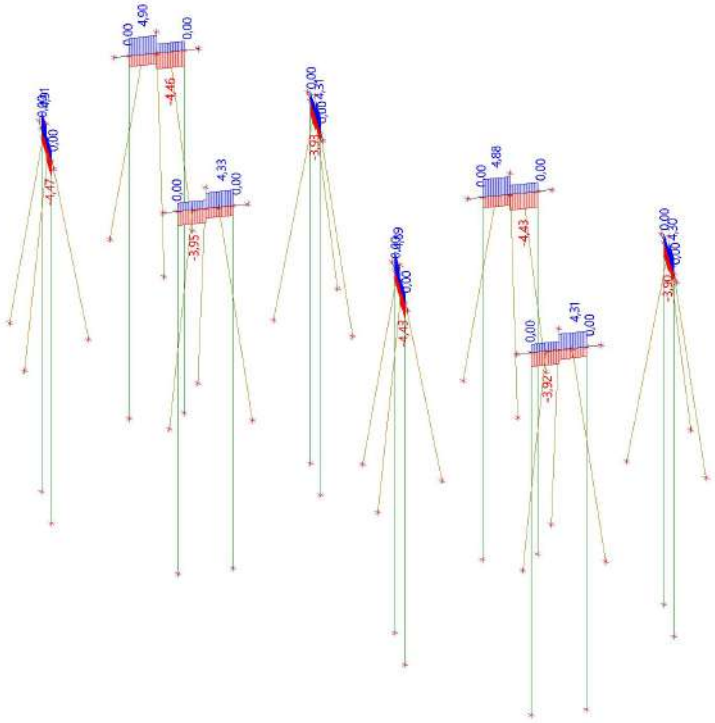
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Layer = Poeren

| Name | dx [m] | Case | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer X | 1,200 | low max Wnd ;45° - EG_gunstig | **680,90** | -169,19 | -11,79 | **0,00** | 0,00 | 0,00 |
| Poer X | 0,000 | low max Wnd ;45° - EG_gunstig | 651,13 | **-169,19** | -11,79 | 0,00 | 14,14 | **203,03** |
| Poer Y | 0,000 | low max Wnd ;315° - EG_gunstig | 102,92 | -26,14 | **-41,40** | 0,00 | **49,68** | 31,37 |
| Poer P | 0,000 | high max Wnd ;45° - EG_ongunstig | 68,68 | -19,01 | **41,52** | 0,00 | **-49,83** | 22,81 |
| Poer Y | 0,000 | high max Wnd ;45° - EG_ongunstig | **-908,18** | **224,94** | 19,37 | 0,00 | -23,24 | **-269,93** |

## 7.4. Krachten van de Funderingsbalken

### 7.4.1. Interne 1D- krachten; N

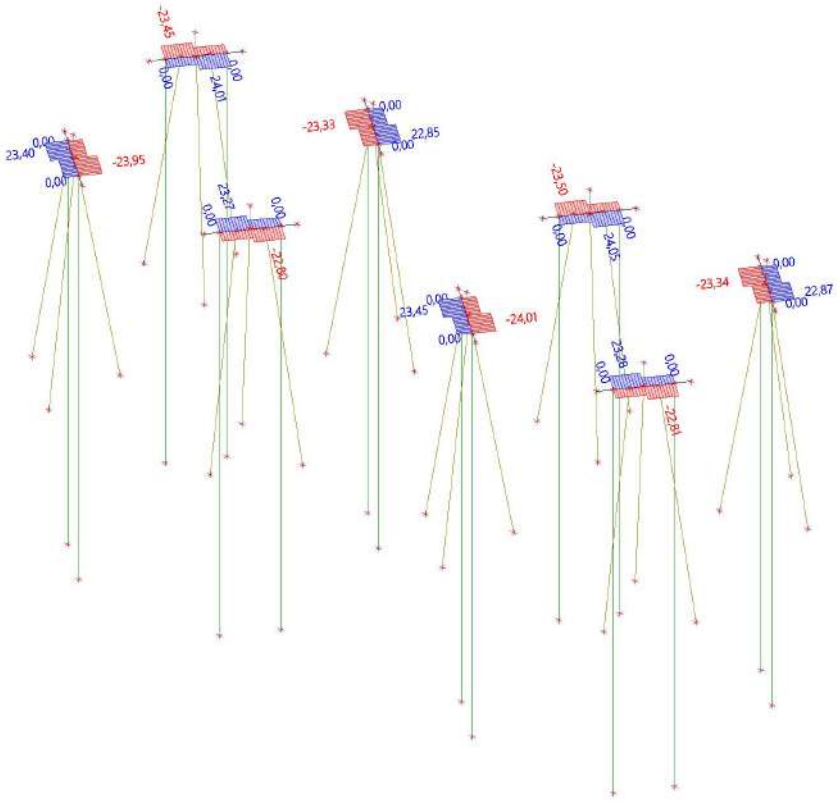
Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.2. Interne 1D- krachten; V_y

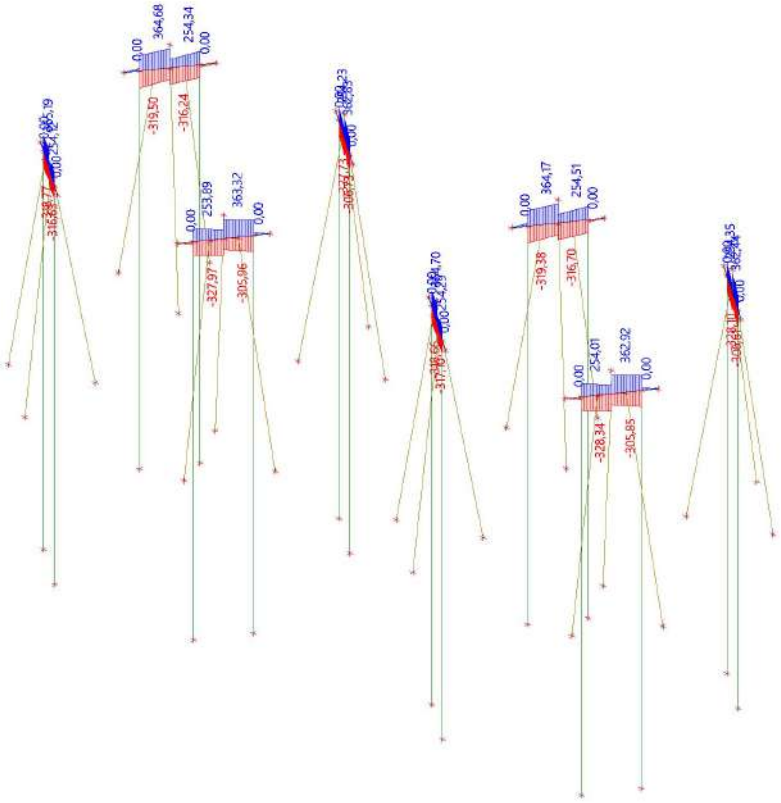
Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer





### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

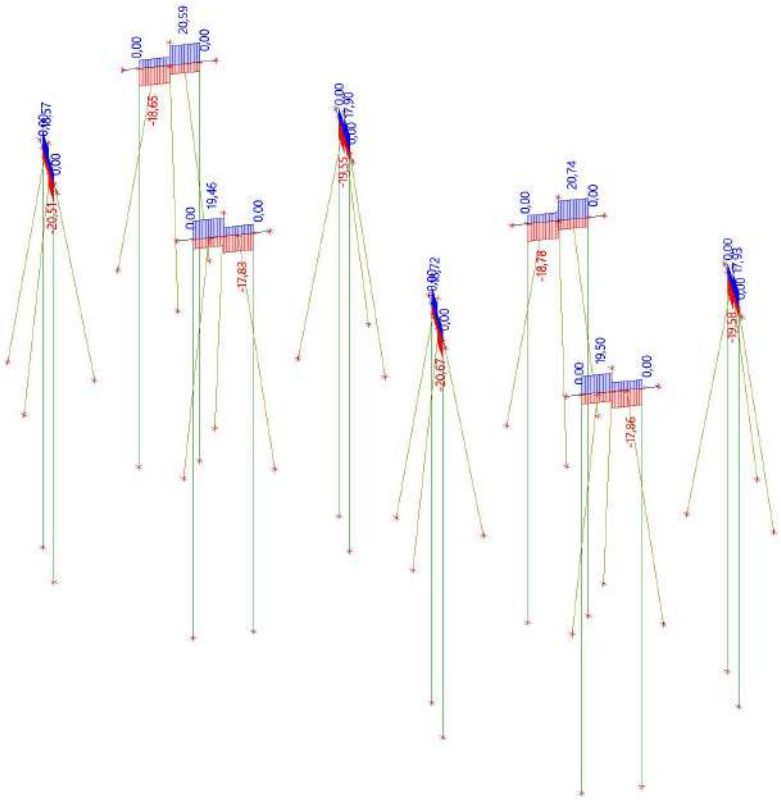






### 7.4.4. Interne 1D- krachten; M_x

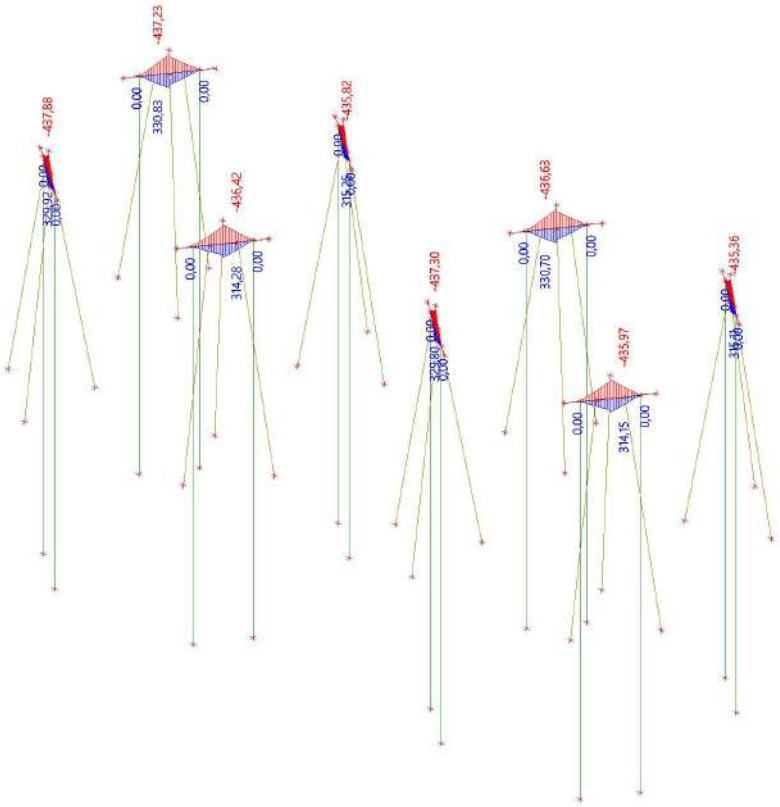
Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

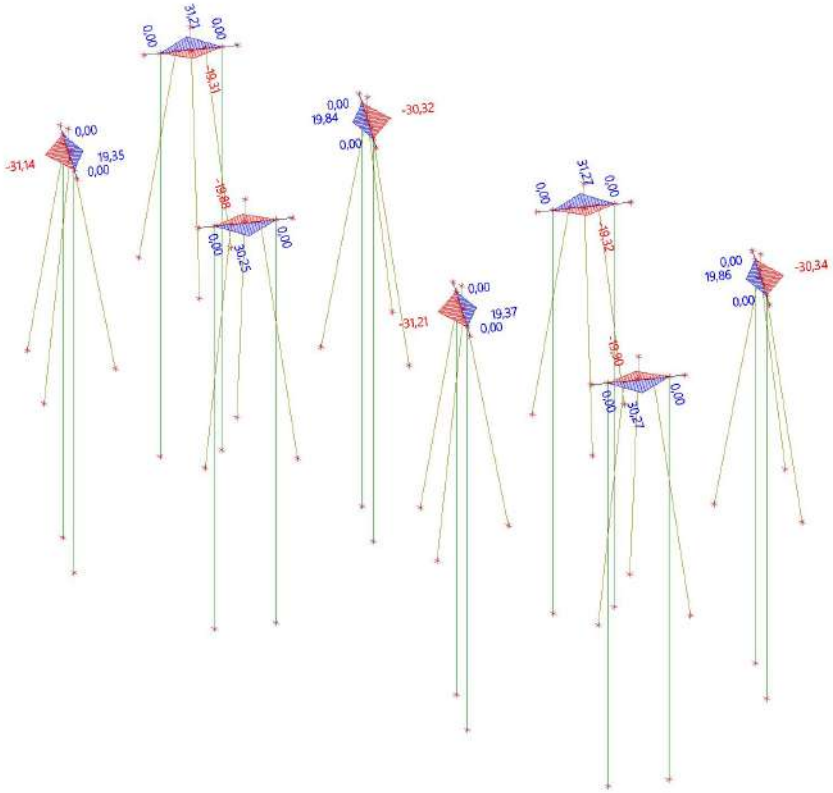






### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.7. 1D internal forces

Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1100,00; 2260,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal18 | 0,700+ | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **-4,47** | 2,23 | 18,88 | 1,34 | -21,30 | 0,00 |
| Paal18 | 2,000+ | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **4,91** | -1,23 | 113,33 | 0,54 | -105,91 | 1,60 |
| Paal25 | 2,000- | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -0,78 | -15,31 | **-328,34** | -10,29 | -395,83 | -19,90 |
| Paal18 | 2,000+ | low max Wnd ;135° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,35 | -14,53 | **365,19** | -8,75 | **-437,88** | 18,89 |
| Paal19 | 2,000+ | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,43 | -23,45 | -224,42 | -18,65 | **330,83** | 30,49 |
| Paal26 | 2,000- | high max Wnd ;315° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,28 | **-24,01** | 159,20 | **-20,67** | 254,91 | **-31,21** |
| Paal27 | 2,000- | high max Wnd ;45° - EG_ongunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,29 | **24,05** | 159,42 | **20,74** | 255,23 | **31,27** |

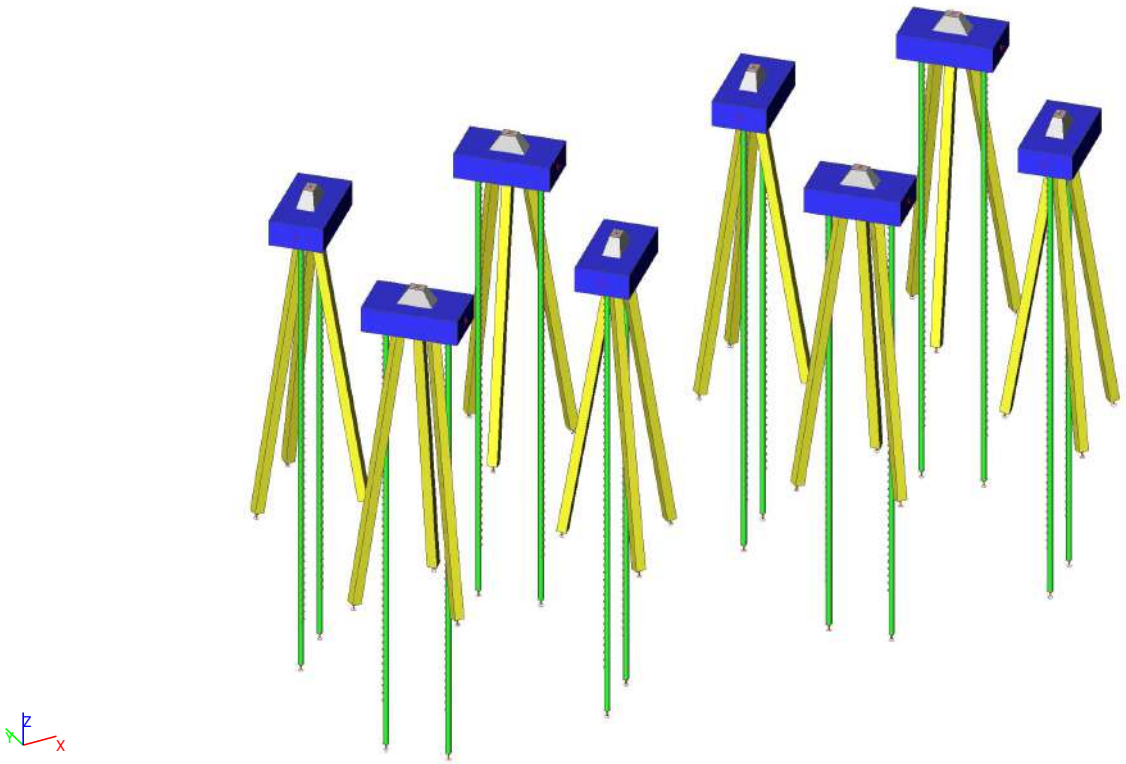
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Analyse model 2
4. Modeleigenschappen 3
5. Geometrie 3
5.1. Knopen 3
5.2. Analyse model met knopen 4
5.3. Staven 4
5.4. Analyse model met Staven 5
5.5. Knoopsteunpunten 6
5.6. Analyse model met Knoopondersteuningen 7
5.7. Lijnsteunpunten op staven 7
5.8. Analyse model met Lijnondersteuningen 18
5.9. Analyse model met Lijnondersteuningen 19
5.10. Niet-lineaire functies 20
6. Belastingen 32
6.1. Belastingsgevallen 32
6.1.1. Belastingsgevallen - high max Wnd ;45° 32
6.1.1.1. Puntlast op knoop 32
6.1.2. Belastingsgevallen - high max Wnd ;135° 33
6.1.2.1. Puntlast op knoop 34
6.1.3. Belastingsgevallen - high max Wnd ;225° 35
6.1.3.1. Puntlast op knoop 36
6.1.4. Belastingsgevallen - high max Wnd ;315° 36
6.1.4.1. Puntlast op knoop 37
6.1.5. Belastingsgevallen - low max Wnd ;45° 38
6.1.5.1. Puntlast op knoop 39
6.1.6. Belastingsgevallen - low max Wnd ;135° 39
6.1.6.1. Puntlast op knoop 40
6.1.7. Belastingsgevallen - low max Wnd ;225° 41
6.1.7.1. Puntlast op knoop 42
6.1.8. Belastingsgevallen - low max Wnd ;315° 42
6.1.8.1. Puntlast op knoop 43
6.1.9. Belastingsgevallen - EG_fundering 44
6.2. Niet-lineaire combinaties 45
6.3. Resultaatklasses 45
7. Resultaten 46
7.1. Reacties van de palen 46
7.1.1. Reactions; R_z 46
7.1.2. Reacties 46
7.1.3. Reacties 46
7.1.4. Reacties 47
7.2. Krachten van de Funderingspalen 53
7.2.1. Interne 1D- krachten; N 53
7.2.2. Interne 1D- krachten; V_y 53
7.2.3. Interne 1D- krachten; V_z 54
7.2.4. Interne 1D- krachten; M_x 54
7.2.5. Interne 1D- krachten; M_y 55
7.2.6. Interne 1D- krachten; M_z 55
7.2.7. Interne 1D-krachten 56
7.2.8. Interne 1D-krachten 56
7.3. Krachten van de Poeren 58
7.3.1. Interne 1D-krachten 58
7.4. Krachten van de Funderingsbalken 59
7.4.1. Interne 1D- krachten; N 59
7.4.2. Interne 1D- krachten; V_y 59
7.4.3. Interne 1D- krachten; V_z 60
7.4.4. Interne 1D- krachten; M_x 60
7.4.5. Interne 1D- krachten; M_y 61
7.4.6. Interne 1D- krachten; M_z 61
7.4.7. Interne 1D-krachten 62

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Blokpoer 3xBeton40x40 Mast 71 |
| Auteur | [redacted] |
| Datum | 28-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 112 |
| Aantal staven : | 56 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 4 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

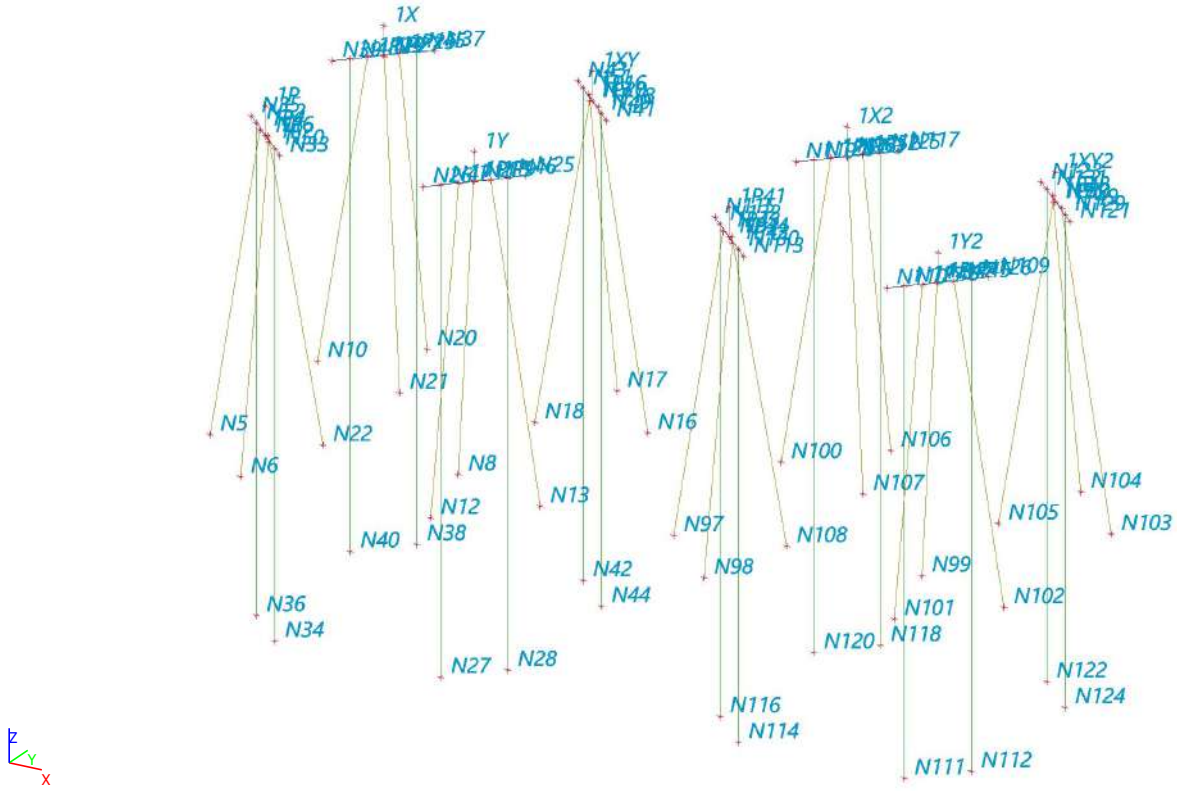
# 5. Geometrie

## 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N1 | 0,000 | 0,000 | 0,000 |
| 1P | 0,000 | 0,000 | 1,200 |
| 1P2 | 0,400 | -0,480 | 0,000 |
| 1P4 | -0,480 | 0,400 | 0,000 |
| 1P6 | 0,070 | 0,070 | 0,000 |
| N2 | 9,000 | 0,000 | 0,000 |
| 1Y | 9,000 | 0,000 | 1,200 |
| 1P9 | 9,480 | 0,400 | 0,000 |
| 1P11 | 8,600 | -0,480 | 0,000 |
| 1P13 | 8,930 | 0,070 | 0,000 |
| N3 | 9,000 | 9,000 | 0,000 |
| 1XY | 9,000 | 9,000 | 1,200 |
| 1P16 | 8,600 | 9,480 | 0,000 |
| 1P18 | 9,480 | 8,600 | 0,000 |
| 1P20 | 8,930 | 8,930 | 0,000 |
| N4 | 0,000 | 9,000 | 0,000 |
| 1X | 0,000 | 9,000 | 1,200 |
| 1P23 | -0,480 | 8,600 | 0,000 |
| 1P25 | 0,400 | 9,480 | 0,000 |
| 1P27 | 0,070 | 8,930 | 0,000 |
| N5 | -2,621 | 0,400 | -12,822 |
| N6 | 0,400 | -2,621 | -12,822 |
| N8 | 7,417 | 1,583 | -12,822 |
| N10 | -2,621 | 8,600 | -12,822 |
| N12 | 8,600 | -2,621 | -12,822 |
| N13 | 11,621 | 0,400 | -12,822 |
| N16 | 11,621 | 8,600 | -12,822 |
| N17 | 8,600 | 11,621 | -12,822 |
| N18 | 7,417 | 7,417 | -12,822 |
| N20 | 0,400 | 11,621 | -12,822 |
| N21 | 1,583 | 7,417 | -12,822 |
| N22 | 1,583 | 1,583 | -12,822 |
| N25 | 10,414 | 1,414 | 0,000 |
| N26 | 7,586 | -1,414 | 0,000 |
| N27 | 8,081 | -0,919 | -20,020 |
| N28 | 9,919 | 0,919 | -20,020 |
| N33 | 1,414 | -1,414 | 0,000 |
| N34 | 0,919 | -0,919 | -20,020 |
| N35 | -1,414 | 1,414 | 0,000 |
| N36 | -0,919 | 0,919 | -20,020 |
| N37 | 1,414 | 10,414 | 0,000 |
| N38 | 0,919 | 9,919 | -20,020 |
| N39 | -1,414 | 7,586 | 0,000 |
| N40 | -0,919 | 8,081 | -20,020 |
| N41 | 10,414 | 7,586 | 0,000 |
| N42 | 8,081 | 9,919 | -20,020 |
| N43 | 7,586 | 10,414 | 0,000 |
| N44 | 9,919 | 8,081 | -20,020 |
| N45 | 0,919 | 9,919 | 0,000 |
| N46 | 9,919 | 0,919 | 0,000 |
| N47 | 8,081 | -0,919 | 0,000 |
| N48 | -0,919 | 8,081 | 0,000 |
| N49 | 9,919 | 8,081 | 0,000 |
| N50 | 0,919 | -0,919 | 0,000 |
| N51 | 8,081 | 9,919 | 0,000 |
| N52 | -0,919 | 0,919 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N93 | 20,000 | 0,000 | 0,000 |
| 1P41 | 20,000 | 0,000 | 1,200 |
| 1P42 | 20,400 | -0,480 | 0,000 |
| 1P43 | 19,520 | 0,400 | 0,000 |
| 1P44 | 20,070 | 0,070 | 0,000 |
| N94 | 29,000 | 0,000 | 0,000 |
| 1Y2 | 29,000 | 0,000 | 1,200 |
| 1P45 | 29,480 | 0,400 | 0,000 |
| 1P46 | 28,600 | -0,480 | 0,000 |
| 1P47 | 28,930 | 0,070 | 0,000 |
| N95 | 29,000 | 9,000 | 0,000 |
| 1XY2 | 29,000 | 9,000 | 1,200 |
| 1P48 | 28,600 | 9,480 | 0,000 |
| 1P49 | 29,480 | 8,600 | 0,000 |
| 1P50 | 28,930 | 8,930 | 0,000 |
| N96 | 20,000 | 9,000 | 0,000 |
| 1X2 | 20,000 | 9,000 | 1,200 |
| 1P51 | 19,520 | 8,600 | 0,000 |
| 1P52 | 20,400 | 9,480 | 0,000 |
| 1P53 | 20,070 | 8,930 | 0,000 |
| N97 | 17,379 | 0,400 | -12,822 |
| N98 | 20,400 | -2,621 | -12,822 |
| N99 | 27,417 | 1,583 | -12,822 |
| N100 | 17,379 | 8,600 | -12,822 |
| N101 | 28,600 | -2,621 | -12,822 |
| N102 | 31,621 | 0,400 | -12,822 |
| N103 | 31,621 | 8,600 | -12,822 |
| N104 | 28,600 | 11,621 | -12,822 |
| N105 | 27,417 | 7,417 | -12,822 |
| N106 | 20,400 | 11,621 | -12,822 |
| N107 | 21,583 | 7,417 | -12,822 |
| N108 | 21,583 | 1,583 | -12,822 |
| N109 | 30,414 | 1,414 | 0,000 |
| N110 | 27,586 | -1,414 | 0,000 |
| N111 | 28,081 | -0,919 | -20,020 |
| N112 | 29,919 | 0,919 | -20,020 |
| N113 | 21,414 | -1,414 | 0,000 |
| N114 | 20,919 | -0,919 | -20,020 |
| N115 | 18,586 | 1,414 | 0,000 |
| N116 | 19,081 | 0,919 | -20,020 |
| N117 | 21,414 | 10,414 | 0,000 |
| N118 | 20,919 | 9,919 | -20,020 |
| N119 | 18,586 | 7,586 | 0,000 |
| N120 | 19,081 | 8,081 | -20,020 |
| N121 | 30,414 | 7,586 | 0,000 |
| N122 | 28,081 | 9,919 | -20,020 |
| N123 | 27,586 | 10,414 | 0,000 |
| N124 | 29,919 | 8,081 | -20,020 |
| N125 | 20,919 | 9,919 | 0,000 |
| N126 | 29,919 | 0,919 | 0,000 |
| N127 | 28,081 | -0,919 | 0,000 |
| N128 | 19,081 | 8,081 | 0,000 |
| N129 | 29,919 | 8,081 | 0,000 |
| N130 | 20,919 | -0,919 | 0,000 |
| N131 | 28,081 | 9,919 | 0,000 |
| N132 | 19,081 | 0,919 | 0,000 |

## 5.2. Analyse model met knopen

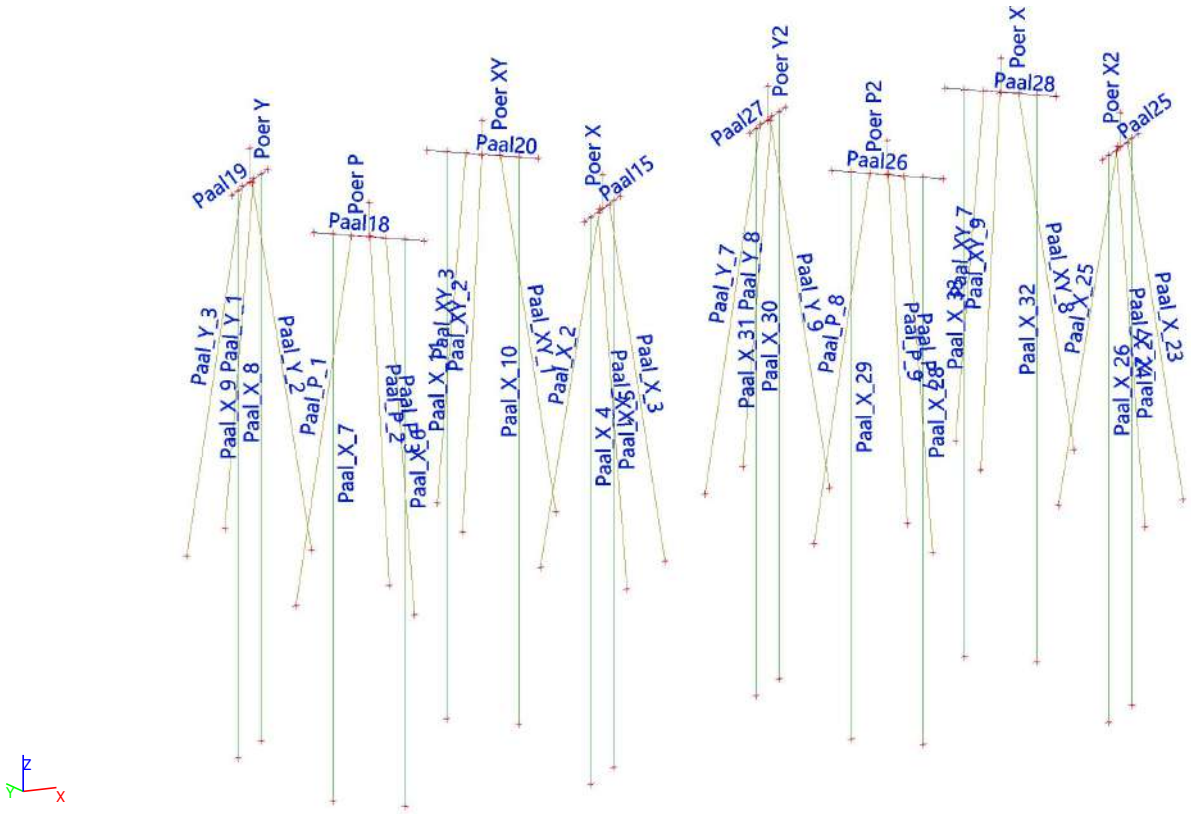



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal15 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N26 | N25 | Balk (80) |
| Paal18 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N33 | N35 | Balk (80) |
| Paal19 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N37 | N39 | Balk (80) |
| Paal20 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N43 | N41 | Balk (80) |
| Paal25 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N110 | N109 | Balk (80) |
| Paal26 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N113 | N115 | Balk (80) |
| Paal27 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N117 | N119 | Balk (80) |
| Paal28 | lijnpoer - Rectangle (1100,00; 2260,00) | C30/37 Gescheurd | 4,000 | N123 | N121 | Balk (80) |
| Paal_XY_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P20 | N18 | Kolom (100) |
| Paal_X_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P9 | N13 | Kolom (100) |
| Poer P | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N1 | 1P | Kolom (100) |
| Poer P2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N93 | 1P41 | Kolom (100) |
| Paal_P_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P43 | N97 | Kolom (100) |
| Poer X | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N2 | 1Y | Kolom (100) |
| Paal_P_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P4 | N5 | Kolom (100) |
| Paal_P_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P6 | N22 | Kolom (100) |
| Paal_P_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P42 | N98 | Kolom (100) |
| Paal_XY_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P18 | N16 | Kolom (100) |
| Paal_XY_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P16 | N17 | Kolom (100) |
| Paal_XY_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P48 | N104 | Kolom (100) |
| Paal_XY_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P49 | N103 | Kolom (100) |
| Paal_X_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P11 | N12 | Kolom (100) |
| Poer X2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N94 | 1Y2 | Kolom (100) |
| Poer XY | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N3 | 1XY | Kolom (100) |
| Poer XY2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N95 | 1XY2 | Kolom (100) |
| Poer Y | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N4 | 1X | Kolom (100) |
| Poer Y2 | Poer - Rectangle (2200,00; 1060,00) | C12/15 Gescheurd | 1,200 | N96 | 1X2 | Kolom (100) |
| Paal_P_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P2 | N6 | Kolom (100) |
| Paal_P_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P44 | N108 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_XY_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P50 | N105 | Kolom (100) |
| Paal_X_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P13 | N8 | Kolom (100) |
| Paal_X_4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N47 | N27 | Kolom (100) |
| Paal_X_5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N46 | N28 | Kolom (100) |
| Paal_X_6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N50 | N34 | Kolom (100) |
| Paal_X_7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N52 | N36 | Kolom (100) |
| Paal_X_8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N45 | N38 | Kolom (100) |
| Paal_X_9 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N48 | N40 | Kolom (100) |
| Paal_X_10 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N49 | N44 | Kolom (100) |
| Paal_X_11 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N51 | N42 | Kolom (100) |
| Paal_X_23 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P45 | N102 | Kolom (100) |
| Paal_X_24 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P46 | N101 | Kolom (100) |
| Paal_X_25 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P47 | N99 | Kolom (100) |
| Paal_X_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N127 | N111 | Kolom (100) |
| Paal_X_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N126 | N112 | Kolom (100) |
| Paal_X_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N130 | N114 | Kolom (100) |
| Paal_X_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N132 | N116 | Kolom (100) |
| Paal_X_30 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N125 | N118 | Kolom (100) |
| Paal_X_31 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N128 | N120 | Kolom (100) |
| Paal_X_32 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N129 | N124 | Kolom (100) |
| Paal_X_33 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,020 | N131 | N122 | Kolom (100) |
| Paal_Y_1 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P25 | N20 | Kolom (100) |
| Paal_Y_2 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P27 | N21 | Kolom (100) |
| Paal_Y_3 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P23 | N10 | Kolom (100) |
| Paal_Y_7 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P51 | N100 | Kolom (100) |
| Paal_Y_8 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P52 | N106 | Kolom (100) |
| Paal_Y_9 | Paal 40x40 - Rectangle (400,00; 400,00) | C20/25 Ongescheurd | 13,000 | 1P53 | N107 | Kolom (100) |

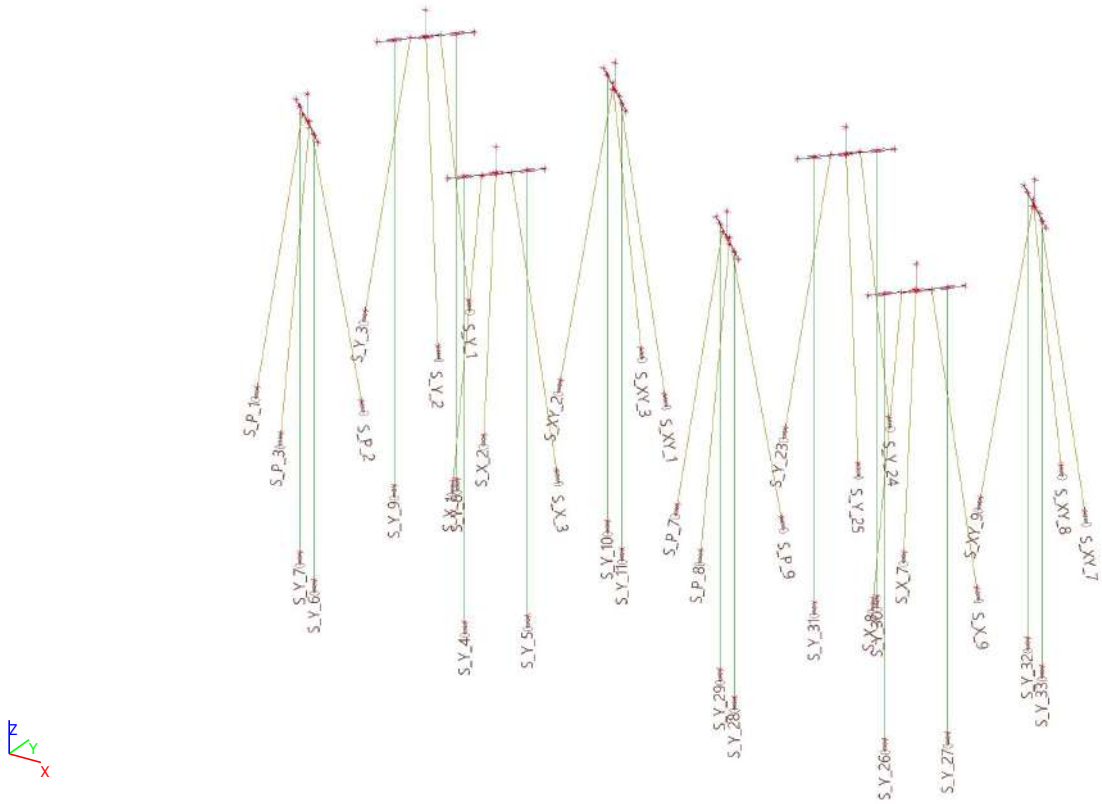
## 5.4. Analyse model met Staven



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N5 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_2 | N22 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_P_3 | N6 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_1 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_2 | N8 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_X_3 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_1 | N16 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_2 | N18 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_XY_3 | N17 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_1 | N20 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_2 | N21 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_Y_3 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_Y_4 | N27 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_5 | N28 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_6 | N34 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_7 | N36 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_8 | N38 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_9 | N40 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_10 | N42 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_11 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_P_7 | N97 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_P_8 | N98 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_7 | N99 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry6,72 |
| S_Y_23 | N100 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry9,50 |
| S_X_8 | N101 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-9,50 |
| S_X_9 | N102 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_7 | N103 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-9,50 |
| S_XY_8 | N104 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_XY_9 | N105 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry6,72 |
| S_Y_24 | N106 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx9,50 |
| S_Y_25 | N107 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-6,72;Ry-6,72 |
| S_P_9 | N108 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx6,72;Ry-6,72 |
| S_Y_26 | N111 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_27 | N112 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_28 | N114 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_29 | N116 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_30 | N118 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_31 | N120 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_32 | N122 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_Y_33 | N124 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Systeem | Pos $x_2$ [m] | | | | | | | | |
| Veen15 | Lijn | Paal_XY_8 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen26 | Lijn | Paal_X_6 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen27 | Lijn | Paal_X_7 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen18 | Lijn | Paal_Y_8 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen14 | Lijn | Paal_XY_7 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen3 | Lijn | Paal_X_3 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen32 | Lijn | Paal_X_26 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen16 | Lijn | Paal_XY_9 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen30 | Lijn | Paal_X_10 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen12 | Lijn | Paal_X_24 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen24 | Lijn | Paal_X_4 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| | | LCS | 8,000 | | | | | | | | |
| Veen11 | Lijn | Paal_Y_2 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen7 | Lijn | Paal_XY_1 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| | | LCS | 8,000 | | | | | | | | |
| Veen19 | Lijn | Paal_Y_9 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | | | | | | | | |
| Veen20 | Lijn | Paal_P_7<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen36 | Lijn | Paal_X_30<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen2 | Lijn | Paal_P_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen25 | Lijn | Paal_X_5<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen9 | Lijn | Paal_Y_3<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen28 | Lijn | Paal_X_8<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen4 | Lijn | Paal_X_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen29 | Lijn | Paal_X_9<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen6 | Lijn | Paal_XY_3<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen17 | Lijn | Paal_Y_7<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen13 | Lijn | Paal_X_25<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen5 | Lijn | Paal_X_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen22 | Lijn | Paal_P_9<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen35 | Lijn | Paal_X_29<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen38 | Lijn | Paal_X_32<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen10 | Lijn | Paal_Y_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen1 | Lijn | Paal_P_1<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen37 | Lijn | Paal_X_31<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen21 | Lijn | Paal_P_8<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen39 | Lijn | Paal_X_33<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen33 | Lijn | Paal_X_27<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen | Lijn | Paal_P_3<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen34 | Lijn | Paal_X_28<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| Veen23 | Lijn | Paal_X_23<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen8 | Lijn | Paal_XY_2<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen | PY-curve-1_Veen |
| Veen31 | Lijn | Paal_X_11<br>LCS | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_Veen.B | PY-curve-1_Veen.B |
| (PY-curve-1_V1)24 | Lijn | Paal_X_4<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)21 | Lijn | Paal_P_8<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)38 | Lijn | Paal_X_32<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)19 | Lijn | Paal_Y_9<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)39 | Lijn | Paal_X_33<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)15 | Lijn | Paal_XY_8 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)16 | Lijn | Paal_XY_9<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)3 | Lijn | Paal_X_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)34 | Lijn | Paal_X_28<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)17 | Lijn | Paal_Y_7<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)31 | Lijn | Paal_X_11<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)25 | Lijn | Paal_X_5<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)10 | Lijn | Paal_XY_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)30 | Lijn | Paal_X_10<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)27 | Lijn | Paal_X_7<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)36 | Lijn | Paal_X_30<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)11 | Lijn | Paal_Y_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)18 | Lijn | Paal_Y_8<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)6 | Lijn | Paal_Y_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)29 | Lijn | Paal_X_9<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)35 | Lijn | Paal_X_29<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)5 | Lijn | Paal_XY_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)23 | Lijn | Paal_X_23<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)28 | Lijn | Paal_X_8<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)37 | Lijn | Paal_X_31<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)1 | Lijn | Paal_P_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)32 | Lijn | Paal_X_26<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1) | Lijn | Paal_P_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)8 | Lijn | Paal_P_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)9 | Lijn | Paal_X_2<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)20 | Lijn | Paal_P_7<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)13 | Lijn | Paal_X_25<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)26 | Lijn | Paal_X_6<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)12 | Lijn | Paal_X_24<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)2 | Lijn | Paal_X_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)33 | Lijn | Paal_X_27<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1.B | PY-curve-1_V1.B |
| (PY-curve-1_V1)7 | Lijn | Paal_Y_3<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)22 | Lijn | Paal_P_9 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-1_V1)4 | Lijn | Paal_XY_1<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V1)14 | Lijn | Paal_XY_7<br>LCS | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V1 | PY-curve-1_V1 |
| (PY-curve-1_V2)24 | Lijn | Paal_X_4<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)7 | Lijn | Paal_Y_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)38 | Lijn | Paal_X_32<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)28 | Lijn | Paal_X_8<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)3 | Lijn | Paal_X_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)37 | Lijn | Paal_X_31<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)34 | Lijn | Paal_X_28<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)35 | Lijn | Paal_X_29<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)6 | Lijn | Paal_Y_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)1 | Lijn | Paal_P_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)33 | Lijn | Paal_X_27<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)11 | Lijn | Paal_Y_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)32 | Lijn | Paal_X_26<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)30 | Lijn | Paal_X_10<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)18 | Lijn | Paal_Y_8<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)36 | Lijn | Paal_X_30<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)17 | Lijn | Paal_Y_7<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)29 | Lijn | Paal_X_9<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)9 | Lijn | Paal_X_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)16 | Lijn | Paal_XY_9<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)10 | Lijn | Paal_XY_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)19 | Lijn | Paal_Y_9<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)15 | Lijn | Paal_XY_8<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)20 | Lijn | Paal_P_7<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)2 | Lijn | Paal_X_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)27 | Lijn | Paal_X_7<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2) | Lijn | Paal_P_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)13 | Lijn | Paal_X_25<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)31 | Lijn | Paal_X_11<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)39 | Lijn | Paal_X_33 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | | | | | | | | |
| (PY-curve-1_V2)12 | Lijn | Paal_X_24<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)4 | Lijn | Paal_XY_1<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)26 | Lijn | Paal_X_6<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)23 | Lijn | Paal_X_23<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)14 | Lijn | Paal_XY_7<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)8 | Lijn | Paal_P_2<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)25 | Lijn | Paal_X_5<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2.B | PY-curve-1_V2.B |
| (PY-curve-1_V2)22 | Lijn | Paal_P_9<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)5 | Lijn | Paal_XY_3<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V2)21 | Lijn | Paal_P_8<br>LCS | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V2 | PY-curve-1_V2 |
| (PY-curve-1_V3)7 | Lijn | Paal_Y_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)20 | Lijn | Paal_P_7<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)24 | Lijn | Paal_X_4<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3) | Lijn | Paal_P_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)3 | Lijn | Paal_X_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)1 | Lijn | Paal_P_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)39 | Lijn | Paal_X_33<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)38 | Lijn | Paal_X_32<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)37 | Lijn | Paal_X_31<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)36 | Lijn | Paal_X_30<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)6 | Lijn | Paal_Y_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)35 | Lijn | Paal_X_29<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)34 | Lijn | Paal_X_28<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)33 | Lijn | Paal_X_27<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)31 | Lijn | Paal_X_11<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)32 | Lijn | Paal_X_26<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)19 | Lijn | Paal_Y_9<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)30 | Lijn | Paal_X_10<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)5 | Lijn | Paal_XY_3<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)18 | Lijn | Paal_Y_8<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)2 | Lijn | Paal_X_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)29 | Lijn | Paal_X_9 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,000 | | | | | | | | |
| (PY-curve-1_V3)17 | Lijn | Paal_Y_7<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)10 | Lijn | Paal_XY_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)16 | Lijn | Paal_XY_9<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)28 | Lijn | Paal_X_8<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)15 | Lijn | Paal_XY_8<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)27 | Lijn | Paal_X_7<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)9 | Lijn | Paal_X_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)4 | Lijn | Paal_XY_1<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)13 | Lijn | Paal_X_25<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)14 | Lijn | Paal_XY_7<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)12 | Lijn | Paal_X_24<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)26 | Lijn | Paal_X_6<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)23 | Lijn | Paal_X_23<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)8 | Lijn | Paal_P_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)11 | Lijn | Paal_Y_2<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)25 | Lijn | Paal_X_5<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3.B | PY-curve-1_V3.B |
| (PY-curve-1_V3)21 | Lijn | Paal_P_8<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V3)22 | Lijn | Paal_P_9<br>LCS | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V3 | PY-curve-1_V3 |
| (PY-curve-1_V4)20 | Lijn | Paal_P_7<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)38 | Lijn | Paal_X_32<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)37 | Lijn | Paal_X_31<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)6 | Lijn | Paal_Y_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)36 | Lijn | Paal_X_30<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)34 | Lijn | Paal_X_28<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)39 | Lijn | Paal_X_33<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)33 | Lijn | Paal_X_27<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)31 | Lijn | Paal_X_11<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)5 | Lijn | Paal_XY_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)32 | Lijn | Paal_X_26<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)35 | Lijn | Paal_X_29<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)2 | Lijn | Paal_X_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)11 | Lijn | Paal_Y_2 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | | | | | | | | |
| (PY-curve-1_V4)19 | Lijn | Paal_Y_9<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)30 | Lijn | Paal_X_10<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)18 | Lijn | Paal_Y_8<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)10 | Lijn | Paal_XY_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)29 | Lijn | Paal_X_9<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)17 | Lijn | Paal_Y_7<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)16 | Lijn | Paal_XY_9<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)28 | Lijn | Paal_X_8<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)15 | Lijn | Paal_XY_8<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)4 | Lijn | Paal_XY_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)9 | Lijn | Paal_X_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)14 | Lijn | Paal_XY_7<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)27 | Lijn | Paal_X_7<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4) | Lijn | Paal_P_1<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)13 | Lijn | Paal_X_25<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)26 | Lijn | Paal_X_6<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)12 | Lijn | Paal_X_24<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)8 | Lijn | Paal_P_2<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)23 | Lijn | Paal_X_23<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)25 | Lijn | Paal_X_5<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V4)1 | Lijn | Paal_P_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)22 | Lijn | Paal_P_9<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)21 | Lijn | Paal_P_8<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)3 | Lijn | Paal_X_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)7 | Lijn | Paal_Y_3<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4 | PY-curve-1_V4 |
| (PY-curve-1_V4)24 | Lijn | Paal_X_4<br>LCS | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V4.B | PY-curve-1_V4.B |
| (PY-curve-1_V5)20 | Lijn | Paal_P_7<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)11 | Lijn | Paal_XY_1<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)10 | Lijn | Paal_X_3<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)9 | Lijn | Paal_XY_3<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)8 | Lijn | Paal_X_1<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)7 | Lijn | Paal_XY_2 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |

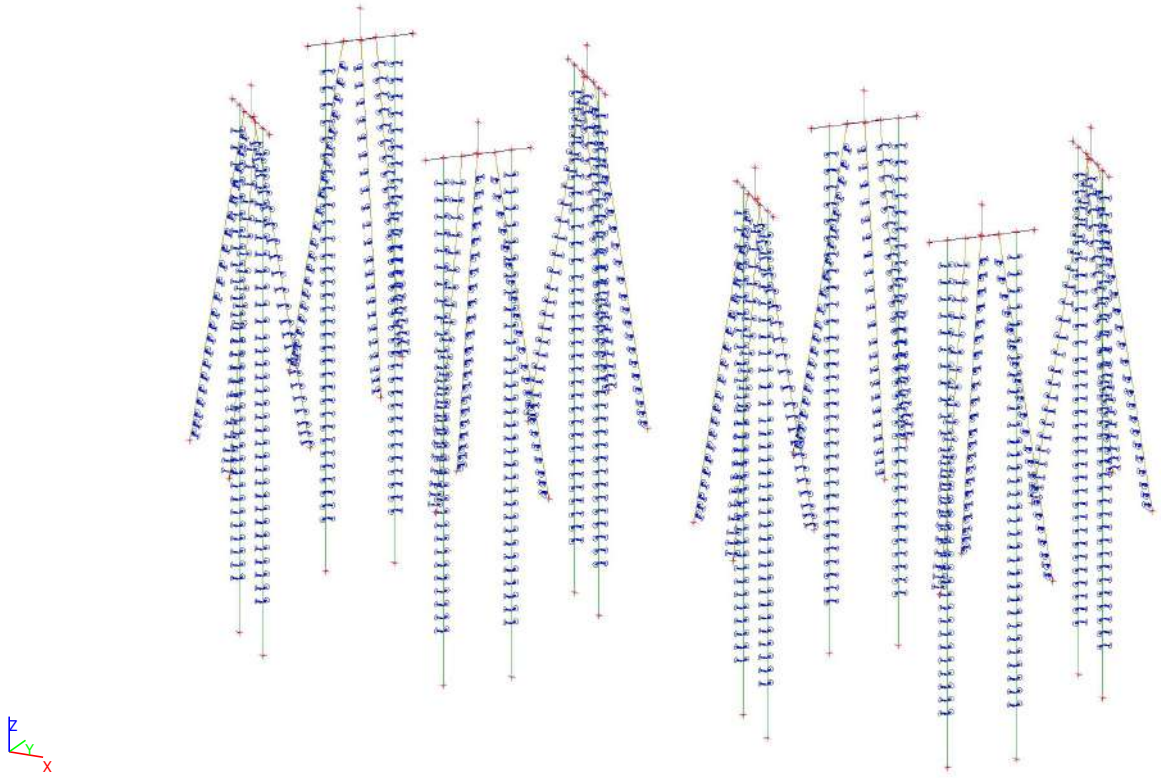
| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,750 | | | | | | | | |
| (PY-curve-1_V5)6 | Lijn | Paal_X_2<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)5 | Lijn | Paal_Y_2<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)4 | Lijn | Paal_P_2<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)3 | Lijn | Paal_Y_1<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)2 | Lijn | Paal_P_3<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)1 | Lijn | Paal_Y_3<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5) | Lijn | Paal_P_1<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)19 | Lijn | Paal_Y_9<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)18 | Lijn | Paal_Y_8<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)17 | Lijn | Paal_Y_7<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)16 | Lijn | Paal_XY_9<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)15 | Lijn | Paal_XY_8<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)14 | Lijn | Paal_XY_7<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)13 | Lijn | Paal_X_25<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)12 | Lijn | Paal_X_24<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)23 | Lijn | Paal_X_23<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)22 | Lijn | Paal_P_9<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)21 | Lijn | Paal_P_8<br>LCS | 12,000<br>12,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5 | PY-curve-1_V5 |
| (PY-curve-1_V5)31 | Lijn | Paal_X_11<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)39 | Lijn | Paal_X_33<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)30 | Lijn | Paal_X_10<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)29 | Lijn | Paal_X_5<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)28 | Lijn | Paal_X_4<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)38 | Lijn | Paal_X_32<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)27 | Lijn | Paal_X_9<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)26 | Lijn | Paal_X_8<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)25 | Lijn | Paal_X_7<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)37 | Lijn | Paal_X_31<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)24 | Lijn | Paal_X_6<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)36 | Lijn | Paal_X_30<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)35 | Lijn | Paal_X_29<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)34 | Lijn | Paal_X_28 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 13,000 | | | | | | | | |
| (PY-curve-1_V5)33 | Lijn | Paal_X_27<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V5)32 | Lijn | Paal_X_26<br>LCS | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V5.B | PY-curve-1_V5.B |
| (PY-curve-1_V6)13 | Lijn | Paal_X_29<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)12 | Lijn | Paal_X_28<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)11 | Lijn | Paal_X_27<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)10 | Lijn | Paal_X_26<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)9 | Lijn | Paal_X_11<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)8 | Lijn | Paal_X_10<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)7 | Lijn | Paal_X_9<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)14 | Lijn | Paal_X_30<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)6 | Lijn | Paal_X_8<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)5 | Lijn | Paal_X_7<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)4 | Lijn | Paal_X_6<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)3 | Lijn | Paal_X_5<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)2 | Lijn | Paal_X_4<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)1 | Lijn | Paal_X_33<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6) | Lijn | Paal_X_32<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V6)15 | Lijn | Paal_X_31<br>LCS | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V6.B | PY-curve-1_V6.B |
| (PY-curve-1_V7)15 | Lijn | Paal_X_31<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)13 | Lijn | Paal_X_29<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)12 | Lijn | Paal_X_28<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)11 | Lijn | Paal_X_27<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)10 | Lijn | Paal_X_26<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)9 | Lijn | Paal_X_11<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)8 | Lijn | Paal_X_10<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)7 | Lijn | Paal_X_9<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)14 | Lijn | Paal_X_30<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)6 | Lijn | Paal_X_8<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)5 | Lijn | Paal_X_7<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)4 | Lijn | Paal_X_6<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)3 | Lijn | Paal_X_5<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7)2 | Lijn | Paal_X_4 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |

| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | | | | | | | | |
| (PY-curve-1_V7)1 | Lijn | Paal_X_33<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V7) | Lijn | Paal_X_32<br>LCS | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V7.B | PY-curve-1_V7.B |
| (PY-curve-1_V8)15 | Lijn | Paal_X_31<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)13 | Lijn | Paal_X_29<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)12 | Lijn | Paal_X_28<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)11 | Lijn | Paal_X_27<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)10 | Lijn | Paal_X_26<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)9 | Lijn | Paal_X_11<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)8 | Lijn | Paal_X_10<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)7 | Lijn | Paal_X_9<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)14 | Lijn | Paal_X_30<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)6 | Lijn | Paal_X_8<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)5 | Lijn | Paal_X_7<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)4 | Lijn | Paal_X_6<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)3 | Lijn | Paal_X_5<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)2 | Lijn | Paal_X_4<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8)1 | Lijn | Paal_X_33<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V8) | Lijn | Paal_X_32<br>LCS | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V8.B | PY-curve-1_V8.B |
| (PY-curve-1_V9)15 | Lijn | Paal_X_31<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)13 | Lijn | Paal_X_29<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)12 | Lijn | Paal_X_28<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)11 | Lijn | Paal_X_27<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)10 | Lijn | Paal_X_26<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)9 | Lijn | Paal_X_11<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)8 | Lijn | Paal_X_10<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)7 | Lijn | Paal_X_9<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)14 | Lijn | Paal_X_30<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)6 | Lijn | Paal_X_8<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)5 | Lijn | Paal_X_7<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)4 | Lijn | Paal_X_6<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)3 | Lijn | Paal_X_5<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9)2 | Lijn | Paal_X_4 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |

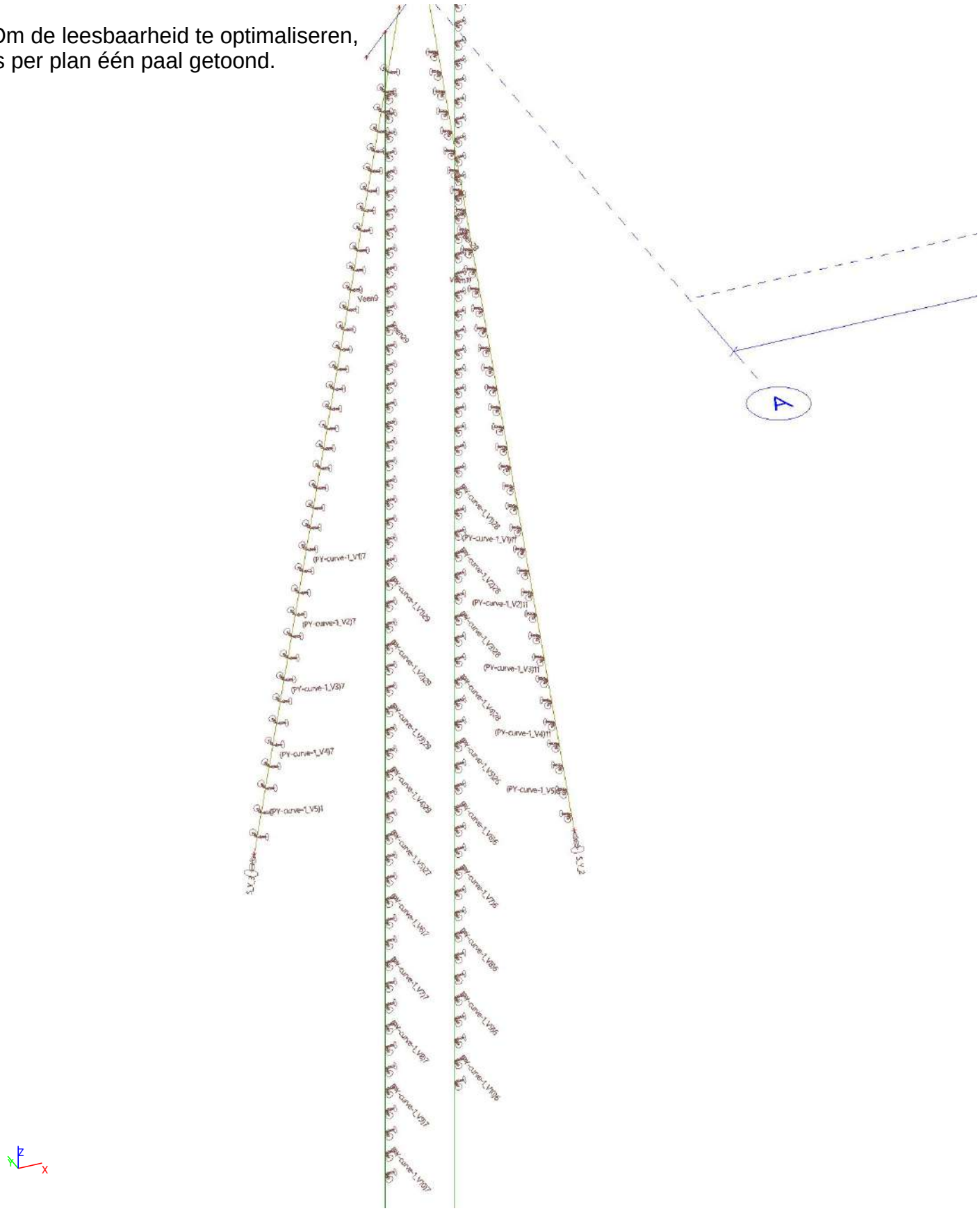
| Naam | Type | Staaf<br>Systeem | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-1_V9)1 | Lijn | Paal_X_33<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V9) | Lijn | Paal_X_32<br>LCS | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V9.B | PY-curve-1_V9.B |
| (PY-curve-1_V10)15 | Lijn | Paal_X_31<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)13 | Lijn | Paal_X_29<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)12 | Lijn | Paal_X_28<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)11 | Lijn | Paal_X_27<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)10 | Lijn | Paal_X_26<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)9 | Lijn | Paal_X_11<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)8 | Lijn | Paal_X_10<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)7 | Lijn | Paal_X_9<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)14 | Lijn | Paal_X_30<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)6 | Lijn | Paal_X_8<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)5 | Lijn | Paal_X_7<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)4 | Lijn | Paal_X_6<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)3 | Lijn | Paal_X_5<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)2 | Lijn | Paal_X_4<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10)1 | Lijn | Paal_X_33<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |
| (PY-curve-1_V10) | Lijn | Paal_X_32<br>LCS | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-1_V10.B | PY-curve-1_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

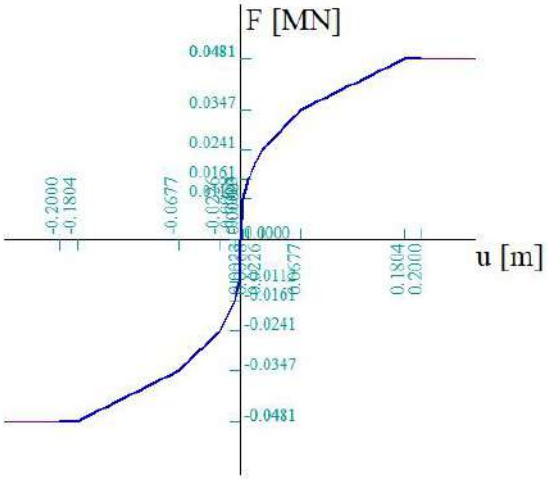
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

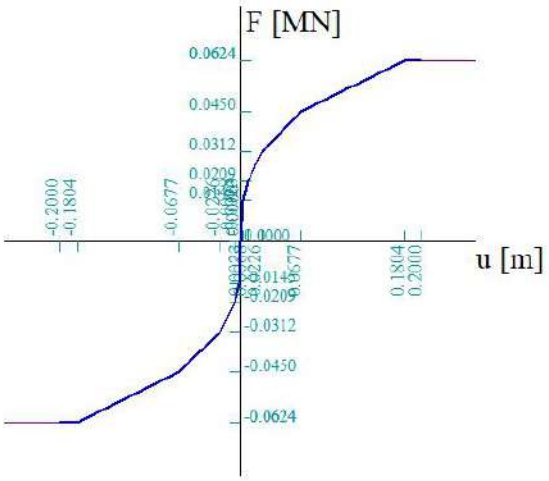
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1 | Verplaatsing | -2,0000e-01[m] / -4,8130e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -4,8130e-02[MN] | | |
| | | -6,7650e-02[m] / -3,4710e-02[MN] | | |
| | | -2,2550e-02[m] / -2,4064e-02[MN] | | |
| | | -6,7650e-03[m] / -1,6110e-02[MN] | | |
| | | -2,2550e-03[m] / -1,1170e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,1170e-02[MN] | | |
| | | 6,7650e-03[m] / 1,6110e-02[MN] | | |
| | | 2,2550e-02[m] / 2,4064e-02[MN] | | |
| | | 6,7650e-02[m] / 3,4707e-02[MN] | | |
| | | 1,8040e-01[m] / 4,8129e-02[MN] | | |
| | | 2,0000e-01[m] / 4,8129e-02[MN] | | |

Tekenen



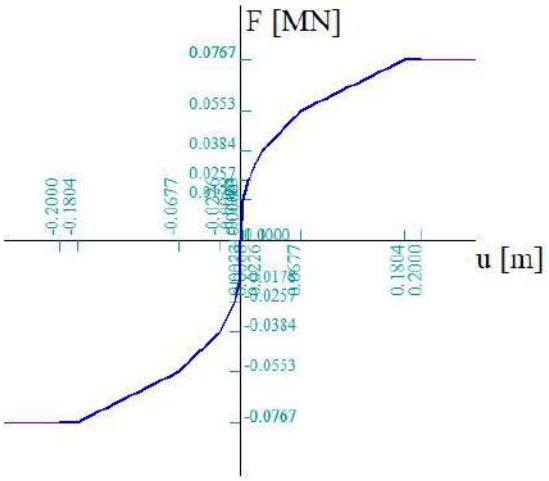

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2 | Verplaatsing | -2,0000e-01[m] / -6,2400e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -6,2400e-02[MN] | | |
| | | -6,7650e-02[m] / -4,5000e-02[MN] | | |
| | | -2,2550e-02[m] / -3,1200e-02[MN] | | |
| | | -6,7650e-03[m] / -2,0900e-02[MN] | | |
| | | -2,2550e-03[m] / -1,4500e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,4490e-02[MN] | | |
| | | 6,7650e-03[m] / 2,0900e-02[MN] | | |
| | | 2,2550e-02[m] / 3,1220e-02[MN] | | |
| | | 6,7650e-02[m] / 4,5020e-02[MN] | | |
| | | 1,8040e-01[m] / 6,2430e-02[MN] | | |
| | | 2,0000e-01[m] / 6,2430e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3 | Verplaatsing | -2,0000e-01[m] / -7,6737e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -7,6737e-02[MN] | | |
| | | -6,7650e-02[m] / -5,5337e-02[MN] | | |
| | | -2,2550e-02[m] / -3,8368e-02[MN] | | |
| | | -6,7650e-03[m] / -2,5685e-02[MN] | | |
| | | -2,2550e-03[m] / -1,7809e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 1,7809e-02[MN] | | |
| | | 6,7650e-03[m] / 2,5685e-02[MN] | | |
| | | 2,2550e-02[m] / 3,8368e-02[MN] | | |
| | | 6,7650e-02[m] / 5,5337e-02[MN] | | |
| | | 1,8040e-01[m] / 7,6737e-02[MN] | | |
| | | 2,0000e-01[m] / 7,6737e-02[MN] | | |

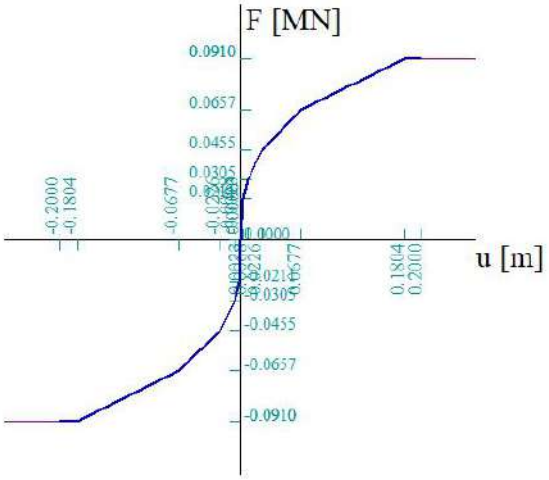
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4 | Verplaatsing | -2,0000e-01[m] / -9,1041e-02[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,1041e-02[MN] | | |
| | | -6,7650e-02[m] / -6,5652e-02[MN] | | |
| | | -2,2550e-02[m] / -4,5520e-02[MN] | | |
| | | -6,7650e-03[m] / -3,0473e-02[MN] | | |
| | | -2,2550e-03[m] / -2,1129e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1129e-02[MN] | | |
| | | 6,7650e-03[m] / 3,0473e-02[MN] | | |
| | | 2,2550e-02[m] / 4,5520e-02[MN] | | |

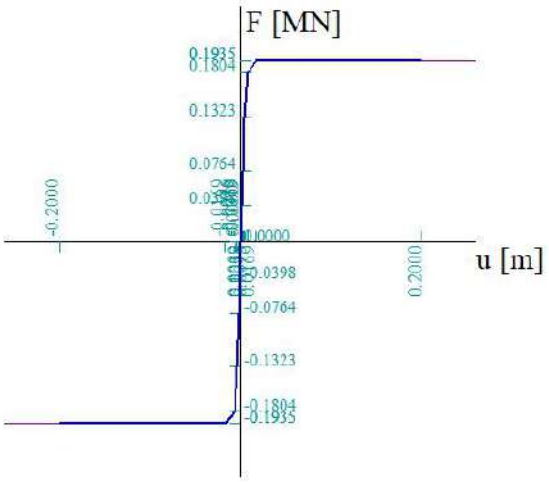
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 6,7650e-02[m] / 6,5652e-02[MN] | | |
| | | 1,8040e-01[m] / 9,1041e-02[MN] | | |
| | | 2,0000e-01[m] / 9,1041e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5 | Verplaatsing | -2,0000e-01[m] / -1,9349e-01[MN] | Vrij | Vrij |
| | | -1,6913e-02[m] / -1,9349e-01[MN] | | |
| | | -7,5167e-03[m] / -1,8041e-01[MN] | | |
| | | -3,7583e-03[m] / -1,3226e-01[MN] | | |
| | | -1,8792e-03[m] / -7,6422e-02[MN] | | |
| | | -9,3958e-04[m] / -3,9826e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 9,3958e-04[m] / 3,9826e-02[MN] | | |
| | | 1,8792e-03[m] / 7,6422e-02[MN] | | |
| | | 3,7583e-03[m] / 1,3226e-01[MN] | | |
| | | 7,5167e-03[m] / 1,8041e-01[MN] | | |
| | | 1,6913e-02[m] / 1,9349e-01[MN] | | |
| | | 2,0000e-01[m] / 1,9349e-01[MN] | | |

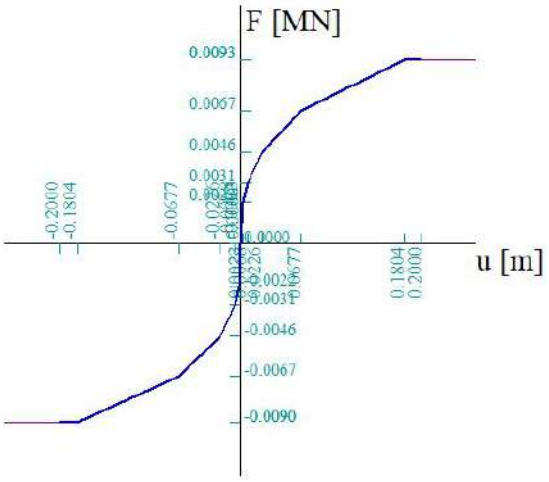
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -2,0000e-01[m] / -9,0000e-03[MN] | Vrij | Vrij |
| | | -1,8040e-01[m] / -9,0000e-03[MN] | | |
| | | -6,7650e-02[m] / -6,7000e-03[MN] | | |
| | | -2,2550e-02[m] / -4,6300e-03[MN] | | |

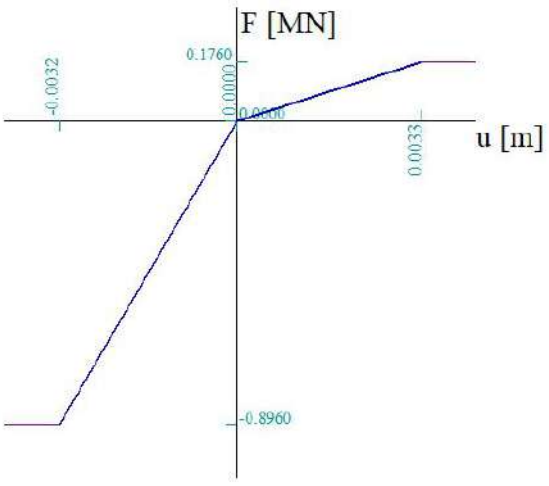
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -6,7650e-03[m] / -3,1000e-03[MN] | | |
| | | -2,2550e-03[m] / -2,1500e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2550e-03[m] / 2,1500e-03[MN] | | |
| | | 6,7650e-03[m] / 3,1000e-03[MN] | | |
| | | 2,2550e-02[m] / 4,6300e-03[MN] | | |
| | | 6,7650e-02[m] / 6,7000e-03[MN] | | |
| | | 1,8040e-01[m] / 9,2700e-03[MN] | | |
| | | 2,0000e-01[m] / 9,2700e-03[MN] | | |

Tekenen



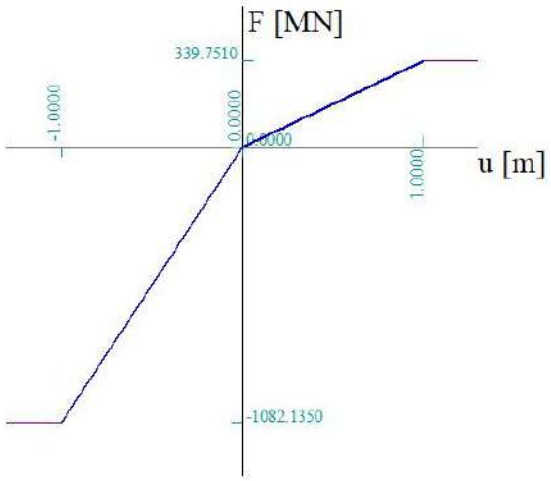

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt_.mast71.B. | Verplaatsing | -3,1700e-03[m] / -8,9600e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 3,3100e-03[m] / 1,7600e-01[MN] | | |

Tekenen



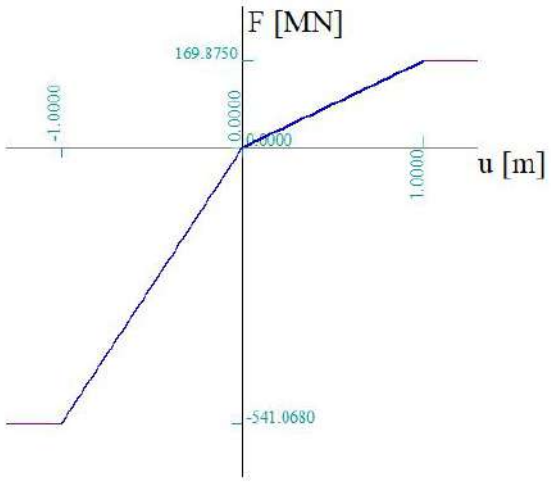

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-.LEKA.BG. | Verplaatsing | -1,0000e+00[m] / -1,0821e+03[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 3,3975e+02[MN] | | |

Tekenen



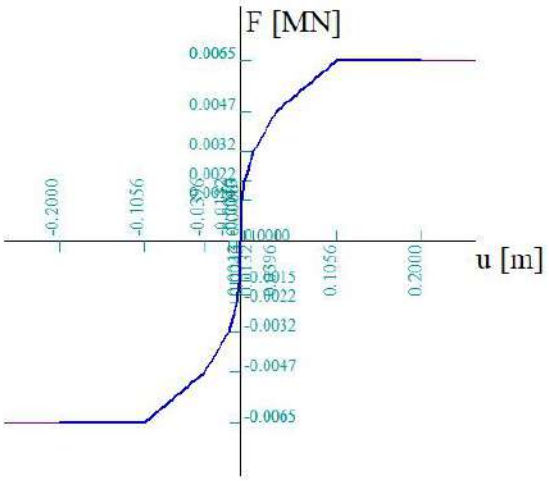

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-.LEKA.OG. | Verplaatsing | -1,0000e+00[m] / -5,4107e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,6988e+02[MN] | | |

Tekenen



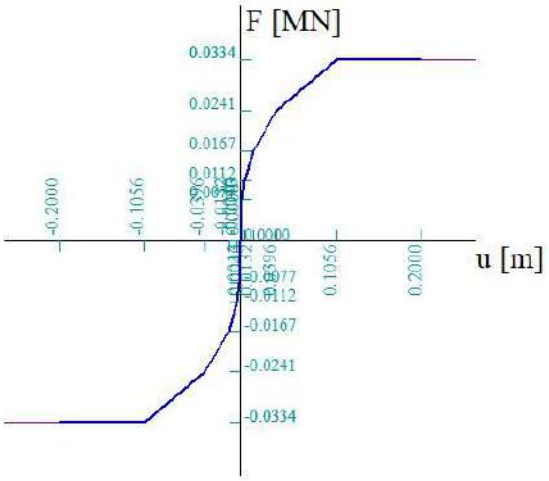

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen.B | Verplaatsing | -2,0000e-01[m] / -6,4600e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -6,4600e-03[MN] | | |
| | | -3,9600e-02[m] / -4,6585e-03[MN] | | |
| | | -1,3200e-02[m] / -3,2300e-03[MN] | | |
| | | -3,9600e-03[m] / -2,1623e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4992e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4992e-03[MN] | | |
| | | 3,9600e-03[m] / 2,1623e-03[MN] | | |
| | | 1,3200e-02[m] / 3,2300e-03[MN] | | |
| | | 3,9600e-02[m] / 4,6585e-03[MN] | | |
| | | 1,0560e-01[m] / 6,4600e-03[MN] | | |
| | | 2,0000e-01[m] / 6,4600e-03[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V1.B | Verplaatsing | -2,0000e-01[m] / -3,3356e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -3,3356e-02[MN] | | |
| | | -3,9600e-02[m] / -2,4054e-02[MN] | | |
| | | -1,3200e-02[m] / -1,6678e-02[MN] | | |
| | | -3,9600e-03[m] / -1,1165e-02[MN] | | |
| | | -1,3200e-03[m] / -7,7412e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 7,7412e-03[MN] | | |
| | | 3,9600e-03[m] / 1,1165e-02[MN] | | |
| | | 1,3200e-02[m] / 1,6678e-02[MN] | | |
| | | 3,9600e-02[m] / 2,4054e-02[MN] | | |
| | | 1,0560e-01[m] / 3,3356e-02[MN] | | |
| | | 2,0000e-01[m] / 3,3356e-02[MN] | | |

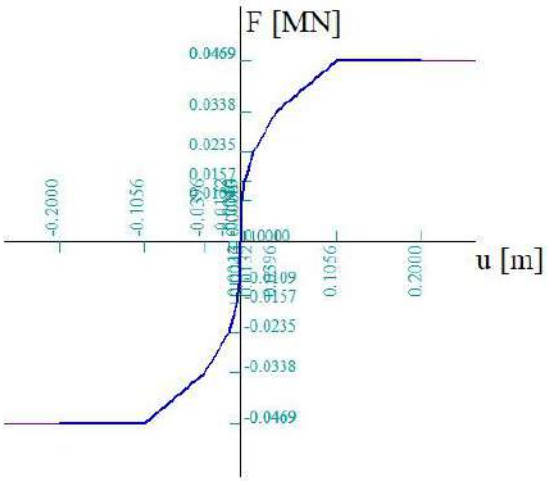
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V2.B | Verplaatsing | -2,0000e-01[m] / -4,6912e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -4,6912e-02[MN] | | |
| | | -3,9600e-02[m] / -3,3829e-02[MN] | | |
| | | -1,3200e-02[m] / -2,3456e-02[MN] | | |
| | | -3,9600e-03[m] / -1,5702e-02[MN] | | |
| | | -1,3200e-03[m] / -1,0887e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,0887e-02[MN] | | |
| | | 3,9600e-03[m] / 1,5702e-02[MN] | | |
| | | 1,3200e-02[m] / 2,3456e-02[MN] | | |

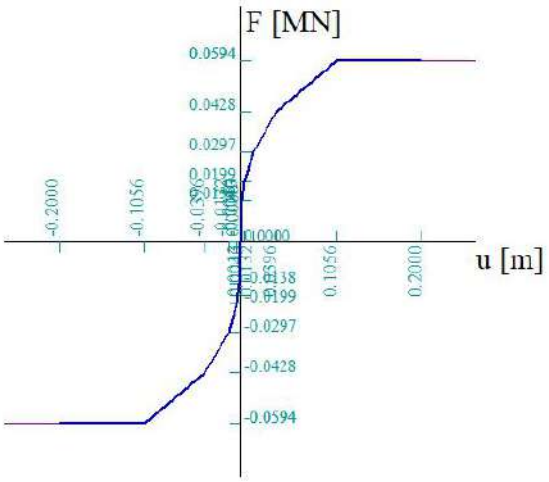
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 3,9600e-02[m] / 3,3829e-02[MN] | | |
| | | 1,0560e-01[m] / 4,6912e-02[MN] | | |
| | | 2,0000e-01[m] / 4,6912e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V3.B | Verplaatsing | -2,0000e-01[m] / -5,9400e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

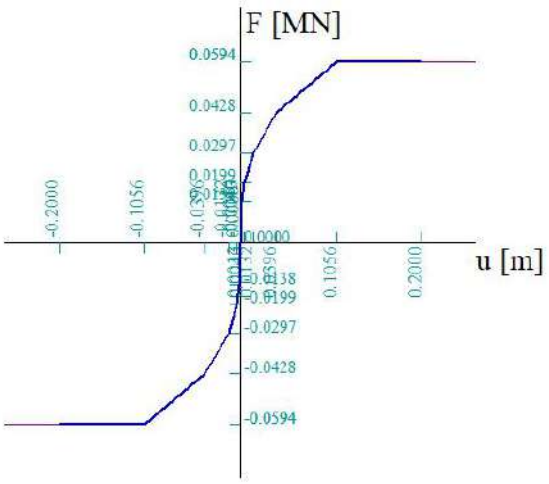
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V4.B | Verplaatsing | -2,0000e-01[m] / -5,9400e-02[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -5,9400e-02[MN] | | |
| | | -3,9600e-02[m] / -4,2835e-02[MN] | | |
| | | -1,3200e-02[m] / -2,9700e-02[MN] | | |

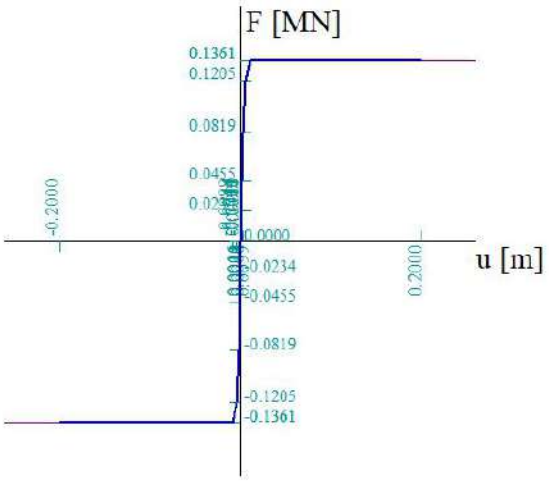
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -3,9600e-03[m] / -1,9882e-02[MN] | | |
| | | -1,3200e-03[m] / -1,3786e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,3786e-02[MN] | | |
| | | 3,9600e-03[m] / 1,9882e-02[MN] | | |
| | | 1,3200e-02[m] / 2,9700e-02[MN] | | |
| | | 3,9600e-02[m] / 4,2835e-02[MN] | | |
| | | 1,0560e-01[m] / 5,9400e-02[MN] | | |
| | | 2,0000e-01[m] / 5,9400e-02[MN] | | |

Tekenen



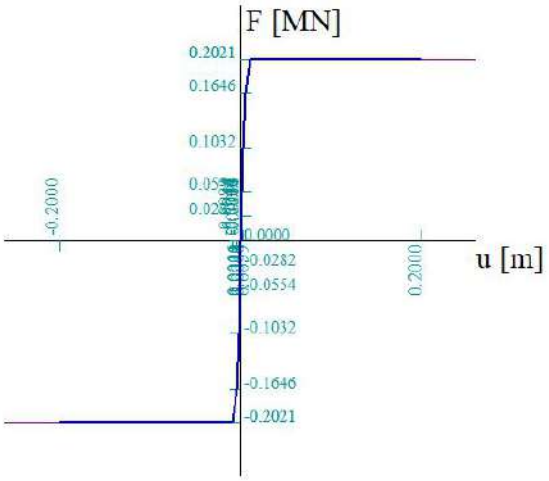

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V5.B | Verplaatsing | -2,0000e-01[m] / -1,3606e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,3606e-01[MN] | | |
| | | -4,4000e-03[m] / -1,2049e-01[MN] | | |
| | | -2,2000e-03[m] / -8,1906e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5496e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3416e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3416e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5496e-02[MN] | | |
| | | 2,2000e-03[m] / 8,1906e-02[MN] | | |
| | | 4,4000e-03[m] / 1,2049e-01[MN] | | |
| | | 9,9000e-03[m] / 1,3606e-01[MN] | | |
| | | 2,0000e-01[m] / 1,3606e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V6.B | Verplaatsing | -2,0000e-01[m] / -2,0212e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,0212e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6461e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0317e-01[MN] | | |
| | | -1,1000e-03[m] / -5,5351e-02[MN] | | |
| | | -5,5000e-04[m] / -2,8200e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,8200e-02[MN] | | |
| | | 1,1000e-03[m] / 5,5351e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0317e-01[MN] | | |
| | | 4,4000e-03[m] / 1,6461e-01[MN] | | |
| | | 9,9000e-03[m] / 2,0212e-01[MN] | | |
| | | 2,0000e-01[m] / 2,0212e-01[MN] | | |

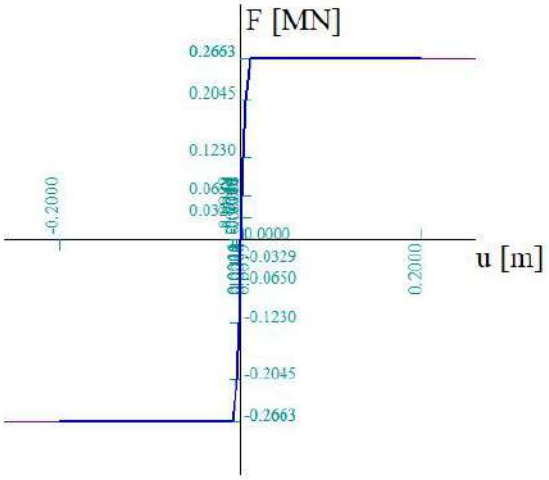
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V7.B | Verplaatsing | -2,0000e-01[m] / -2,6632e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,6632e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0449e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2296e-01[MN] | | |
| | | -1,1000e-03[m] / -6,4953e-02[MN] | | |
| | | -5,5000e-04[m] / -3,2949e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,2949e-02[MN] | | |
| | | 1,1000e-03[m] / 6,4953e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2296e-01[MN] | | |

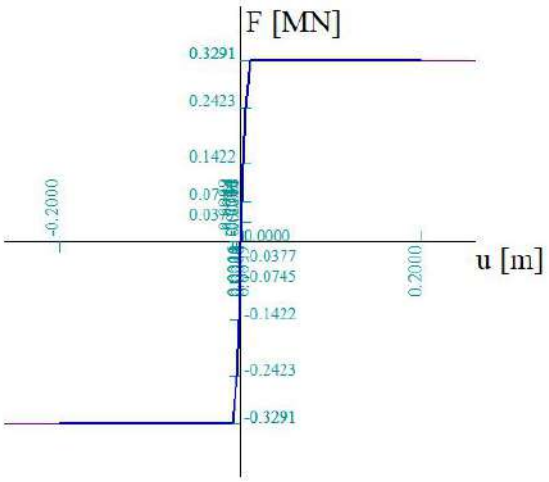
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 2,0449e-01[MN] | | |
| | | 9,9000e-03[m] / 2,6632e-01[MN] | | |
| | | 2,0000e-01[m] / 2,6632e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V8.B | Verplaatsing | -2,0000e-01[m] / -3,2908e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,2908e-01[MN] | | |
| | | -4,4000e-03[m] / -2,4234e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4217e-01[MN] | | |
| | | -1,1000e-03[m] / -7,4465e-02[MN] | | |
| | | -5,5000e-04[m] / -3,7686e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,7686e-02[MN] | | |
| | | 1,1000e-03[m] / 7,4465e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4217e-01[MN] | | |
| | | 4,4000e-03[m] / 2,4234e-01[MN] | | |
| | | 9,9000e-03[m] / 3,2908e-01[MN] | | |
| | | 2,0000e-01[m] / 3,2908e-01[MN] | | |

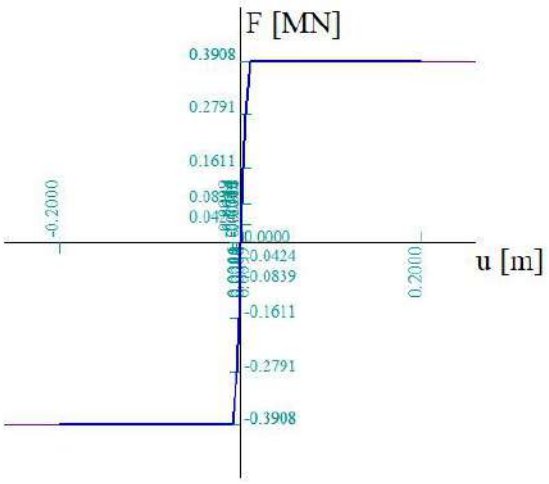
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V9.B | Verplaatsing | -2,0000e-01[m] / -3,9077e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,9077e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7909e-01[MN] | | |
| | | -2,2000e-03[m] / -1,6111e-01[MN] | | |

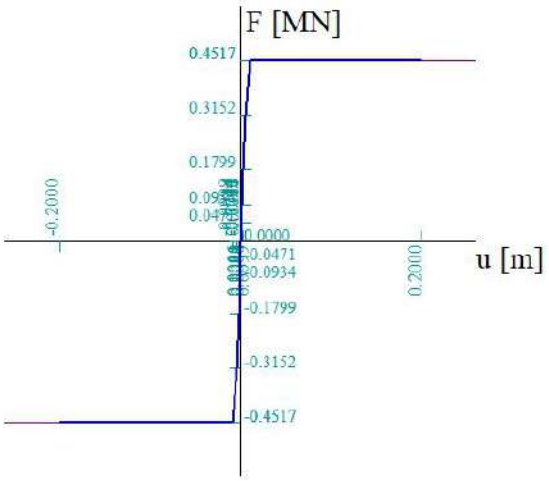
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -8,3936e-02[MN] | | |
| | | -5,5000e-04[m] / -4,2418e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,2418e-02[MN] | | |
| | | 1,1000e-03[m] / 8,3936e-02[MN] | | |
| | | 2,2000e-03[m] / 1,6111e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7909e-01[MN] | | |
| | | 9,9000e-03[m] / 3,9077e-01[MN] | | |
| | | 2,0000e-01[m] / 3,9077e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_V10.B | Verplaatsing | -2,0000e-01[m] / -4,5169e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -4,5169e-01[MN] | | |
| | | -4,4000e-03[m] / -3,1518e-01[MN] | | |
| | | -2,2000e-03[m] / -1,7990e-01[MN] | | |
| | | -1,1000e-03[m] / -9,3384e-02[MN] | | |
| | | -5,5000e-04[m] / -4,7146e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,7146e-02[MN] | | |
| | | 1,1000e-03[m] / 9,3384e-02[MN] | | |
| | | 2,2000e-03[m] / 1,7990e-01[MN] | | |
| | | 4,4000e-03[m] / 3,1518e-01[MN] | | |
| | | 9,9000e-03[m] / 4,5169e-01[MN] | | |
| | | 2,0000e-01[m] / 4,5169e-01[MN] | | |

Tekenen

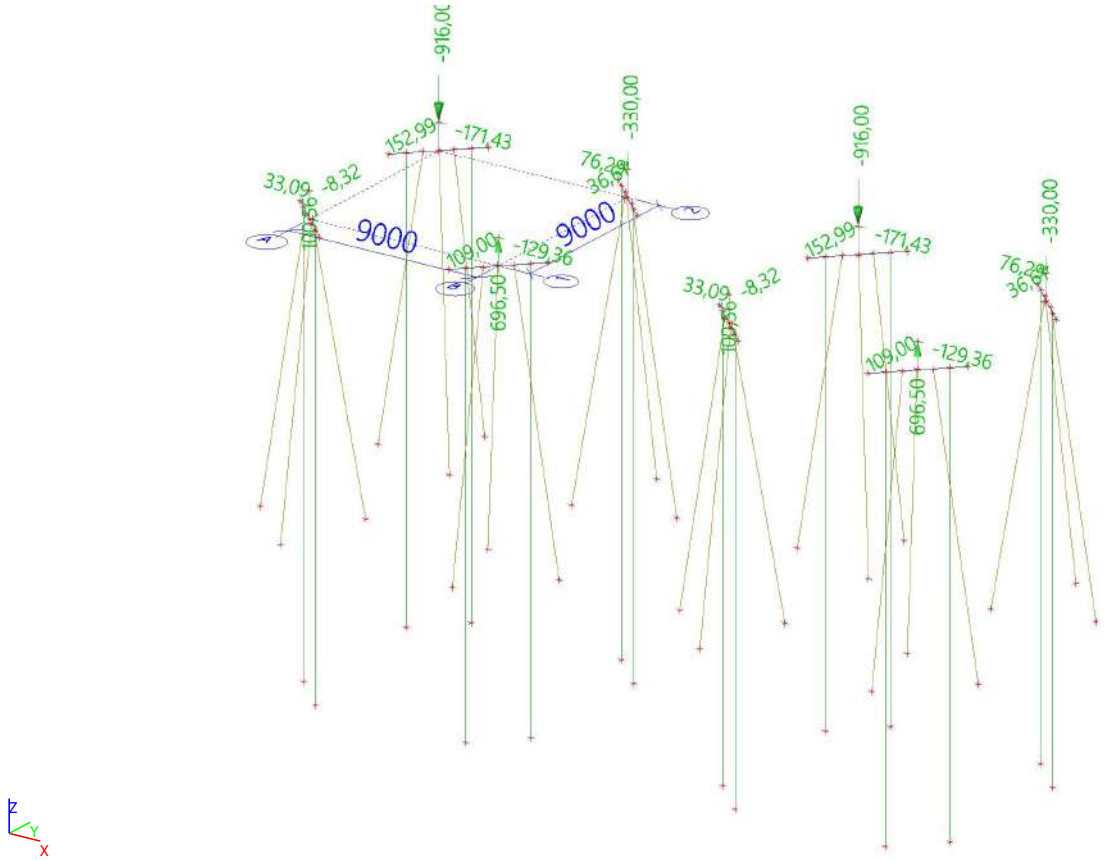

F [MN]
0.4517
0.3152
0.1799
0.0934
0.0471
0.0000
-0.2000
0.2000
u [m]
-0.0471
-0.0934
-0.1799
-0.3152
-0.4517

# 6. Belastingen

## 6.1. Belastingsgevallen

### 6.1.1. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



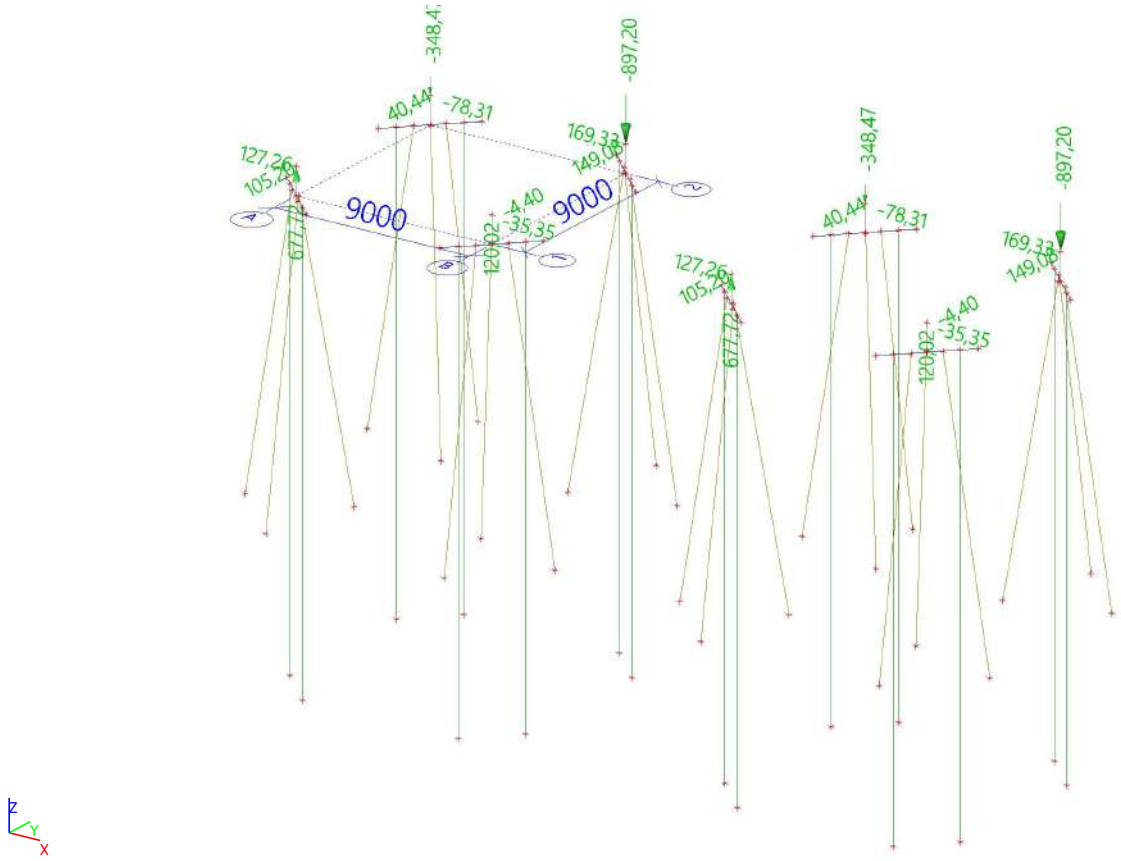

#### *6.1.1.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 33,09 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -8,32 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 100,56 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -171,43 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 152,99 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -916,00 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 76,29 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 36,61 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -330,00 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -129,36 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 109,00 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 696,50 |
| high max Wnd ;45°_1P_X1 | 1P41 | high max Wnd ;45° | GCS | X | Kracht | 33,09 |
| high max Wnd ;45°_1P_Y1 | 1P41 | high max Wnd ;45° | GCS | Y | Kracht | -8,32 |
| high max Wnd ;45°_1P_Z1 | 1P41 | high max Wnd ;45° | GCS | Z | Kracht | 100,56 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Kracht | -129,36 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Kracht | 109,00 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Kracht | 696,50 |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Kracht | 76,29 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Kracht | 36,61 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Kracht | -330,00 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Kracht | -171,43 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Kracht | 152,99 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Kracht | -916,00 |

### 6.1.2. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



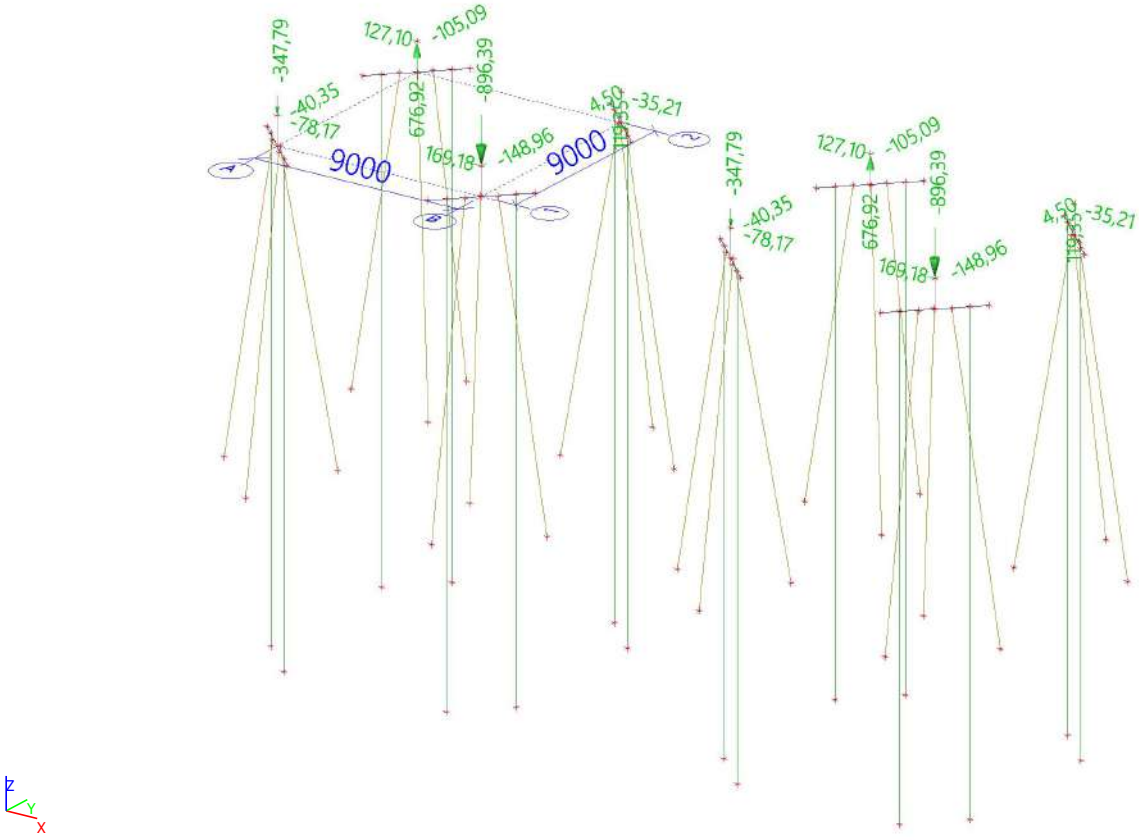

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 127,26 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 105,20 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 677,72 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -78,31 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 40,44 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -348,47 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 169,33 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 149,08 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -897,20 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -35,35 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -4,40 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 120,02 |
| high max Wnd ;135°_1P_X1 | 1P41 | high max Wnd ;135° | GCS | X | Kracht | 127,26 |
| high max Wnd ;135°_1P_Y1 | 1P41 | high max Wnd ;135° | GCS | Y | Kracht | 105,20 |
| high max Wnd | 1P41 | high max Wnd ;135° | GCS | Z | Kracht | 677,72 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Kracht | -35,35 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Kracht | -4,40 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Kracht | 120,02 |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Kracht | 169,33 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Kracht | 149,08 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Kracht | -897,20 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Kracht | -78,31 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Kracht | 40,44 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Kracht | -348,47 |

### 6.1.3. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

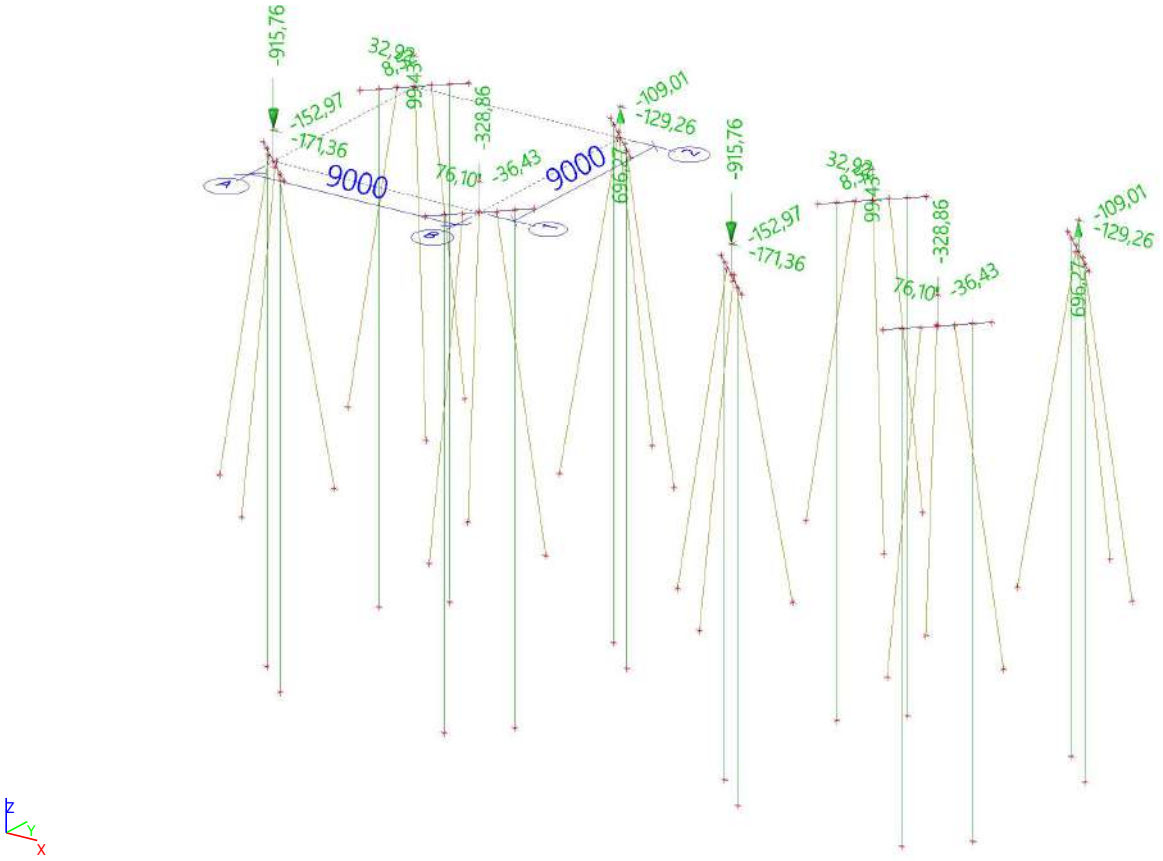


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -78,17 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -40,35 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -347,79 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 127,10 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -105,09 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 676,92 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -35,21 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 4,50 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 119,35 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 169,18 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -148,96 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -896,39 |
| high max Wnd ;225°_1P_X1 | 1P41 | high max Wnd ;225° | GCS | X | Kracht | -78,17 |
| high max Wnd ;225°_1P_Y1 | 1P41 | high max Wnd ;225° | GCS | Y | Kracht | -40,35 |
| high max Wnd ;225°_1P_Z1 | 1P41 | high max Wnd ;225° | GCS | Z | Kracht | -347,79 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Kracht | 169,18 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Kracht | -148,96 |
| high max Wnd ;225°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Kracht | -896,39 |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Kracht | -35,21 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Kracht | 4,50 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Kracht | 119,35 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Kracht | 127,10 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Kracht | -105,09 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Kracht | 676,92 |

### 6.1.4. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



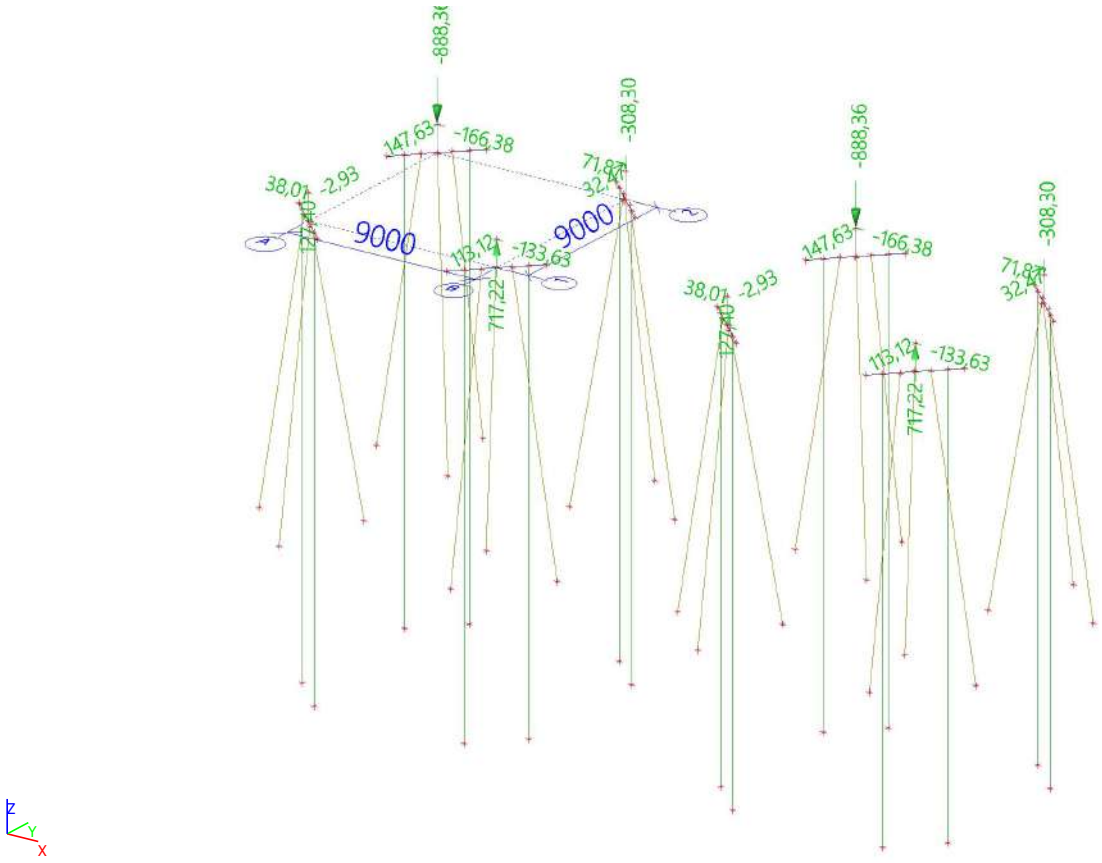

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -171,36 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -152,97 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -915,76 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 32,92 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 8,52 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 99,43 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -129,26 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -109,01 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 696,27 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 76,10 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -36,43 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -328,86 |
| high max Wnd ;315°_1P_X1 | 1P41 | high max Wnd ;315° | GCS | X | Kracht | -171,36 |
| high max Wnd ;315°_1P_Y1 | 1P41 | high max Wnd ;315° | GCS | Y | Kracht | -152,97 |
| high max Wnd | 1P41 | high max Wnd ;315° | GCS | Z | Kracht | -915,76 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Kracht | 76,10 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Kracht | -36,43 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Kracht | -328,86 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Kracht | -129,26 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Kracht | -109,01 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Kracht | 696,27 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Kracht | 32,92 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Kracht | 8,52 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Kracht | 99,43 |

### 6.1.5. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

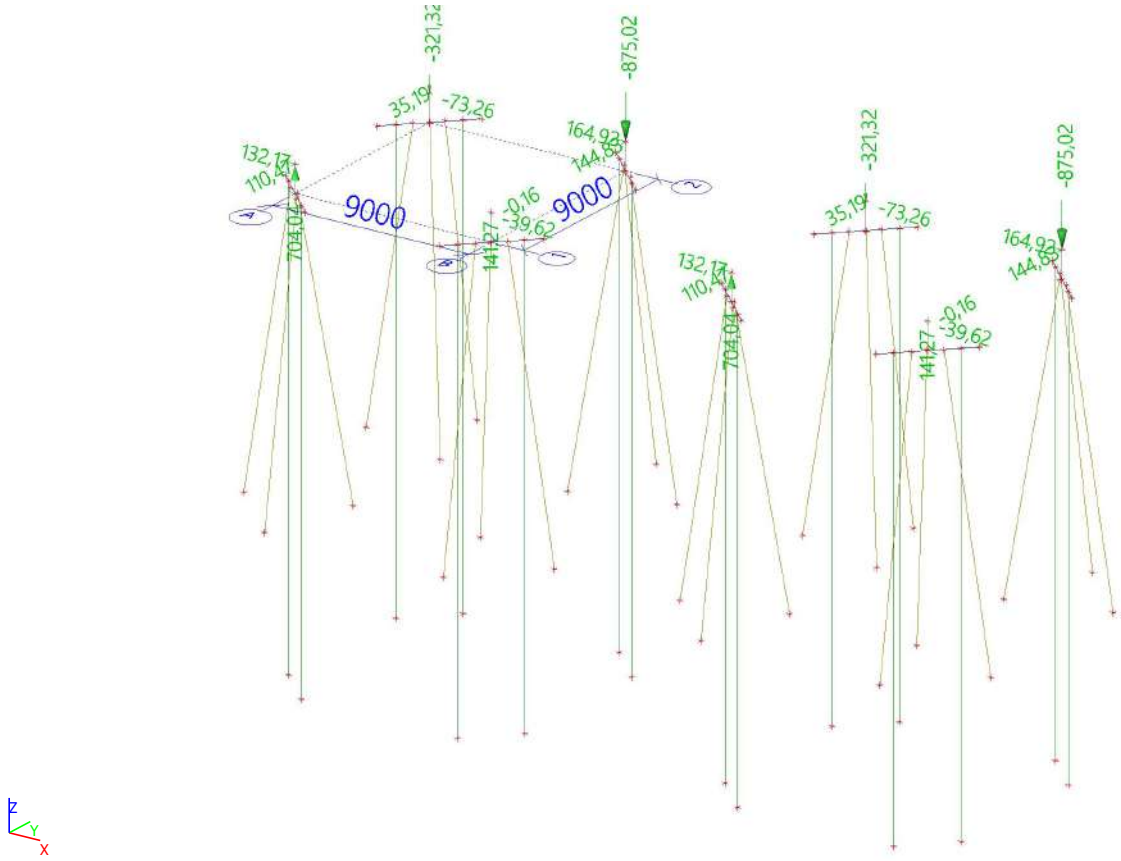


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 38,01 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | -2,93 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 127,40 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -166,38 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 147,63 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -888,36 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 71,87 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 32,47 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -308,30 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -133,63 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 113,12 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 717,22 |
| low max Wnd ;45°_1P_X1 | 1P41 | low max Wnd ;45° | GCS | X | Kracht | 38,01 |
| low max Wnd ;45°_1P_Y1 | 1P41 | low max Wnd ;45° | GCS | Y | Kracht | -2,93 |
| low max Wnd ;45°_1P_Z1 | 1P41 | low max Wnd ;45° | GCS | Z | Kracht | 127,40 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Kracht | -133,63 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Kracht | 113,12 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Kracht | 717,22 |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Kracht | 71,87 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Kracht | 32,47 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Kracht | -308,30 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Kracht | -166,38 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Kracht | 147,63 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Kracht | -888,36 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



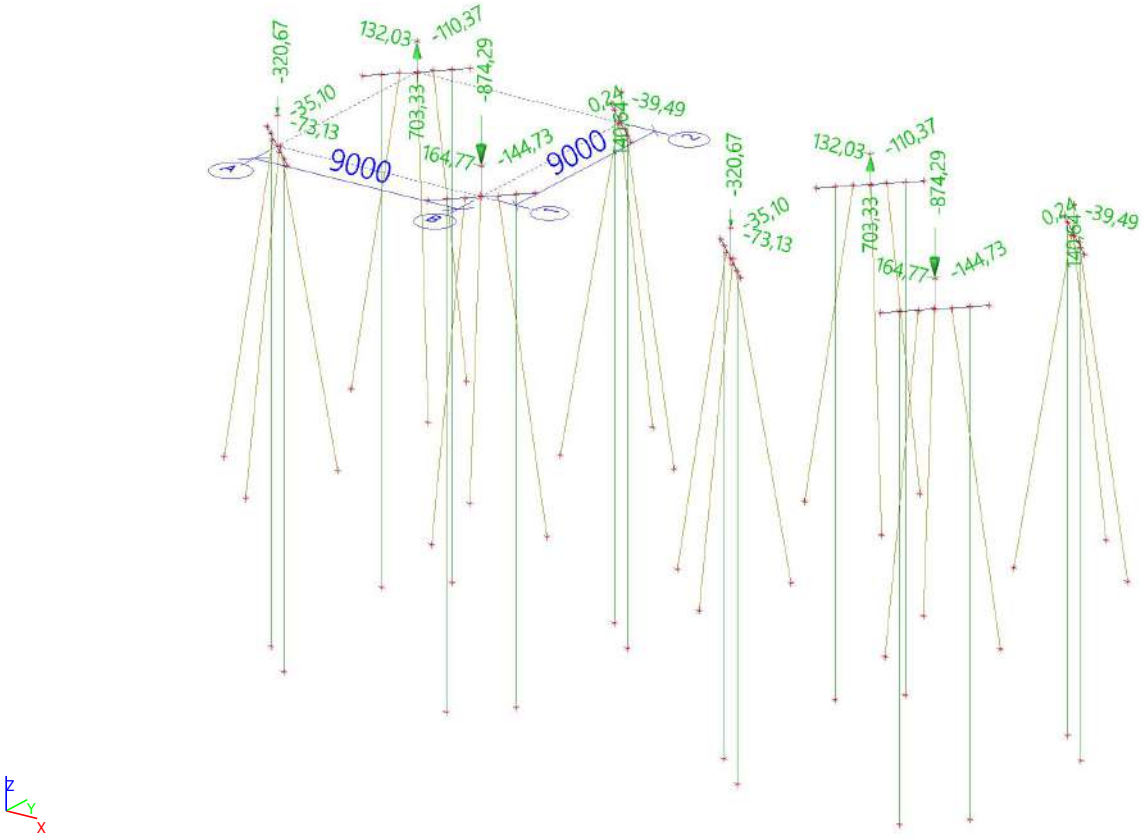

### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 132,17 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 110,47 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 704,04 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -73,26 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 35,19 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -321,32 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 164,92 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 144,83 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -875,02 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -39,62 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | -0,16 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 141,27 |
| low max Wnd ;135°_1P_X1 | 1P41 | low max Wnd ;135° | GCS | X | Kracht | 132,17 |
| low max Wnd ;135°_1P_Y1 | 1P41 | low max Wnd ;135° | GCS | Y | Kracht | 110,47 |
| low max Wnd | 1P41 | low max Wnd ;135° | GCS | Z | Kracht | 704,04 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Kracht | -39,62 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Kracht | -0,16 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Kracht | 141,27 |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Kracht | 164,92 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Kracht | 144,83 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Kracht | -875,02 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Kracht | -73,26 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Kracht | 35,19 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Kracht | -321,32 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

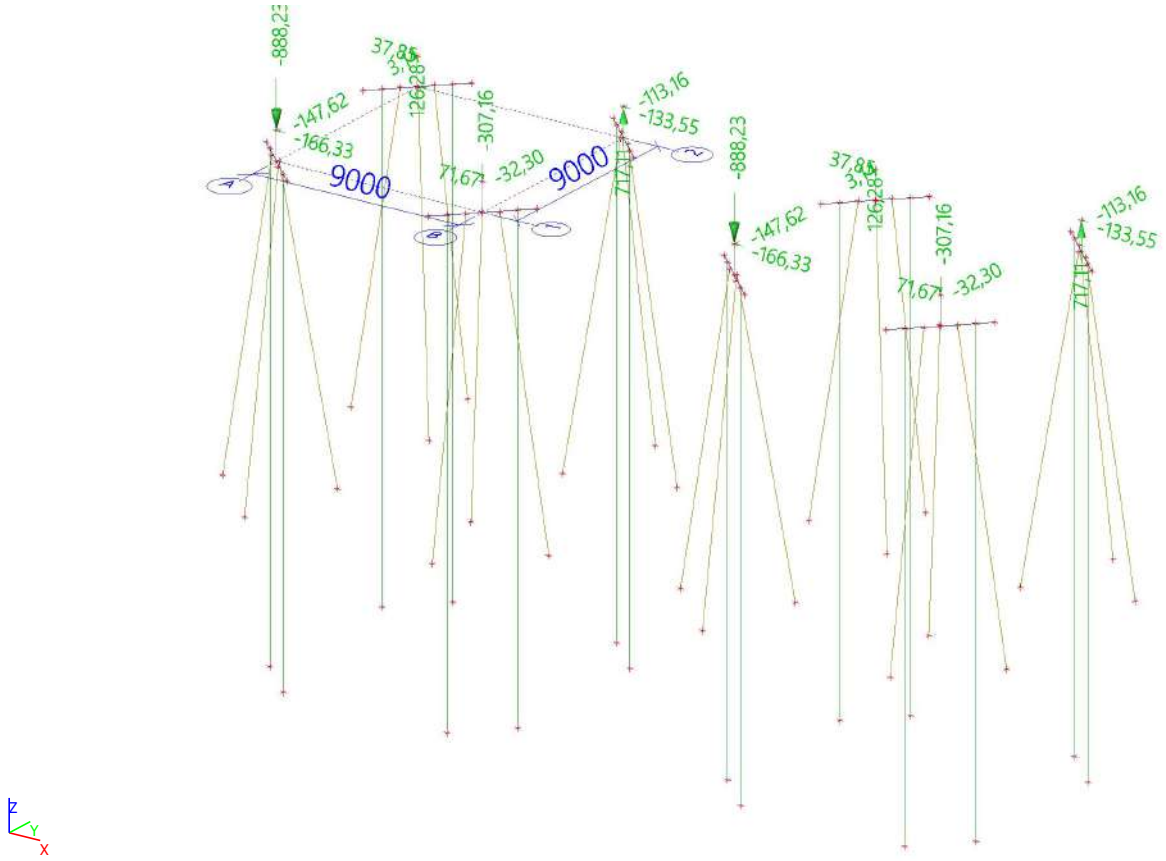


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -73,13 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -35,10 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -320,67 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 132,03 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -110,37 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 703,33 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -39,49 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | 0,24 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 140,64 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 164,77 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -144,73 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -874,29 |
| low max Wnd ;225°_1P_X1 | 1P41 | low max Wnd ;225° | GCS | X | Kracht | -73,13 |
| low max Wnd ;225°_1P_Y1 | 1P41 | low max Wnd ;225° | GCS | Y | Kracht | -35,10 |
| low max Wnd ;225°_1P_Z1 | 1P41 | low max Wnd ;225° | GCS | Z | Kracht | -320,67 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Kracht | 164,77 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Kracht | -144,73 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Kracht | -874,29 |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Kracht | -39,49 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Kracht | 0,24 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Kracht | 140,64 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Kracht | 132,03 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Kracht | -110,37 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Kracht | 703,33 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



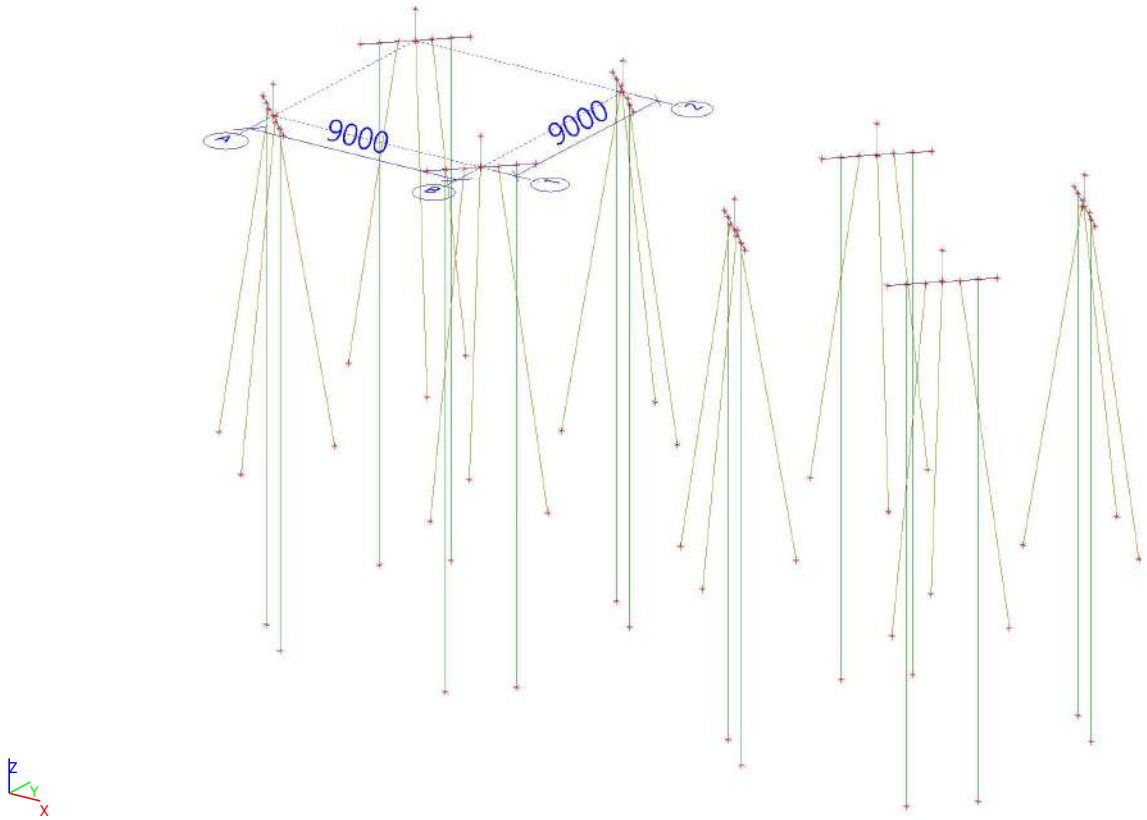

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -166,33 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -147,62 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -888,23 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 37,85 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | 3,14 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 126,28 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -133,55 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -113,16 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 717,11 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 71,67 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -32,30 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -307,16 |
| low max Wnd ;315°_1P_X1 | 1P41 | low max Wnd ;315° | GCS | X | Kracht | -166,33 |
| low max Wnd ;315°_1P_Y1 | 1P41 | low max Wnd ;315° | GCS | Y | Kracht | -147,62 |
| low max Wnd | 1P41 | low max Wnd ;315° | GCS | Z | Kracht | -888,23 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Kracht | 71,67 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Kracht | -32,30 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Kracht | -307,16 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Kracht | -133,55 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Kracht | -113,16 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Kracht | 717,11 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Kracht | 37,85 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Kracht | 3,14 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Kracht | 126,28 |

### 6.1.9. Belastingsgevallen - EG_fundering

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| EG_fundering | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |



## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;45° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;135° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;135° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;225° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;225° | 1,000 |
| | | EG_fundering | 0,900 |
| low max Wnd ;315° - EG_gunstig | Uiterste Grenstoestand | low max Wnd ;315° | 1,000 |
| | | EG_fundering | 0,900 |
| high max Wnd ;45° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;45° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;135° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;135° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;225° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;225° | 1,000 |
| | | EG_fundering | 1,200 |
| high max Wnd ;315° - EG_ongunstig | Uiterste Grenstoestand | high max Wnd ;315° | 1,000 |
| | | EG_fundering | 1,200 |

## 6.3. Resultaatklasses

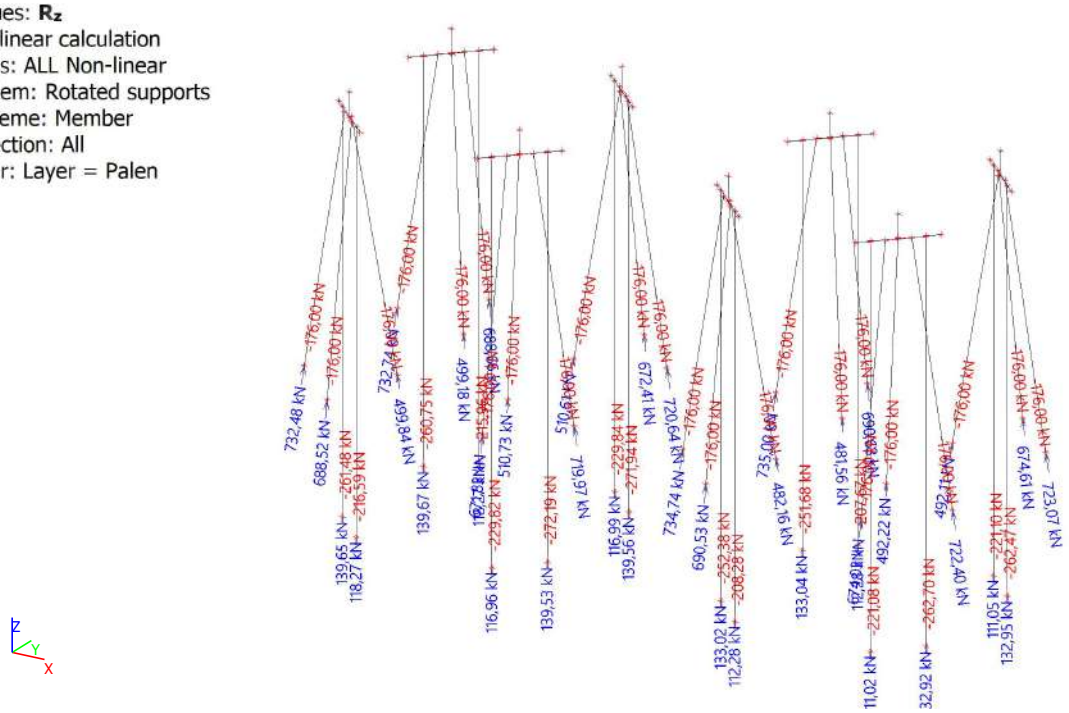
| Naam | Lijst |
|---|---|
| ALL Non-linear | low max Wnd ;45° - EG_gunstig |
| | low max Wnd ;135° - EG_gunstig |
| | low max Wnd ;225° - EG_gunstig |
| | low max Wnd ;315° - EG_gunstig |
| | high max Wnd ;45° - EG_ongunstig |
| | high max Wnd ;135° - EG_ongunstig |
| | high max Wnd ;225° - EG_ongunstig |
| | high max Wnd ;315° - EG_ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: ALL Non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_23/N100 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 694,81 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 732,74 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | 672,41 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | 636,26 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_23/N100 | high max Wnd ;45° - EG_ongunstig | 0,00 | 0,00 | **735,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear

Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-272,19** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **139,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: ALL Non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_3/N6 | high max Wnd ;45° - EG_ongunstig | 0,00 | **0,00** | 91,59 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;315° - EG_gunstig | **0,00** | **0,00** | 648,40 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N6 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N6 | high max Wnd ;315° - EG_ongunstig | 0,00 | 0,00 | **688,52** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N5 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | **-176,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N5 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | **732,48** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | 489,51 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | **499,84** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N22 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 124,14 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 332,88 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | high max Wnd ;225° - EG_ongunstig | 0,00 | 0,00 | **719,97** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N13 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 684,19 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_X_1/N12 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | 215,77 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | 636,26 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N12 | high max Wnd ;225° - EG_ongunstig | 0,00 | 0,00 | **671,83** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N12 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | high max Wnd ;135° - EG_ongunstig | **0,00** | 0,00 | 146,85 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **510,73** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N8 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 129,28 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | **672,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;135° - EG_gunstig | **0,00** | **0,00** | 636,78 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_3/N17 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N16 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **720,64** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N16 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 333,61 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 129,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | 146,56 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **510,61** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N18 | high max Wnd ;315° - EG_ongunstig | **0,00** | 0,00 | 503,99 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N10 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **732,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N10 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 693,38 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_1/N20 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N20 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | **688,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N20 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 648,48 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 488,81 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **499,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N21 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 123,70 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **116,96** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N27 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-229,82** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **139,53** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_5/N28 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-272,19** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_6/N34 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-216,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_6/N34 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **118,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_7/N36 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-261,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_7/N36 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **139,65** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_8/N38 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-215,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_8/N38 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **118,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_9/N40 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-260,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_9/N40 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **139,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_11/N44 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-271,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_11/N44 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **139,56** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_10/N42 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-229,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_10/N42 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **116,99** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_8/N98 | high max Wnd ;315° - EG_ongunstig | 0,00 | **0,00** | **690,53** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_8/N98 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 270,98 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_8/N98 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_7/N97 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_7/N97 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **734,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_7/N97 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | 694,62 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_9/N108 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | 476,95 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_9/N108 | low max Wnd ;315° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_9/N108 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **482,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_9/N108 | high max Wnd ;45° - EG_ongunstig | **0,00** | 0,00 | 143,56 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_9/N102 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 337,70 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_9/N102 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_9/N102 | high max Wnd ;225° - EG_ongunstig | 0,00 | 0,00 | **722,40** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_9/N102 | low max Wnd ;225° - EG_gunstig | **0,00** | 0,00 | 685,72 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_8/N101 | high max Wnd ;225° - EG_ongunstig | 0,00 | **0,00** | **674,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_8/N101 | low max Wnd ;225° - EG_gunstig | **0,00** | **0,00** | 637,50 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_8/N101 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_7/N99 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 131,23 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_7/N99 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_7/N99 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **492,22** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_7/N99 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | 490,91 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

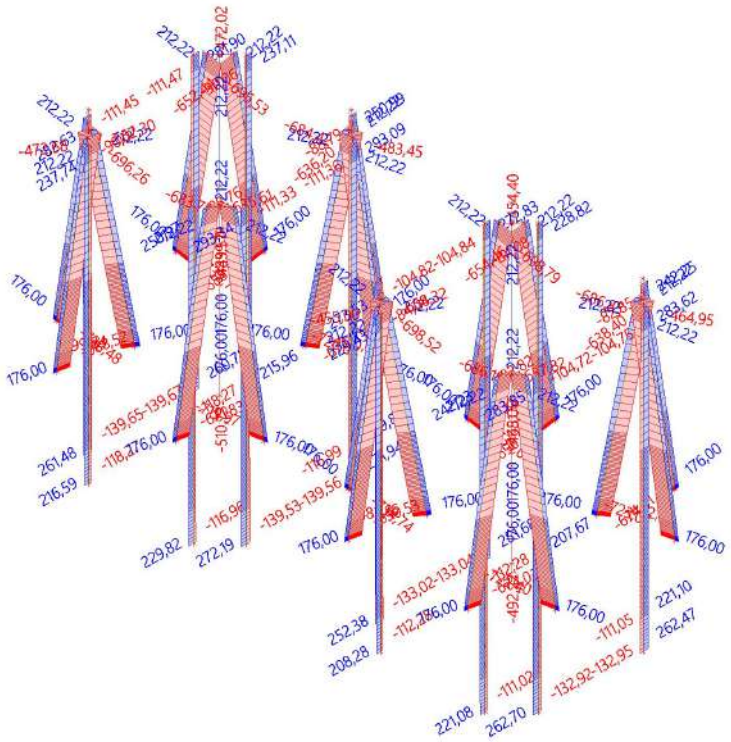
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_8/N104 | high max Wnd ;135° - EG_ongunstig | 0,00 | **0,00** | **674,61** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_8/N104 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | 83,06 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_8/N104 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_7/N103 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_7/N103 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **723,07** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_7/N103 | low max Wnd ;135° - EG_gunstig | **0,00** | 0,00 | 686,36 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_9/N105 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | 490,68 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_9/N105 | low max Wnd ;135° - EG_gunstig | 0,00 | **0,00** | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_9/N105 | low max Wnd ;315° - EG_gunstig | **0,00** | 0,00 | **492,11** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_23/N100 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_23/N100 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **735,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_23/N100 | low max Wnd ;45° - EG_gunstig | **0,00** | 0,00 | 694,81 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_24/N106 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-176,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_24/N106 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **690,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_24/N106 | low max Wnd ;45° - EG_gunstig | 0,00 | **0,00** | 649,62 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_25/N107 | high max Wnd ;225° - EG_ongunstig | **0,00** | 0,00 | 476,30 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_25/N107 | low max Wnd ;225° - EG_gunstig | 0,00 | **0,00** | **481,56** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_25/N107 | low max Wnd ;45° - EG_gunstig | **0,00** | **0,00** | **-176,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_26/N111 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **111,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_26/N111 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-221,08** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_27/N112 | high max Wnd ;315° - EG_ongunstig | **0,00** | **0,00** | **132,92** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_27/N112 | low max Wnd ;45° - EG_gunstig | 0,00 | 0,00 | **-262,70** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_28/N114 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-208,28** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_28/N114 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **112,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_29/N116 | low max Wnd ;135° - EG_gunstig | 0,00 | 0,00 | **-252,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_29/N116 | high max Wnd ;225° - EG_ongunstig | **0,00** | **0,00** | **133,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_30/N118 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-207,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_30/N118 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **112,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_31/N120 | low max Wnd ;225° - EG_gunstig | 0,00 | 0,00 | **-251,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_31/N120 | high max Wnd ;135° - EG_ongunstig | **0,00** | **0,00** | **133,04** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_33/N124 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-262,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_33/N124 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **132,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_32/N122 | low max Wnd ;315° - EG_gunstig | 0,00 | 0,00 | **-221,10** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_32/N122 | high max Wnd ;45° - EG_ongunstig | **0,00** | **0,00** | **111,05** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

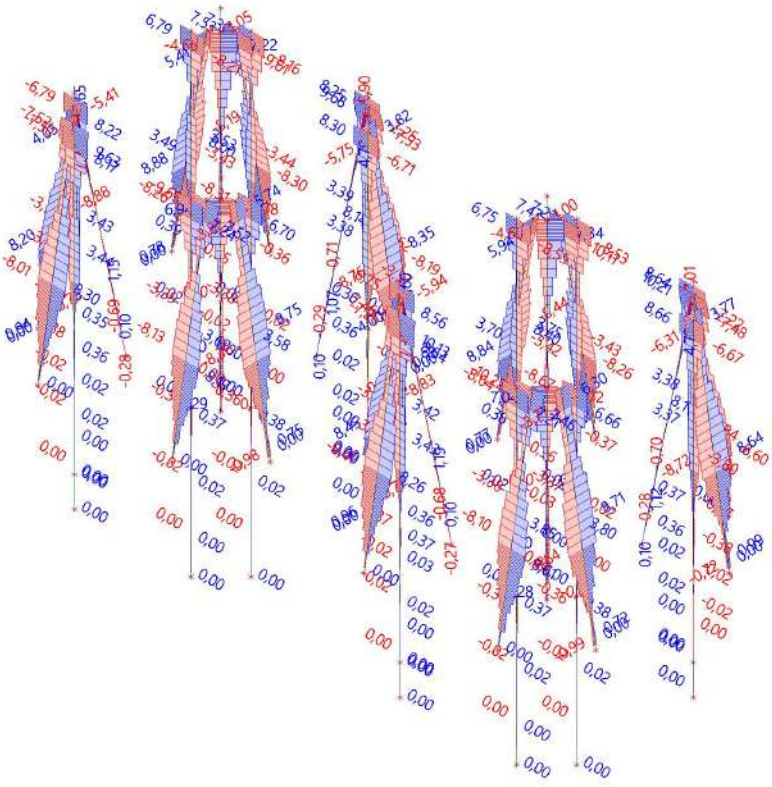
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



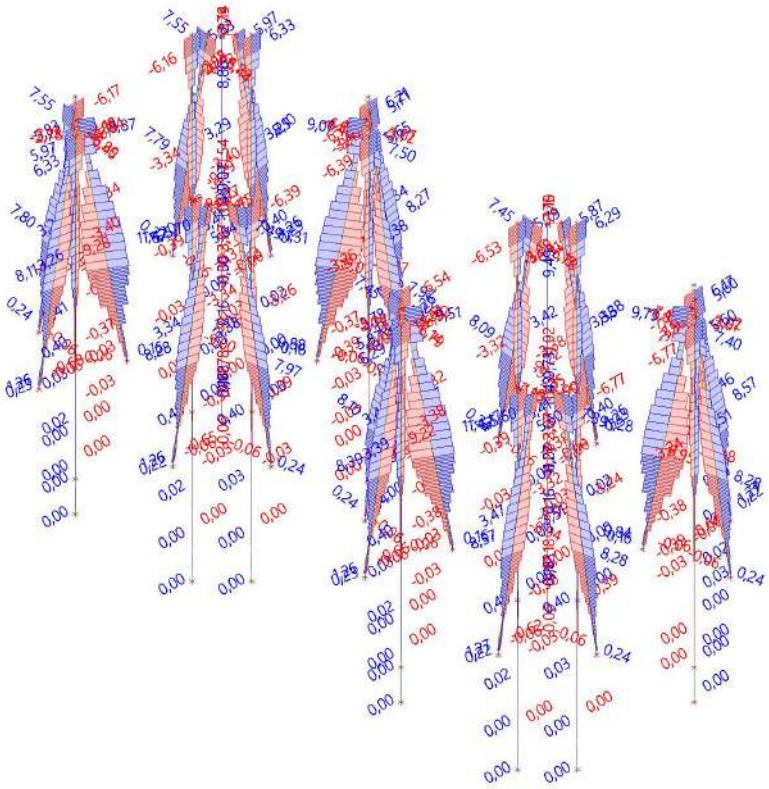
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



### 7.2.3. Interne 1D- krachten; V_z

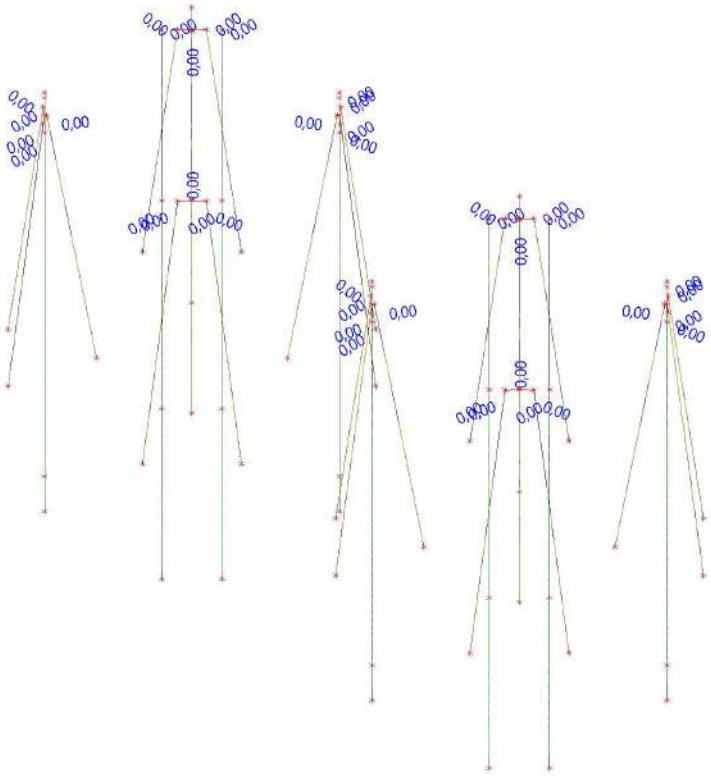
Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen





### 7.2.4. Interne 1D- krachten; M_x

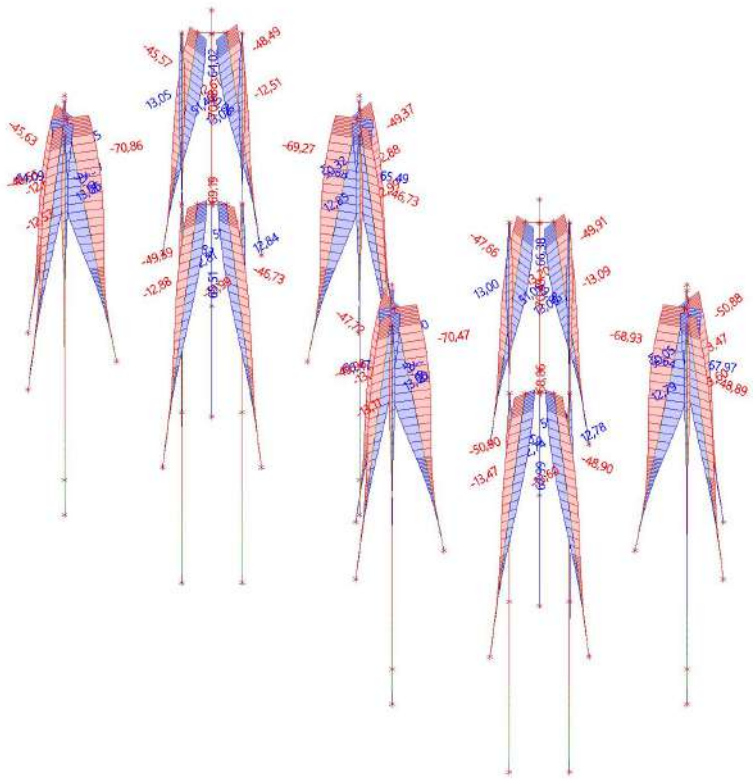
Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen





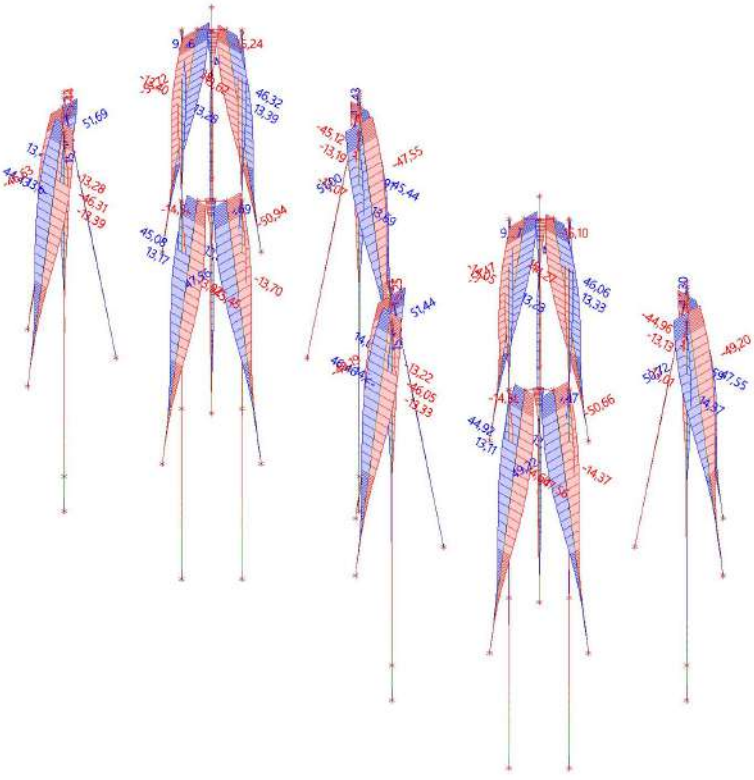
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Paal 40x40 - Rectangle (400,00; 400,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_Y_7 | 13,000 | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **-735,00** | 0,00 | 0,24 | 0,00 | 0,00 | 0,00 |
| Paal_P_3 | 0,000 | high max Wnd ;135° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | **212,22** | 8,70 | -1,41 | **0,00** | -42,28 | 21,42 |
| Paal_X_24 | 0,000 | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 203,16 | **-10,22** | -3,55 | 0,00 | -45,19 | -24,87 |
| Paal_XY_7 | 0,000 | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 203,16 | **10,21** | -3,56 | 0,00 | -45,15 | 24,91 |
| Paal_X_25 | 7,125+ | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -480,86 | -0,80 | **-12,18** | 0,00 | 38,70 | 4,40 |
| Paal_P_2 | 6,250+ | low max Wnd ;315° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 189,19 | -0,28 | **11,47** | 0,00 | -40,08 | 2,11 |
| Paal_Y_2 | 1,875- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | 208,21 | -2,52 | -0,59 | 0,00 | **-70,88** | 0,67 |
| Paal_X_25 | 2,750- | low max Wnd ;45° - EG_gunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -469,89 | 4,12 | 2,86 | 0,00 | **67,99** | 1,56 |
| Paal_Y_3 | 1,875- | high max Wnd ;45° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -700,53 | -2,10 | 5,11 | 0,00 | 48,73 | **-51,72** |
| Paal_P_1 | 1,875- | high max Wnd ;315° - EG_ongunstig | Paal 40x40 - Rectangle (400,00; 400,00) | -700,27 | 2,10 | 5,11 | 0,00 | 48,71 | **51,69** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_9 | 20,020 | high max Wnd ;135° - EG_ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-139,67** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X_5 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | **293,34** | -8,31 | -6,39 | **0,00** | -0,14 | 5,11 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X_27 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 283,85 | **-8,67** | -6,77 | 0,00 | 0,30 | 5,45 |
| Paal_X_32 | 0,000 | low max Wnd ;315° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 283,62 | **8,66** | -6,77 | 0,00 | 0,32 | -5,43 |
| Paal_X_33 | 0,000 | low max Wnd ;315° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 242,25 | 8,64 | **-7,15** | 0,00 | 1,68 | -5,08 |
| Paal_X_8 | 0,000 | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | -30,35 | 7,30 | **6,33** | 0,00 | 0,43 | -2,24 |
| Paal_X_32 | 3,625- | low max Wnd ;315° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 280,25 | 1,56 | -0,32 | 0,00 | **-13,60** | 14,37 |
| Paal_X_8 | 3,625- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | -33,72 | 0,71 | 0,09 | 0,00 | **13,07** | 13,39 |
| Paal_X_26 | 3,625- | low max Wnd ;45° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 238,86 | -1,52 | -0,59 | 0,00 | -13,47 | **-14,60** |
| Paal_X_33 | 3,625- | low max Wnd ;315° - EG_gunstig | LEKA Paal - type e (CHS219.1/10.0) | 238,88 | 1,51 | -0,60 | 0,00 | -13,47 | **14,59** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

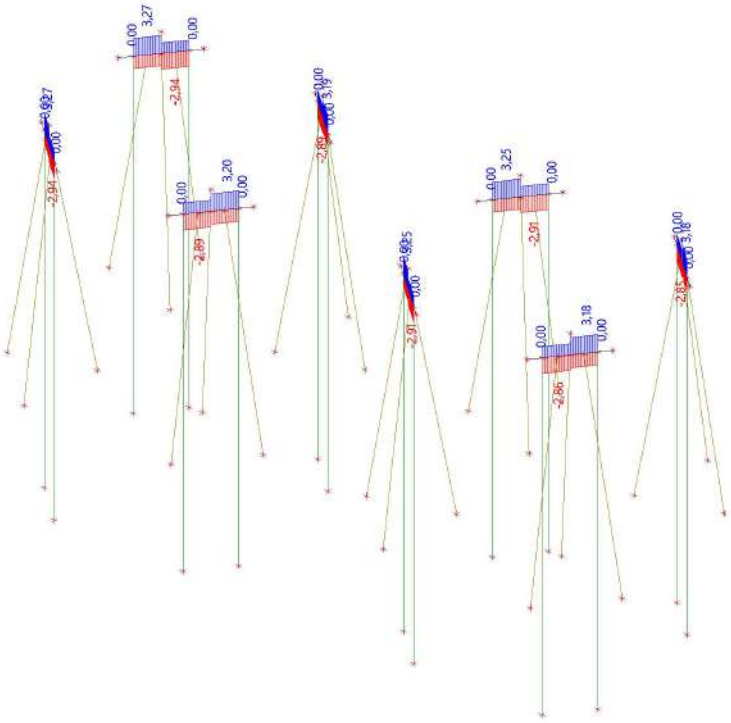
Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer X | 1,200 | low max Wnd ;45° - EG_gunstig | **717,22** | -174,48 | -14,50 | **0,00** | 0,00 | 0,00 |
| Poer X | 0,000 | low max Wnd ;45° - EG_gunstig | 687,45 | **-174,48** | -14,50 | 0,00 | 17,40 | **209,37** |
| Poer Y | 0,000 | high max Wnd ;315° - EG_ongunstig | 59,74 | -17,25 | **-29,30** | 0,00 | **35,16** | 20,70 |
| Poer P | 0,000 | high max Wnd ;45° - EG_ongunstig | 60,87 | -17,52 | **29,28** | 0,00 | **-35,14** | 21,02 |
| Poer Y | 0,000 | high max Wnd ;45° - EG_ongunstig | **-955,69** | **229,40** | 13,04 | 0,00 | -15,65 | **-275,28** |

## 7.4. Krachten van de Funderingsbalken

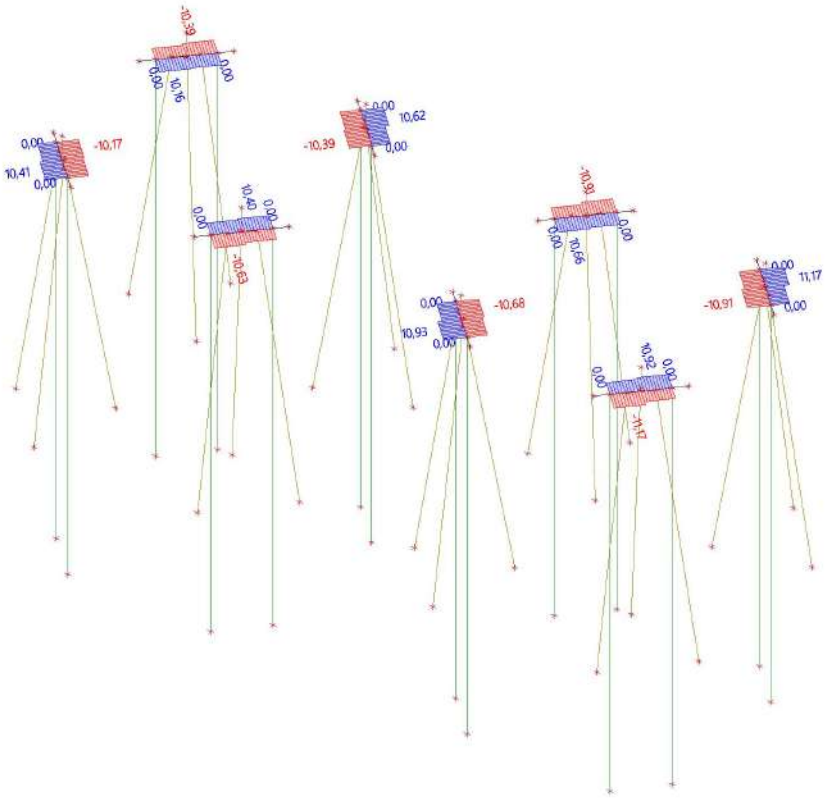
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



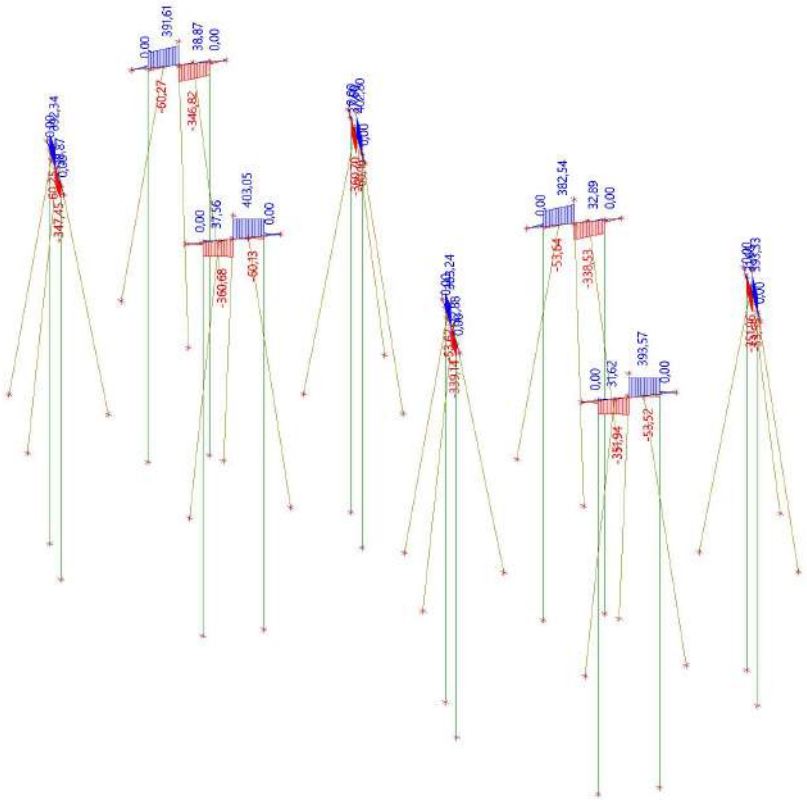
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer



### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

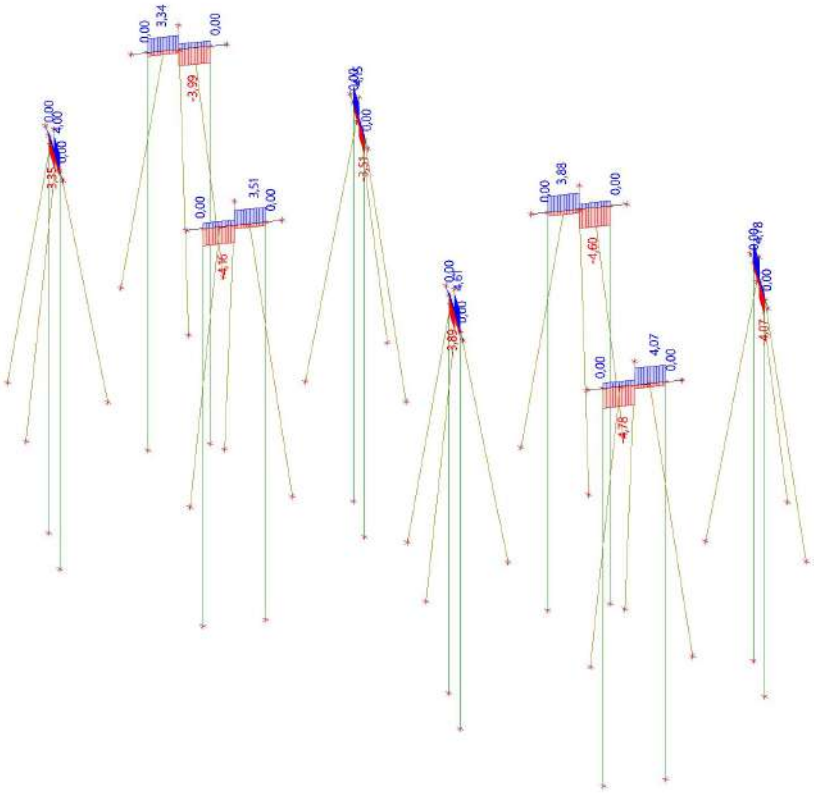






### 7.4.4. Interne 1D- krachten; M_x

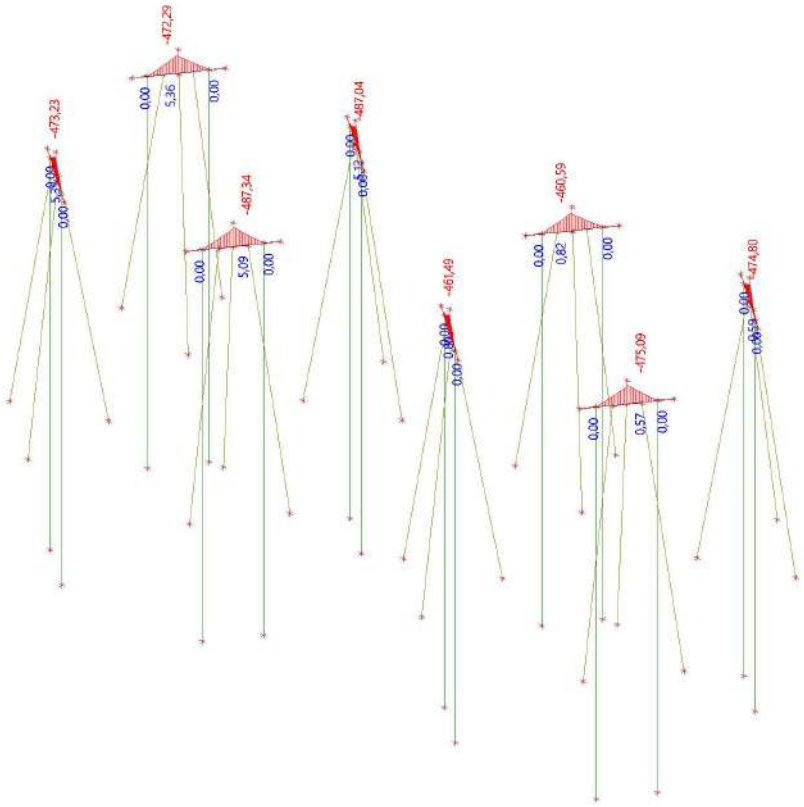
Values: $M_x$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer

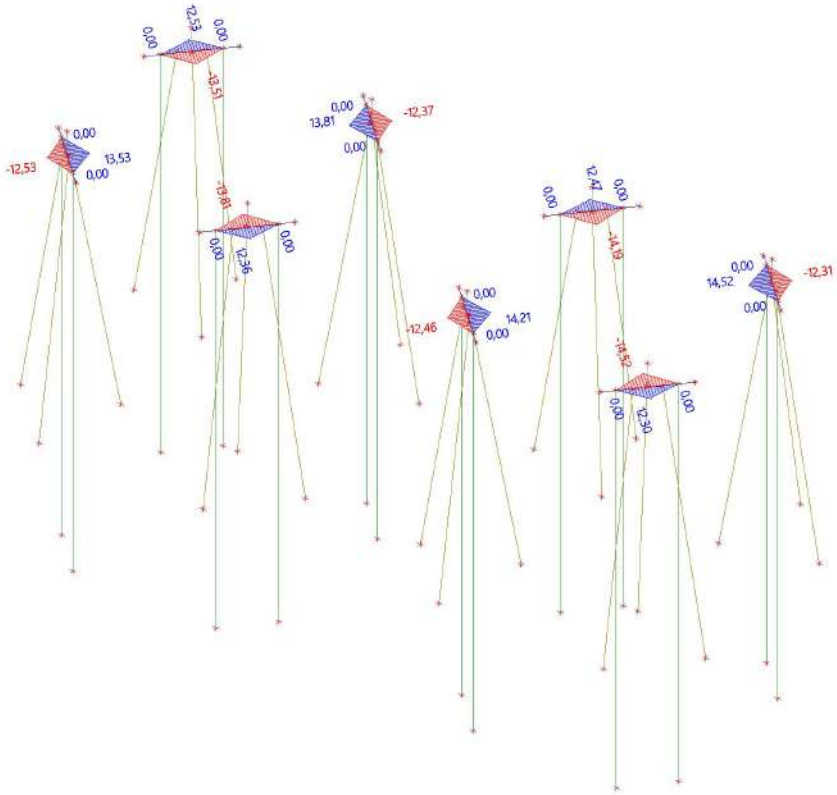






### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: ALL Non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Lijnpoer






### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: ALL Non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = lijnpoer - Rectangle (1100,00; 2260,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal19 | 0,700+ | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **-2,94** | -2,00 | 2,46 | -1,23 | -18,41 | 0,00 |
| Paal19 | 2,000+ | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | **3,27** | 1,00 | 101,62 | -0,62 | -93,72 | -1,30 |
| Paal20 | 2,000- | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,05 | 10,62 | **-360,70** | 4,15 | -438,44 | 13,81 |
| Paal15 | 2,000+ | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | 1,36 | 10,40 | **403,05** | 3,51 | **-487,34** | -13,51 |
| Paal19 | 2,390 | low max Wnd ;135° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -2,26 | -2,75 | -0,57 | 1,71 | **5,36** | 2,50 |
| Paal25 | 2,000- | low max Wnd ;45° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,05 | **-11,17** | -351,94 | **-4,78** | -427,03 | **-14,52** |
| Paal28 | 2,000- | low max Wnd ;315° - EG_gunstig | lijnpoer - Rectangle (1100,00; 2260,00) | -1,05 | **11,17** | -351,96 | **4,78** | -427,04 | **14,52** |

# 1. Table of contents

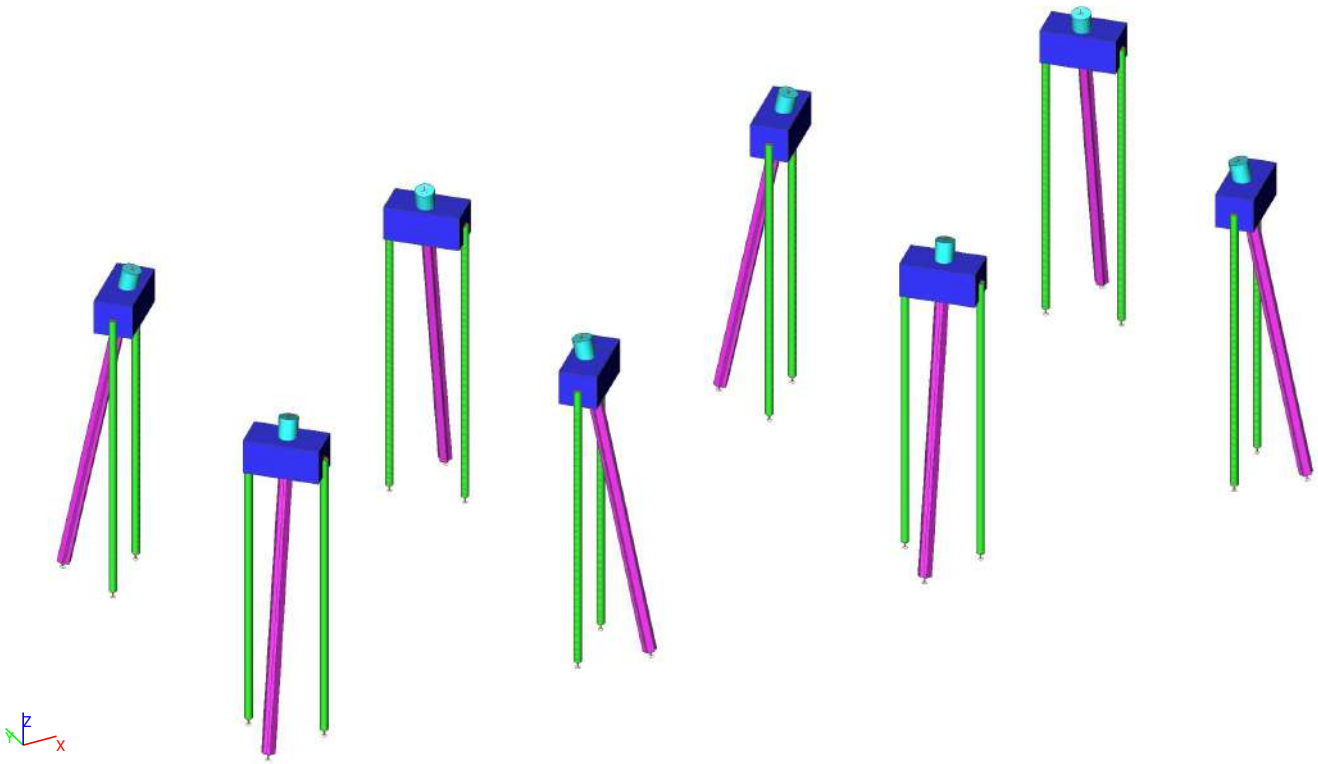
1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 7
4.5. Mesh setup 8
5. Geometrie 8
5.1. Nodes 8
5.2. Analyse model met knopen 9
5.3. Members 9
5.4. Analyse model met Staven 10
5.5. Nodal supports 10
5.6. Analyse model met Knoopondersteuningen 11
5.7. Line supports on member 11
5.8. Analyse model met Lijnondersteuningen 16
5.9. Analyse model met Lijnondersteuningen 17
5.10. Nonlinear functions 17
6. Belastingen 26
6.1. Load cases 26
6.1.1. Load cases - EG_Fundering 26
6.1.2. Load cases - high max Wnd ;45° 26
6.1.2.1. Point force in node 27
6.1.3. Load cases - high max Wnd ;315° 28
6.1.3.1. Point force in node 29
6.1.4. Load cases - high max Wnd ;135° 29
6.1.4.1. Point force in node 30
6.1.5. Load cases - high max Wnd ;225° 31
6.1.5.1. Point force in node 32
6.1.6. Load cases - low max Wnd ;45° 32
6.1.6.1. Point force in node 33
6.1.7. Load cases - low max Wnd ;225° 34
6.1.7.1. Point force in node 35
6.1.8. Load cases - low max Wnd ;135° 35
6.1.8.1. Point force in node 36
6.1.9. Load cases - low max Wnd ;315° 37
6.1.9.1. Point force in node 38
6.2. Nonlinear combinations 38
6.3. Result classes 39
7. Resultaten 40
7.1. Reacties van de palen 40
7.1.1. Reactions; R_z 40
7.1.2. Reactions 40
7.1.3. Reactions 40
7.1.4. Reactions 41
8. Krachten van de Funderingspalen 44
8.1. Interne 1D- krachten; N 44
8.2. Interne 1D- krachten; V_y 44
8.3. Interne 1D- krachten; V_z 45
8.4. Interne 1D- krachten; M_x 45
8.5. Interne 1D- krachten; M_y 46
8.6. Interne 1D- krachten; M_z 46
8.7. 1D internal forces 47
8.8. 1D internal forces 47
9. Krachten van de Poeren 48
9.1. 1D internal forces 48
10. Krachten van de Funderingsbalken 49
10.1. Interne 1D- krachten; N 49
10.2. Interne 1D- krachten; V_y 49
10.3. Interne 1D- krachten; V_z 50
10.4. Interne 1D- krachten; M_x 50
10.5. Interne 1D- krachten; M_y 51
10.6. Interne 1D- krachten; M_z 51

10.7. 1D internal forces 52

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Cilinder 75 + palen S III 86 + 142 |
| Author | [redacted] |
| Date | 7-05-2026 |
| Structure | General XYZ |
| No. of nodes : | 56 |
| No. of beams : | 40 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 8 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ [-] | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ [-] | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Concrete | 2500,00 | 2600,00 | 9,0000e+03 | 0,23 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Concrete | 1500,00 | 2600,00 | 1,1000e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C30/37 | Concrete | 1500,00 | 2600,00 | 1,0900e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C12/15 Gescheurd | Concrete | 1500,00 | 2600,00 | 7,0000e+03 | 0,20 | 0,01e-003 | 12,00 | |

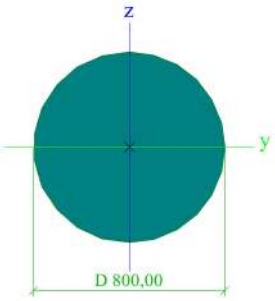
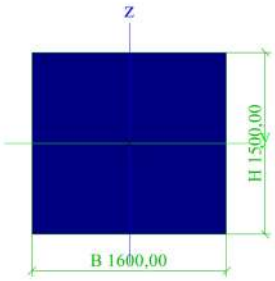
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

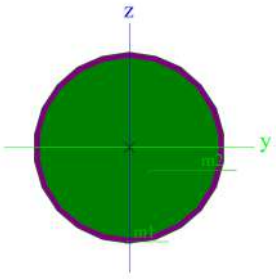
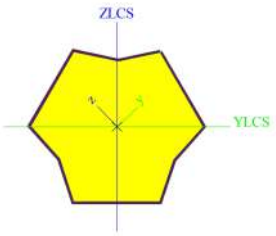
Reinforcement EC2

| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |

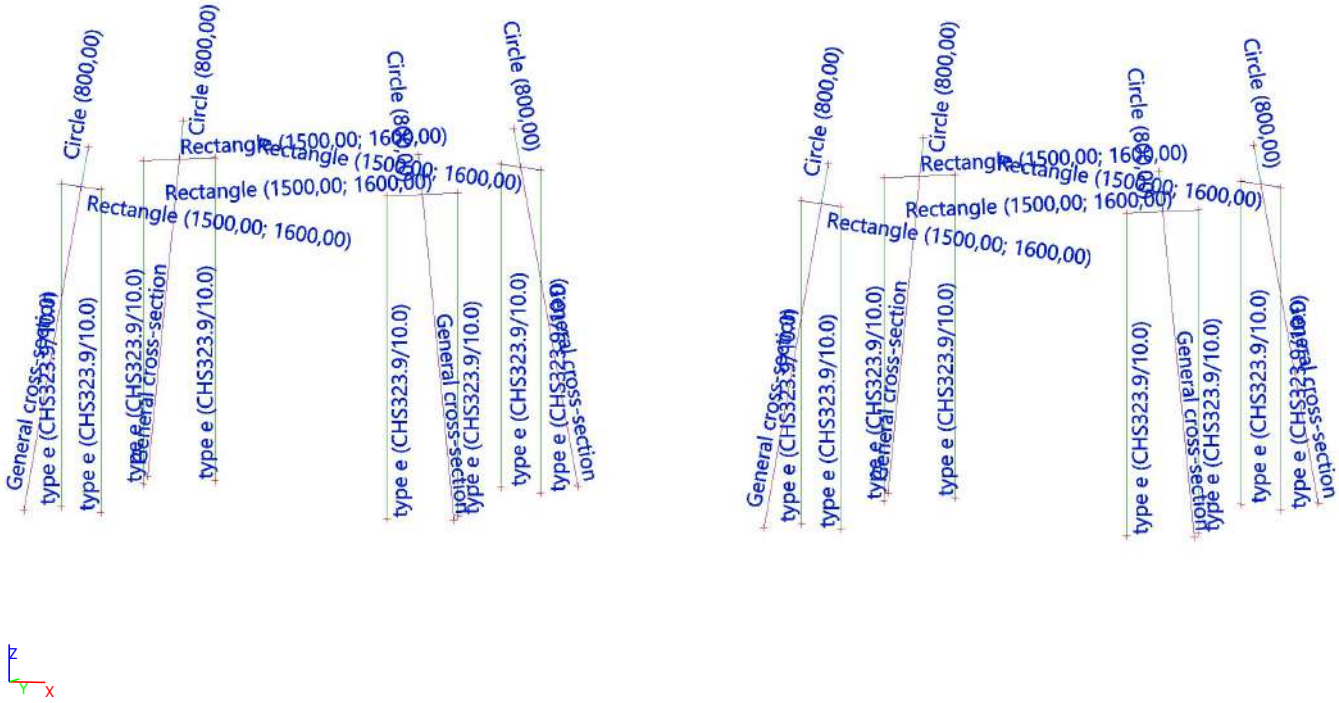
## 4.2. Cross-sections

| Poer800 | | |
|---|---|---|
| Type | Circle | |
| Detailed | 800,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 5,0265e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 4,5239e+05 | 4,5239e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,5131e+00 | 2,5131e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 400,00 | 400,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,0106e+10 | 2,0106e+10 |
| $i_y$ [mm], $i_z$ [mm] | 199,98 | 199,98 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,0265e+07 | 5,0265e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 8,5333e+07 | 8,5333e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 4,0212e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

| | | |
|---|---|---|
| Picture |  | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Detailed | 1500,00; 1600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 2,4000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,0007e+06 | 2,0008e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,2000e+00 | 6,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 800,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,5000e+11 | 5,1200e+11 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 461,88 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 6,0000e+08 | 6,4000e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 8,0849e+11 | 2,2447e+15 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Detailed | CHS323.9/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [mm²] | 1,3624e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 9,1187e+03 | 9,1187e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,0175e+00 | 1,0175e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 161,95 | 161,95 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,4326e+08 | 1,4326e+08 |
| $i_y$ [mm], $i_z$ [mm] | 102,54 | 102,54 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 8,8458e+05 | 8,8458e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,1479e+06 | 1,1479e+06 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 269749430,18 | 269749430,18 |

| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 269749430,18 | 269749430,18 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,9003e+08 | 2,9935e+04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LD1(31-plank)** | | |
| Type | General cross-section | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| | S 235 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | d | d |
| A [mm²] | 6,0572e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 3,6248e+05 | 3,6314e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,7651e+00 | 3,4664e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 553,25 | 9,99 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 1,6274e+10 | 1,6264e+10 |
| $I_{YZ.LCS}$ [mm⁴] | -1,0231e+08 | |
| α [deg] | 43,55 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,6372e+10 | 1,6167e+10 |
| $i_y$ [mm], $i_z$ [mm] | 164,40 | 163,37 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,7898e+07 | 5,8163e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9594e+07 | 4,9245e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 601215312,58 | 595125922,92 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 597037111,16 | 590937542,96 |
| $d_y$ [mm], $d_z$ [mm] | 0,12 | 0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,6243e+10 | 1,7700e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,09 | 0,21 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

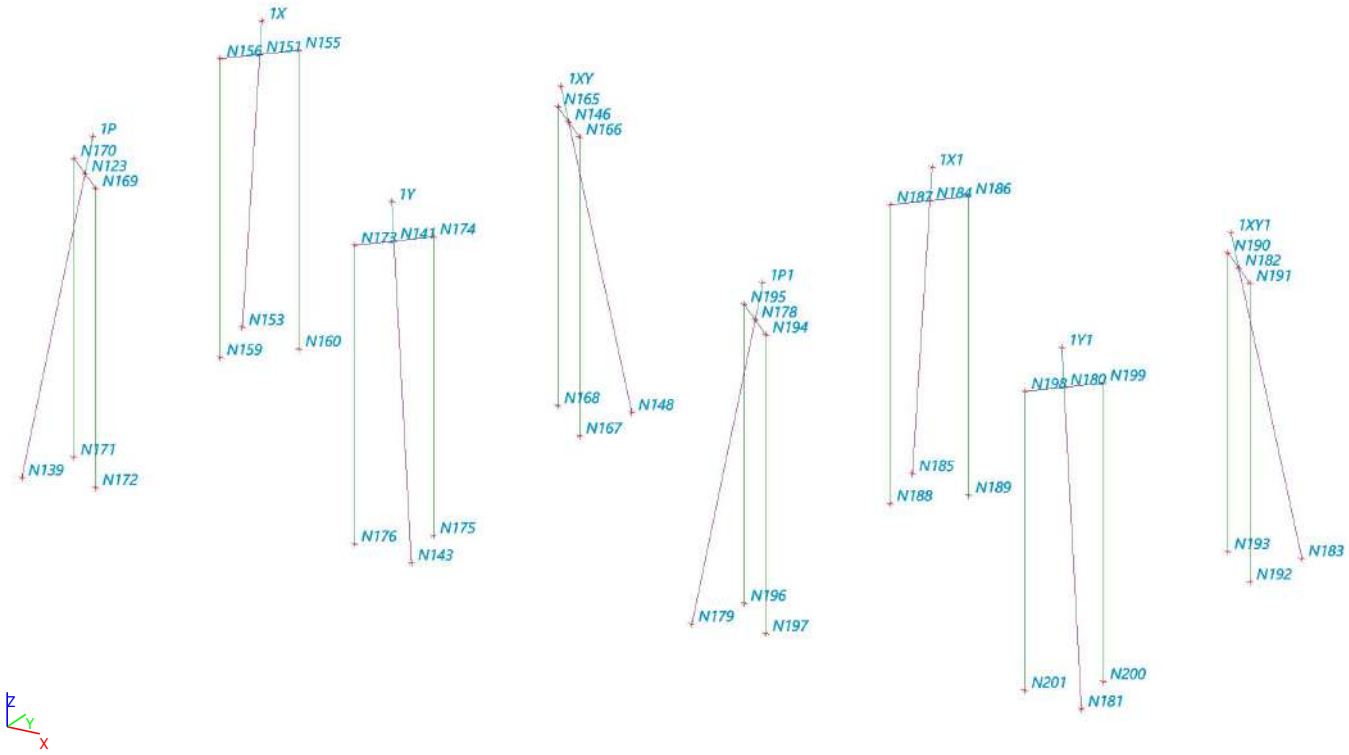
| | |
|---|---|
| Name | MeshSetup1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 1 |
| Average size of 2D mesh element [m] | 0,200 |
| Average size of 1D mesh element on curved 1D members [m] | 0,100 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

### 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N123 | -0,427 | -0,433 | -0,250 |
| 1P | -0,209 | -0,212 | 1,279 |
| N139 | -2,232 | -2,240 | -12,793 |
| N141 | 13,399 | -0,433 | -0,250 |
| 1Y | 13,181 | -0,212 | 1,279 |
| N143 | 15,204 | -2,240 | -12,793 |
| N146 | 13,399 | 13,405 | -0,250 |
| 1XY | 13,181 | 13,184 | 1,279 |
| N148 | 15,204 | 15,212 | -12,793 |
| N151 | -0,427 | 13,405 | -0,250 |
| 1X | -0,209 | 13,184 | 1,279 |
| N153 | -2,232 | 15,212 | -12,793 |
| N155 | 0,693 | 14,525 | -0,250 |
| N156 | -1,560 | 12,272 | -0,250 |
| N159 | -1,560 | 12,272 | -12,850 |
| N160 | 0,693 | 14,525 | -12,850 |
| N165 | 12,279 | 14,525 | -0,250 |
| N166 | 14,532 | 12,272 | -0,250 |
| N167 | 14,532 | 12,272 | -12,850 |
| N168 | 12,279 | 14,525 | -12,850 |
| N169 | 0,693 | -1,553 | -0,250 |
| N170 | -1,560 | 0,700 | -0,250 |
| N171 | -1,560 | 0,700 | -12,850 |
| N172 | 0,693 | -1,553 | -12,850 |
| N173 | 12,279 | -1,553 | -0,250 |
| N174 | 14,532 | 0,700 | -0,250 |
| N175 | 14,532 | 0,700 | -12,850 |
| N176 | 12,279 | -1,553 | -12,850 |
| N178 | 29,573 | -0,433 | -0,250 |
| 1P1 | 29,791 | -0,212 | 1,279 |
| N179 | 27,768 | -2,240 | -12,793 |
| N180 | 43,399 | -0,433 | -0,250 |
| 1Y1 | 43,181 | -0,212 | 1,279 |
| N181 | 45,204 | -2,240 | -12,793 |
| N182 | 43,399 | 13,405 | -0,250 |
| 1XY1 | 43,181 | 13,184 | 1,279 |
| N183 | 45,204 | 15,212 | -12,793 |
| N184 | 29,573 | 13,405 | -0,250 |
| 1X1 | 29,791 | 13,184 | 1,279 |
| N185 | 27,768 | 15,212 | -12,793 |
| N186 | 30,693 | 14,525 | -0,250 |
| N187 | 28,440 | 12,272 | -0,250 |
| N188 | 28,440 | 12,272 | -12,849 |
| N189 | 30,693 | 14,525 | -12,849 |
| N190 | 42,279 | 14,525 | -0,250 |
| N191 | 44,532 | 12,272 | -0,250 |
| N192 | 44,532 | 12,272 | -12,849 |
| N193 | 42,279 | 14,525 | -12,849 |
| N194 | 30,693 | -1,553 | -0,250 |
| N195 | 28,440 | 0,700 | -0,250 |
| N196 | 28,440 | 0,700 | -12,849 |
| N197 | 30,693 | -1,553 | -12,849 |
| N198 | 42,279 | -1,553 | -0,250 |
| N199 | 44,532 | 0,700 | -0,250 |
| N200 | 44,532 | 0,700 | -12,849 |
| N201 | 42,279 | -1,553 | -12,849 |

## 5.2. Analyse model met knopen

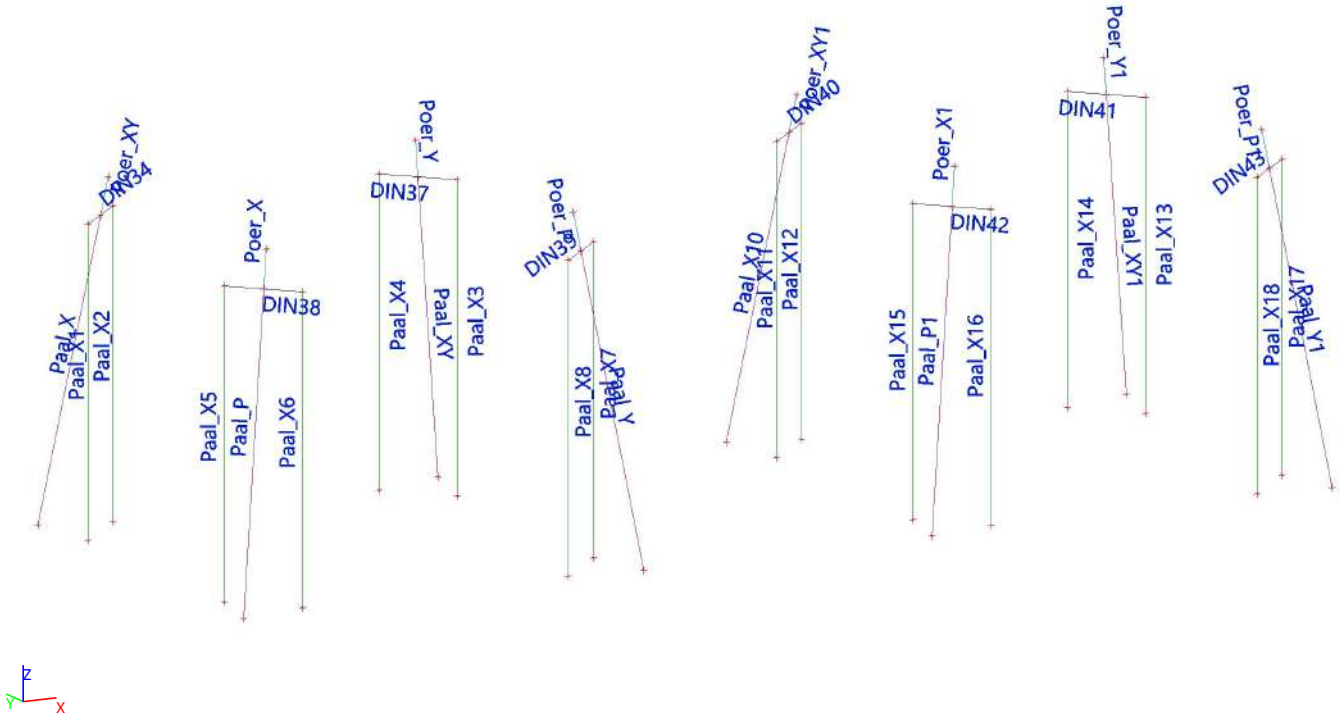



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| DIN34 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N156 | N155 | beam (80) |
| DIN37 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N166 | N165 | beam (80) |
| DIN38 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N170 | N169 | beam (80) |
| DIN39 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N174 | N173 | beam (80) |
| DIN40 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N187 | N186 | beam (80) |
| DIN41 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N191 | N190 | beam (80) |
| DIN42 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N195 | N194 | beam (80) |
| DIN43 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N199 | N198 | beam (80) |
| Paal_P | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N123 | N139 | column (100) |
| Paal_P1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N178 | N179 | column (100) |
| Paal_X | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N151 | N153 | column (100) |
| Paal_X1 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N156 | N159 | column (100) |
| Paal_X2 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N155 | N160 | column (100) |
| Paal_X3 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N166 | N167 | column (100) |
| Paal_X4 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N165 | N168 | column (100) |
| Paal_X5 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N170 | N171 | column (100) |
| Paal_X6 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N169 | N172 | column (100) |
| Paal_X7 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N174 | N175 | column (100) |
| Paal_X8 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,600 | N173 | N176 | column (100) |
| Paal_X10 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N184 | N185 | column (100) |
| Paal_X11 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N187 | N188 | column (100) |
| Paal_X12 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N186 | N189 | column (100) |
| Paal_X13 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N191 | N192 | column (100) |
| Paal_X14 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N190 | N193 | column (100) |
| Paal_X15 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N195 | N196 | column (100) |
| Paal_X16 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N194 | N197 | column (100) |
| Paal_X17 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N199 | N200 | column (100) |
| Paal_X18 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 12,599 | N198 | N201 | column (100) |
| Paal_XY | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N146 | N148 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N182 | N183 | column (100) |
| Paal_Y | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N141 | N143 | column (100) |
| Paal_Y1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 12,800 | N180 | N181 | column (100) |
| Poer_P | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N141 | 1Y | column (100) |
| Poer_P1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N180 | 1Y1 | column (100) |
| Poer_X | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N123 | 1P | column (100) |
| Poer_X1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N178 | 1P1 | column (100) |
| Poer_XY | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N151 | 1X | column (100) |
| Poer_XY1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N184 | 1X1 | column (100) |
| Poer_Y | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N146 | 1XY | column (100) |
| Poer_Y1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N182 | 1XY1 | column (100) |

## 5.4. Analyse model met Staven




## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P | N139 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y | N143 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY | N148 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X | N153 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK | N159 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK1 | N160 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK2 | N167 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK3 | N168 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK4 | N171 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK5 | N172 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK6 | N175 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK7 | N176 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_P1 | N179 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y1 | N181 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY1 | N183 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X1 | N185 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn LK8 | N188 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK9 | N189 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK10 | N192 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK11 | N193 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK12 | N196 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK13 | N197 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK14 | N200 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK15 | N201 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Line supports on member

| Name | Type | Member | Pos $x_1$ [m] | Coor | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | System | Pos $x_2$ [m] | Orig | | | | | | |
| Slb_P_Veen | Line | Paal_P | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_Veen | Line | Paal_Y | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_Veen | Line | Paal_XY | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_Veen | Line | Paal_X | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V9 | Line | Paal_P | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V9 | Line | Paal_Y | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V9 | Line | Paal_XY | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V9 | Line | Paal_X | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V10 | Line | Paal_P | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V11 | Line | Paal_P | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V12 | Line | Paal_P | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V13 | Line | Paal_P | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_Y_V10 | Line | Paal_Y | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V11 | Line | Paal_Y | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V12 | Line | Paal_Y | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V13 | Line | Paal_Y | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_XY_V10 | Line | Paal_XY | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V11 | Line | Paal_XY | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V12 | Line | Paal_XY | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V13 | Line | Paal_XY | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_X_V10 | Line | Paal_X | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V11 | Line | Paal_X | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V12 | Line | Paal_X | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V13 | Line | Paal_X | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_X_Veen1 | Line | Paal_X1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V22 | Line | Paal_X1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V23 | Line | Paal_X1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V24 | Line | Paal_X1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V25 | Line | Paal_X1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V26 | Line | Paal_X1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen2 | Line | Paal_X2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V32 | Line | Paal_X2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V33 | Line | Paal_X2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V34 | Line | Paal_X2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V35 | Line | Paal_X2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V36 | Line | Paal_X2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen3 | Line | Paal_X3 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V42 | Line | Paal_X3 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V43 | Line | Paal_X3 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V44 | Line | Paal_X3 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V45 | Line | Paal_X3 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

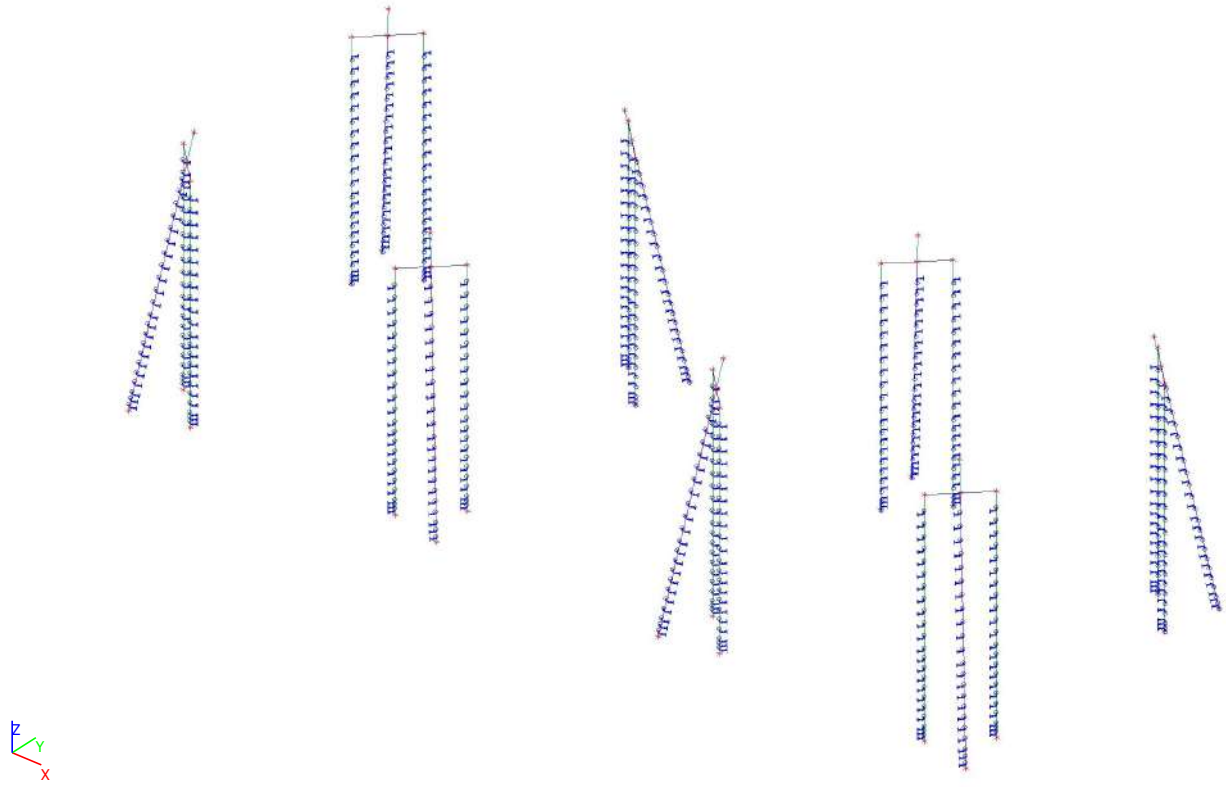
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V46 | Line | Paal_X3 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen4 | Line | Paal_X4 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V52 | Line | Paal_X4 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V53 | Line | Paal_X4 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V54 | Line | Paal_X4 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V55 | Line | Paal_X4 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V56 | Line | Paal_X4 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen5 | Line | Paal_X5 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V62 | Line | Paal_X5 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V63 | Line | Paal_X5 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V64 | Line | Paal_X5 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V65 | Line | Paal_X5 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V66 | Line | Paal_X5 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen6 | Line | Paal_X6 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V72 | Line | Paal_X6 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V73 | Line | Paal_X6 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V74 | Line | Paal_X6 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V75 | Line | Paal_X6 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V76 | Line | Paal_X6 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen7 | Line | Paal_X7 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V82 | Line | Paal_X7 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V83 | Line | Paal_X7 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V84 | Line | Paal_X7 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V85 | Line | Paal_X7 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V86 | Line | Paal_X7 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen8 | Line | Paal_X8 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V92 | Line | Paal_X8 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V93 | Line | Paal_X8 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V94 | Line | Paal_X8 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V95 | Line | Paal_X8 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V96 | Line | Paal_X8 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_P_Veen1 | Line | Paal_P1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V14 | Line | Paal_P1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V15 | Line | Paal_P1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V16 | Line | Paal_P1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V17 | Line | Paal_P1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V18 | Line | Paal_P1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_Y_Veen1 | Line | Paal_Y1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_V14 | Line | Paal_Y1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V15 | Line | Paal_Y1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V16 | Line | Paal_Y1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V17 | Line | Paal_Y1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V18 | Line | Paal_Y1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_XY_Veen1 | Line | Paal_XY1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_V14 | Line | Paal_XY1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V15 | Line | Paal_XY1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V16 | Line | Paal_XY1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V17 | Line | Paal_XY1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V18 | Line | Paal_XY1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_X_Veen10 | Line | Paal_X10 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V112 | Line | Paal_X10 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V113 | Line | Paal_X10 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V114 | Line | Paal_X10 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V115 | Line | Paal_X10 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V116 | Line | Paal_X10 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,650 | From start | | | | | | |
| Slb_X_Veen11 | Line | Paal_X11 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V117 | Line | Paal_X11 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V118 | Line | Paal_X11 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V119 | Line | Paal_X11 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V120 | Line | Paal_X11 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V121 | Line | Paal_X11 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen12 | Line | Paal_X12 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V125 | Line | Paal_X12 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V126 | Line | Paal_X12 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

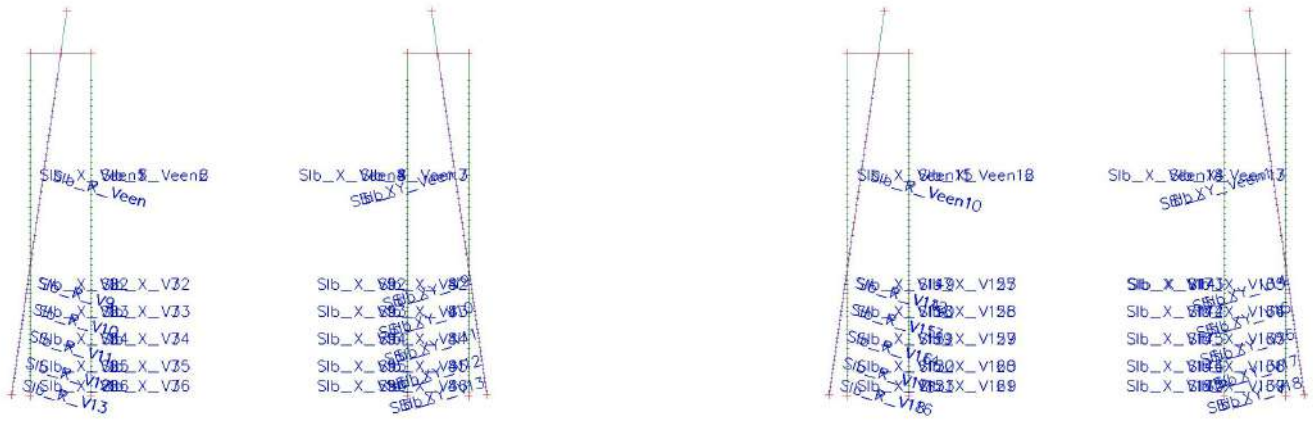
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V127 | Line | Paal_X12 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V128 | Line | Paal_X12 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V129 | Line | Paal_X12 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen13 | Line | Paal_X13 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V133 | Line | Paal_X13 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V134 | Line | Paal_X13 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V135 | Line | Paal_X13 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V136 | Line | Paal_X13 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V137 | Line | Paal_X13 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen14 | Line | Paal_X14 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V141 | Line | Paal_X14 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V142 | Line | Paal_X14 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V143 | Line | Paal_X14 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V144 | Line | Paal_X14 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V145 | Line | Paal_X14 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen15 | Line | Paal_X15 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V149 | Line | Paal_X15 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V150 | Line | Paal_X15 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V151 | Line | Paal_X15 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V152 | Line | Paal_X15 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V153 | Line | Paal_X15 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen16 | Line | Paal_X16 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V157 | Line | Paal_X16 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V158 | Line | Paal_X16 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V159 | Line | Paal_X16 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V160 | Line | Paal_X16 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V161 | Line | Paal_X16 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen17 | Line | Paal_X17 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V165 | Line | Paal_X17 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V166 | Line | Paal_X17 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V167 | Line | Paal_X17 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V168 | Line | Paal_X17 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V169 | Line | Paal_X17 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |
| Slb_X_Veen18 | Line | Paal_X18 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V173 | Line | Paal_X18 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V174 | Line | Paal_X18 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V175 | Line | Paal_X18 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V176 | Line | Paal_X18 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V177 | Line | Paal_X18 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,450 | From start | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



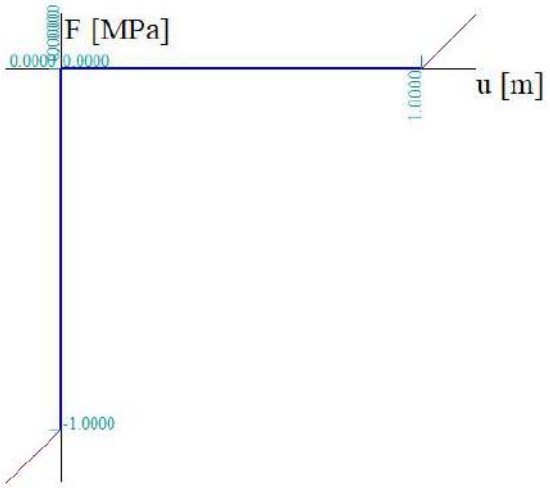
## 5.9. Analyse model met Lijnondersteuningen



## 5.10. Nonlinear functions

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| soil press only | Nonlinear subsoil | | Flexible | Flexible |

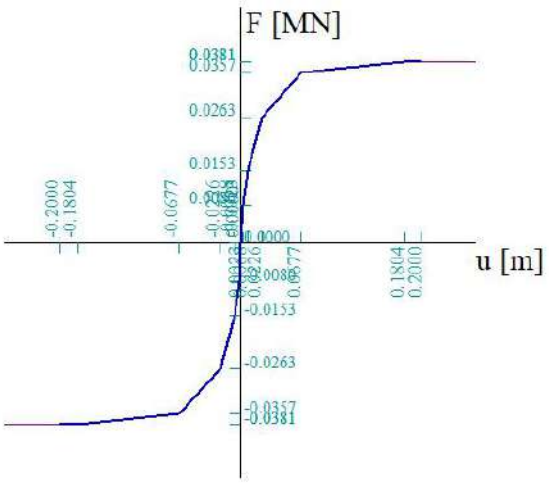
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -0.200000 / -38100.000000 | Free | Free |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |

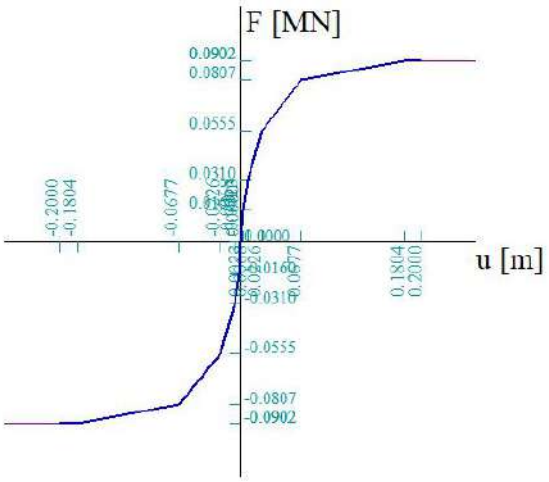
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

Drawing



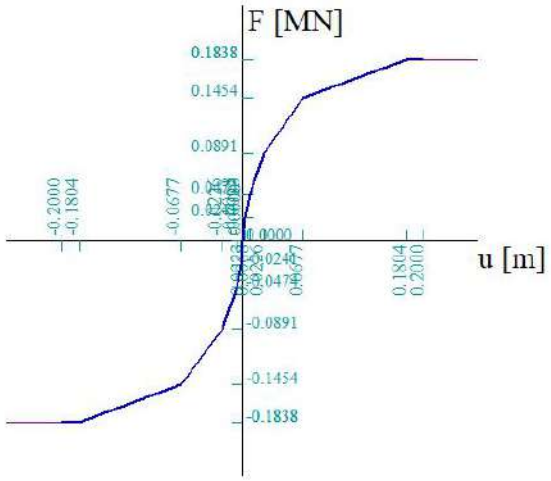

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -0.200000 / -90200.000000 | Free | Free |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

Drawing



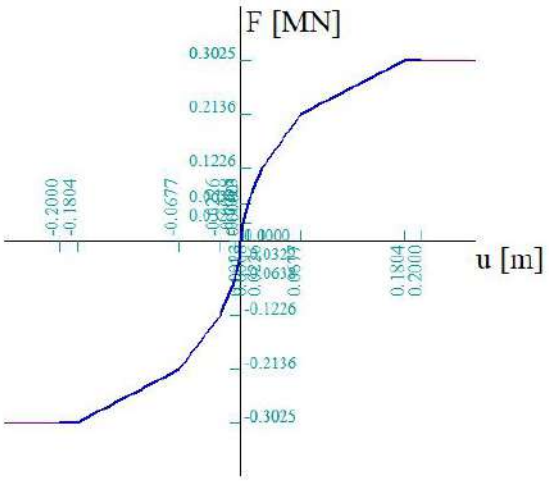
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V11 | Translation | -0.200000 / -183800.000000 | Free | Free |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

Drawing



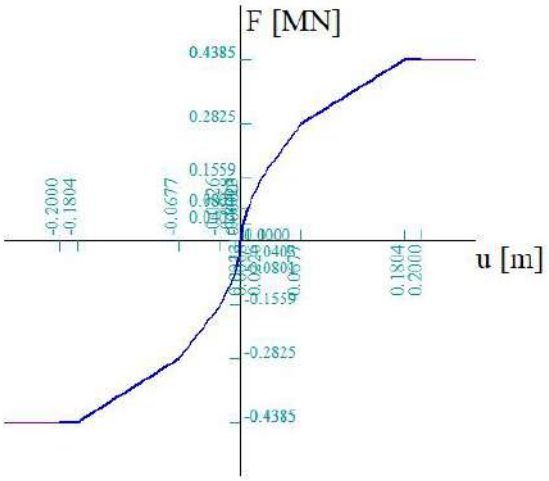

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V12 | Translation | -0.200000 / -302500.000000 | Free | Free |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V13 | Translation | -0.200000 / -438500.000000 | Free | Free |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

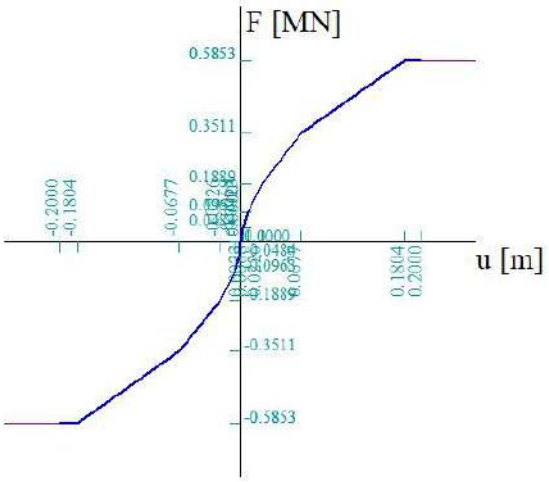
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V14 | Translation | -0.200000 / -585300.000000 | Free | Free |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |

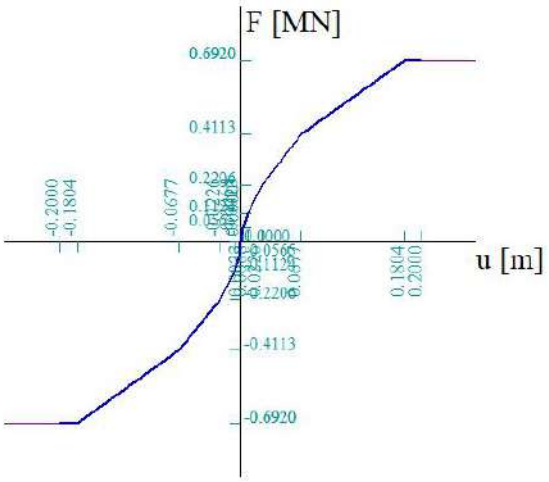
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V15 | Translation | -0.200000 / -692000.000000 | Free | Free |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

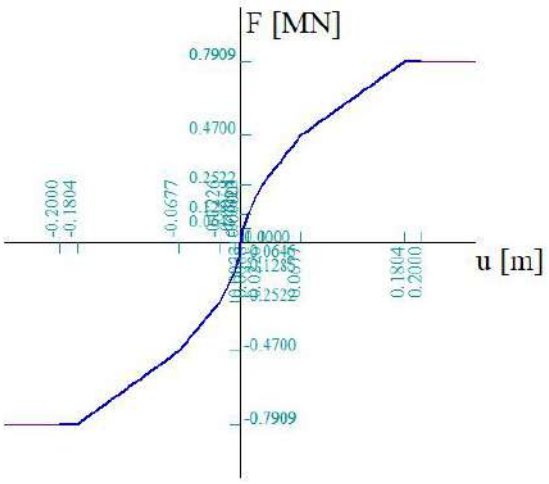
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V16 | Translation | -0.200000 / -790900.000000 | Free | Free |
| | | -0.180400 / -790900.000000 | | |
| | | -0.067650 / -470000.000000 | | |
| | | -0.022550 / -252200.000000 | | |

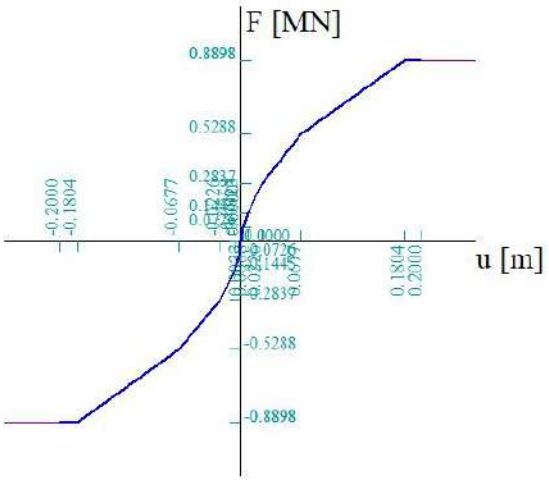
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -128500.000000 | | |
| | | -0.002255 / -64500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 64500.000000 | | |
| | | 0.006765 / 128500.000000 | | |
| | | 0.022550 / 252200.000000 | | |
| | | 0.067650 / 470000.000000 | | |
| | | 0.180400 / 790900.000000 | | |
| | | 0.200000 / 790900.000000 | | |

Drawing



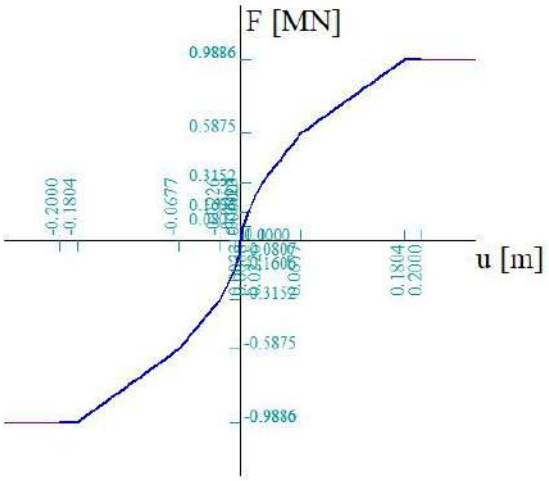

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V17 | Translation | -0.200000 / -889800.000000 | Free | Free |
| | | -0.180400 / -889800.000000 | | |
| | | -0.067650 / -528800.000000 | | |
| | | -0.022550 / -283700.000000 | | |
| | | -0.006765 / -144500.000000 | | |
| | | -0.002255 / -72600.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 72600.000000 | | |
| | | 0.006765 / 144500.000000 | | |
| | | 0.022550 / 283700.000000 | | |
| | | 0.067650 / 528800.000000 | | |
| | | 0.180400 / 889800.000000 | | |
| | | 0.200000 / 889800.000000 | | |

Drawing



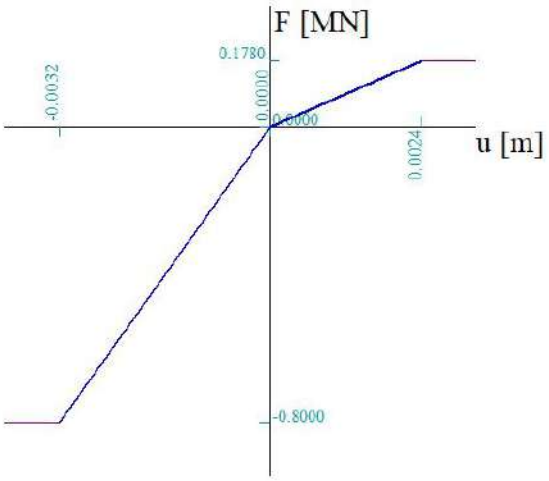

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V18 | Translation | -0.200000 / -988600.000000 | Free | Free |
| | | -0.180400 / -988600.000000 | | |
| | | -0.067650 / -587500.000000 | | |
| | | -0.022550 / -315200.000000 | | |
| | | -0.006765 / -160600.000000 | | |
| | | -0.002255 / -80700.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 80700.000000 | | |
| | | 0.006765 / 160600.000000 | | |
| | | 0.022550 / 315200.000000 | | |
| | | 0.067650 / 587500.000000 | | |
| | | 0.180400 / 988600.000000 | | |
| | | 0.200000 / 988600.000000 | | |

Drawing



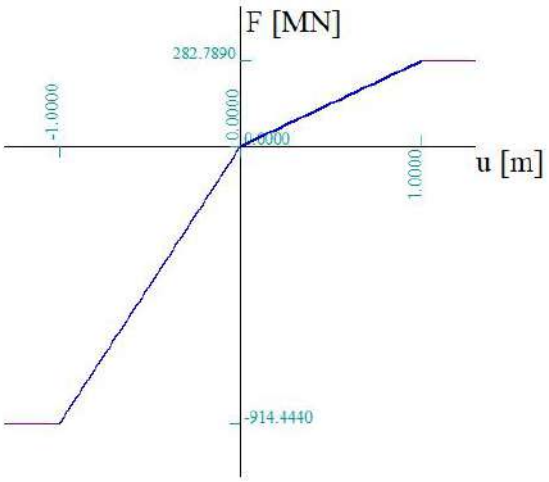

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt_min.B. | Translation | -0.003240 / -800000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 0.002350 / 178000.000000 | | |

Drawing



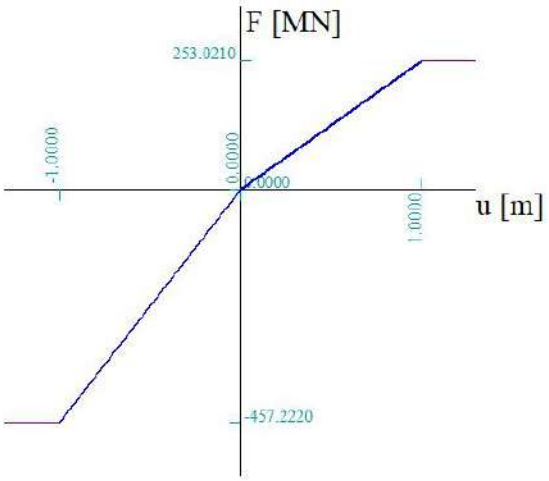

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Translation | -1.000000 / -914444000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 282789000.000000 | | |

Drawing



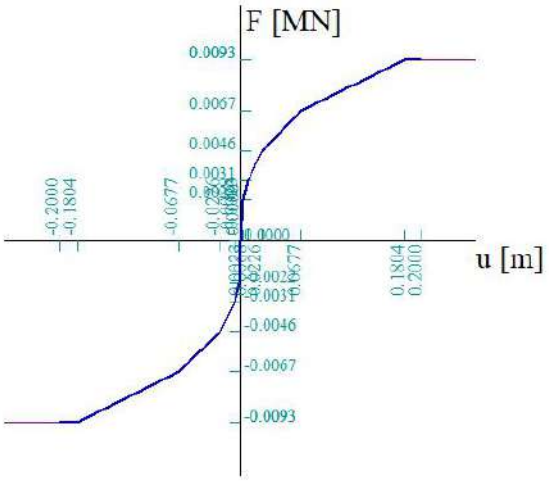

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Translation | -1.000000 / -457222000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 253021000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -0.200000 / -9265.000000 | Free | Free |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

Drawing

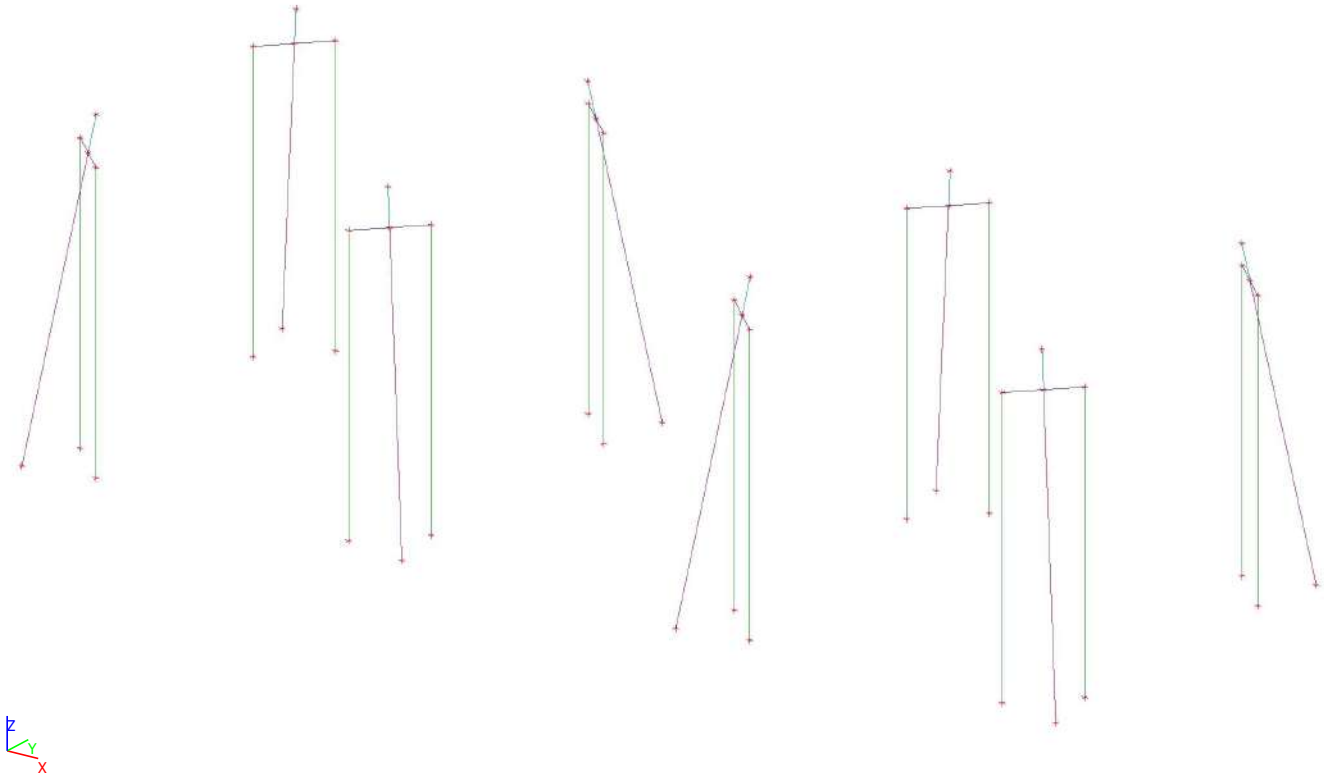


# 6. Belastingen

## 6.1. Load cases

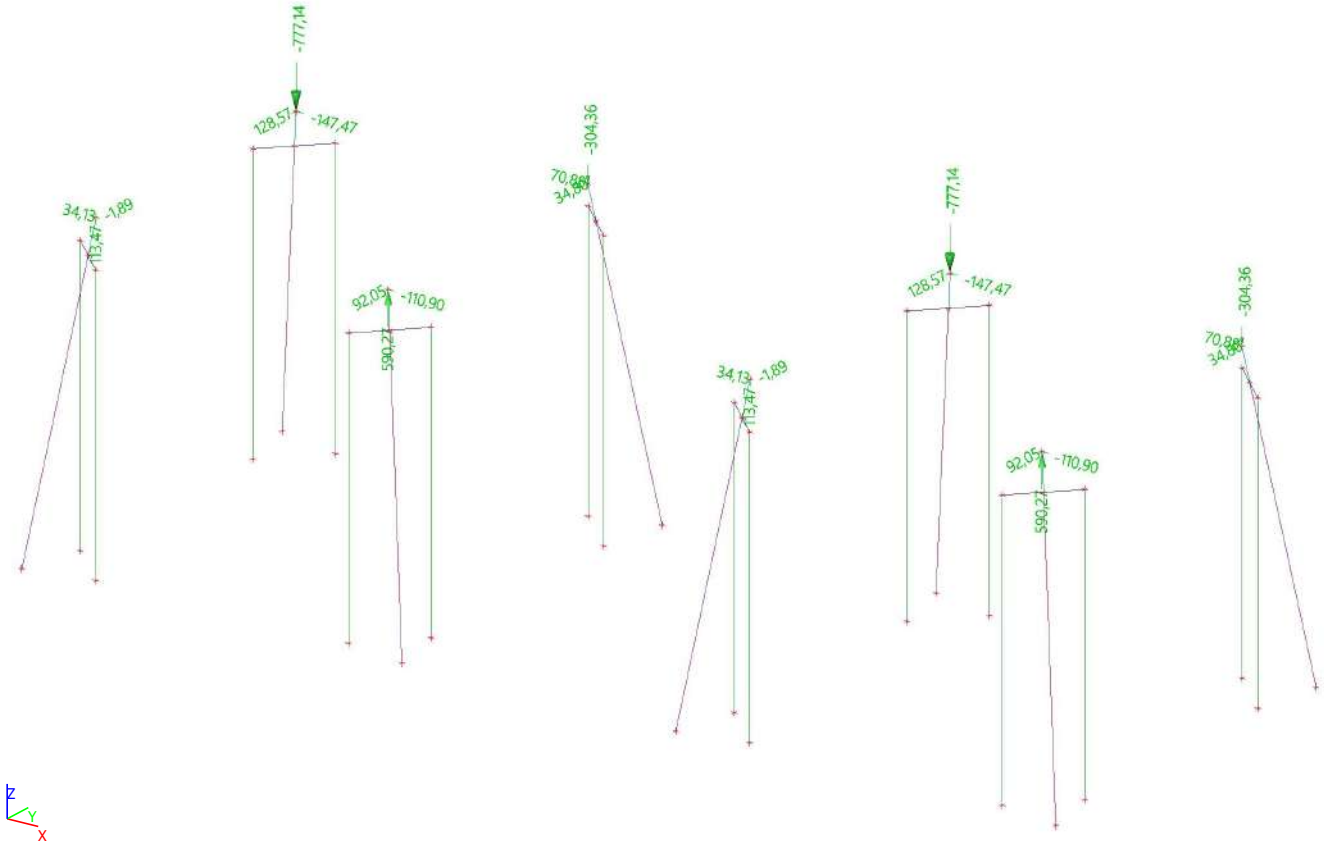
### 6.1.1. Load cases - EG_Fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_Fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |




### 6.1.2. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



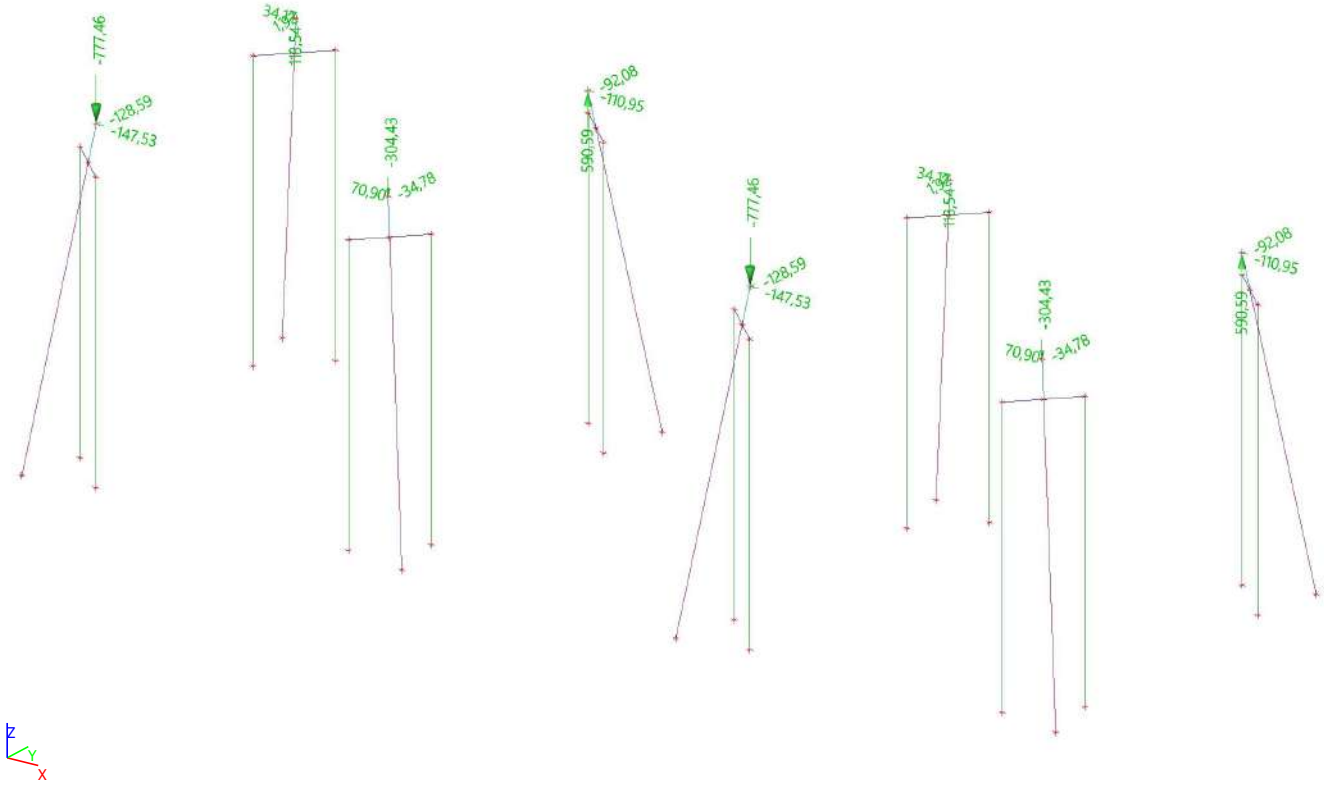

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 113,47 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -777,14 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -304,36 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1P_X1 | 1P1 | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y1 | 1P1 | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd | 1P1 | high max Wnd ;45° | GCS | Z | Force | 113,47 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Force | -304,36 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Force | -777,14 |

### 6.1.3. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

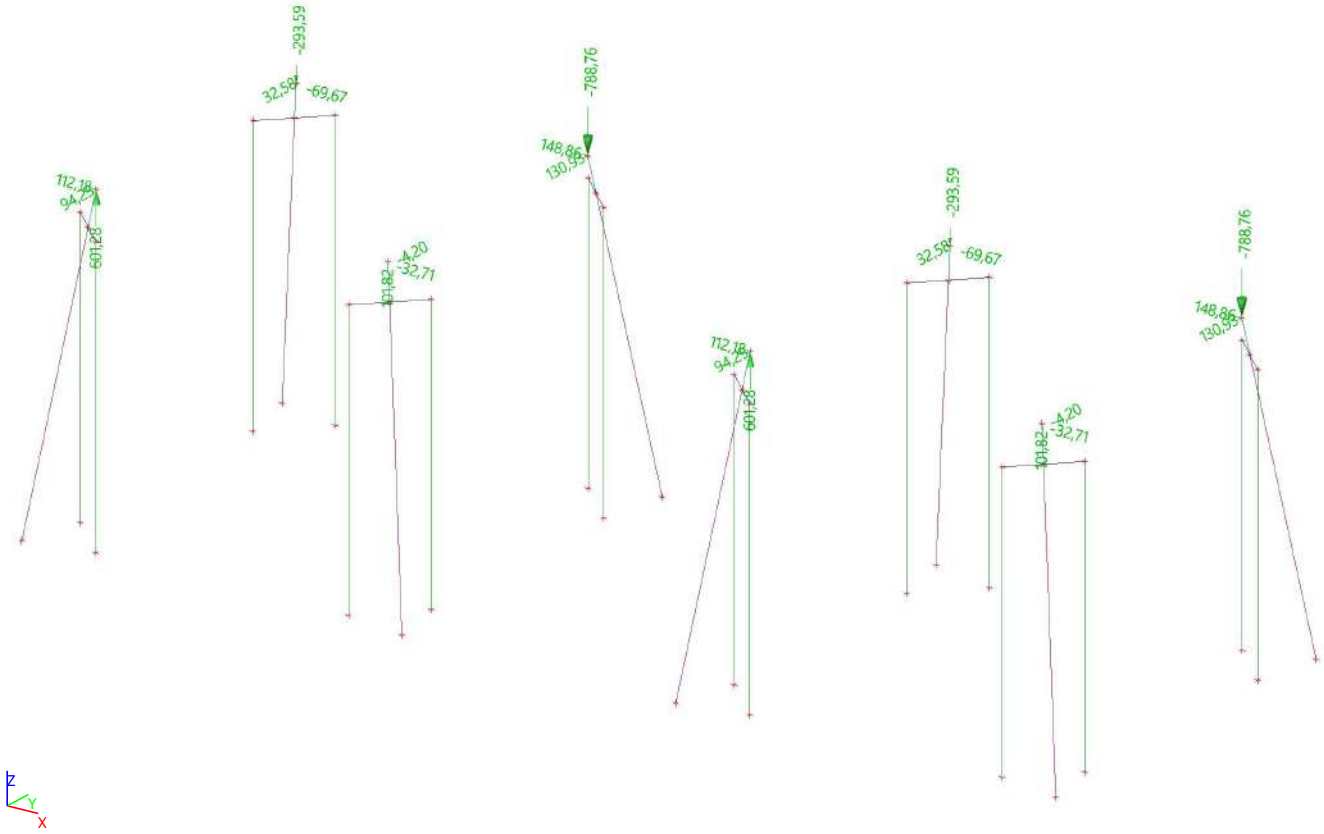


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -777,46 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 113,54 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1P_X1 | 1P1 | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y1 | 1P1 | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd ;315°_1P_Z1 | 1P1 | high max Wnd ;315° | GCS | Z | Force | -777,46 |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Force | 113,54 |

### 6.1.4. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 601,28 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -293,59 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1P_X1 | 1P1 | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y1 | 1P1 | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd | 1P1 | high max Wnd ;135° | GCS | Z | Force | 601,28 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Force | -293,59 |

### 6.1.5. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 601,39 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1P_X1 | 1P1 | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y1 | 1P1 | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z1 | 1P1 | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Force | 601,39 |

### 6.1.6. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 133,95 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -755,99 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1P_X1 | 1P1 | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y1 | 1P1 | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd | 1P1 | low max Wnd ;45° | GCS | Z | Force | 133,95 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Force | -755,99 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |

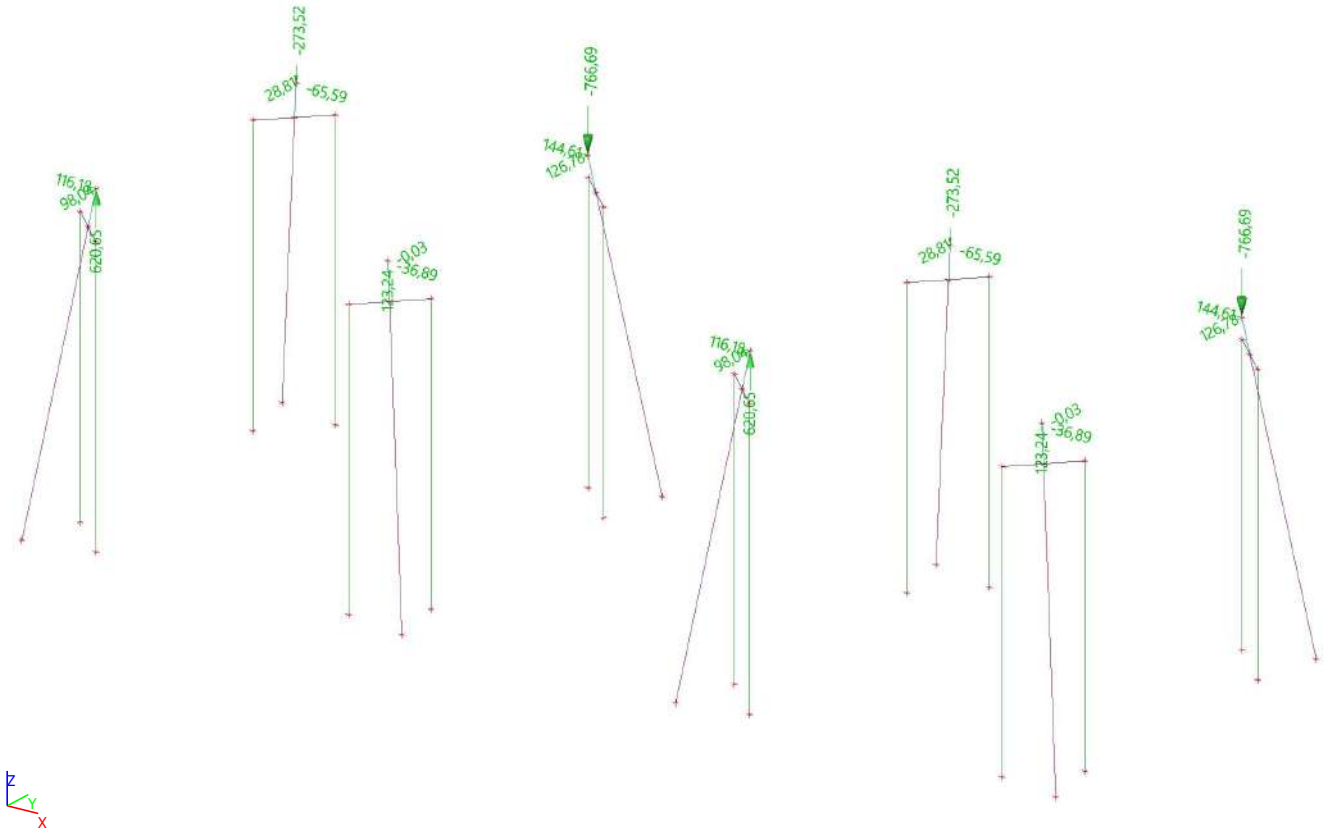


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 620,72 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1P_X1 | 1P1 | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y1 | 1P1 | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z1 | 1P1 | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Force | 620,72 |

### 6.1.8. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.8.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 620,65 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -273,52 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1P_X1 | 1P1 | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y1 | 1P1 | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd | 1P1 | low max Wnd ;135° | GCS | Z | Force | 620,65 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Force | -273,52 |

### 6.1.9. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | Standard | Variable Static | LG4 | Short | None |



#### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -756,28 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 133,97 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1P_X1 | 1P1 | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y1 | 1P1 | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd ;315°_1P_Z1 | 1P1 | low max Wnd ;315° | GCS | Z | Force | -756,28 |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Force | 133,97 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;225° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;225° | 1,000 |
| low max Wnd ;135° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| | | low max Wnd ;315° | 1,000 |
| high max Wnd ;45° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;225° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;315° | 1,000 |
| high max Wnd ;135° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;225° | 1,000 |

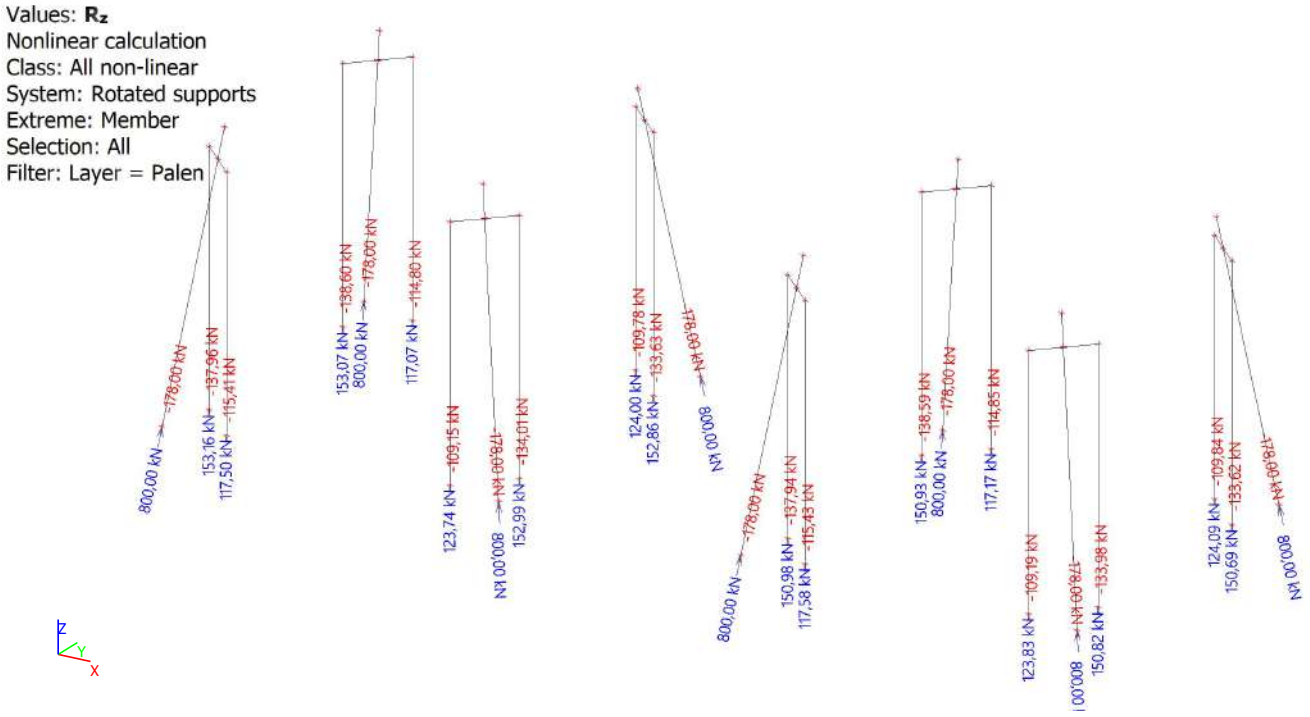
## 6.3. Result classes

| Name | List |
|---|---|
| All non-linear | low max Wnd ;45° - EG_Gunstig |
| | low max Wnd ;225° - EG_Gunstig |
| | low max Wnd ;135° - EG_Gunstig |
| | low max Wnd ;315° - EG_Gunstig |
| | high max Wnd ;45° - EG_Ongunstig |
| | high max Wnd ;225° - EG_Ongunstig |
| | high max Wnd ;135° - EG_Ongunstig |
| | high max Wnd ;315° - EG_Ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z




### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LD1(31-plank) - General cross-section
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-138,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **153,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-178,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **800,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-138,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **153,07** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK1/N160 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-114,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK1/N160 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **117,07** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK2/N167 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-133,63** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **152,86** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK3/N168 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-109,78** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK3/N168 | high max Wnd ;135° - | **0,00** | **0,00** | **124,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

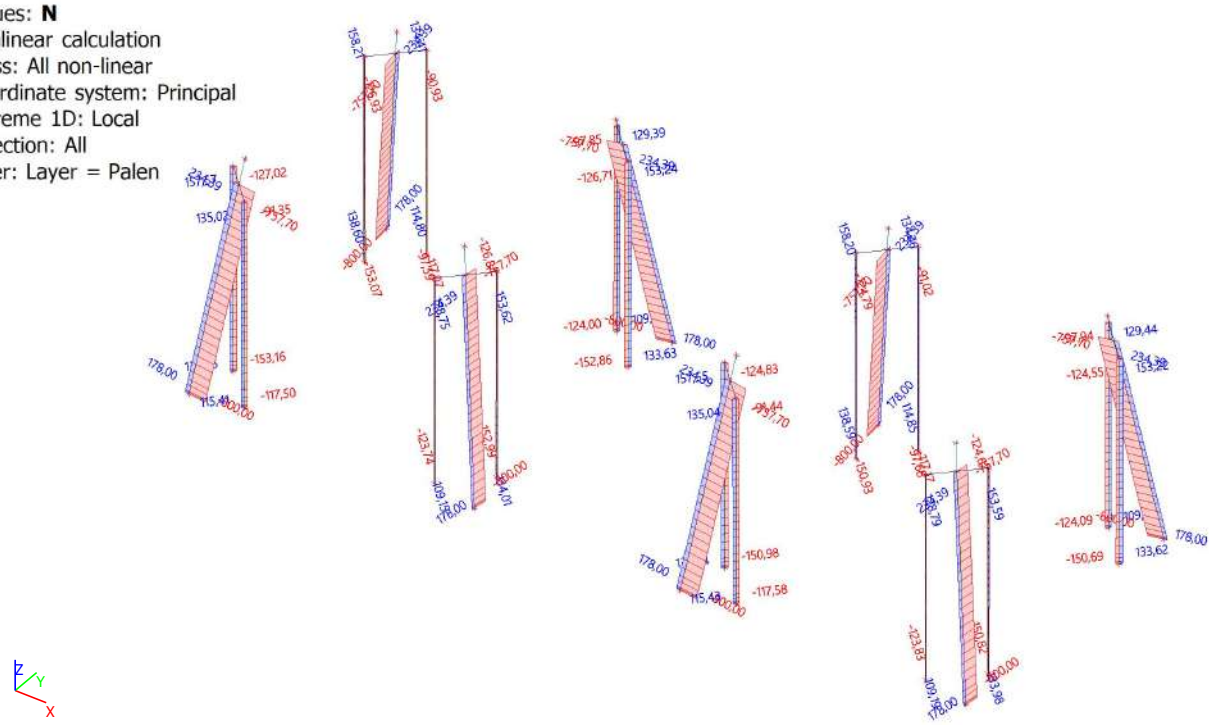
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK4/N171 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-137,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **153,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK5/N172 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-115,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **117,50** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **152,99** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-134,01** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **123,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-109,15** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P1/N179 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P1/N179 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y1/N181 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y1/N181 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY1/N183 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-178,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY1/N183 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **800,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X1/N185 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-178,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X1/N185 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **800,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK8/N188 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-138,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK8/N188 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **150,93** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK9/N189 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-114,85** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK9/N189 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **117,17** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK10/N192 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-133,62** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK10/N192 | high max Wnd ;45° - | **0,00** | **0,00** | **150,69** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK11/N193 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-109,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK11/N193 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **124,09** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK12/N196 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-137,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK12/N196 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **150,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK13/N197 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-115,43** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK13/N197 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **117,58** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK14/N200 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **150,82** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK14/N200 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-133,98** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK15/N201 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **123,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK15/N201 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-109,19** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

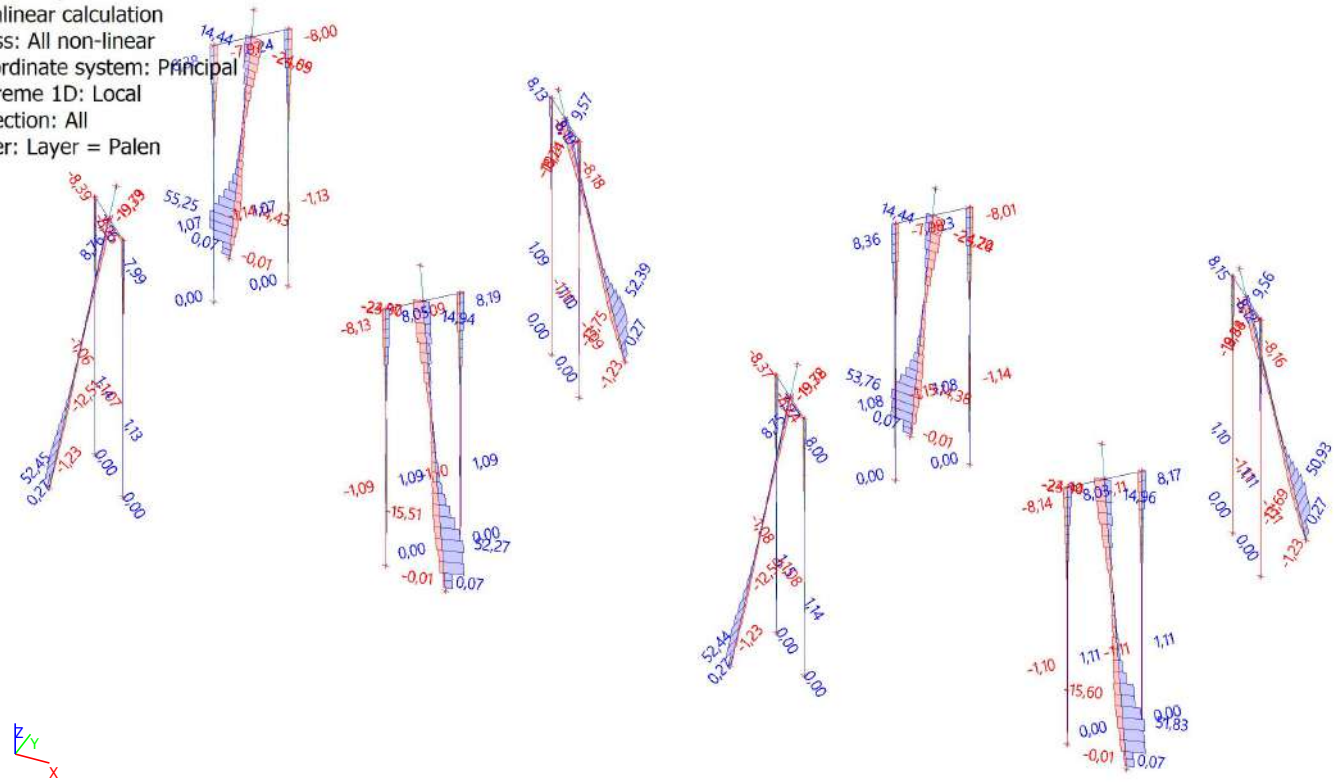
## 8.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



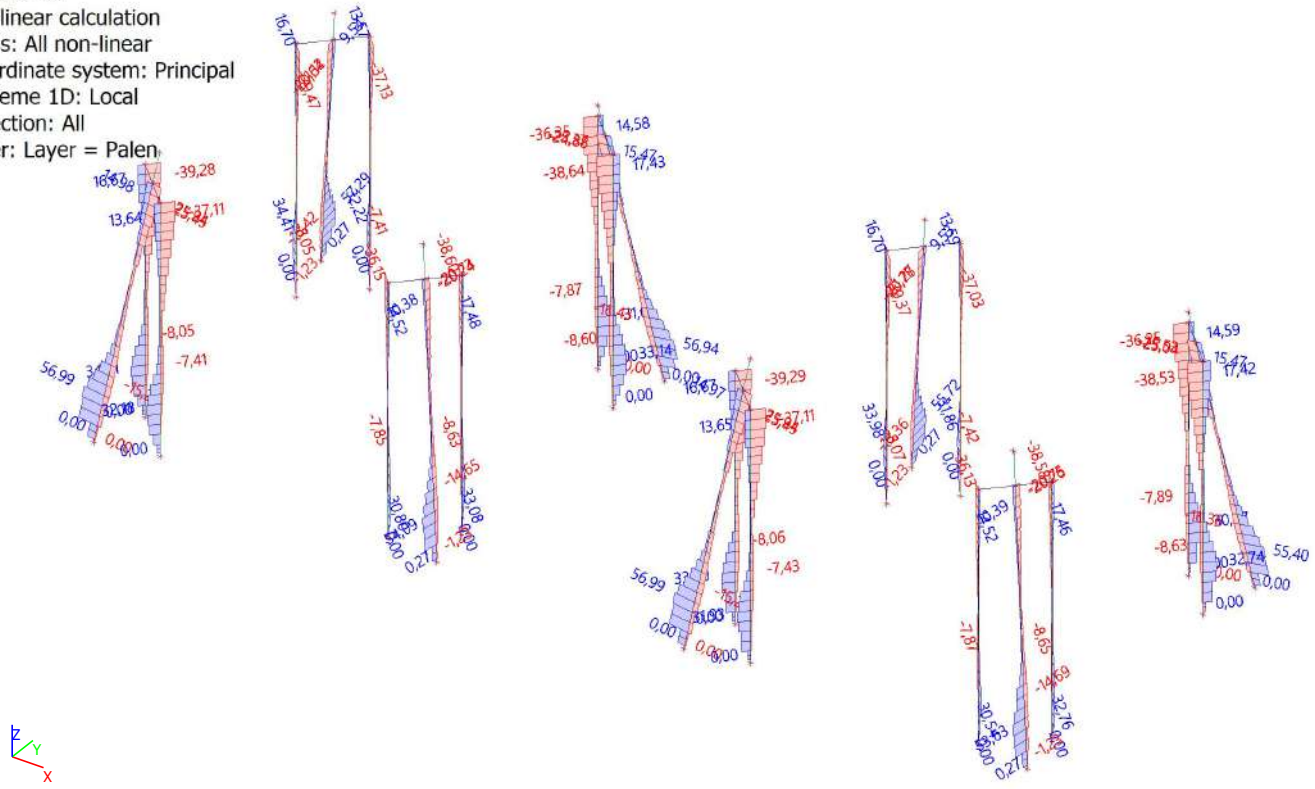
## 8.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



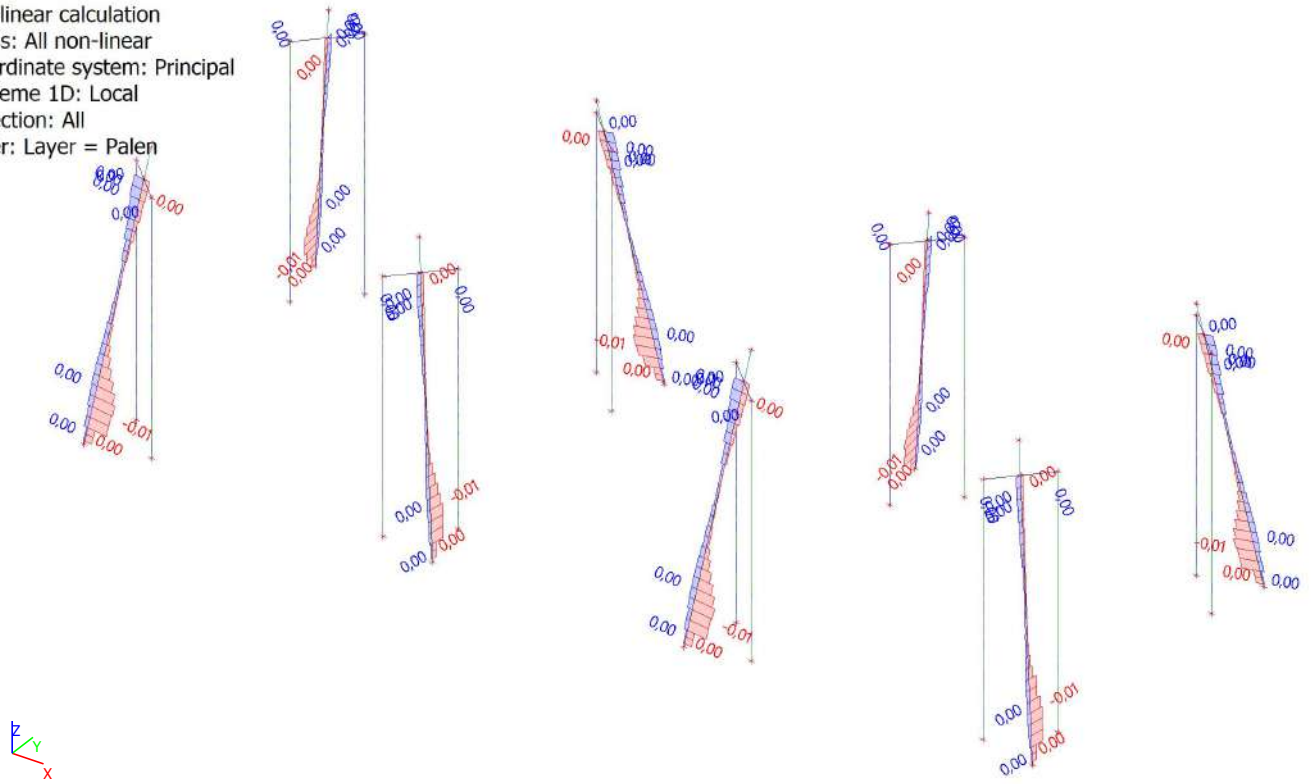
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



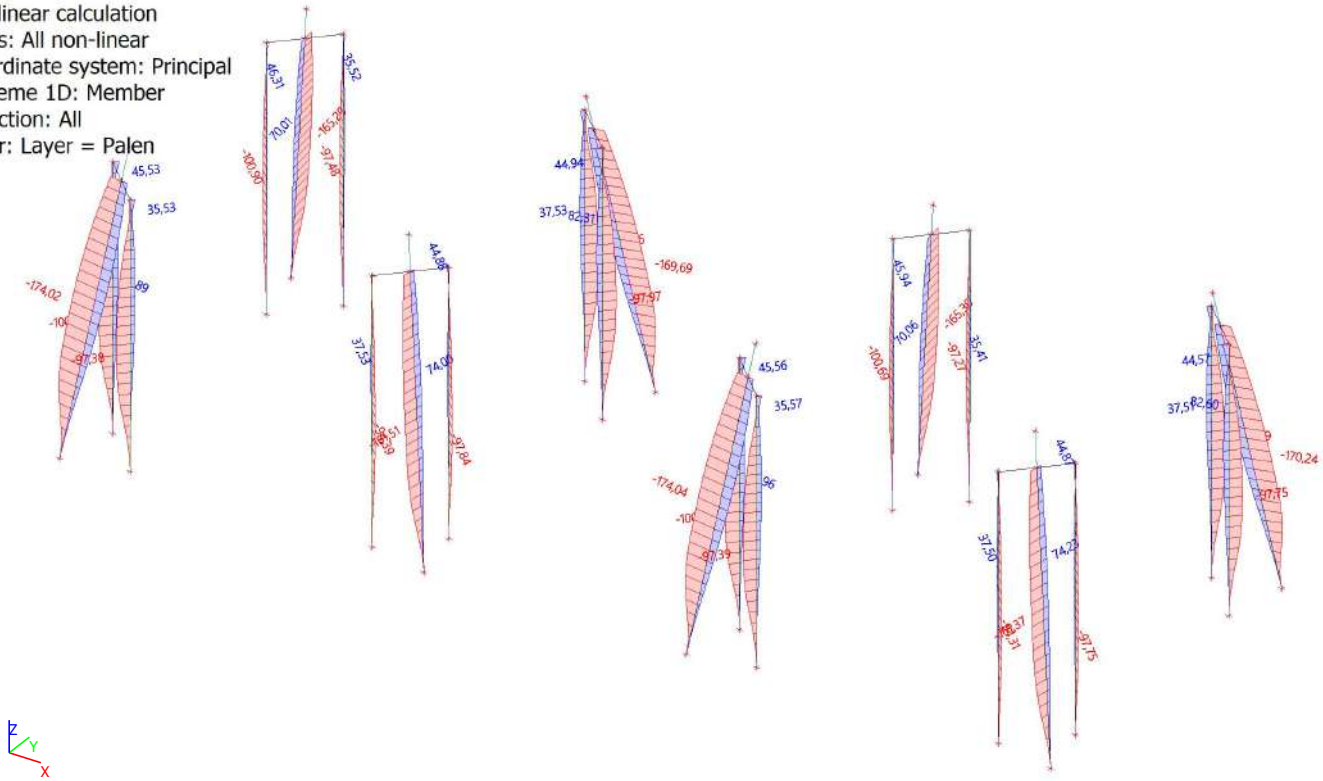
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



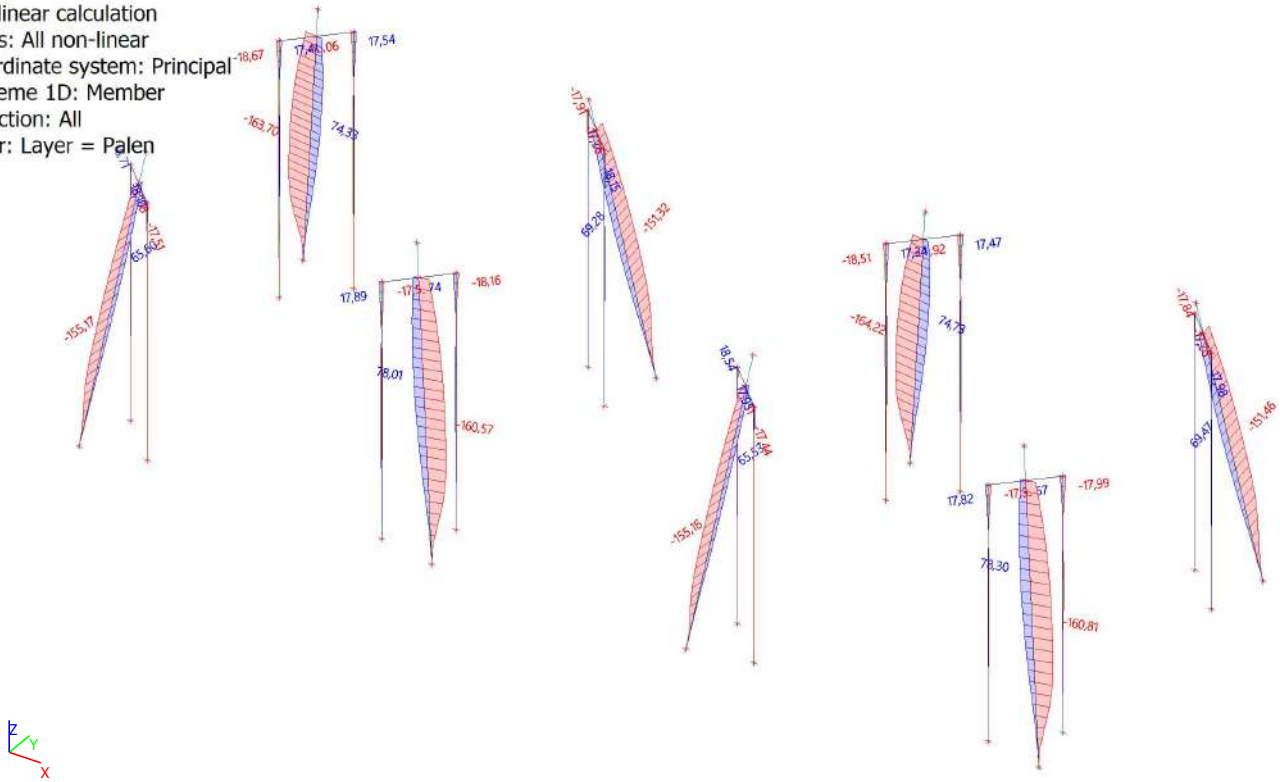
## 8.5. Interne 1D- krachten; M_y

Values: **My**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.6. Interne 1D- krachten; M_z

Values: **Mz**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
**Nothing in selection to display.**

## 8.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X5 | 12,600 | high max Wnd ;315° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | **-153,16** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X5 | 0,000 | high max Wnd ;315° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -127,02 | **-8,39** | 9,16 | 0,00 | -10,73 | **18,71** |
| Paal_X1 | 0,000 | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | **158,21** | -5,03 | **-39,47** | 0,00 | **46,31** | 10,65 |
| Paal_X1 | 10,000+ | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 142,26 | 0,39 | **34,41** | **0,00** | -59,80 | -0,47 |
| Paal_X1 | 7,125- | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 147,80 | 0,42 | -1,87 | 0,00 | **-100,90** | -2,01 |
| Paal_X1 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -126,93 | **8,38** | 9,18 | 0,00 | -10,78 | **-18,67** |

# 9. Krachten van de Poeren

## 9.1. 1D internal forces

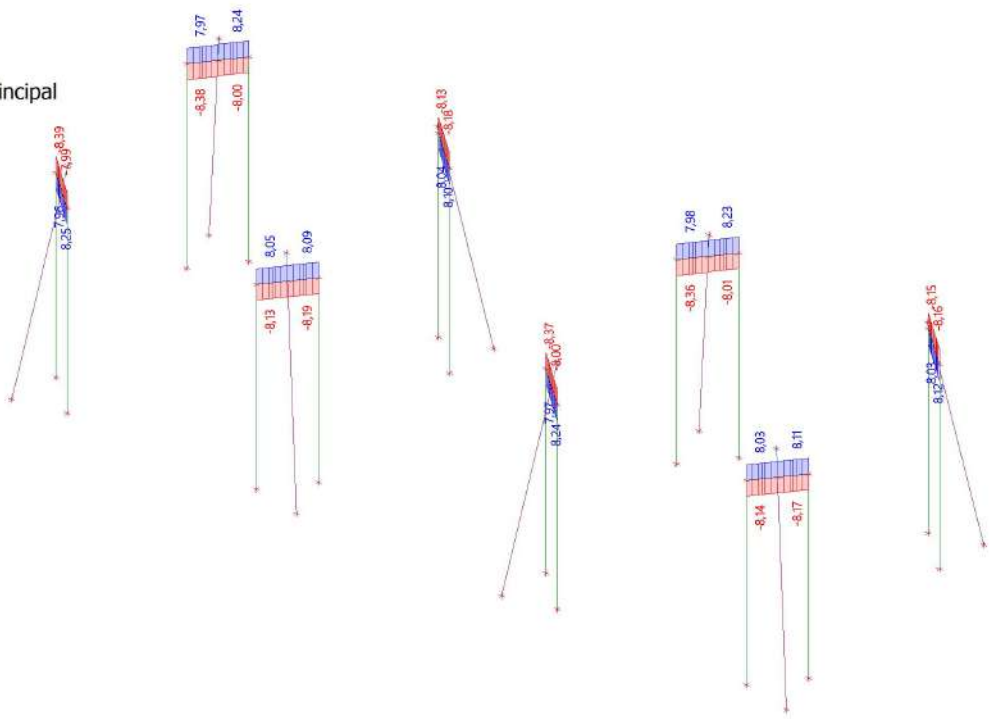
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Poer800 - Circle (800,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer_P | 0,000 | high max Wnd ;315° - EG_Ongunstig | Poer800 - Circle (800,00) | **-835,05** | 32,47 | 13,82 | 0,00 | -21,54 | -54,24 |
| Poer_XY | 1,560 | low max Wnd ;225° - EG_Gunstig | Poer800 - Circle (800,00) | **638,43** | -25,04 | -13,72 | **0,00** | 0,00 | 0,00 |
| Poer_X | 0,000 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | 621,40 | **-28,50** | 13,65 | 0,00 | -21,31 | **41,77** |
| Poer_Y | 1,560 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -812,33 | **37,07** | -13,76 | 0,00 | 0,00 | 0,00 |
| Poer_X | 0,000 | high max Wnd ;315° - EG_Ongunstig | Poer800 - Circle (800,00) | -324,96 | 7,89 | **-26,69** | 0,00 | **41,61** | -15,88 |
| Poer_XY | 0,000 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -324,68 | 7,90 | **26,66** | 0,00 | **-41,56** | -15,90 |
| Poer_Y | 0,000 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -834,94 | 32,49 | -13,79 | 0,00 | 21,48 | **-54,26** |

# 10. Krachten van de Funderingsbalken

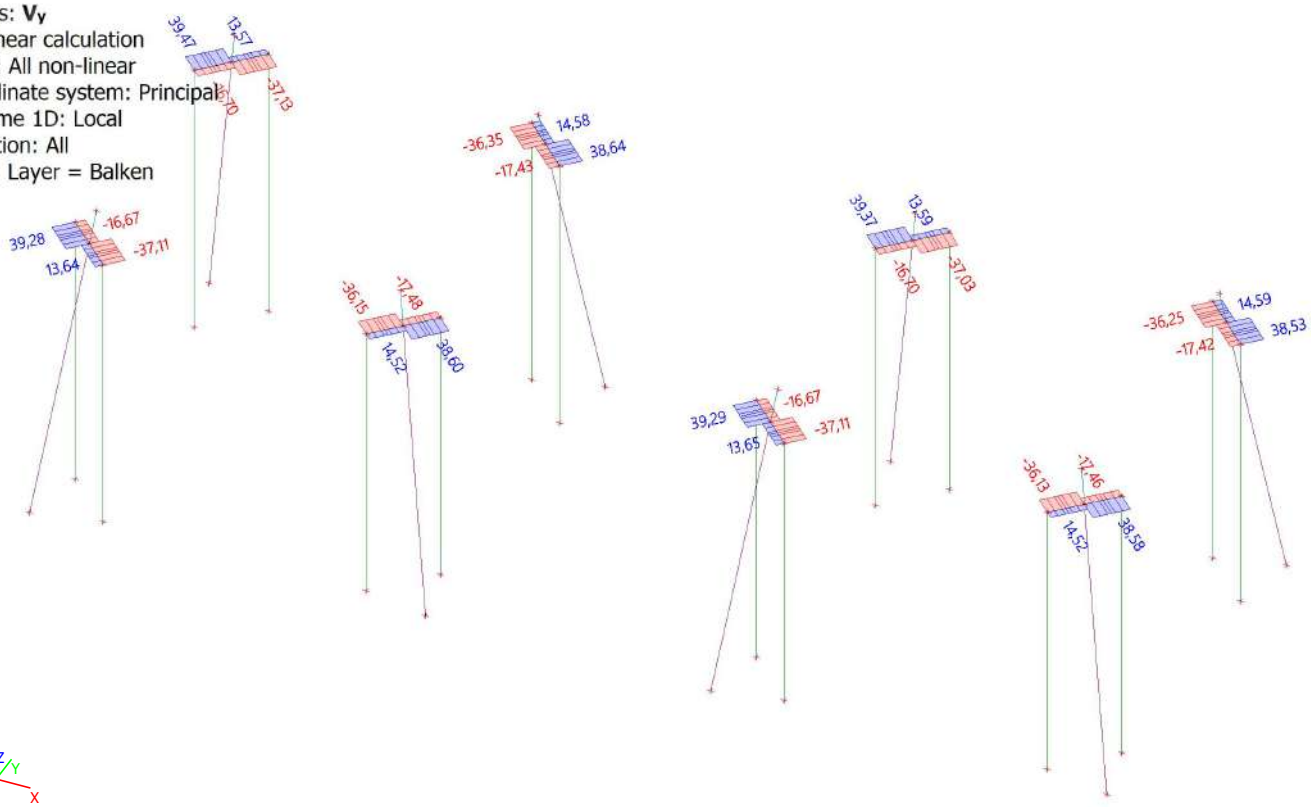
## 10.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



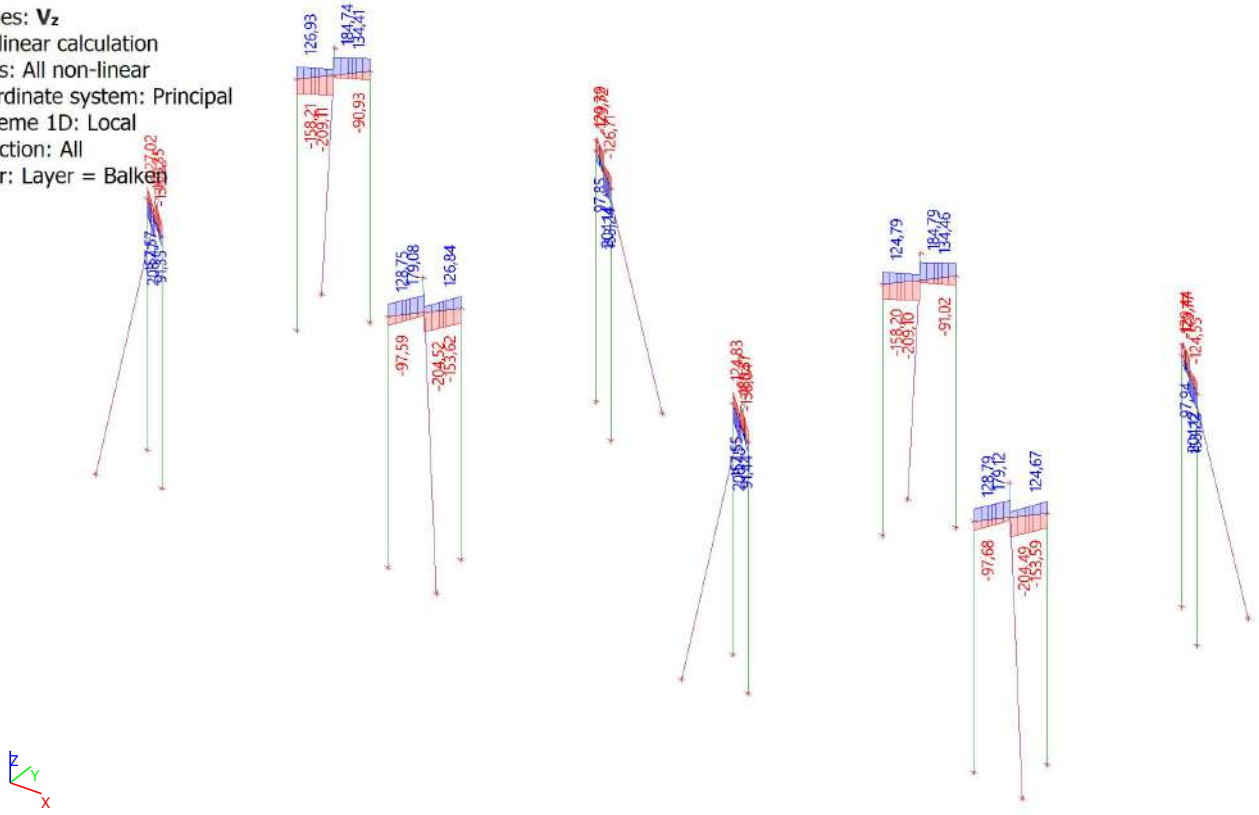

## 10.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



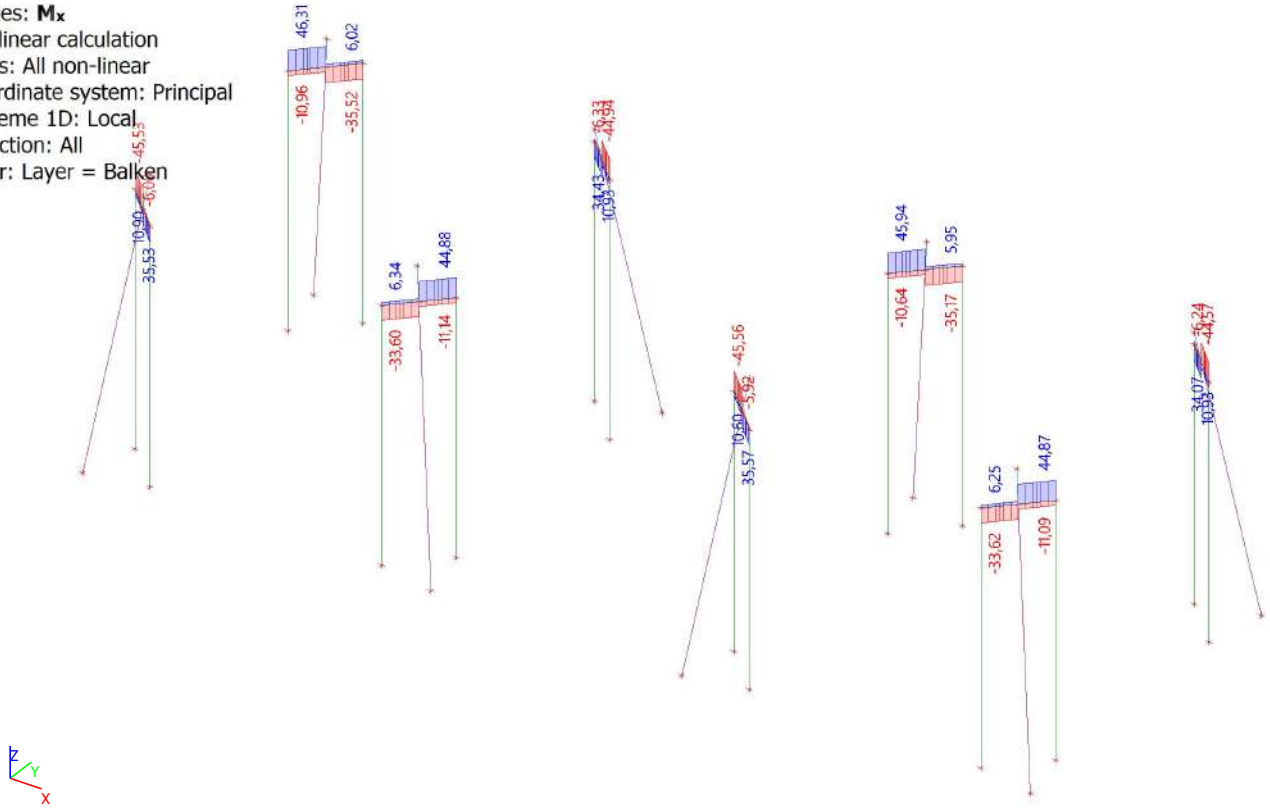
## 10.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



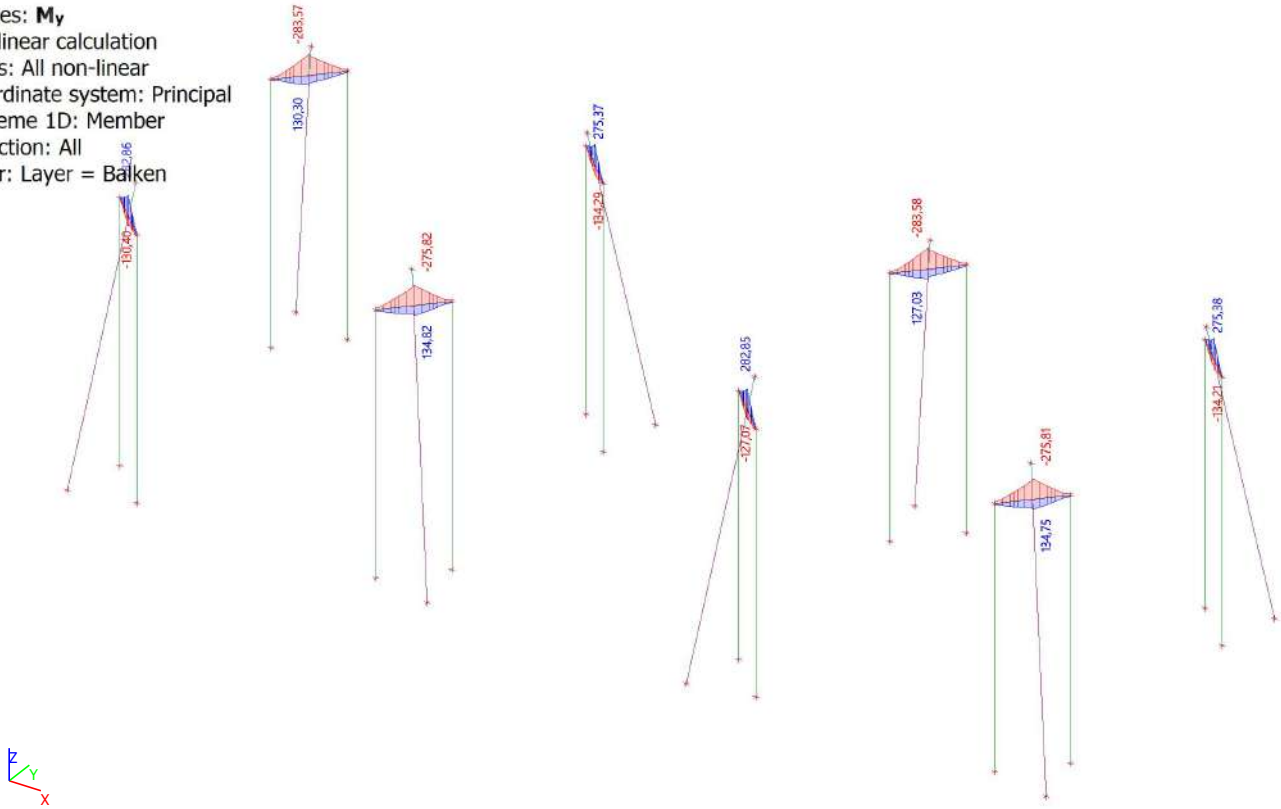

## 10.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



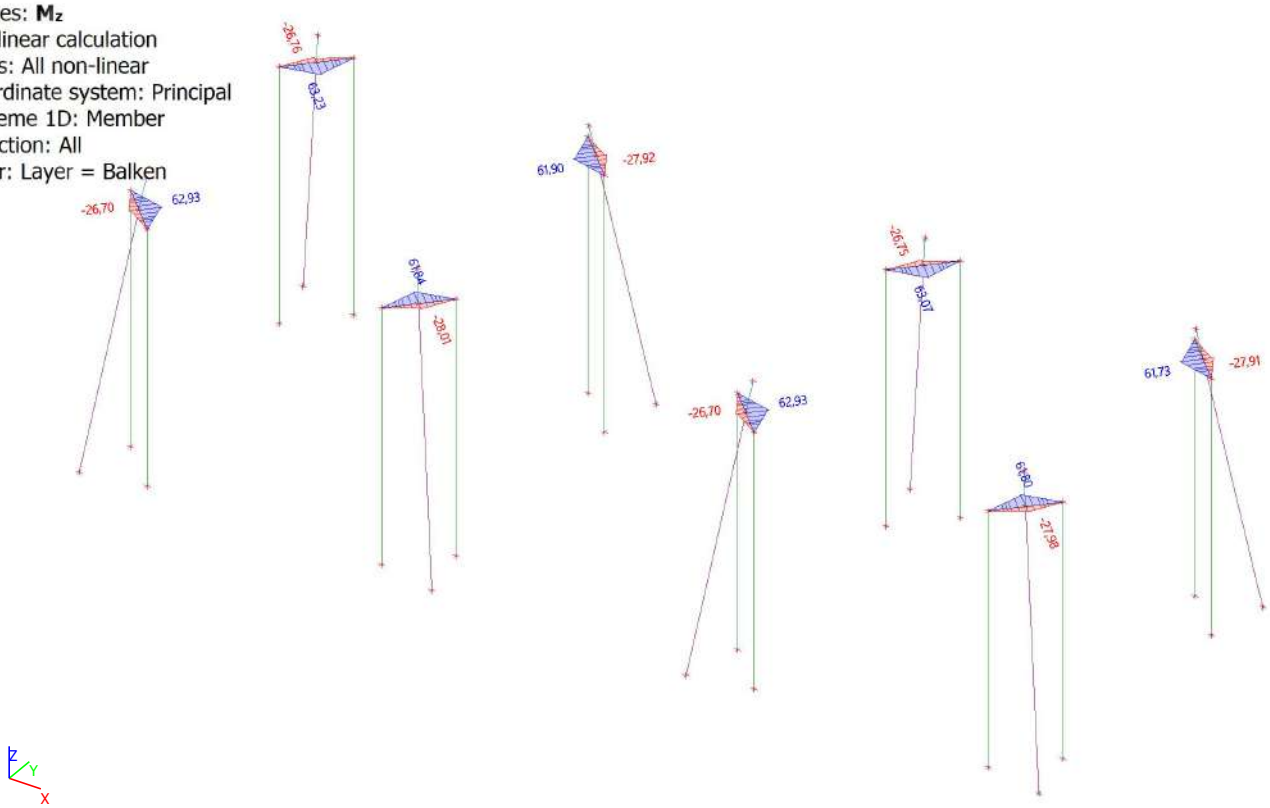
## 10.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken




## 10.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1500,00; 1600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| DIN38 | 0,000 | high max Wnd ;315° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **-8,39** | -9,16 | -127,02 | 10,73 | 18,71 | 0,00 |
| DIN38 | 1,602+ | high max Wnd ;315° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **8,25** | 1,55 | -0,56 | 10,20 | -70,37 | -2,46 |
| DIN34 | 1,602+ | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -4,62 | **-37,13** | 184,74 | -35,52 | -261,93 | 58,81 |
| DIN34 | 1,602- | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 5,03 | **39,47** | **-209,11** | **46,31** | -283,57 | **63,23** |
| DIN42 | 0,000 | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 4,88 | 39,29 | 157,55 | **-45,56** | -10,31 | 0,00 |
| DIN40 | 1,602- | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 5,03 | 39,37 | -209,10 | 45,94 | **-283,58** | 63,07 |
| DIN38 | 1,602- | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 4,88 | 39,28 | **208,47** | -45,53 | **282,86** | 62,93 |
| DIN39 | 1,602- | high max Wnd ;315° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -4,67 | -17,48 | 56,36 | -11,14 | 134,82 | **-28,01** |

# 1. Table of contents

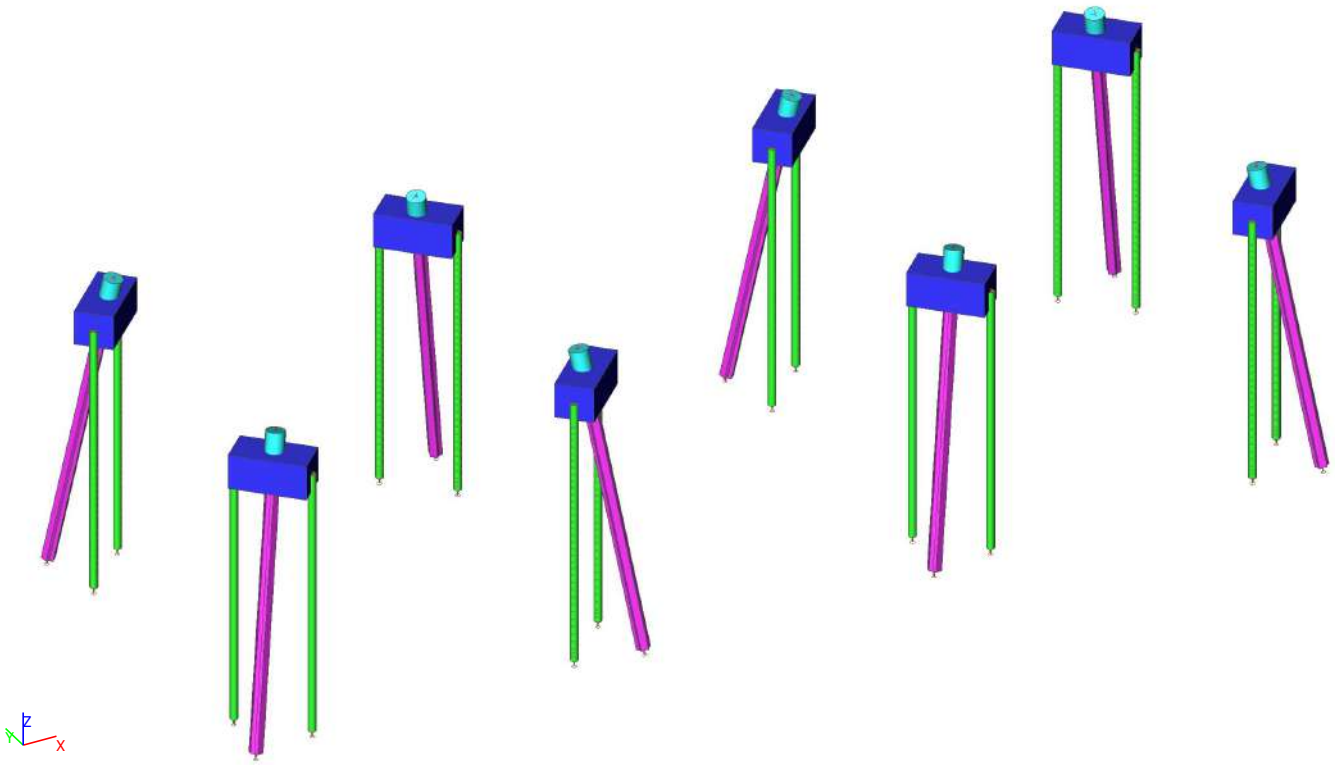
1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 7
4.5. Mesh setup 8
5. Geometrie 8
5.1. Nodes 8
5.2. Analyse model met knopen 9
5.3. Members 9
5.4. Analyse model met Staven 10
5.5. Nodal supports 10
5.6. Analyse model met Knoopondersteuningen 11
5.7. Line supports on member 11
5.8. Analyse model met Lijnondersteuningen 16
5.9. Analyse model met Lijnondersteuningen 16
5.10. Nonlinear functions 17
6. Belastingen 26
6.1. Load cases 26
6.1.1. Load cases - EG_Fundering 26
6.1.2. Load cases - high max Wnd ;45° 26
6.1.2.1. Point force in node 27
6.1.3. Load cases - high max Wnd ;315° 28
6.1.3.1. Point force in node 29
6.1.4. Load cases - high max Wnd ;135° 29
6.1.4.1. Point force in node 30
6.1.5. Load cases - high max Wnd ;225° 31
6.1.5.1. Point force in node 32
6.1.6. Load cases - low max Wnd ;45° 32
6.1.6.1. Point force in node 33
6.1.7. Load cases - low max Wnd ;225° 34
6.1.7.1. Point force in node 35
6.1.8. Load cases - low max Wnd ;135° 35
6.1.8.1. Point force in node 36
6.1.9. Load cases - low max Wnd ;315° 37
6.1.9.1. Point force in node 38
6.2. Nonlinear combinations 38
6.3. Result classes 39
7. Resultaten 40
7.1. Reacties van de palen 40
7.1.1. Reactions; R_z 40
7.1.2. Reactions 40
7.1.3. Reactions 40
7.1.4. Reactions 41
8. Krachten van de Funderingspalen 44
8.1. Interne 1D- krachten; N 44
8.2. Interne 1D- krachten; V_y 44
8.3. Interne 1D- krachten; V_z 45
8.4. Interne 1D- krachten; M_x 45
8.5. Interne 1D- krachten; M_y 46
8.6. Interne 1D- krachten; M_z 46
8.7. 1D internal forces 47
8.8. 1D internal forces 47
9. Krachten van de Poeren 48
9.1. 1D internal forces 48
10. Krachten van de Funderingsbalken 49
10.1. Interne 1D- krachten; N 49
10.2. Interne 1D- krachten; V_y 49
10.3. Interne 1D- krachten; V_z 50
10.4. Interne 1D- krachten; M_x 50
10.5. Interne 1D- krachten; M_y 51
10.6. Interne 1D- krachten; M_z 51

10.7. 1D internal forces 52

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Cilinder 75 + palen S III masten 126 , 141 en 143 |
| Author | [redacted] |
| Date | 7-05-2026 |
| Structure | General XYZ |
| No. of nodes : | 56 |
| No. of beams : | 40 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 8 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ [-] | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ [-] | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Concrete | 2500,00 | 2600,00 | 9,0000e+03 | 0,23 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Concrete | 2500,00 | 2600,00 | 1,1000e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C30/37 | Concrete | 1500,00 | 2600,00 | 1,0900e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C12/15 Gescheurd | Concrete | 1500,00 | 2600,00 | 7,0000e+03 | 0,20 | 0,01e-003 | 12,00 | |

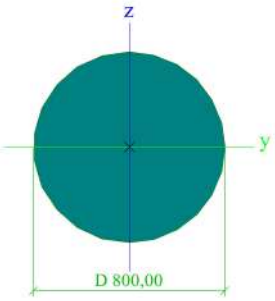
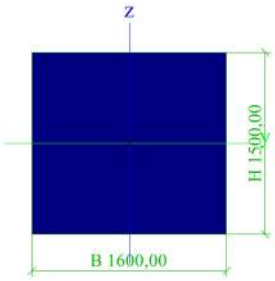
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

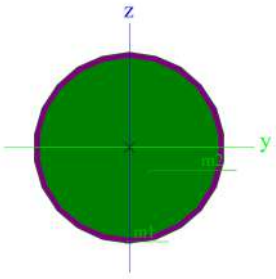
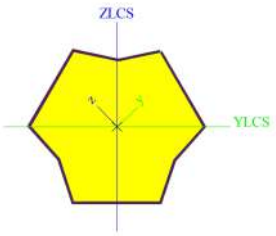
Reinforcement EC2

| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |

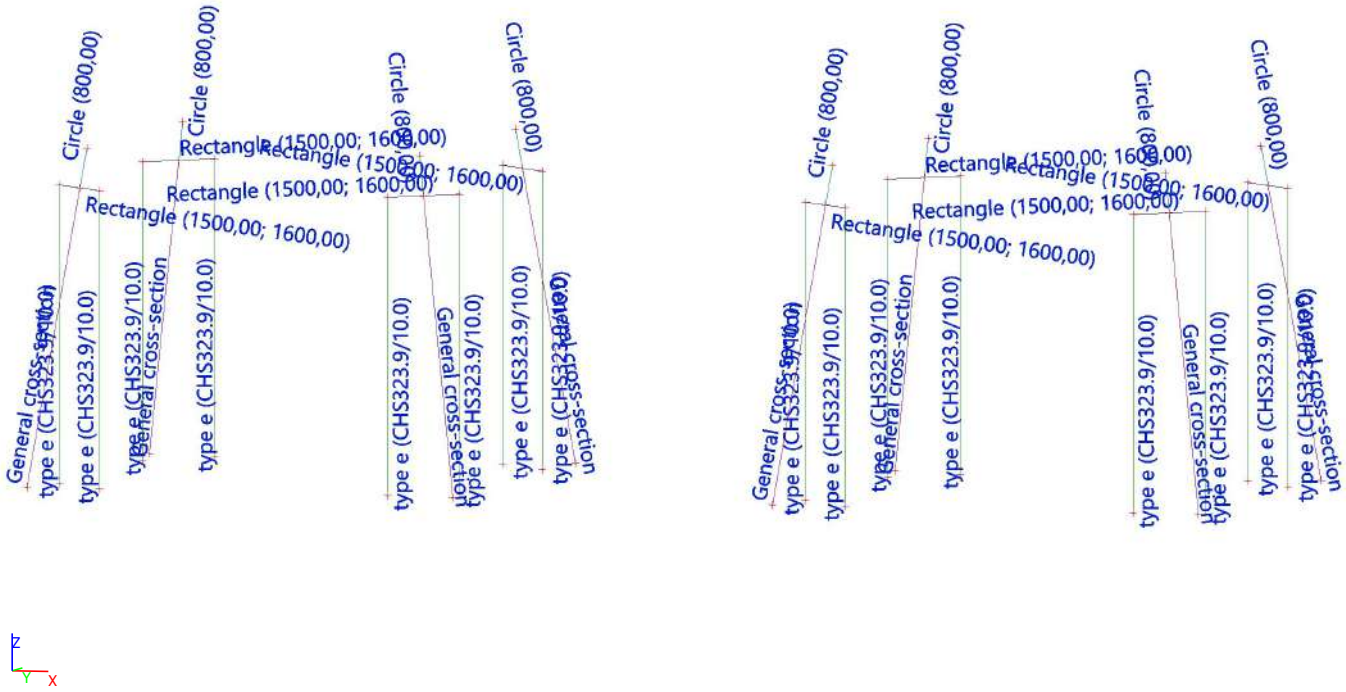
## 4.2. Cross-sections

| Poer800 | | |
|---|---|---|
| Type | Circle | |
| Detailed | 800,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 5,0265e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 4,5239e+05 | 4,5239e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,5131e+00 | 2,5131e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 400,00 | 400,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,0106e+10 | 2,0106e+10 |
| $i_y$ [mm], $i_z$ [mm] | 199,98 | 199,98 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,0265e+07 | 5,0265e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 8,5333e+07 | 8,5333e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 4,0212e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

| | | |
|---|---|---|
| Picture |  | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Detailed | 1500,00; 1600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 2,4000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,0007e+06 | 2,0008e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,2000e+00 | 6,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 800,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,5000e+11 | 5,1200e+11 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 461,88 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 6,0000e+08 | 6,4000e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 8,0849e+11 | 2,2447e+15 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Detailed | CHS323.9/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [mm²] | 1,3624e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 9,1187e+03 | 9,1187e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,0175e+00 | 1,0175e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 161,95 | 161,95 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,4326e+08 | 1,4326e+08 |
| $i_y$ [mm], $i_z$ [mm] | 102,54 | 102,54 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 8,8458e+05 | 8,8458e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,1479e+06 | 1,1479e+06 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 269749430,18 | 269749430,18 |

| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 269749430,18 | 269749430,18 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,9003e+08 | 2,9935e+04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LD1(31-plank)** | | |
| Type | General cross-section | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| | S 235 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | d | d |
| A [mm²] | 6,0572e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 3,6248e+05 | 3,6314e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,7651e+00 | 3,4664e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 553,25 | 9,99 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 1,6274e+10 | 1,6264e+10 |
| $I_{YZ.LCS}$ [mm⁴] | -1,0231e+08 | |
| α [deg] | 43,55 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,6372e+10 | 1,6167e+10 |
| $i_y$ [mm], $i_z$ [mm] | 164,40 | 163,37 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,7898e+07 | 5,8163e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9594e+07 | 4,9245e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 601215312,58 | 595125922,92 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 597037111,16 | 590937542,96 |
| $d_y$ [mm], $d_z$ [mm] | 0,12 | 0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,6243e+10 | 1,7700e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,09 | 0,21 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

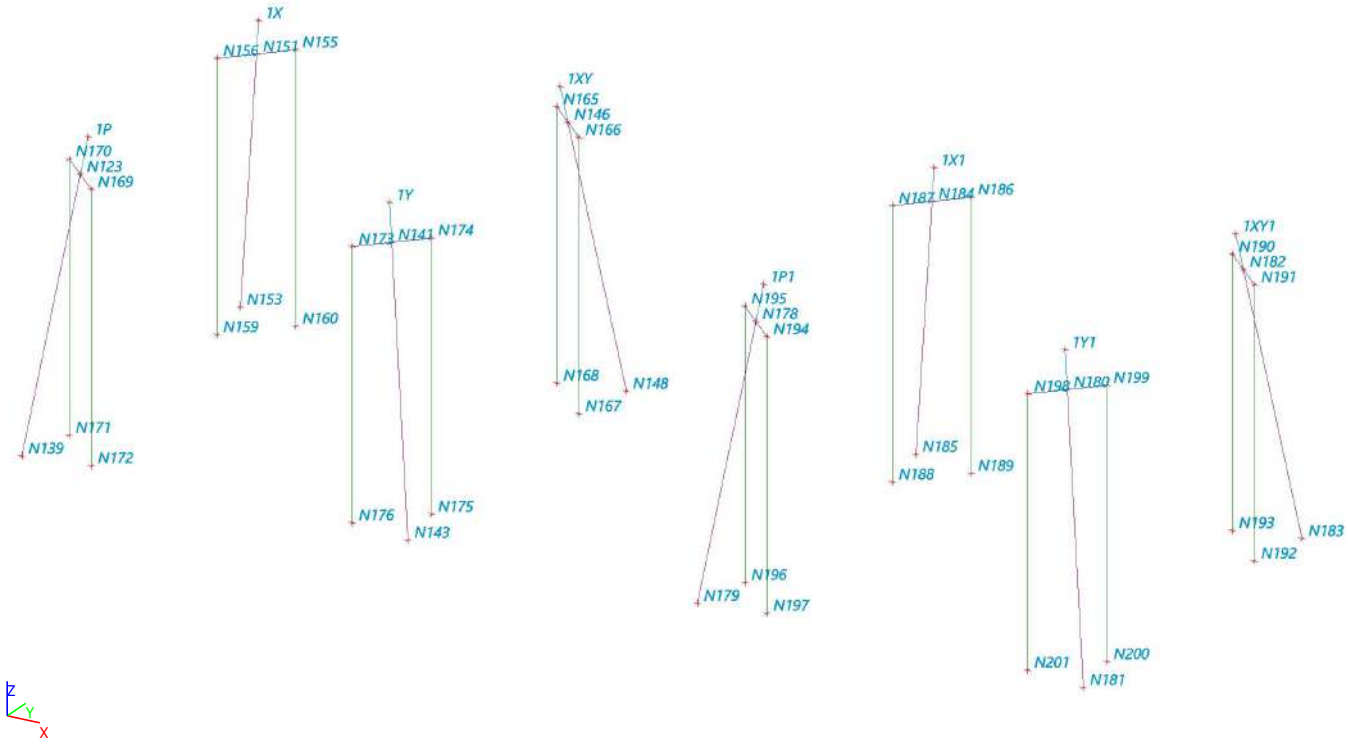
| | |
|---|---|
| Name | MeshSetup1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 1 |
| Average size of 2D mesh element [m] | 0,200 |
| Average size of 1D mesh element on curved 1D members [m] | 0,100 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

### 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N123 | -0,427 | -0,433 | -0,250 |
| 1P | -0,209 | -0,212 | 1,279 |
| N139 | -2,086 | -2,093 | -11,775 |
| N141 | 13,399 | -0,433 | -0,250 |
| 1Y | 13,181 | -0,212 | 1,279 |
| N143 | 15,058 | -2,093 | -11,775 |
| N146 | 13,399 | 13,405 | -0,250 |
| 1XY | 13,181 | 13,184 | 1,279 |
| N148 | 15,058 | 15,065 | -11,775 |
| N151 | -0,427 | 13,405 | -0,250 |
| 1X | -0,209 | 13,184 | 1,279 |
| N153 | -2,086 | 15,065 | -11,775 |
| N155 | 0,693 | 14,525 | -0,250 |
| N156 | -1,560 | 12,272 | -0,250 |
| N159 | -1,560 | 12,272 | -11,810 |
| N160 | 0,693 | 14,525 | -11,810 |
| N165 | 12,279 | 14,525 | -0,250 |
| N166 | 14,532 | 12,272 | -0,250 |
| N167 | 14,532 | 12,272 | -11,810 |
| N168 | 12,279 | 14,525 | -11,810 |
| N169 | 0,693 | -1,553 | -0,250 |
| N170 | -1,560 | 0,700 | -0,250 |
| N171 | -1,560 | 0,700 | -11,810 |
| N172 | 0,693 | -1,553 | -11,810 |
| N173 | 12,279 | -1,553 | -0,250 |
| N174 | 14,532 | 0,700 | -0,250 |
| N175 | 14,532 | 0,700 | -11,810 |
| N176 | 12,279 | -1,553 | -11,810 |
| N178 | 29,573 | -0,433 | -0,250 |
| 1P1 | 29,791 | -0,212 | 1,279 |
| N179 | 27,914 | -2,093 | -11,775 |
| N180 | 43,399 | -0,433 | -0,250 |
| 1Y1 | 43,181 | -0,212 | 1,279 |
| N181 | 45,058 | -2,093 | -11,775 |
| N182 | 43,399 | 13,405 | -0,250 |
| 1XY1 | 43,181 | 13,184 | 1,279 |
| N183 | 45,058 | 15,065 | -11,775 |
| N184 | 29,573 | 13,405 | -0,250 |
| 1X1 | 29,791 | 13,184 | 1,279 |
| N185 | 27,914 | 15,065 | -11,775 |
| N186 | 30,693 | 14,525 | -0,250 |
| N187 | 28,440 | 12,272 | -0,250 |
| N188 | 28,440 | 12,272 | -11,810 |
| N189 | 30,693 | 14,525 | -11,810 |
| N190 | 42,279 | 14,525 | -0,250 |
| N191 | 44,532 | 12,272 | -0,250 |
| N192 | 44,532 | 12,272 | -11,810 |
| N193 | 42,279 | 14,525 | -11,810 |
| N194 | 30,693 | -1,553 | -0,250 |
| N195 | 28,440 | 0,700 | -0,250 |
| N196 | 28,440 | 0,700 | -11,810 |
| N197 | 30,693 | -1,553 | -11,810 |
| N198 | 42,279 | -1,553 | -0,250 |
| N199 | 44,532 | 0,700 | -0,250 |
| N200 | 44,532 | 0,700 | -11,810 |
| N201 | 42,279 | -1,553 | -11,810 |

## 5.2. Analyse model met knopen

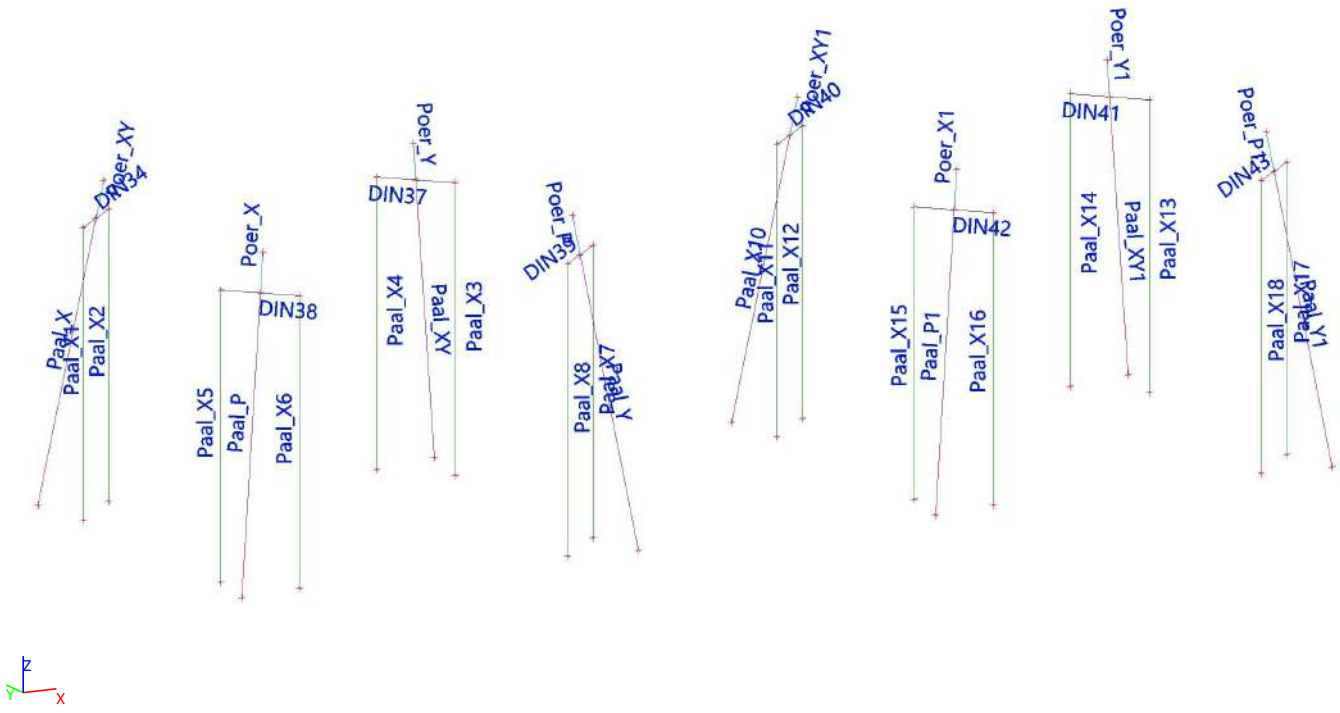



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| DIN34 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N156 | N155 | beam (80) |
| DIN37 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N166 | N165 | beam (80) |
| DIN38 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N170 | N169 | beam (80) |
| DIN39 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N174 | N173 | beam (80) |
| DIN40 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N187 | N186 | beam (80) |
| DIN41 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N191 | N190 | beam (80) |
| DIN42 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N195 | N194 | beam (80) |
| DIN43 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N199 | N198 | beam (80) |
| Paal_P | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N123 | N139 | column (100) |
| Paal_P1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N178 | N179 | column (100) |
| Paal_X | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N151 | N153 | column (100) |
| Paal_X1 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N156 | N159 | column (100) |
| Paal_X2 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N155 | N160 | column (100) |
| Paal_X3 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N166 | N167 | column (100) |
| Paal_X4 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N165 | N168 | column (100) |
| Paal_X5 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N170 | N171 | column (100) |
| Paal_X6 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N169 | N172 | column (100) |
| Paal_X7 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N174 | N175 | column (100) |
| Paal_X8 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N173 | N176 | column (100) |
| Paal_X10 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N184 | N185 | column (100) |
| Paal_X11 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N187 | N188 | column (100) |
| Paal_X12 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N186 | N189 | column (100) |
| Paal_X13 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N191 | N192 | column (100) |
| Paal_X14 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N190 | N193 | column (100) |
| Paal_X15 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N195 | N196 | column (100) |
| Paal_X16 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N194 | N197 | column (100) |
| Paal_X17 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N199 | N200 | column (100) |
| Paal_X18 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 11,560 | N198 | N201 | column (100) |
| Paal_XY | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N146 | N148 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N182 | N183 | column (100) |
| Paal_Y | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N141 | N143 | column (100) |
| Paal_Y1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 11,761 | N180 | N181 | column (100) |
| Poer_P | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N141 | 1Y | column (100) |
| Poer_P1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N180 | 1Y1 | column (100) |
| Poer_X | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N123 | 1P | column (100) |
| Poer_X1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N178 | 1P1 | column (100) |
| Poer_XY | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N151 | 1X | column (100) |
| Poer_XY1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N184 | 1X1 | column (100) |
| Poer_Y | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N146 | 1XY | column (100) |
| Poer_Y1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N182 | 1XY1 | column (100) |

## 5.4. Analyse model met Staven

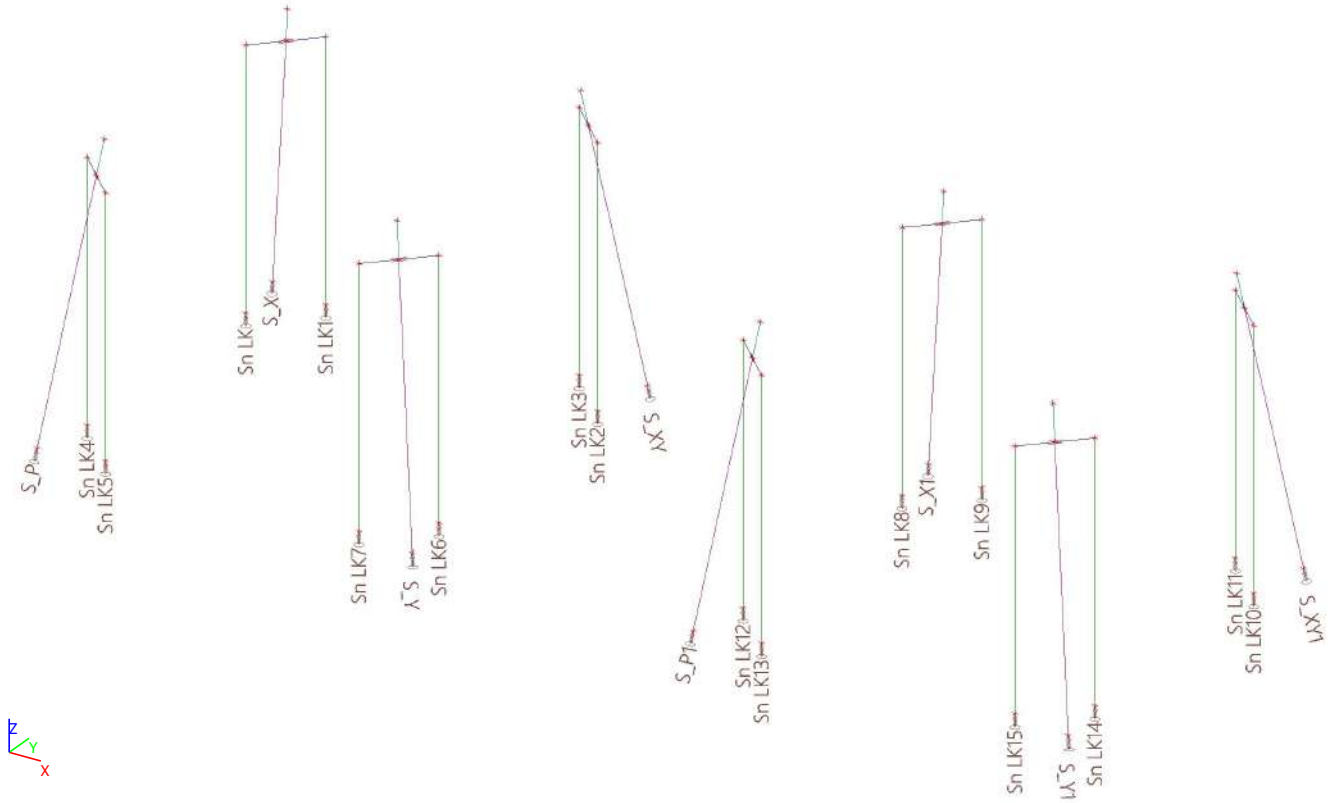



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P | N139 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y | N143 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY | N148 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X | N153 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK | N159 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK1 | N160 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK2 | N167 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK3 | N168 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK4 | N171 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK5 | N172 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK6 | N175 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK7 | N176 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_P1 | N179 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y1 | N181 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY1 | N183 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X1 | N185 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn LK8 | N188 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK9 | N189 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK10 | N192 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK11 | N193 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK12 | N196 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK13 | N197 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK14 | N200 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK15 | N201 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Line supports on member

| Name | Type | Member | Pos $x_1$ [m] | Coor | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | System | Pos $x_2$ [m] | Orig | | | | | | |
| Slb_P_Veen | Line | Paal_P | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_Veen | Line | Paal_Y | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_Veen | Line | Paal_XY | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_Veen | Line | Paal_X | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V9 | Line | Paal_P | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V9 | Line | Paal_Y | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V9 | Line | Paal_XY | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V9 | Line | Paal_X | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V10 | Line | Paal_P | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

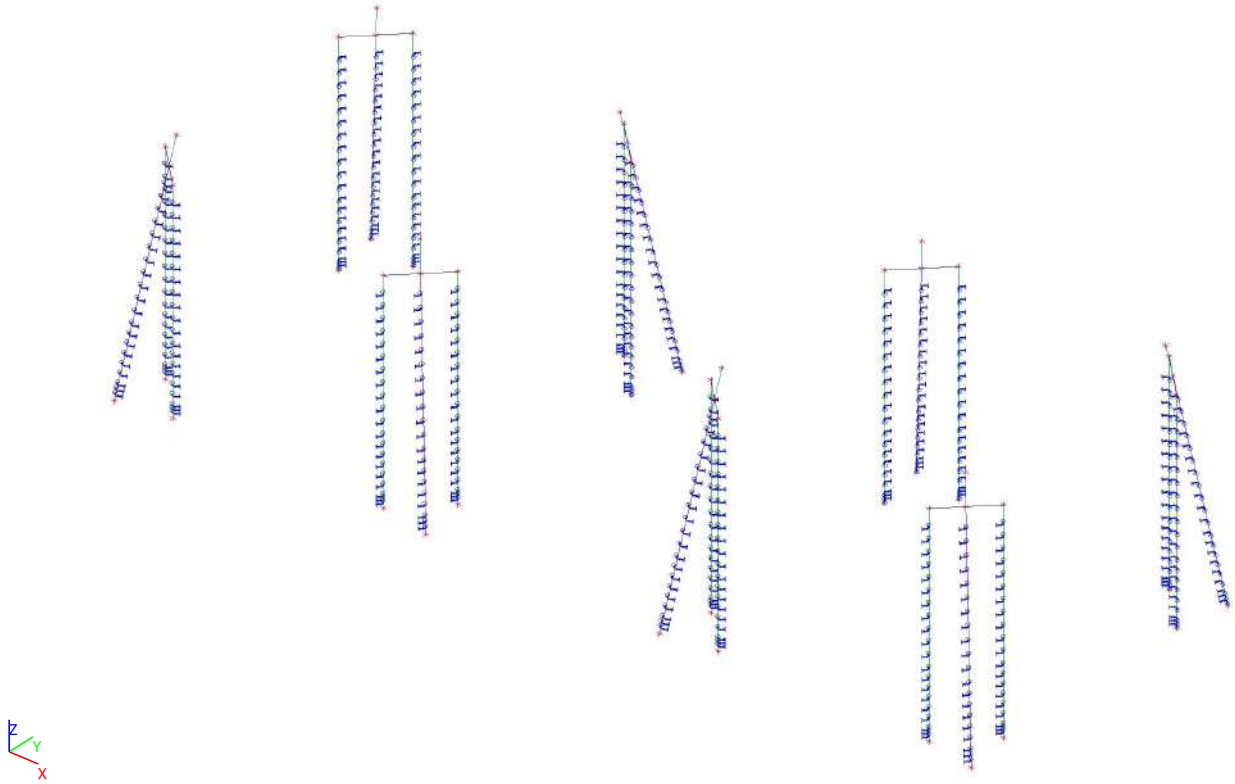
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V11 | Line | Paal_P | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V12 | Line | Paal_P | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_Y_V10 | Line | Paal_Y | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V11 | Line | Paal_Y | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V12 | Line | Paal_Y | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_XY_V10 | Line | Paal_XY | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V11 | Line | Paal_XY | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V12 | Line | Paal_XY | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_X_V10 | Line | Paal_X | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V11 | Line | Paal_X | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V12 | Line | Paal_X | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_X_Veen1 | Line | Paal_X1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V22 | Line | Paal_X1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V23 | Line | Paal_X1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V24 | Line | Paal_X1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V25 | Line | Paal_X1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen2 | Line | Paal_X2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V32 | Line | Paal_X2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V33 | Line | Paal_X2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V34 | Line | Paal_X2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V35 | Line | Paal_X2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen3 | Line | Paal_X3 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V42 | Line | Paal_X3 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V43 | Line | Paal_X3 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V44 | Line | Paal_X3 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V45 | Line | Paal_X3 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen4 | Line | Paal_X4 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V52 | Line | Paal_X4 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V53 | Line | Paal_X4 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V54 | Line | Paal_X4 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V55 | Line | Paal_X4 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen5 | Line | Paal_X5 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V62 | Line | Paal_X5 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V63 | Line | Paal_X5 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V64 | Line | Paal_X5 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V65 | Line | Paal_X5 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen6 | Line | Paal_X6 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V72 | Line | Paal_X6 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V73 | Line | Paal_X6 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V74 | Line | Paal_X6 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V75 | Line | Paal_X6 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen7 | Line | Paal_X7 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V82 | Line | Paal_X7 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V83 | Line | Paal_X7 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V84 | Line | Paal_X7 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V85 | Line | Paal_X7 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen8 | Line | Paal_X8 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V92 | Line | Paal_X8 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V93 | Line | Paal_X8 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V94 | Line | Paal_X8 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V95 | Line | Paal_X8 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_P_Veen1 | Line | Paal_P1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V14 | Line | Paal_P1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V15 | Line | Paal_P1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V16 | Line | Paal_P1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V17 | Line | Paal_P1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_Y_Veen1 | Line | Paal_Y1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_V14 | Line | Paal_Y1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V15 | Line | Paal_Y1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V16 | Line | Paal_Y1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V17 | Line | Paal_Y1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_XY_Veen1 | Line | Paal_XY1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_V14 | Line | Paal_XY1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V15 | Line | Paal_XY1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

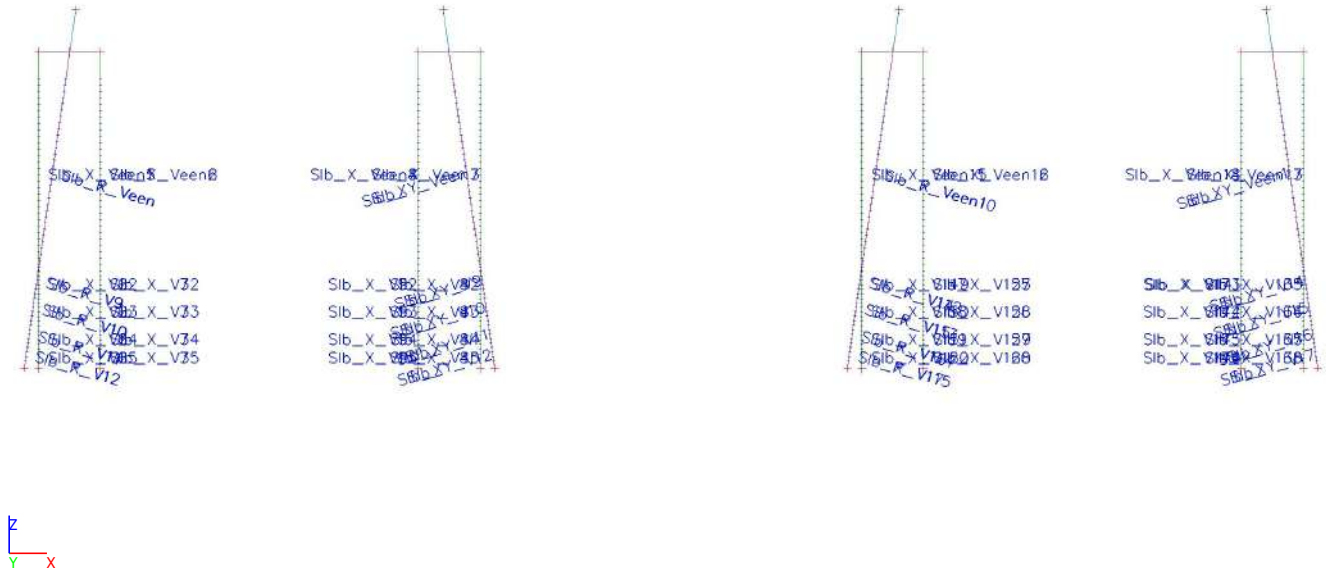
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V16 | Line | Paal_XY1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V17 | Line | Paal_XY1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_X_Veen10 | Line | Paal_X10 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V112 | Line | Paal_X10 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V113 | Line | Paal_X10 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V114 | Line | Paal_X10 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V115 | Line | Paal_X10 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,500 | From start | | | | | | |
| Slb_X_Veen11 | Line | Paal_X11 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V117 | Line | Paal_X11 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V118 | Line | Paal_X11 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V119 | Line | Paal_X11 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V120 | Line | Paal_X11 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen12 | Line | Paal_X12 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V125 | Line | Paal_X12 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V126 | Line | Paal_X12 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V127 | Line | Paal_X12 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V128 | Line | Paal_X12 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen13 | Line | Paal_X13 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V133 | Line | Paal_X13 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V134 | Line | Paal_X13 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V135 | Line | Paal_X13 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V136 | Line | Paal_X13 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen14 | Line | Paal_X14 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V141 | Line | Paal_X14 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V142 | Line | Paal_X14 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V143 | Line | Paal_X14 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V144 | Line | Paal_X14 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen15 | Line | Paal_X15 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V149 | Line | Paal_X15 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V150 | Line | Paal_X15 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V151 | Line | Paal_X15 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V152 | Line | Paal_X15 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen16 | Line | Paal_X16 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V157 | Line | Paal_X16 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V158 | Line | Paal_X16 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V159 | Line | Paal_X16 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V160 | Line | Paal_X16 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen17 | Line | Paal_X17 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V165 | Line | Paal_X17 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V166 | Line | Paal_X17 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V167 | Line | Paal_X17 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V168 | Line | Paal_X17 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |
| Slb_X_Veen18 | Line | Paal_X18 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V173 | Line | Paal_X18 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V174 | Line | Paal_X18 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V175 | Line | Paal_X18 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V176 | Line | Paal_X18 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,350 | From start | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



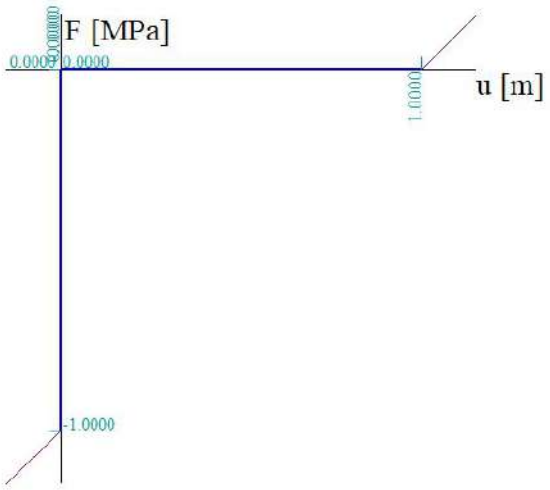
## 5.9. Analyse model met Lijnondersteuningen



## 5.10. Nonlinear functions

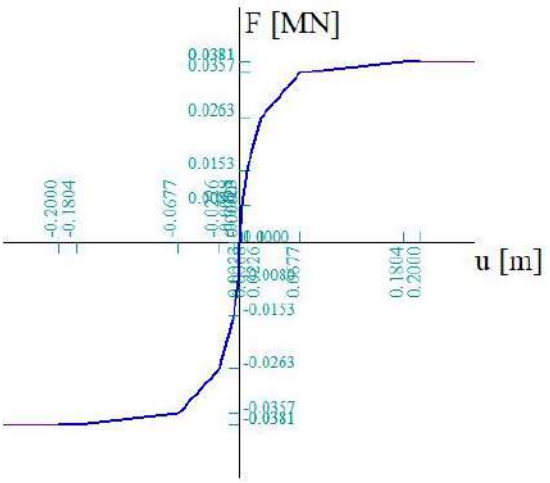
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| soil press only | Nonlinear subsoil | | Flexible | Flexible |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -0.200000 / -38100.000000 | Free | Free |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

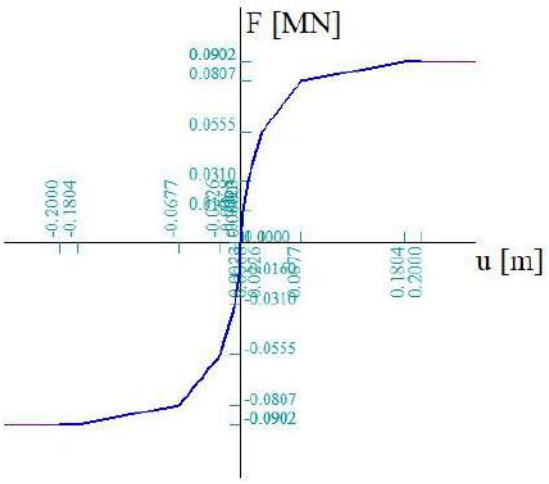
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -0.200000 / -90200.000000 | Free | Free |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |

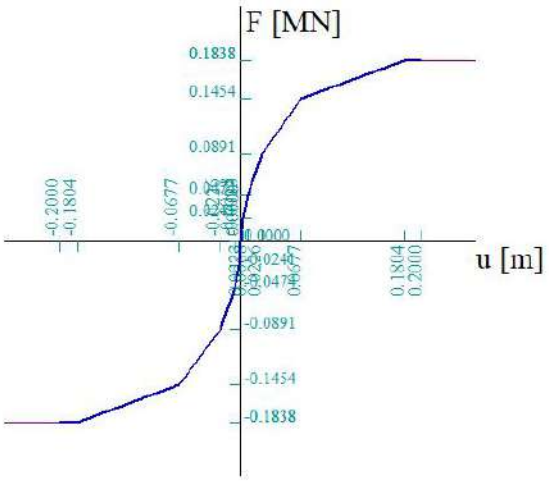
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

Drawing



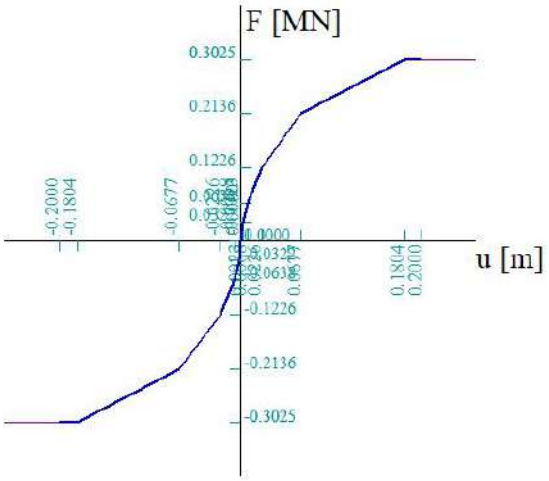

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V11 | Translation | -0.200000 / -183800.000000 | Free | Free |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V12 | Translation | -0.200000 / -302500.000000 | Free | Free |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

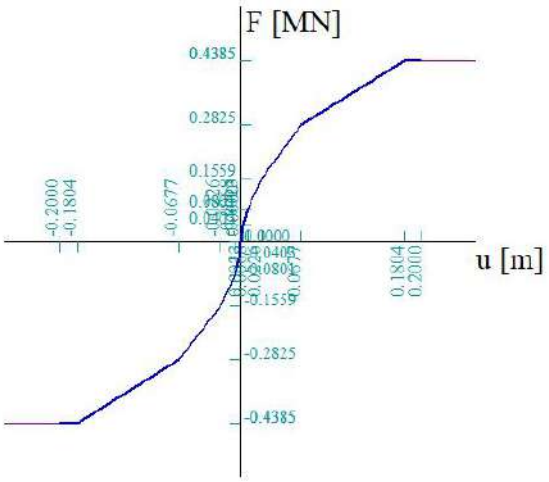
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V13 | Translation | -0.200000 / -438500.000000 | Free | Free |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |

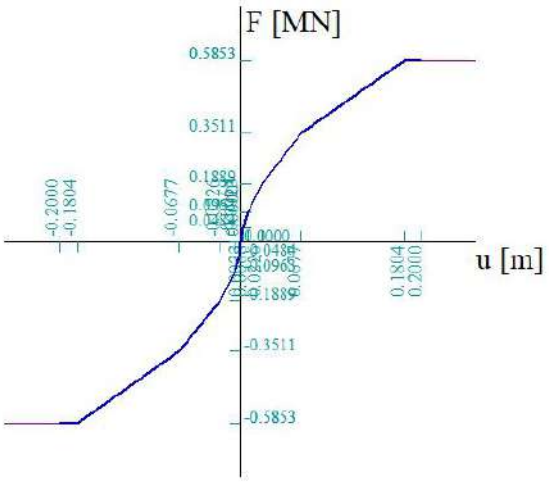
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V14 | Translation | -0.200000 / -585300.000000 | Free | Free |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

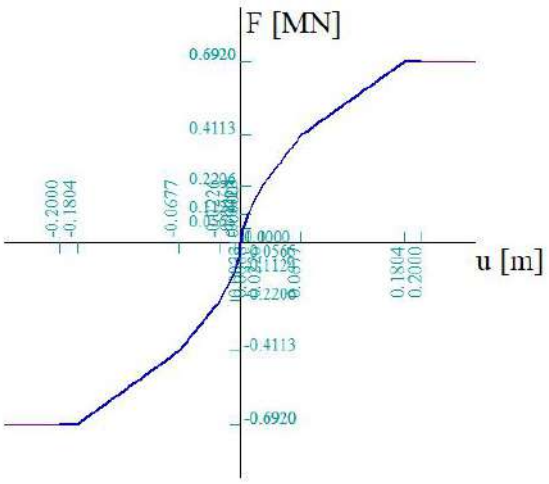
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V15 | Translation | -0.200000 / -692000.000000 | Free | Free |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |

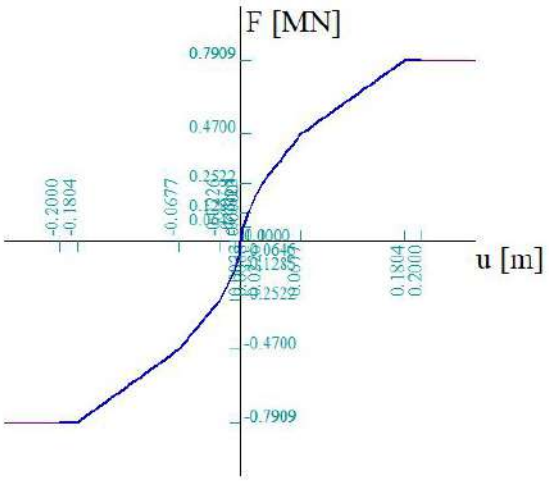
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

Drawing



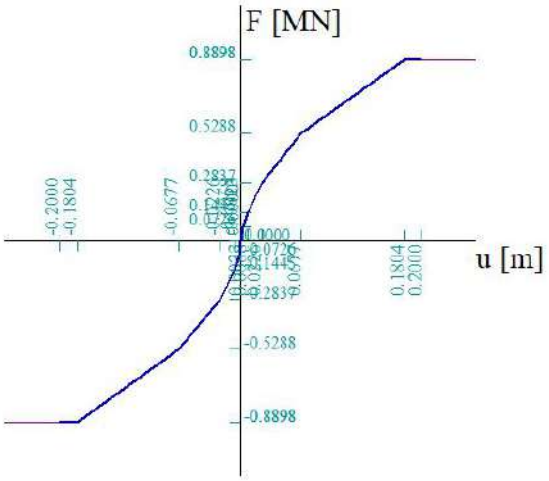

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V16 | Translation | -0.200000 / -790900.000000 | Free | Free |
| | | -0.180400 / -790900.000000 | | |
| | | -0.067650 / -470000.000000 | | |
| | | -0.022550 / -252200.000000 | | |
| | | -0.006765 / -128500.000000 | | |
| | | -0.002255 / -64500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 64500.000000 | | |
| | | 0.006765 / 128500.000000 | | |
| | | 0.022550 / 252200.000000 | | |
| | | 0.067650 / 470000.000000 | | |
| | | 0.180400 / 790900.000000 | | |
| | | 0.200000 / 790900.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V17 | Translation | -0.200000 / -889800.000000 | Free | Free |
| | | -0.180400 / -889800.000000 | | |
| | | -0.067650 / -528800.000000 | | |
| | | -0.022550 / -283700.000000 | | |
| | | -0.006765 / -144500.000000 | | |
| | | -0.002255 / -72600.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 72600.000000 | | |
| | | 0.006765 / 144500.000000 | | |
| | | 0.022550 / 283700.000000 | | |
| | | 0.067650 / 528800.000000 | | |
| | | 0.180400 / 889800.000000 | | |
| | | 0.200000 / 889800.000000 | | |

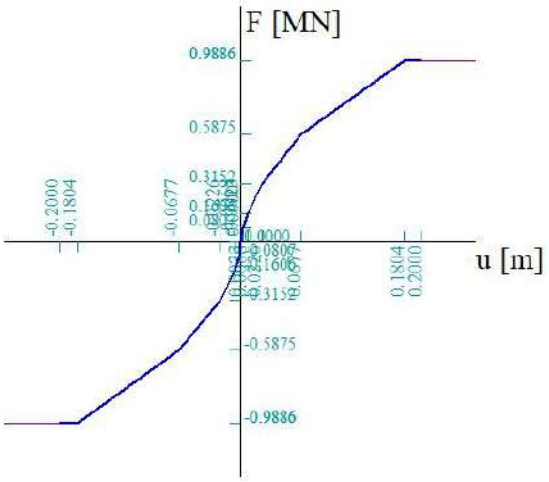
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V18 | Translation | -0.200000 / -988600.000000 | Free | Free |
| | | -0.180400 / -988600.000000 | | |
| | | -0.067650 / -587500.000000 | | |
| | | -0.022550 / -315200.000000 | | |
| | | -0.006765 / -160600.000000 | | |
| | | -0.002255 / -80700.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 80700.000000 | | |
| | | 0.006765 / 160600.000000 | | |
| | | 0.022550 / 315200.000000 | | |

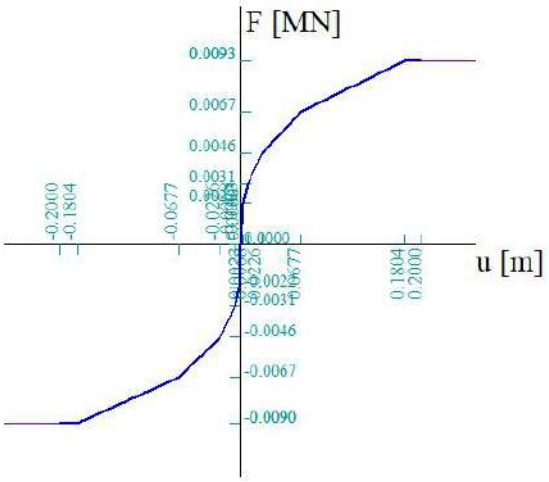
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 587500.000000 | | |
| | | 0.180400 / 988600.000000 | | |
| | | 0.200000 / 988600.000000 | | |

Drawing



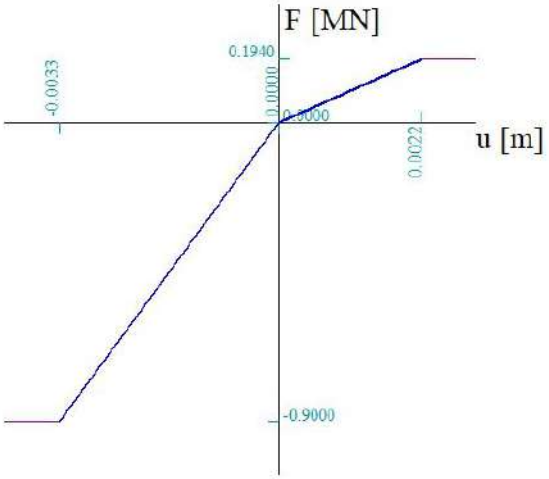

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen | Translation | -0.200000 / -9000.000000 | Free | Free |
| | | -0.180400 / -9000.000000 | | |
| | | -0.067650 / -6700.000000 | | |
| | | -0.022550 / -4630.000000 | | |
| | | -0.006765 / -3100.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3100.000000 | | |
| | | 0.022550 / 4630.000000 | | |
| | | 0.067650 / 6700.000000 | | |
| | | 0.180400 / 9270.000000 | | |
| | | 0.200000 / 9270.000000 | | |

Drawing



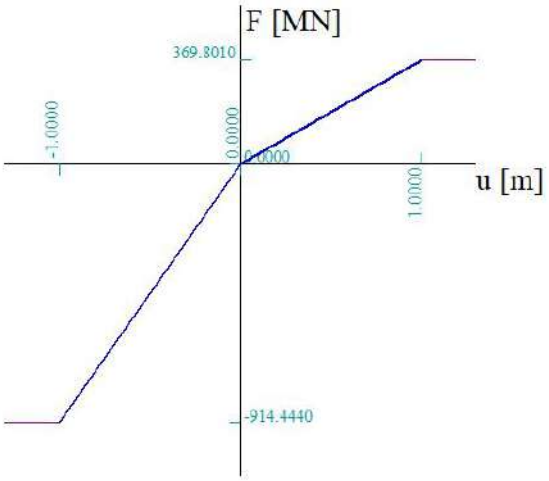

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt_min.B. | Translation | -0.003340 / -900000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 0.002160 / 194000.000000 | | |

Drawing



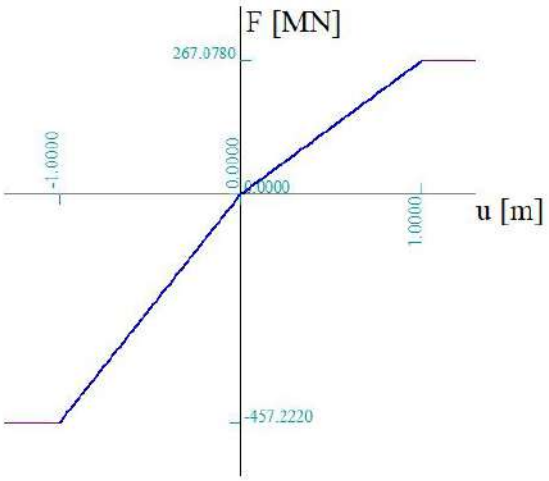

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Translation | -1.000000 / -914444000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 369801000.000000 | | |

Drawing



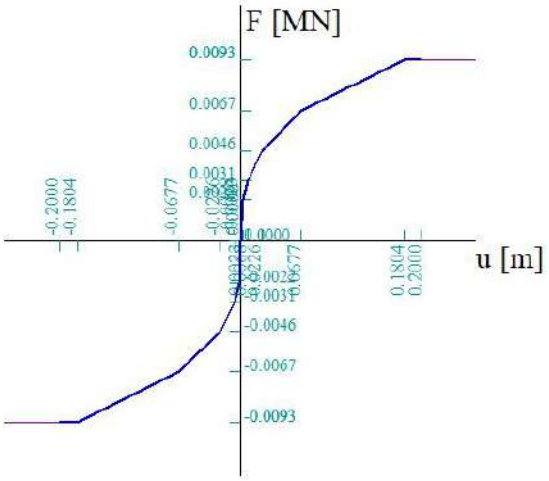

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Translation | -1.000000 / -457222000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 267078000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -0.200000 / -9265.000000 | Free | Free |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

Drawing

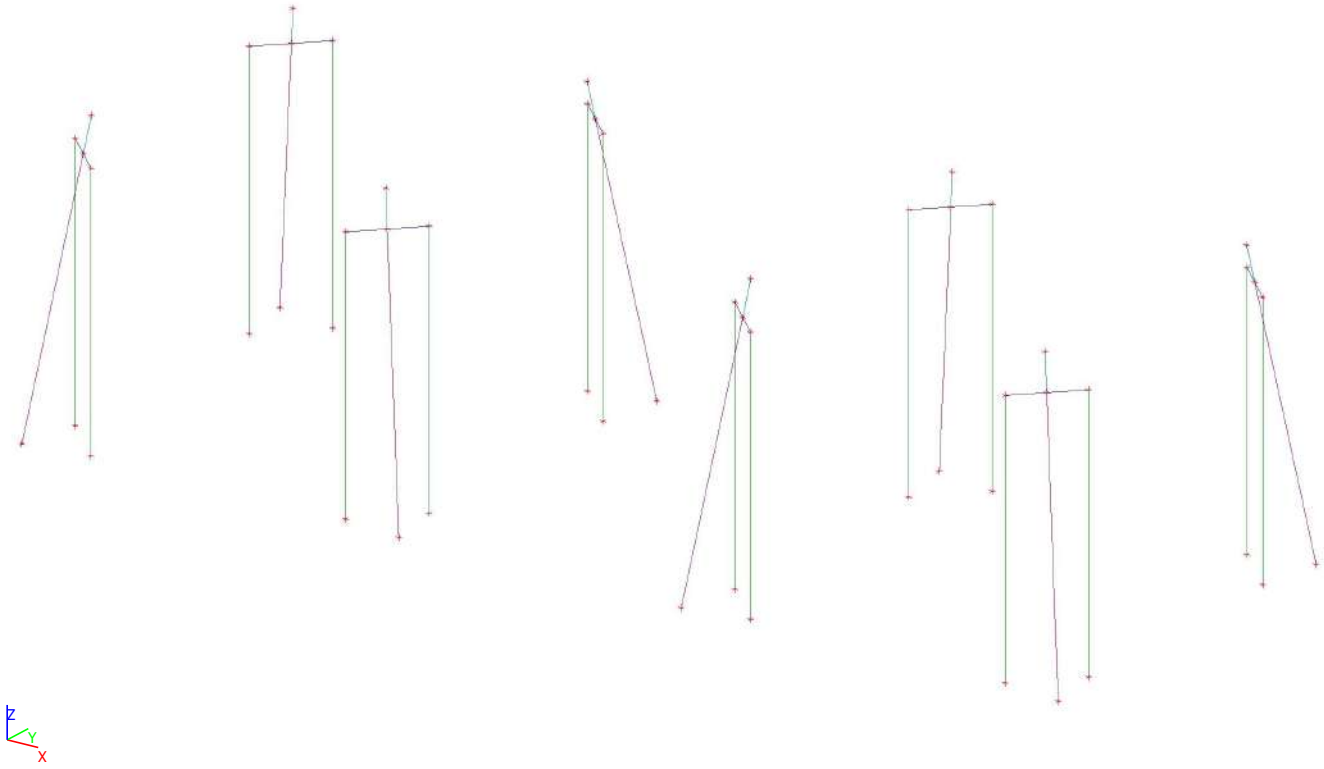


# 6. Belastingen

## 6.1. Load cases

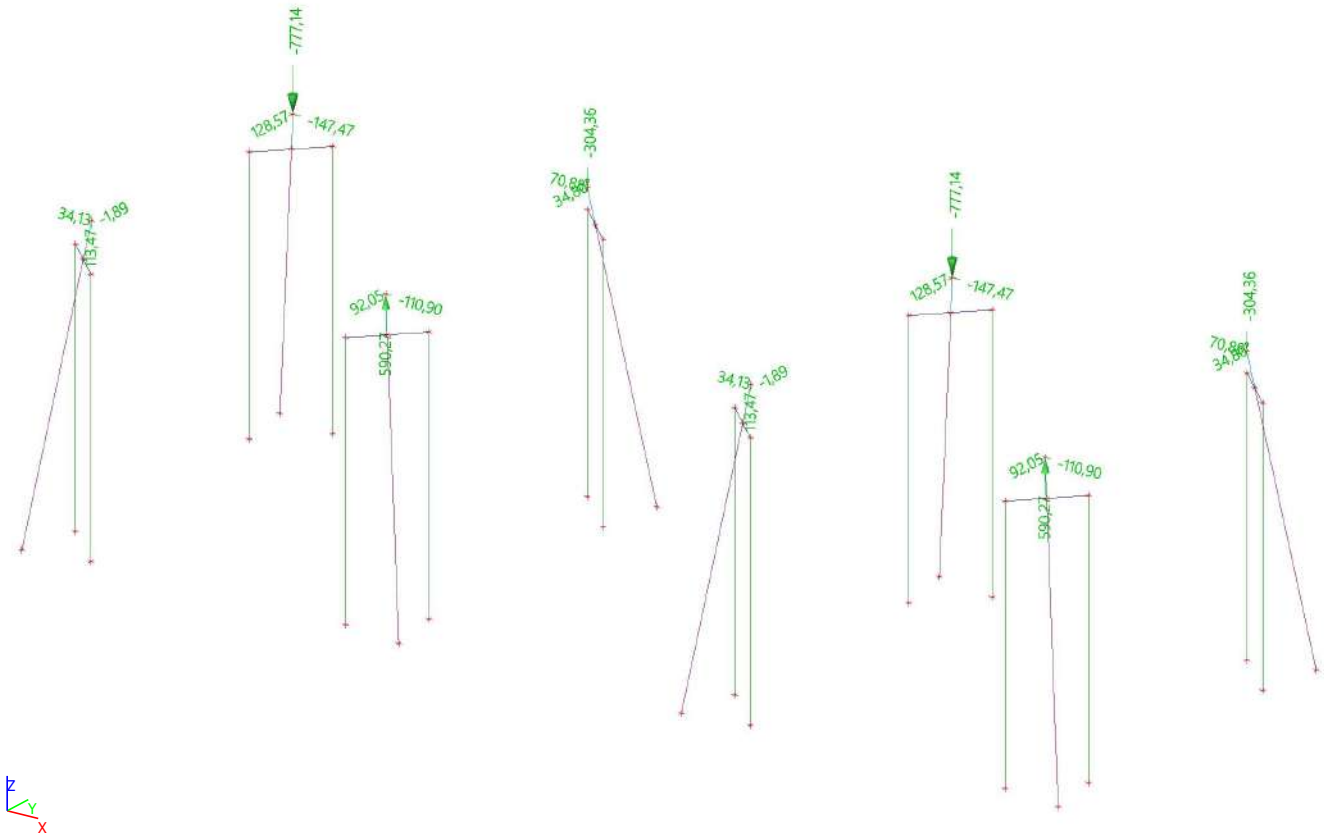
### 6.1.1. Load cases - EG_Fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_Fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |




### 6.1.2. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



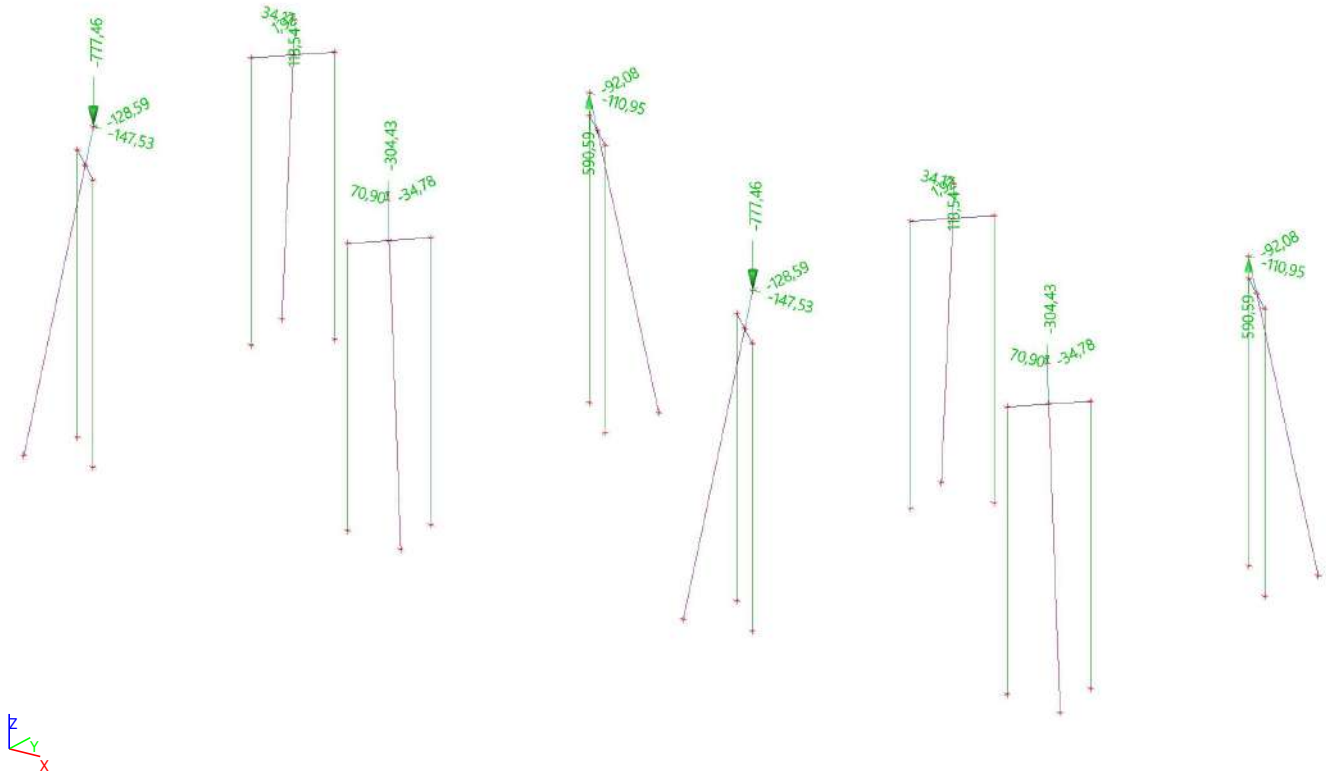

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 113,47 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -777,14 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -304,36 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1P_X1 | 1P1 | high max Wnd ;45° | GCS | X | Force | 34,13 |
| high max Wnd ;45°_1P_Y1 | 1P1 | high max Wnd ;45° | GCS | Y | Force | -1,89 |
| high max Wnd | 1P1 | high max Wnd ;45° | GCS | Z | Force | 113,47 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Force | -110,90 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Force | 92,05 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Force | 590,27 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Force | 70,88 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Force | 34,80 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Force | -304,36 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Force | -147,47 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Force | 128,57 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Force | -777,14 |

### 6.1.3. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -777,46 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 113,54 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1P_X1 | 1P1 | high max Wnd ;315° | GCS | X | Force | -147,53 |
| high max Wnd ;315°_1P_Y1 | 1P1 | high max Wnd ;315° | GCS | Y | Force | -128,59 |
| high max Wnd ;315°_1P_Z1 | 1P1 | high max Wnd ;315° | GCS | Z | Force | -777,46 |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Force | 70,90 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Force | -34,78 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Force | -304,43 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Force | -110,95 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Force | -92,08 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Force | 590,59 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Force | 34,17 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Force | 1,92 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Force | 113,54 |

### 6.1.4. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### 6.1.4.1. Point force in node

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 601,28 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -293,59 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1P_X1 | 1P1 | high max Wnd ;135° | GCS | X | Force | 112,18 |
| high max Wnd ;135°_1P_Y1 | 1P1 | high max Wnd ;135° | GCS | Y | Force | 94,25 |
| high max Wnd | 1P1 | high max Wnd ;135° | GCS | Z | Force | 601,28 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Force | -32,71 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Force | -4,20 |
| high max Wnd ;135°_1Y_Z1 | 1Y1 | high max Wnd ;135° | GCS | Z | Force | 101,82 |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Force | 148,86 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Force | 130,93 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Force | -788,76 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Force | -69,67 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Force | 32,58 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Force | -293,59 |

### 6.1.5. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

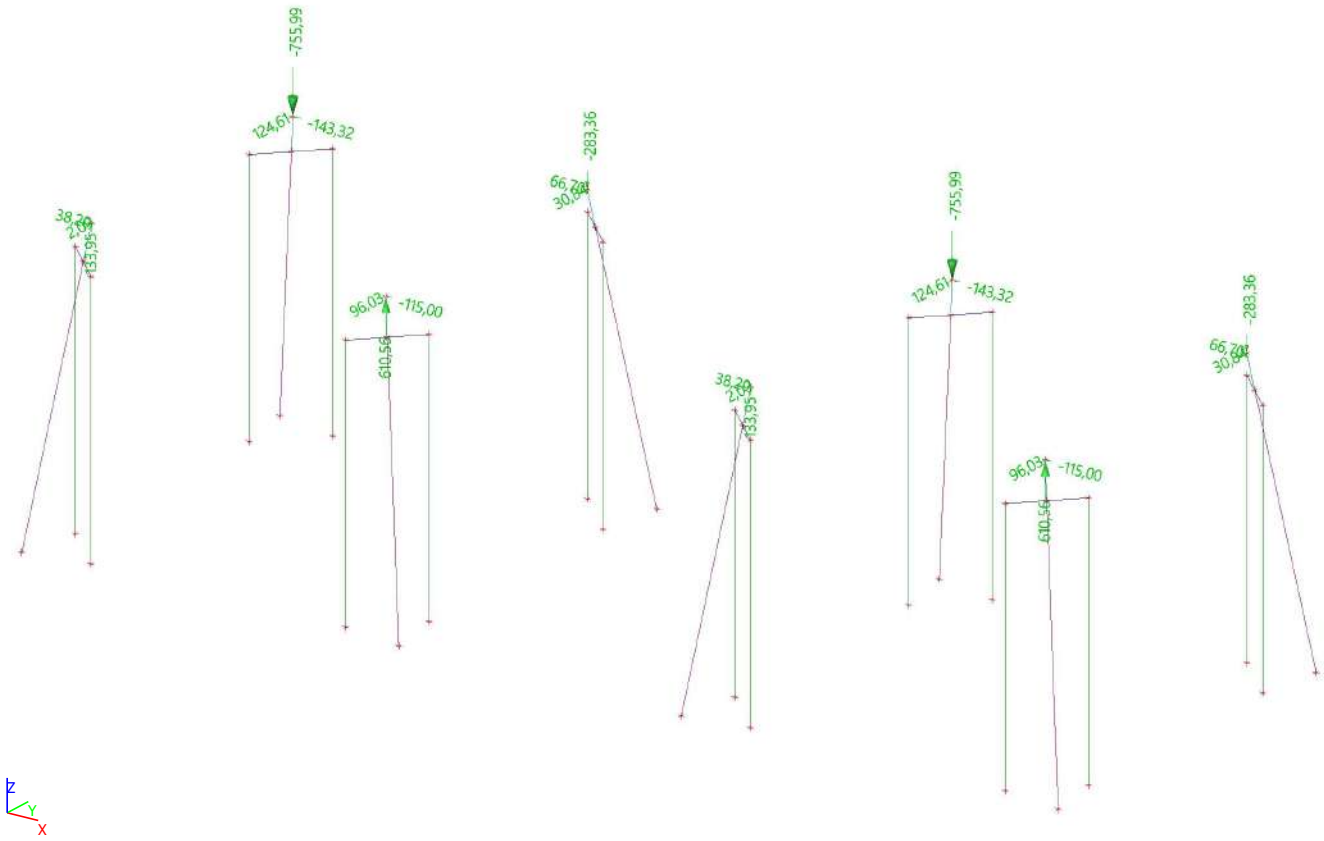


#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 601,39 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1P_X1 | 1P1 | high max Wnd ;225° | GCS | X | Force | -69,72 |
| high max Wnd ;225°_1P_Y1 | 1P1 | high max Wnd ;225° | GCS | Y | Force | -32,59 |
| high max Wnd ;225°_1P_Z1 | 1P1 | high max Wnd ;225° | GCS | Z | Force | -293,87 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Force | 148,89 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Force | -130,91 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Force | -788,87 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Force | -32,76 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Force | 4,18 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Force | 102,09 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Force | 112,22 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Force | -94,22 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Force | 601,39 |

### 6.1.6. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 133,95 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -755,99 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1P_X1 | 1P1 | low max Wnd ;45° | GCS | X | Force | 38,20 |
| low max Wnd ;45°_1P_Y1 | 1P1 | low max Wnd ;45° | GCS | Y | Force | 2,09 |
| low max Wnd | 1P1 | low max Wnd ;45° | GCS | Z | Force | 133,95 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Force | -115,00 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Force | 96,03 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Force | 610,56 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Force | 66,70 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Force | 30,84 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Force | -283,36 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Force | -143,32 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Force | 124,61 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Force | -755,99 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |



#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 620,72 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1P_X1 | 1P1 | low max Wnd ;225° | GCS | X | Force | -65,64 |
| low max Wnd ;225°_1P_Y1 | 1P1 | low max Wnd ;225° | GCS | Y | Force | -28,82 |
| low max Wnd ;225°_1P_Z1 | 1P1 | low max Wnd ;225° | GCS | Z | Force | -273,75 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Force | 144,63 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Force | -126,77 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Force | -766,76 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Force | -36,93 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Force | 0,01 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Force | 123,46 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Force | 116,21 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Force | -98,01 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Force | 620,72 |

### 6.1.8. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.8.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 620,65 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -273,52 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1P_X1 | 1P1 | low max Wnd ;135° | GCS | X | Force | 116,18 |
| low max Wnd ;135°_1P_Y1 | 1P1 | low max Wnd ;135° | GCS | Y | Force | 98,04 |
| low max Wnd | 1P1 | low max Wnd ;135° | GCS | Z | Force | 620,65 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Force | -36,89 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Force | -0,03 |
| low max Wnd ;135°_1Y_Z1 | 1Y1 | low max Wnd ;135° | GCS | Z | Force | 123,24 |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Force | 144,61 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Force | 126,78 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Force | -766,69 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Force | -65,59 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Force | 28,81 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Force | -273,52 |

### 6.1.9. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | Standard | Variable Static | LG4 | Short | None |



#### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -756,28 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 133,97 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1P_X1 | 1P1 | low max Wnd ;315° | GCS | X | Force | -143,38 |
| low max Wnd ;315°_1P_Y1 | 1P1 | low max Wnd ;315° | GCS | Y | Force | -124,63 |
| low max Wnd ;315°_1P_Z1 | 1P1 | low max Wnd ;315° | GCS | Z | Force | -756,28 |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Force | 66,71 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Force | -30,82 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Force | -283,39 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Force | -115,05 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Force | -96,06 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Force | 610,85 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Force | 38,23 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Force | -2,06 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Force | 133,97 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;225° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;225° | 1,000 |
| low max Wnd ;135° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| | | low max Wnd ;315° | 1,000 |
| high max Wnd ;45° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;225° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;315° | 1,000 |
| high max Wnd ;135° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;225° | 1,000 |

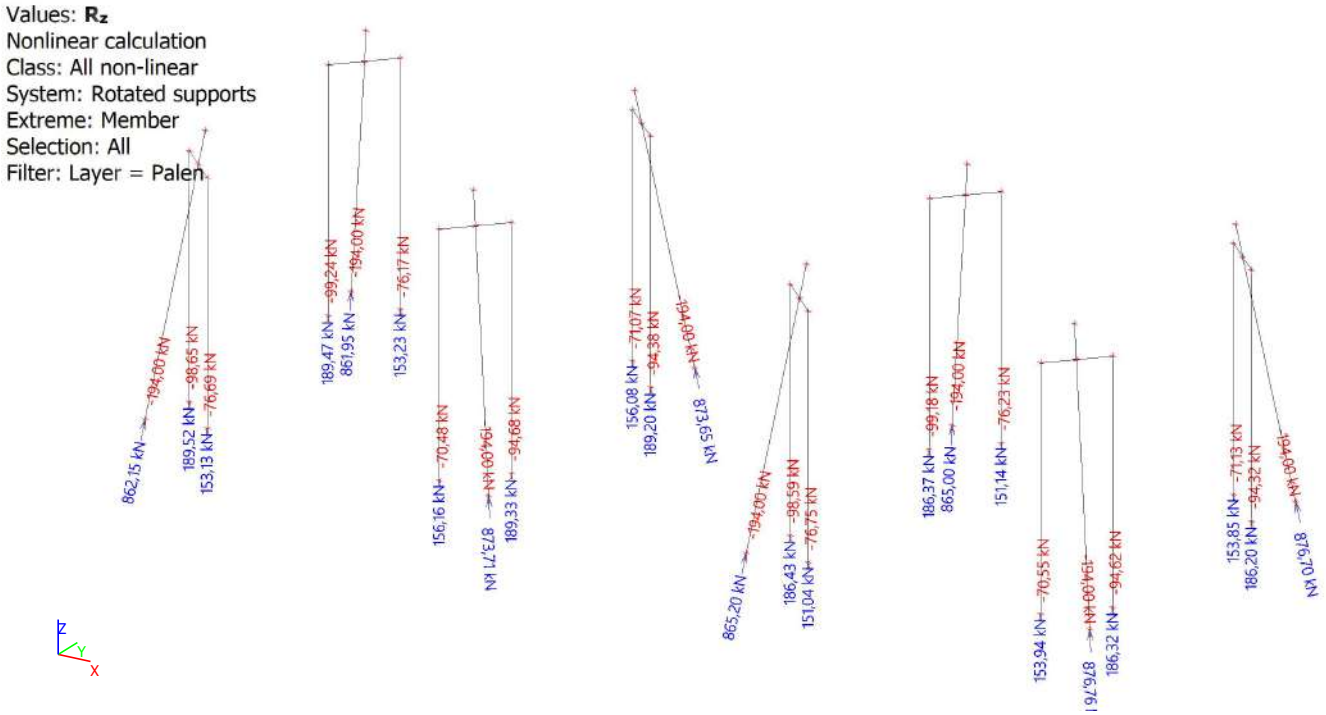
## 6.3. Result classes

| Name | List |
|---|---|
| All non-linear | low max Wnd ;45° - EG_Gunstig |
| | low max Wnd ;225° - EG_Gunstig |
| | low max Wnd ;135° - EG_Gunstig |
| | low max Wnd ;315° - EG_Gunstig |
| | high max Wnd ;45° - EG_Ongunstig |
| | high max Wnd ;225° - EG_Ongunstig |
| | high max Wnd ;135° - EG_Ongunstig |
| | high max Wnd ;315° - EG_Ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z




### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LD1(31-plank) - General cross-section
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y1/N181 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **876,76** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-99,24** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **189,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **862,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **873,71** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY/N148 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **873,65** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X/N153 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **861,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-99,24** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **189,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK1/N160 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-76,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK1/N160 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **153,23** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK2/N167 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-94,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **189,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK3/N168 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-71,07** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK3/N168 | high max Wnd ;315° - | **0,00** | **0,00** | **156,08** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

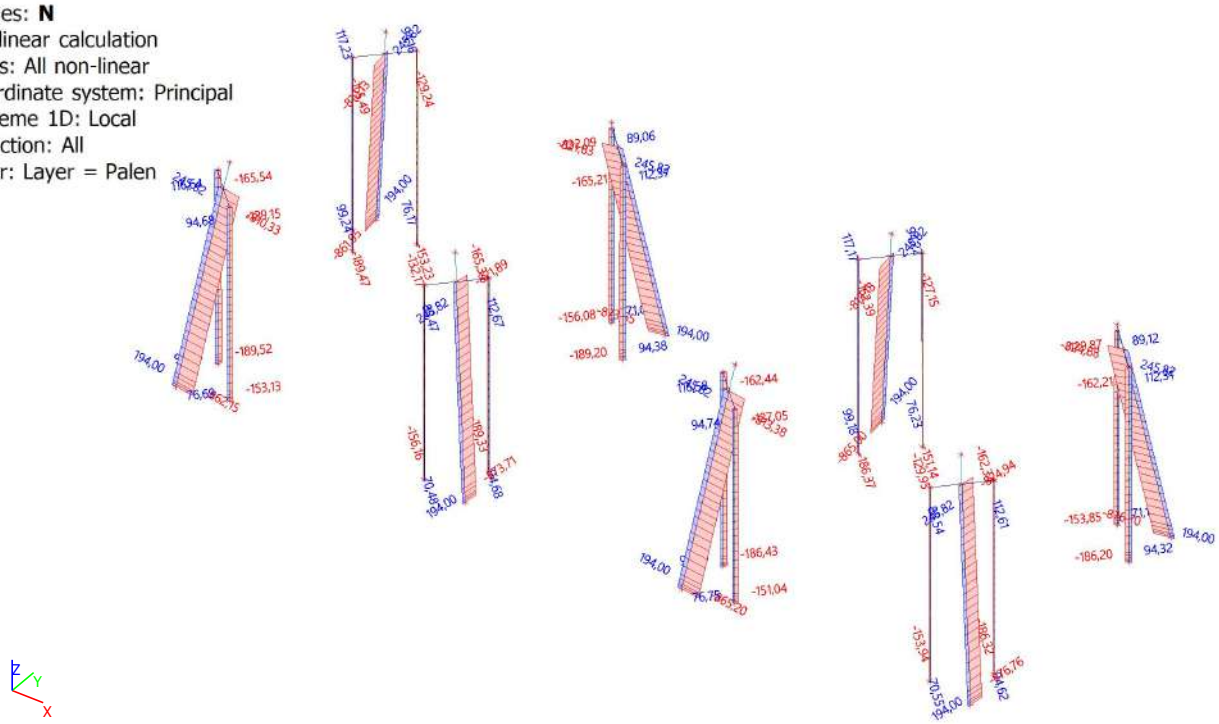
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK4/N171 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-98,65** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **189,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK5/N172 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-76,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **153,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **189,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-94,68** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **156,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-70,48** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P1/N179 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P1/N179 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **865,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y1/N181 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **876,76** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y1/N181 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY1/N183 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY1/N183 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **876,70** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X1/N185 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-194,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X1/N185 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **865,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK8/N188 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-99,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK8/N188 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **186,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK9/N189 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-76,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK9/N189 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **151,14** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK10/N192 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-94,32** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK10/N192 | high max Wnd ;45° - | **0,00** | **0,00** | **186,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK11/N193 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-71,13** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK11/N193 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **153,85** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK12/N196 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-98,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK12/N196 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **186,43** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK13/N197 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-76,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK13/N197 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **151,04** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK14/N200 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **186,32** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK14/N200 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-94,62** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK15/N201 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **153,94** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK15/N201 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-70,55** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

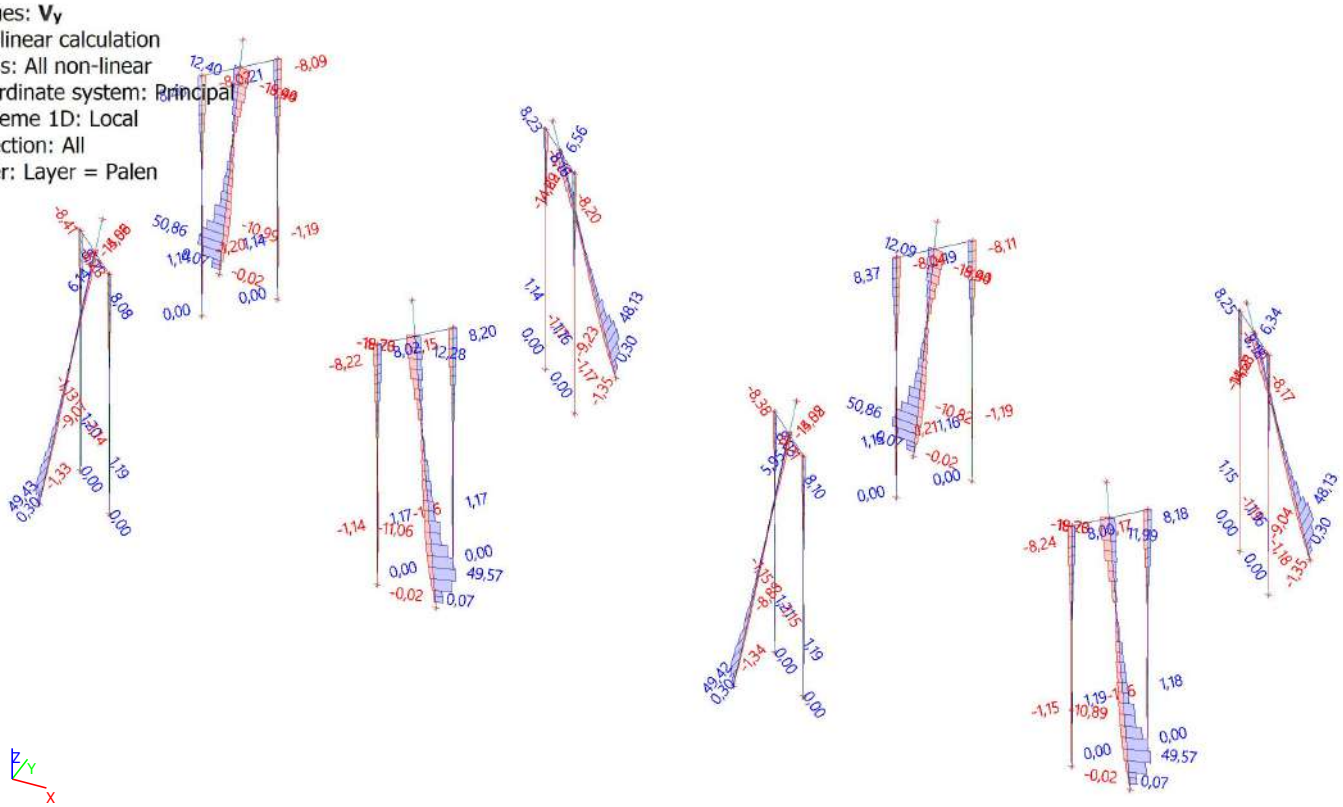
## 8.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



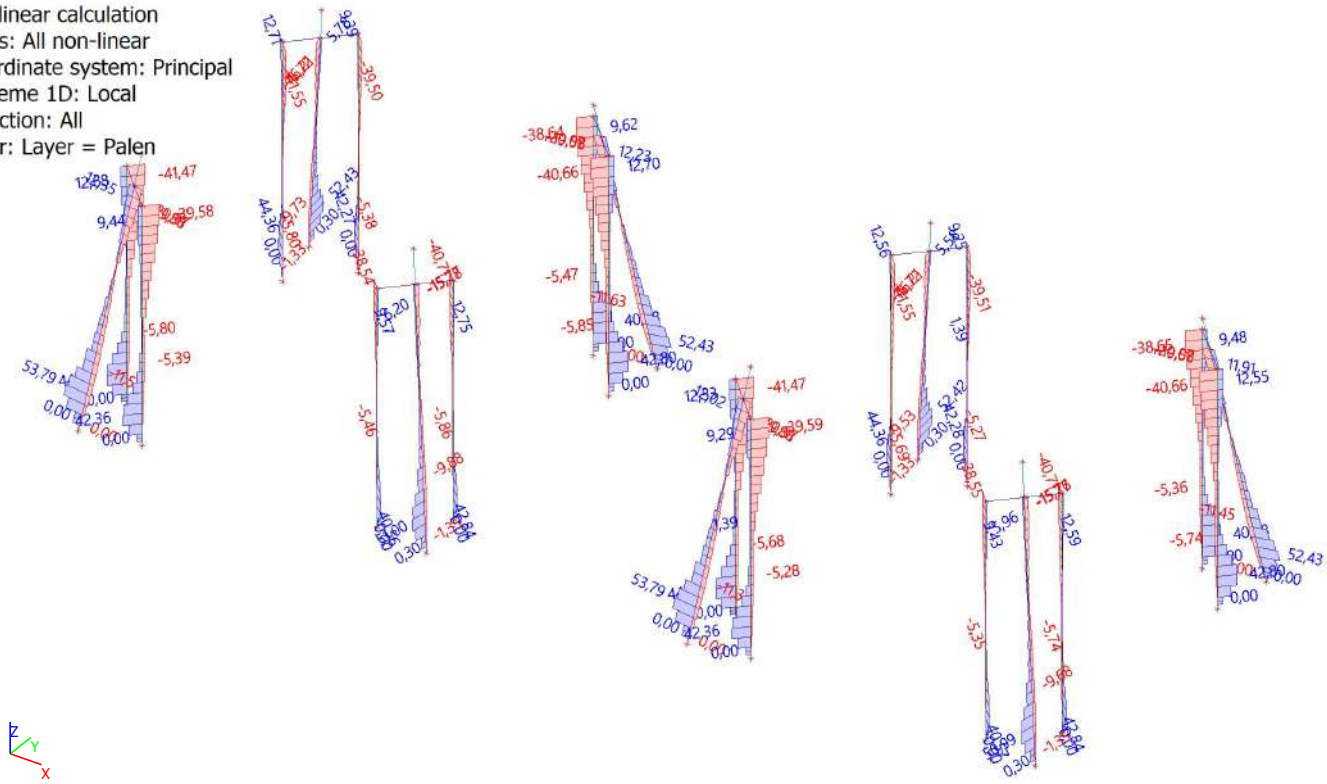
## 8.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



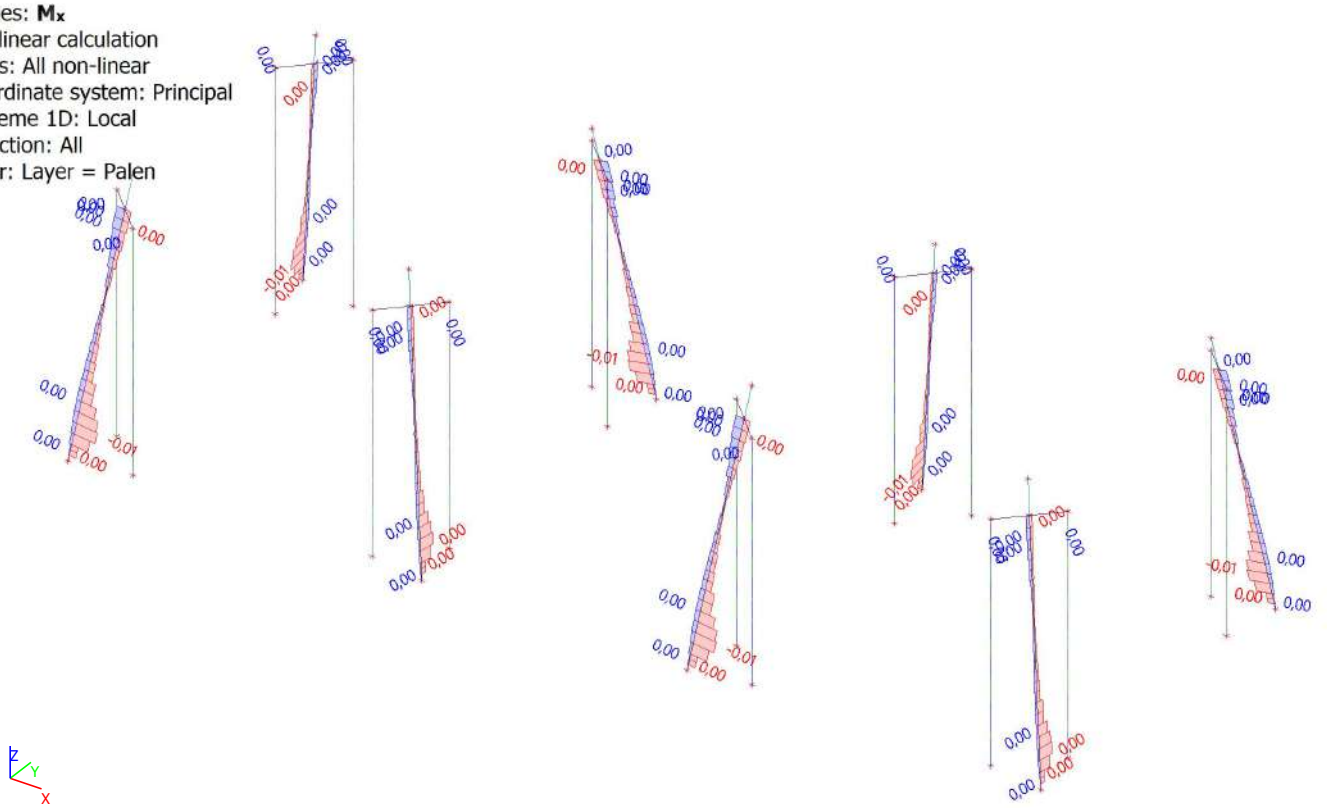
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



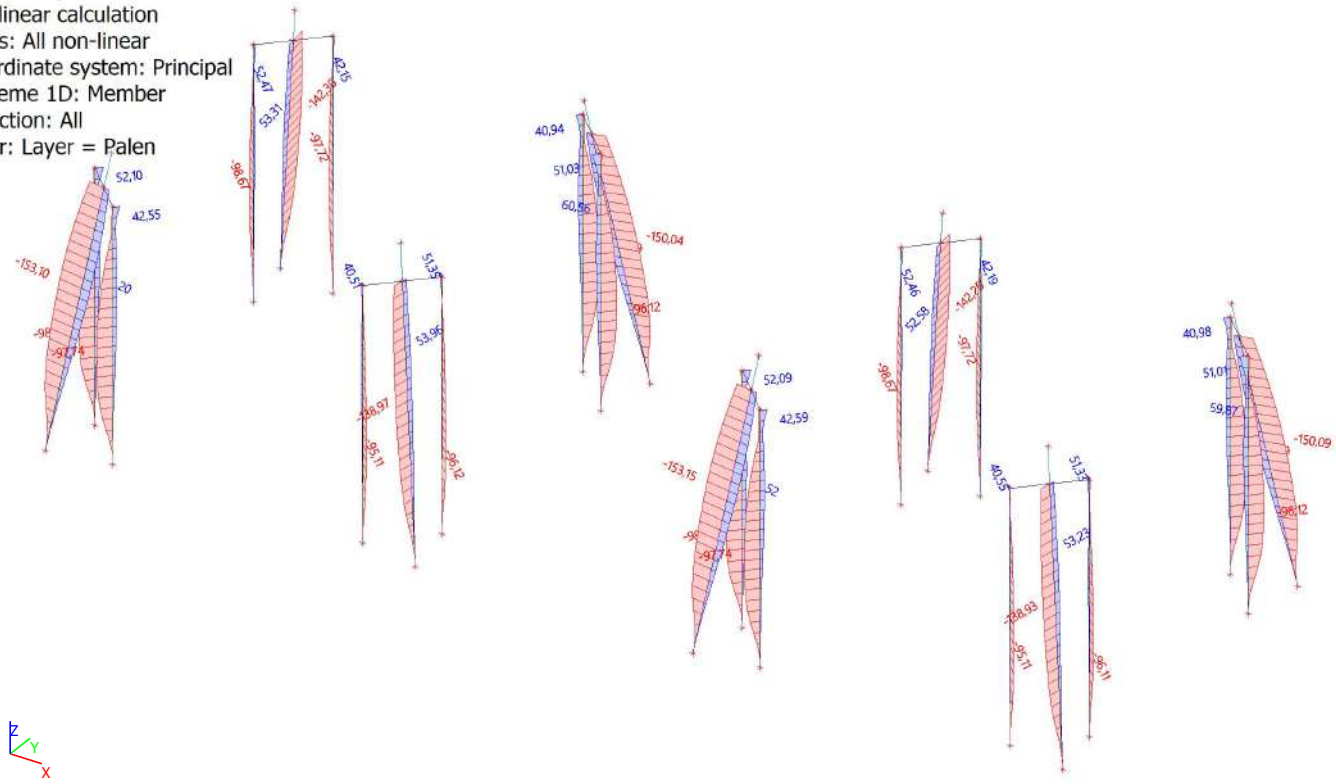
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



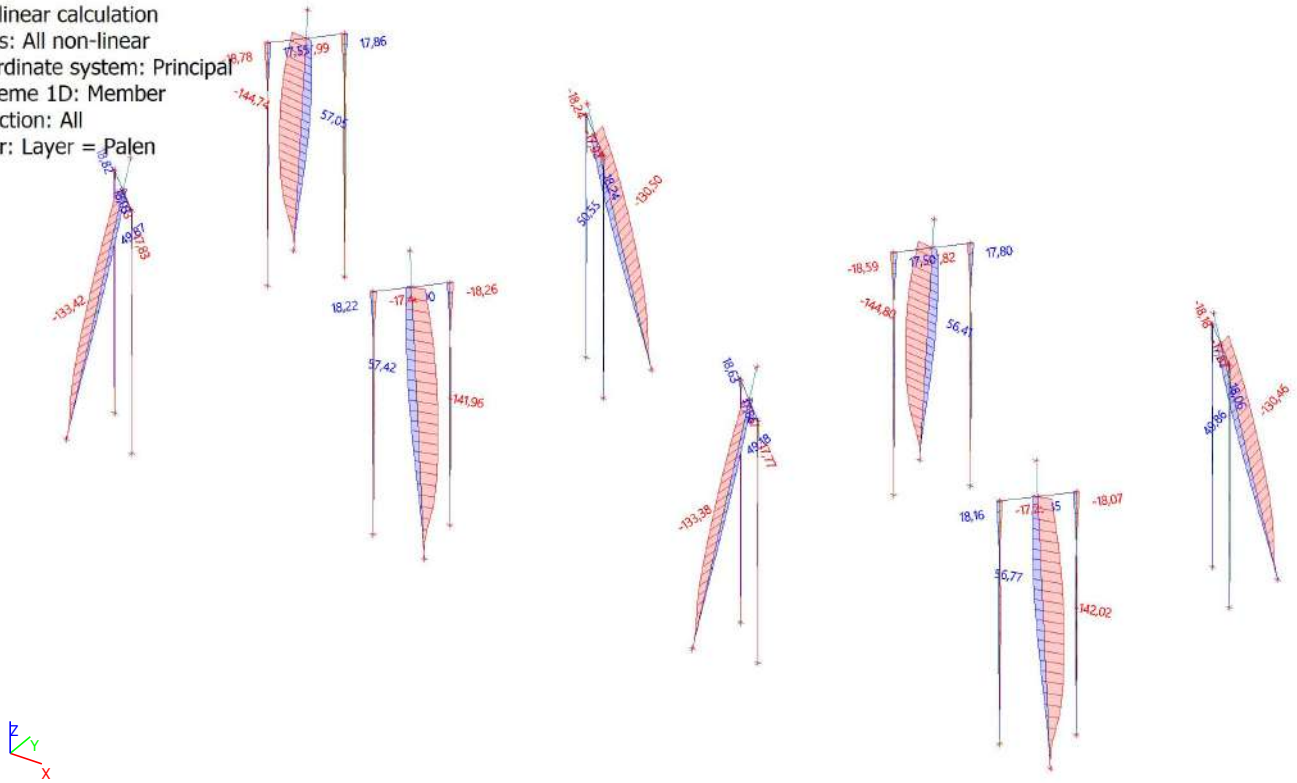
## 8.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen




## 8.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
**Nothing in selection to display.**

## 8.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X5 | 11,560 | high max Wnd ;315° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | **-189,52** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_X5 | 0,000 | high max Wnd ;315° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -165,54 | **-8,41** | 8,34 | 0,00 | -9,70 | **18,82** |
| Paal_X1 | 0,000 | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | **117,23** | -5,17 | **-41,55** | 0,00 | **52,47** | 10,96 |
| Paal_X1 | 10,000+ | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 101,28 | 0,41 | **44,36** | **0,00** | -41,88 | -0,36 |
| Paal_X1 | 7,125- | low max Wnd ;225° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 106,83 | 0,45 | -0,63 | 0,00 | **-98,67** | -2,03 |
| Paal_X1 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -165,49 | **8,40** | 8,35 | 0,00 | -9,74 | **-18,78** |

# 9. Krachten van de Poeren

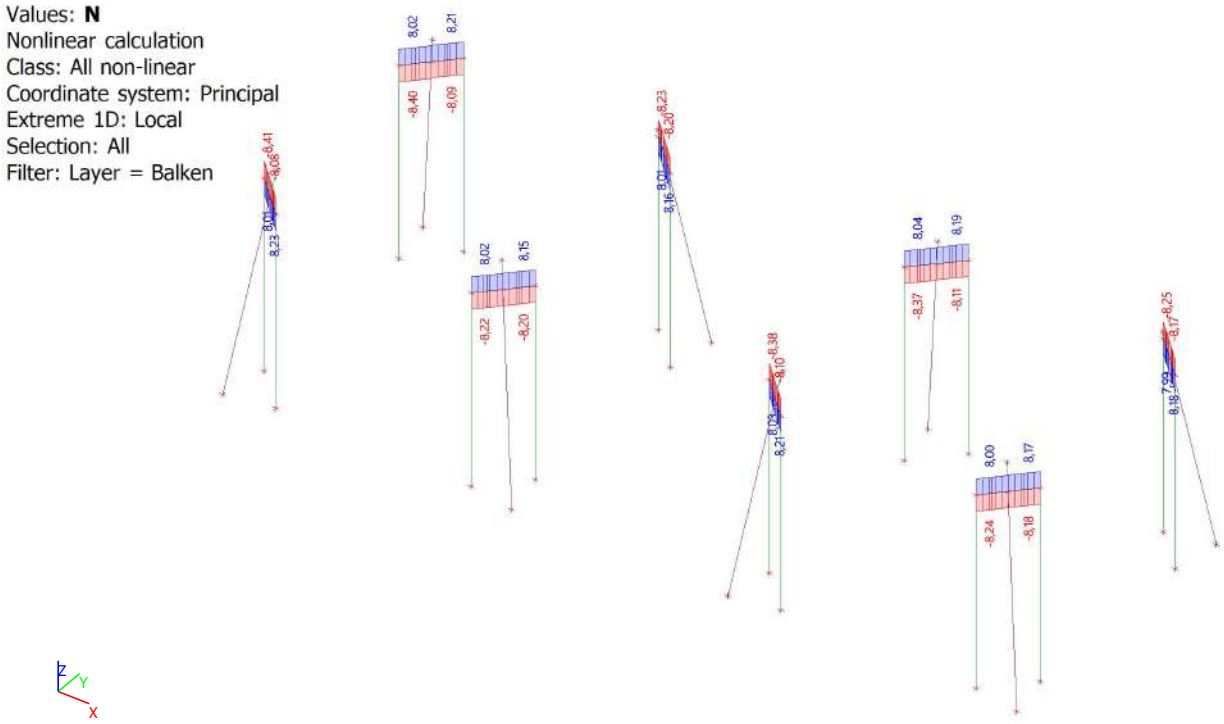
## 9.1. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Poer800 - Circle (800,00)

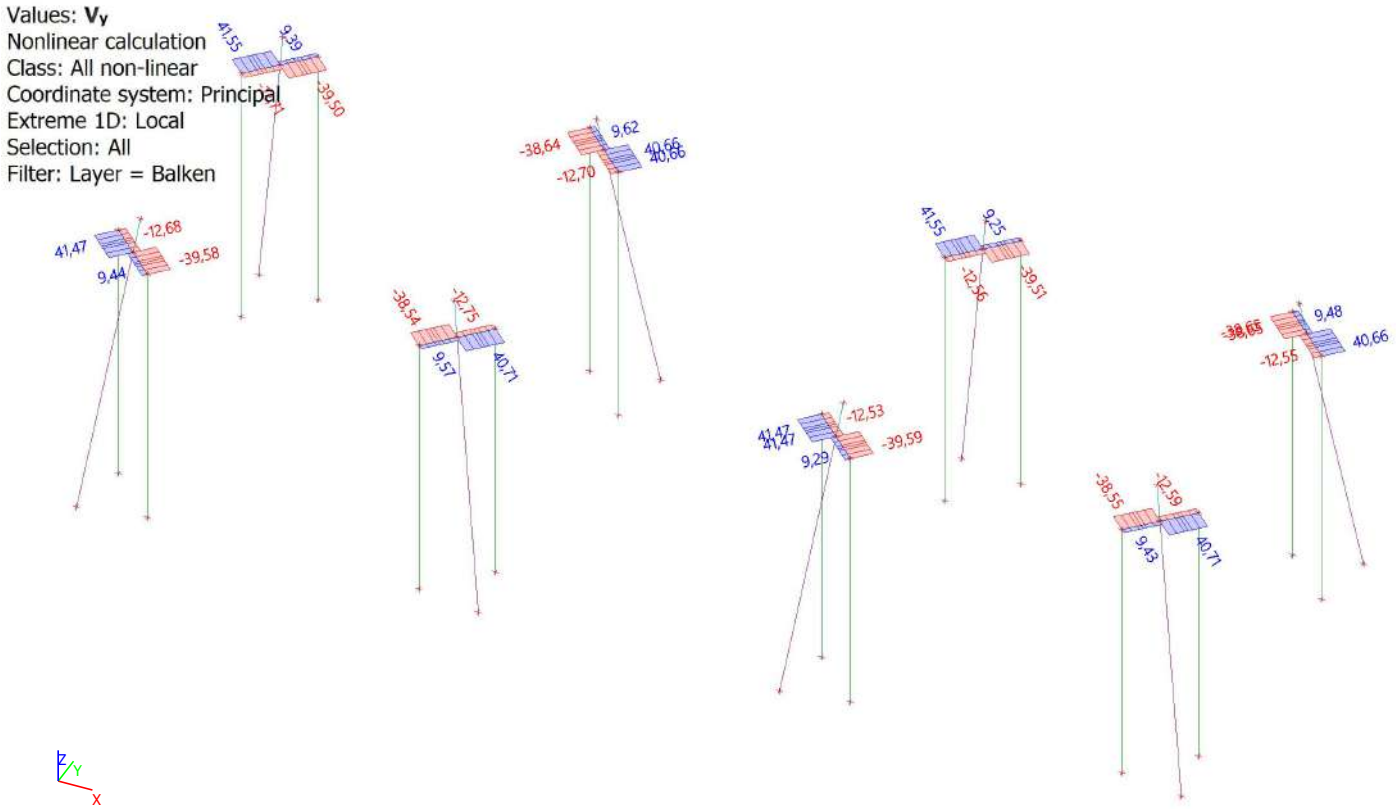
| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer_P | 0,000 | high max Wnd ;315° - EG_Ongunstig | Poer800 - Circle (800,00) | **-835,05** | 32,47 | 13,82 | 0,00 | -21,54 | -54,24 |
| Poer_XY | 1,560 | low max Wnd ;225° - EG_Gunstig | Poer800 - Circle (800,00) | **638,43** | -25,04 | -13,72 | **0,00** | 0,00 | 0,00 |
| Poer_X | 0,000 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | 621,40 | **-28,50** | 13,65 | 0,00 | -21,31 | **41,77** |
| Poer_Y | 1,560 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -812,33 | **37,07** | -13,76 | 0,00 | 0,00 | 0,00 |
| Poer_X | 0,000 | high max Wnd ;315° - EG_Ongunstig | Poer800 - Circle (800,00) | -324,96 | 7,89 | **-26,69** | 0,00 | **41,61** | -15,88 |
| Poer_XY | 0,000 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -324,68 | 7,90 | **26,66** | 0,00 | **-41,56** | -15,90 |
| Poer_Y | 0,000 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -834,94 | 32,49 | -13,79 | 0,00 | 21,48 | **-54,26** |

# 10. Krachten van de Funderingsbalken

## 10.1. Interne 1D- krachten; N

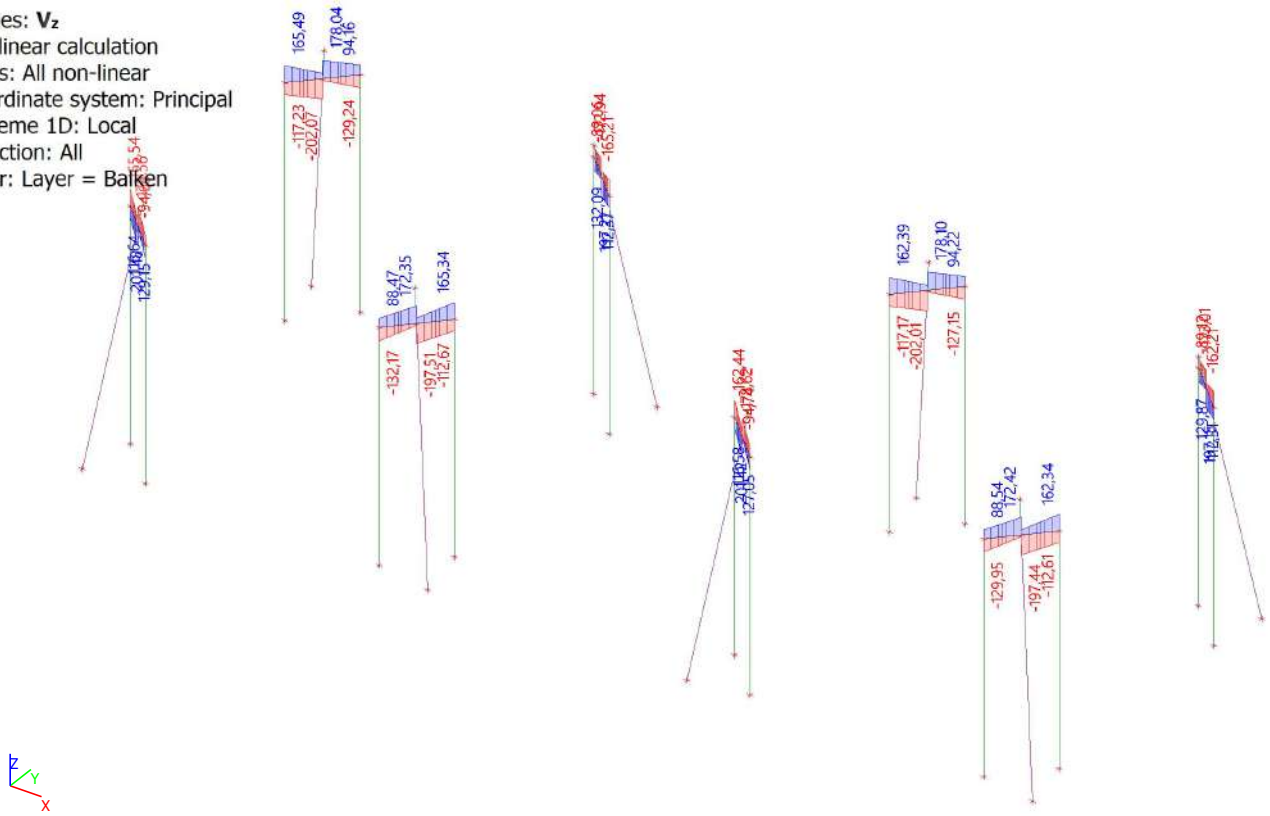



## 10.2. Interne 1D- krachten; V_y



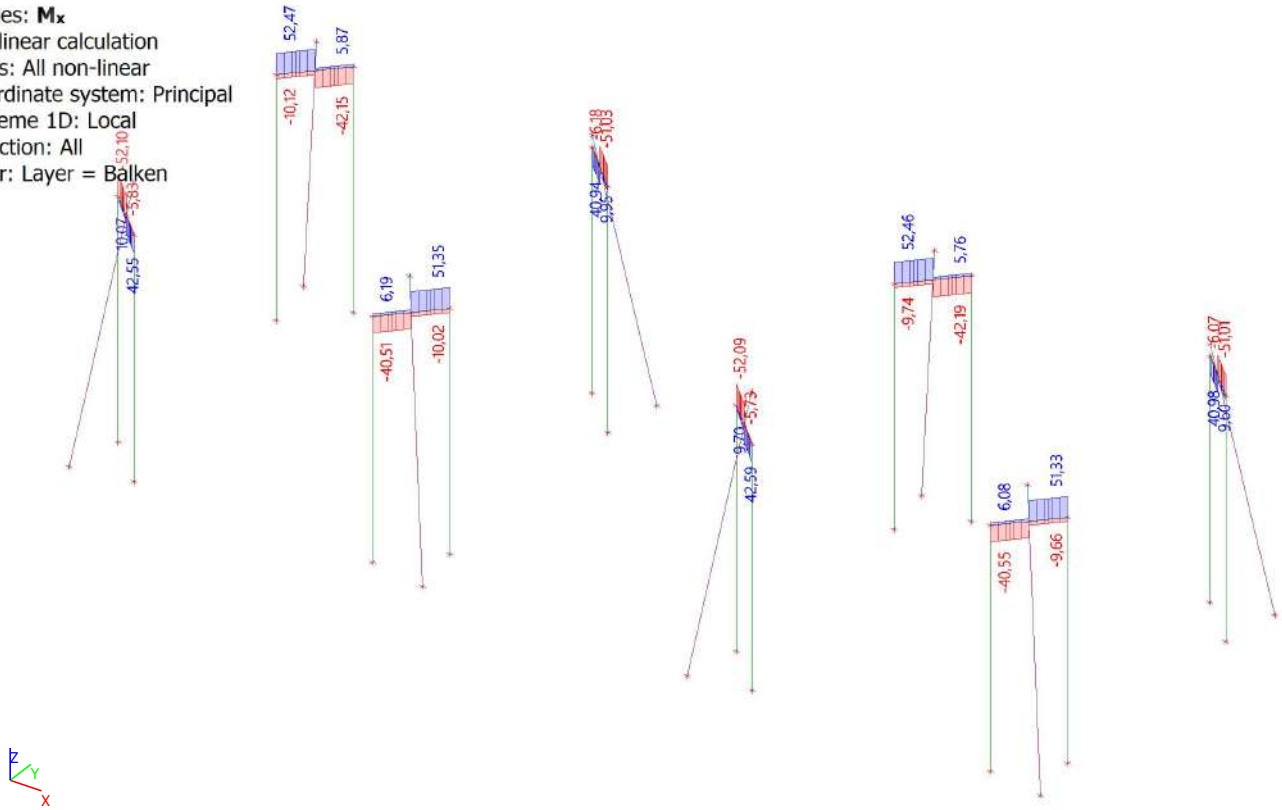
## 10.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken

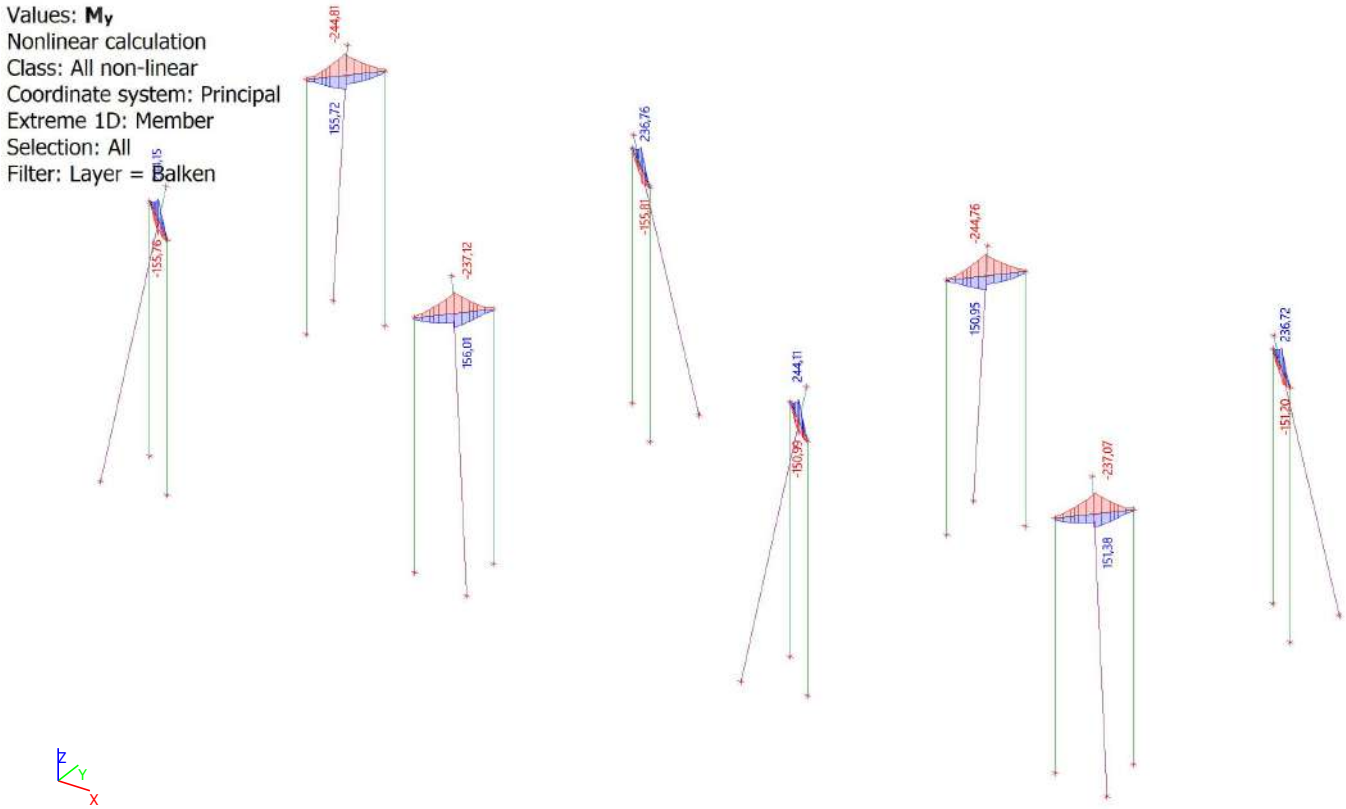



## 10.4. Interne 1D- krachten; M_x

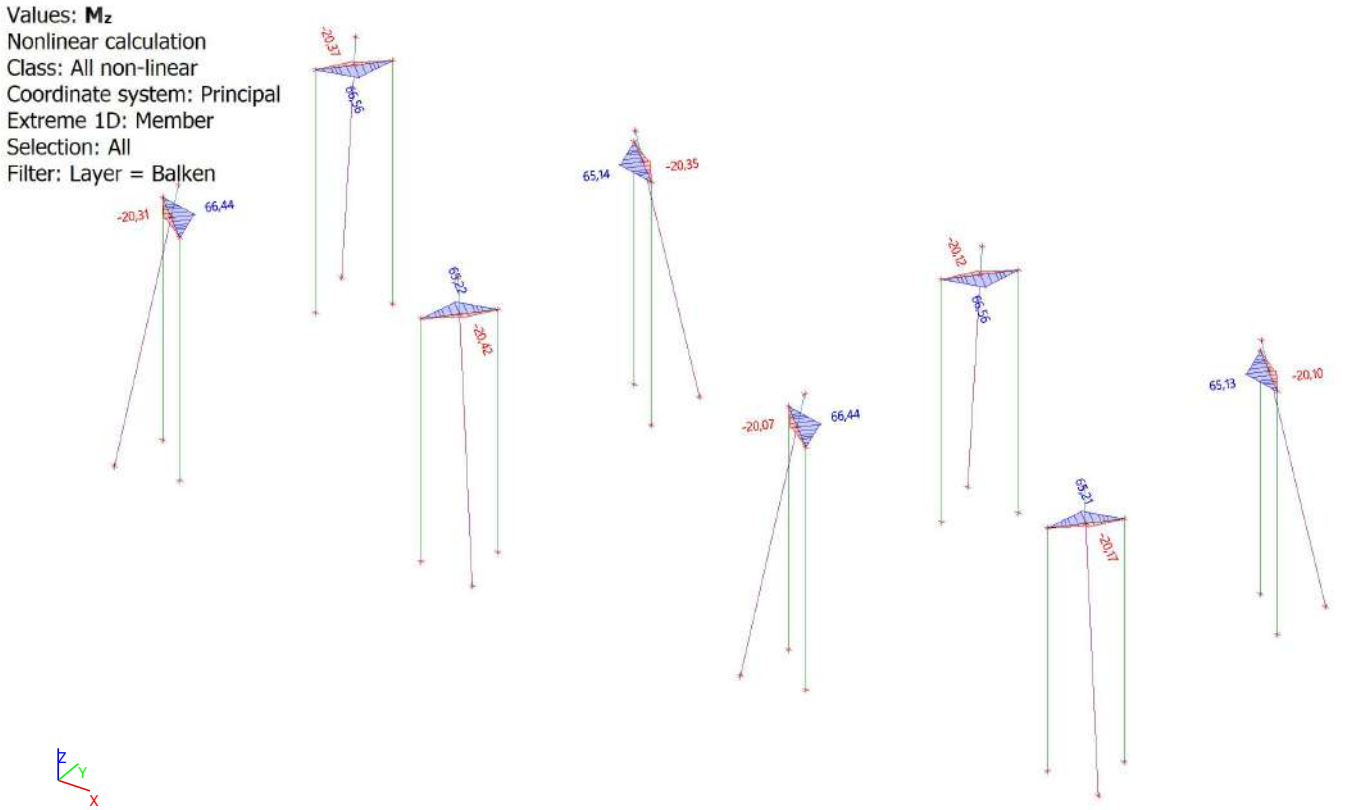
Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



## 10.5. Interne 1D- krachten; M_y




## 10.6. Interne 1D- krachten; M_z



## 10.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1500,00; 1600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| DIN38 | 0,000 | high max Wnd ;315° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **-8,41** | -8,34 | -165,54 | 9,70 | 18,82 | 0,00 |
| DIN38 | 1,602+ | high max Wnd ;315° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **8,23** | 0,61 | -7,41 | 10,58 | -94,87 | -0,97 |
| DIN42 | 1,602+ | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -4,69 | **-39,59** | -178,62 | 42,59 | 225,91 | 62,71 |
| DIN34 | 1,602- | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 5,17 | **41,55** | **-202,07** | **52,47** | **-244,81** | **66,56** |
| DIN38 | 1,602- | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 5,03 | 41,47 | **201,48** | **-52,10** | **244,15** | 66,44 |
| DIN39 | 1,602- | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -4,50 | -12,75 | 16,18 | -6,44 | 84,45 | **-20,42** |

# 1. Table of contents

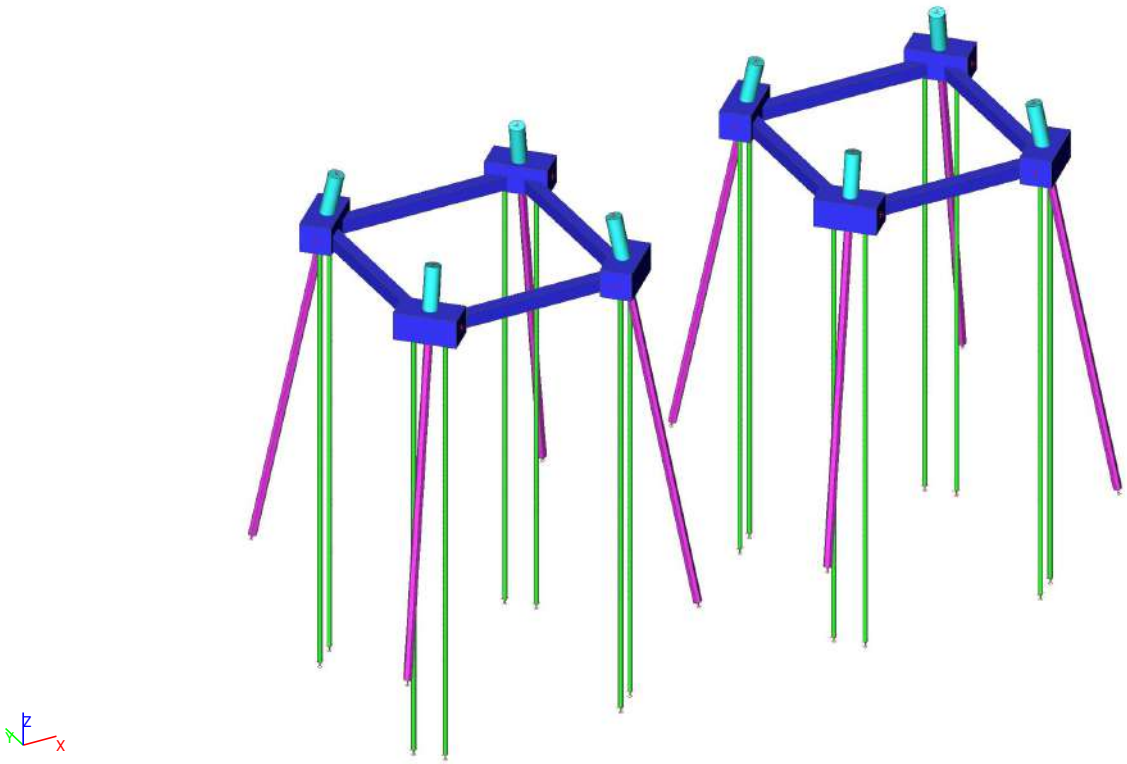
1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 8
4.4. Analyse model met doorsneden 8
4.5. Mesh setup 9
5. Geometrie 9
5.1. Nodes 9
5.2. Analyse model met knopen 10
5.3. Members 10
5.4. Analyse model met Staven 12
5.5. Nodal supports 12
5.6. Analyse model met Knoopondersteuningen 13
5.7. Line supports on member 13
5.8. Analyse model met Lijnondersteuningen 22
5.9. Analyse model met Lijnondersteuningen 23
5.10. Nonlinear functions 24
6. Belastingen 40
6.1. Load cases 40
6.1.1. Load cases - EG_Fundering 40
6.1.2. Load cases - high max Wnd ;45° 40
6.1.2.1. Point force in node 41
6.1.3. Load cases - high max Wnd ;225° 42
6.1.3.1. Point force in node 43
6.1.4. Load cases - high max Wnd ;135° 43
6.1.4.1. Point force in node 44
6.1.5. Load cases - high max Wnd ;315° 45
6.1.5.1. Point force in node 46
6.1.6. Load cases - low max Wnd ;45° 47
6.1.6.1. Point force in node 48
6.1.7. Load cases - low max Wnd ;225° 48
6.1.7.1. Point force in node 49
6.1.8. Load cases - low max Wnd ;135° 50
6.1.9. Load cases - low max Wnd ;315° 51
6.1.9.1. Point force in node 51
6.2. Nonlinear combinations 52
6.3. Result classes 52
7. Resultaten 54
7.1. Reacties van de palen 54
7.1.1. Reactions; R_z 54
7.1.2. Reactions 54
7.1.3. Reactions 54
7.1.4. Reactions 55
8. Krachten van de Funderingspalen 58
8.1. Interne 1D- krachten; N 58
8.2. Interne 1D- krachten; V_y 58
8.3. Interne 1D- krachten; V_z 59
8.4. Interne 1D- krachten; M_x 59
8.5. Interne 1D- krachten; M_y 60
8.6. Interne 1D- krachten; M_z 60
8.7. 1D internal forces 61
8.8. 1D internal forces 61
9. Krachten van de Poeren 62
9.1. 1D internal forces 62
10. Krachten van de Funderingsbalken 63
10.1. Interne 1D- krachten; N 63
10.2. Interne 1D- krachten; V_y 63
10.3. Interne 1D- krachten; V_z 64
10.4. Interne 1D- krachten; M_x 64
10.5. Interne 1D- krachten; M_y 65
10.6. Interne 1D- krachten; M_z 65
10.7. 1D internal forces 66

10.8. 1D internal forces 66

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Koppelframe 1xLD1 F3 |
| Author | [redacted] |
| Date | 02-02-2026 |
| Structure | General XYZ |
| No. of nodes : | 92 |
| No. of beams : | 64 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 6 |
| No. of load cases : | 9 |
| No. of used materials : | 9 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 balk | 7850,00 | 2,1000e+05 | 0.3 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0.3 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0.3 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Concrete | 2500,00 | 2600,00 | 9,0000e+03 | 0.23 | 0,01e-003 | 12,00 | |
| C12/15 en zand | Concrete | 1000,00 | 2600,00 | 9,0000e+03 | 0.23 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Concrete | 2500,00 | 2600,00 | 1,1000e+04 | 0.2 | 0,01e-003 | 30,00 | |
| C30/37 | Concrete | 2400,00 | 2600,00 | 3,2800e+04 | 0.2 | 0,01e-003 | 30,00 | |

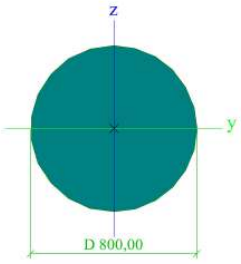
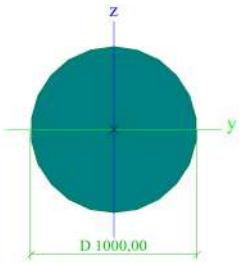
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

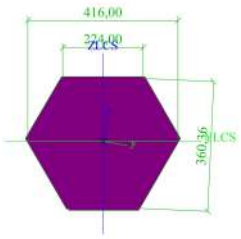
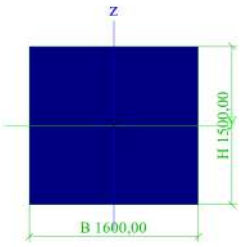
Reinforcement EC2

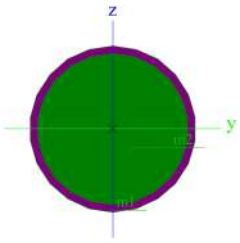
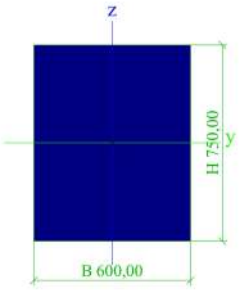
| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |
| B 500A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 500,0 |

## 4.2. Cross-sections

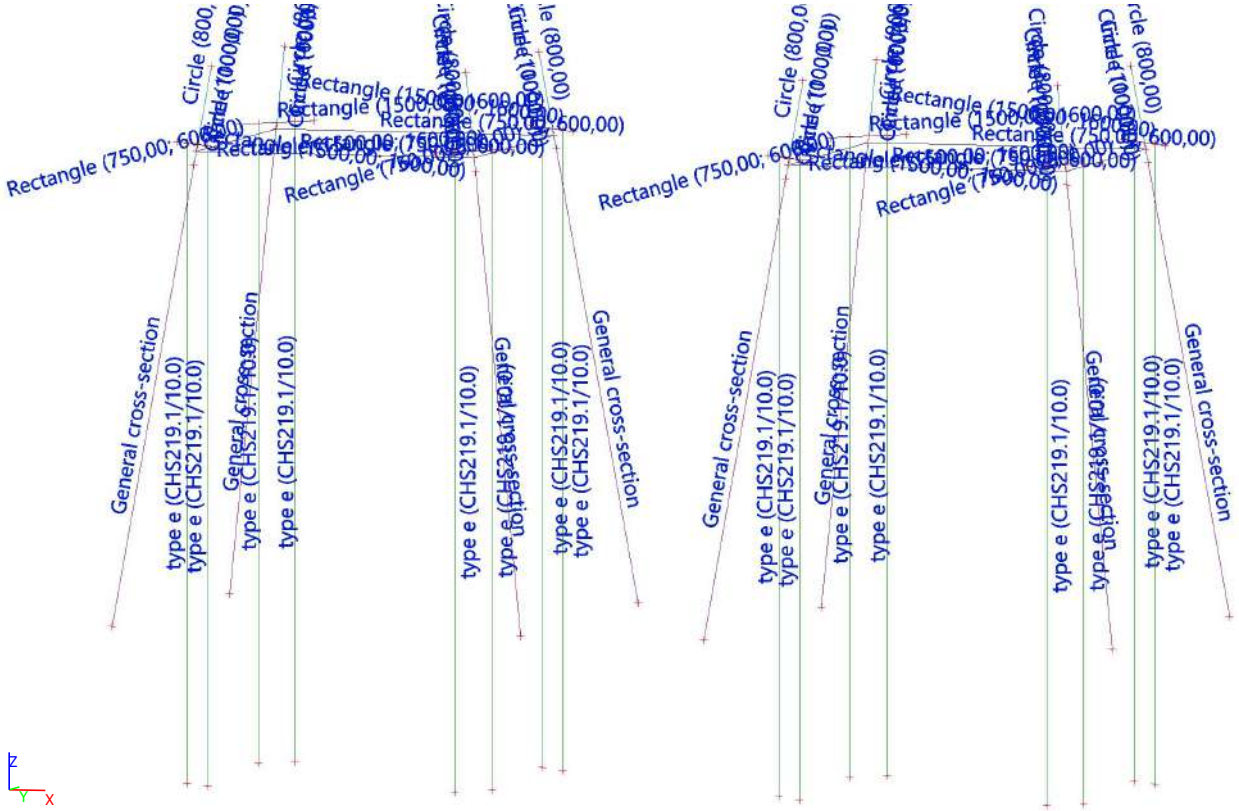
| Poer800 | | |
|---|---|---|
| Type | Circle | |
| Detailed | 800,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 5,0265e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 4,5239e+05 | 4,5239e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,5131e+00 | 2,5131e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 400,00 | 400,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,0106e+10 | 2,0106e+10 |
| $i_y$ [mm], $i_z$ [mm] | 199,98 | 199,98 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,0265e+07 | 5,0265e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 8,5333e+07 | 8,5333e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 4,0212e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

| | | |
|---|---|---|
| Picture |  | |
| **Putring1000** | | |
| Type | Circle | |
| Detailed | 1000,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 7,8540e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 7,0686e+05 | 7,0686e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,1414e+00 | 3,1414e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500,00 | 500,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,9087e+10 | 4,9087e+10 |
| $i_y$ [mm], $i_z$ [mm] | 249,97 | 249,97 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 9,8175e+07 | 9,8175e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,6667e+08 | 1,6667e+08 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 9,8175e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LD1.** | | |
| Type | General cross-section | |
| Shape type | Thick-walled | |
| Item material | C12/15 en zand | |
| | S 235 | |
| Fabrication | general | |
| Colour | | |
| Flexural buckling y-y, Flexural buckling z-z | d | d |
| A [mm²] | 2,9047e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,3425e+06 | 2,3428e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,2942e+00 | 1,2942e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 0,02 | 4,66 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 2,7824e+10 | 2,7875e+10 |
| $I_{YZ.LCS}$ [mm⁴] | -8,9452e+06 | |
| α [deg] | -9,57 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,7822e+10 | 2,7877e+10 |
| $i_y$ [mm], $i_z$ [mm] | 97,87 | 97,96 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 1,3640e+08 | 1,3057e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,9854e+08 | 1,9981e+08 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 2382532275,12 | 2384748629,23 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ | 2397717601,24 | 2398789409,67 |

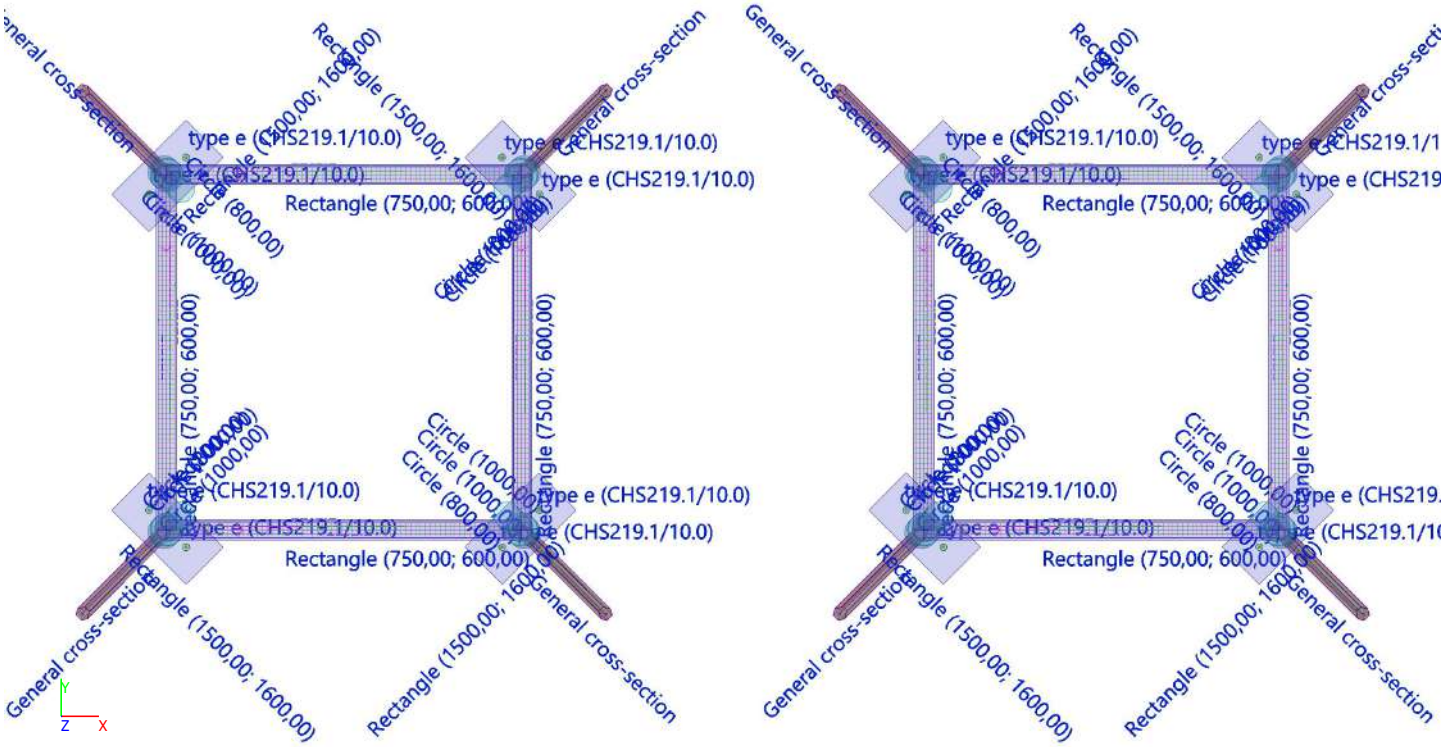
| | | |
|---|---|---|
| [Nmm] | | |
| $d_y$ [mm], $d_z$ [mm] | -0,01 | -0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 5,0345e+10 | 1,3197e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,06 | 0,02 |
| Picture |   | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Detailed | 1500,00; 1600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 2,4000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,0007e+06 | 2,0008e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,2000e+00 | 6,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 800,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,5000e+11 | 5,1200e+11 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 461,88 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 6,0000e+08 | 6,4000e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 8,0849e+11 | 2,2447e+15 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |   | |
| **LEKA Paal** | | |
| Type | type e | |
| Detailed | CHS219.1/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [mm²] | 1,1430e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 8,7249e+03 | 8,7249e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 109,55 | 109,55 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,8013e+07 | 4,8013e+07 |
| $i_y$ [mm], $i_z$ [mm] | 64,81 | 64,81 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 4,3827e+05 | 4,3827e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9123e+05 | 4,9123e+05 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 115439254,87 | 115439254,87 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ | 115439254,87 | 115439254,87 |

| | | |
|---|---|---|
| [Nmm] | | |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 9,8040e+07 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **Betonnen Balk** | | |
| Type | Rectangle | |
| Detailed | 750,00; 600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 4,5000e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 3,7515e+05 | 3,7510e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,7000e+00 | 2,7000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 300,00 | 375,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,1094e+10 | 1,3500e+10 |
| $i_y$ [mm], $i_z$ [mm] | 216,51 | 173,21 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,6250e+07 | 4,5000e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,7830e+10 | 4,1630e+13 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

| | |
|---|---|
| Name | MeshSetup1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 1 |
| Average size of 2D mesh element [m] | 0,200 |
| Average size of 1D mesh element on curved 1D members [m] | 0,100 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

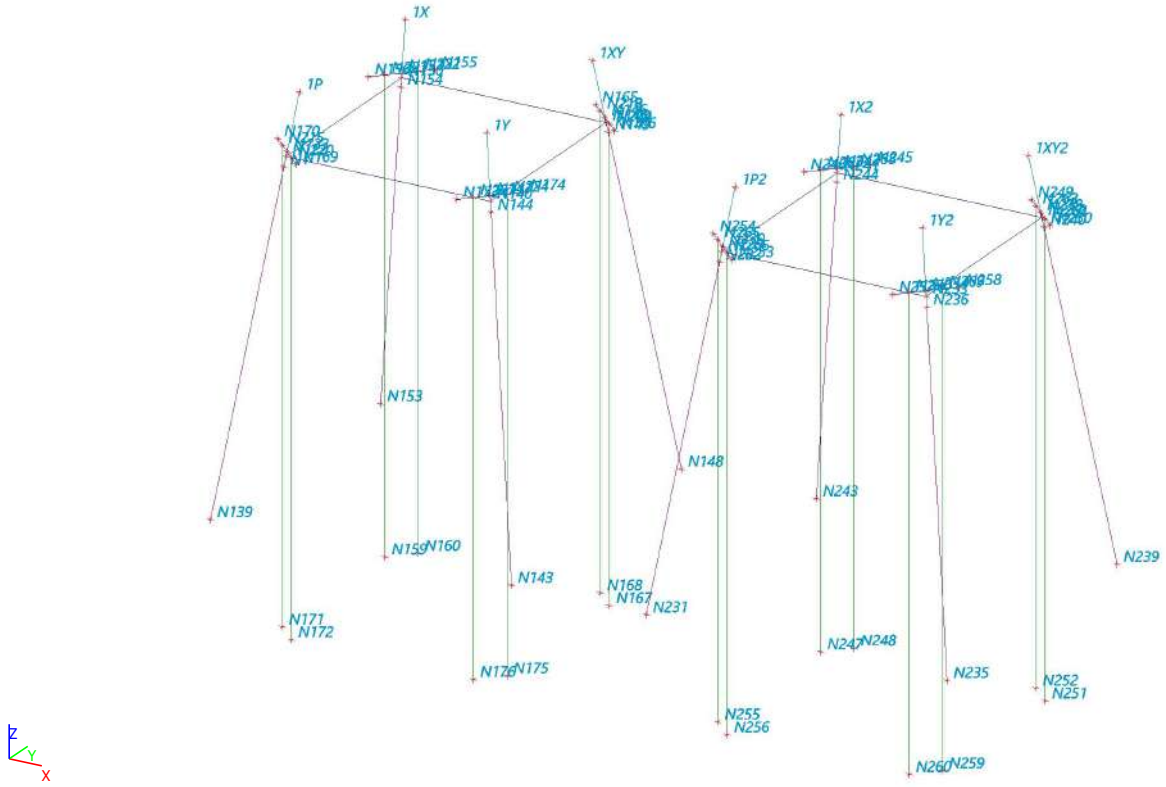
### 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N122 | -0,466 | -0,466 | -0,500 |
| N123 | -0,427 | -0,433 | -0,250 |
| 1P | -0,014 | -0,014 | 2,650 |
| N139 | -3,009 | -3,009 | -18,148 |
| N1 | -0,540 | -0,540 | -1,000 |
| N140 | 10,326 | -0,466 | -0,500 |
| N141 | 10,287 | -0,433 | -0,250 |
| 1Y | 9,874 | -0,014 | 2,650 |
| N143 | 12,869 | -3,009 | -18,148 |
| N144 | 10,400 | -0,540 | -1,000 |
| N145 | 10,326 | 10,326 | -0,500 |
| N146 | 10,287 | 10,293 | -0,250 |
| 1XY | 9,874 | 9,874 | 2,650 |
| N148 | 12,869 | 12,869 | -18,148 |
| N149 | 10,400 | 10,400 | -1,000 |
| N150 | -0,466 | 10,326 | -0,500 |
| N151 | -0,427 | 10,293 | -0,250 |
| 1X | -0,014 | 9,874 | 2,650 |
| N153 | -3,009 | 12,869 | -18,148 |
| N154 | -0,540 | 10,400 | -1,000 |
| N155 | 0,693 | 11,413 | -0,250 |
| N156 | -1,560 | 9,160 | -0,250 |
| N159 | -0,994 | 9,726 | -24,208 |
| N160 | 0,127 | 10,847 | -24,208 |
| N165 | 9,167 | 11,413 | -0,250 |
| N166 | 11,420 | 9,160 | -0,250 |
| N167 | 10,858 | 9,722 | -24,208 |
| N168 | 9,733 | 10,847 | -24,208 |
| N169 | 0,693 | -1,553 | -0,250 |
| N170 | -1,560 | 0,700 | -0,250 |
| N171 | -0,994 | 0,134 | -24,208 |

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N172 | 0,131 | -0,991 | -24,208 |
| N173 | 9,167 | -1,553 | -0,250 |
| N174 | 11,420 | 0,700 | -0,250 |
| N175 | 10,854 | 0,134 | -24,208 |
| N176 | 9,733 | -0,987 | -24,208 |
| N209 | 10,853 | 9,727 | -0,250 |
| N210 | 9,733 | 10,847 | -0,250 |
| N213 | 9,727 | 10,853 | -0,250 |
| N214 | 10,858 | 9,722 | -0,250 |
| N215 | -0,994 | 0,134 | -0,250 |
| N220 | 0,131 | -0,991 | -0,250 |
| N221 | -0,994 | 9,726 | -0,250 |
| N222 | 0,127 | 10,847 | -0,250 |
| N224 | 10,854 | 0,134 | -0,250 |
| N227 | 9,733 | -0,987 | -0,250 |
| N229 | 22,534 | -0,466 | -0,500 |
| N230 | 22,573 | -0,433 | -0,250 |
| 1P2 | 22,986 | -0,014 | 2,650 |
| N231 | 19,991 | -3,009 | -18,148 |
| N232 | 22,460 | -0,540 | -1,000 |
| N233 | 33,326 | -0,466 | -0,500 |
| N234 | 33,287 | -0,433 | -0,250 |
| 1Y2 | 32,874 | -0,014 | 2,650 |
| N235 | 35,869 | -3,009 | -18,148 |
| N236 | 33,400 | -0,540 | -1,000 |
| N237 | 33,326 | 10,326 | -0,500 |
| N238 | 33,287 | 10,293 | -0,250 |
| 1XY2 | 32,874 | 9,874 | 2,650 |
| N239 | 35,869 | 12,869 | -18,148 |
| N240 | 33,400 | 10,400 | -1,000 |
| N241 | 22,534 | 10,326 | -0,500 |

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N242 | 22,573 | 10,293 | -0,250 |
| 1X2 | 22,986 | 9,874 | 2,650 |
| N243 | 19,991 | 12,869 | -18,148 |
| N244 | 22,460 | 10,400 | -1,000 |
| N245 | 23,693 | 11,413 | -0,250 |
| N246 | 21,440 | 9,160 | -0,250 |
| N247 | 22,006 | 9,726 | -24,208 |
| N248 | 23,127 | 10,847 | -24,208 |
| N249 | 32,167 | 11,413 | -0,250 |
| N250 | 34,420 | 9,160 | -0,250 |
| N251 | 33,858 | 9,722 | -24,208 |
| N252 | 32,733 | 10,847 | -24,208 |
| N253 | 23,693 | -1,553 | -0,250 |
| N254 | 21,440 | 0,700 | -0,250 |
| N255 | 22,006 | 0,134 | -24,208 |
| N256 | 23,131 | -0,991 | -24,208 |
| N257 | 32,167 | -1,553 | -0,250 |
| N258 | 34,420 | 0,700 | -0,250 |
| N259 | 33,854 | 0,134 | -24,208 |
| N260 | 32,733 | -0,987 | -24,208 |
| N261 | 33,853 | 9,727 | -0,250 |
| N262 | 32,733 | 10,847 | -0,250 |
| N263 | 32,727 | 10,853 | -0,250 |
| N264 | 33,858 | 9,722 | -0,250 |
| N265 | 22,006 | 0,134 | -0,250 |
| N266 | 23,131 | -0,991 | -0,250 |
| N267 | 22,006 | 9,726 | -0,250 |
| N268 | 23,127 | 10,847 | -0,250 |
| N269 | 33,854 | 0,134 | -0,250 |
| N270 | 32,733 | -0,987 | -0,250 |

## 5.2. Analyse model met knopen

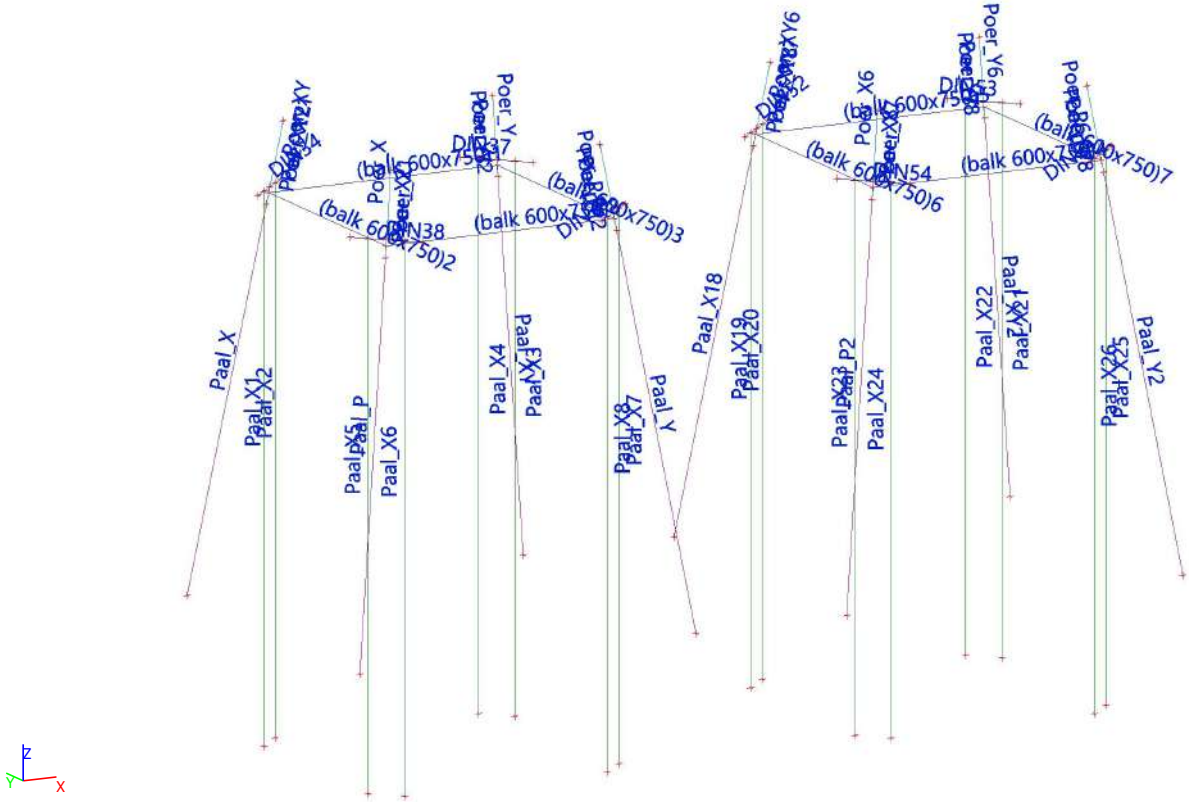



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| (balk 600x750)1 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N150 | N145 | beam (80) |
| (balk 600x750)2 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N150 | N122 | beam (80) |
| (balk 600x750)3 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N145 | N140 | beam (80) |
| (balk 600x750)4 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N229 | N233 | beam (80) |
| (balk 600x750)5 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N241 | N237 | beam (80) |
| (balk 600x750)6 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N241 | N229 | beam (80) |
| (balk 600x750)7 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N237 | N233 | beam (80) |
| (balk 600x750)8 | Betonnen Blalk - Rectangle (750,00; 600,00) | C30/37 Gescheurd | 10,792 | N122 | N140 | beam (80) |
| DIN34 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N156 | N155 | beam (80) |
| DIN37 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N166 | N165 | beam (80) |
| DIN38 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N170 | N169 | beam (80) |
| DIN39 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N174 | N173 | beam (80) |
| DIN52 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N246 | N245 | beam (80) |
| DIN53 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N250 | N249 | beam (80) |
| DIN54 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N254 | N253 | beam (80) |
| DIN55 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N258 | N257 | beam (80) |
| Paal_P | LD1. - General cross-section | C12/15 en zand | 17,500 | N1 | N139 | column (100) |
| Paal_P2 | LD1. - General cross-section | C12/15 en zand | 17,500 | N232 | N231 | column (100) |
| Paal_X | LD1. - General cross-section | C12/15 en zand | 17,500 | N154 | N153 | column (100) |
| Paal_X1 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N221 | N159 | column (100) |
| Paal_X2 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N222 | N160 | column (100) |
| Paal_X3 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N214 | N167 | column (100) |
| Paal_X4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N210 | N168 | column (100) |
| Paal_X5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N215 | N171 | column (100) |
| Paal_X6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N220 | N172 | column (100) |
| Paal_X7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N224 | N175 | column (100) |
| Paal_X8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N227 | N176 | column (100) |
| Paal_X18 | LD1. - General cross-section | C12/15 en zand | 17,500 | N244 | N243 | column (100) |
| Paal_X19 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N267 | N247 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_X20 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N268 | N248 | column (100) |
| Paal_X21 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N264 | N251 | column (100) |
| Paal_X22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N262 | N252 | column (100) |
| Paal_X23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N265 | N255 | column (100) |
| Paal_X24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N266 | N256 | column (100) |
| Paal_X25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N269 | N259 | column (100) |
| Paal_X26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 23,958 | N270 | N260 | column (100) |
| Paal_XY | LD1. - General cross-section | C12/15 en zand | 17,500 | N149 | N148 | column (100) |
| Paal_XY2 | LD1. - General cross-section | C12/15 en zand | 17,500 | N240 | N239 | column (100) |
| Paal_Y | LD1. - General cross-section | C12/15 en zand | 17,500 | N144 | N143 | column (100) |
| Paal_Y2 | LD1. - General cross-section | C12/15 en zand | 17,500 | N236 | N235 | column (100) |
| Poer_P | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N141 | 1Y | column (100) |
| Poer_P1 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N140 | N141 | column (100) |
| Poer_P2 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N144 | N140 | column (100) |
| Poer_P6 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N234 | 1Y2 | column (100) |
| Poer_P7 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N233 | N234 | column (100) |
| Poer_P8 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N236 | N233 | column (100) |
| Poer_X | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N123 | 1P | column (100) |
| Poer_X1 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N122 | N123 | column (100) |
| Poer_X2 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N1 | N122 | column (100) |
| Poer_X6 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N230 | 1P2 | column (100) |
| Poer_X7 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N229 | N230 | column (100) |
| Poer_X8 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N232 | N229 | column (100) |
| Poer_XY | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N151 | 1X | column (100) |
| Poer_XY1 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N150 | N151 | column (100) |
| Poer_XY2 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N154 | N150 | column (100) |
| Poer_XY6 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N242 | 1X2 | column (100) |
| Poer_XY7 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N241 | N242 | column (100) |
| Poer_XY8 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N244 | N241 | column (100) |
| Poer_Y | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N146 | 1XY | column (100) |
| Poer_Y1 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N145 | N146 | column (100) |
| Poer_Y2 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N149 | N145 | column (100) |
| Poer_Y6 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 2,959 | N238 | 1XY2 | column (100) |
| Poer_Y7 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,255 | N237 | N238 | column (100) |
| Poer_Y8 | Putring1000 - Circle (1000,00) | C12/15 Gescheurd | 0,511 | N240 | N237 | column (100) |

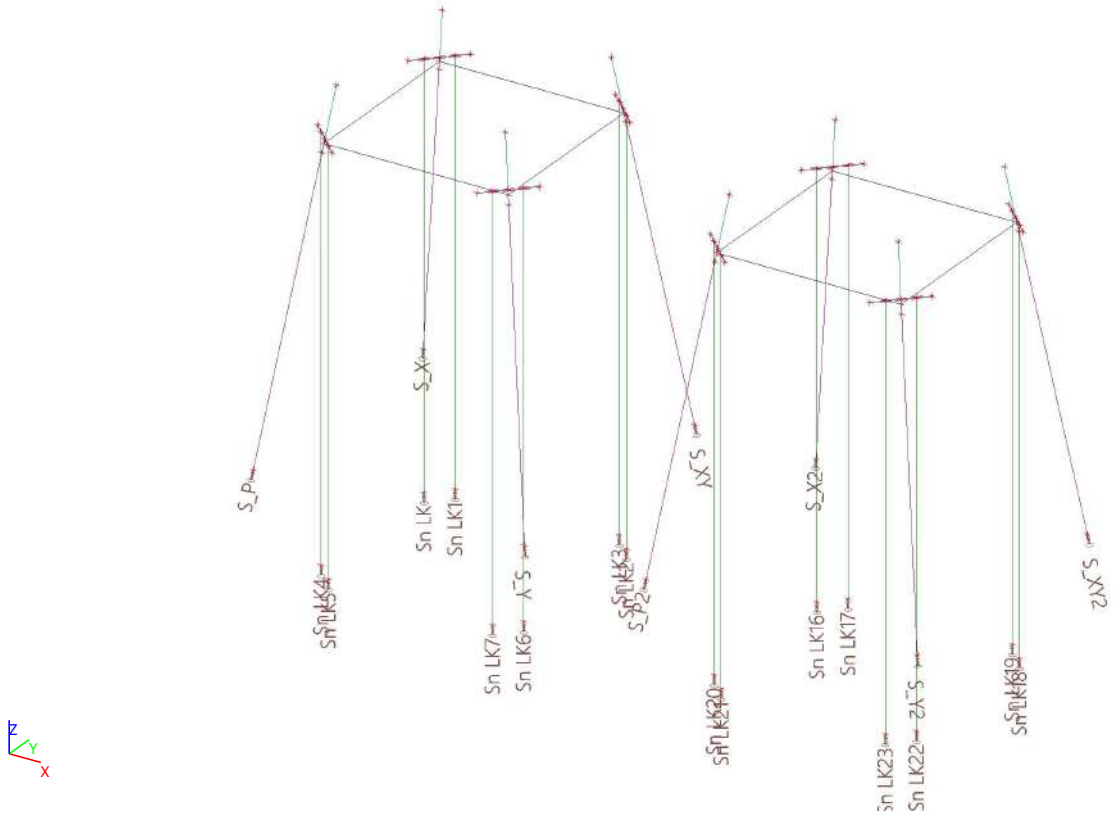
## 5.4. Analyse model met Staven




## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P | N139 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y | N143 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY | N148 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X | N153 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK | N159 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK1 | N160 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK2 | N167 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK3 | N168 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK4 | N171 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK5 | N172 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK6 | N175 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK7 | N176 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| S_P2 | N231 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y2 | N235 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY2 | N239 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X2 | N243 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK16 | N247 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK17 | N248 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK18 | N251 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK19 | N252 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK20 | N255 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK21 | N256 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK22 | N259 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn LK23 | N260 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Line supports on member

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen13 | Line | Paal_X18 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen3 | Line | Paal_XY2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Line | Paal_P | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen4 | Line | Paal_X | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Line | Paal_Y2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen1 | Line | Paal_P2 | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen2 | Line | Paal_XY | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen22 | Line | Paal_Y | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen7 | Line | Paal_X3 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen15 | Line | Paal_X20 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen16 | Line | Paal_X21 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen8 | Line | Paal_X4 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen20 | Line | Paal_X25 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen14 | Line | Paal_X19 | 1,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |

| Name | Type | Member | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,750 | | | | | | | | |
| Veen6 | Line | Paal_X2 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen11 | Line | Paal_X7 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen18 | Line | Paal_X23 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen10 | Line | Paal_X6 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen21 | Line | Paal_X26 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen5 | Line | Paal_X1 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen17 | Line | Paal_X22 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen9 | Line | Paal_X5 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen19 | Line | Paal_X24 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen12 | Line | Paal_X8 | 1,750<br>8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| (PY-curve-2_V1)1 | Line | Paal_P2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1) | Line | Paal_P | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)13 | Line | Paal_X18 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)4 | Line | Paal_X | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)23 | Line | Paal_Y2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)2 | Line | Paal_XY | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)22 | Line | Paal_Y | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)3 | Line | Paal_XY2 | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)10 | Line | Paal_X6 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)6 | Line | Paal_X2 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)17 | Line | Paal_X22 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)7 | Line | Paal_X3 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)20 | Line | Paal_X25 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)8 | Line | Paal_X4 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)12 | Line | Paal_X8 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)16 | Line | Paal_X21 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)15 | Line | Paal_X20 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)21 | Line | Paal_X26 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)19 | Line | Paal_X24 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)5 | Line | Paal_X1 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)14 | Line | Paal_X19 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)11 | Line | Paal_X7 | 8,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,750 | | | | | | | | |
| (PY-curve-2_V1)18 | Line | Paal_X23 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)9 | Line | Paal_X5 | 8,750<br>9,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V2)2 | Line | Paal_XY | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)22 | Line | Paal_Y | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)13 | Line | Paal_X18 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)3 | Line | Paal_XY2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2) | Line | Paal_P | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)23 | Line | Paal_Y2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)1 | Line | Paal_P2 | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)4 | Line | Paal_X | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)20 | Line | Paal_X25 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)11 | Line | Paal_X7 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)5 | Line | Paal_X1 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)18 | Line | Paal_X23 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)8 | Line | Paal_X4 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)16 | Line | Paal_X21 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)7 | Line | Paal_X3 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)10 | Line | Paal_X6 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)9 | Line | Paal_X5 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)14 | Line | Paal_X19 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)21 | Line | Paal_X26 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)15 | Line | Paal_X20 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)17 | Line | Paal_X22 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)19 | Line | Paal_X24 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)12 | Line | Paal_X8 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)6 | Line | Paal_X2 | 9,750<br>10,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V3)2 | Line | Paal_XY | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3) | Line | Paal_P | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)3 | Line | Paal_XY2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)13 | Line | Paal_X18 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)22 | Line | Paal_Y | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)23 | Line | Paal_Y2 | 10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)4 | Line | Paal_X | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)1 | Line | Paal_P2 | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)16 | Line | Paal_X21 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)12 | Line | Paal_X8 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)14 | Line | Paal_X19 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)19 | Line | Paal_X24 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)11 | Line | Paal_X7 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)21 | Line | Paal_X26 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)5 | Line | Paal_X1 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)15 | Line | Paal_X20 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)9 | Line | Paal_X5 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)20 | Line | Paal_X25 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)6 | Line | Paal_X2 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)8 | Line | Paal_X4 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)17 | Line | Paal_X22 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)10 | Line | Paal_X6 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Line | Paal_X3 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)18 | Line | Paal_X23 | 10,750<br>11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V4)13 | Line | Paal_X18 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)4 | Line | Paal_X | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4) | Line | Paal_P | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)2 | Line | Paal_XY | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)3 | Line | Paal_XY2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)22 | Line | Paal_Y | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)23 | Line | Paal_Y2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)1 | Line | Paal_P2 | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)20 | Line | Paal_X25 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)18 | Line | Paal_X23 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)21 | Line | Paal_X26 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)10 | Line | Paal_X6 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)16 | Line | Paal_X21 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)5 | Line | Paal_X1 | 11,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,750 | | | | | | | | |
| (PY-curve-2_V4)11 | Line | Paal_X7 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)8 | Line | Paal_X4 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)9 | Line | Paal_X5 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)17 | Line | Paal_X22 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)14 | Line | Paal_X19 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)15 | Line | Paal_X20 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)7 | Line | Paal_X3 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)6 | Line | Paal_X2 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)19 | Line | Paal_X24 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)12 | Line | Paal_X8 | 11,750<br>12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V5) | Line | Paal_P | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)22 | Line | Paal_Y | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)23 | Line | Paal_Y2 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)1 | Line | Paal_P2 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)2 | Line | Paal_XY | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)13 | Line | Paal_X18 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)3 | Line | Paal_XY2 | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)4 | Line | Paal_X | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)12 | Line | Paal_X8 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)6 | Line | Paal_X2 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)11 | Line | Paal_X7 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)18 | Line | Paal_X23 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)21 | Line | Paal_X26 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)17 | Line | Paal_X22 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)10 | Line | Paal_X6 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)16 | Line | Paal_X21 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)5 | Line | Paal_X1 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)15 | Line | Paal_X20 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)9 | Line | Paal_X5 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)14 | Line | Paal_X19 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)20 | Line | Paal_X25 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)8 | Line | Paal_X4 | 12,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |

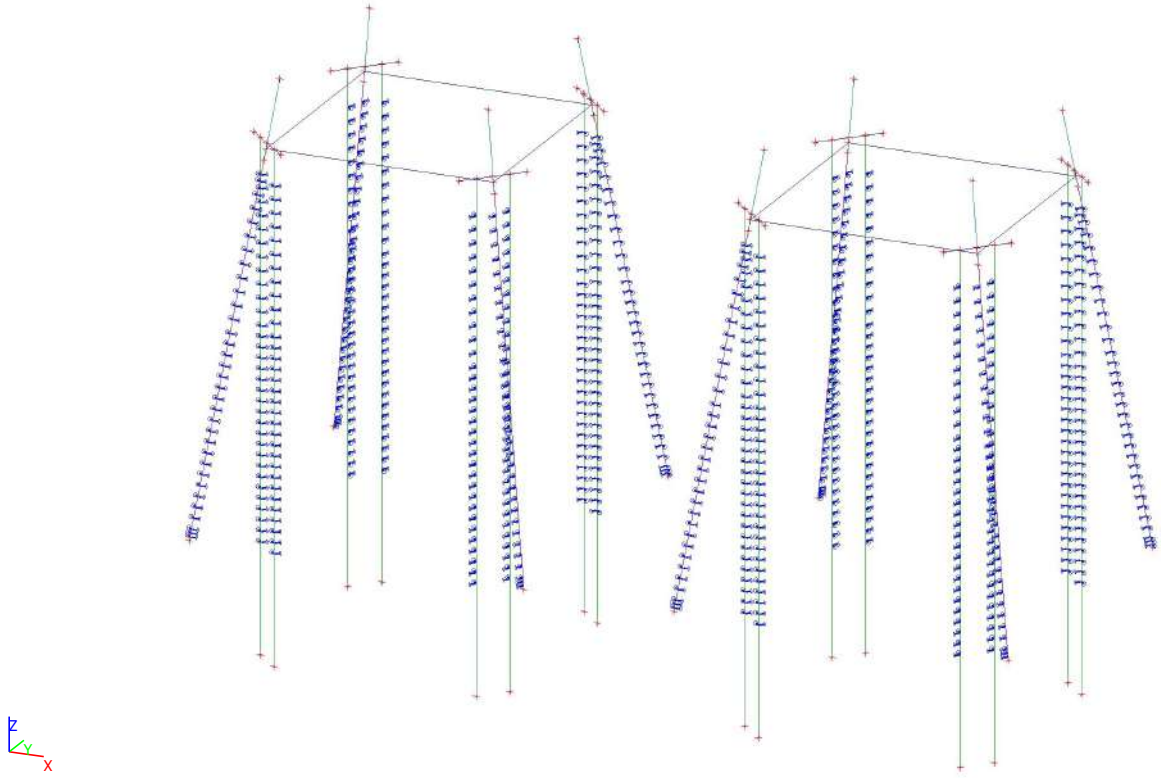
| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,750 | | | | | | | | |
| (PY-curve-2_V5)19 | Line | Paal_X24 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)7 | Line | Paal_X3 | 12,750<br>13,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V6) | Line | Paal_P | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)13 | Line | Paal_X18 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)22 | Line | Paal_Y | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)4 | Line | Paal_X | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)23 | Line | Paal_Y2 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)1 | Line | Paal_P2 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)2 | Line | Paal_XY | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)3 | Line | Paal_XY2 | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)20 | Line | Paal_X25 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)11 | Line | Paal_X7 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)18 | Line | Paal_X23 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)10 | Line | Paal_X6 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)5 | Line | Paal_X1 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)16 | Line | Paal_X21 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)15 | Line | Paal_X20 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)6 | Line | Paal_X2 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)9 | Line | Paal_X5 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)19 | Line | Paal_X24 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)14 | Line | Paal_X19 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)8 | Line | Paal_X4 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)17 | Line | Paal_X22 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)21 | Line | Paal_X26 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)7 | Line | Paal_X3 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)12 | Line | Paal_X8 | 13,750<br>14,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V7)2 | Line | Paal_XY | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)22 | Line | Paal_Y | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)13 | Line | Paal_X18 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)3 | Line | Paal_XY2 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)4 | Line | Paal_X | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)23 | Line | Paal_Y2 | 14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-2_V7) | Line | Paal_P | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)1 | Line | Paal_P2 | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)6 | Line | Paal_X2 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)20 | Line | Paal_X25 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)19 | Line | Paal_X24 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)11 | Line | Paal_X7 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)18 | Line | Paal_X23 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)17 | Line | Paal_X22 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)10 | Line | Paal_X6 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)5 | Line | Paal_X1 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)16 | Line | Paal_X21 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)15 | Line | Paal_X20 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)9 | Line | Paal_X5 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)14 | Line | Paal_X19 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)8 | Line | Paal_X4 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)21 | Line | Paal_X26 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)7 | Line | Paal_X3 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)12 | Line | Paal_X8 | 14,750<br>15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V8)22 | Line | Paal_Y | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)23 | Line | Paal_Y2 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)2 | Line | Paal_XY | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8) | Line | Paal_P | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)13 | Line | Paal_X18 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)3 | Line | Paal_XY2 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)4 | Line | Paal_X | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)1 | Line | Paal_P2 | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)20 | Line | Paal_X25 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)19 | Line | Paal_X24 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)11 | Line | Paal_X7 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)18 | Line | Paal_X23 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)17 | Line | Paal_X22 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)10 | Line | Paal_X6 | 15,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |

| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16,750 | | | | | | | | |
| (PY-curve-2_V8)5 | Line | Paal_X1 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)16 | Line | Paal_X21 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)15 | Line | Paal_X20 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)9 | Line | Paal_X5 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)14 | Line | Paal_X19 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)8 | Line | Paal_X4 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)7 | Line | Paal_X3 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)21 | Line | Paal_X26 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)12 | Line | Paal_X8 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)6 | Line | Paal_X2 | 15,750<br>16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V9)13 | Line | Paal_X18 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)3 | Line | Paal_XY2 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)4 | Line | Paal_X | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)2 | Line | Paal_XY | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)22 | Line | Paal_Y | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)23 | Line | Paal_Y2 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)1 | Line | Paal_P2 | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9) | Line | Paal_P | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)20 | Line | Paal_X25 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)11 | Line | Paal_X7 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)19 | Line | Paal_X24 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)18 | Line | Paal_X23 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)5 | Line | Paal_X1 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)10 | Line | Paal_X6 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)17 | Line | Paal_X22 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)16 | Line | Paal_X21 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)9 | Line | Paal_X5 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)15 | Line | Paal_X20 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)14 | Line | Paal_X19 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)8 | Line | Paal_X4 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)7 | Line | Paal_X3 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)6 | Line | Paal_X2 | 16,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |

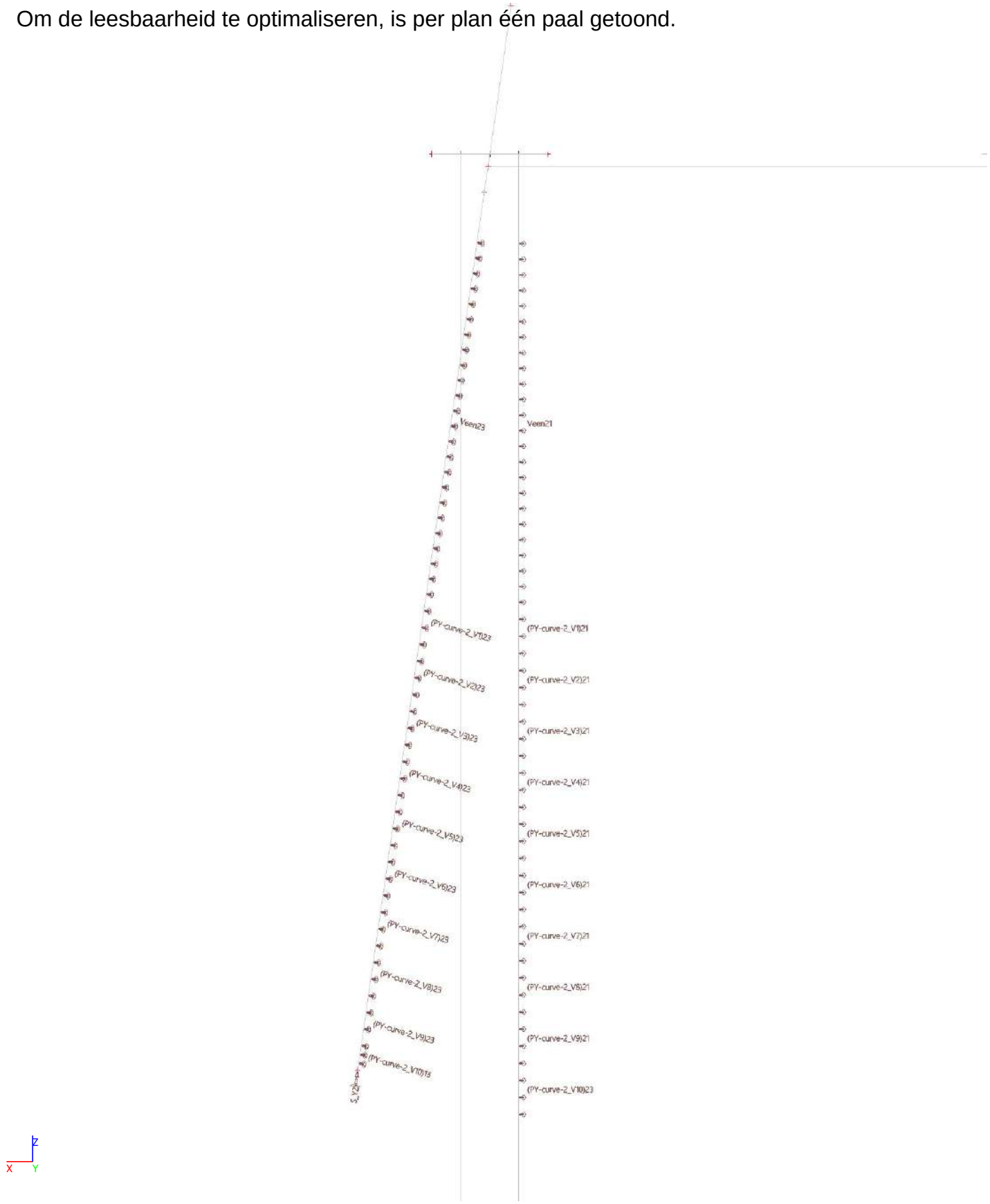
| Name | Type | Member | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,750 | | | | | | | | |
| (PY-curve-2_V9)12 | Line | Paal_X8 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)21 | Line | Paal_X26 | 16,750<br>17,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V10)3 | Line | Paal_X | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)15 | Line | Paal_X18 | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)2 | Line | Paal_XY | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)1 | Line | Paal_Y | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10) | Line | Paal_P | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)14 | Line | Paal_XY2 | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)13 | Line | Paal_Y2 | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)12 | Line | Paal_P2 | 17,000<br>17,350 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)22 | Line | Paal_X25 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)10 | Line | Paal_X7 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)21 | Line | Paal_X24 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)20 | Line | Paal_X23 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)4 | Line | Paal_X1 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)9 | Line | Paal_X6 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)19 | Line | Paal_X22 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)18 | Line | Paal_X21 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)8 | Line | Paal_X5 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)17 | Line | Paal_X20 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)16 | Line | Paal_X19 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)7 | Line | Paal_X4 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)6 | Line | Paal_X3 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)5 | Line | Paal_X2 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)11 | Line | Paal_X8 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)23 | Line | Paal_X26 | 17,750<br>18,750 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

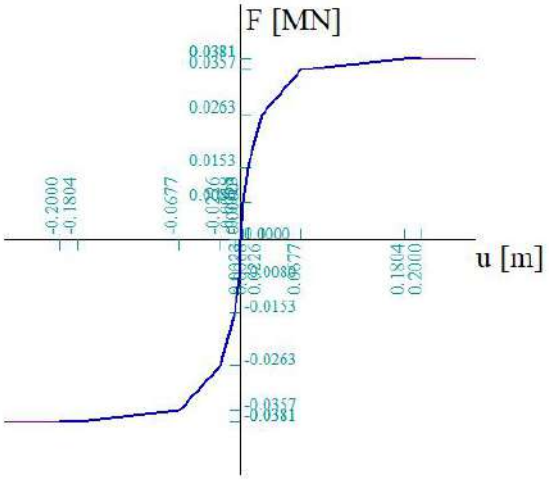
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Nonlinear functions

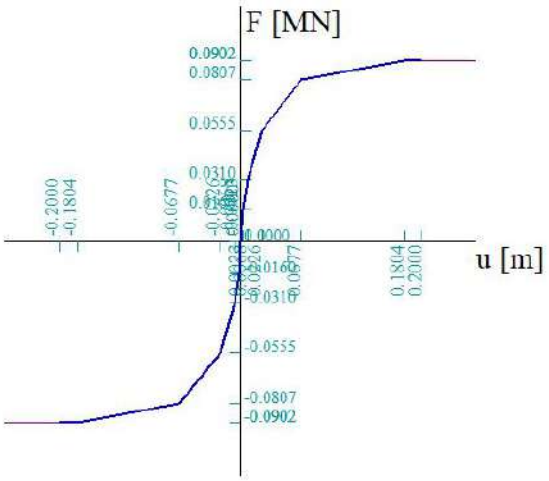
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V1 | Translation | -0.200000 / -38100.000000 | Free | Free |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

Drawing



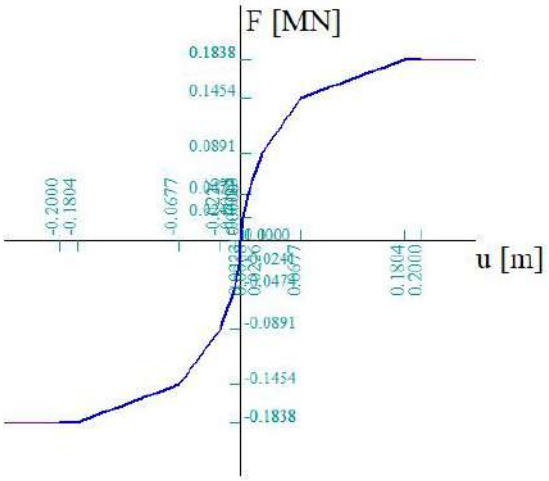

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V2 | Translation | -0.200000 / -90200.000000 | Free | Free |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V3 | Translation | -0.200000 / -183800.000000 | Free | Free |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

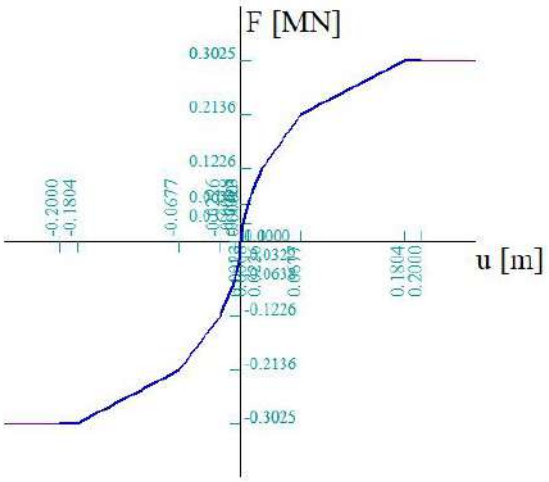
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V4 | Translation | -0.200000 / -302500.000000 | Free | Free |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |

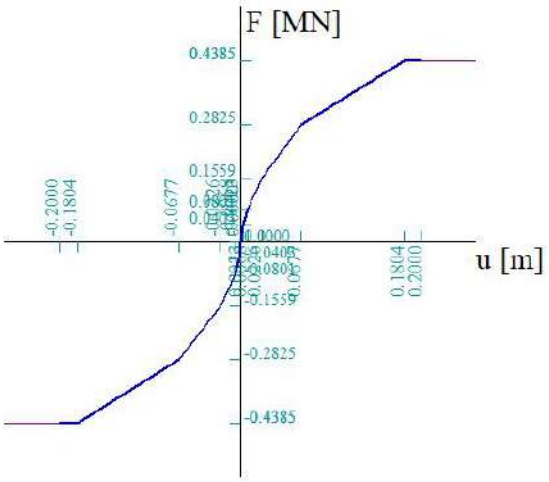
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V5 | Translation | -0.200000 / -438500.000000 | Free | Free |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

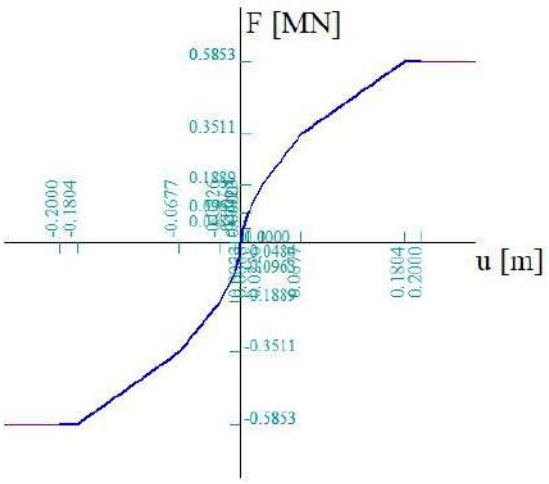
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V6 | Translation | -0.200000 / -585300.000000 | Free | Free |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |

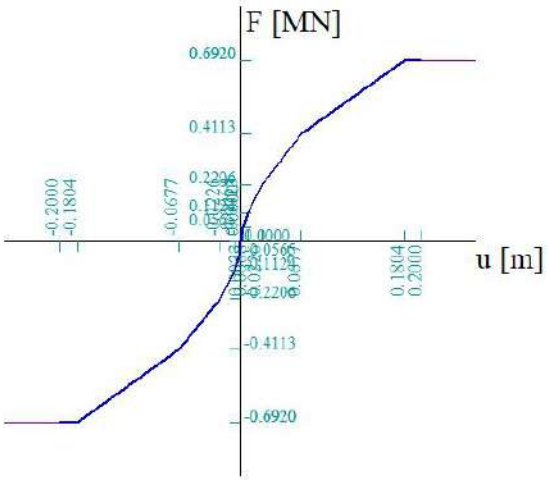
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

Drawing



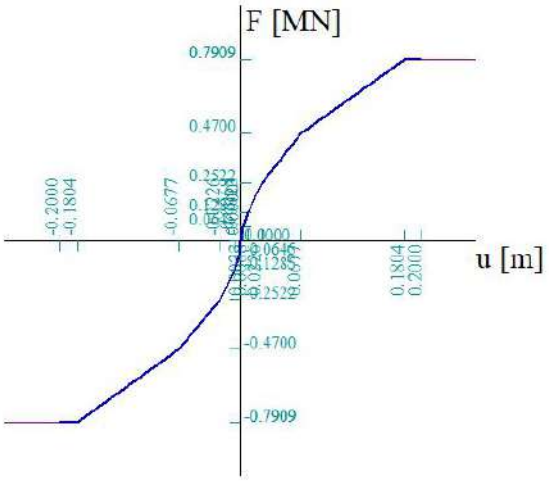

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V7 | Translation | -0.200000 / -692000.000000 | Free | Free |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V8 | Translation | -0.200000 / -790900.000000 | Free | Free |
| | | -0.180400 / -790900.000000 | | |
| | | -0.067650 / -470000.000000 | | |
| | | -0.022550 / -252200.000000 | | |
| | | -0.006765 / -128500.000000 | | |
| | | -0.002255 / -64500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 64500.000000 | | |
| | | 0.006765 / 128500.000000 | | |
| | | 0.022550 / 252200.000000 | | |
| | | 0.067650 / 470000.000000 | | |
| | | 0.180400 / 790900.000000 | | |
| | | 0.200000 / 790900.000000 | | |

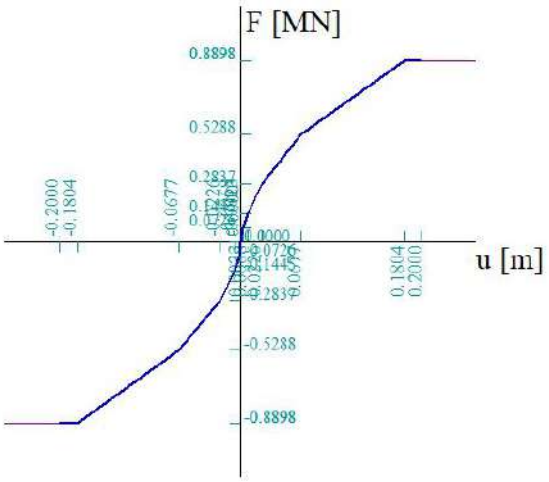
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -0.200000 / -889800.000000 | Free | Free |
| | | -0.180400 / -889800.000000 | | |
| | | -0.067650 / -528800.000000 | | |
| | | -0.022550 / -283700.000000 | | |
| | | -0.006765 / -144500.000000 | | |
| | | -0.002255 / -72600.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 72600.000000 | | |
| | | 0.006765 / 144500.000000 | | |
| | | 0.022550 / 283700.000000 | | |

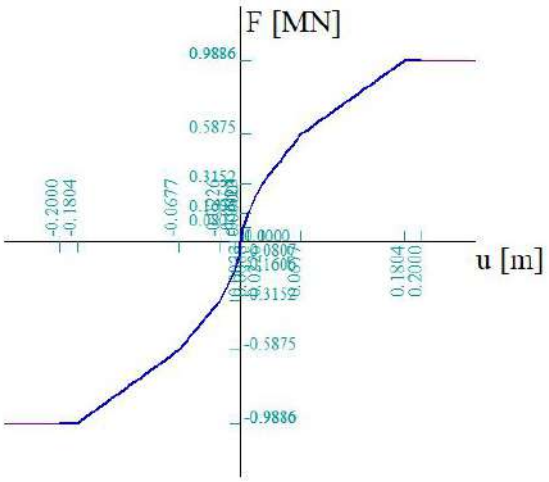
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 528800.000000 | | |
| | | 0.180400 / 889800.000000 | | |
| | | 0.200000 / 889800.000000 | | |

Drawing



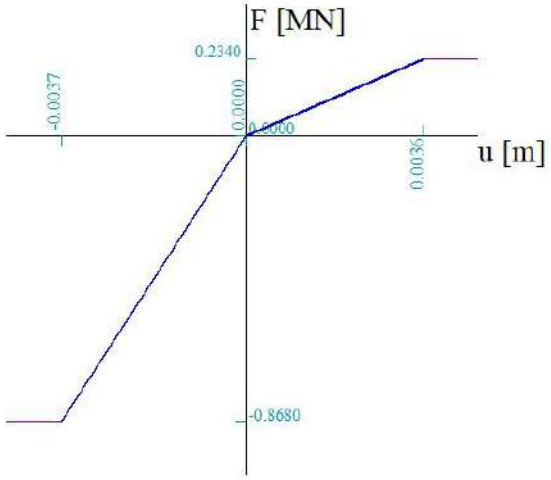

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -0.200000 / -988600.000000 | Free | Free |
| | | -0.180400 / -988600.000000 | | |
| | | -0.067650 / -587500.000000 | | |
| | | -0.022550 / -315200.000000 | | |
| | | -0.006765 / -160600.000000 | | |
| | | -0.002255 / -80700.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 80700.000000 | | |
| | | 0.006765 / 160600.000000 | | |
| | | 0.022550 / 315200.000000 | | |
| | | 0.067650 / 587500.000000 | | |
| | | 0.180400 / 988600.000000 | | |
| | | 0.200000 / 988600.000000 | | |

Drawing



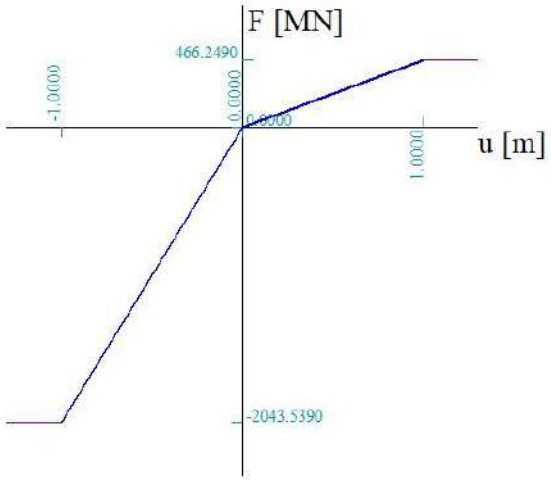

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt_mast_144 | Translation | -0.003740 / -868000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 0.003620 / 234000.000000 | | |

Drawing



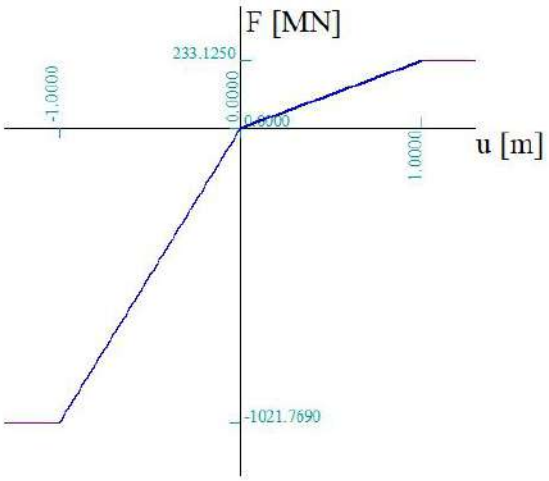

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.BG. | Translation | -1.000000 / -2043539000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 466249000.000000 | | |

Drawing



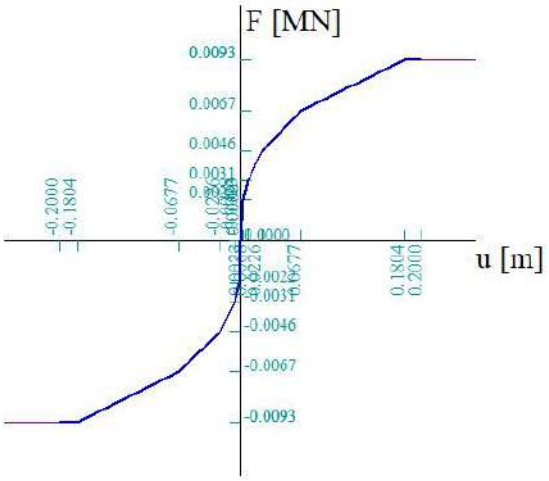

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Translation | -1.000000 / -1021769000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 233125000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -0.200000 / -9265.000000 | Free | Free |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

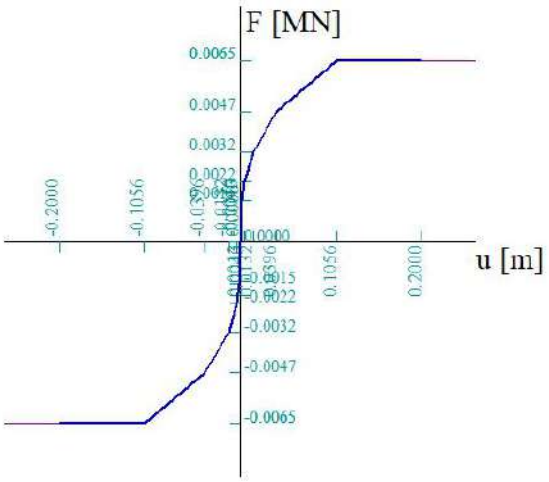
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Translation | -0.200000 / -6460.000000 | Free | Free |
| | | -0.105600 / -6460.000000 | | |
| | | -0.039600 / -4658.466112 | | |
| | | -0.013200 / -3230.000000 | | |
| | | -0.003960 / -2162.268429 | | |
| | | -0.001320 / -1499.233193 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 1499.233193 | | |
| | | 0.003960 / 2162.268429 | | |
| | | 0.013200 / 3230.000000 | | |

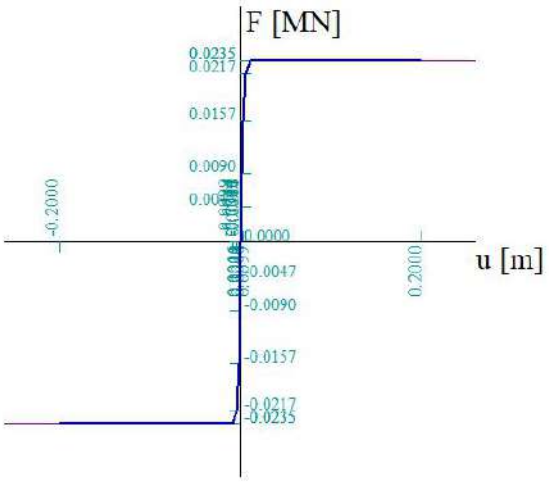
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.039600 / 4658.466112 | | |
| | | 0.105600 / 6460.000000 | | |
| | | 0.200000 / 6460.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V1.B | Translation | -0.200000 / -23507.363202 | Free | Free |
| | | -0.009900 / -23507.363202 | | |
| | | -0.004400 / -21723.306095 | | |
| | | -0.002200 / -15680.794047 | | |
| | | -0.001100 / -8981.671111 | | |
| | | -0.000550 / -4667.361101 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 4667.361101 | | |
| | | 0.001100 / 8981.671111 | | |
| | | 0.002200 / 15680.794047 | | |
| | | 0.004400 / 21723.306095 | | |
| | | 0.009900 / 23507.363202 | | |
| | | 0.200000 / 23507.363202 | | |

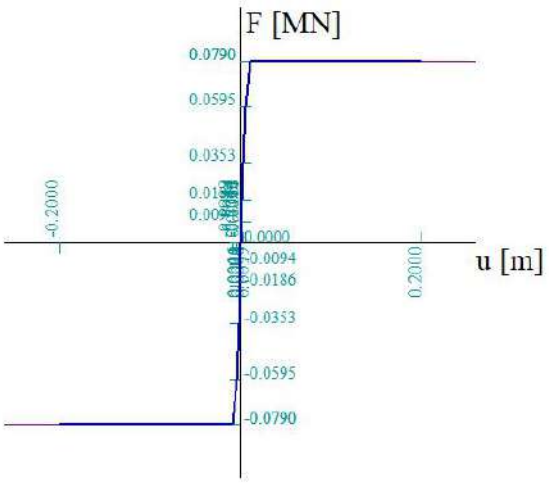
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V2.B | Translation | -0.200000 / -79035.038593 | Free | Free |
| | | -0.009900 / -79035.038593 | | |
| | | -0.004400 / -59487.765327 | | |
| | | -0.002200 / -35336.219808 | | |

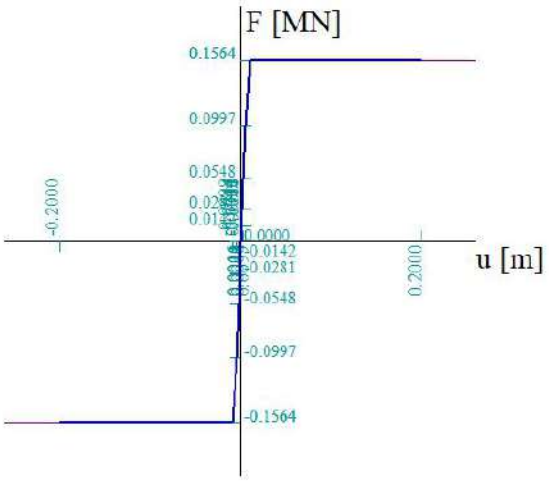
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.001100 / -18587.236311 | | |
| | | -0.000550 / -9417.735746 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 9417.735746 | | |
| | | 0.001100 / 18587.236311 | | |
| | | 0.002200 / 35336.219808 | | |
| | | 0.004400 / 59487.765327 | | |
| | | 0.009900 / 79035.038593 | | |
| | | 0.200000 / 79035.038593 | | |

Drawing



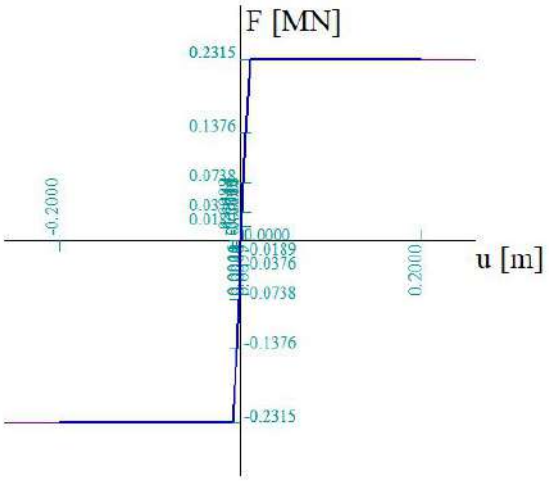

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V3.B | Translation | -0.200000 / -156368.664870 | Free | Free |
| | | -0.009900 / -156368.664870 | | |
| | | -0.004400 / -99733.431143 | | |
| | | -0.002200 / -54825.793146 | | |
| | | -0.001100 / -28130.579433 | | |
| | | -0.000550 / -14158.573896 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 14158.573896 | | |
| | | 0.001100 / 28130.579433 | | |
| | | 0.002200 / 54825.793146 | | |
| | | 0.004400 / 99733.431143 | | |
| | | 0.009900 / 156368.664870 | | |
| | | 0.200000 / 156368.664870 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V4.B | Translation | -0.200000 / -231483.603402 | Free | Free |
| | | -0.009900 / -231483.603402 | | |
| | | -0.004400 / -137564.319138 | | |
| | | -0.002200 / -73801.743400 | | |
| | | -0.001100 / -37599.856384 | | |
| | | -0.000550 / -18889.809630 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 18889.809630 | | |
| | | 0.001100 / 37599.856384 | | |
| | | 0.002200 / 73801.743400 | | |
| | | 0.004400 / 137564.319138 | | |
| | | 0.009900 / 231483.603402 | | |
| | | 0.200000 / 231483.603402 | | |

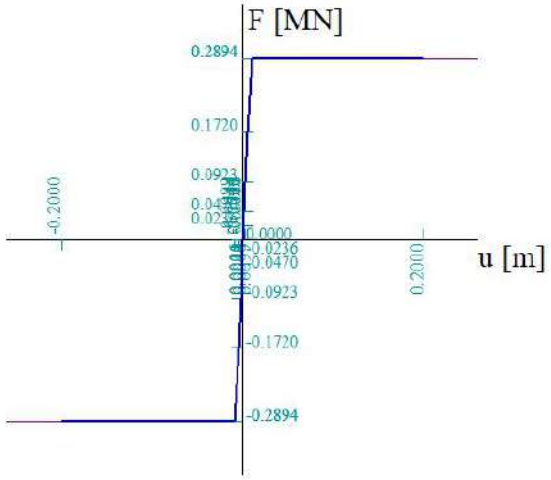
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V5.B | Translation | -0.200000 / -289354.504253 | Free | Free |
| | | -0.009900 / -289354.504253 | | |
| | | -0.004400 / -171955.398922 | | |
| | | -0.002200 / -92252.179250 | | |
| | | -0.001100 / -46999.820480 | | |
| | | -0.000550 / -23612.262038 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 23612.262038 | | |
| | | 0.001100 / 46999.820480 | | |
| | | 0.002200 / 92252.179250 | | |

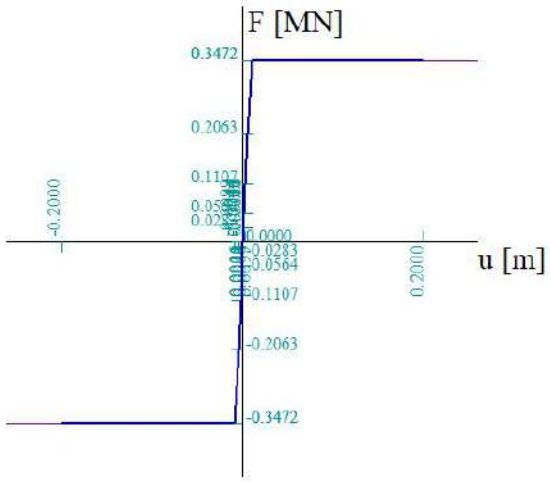
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.004400 / 171955.398922 | | |
| | | 0.009900 / 289354.504253 | | |
| | | 0.200000 / 289354.504253 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V6.B | Translation | -0.200000 / -347225.405104 | Free | Free |
| | | -0.009900 / -347225.405104 | | |
| | | -0.004400 / -206346.478706 | | |
| | | -0.002200 / -110702.615099 | | |
| | | -0.001100 / -56399.784576 | | |
| | | -0.000550 / -28334.714446 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 28334.714446 | | |
| | | 0.001100 / 56399.784576 | | |
| | | 0.002200 / 110702.615099 | | |
| | | 0.004400 / 206346.478706 | | |
| | | 0.009900 / 347225.405104 | | |
| | | 0.200000 / 347225.405104 | | |

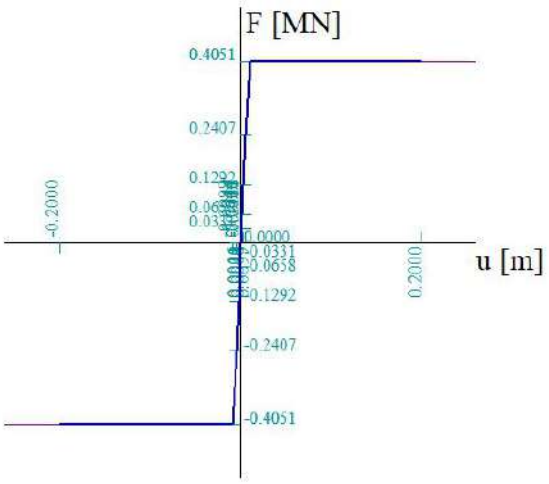
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V7.B | Translation | -0.200000 / -405096.305954 | Free | Free |
| | | -0.009900 / -405096.305954 | | |
| | | -0.004400 / -240737.558491 | | |
| | | -0.002200 / -129153.050949 | | |

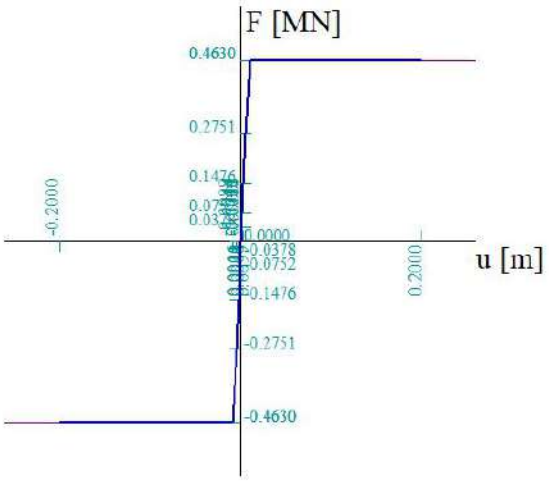
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.001100 / -65799.748672 | | |
| | | -0.000550 / -33057.166853 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 33057.166853 | | |
| | | 0.001100 / 65799.748672 | | |
| | | 0.002200 / 129153.050949 | | |
| | | 0.004400 / 240737.558491 | | |
| | | 0.009900 / 405096.305954 | | |
| | | 0.200000 / 405096.305954 | | |

Drawing



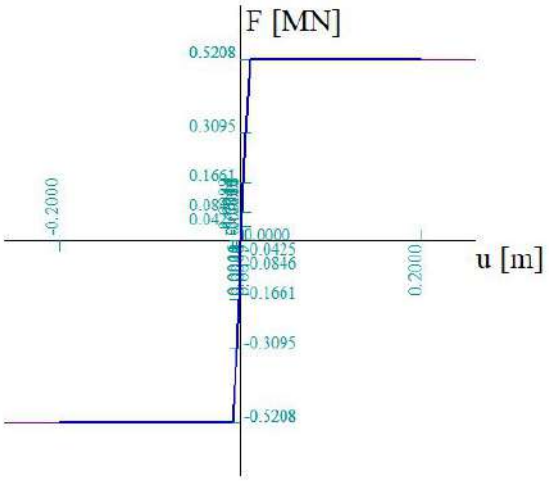

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V8.B | Translation | -0.200000 / -462967.206805 | Free | Free |
| | | -0.009900 / -462967.206805 | | |
| | | -0.004400 / -275128.638275 | | |
| | | -0.002200 / -147603.486799 | | |
| | | -0.001100 / -75199.712768 | | |
| | | -0.000550 / -37779.619261 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 37779.619261 | | |
| | | 0.001100 / 75199.712768 | | |
| | | 0.002200 / 147603.486799 | | |
| | | 0.004400 / 275128.638275 | | |
| | | 0.009900 / 462967.206805 | | |
| | | 0.200000 / 462967.206805 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9.B | Translation | -0.200000 / -520838.107655 | Free | Free |
| | | -0.009900 / -520838.107655 | | |
| | | -0.004400 / -309519.718059 | | |
| | | -0.002200 / -166053.922649 | | |
| | | -0.001100 / -84599.676864 | | |
| | | -0.000550 / -42502.071669 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 42502.071669 | | |
| | | 0.001100 / 84599.676864 | | |
| | | 0.002200 / 166053.922649 | | |
| | | 0.004400 / 309519.718059 | | |
| | | 0.009900 / 520838.107655 | | |
| | | 0.200000 / 520838.107655 | | |

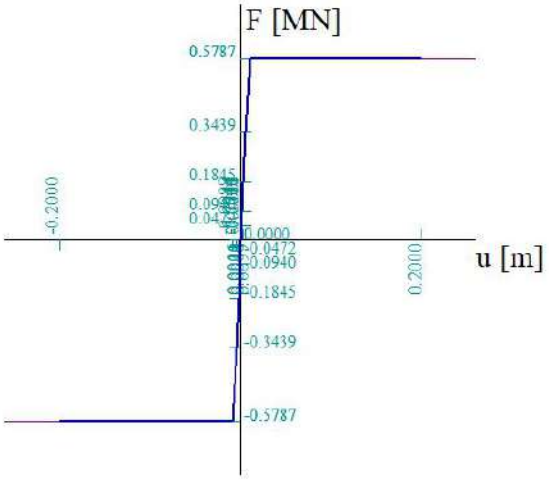
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10.B | Translation | -0.200000 / -578709.008506 | Free | Free |
| | | -0.009900 / -578709.008506 | | |
| | | -0.004400 / -343910.797844 | | |
| | | -0.002200 / -184504.358499 | | |
| | | -0.001100 / -93999.640960 | | |
| | | -0.000550 / -47224.524076 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 47224.524076 | | |
| | | 0.001100 / 93999.640960 | | |
| | | 0.002200 / 184504.358499 | | |

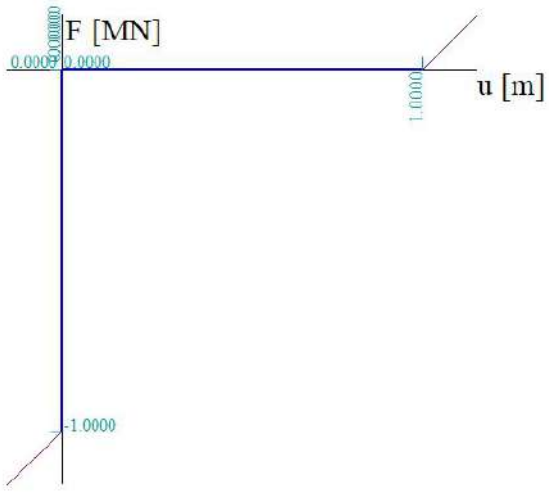
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.004400 / 343910.797844 | | |
| | | 0.009900 / 578709.008506 | | |
| | | 0.200000 / 578709.008506 | | |

Drawing



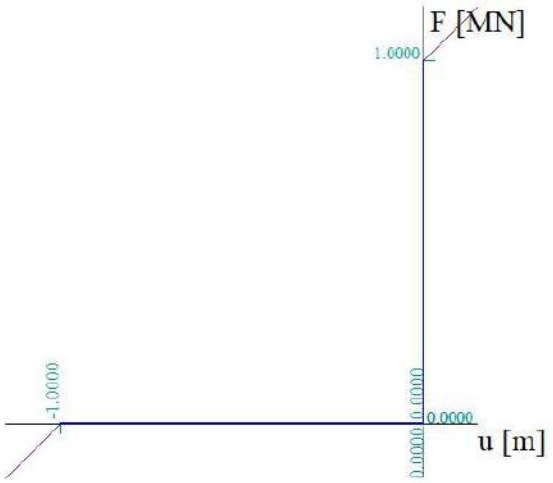

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| press only | Translation | -0.000001 / -1000000.000000 | Flexible | Flexible |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 0.000000 | | |

Drawing



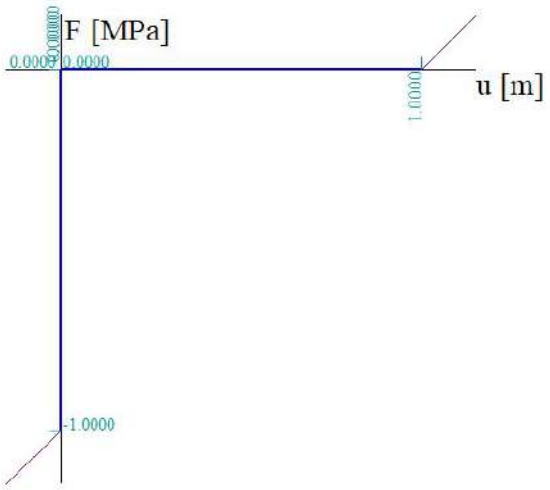

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| tension only | Translation | -1.000000 / 0.000000 | Flexible | Flexible |
| | | 0.000000 / 0.000000 | | |
| | | 0.000001 / 1000000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| soil press only | Nonlinear subsoil | | Flexible | Flexible |

Drawing

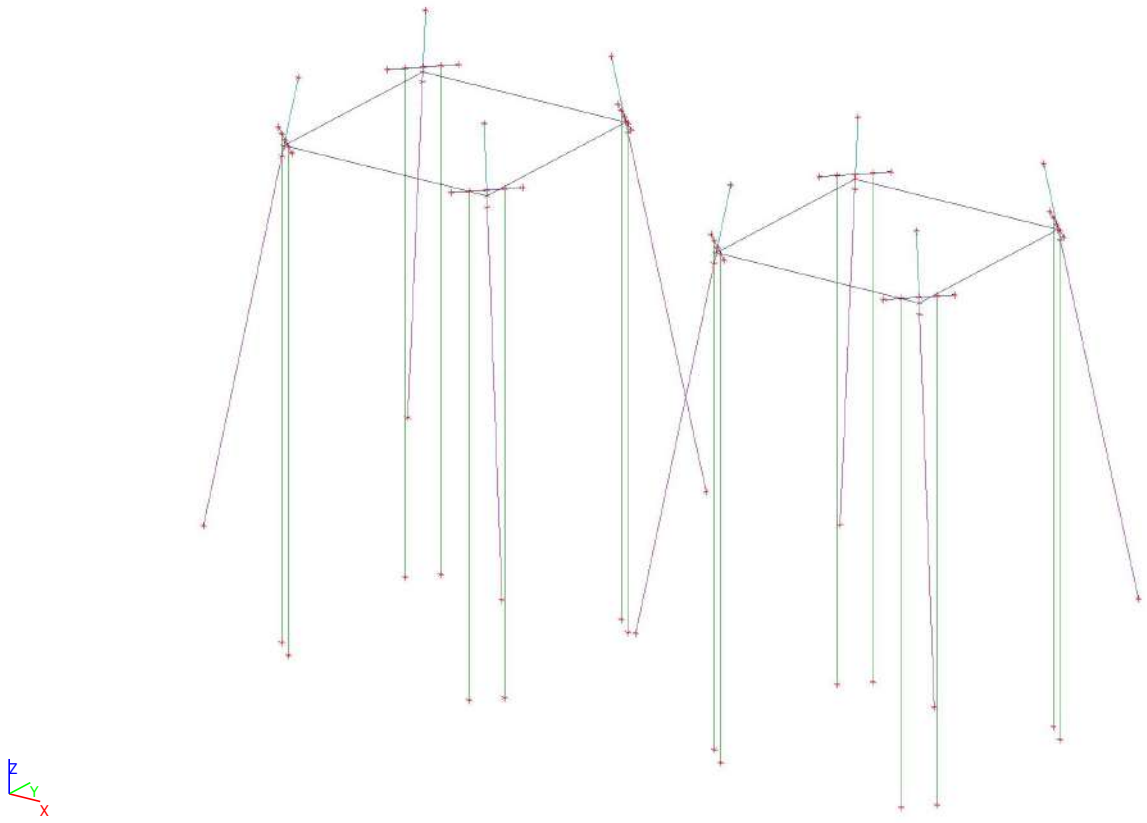


# 6. Belastingen

## 6.1. Load cases

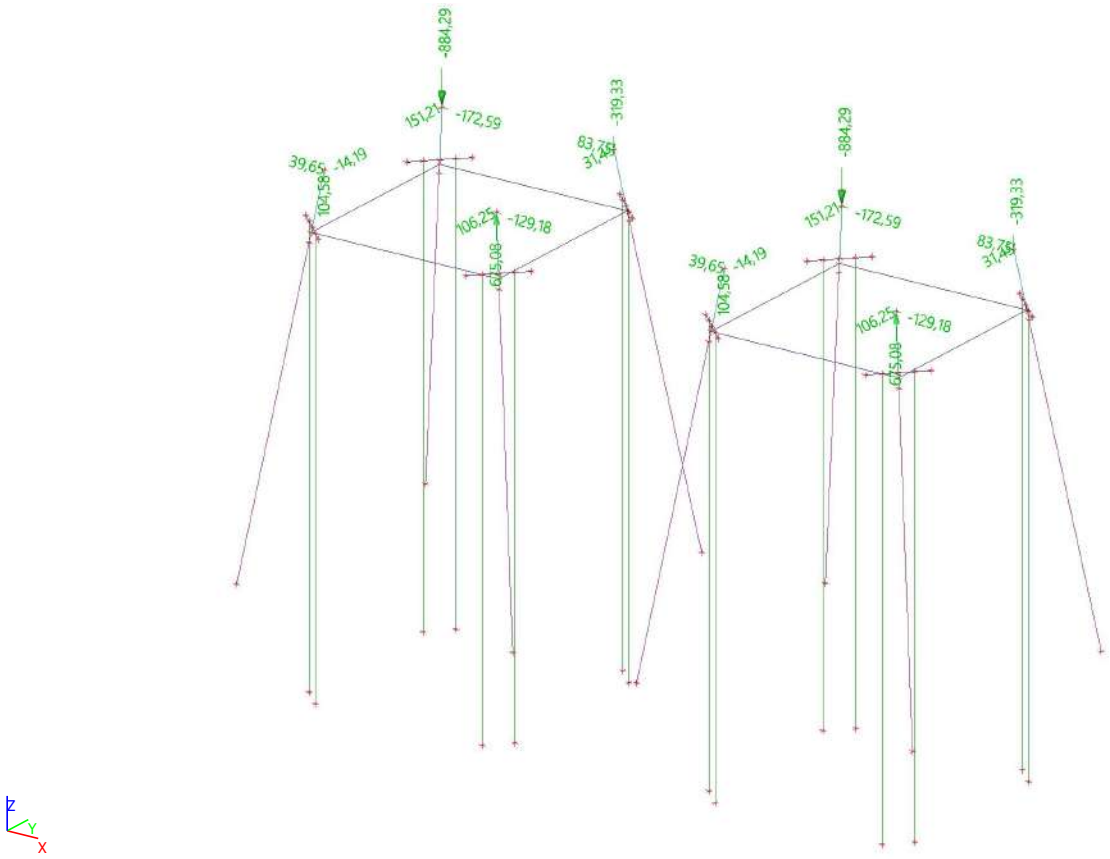
### 6.1.1. Load cases - EG_Fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_Fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |




### 6.1.2. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



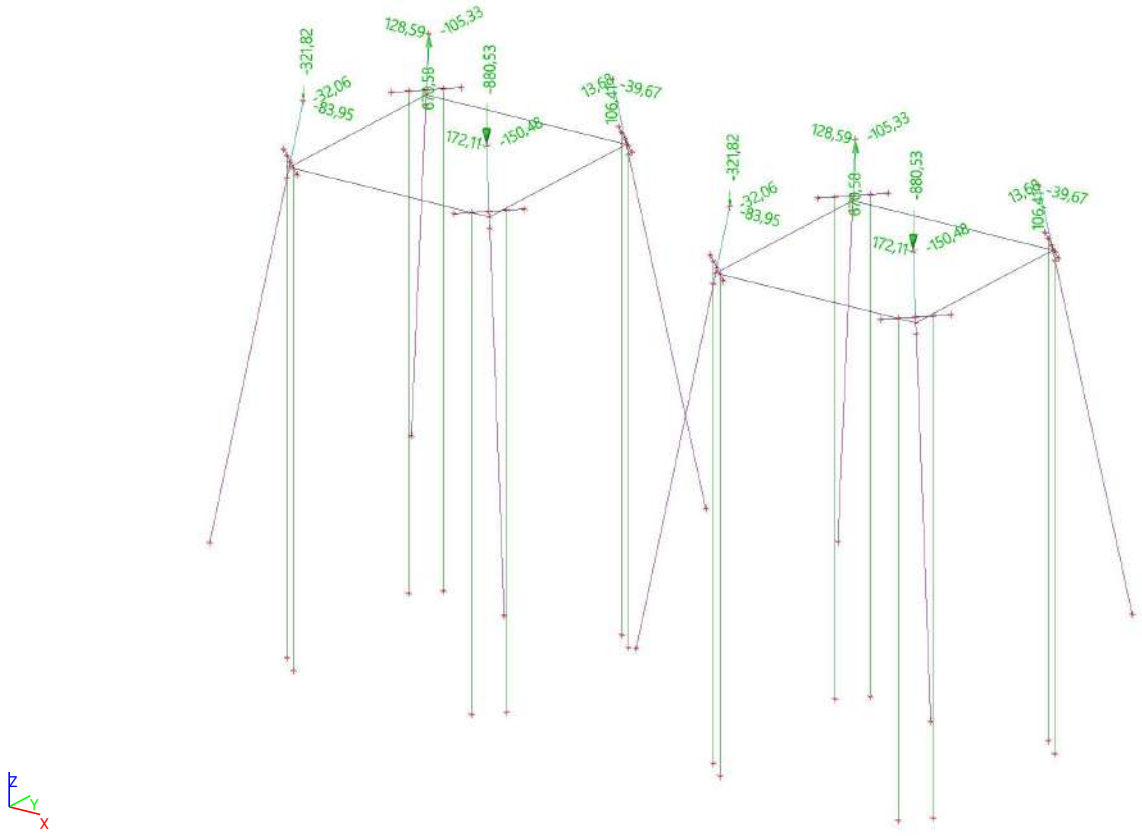

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 39,65 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -14,19 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 104,58 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -172,59 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 151,21 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -884,29 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 83,75 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 31,45 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -319,33 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -129,18 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 106,25 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 675,08 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Force | 39,65 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Force | -14,19 |
| high max Wnd | 1P2 | high max Wnd ;45° | GCS | Z | Force | 104,58 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Force | -129,18 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Force | 106,25 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Force | 675,08 |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Force | 83,75 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Force | 31,45 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Force | -319,33 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Force | -172,59 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Force | 151,21 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Force | -884,29 |

### 6.1.3. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

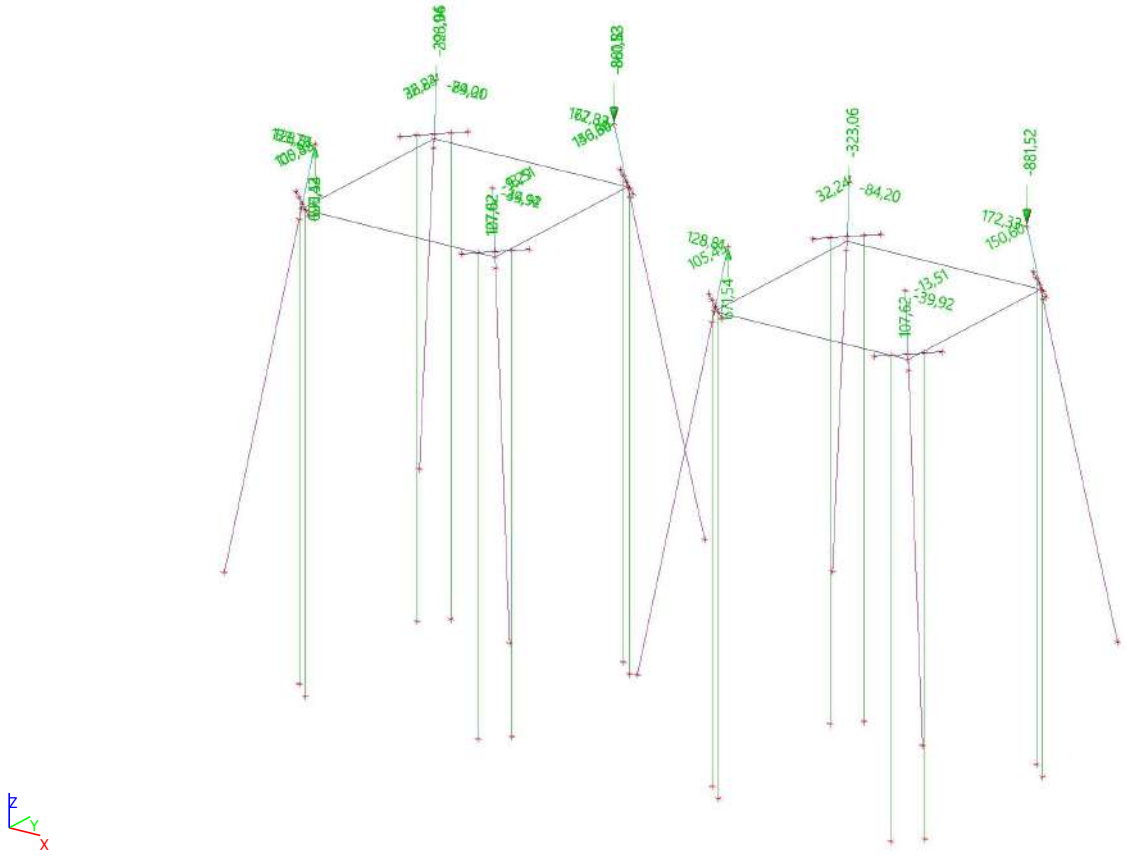


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;255°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -83,95 |
| high max Wnd ;255°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -32,06 |
| high max Wnd ;255°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -321,82 |
| high max Wnd ;255°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 128,59 |
| high max Wnd ;255°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -105,33 |
| high max Wnd ;255°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 670,58 |
| high max Wnd ;255°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -39,67 |
| high max Wnd ;255°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 13,68 |
| high max Wnd ;255°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 106,41 |
| high max Wnd ;255°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 172,11 |
| high max Wnd ;255°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -150,48 |
| high max Wnd ;255°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -880,53 |
| high max Wnd ;255°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Force | -83,95 |
| high max Wnd ;255°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Force | -32,06 |
| high max Wnd ;255°_1P_Z1 | 1P2 | high max Wnd ;225° | GCS | Z | Force | -321,82 |
| high max Wnd ;255°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Force | 172,11 |
| high max Wnd ;255°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Force | -150,48 |
| high max Wnd ;255°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Force | -880,53 |
| high max Wnd ;255°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Force | -39,67 |
| high max Wnd ;255°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Force | 13,68 |
| high max Wnd ;255°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Force | 106,41 |
| high max Wnd ;255°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Force | 128,59 |
| high max Wnd ;255°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Force | -105,33 |
| high max Wnd ;255°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Force | 670,58 |

### 6.1.4. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



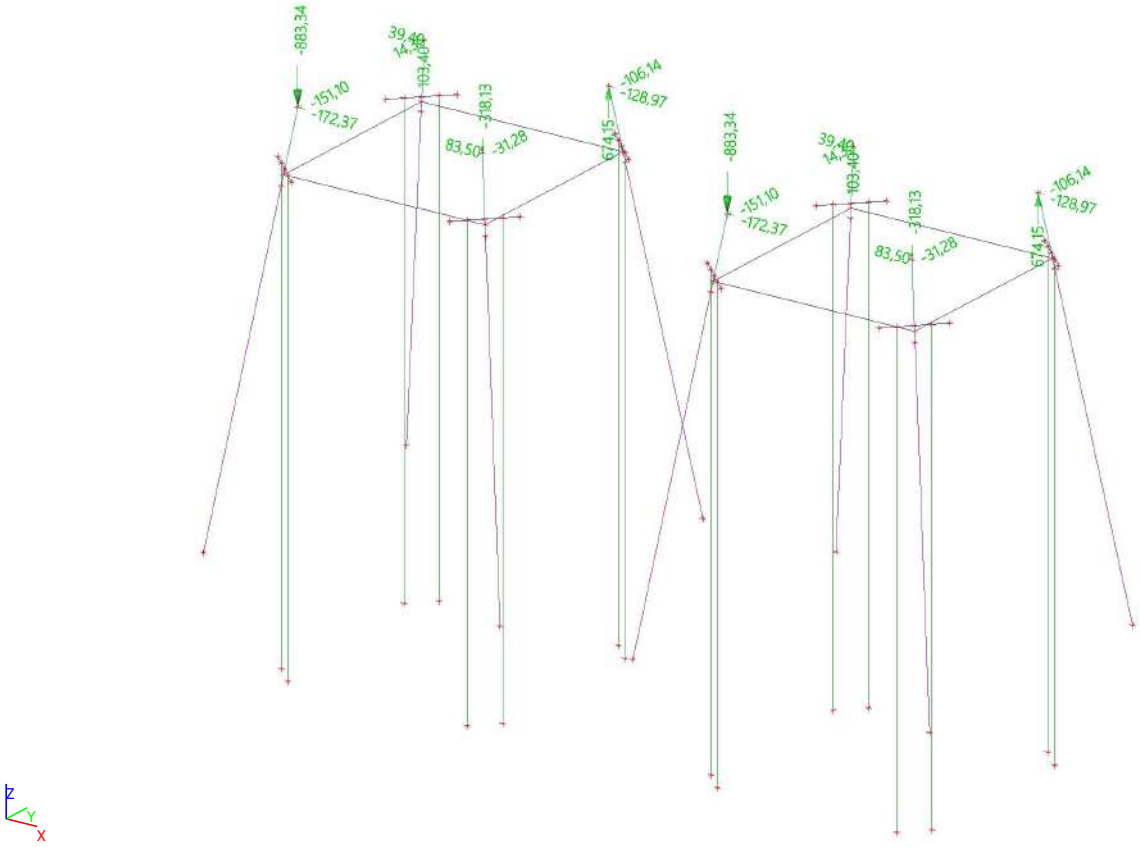

### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 128,81 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 105,45 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 671,54 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -84,20 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 32,24 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -323,06 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 172,33 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 150,60 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -881,52 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -39,92 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -13,51 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 107,62 |
| high max Wnd ;135°_1P_X1 | 1P | high max Wnd ;135° | GCS | X | Force | 133,73 |
| high max Wnd ;135°_1P_Y1 | 1P | high max Wnd ;135° | GCS | Y | Force | 110,82 |
| high max Wnd | 1P | high max Wnd ;135° | GCS | Z | Force | 696,42 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1X_X1 | 1X | high max Wnd ;135° | GCS | X | Force | -79,01 |
| high max Wnd ;135°_1X_Y1 | 1X | high max Wnd ;135° | GCS | Y | Force | 26,83 |
| high max Wnd ;135°_1X_Z1 | 1X | high max Wnd ;135° | GCS | Z | Force | -296,94 |
| high max Wnd ;135°_1XY_X1 | 1XY | high max Wnd ;135° | GCS | X | Force | 167,82 |
| high max Wnd ;135°_1XY_Y1 | 1XY | high max Wnd ;135° | GCS | Y | Force | 146,34 |
| high max Wnd ;135°_1XY_Z1 | 1XY | high max Wnd ;135° | GCS | Z | Force | -860,83 |
| high max Wnd ;135°_1Y_X1 | 1Y | high max Wnd ;135° | GCS | X | Force | -44,14 |
| high max Wnd ;135°_1Y_Y1 | 1Y | high max Wnd ;135° | GCS | Y | Force | -9,29 |
| high max Wnd ;135°_1Y_Z1 | 1Y | high max Wnd ;135° | GCS | Z | Force | 127,02 |
| high max Wnd ;135°_1P_X2 | 1P2 | high max Wnd ;135° | GCS | X | Force | 128,81 |
| high max Wnd ;135°_1P_Y2 | 1P2 | high max Wnd ;135° | GCS | Y | Force | 105,45 |
| high max Wnd ;135°_1P_Z2 | 1P2 | high max Wnd ;135° | GCS | Z | Force | 671,54 |
| high max Wnd ;135°_1Y_X2 | 1Y2 | high max Wnd ;135° | GCS | X | Force | -39,92 |
| high max Wnd ;135°_1Y_Y2 | 1Y2 | high max Wnd ;135° | GCS | Y | Force | -13,51 |
| high max Wnd ;135°_1Y_Z2 | 1Y2 | high max Wnd ;135° | GCS | Z | Force | 107,62 |
| high max Wnd ;135°_1XY_X2 | 1XY2 | high max Wnd ;135° | GCS | X | Force | 172,33 |
| high max Wnd ;135°_1XY_Y2 | 1XY2 | high max Wnd ;135° | GCS | Y | Force | 150,60 |
| high max Wnd ;135°_1XY_Z2 | 1XY2 | high max Wnd ;135° | GCS | Z | Force | -881,52 |
| high max Wnd ;135°_1X_X2 | 1X2 | high max Wnd ;135° | GCS | X | Force | -84,20 |
| high max Wnd ;135°_1X_Y2 | 1X2 | high max Wnd ;135° | GCS | Y | Force | 32,24 |
| high max Wnd ;135°_1X_Z2 | 1X2 | high max Wnd ;135° | GCS | Z | Force | -323,06 |

### 6.1.5. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



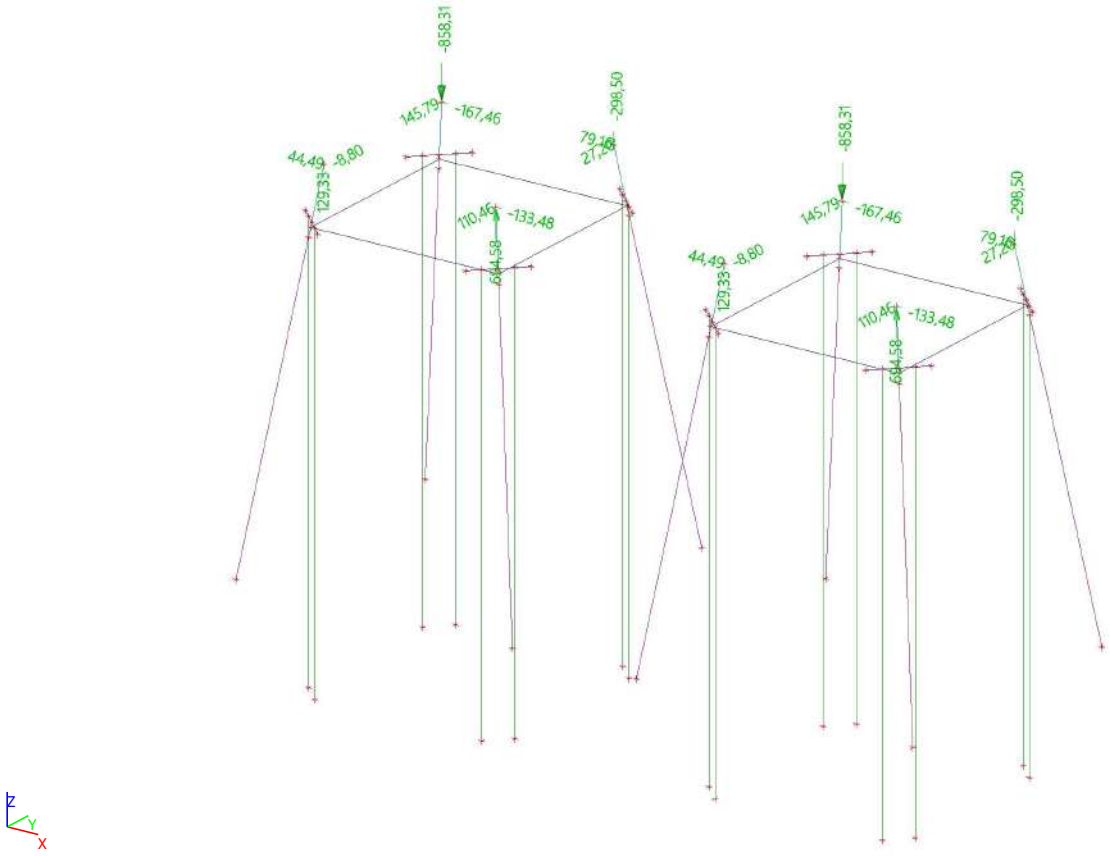

### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -172,37 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -151,10 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -883,34 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 39,40 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 14,35 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 103,40 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -128,97 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -106,14 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 674,15 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 83,50 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -31,28 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -318,13 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Force | -172,37 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Force | -151,10 |
| high max Wnd | 1P2 | high max Wnd ;315° | GCS | Z | Force | -883,34 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Force | 83,50 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Force | -31,28 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Force | -318,13 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Force | -128,97 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Force | -106,14 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Force | 674,15 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Force | 39,40 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Force | 14,35 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Force | 103,40 |

### 6.1.6. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

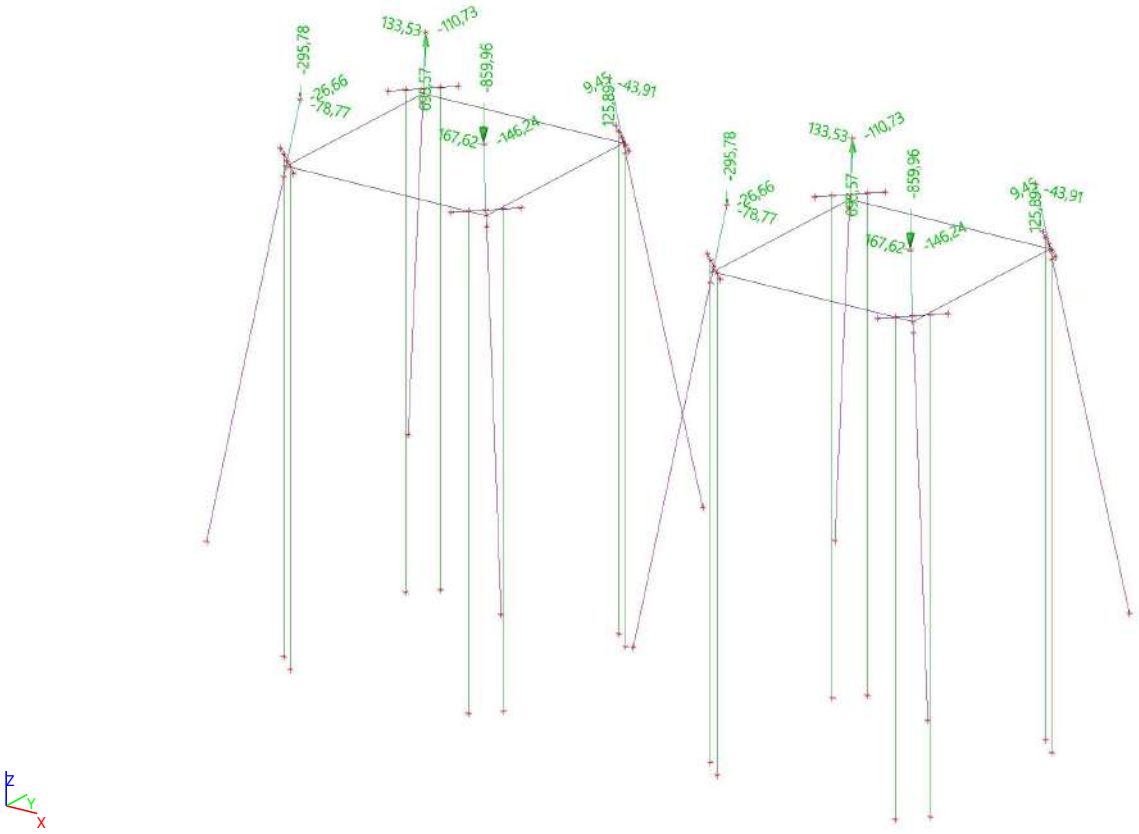


#### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 44,49 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | -8,80 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 129,33 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -167,46 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 145,79 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -858,31 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 79,16 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 27,20 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -298,50 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -133,48 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 110,46 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 694,58 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Force | 44,49 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Force | -8,80 |
| low max Wnd ;45°_1P_Z1 | 1P2 | low max Wnd ;45° | GCS | Z | Force | 129,33 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Force | -133,48 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Force | 110,46 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Force | 694,58 |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Force | 79,16 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Force | 27,20 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Force | -298,50 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Force | -167,46 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Force | 145,79 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Force | -858,31 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



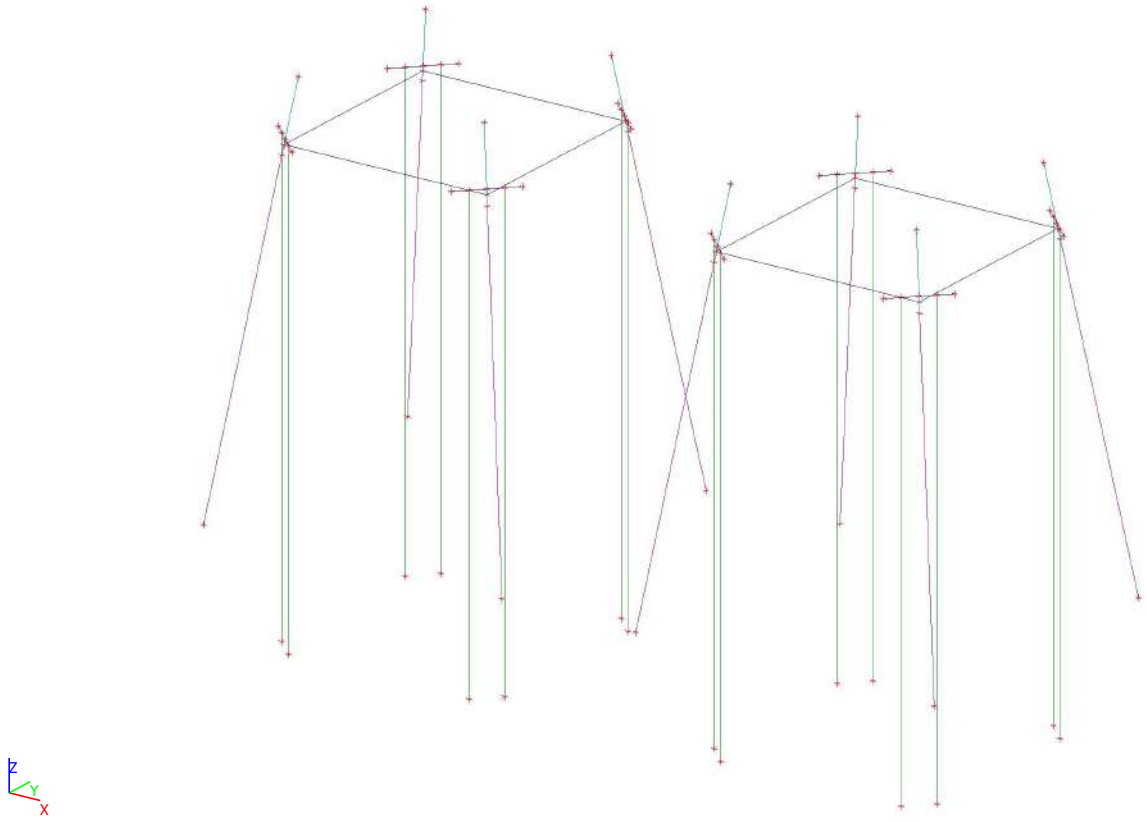

### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -78,77 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -26,66 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -295,78 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 133,53 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -110,73 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 695,57 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -43,91 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 9,45 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 125,89 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 167,62 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -146,24 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -859,96 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Force | -78,77 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Force | -26,66 |
| low max Wnd | 1P2 | low max Wnd ;225° | GCS | Z | Force | -295,78 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1P_Z1 | | | | | | |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Force | 167,62 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Force | -146,24 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Force | -859,96 |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Force | -43,91 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Force | 9,45 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Force | 125,89 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Force | 133,53 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Force | -110,73 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Force | 695,57 |

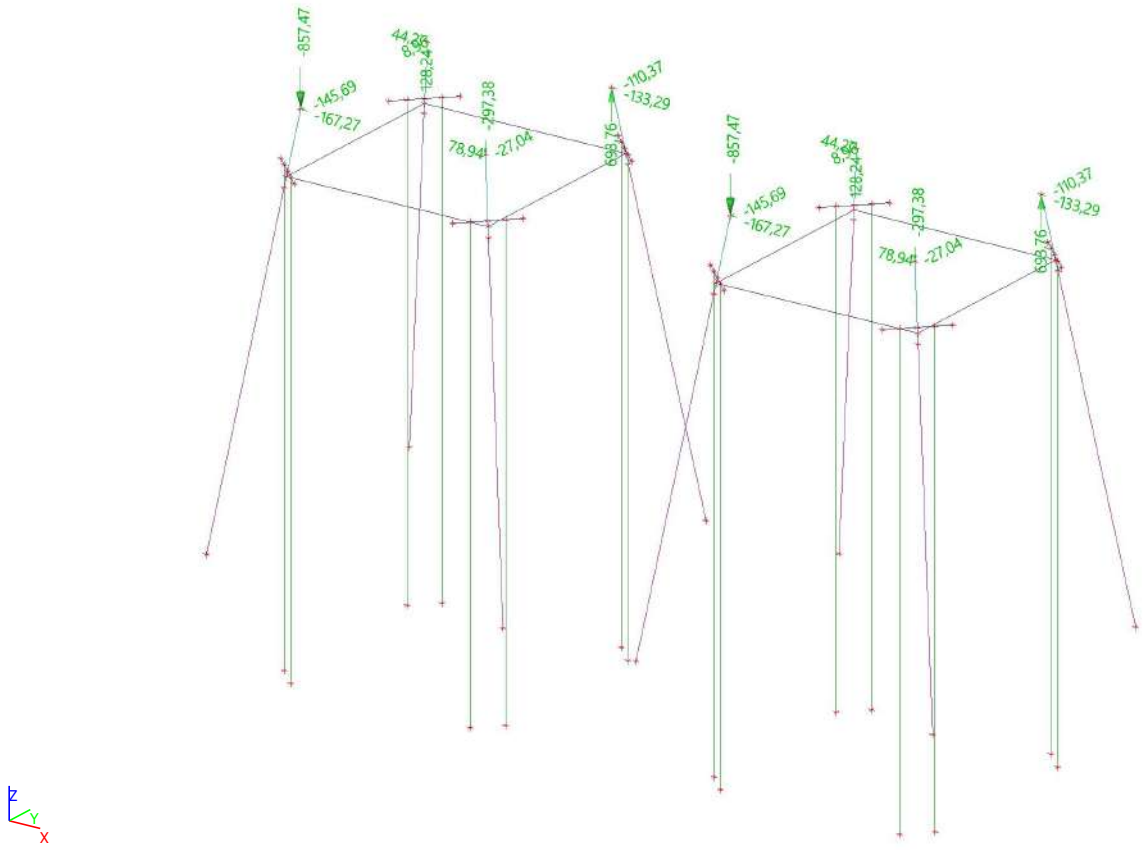
### 6.1.8. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | Standard | Variable Static | LG4 | Short | None |



## 6.1.9. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |




### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -167,27 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -145,69 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -857,47 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 44,27 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | 8,96 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 128,24 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -133,29 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -110,37 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 693,76 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 78,94 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -27,04 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -297,38 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Force | -167,27 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Force | -145,69 |
| low max Wnd ;315°_1P_Z1 | 1P2 | low max Wnd ;315° | GCS | Z | Force | -857,47 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Force | 78,94 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Force | -27,04 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Force | -297,38 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Force | -133,29 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Force | -110,37 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Force | 693,76 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Force | 44,27 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Force | 8,96 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Force | 128,24 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;225° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;225° | 1,000 |
| low max Wnd ;135° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;315° | 1,000 |
| high max Wnd ;45° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;225° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;225° | 1,000 |
| high max Wnd ;135° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;315° | 1,000 |

## 6.3. Result classes

| Name | List |
|---|---|
| All non-linear | low max Wnd ;45° - EG_Gunstig |
| | low max Wnd ;225° - EG_Gunstig |
| | low max Wnd ;135° - EG_Gunstig |
| | low max Wnd ;315° - |

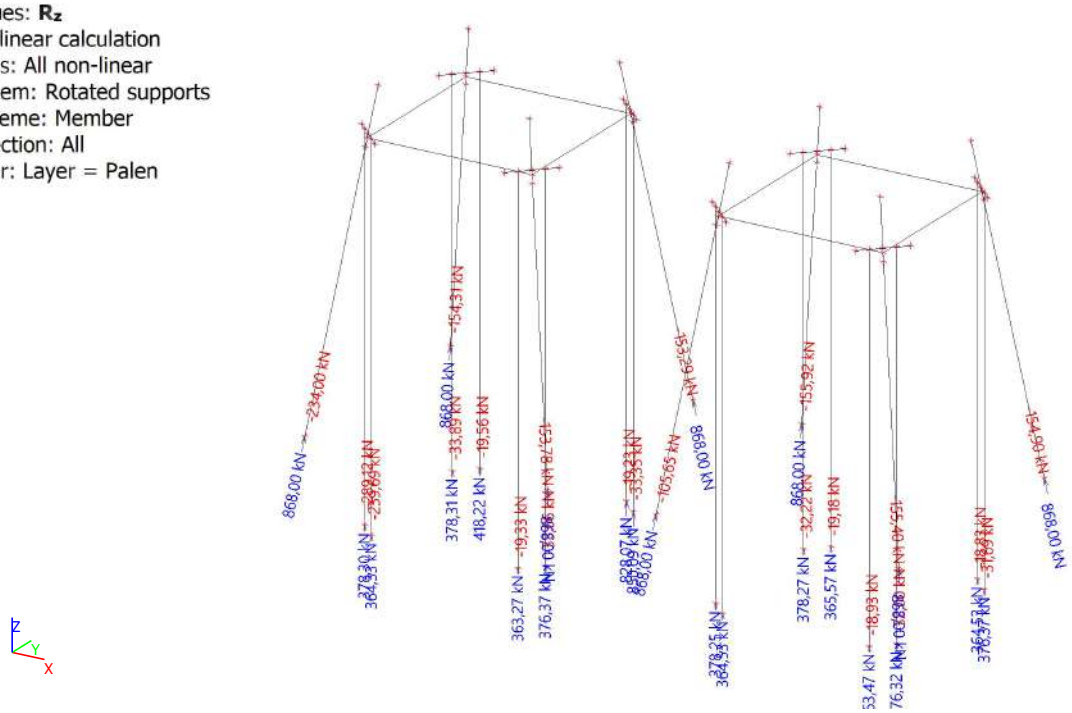
| Name | List |
|---|---|
| | EG_Gunstig |
| | high max Wnd ;45° - EG_Ongunstig |
| | high max Wnd ;225° - EG_Ongunstig |
| | high max Wnd ;135° - EG_Ongunstig |
| | high max Wnd ;315° - EG_Ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LD1. - General cross-section

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y/N143 | low max Wnd ;225° - EG_Gunstig | **0,00** | 0,00 | **868,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P/N139 | high max Wnd ;225° - EG_Ongunstig | 0,00 | **0,00** | 514,68 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X/N153 | high max Wnd ;135° - EG_Ongunstig | 0,00 | **0,00** | 659,80 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **-234,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | 0,00 | 868,00 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All

Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK4/N171 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **-289,12** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **850,09** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | high max Wnd ;225° - EG_Ongunstig | 0,00 | **0,00** | 514,68 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P/N139 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **-234,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;315° - EG_Gunstig | 0,00 | **0,00** | 437,89 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;225° - EG_Gunstig | **0,00** | 0,00 | **868,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;45° - EG_Gunstig | **0,00** | **0,00** | **-153,78** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;45° - EG_Gunstig | 0,00 | **0,00** | 438,59 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | high max Wnd ;135° - EG_Ongunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **-153,29** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X/N153 | high max Wnd ;135° - EG_Ongunstig | 0,00 | **0,00** | 659,80 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-154,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;45° - EG_Gunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-33,89** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **378,31** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK1/N160 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-19,56** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

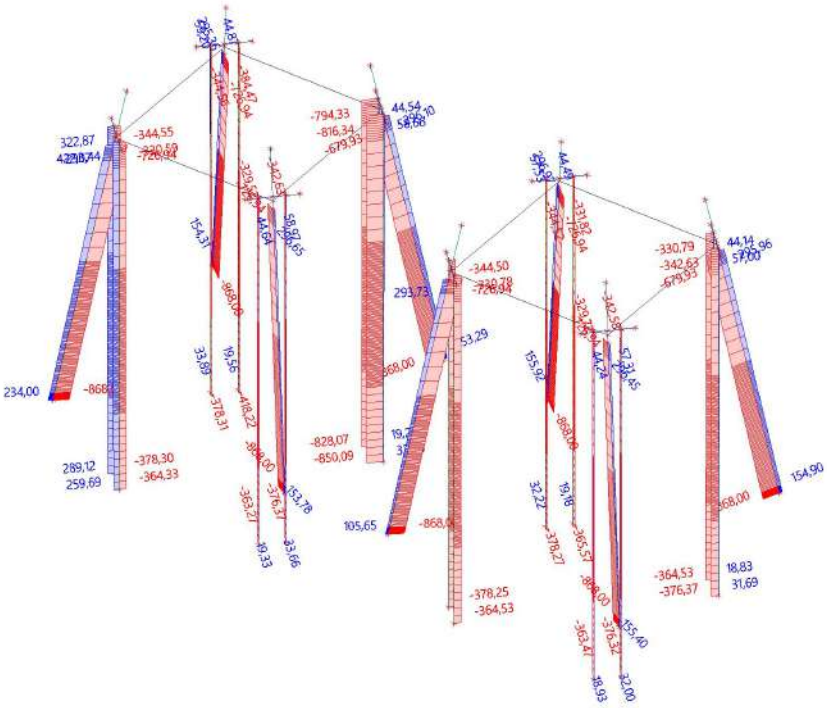
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK1/N160 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **418,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK2/N167 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-33,35** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **850,09** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK3/N168 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-19,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK3/N168 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **828,07** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **-289,12** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **378,30** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **-259,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **364,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **376,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-33,66** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **363,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-19,33** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P2/N231 | high max Wnd ;225° - EG_Ongunstig | 0,00 | **0,00** | 523,37 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P2/N231 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **-105,65** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P2/N231 | low max Wnd ;315° - EG_Gunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y2/N235 | high max Wnd ;315° - EG_Ongunstig | 0,00 | **0,00** | 521,01 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y2/N235 | high max Wnd ;45° - EG_Ongunstig | 0,00 | **0,00** | -107,21 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y2/N235 | low max Wnd ;225° - EG_Gunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y2/N235 | low max Wnd ;45° - EG_Gunstig | **0,00** | 0,00 | **-155,40** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY2/N239 | low max Wnd ;45° - EG_Gunstig | 0,00 | **0,00** | 444,93 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY2/N239 | high max Wnd ;135° - EG_Ongunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY2/N239 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **-154,90** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X2/N243 | high max Wnd ;225° - EG_Ongunstig | 0,00 | **0,00** | -105,04 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X2/N243 | high max Wnd ;135° - EG_Ongunstig | 0,00 | **0,00** | 524,21 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X2/N243 | low max Wnd ;225° - EG_Gunstig | **0,00** | 0,00 | **-155,92** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X2/N243 | low max Wnd ;45° - EG_Gunstig | **0,00** | 0,00 | **868,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK16/N247 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-32,22** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK16/N247 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **378,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK17/N248 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-19,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK17/N248 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **365,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK18/N251 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-31,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK18/N251 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **376,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK19/N252 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-18,83** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK19/N252 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **364,53** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK20/N255 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **39,21** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK20/N255 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **378,25** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK21/N256 | high max Wnd ;135° - EG_Ongunstig | 0,00 | 0,00 | **55,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK21/N256 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **364,53** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK22/N259 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **376,32** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK22/N259 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-32,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK23/N260 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **363,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK23/N260 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-18,93** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

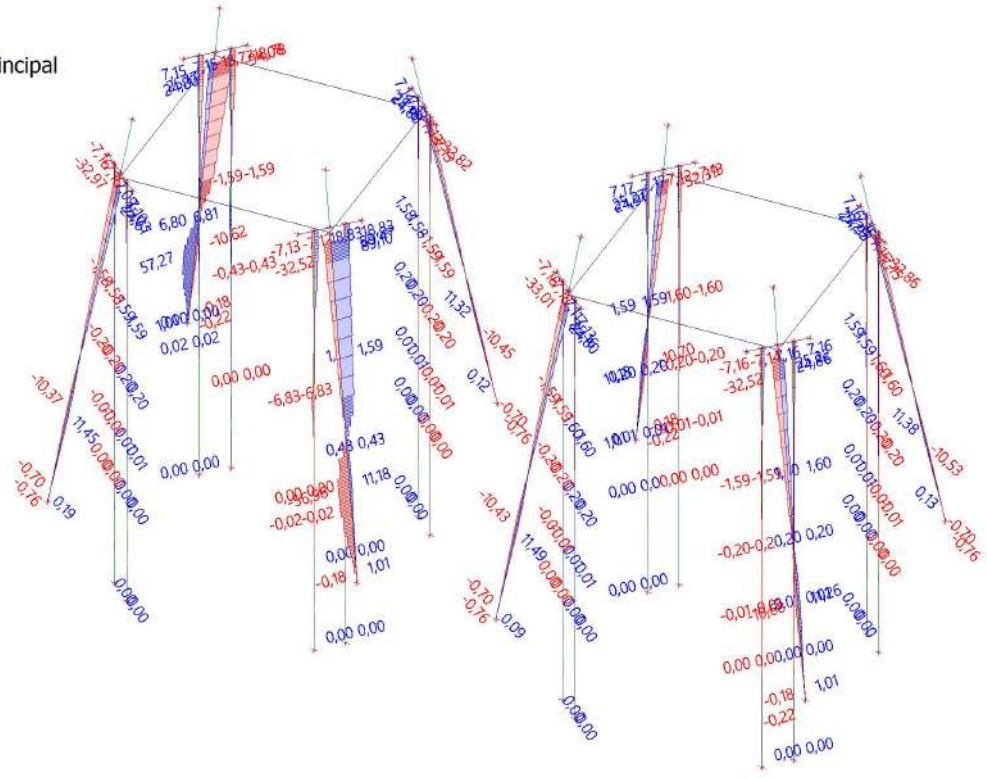
## 8.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



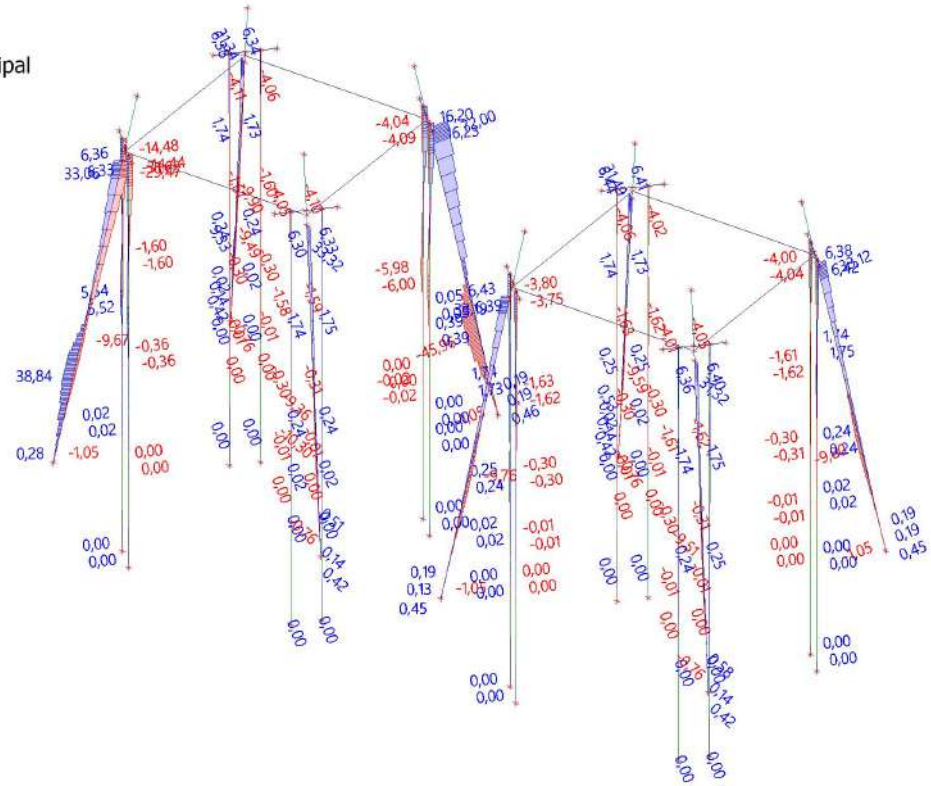
## 8.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



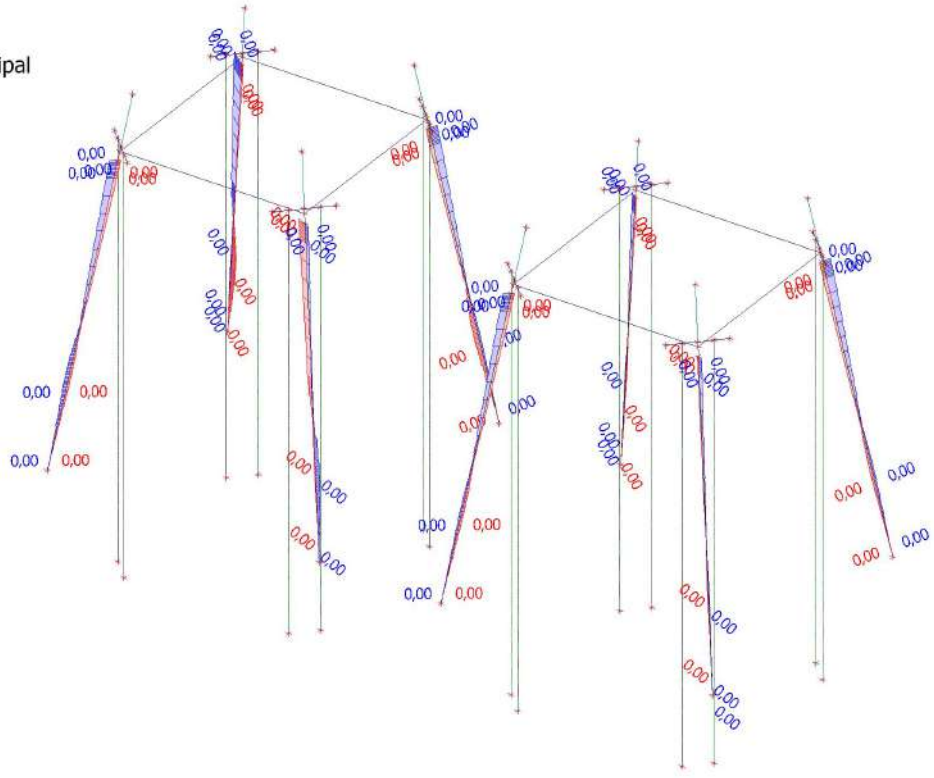
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



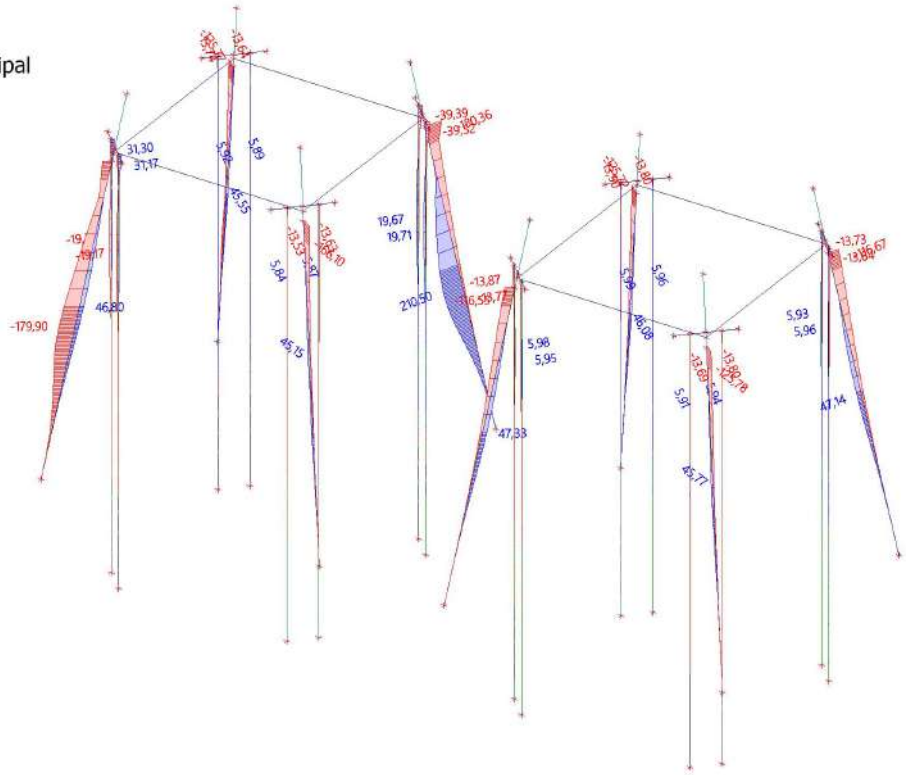
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



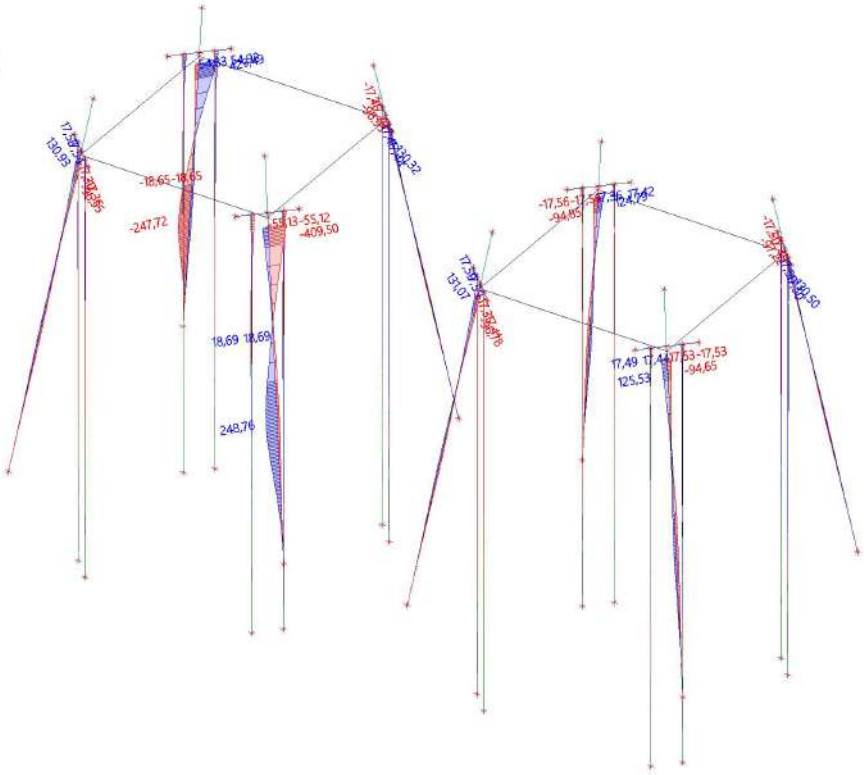
## 8.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen




## 8.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LD1. - General cross-section

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P | 17,500 | low max Wnd ;315° - EG_Gunstig | LD1. - General cross-section | **-868,00** | -0,70 | -1,05 | 0,00 | 0,00 | 0,00 |
| Paal_P | 0,000 | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | **422,07** | -6,30 | -29,47 | 0,00 | 8,66 | 43,27 |
| Paal_X | 0,000 | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | -471,72 | **-94,08** | 0,19 | **0,00** | 21,76 | **429,49** |
| Paal_XY | 12,000+ | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | -814,26 | 5,46 | **-45,96** | 0,00 | 129,28 | -14,58 |
| Paal_Y | 1,000- | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | 35,82 | **89,47** | 31,16 | **0,00** | -133,85 | -320,22 |
| Paal_XY | 0,000 | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | -679,93 | -1,43 | **72,00** | 0,00 | **-180,36** | -9,81 |
| Paal_XY | 9,000- | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | -771,27 | -0,65 | 12,10 | 0,00 | **210,50** | -24,81 |
| Paal_Y | 0,000 | high max Wnd ;135° - EG_Ongunstig | LD1. - General cross-section | 46,57 | 89,10 | 33,32 | 0,00 | -166,10 | **-409,50** |

## 8.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X3 | 23,958 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-850,09** | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 |
| Paal_X2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -384,47 | **-18,78** | 1,40 | 0,00 | -3,66 | **54,92** |
| Paal_X5 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **322,87** | -2,47 | **-14,48** | 0,00 | **31,30** | 5,57 |
| Paal_X3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -816,34 | 2,41 | **16,23** | 0,00 | **-39,52** | -5,24 |
| Paal_X8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -32,43 | **18,83** | -1,46 | 0,00 | -0,24 | **-55,13** |

# 9. Krachten van de Poeren

## 9.1. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Layer = Poeren

| Name | dx [m] | Case | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer_P6 | 2,959 | low max Wnd ;45° - EG_Gunstig | **714,99** | -30,95 | -17,23 | 0,00 | 0,00 | 0,00 |
| Poer_P7 | 0,255 | high max Wnd ;315° - EG_Ongunstig | -173,79 | **-48,56** | 43,51 | 6,15 | -46,70 | 83,71 |
| Poer_P7 | 0,000 | high max Wnd ;135° - EG_Ongunstig | 90,29 | **50,72** | -2,79 | -5,36 | -5,58 | -98,05 |
| Poer_P7 | 0,000 | low max Wnd ;45° - EG_Gunstig | 412,34 | 12,49 | **-83,89** | -5,39 | **130,87** | -35,82 |
| Poer_P7 | 0,255 | high max Wnd ;225° - EG_Ongunstig | -510,55 | -9,94 | **115,84** | 6,38 | -158,02 | 29,48 |
| Poer_P7 | 0,000 | high max Wnd ;45° - EG_Ongunstig | 448,59 | 11,83 | -70,83 | **-5,56** | 122,56 | -34,15 |
| Poer_P7 | 0,000 | low max Wnd ;315° - EG_Gunstig | -186,79 | -47,20 | 33,59 | **6,53** | -52,98 | 92,79 |
| Poer_P7 | 0,000 | high max Wnd ;225° - EG_Ongunstig | -516,32 | -9,85 | 114,66 | 6,38 | **-187,43** | 32,00 |
| Poer_P6 | 0,000 | high max Wnd ;225° - EG_Ongunstig | **-951,17** | 39,79 | 16,56 | 0,00 | -48,91 | **-130,61** |
| Poer_P8 | 0,511 | high max Wnd ;315° - EG_Ongunstig | -321,50 | 29,13 | 23,45 | -0,61 | 96,22 | **127,87** |

# 10. Krachten van de Funderingsbalken

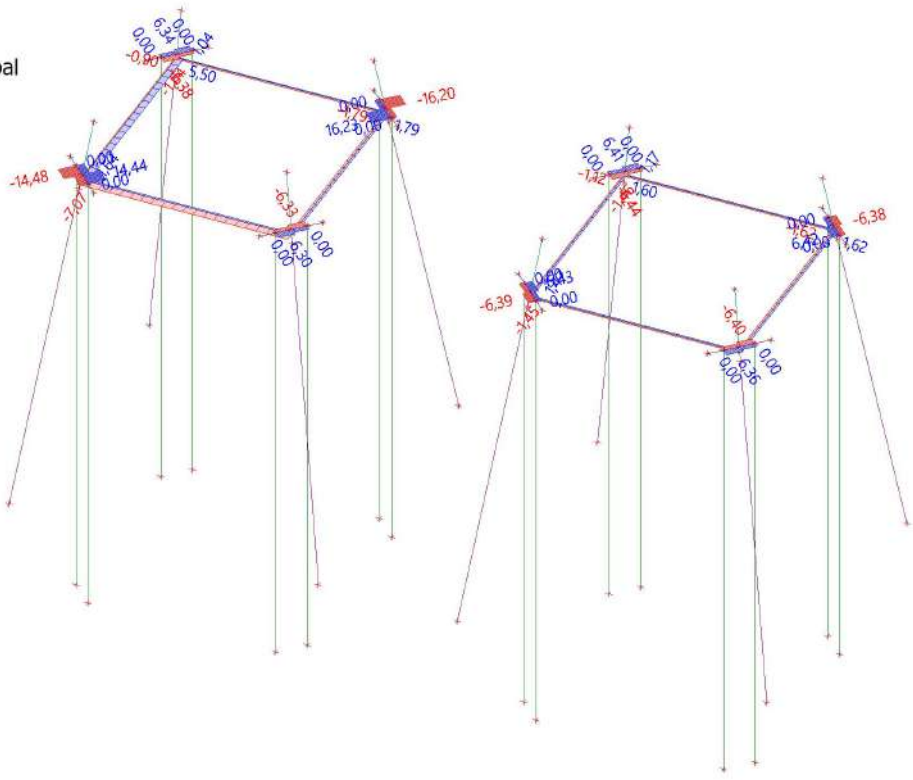
## 10.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



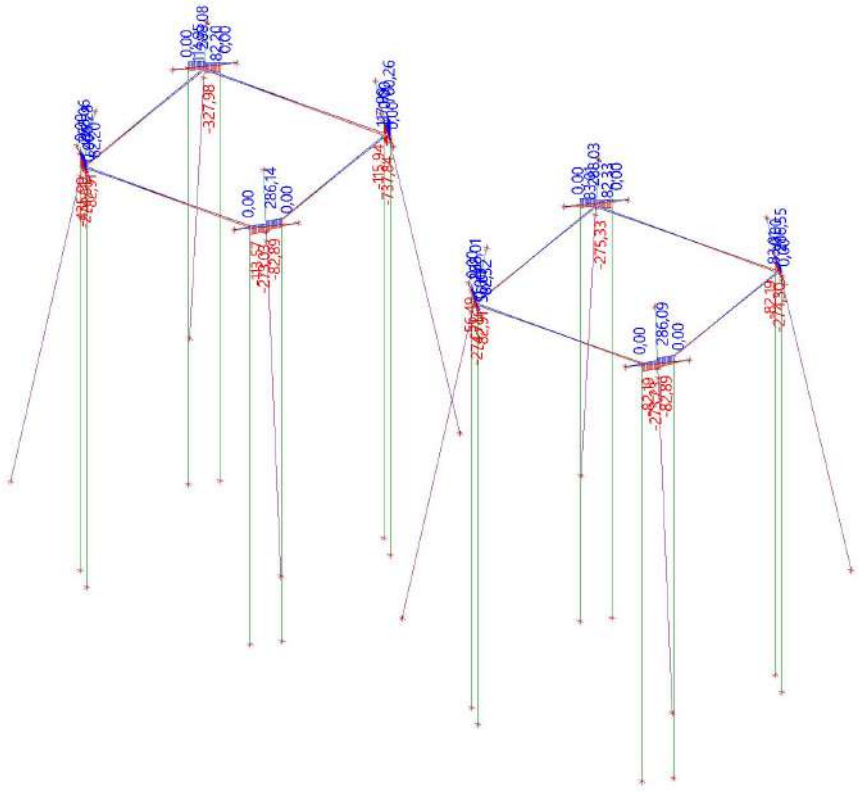
## 10.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



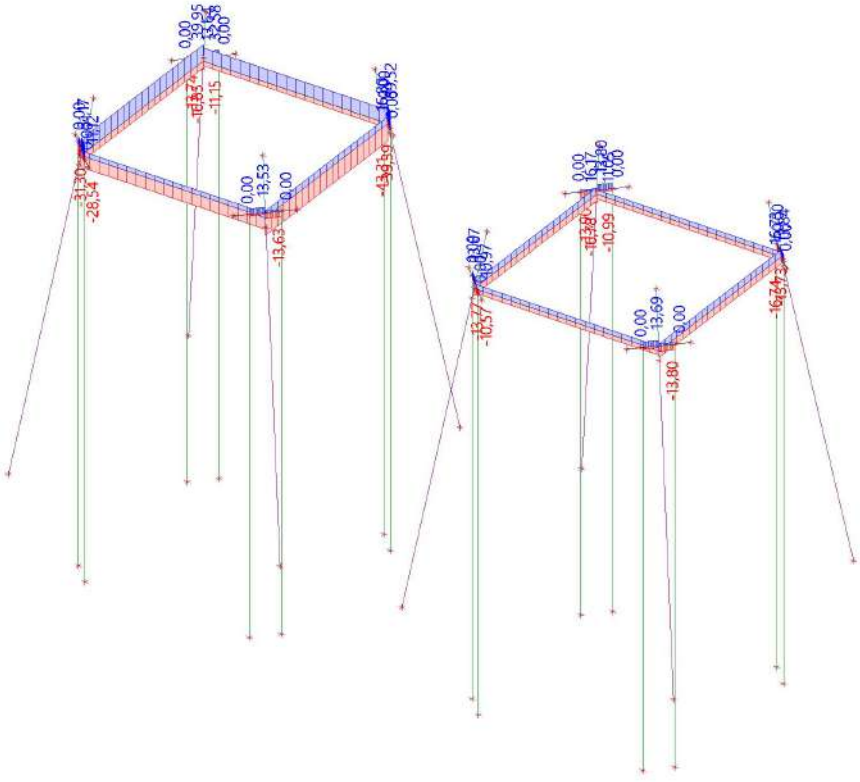
## 10.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



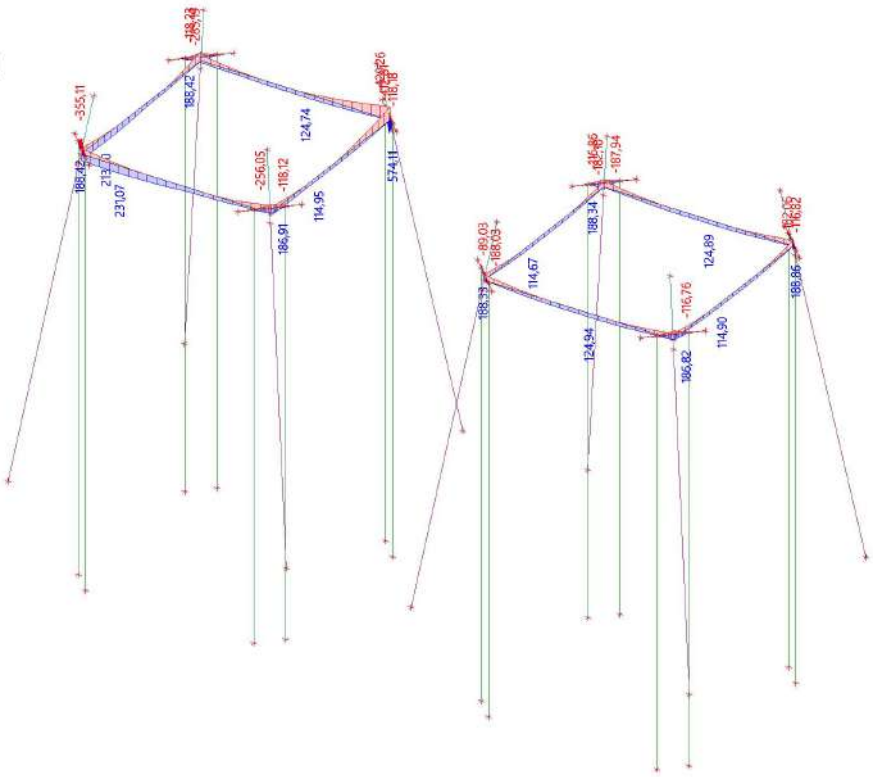
## 10.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



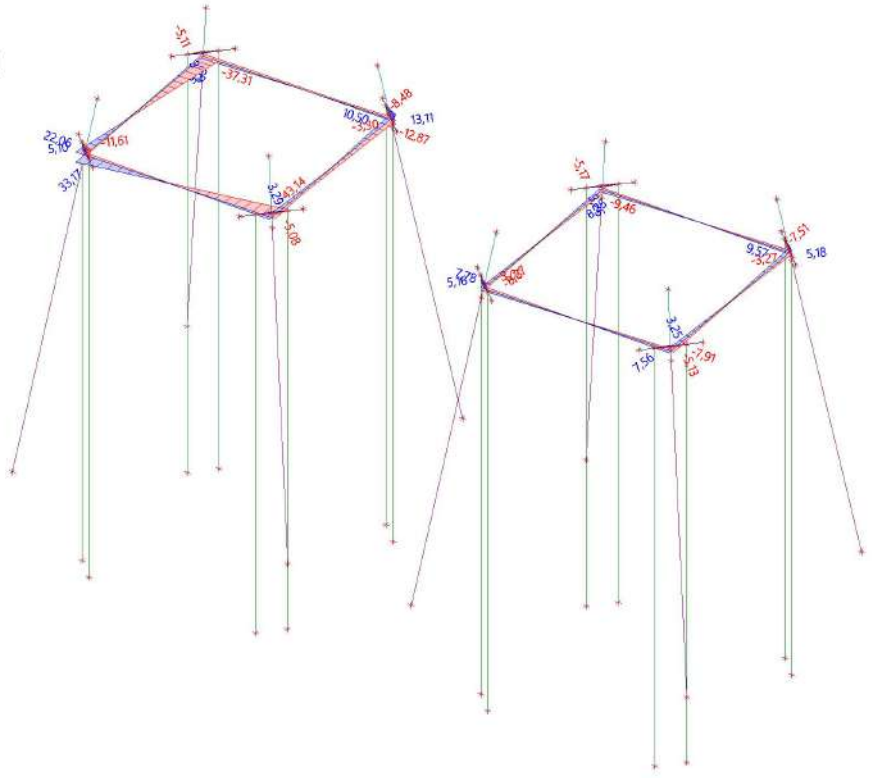
## 10.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Betonnen Blalk - Rectangle (750,00; 600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | **-7,07** | 29,31 | -28,54 | 198,66 | **33,17** |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 118,21 | 1,01 | **117,99** | **-43,31** | -412,81 | -12,87 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -112,49 | **5,50** | 114,95 | **39,95** | -285,19 | -37,31 |
| (balk 600x750)1 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **181,93** | 0,52 | **-115,94** | 32,58 | **-420,26** | -2,39 |
| (balk 600x750)8 | 2,158 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-180,06** | -7,07 | 0,73 | -28,54 | **231,07** | 17,91 |
| (balk 600x750)8 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -7,07 | -113,57 | -28,54 | -256,05 | **-43,14** |

## 10.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1500,00; 1600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| DIN39 | 0,800+ | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **-18,83** | 0,80 | 150,56 | -1,72 | -77,72 | 0,00 |
| DIN39 | 1,602+ | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **18,83** | -1,46 | 79,42 | 0,24 | -8,03 | 1,15 |
| DIN37 | 2,386- | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -2,61 | **-16,20** | **-737,84** | **-39,39** | -28,46 | 0,00 |
| DIN37 | 0,794+ | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 2,41 | **16,23** | **760,26** | **39,52** | -17,03 | 0,00 |
| DIN38 | 1,602- | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -2,47 | -14,48 | -435,99 | -31,30 | **-355,11** | **-11,61** |
| DIN37 | 1,602- | high max Wnd ;135° - | lijnpoer - Rectangle | 2,41 | 16,23 | 703,22 | 39,52 | **574,11** | **13,11** |

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | EG_Ongunstig | (1500,00; 1600,00) | | | | | | |

# 1. Inhoudsopgave

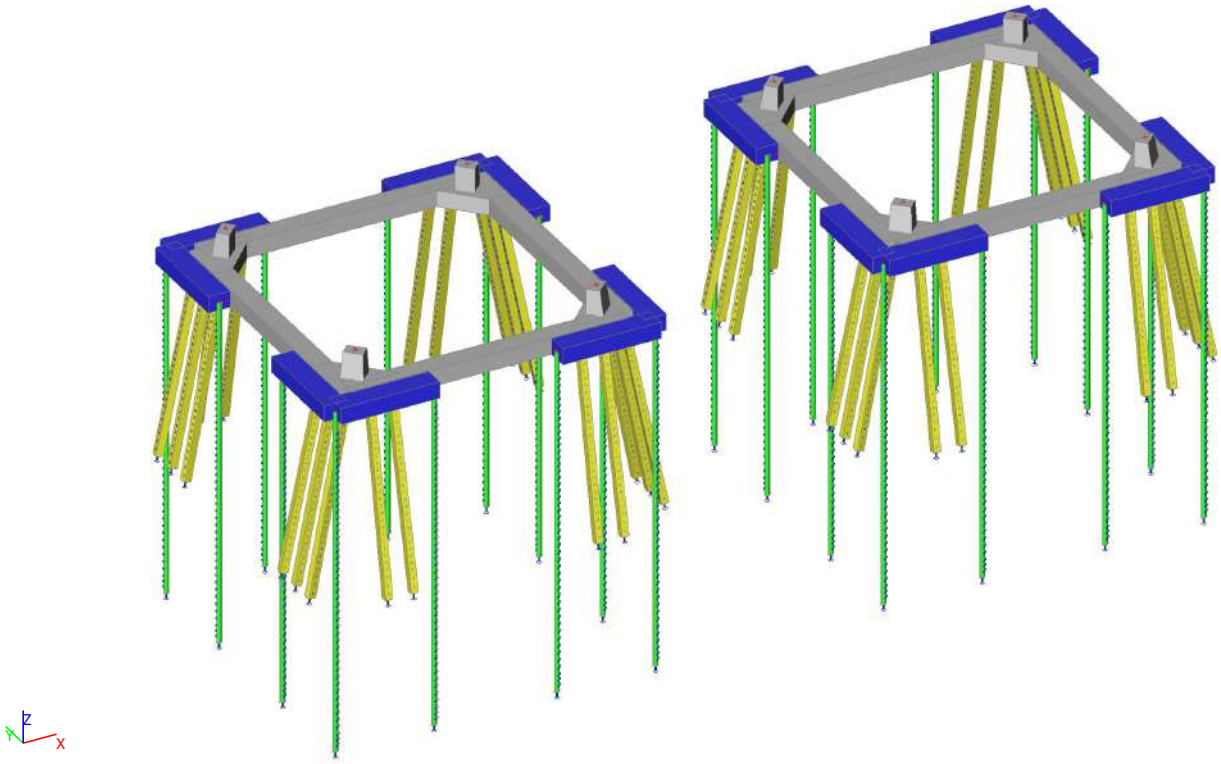
1. Inhoudsopgave 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materialen 4
4.2. Doorsneden 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 8
4.5. Instellingen net 8
5. Geometrie 8
5.1. Knopen 8
5.2. Analyse model met knopen 10
5.3. Staven 10
5.4. Analyse model met Staven 12
5.5. Knoopsteunpunten 12
5.6. Analyse model met Knoopondersteuningen 14
5.7. Lijnsteunpunten op staven 14
5.8. Analyse model met Lijnondersteuningen 24
5.9. Analyse model met Lijnondersteuningen 25
5.10. Niet-lineaire functies 26
6. Belastingen 34
6.1. Belastingsgevallen 34
6.1.1. Belastingsgevallen - E.G. 34
6.1.2. Belastingsgevallen - high max Wnd ;225° 34
6.1.2.1. Puntlast op knoop 35
6.1.3. Belastingsgevallen - high max Wnd ;135° 36
6.1.3.1. Puntlast op knoop 37
6.1.4. Belastingsgevallen - high max Wnd ;45° 37
6.1.4.1. Puntlast op knoop 38
6.1.5. Belastingsgevallen - high max Wnd ;315° 39
6.1.5.1. Puntlast op knoop 40
6.1.6. Belastingsgevallen - low max Wnd ;225° 40
6.1.6.1. Puntlast op knoop 41
6.1.7. Belastingsgevallen - low max Wnd ;135° 42
6.1.7.1. Puntlast op knoop 43
6.1.8. Belastingsgevallen - low max Wnd ;45° 43
6.1.8.1. Puntlast op knoop 44
6.1.9. Belastingsgevallen - low max Wnd ;315° 45
6.1.9.1. Puntlast op knoop 46
6.2. Niet-lineaire combinaties 46
6.3. Resultaatklasses 47
7. Resultaten 48
7.1. Reacties van de palen 48
7.1.1. Reactions; R_z 48
7.1.2. Reacties 48
7.1.3. Reacties 48
7.1.4. Reacties 49
7.2. Krachten van de Funderingspalen 55
7.2.1. Interne 1D- krachten; N 55
7.2.2. Interne 1D- krachten; V_y 55
7.2.3. Interne 1D- krachten; V_z 56
7.2.4. Interne 1D- krachten; M_x 56
7.2.5. Interne 1D- krachten; M_y 57
7.2.6. Interne 1D- krachten; M_z 57
7.2.7. Interne 1D-krachten 58
7.2.8. Interne 1D-krachten 58
7.3. Krachten van de Poeren 60
7.3.1. Interne 1D-krachten 60
7.4. Krachten van de Funderingsbalken 61
7.4.1. Interne 1D- krachten; N 61
7.4.2. Interne 1D- krachten; V_y 61
7.4.3. Interne 1D- krachten; V_z 62
7.4.4. Interne 1D- krachten; M_x 62
7.4.5. Interne 1D- krachten; M_y 63
7.4.6. Interne 1D- krachten; M_z 63

7.4.7. Interne 1D-krachten 64
7.4.8. Interne 1D-krachten 64

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-DIM 380kV |
| Onderdeel | Balkrooster 5xBeton32x32 mast 146 |
| Auteur | [redacted] |
| Datum | 22-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 172 |
| Aantal staven : | 96 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 5 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 6 |
| Gravitatieversnelling [m/s$^2$] | 9,810 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materialen

Staal EC3

| Naam | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Onderlimiet [mm] | Bovenlimiet [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |

| Naam | Type | ρ [kg/m³] | Dichtheid in natte toestand [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| C20/25 Ongescheurd | Beton | 1500,0 | 2600,0 | 2,4000e+04 | 0.2 | 0,00 | 20,00 | |
| C20/25 Gescheurd | Beton | 2500,0 | 2600,0 | 8,0000e+03 | 0.2 | 0,00 | 20,00 | |
| C30/37 | Beton | 2400,0 | 2600,0 | 3,2800e+04 | 0.2 | 0,00 | 30,00 | |
| C30/37 Gescheurd | Beton | 2500,0 | 2600,0 | 1,1000e+04 | 0.2 | 0,00 | 30,00 | |

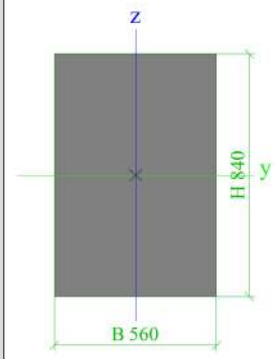
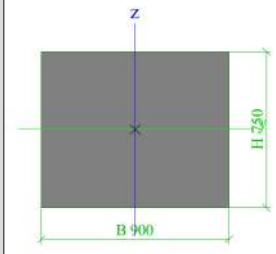
| Verklaring van symbolen | |
|---|---|
| Dichtheid in natte toestand | De waarde van de dichtheid van het kenmerk nieuwe toestand wordt alleen gebruikt als een samengesteld dek wordt ingevoerd en rekening wordt gehouden met de belasting van het eigengewicht. |

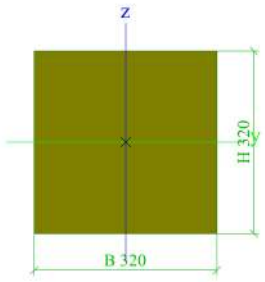
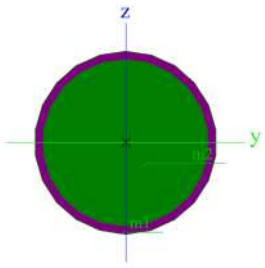
Wapening EC2

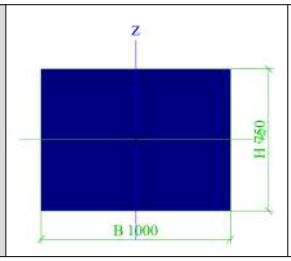
| Naam | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 500B | Betonstaal | 7850,0 | 2,0000e+05 | 8,3333e+04 | 0,00 | 500,0 |

## 4.2. Doorsneden

| Poer.Opstort | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 840; 560 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 4,7040e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 3,9200e-01 | 3,9200e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,8000e+00 | 2,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 280 | 420 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,7660e-02 | 1,2293e-02 |
| $i_y$ [mm], $i_z$ [mm] | 242 | 162 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 6,5856e-02 | 4,3904e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 2,8888e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

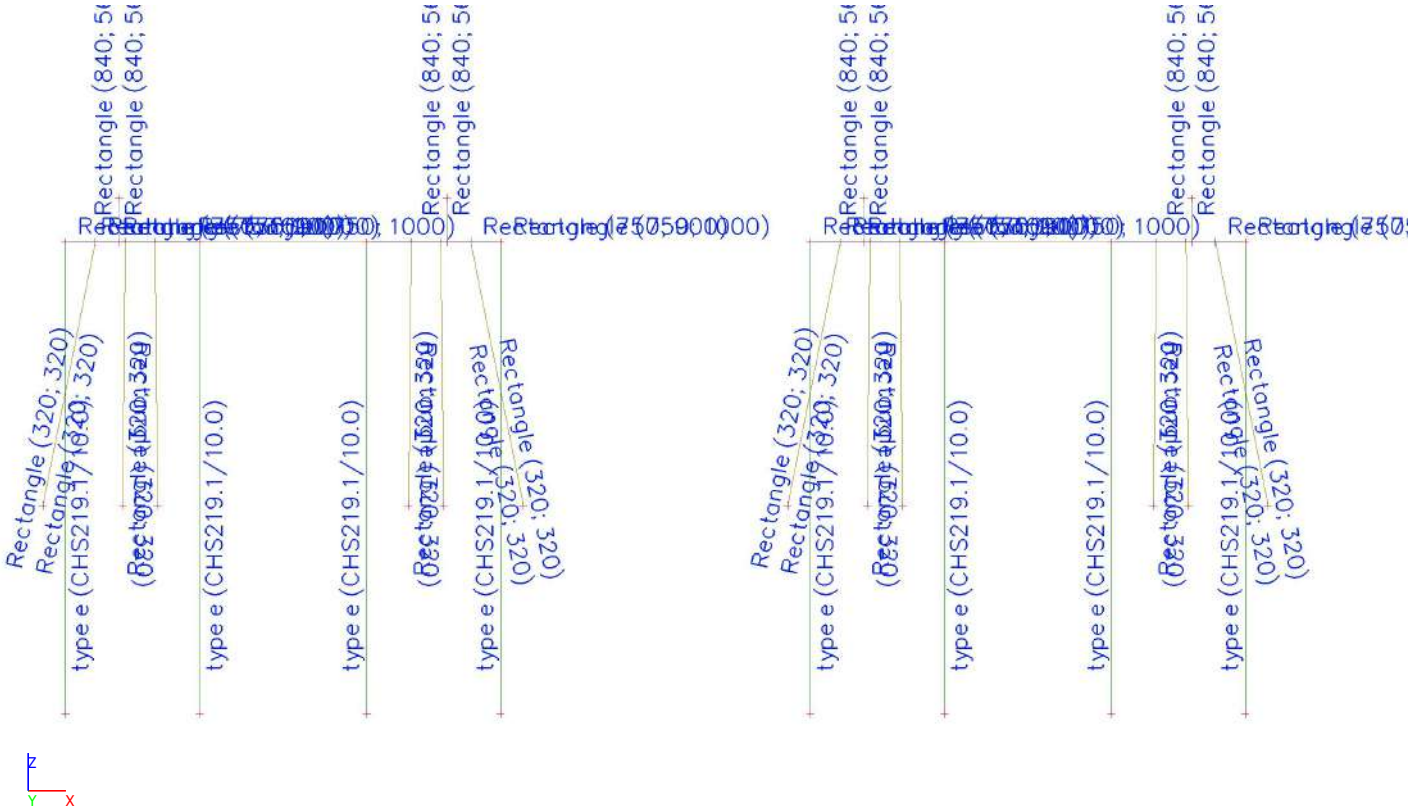
| | | |
|---|---|---|
| Afbeelding |  | |
| **Balk** | | |
| Type | Rectangle | |
| Gedetailleerd | 750; 900 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 6,7500e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 5,6250e-01 | 5,6250e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,3000e+00 | 3,3000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,1641e-02 | 4,5563e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 260 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 8,4375e-02 | 1,0125e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 6,3112e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **Funderingspaal** | | |
| Type | Rectangle | |
| Gedetailleerd | 320; 320 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Ongescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 1,0240e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 8,5333e-02 | 8,5333e-02 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,2800e+00 | 1,2800e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 160 | 160 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 8,7381e-04 | 8,7381e-04 |
| $i_y$ [mm], $i_z$ [mm] | 92 | 92 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 5,4613e-03 | 5,4613e-03 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 1,4757e-03 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| | | |
|---|---|---|
| Afbeelding |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Gedetailleerd | CHS219.1/10.0 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | S 235 | |
| | C30/37 | |
| Bouwwijze | beton | |
| Knik y-y, Knik z-z | a | a |
| A [$m^2$] | 1,1430e-02 | |
| $A_y$ [$m^2$], $A_z$ [$m^2$] | 8,7249e-03 | 8,7249e-03 |
| $A_L$ [$m^2/m$], $A_D$ [$m^2/m$] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 110 | 110 |
| α [deg] | 0,00 | |
| $I_y$ [$m^4$], $I_z$ [$m^4$] | 4,8013e-05 | 4,8013e-05 |
| $i_y$ [mm], $i_z$ [mm] | 65 | 65 |
| $W_{el.y}$ [$m^3$], $W_{el.z}$ [$m^3$] | 4,3827e-04 | 4,3827e-04 |
| $W_{pl.y}$ [$m^3$], $W_{pl.z}$ [$m^3$] | 4,9123e-04 | 4,9123e-04 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [$m^4$], $I_w$ [$m^6$] | 9,8040e-05 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **Ringbalk** | | |
| Type | Rectangle | |
| Gedetailleerd | 750; 1000 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C30/37 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [$m^2$] | 7,5000e-01 | |
| $A_y$ [$m^2$], $A_z$ [$m^2$] | 6,2517e-01 | 6,2531e-01 |
| $A_L$ [$m^2/m$], $A_D$ [$m^2/m$] | 3,5000e+00 | 3,5000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [$m^4$], $I_z$ [$m^4$] | 3,5156e-02 | 6,2500e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 289 |
| $W_{el.y}$ [$m^3$], $W_{el.z}$ [$m^3$] | 9,3750e-02 | 1,2500e-01 |
| $W_{pl.y}$ [$m^3$], $W_{pl.z}$ [$m^3$] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [$m^4$], $I_w$ [$m^6$] | 7,6159e-02 | 2,7801e-04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

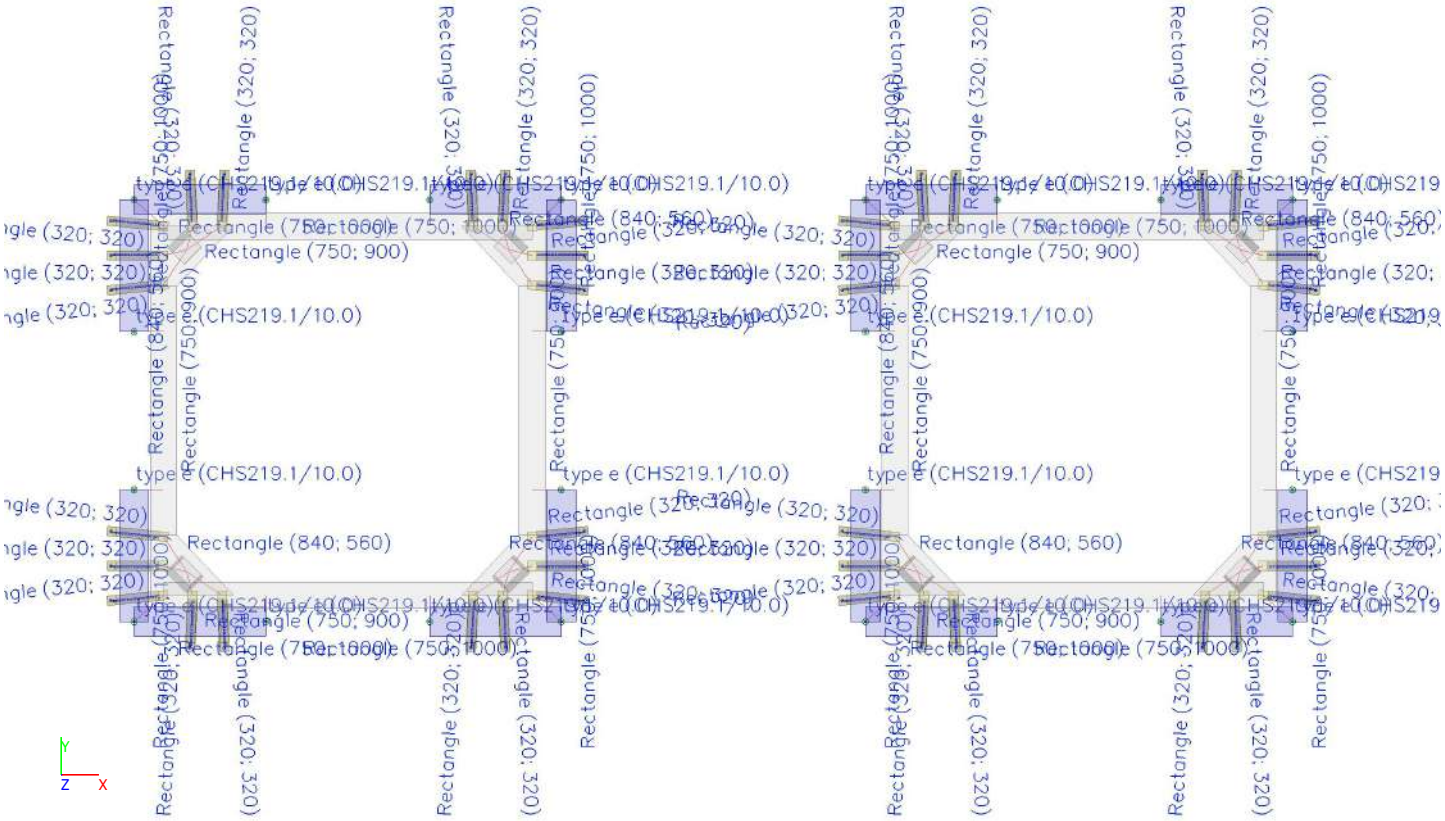
| Afbeelding |  | |
|---|---|---|



## 4.3. Analyse model met doorsneden



### 4.4. Analyse model met doorsneden




### 4.5. Instellingen net

| | |
|---|---|
| Naam | NetInstelling1 |
| Generatie van variabele excentriciteiten op elementen in plaats van constante excentriciteiten | × |
| Generatie van knopen op staven | × |
| Elastisch net | ✓ |
| Pas automatische netverfijning toe | × |
| Constructie-entiteiten verbinden | ✓ |
| Verdeling op consoles en variabele staven | 5 |
| Verdeling voor integratiestrook en 2D-1D upgrade | 50 |
| Gemiddeld aantal 1D-netelementen op rechte 1D-elementen | 5 |
| Gemiddelde grootte van 2D-netelement [m] | 0,250 |
| Gemiddelde grootte van 1D-element op gebogen 1D-elementen [m] | 0,200 |
| Minimum lengte van staafelement [m] | 0,100 |
| Maximum lengte van staafelement [m] | 1000,000 |
| Gemiddelde grootte van voorspankabels, elementen op elastische bedding, niet-lineaire grondveer [m] | 1,000 |
| Maximale hoek uit het vlak van vierhoekig element [mrad] | 30,0 |
| Minimale afstand tussen definitiepunt en -lijn [m] | 0,001 |
| Gemiddelde afmeting van paneelelement [m] | 1,000 |
| Netverfijning volgens het liggertype | Geen |
| Definitie van netelementen afmetingen voor panelen | Handmatig |

## 5. Geometrie

### 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N5 | 13,000 | 1,400 | 0,000 |
| N6 | 13,000 | 2,400 | 0,000 |
| N7 | 12,000 | 0,400 | 0,000 |
| N1 | 11,000 | 0,400 | 0,000 |
| N17 | 0,400 | 0,400 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N21 | 0,400 | 13,000 | 0,000 |
| 1Y | 12,200 | 1,200 | 1,475 |
| N22 | 12,200 | 1,200 | 0,000 |
| N23 | 12,200 | 12,200 | 0,000 |
| 1XY | 12,200 | 12,200 | 1,475 |

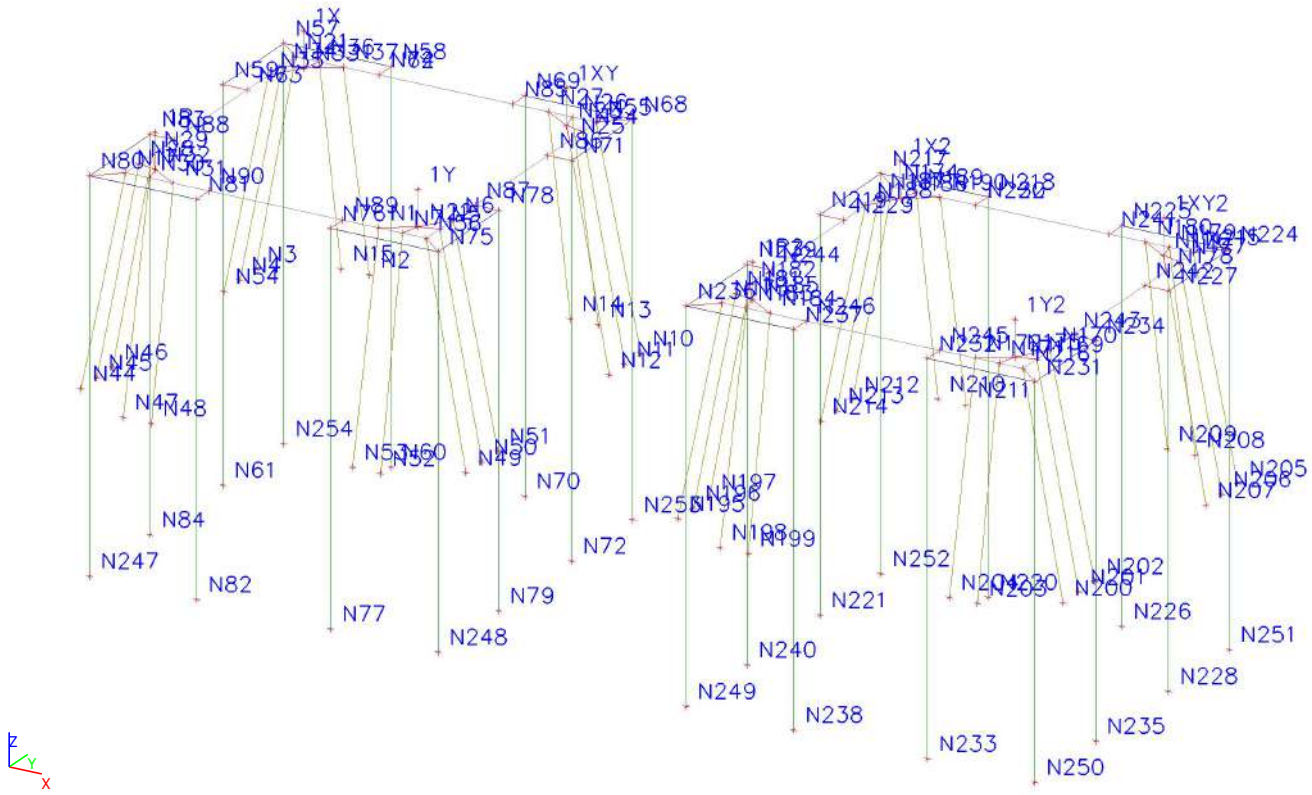
| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N24 | 13,000 | 12,000 | 0,000 |
| N25 | 13,000 | 11,000 | 0,000 |
| N26 | 12,000 | 13,000 | 0,000 |
| N27 | 11,000 | 13,000 | 0,000 |
| N28 | 0,400 | 1,400 | 0,000 |
| N29 | 0,400 | 2,400 | 0,000 |
| N30 | 1,400 | 0,400 | 0,000 |
| N31 | 2,400 | 0,400 | 0,000 |
| 1P | 1,200 | 1,200 | 1,475 |
| N32 | 1,200 | 1,200 | 0,000 |
| N33 | 1,200 | 12,200 | 0,000 |
| 1X | 1,200 | 12,187 | 1,475 |
| N34 | 0,400 | 12,000 | 0,000 |
| N35 | 0,400 | 11,000 | 0,000 |
| N36 | 1,400 | 13,000 | 0,000 |
| N37 | 2,400 | 13,000 | 0,000 |
| N38 | 12,200 | 1,200 | 0,000 |
| N39 | 1,200 | 1,200 | 0,000 |
| N40 | 12,200 | 12,200 | 0,000 |
| N41 | 1,200 | 12,200 | 0,000 |
| N44 | -1,365 | 0,224 | -8,824 |
| N45 | -1,364 | 1,400 | -8,821 |
| N46 | -1,365 | 2,576 | -8,824 |
| N47 | 1,312 | -1,364 | -8,822 |
| N48 | 2,488 | -1,364 | -8,822 |
| N49 | 14,765 | 0,224 | -8,824 |
| N50 | 14,764 | 1,400 | -8,821 |
| N51 | 14,765 | 2,576 | -8,824 |
| N52 | 12,088 | -1,364 | -8,822 |
| N53 | 10,912 | -1,364 | -8,822 |
| N10 | 14,765 | 13,176 | -8,824 |
| N11 | 14,764 | 12,000 | -8,821 |
| N12 | 14,765 | 10,824 | -8,824 |
| N13 | 12,088 | 14,764 | -8,822 |
| N14 | 10,912 | 14,764 | -8,822 |
| N15 | 1,312 | 14,764 | -8,822 |
| N2 | 2,488 | 14,764 | -8,822 |
| N3 | -1,365 | 13,176 | -8,824 |
| N4 | -1,364 | 12,000 | -8,821 |
| N54 | -1,365 | 10,824 | -8,824 |
| N55 | 13,000 | 13,000 | 0,000 |
| N56 | 13,000 | 0,400 | 0,000 |
| N57 | -0,600 | 13,900 | 0,000 |
| N58 | 3,900 | 13,900 | 0,000 |
| N59 | -0,600 | 9,400 | 0,000 |
| N60 | 3,900 | 13,900 | -15,800 |
| N61 | -0,600 | 9,400 | -15,800 |
| N62 | 3,900 | 13,000 | 0,000 |
| N63 | 0,400 | 9,400 | 0,000 |
| N68 | 14,000 | 13,900 | 0,000 |
| N69 | 9,500 | 13,900 | 0,000 |
| N70 | 9,500 | 13,900 | -15,800 |
| N71 | 14,000 | 9,400 | 0,000 |
| N72 | 14,000 | 9,400 | -15,800 |
| N73 | 0,400 | 9,400 | 0,000 |
| N74 | 3,900 | 13,000 | 0,000 |
| N75 | 14,000 | -0,500 | 0,000 |
| N76 | 9,500 | -0,500 | 0,000 |
| N77 | 9,500 | -0,500 | -15,800 |
| N78 | 14,000 | 4,000 | 0,000 |
| N79 | 14,000 | 4,000 | -15,800 |
| N80 | -0,600 | -0,500 | 0,000 |
| N81 | 3,900 | -0,500 | 0,000 |
| N82 | 3,900 | -0,500 | -15,800 |
| N83 | -0,600 | 4,000 | 0,000 |
| N84 | -0,600 | 4,000 | -15,800 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N85 | 9,500 | 13,000 | 0,000 |
| N86 | 13,000 | 9,400 | 0,000 |
| N87 | 13,000 | 4,000 | 0,000 |
| N88 | 0,400 | 4,000 | 0,000 |
| N89 | 9,500 | 0,400 | 0,000 |
| N90 | 3,900 | 0,400 | 0,000 |
| N169 | 38,000 | 1,400 | 0,000 |
| N170 | 38,000 | 2,400 | 0,000 |
| N171 | 37,000 | 0,400 | 0,000 |
| N172 | 36,000 | 0,400 | 0,000 |
| N173 | 25,400 | 0,400 | 0,000 |
| N174 | 25,400 | 13,000 | 0,000 |
| 1Y2 | 37,200 | 1,200 | 1,475 |
| N175 | 37,200 | 1,200 | 0,000 |
| N176 | 37,200 | 12,200 | 0,000 |
| 1XY2 | 37,200 | 12,200 | 1,475 |
| N177 | 38,000 | 12,000 | 0,000 |
| N178 | 38,000 | 11,000 | 0,000 |
| N179 | 37,000 | 13,000 | 0,000 |
| N180 | 36,000 | 13,000 | 0,000 |
| N181 | 25,400 | 1,400 | 0,000 |
| N182 | 25,400 | 2,400 | 0,000 |
| N183 | 26,400 | 0,400 | 0,000 |
| N184 | 27,400 | 0,400 | 0,000 |
| 1P2 | 26,200 | 1,200 | 1,475 |
| N185 | 26,200 | 1,200 | 0,000 |
| N186 | 26,200 | 12,200 | 0,000 |
| 1X2 | 26,200 | 12,187 | 1,475 |
| N187 | 25,400 | 12,000 | 0,000 |
| N188 | 25,400 | 11,000 | 0,000 |
| N189 | 26,400 | 13,000 | 0,000 |
| N190 | 27,400 | 13,000 | 0,000 |
| N191 | 37,200 | 1,200 | 0,000 |
| N192 | 26,200 | 1,200 | 0,000 |
| N193 | 37,200 | 12,200 | 0,000 |
| N194 | 26,200 | 12,200 | 0,000 |
| N195 | 23,635 | 0,224 | -8,824 |
| N196 | 23,636 | 1,400 | -8,821 |
| N197 | 23,635 | 2,576 | -8,824 |
| N198 | 26,312 | -1,364 | -8,822 |
| N199 | 27,488 | -1,364 | -8,822 |
| N200 | 39,765 | 0,224 | -8,824 |
| N201 | 39,764 | 1,400 | -8,821 |
| N202 | 39,765 | 2,576 | -8,824 |
| N203 | 37,088 | -1,364 | -8,822 |
| N204 | 35,912 | -1,364 | -8,822 |
| N205 | 39,765 | 13,176 | -8,824 |
| N206 | 39,764 | 12,000 | -8,821 |
| N207 | 39,765 | 10,824 | -8,824 |
| N208 | 37,088 | 14,764 | -8,822 |
| N209 | 35,912 | 14,764 | -8,822 |
| N210 | 26,312 | 14,764 | -8,822 |
| N211 | 27,488 | 14,764 | -8,822 |
| N212 | 23,635 | 13,176 | -8,824 |
| N213 | 23,636 | 12,000 | -8,821 |
| N214 | 23,635 | 10,824 | -8,824 |
| N215 | 38,000 | 13,000 | 0,000 |
| N216 | 38,000 | 0,400 | 0,000 |
| N217 | 24,400 | 13,900 | 0,000 |
| N218 | 28,900 | 13,900 | 0,000 |
| N219 | 24,400 | 9,400 | 0,000 |
| N220 | 28,900 | 13,900 | -15,800 |
| N221 | 24,400 | 9,400 | -15,800 |
| N222 | 28,900 | 13,000 | 0,000 |
| N223 | 25,400 | 9,400 | 0,000 |
| N224 | 39,000 | 13,900 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N225 | 34,500 | 13,900 | 0,000 |
| N226 | 34,500 | 13,900 | -15,800 |
| N227 | 39,000 | 9,400 | 0,000 |
| N228 | 39,000 | 9,400 | -15,800 |
| N229 | 25,400 | 9,400 | 0,000 |
| N230 | 28,900 | 13,000 | 0,000 |
| N231 | 39,000 | -0,500 | 0,000 |
| N232 | 34,500 | -0,500 | 0,000 |
| N233 | 34,500 | -0,500 | -15,800 |
| N234 | 39,000 | 4,000 | 0,000 |
| N235 | 39,000 | 4,000 | -15,800 |
| N236 | 24,400 | -0,500 | 0,000 |
| N237 | 28,900 | -0,500 | 0,000 |
| N238 | 28,900 | -0,500 | -15,800 |
| N239 | 24,400 | 4,000 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N240 | 24,400 | 4,000 | -15,800 |
| N241 | 34,500 | 13,000 | 0,000 |
| N242 | 38,000 | 9,400 | 0,000 |
| N243 | 38,000 | 4,000 | 0,000 |
| N244 | 25,400 | 4,000 | 0,000 |
| N245 | 34,500 | 0,400 | 0,000 |
| N246 | 28,900 | 0,400 | 0,000 |
| N247 | -0,600 | -0,500 | -15,800 |
| N248 | 14,000 | -0,500 | -15,800 |
| N249 | 24,400 | -0,500 | -15,800 |
| N250 | 39,000 | -0,500 | -15,800 |
| N251 | 39,000 | 13,900 | -15,800 |
| N252 | 24,400 | 13,900 | -15,800 |
| N253 | 14,000 | 13,900 | -15,800 |
| N254 | -0,600 | 13,900 | -15,800 |

## 5.2. Analyse model met knopen



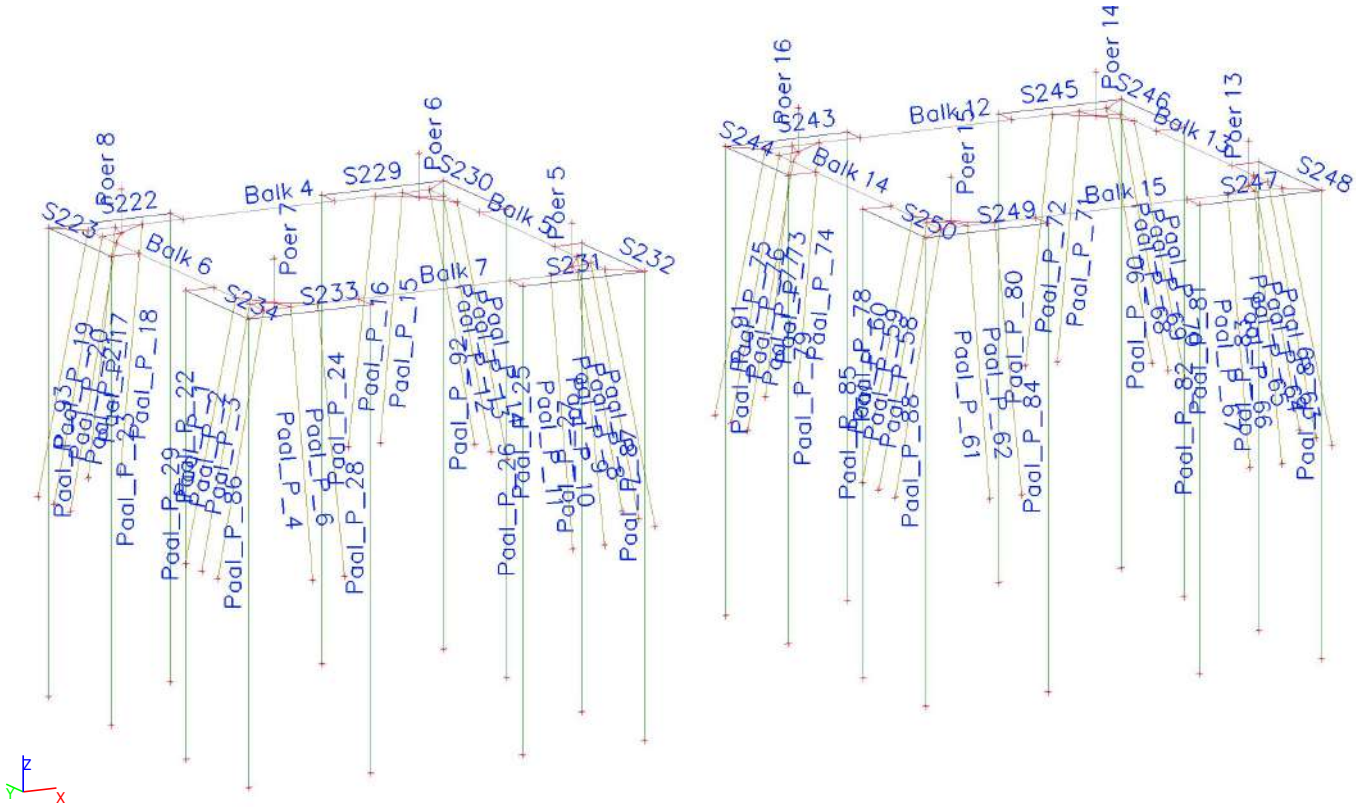

## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Balk 4 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N55 | N21 | Balk (80) |
| Balk 5 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N55 | Balk (80) |
| Balk 6 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N17 | N21 | Balk (80) |
| Balk 7 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N17 | Balk (80) |
| Balk 12 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N215 | N174 | Balk (80) |
| Balk 13 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N216 | N215 | Balk (80) |
| Balk 14 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N173 | N174 | Balk (80) |
| Balk 15 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N216 | N173 | Balk (80) |
| S222 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N57 | N58 | Balk (80) |
| S223 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N59 | N57 | Balk (80) |
| S229 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N68 | N69 | Balk (80) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| S230 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N71 | N68 | Balk (80) |
| S231 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N75 | N76 | Balk (80) |
| S232 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N78 | N75 | Balk (80) |
| S233 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N80 | N81 | Balk (80) |
| S234 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N83 | N80 | Balk (80) |
| S243 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N217 | N218 | Balk (80) |
| S244 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N219 | N217 | Balk (80) |
| S245 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N224 | N225 | Balk (80) |
| S246 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N227 | N224 | Balk (80) |
| S247 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N231 | N232 | Balk (80) |
| S248 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N234 | N231 | Balk (80) |
| S249 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N236 | N237 | Balk (80) |
| S250 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N239 | N236 | Balk (80) |
| Paal_P_3 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N17 | N44 | Kolom (100) |
| Paal_P_4 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N30 | N47 | Kolom (100) |
| Paal_P_16 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N27 | N14 | Kolom (100) |
| Poer 6 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N23 | 1XY | Kolom (100) |
| Paal_P_6 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N31 | N48 | Kolom (100) |
| Poer 15 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N185 | 1P2 | Kolom (100) |
| Poer 16 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N186 | 1X2 | Kolom (100) |
| Paal_P_7 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N56 | N49 | Kolom (100) |
| Paal_P_12 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N55 | N10 | Kolom (100) |
| Paal_P_14 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N25 | N12 | Kolom (100) |
| Paal_P_17 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N36 | N15 | Kolom (100) |
| Paal_P_18 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N37 | N2 | Kolom (100) |
| Paal_P_19 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N21 | N3 | Kolom (100) |
| Paal_P_20 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N34 | N4 | Kolom (100) |
| Paal_P_21 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N35 | N54 | Kolom (100) |
| Paal_P_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N58 | N60 | Kolom (100) |
| Paal_P_58 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N173 | N195 | Kolom (100) |
| Paal_P_59 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N181 | N196 | Kolom (100) |
| Paal_P_60 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N182 | N197 | Kolom (100) |
| Paal_P_61 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N183 | N198 | Kolom (100) |
| Paal_P_62 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N184 | N199 | Kolom (100) |
| Paal_P_63 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N216 | N200 | Kolom (100) |
| Paal_P_64 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N169 | N201 | Kolom (100) |
| Paal_P_66 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N171 | N203 | Kolom (100) |
| Paal_P_67 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N172 | N204 | Kolom (100) |
| Paal_P_68 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N215 | N205 | Kolom (100) |
| Poer 5 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N22 | 1Y | Kolom (100) |
| Poer 7 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N32 | 1P | Kolom (100) |
| Poer 8 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N33 | 1X | Kolom (100) |
| Poer 13 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N175 | 1Y2 | Kolom (100) |
| Poer 14 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N176 | 1XY2 | Kolom (100) |
| Paal_P_1 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N29 | N46 | Kolom (100) |
| Paal_P_2 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N28 | N45 | Kolom (100) |
| Paal_P_8 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N5 | N50 | Kolom (100) |
| Paal_P_65 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N170 | N202 | Kolom (100) |
| Paal_P_9 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N6 | N51 | Kolom (100) |
| Paal_P_10 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N7 | N52 | Kolom (100) |
| Paal_P_11 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N1 | N53 | Kolom (100) |
| Paal_P_13 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N24 | N11 | Kolom (100) |
| Paal_P_15 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N26 | N13 | Kolom (100) |
| Paal_P_23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N59 | N61 | Kolom (100) |
| Paal_P_24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N69 | N70 | Kolom (100) |
| Paal_P_25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N71 | N72 | Kolom (100) |
| Paal_P_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N76 | N77 | Kolom (100) |
| Paal_P_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N78 | N79 | Kolom (100) |
| Paal_P_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N81 | N82 | Kolom (100) |
| Paal_P_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N83 | N84 | Kolom (100) |
| Paal_P_69 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N177 | N206 | Kolom (100) |
| Paal_P_70 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N178 | N207 | Kolom (100) |
| Paal_P_71 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N179 | N208 | Kolom (100) |
| Paal_P_72 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N180 | N209 | Kolom (100) |
| Paal_P_73 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N189 | N210 | Kolom (100) |
| Paal_P_74 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N190 | N211 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_P_75 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N174 | N212 | Kolom (100) |
| Paal_P_76 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N187 | N213 | Kolom (100) |
| Paal_P_77 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N188 | N214 | Kolom (100) |
| Paal_P_78 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N218 | N220 | Kolom (100) |
| Paal_P_79 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N219 | N221 | Kolom (100) |
| Paal_P_80 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N225 | N226 | Kolom (100) |
| Paal_P_81 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N227 | N228 | Kolom (100) |
| Paal_P_82 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N232 | N233 | Kolom (100) |
| Paal_P_83 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N234 | N235 | Kolom (100) |
| Paal_P_84 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N237 | N238 | Kolom (100) |
| Paal_P_85 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N239 | N240 | Kolom (100) |
| Paal_P_86 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N80 | N247 | Kolom (100) |
| Paal_P_87 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N75 | N248 | Kolom (100) |
| Paal_P_88 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N236 | N249 | Kolom (100) |
| Paal_P_89 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N231 | N250 | Kolom (100) |
| Paal_P_90 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N224 | N251 | Kolom (100) |
| Paal_P_91 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N217 | N252 | Kolom (100) |
| Paal_P_92 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N68 | N253 | Kolom (100) |
| Paal_P_93 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 15,800 | N57 | N254 | Kolom (100) |

## 5.4. Analyse model met Staven

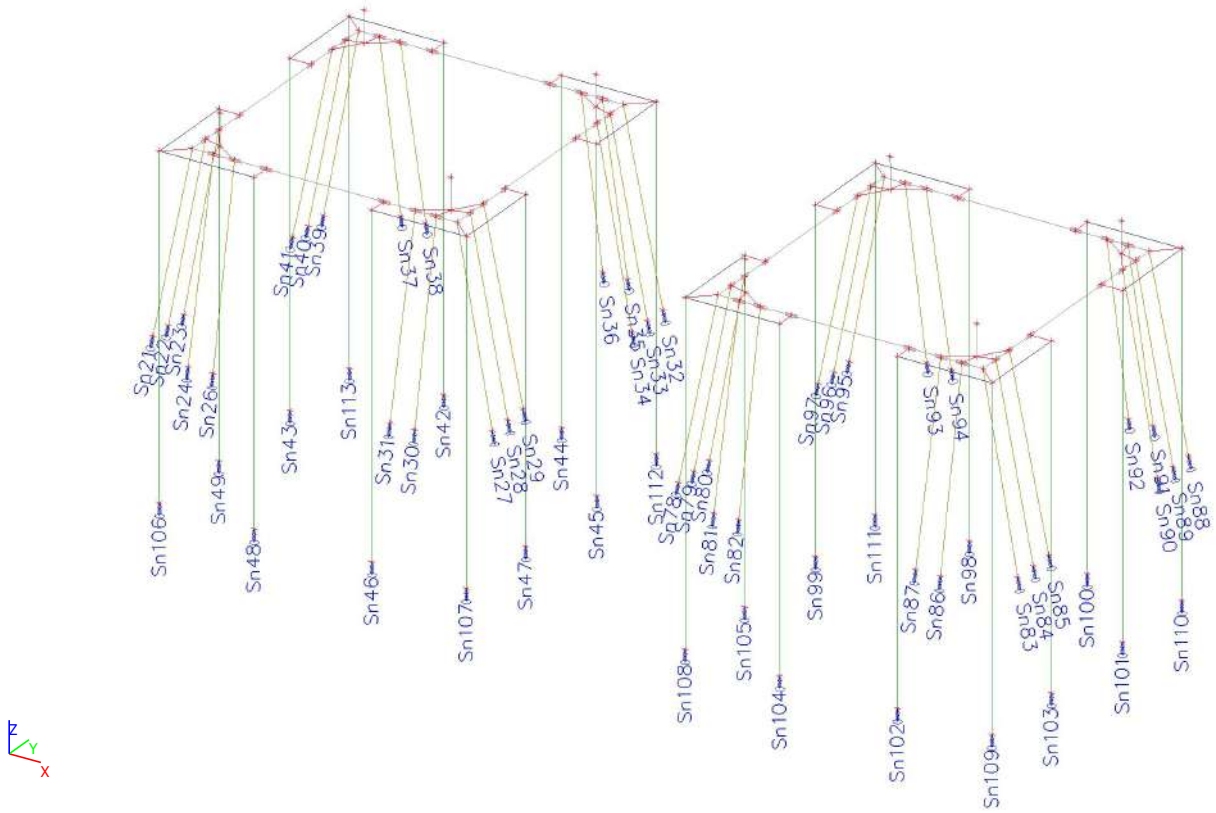



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn21 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn22 | N45 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn23 | N46 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn24 | N47 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn26 | N48 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn27 | N49 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn28 | N50 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn29 | N51 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn30 | N52 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn31 | N53 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn32 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn33 | N11 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn34 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn35 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn36 | N14 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn37 | N15 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn38 | N2 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn39 | N3 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn40 | N4 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn41 | N54 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn42 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn43 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn44 | N70 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn45 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn46 | N77 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn47 | N79 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn48 | N82 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn49 | N84 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn78 | N195 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn79 | N196 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn80 | N197 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn81 | N198 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn82 | N199 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn83 | N200 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn84 | N201 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn85 | N202 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn86 | N203 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn87 | N204 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn88 | N205 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn89 | N206 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn90 | N207 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn91 | N208 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn92 | N209 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn93 | N210 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn94 | N211 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn95 | N212 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn96 | N213 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn97 | N214 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn98 | N220 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn99 | N221 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn100 | N226 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn101 | N228 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn102 | N233 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn103 | N235 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn104 | N238 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn105 | N240 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn106 | N247 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn107 | N248 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn108 | N249 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn109 | N250 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn110 | N251 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn111 | N252 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn112 | N253 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn113 | N254 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen71 | Lijn | Paal_P_71 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen63 | Lijn | Paal_P_63 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen75 | Lijn | Paal_P_75 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen14 | Lijn | Paal_P_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen84 | Lijn | Paal_P_84 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen93 | Lijn | Paal_P_93 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen67 | Lijn | Paal_P_67 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen13 | Lijn | Paal_P_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen86 | Lijn | Paal_P_86 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen26 | Lijn | Paal_P_26 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen82 | Lijn | Paal_P_82 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen59 | Lijn | Paal_P_59 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen74 | Lijn | Paal_P_74 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen17 | Lijn | Paal_P_19 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen80 | Lijn | Paal_P_80 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen66 | Lijn | Paal_P_66 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen60 | Lijn | Paal_P_60 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen12 | Lijn | Paal_P_21 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen77 | Lijn | Paal_P_77 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen92 | Lijn | Paal_P_92 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen69 | Lijn | Paal_P_69 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen79 | Lijn | Paal_P_79 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen24 | Lijn | Paal_P_24 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen10 | Lijn | Paal_P_10 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen29 | Lijn | Paal_P_29 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen4 | Lijn | Paal_P_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen89 | Lijn | Paal_P_89 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen61 | Lijn | Paal_P_61 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen3 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen70 | Lijn | Paal_P_70 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen91 | Lijn | Paal_P_91 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen72 | Lijn | Paal_P_72 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen76 | Lijn | Paal_P_76 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen7 | Lijn | Paal_P_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Lijn | Paal_P_23 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen22 | Lijn | Paal_P_22 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen64 | Lijn | Paal_P_64 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen73 | Lijn | Paal_P_73 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen5 | Lijn | Paal_P_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen65 | Lijn | Paal_P_65 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen78 | Lijn | Paal_P_78 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen21 | Lijn | Paal_P_13 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen9 | Lijn | Paal_P_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen8 | Lijn | Paal_P_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen88 | Lijn | Paal_P_88 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen20 | Lijn | Paal_P_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen15 | Lijn | Paal_P_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen19 | Lijn | Paal_P_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen11 | Lijn | Paal_P_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen81 | Lijn | Paal_P_81 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen6 | Lijn | Paal_P_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen68 | Lijn | Paal_P_68 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen27 | Lijn | Paal_P_27 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen28 | Lijn | Paal_P_28 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen16 | Lijn | Paal_P_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen90 | Lijn | Paal_P_90 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen18 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen62 | Lijn | Paal_P_62 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen58 | Lijn | Paal_P_58 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen25 | Lijn | Paal_P_25 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen87 | Lijn | Paal_P_87 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen83 | Lijn | Paal_P_83 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen85 | Lijn | Paal_P_85 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| (PY-curve-2_V1)30 | Lijn | Paal_P_8 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)37 | Lijn | Paal_P_15 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)36 | Lijn | Paal_P_14 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)48 | Lijn | Paal_P_62 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)38 | Lijn | Paal_P_16 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)63 | Lijn | Paal_P_77 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)62 | Lijn | Paal_P_76 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)29 | Lijn | Paal_P_7 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)61 | Lijn | Paal_P_75 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)58 | Lijn | Paal_P_72 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)60 | Lijn | Paal_P_74 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)57 | Lijn | Paal_P_71 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)56 | Lijn | Paal_P_70 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)34 | Lijn | Paal_P_12 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,750 | | | | | | | | |
| (PY-curve-2_V1)25 | Lijn | Paal_P_2 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)55 | Lijn | Paal_P_69 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)53 | Lijn | Paal_P_67 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)52 | Lijn | Paal_P_66 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)28 | Lijn | Paal_P_6 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)43 | Lijn | Paal_P_21 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)33 | Lijn | Paal_P_11 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)51 | Lijn | Paal_P_65 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)26 | Lijn | Paal_P_1 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)35 | Lijn | Paal_P_13 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)59 | Lijn | Paal_P_73 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)50 | Lijn | Paal_P_64 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)42 | Lijn | Paal_P_20 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)32 | Lijn | Paal_P_10 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)54 | Lijn | Paal_P_68 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)47 | Lijn | Paal_P_61 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)41 | Lijn | Paal_P_19 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)46 | Lijn | Paal_P_60 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)24 | Lijn | Paal_P_3 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)40 | Lijn | Paal_P_18 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)45 | Lijn | Paal_P_59 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)44 | Lijn | Paal_P_58 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)27 | Lijn | Paal_P_4 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)49 | Lijn | Paal_P_63 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)31 | Lijn | Paal_P_9 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)39 | Lijn | Paal_P_17 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)7 | Lijn | Paal_P_29 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)14 | Lijn | Paal_P_84 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)6 | Lijn | Paal_P_28 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)12 | Lijn | Paal_P_82 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)13 | Lijn | Paal_P_83 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)11 | Lijn | Paal_P_81 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-2_V1)5 | Lijn | Paal_P_27 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)10 | Lijn | Paal_P_80 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)4 | Lijn | Paal_P_26 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)8 | Lijn | Paal_P_78 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)9 | Lijn | Paal_P_79 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)3 | Lijn | Paal_P_25 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)2 | Lijn | Paal_P_24 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)1 | Lijn | Paal_P_23 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1) | Lijn | Paal_P_22 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)23 | Lijn | Paal_P_93 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)22 | Lijn | Paal_P_92 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)21 | Lijn | Paal_P_91 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)15 | Lijn | Paal_P_85 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)20 | Lijn | Paal_P_90 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)19 | Lijn | Paal_P_89 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)18 | Lijn | Paal_P_88 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)17 | Lijn | Paal_P_87 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)16 | Lijn | Paal_P_86 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V2)14 | Lijn | Paal_P_84 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)12 | Lijn | Paal_P_82 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)13 | Lijn | Paal_P_83 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)5 | Lijn | Paal_P_27 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)11 | Lijn | Paal_P_81 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)6 | Lijn | Paal_P_28 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)10 | Lijn | Paal_P_80 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)8 | Lijn | Paal_P_78 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)3 | Lijn | Paal_P_25 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)4 | Lijn | Paal_P_26 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)9 | Lijn | Paal_P_79 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)1 | Lijn | Paal_P_23 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)2 | Lijn | Paal_P_24 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2) | Lijn | Paal_P_22 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-2_V2)23 | Lijn | Paal_P_93 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)22 | Lijn | Paal_P_92 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)20 | Lijn | Paal_P_90 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)21 | Lijn | Paal_P_91 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)19 | Lijn | Paal_P_89 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)18 | Lijn | Paal_P_88 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)17 | Lijn | Paal_P_87 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)16 | Lijn | Paal_P_86 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)7 | Lijn | Paal_P_29 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)15 | Lijn | Paal_P_85 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V3)23 | Lijn | Paal_P_90 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)21 | Lijn | Paal_P_83 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)20 | Lijn | Paal_P_82 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)19 | Lijn | Paal_P_81 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)17 | Lijn | Paal_P_91 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)16 | Lijn | Paal_P_88 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)15 | Lijn | Paal_P_85 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)14 | Lijn | Paal_P_84 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)13 | Lijn | Paal_P_79 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)12 | Lijn | Paal_P_78 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)11 | Lijn | Paal_P_92 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)10 | Lijn | Paal_P_87 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)9 | Lijn | Paal_P_27 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)8 | Lijn | Paal_P_25 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Lijn | Paal_P_26 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)18 | Lijn | Paal_P_80 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)22 | Lijn | Paal_P_89 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)6 | Lijn | Paal_P_24 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)5 | Lijn | Paal_P_28 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)4 | Lijn | Paal_P_22 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)3 | Lijn | Paal_P_93 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)2 | Lijn | Paal_P_86 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |

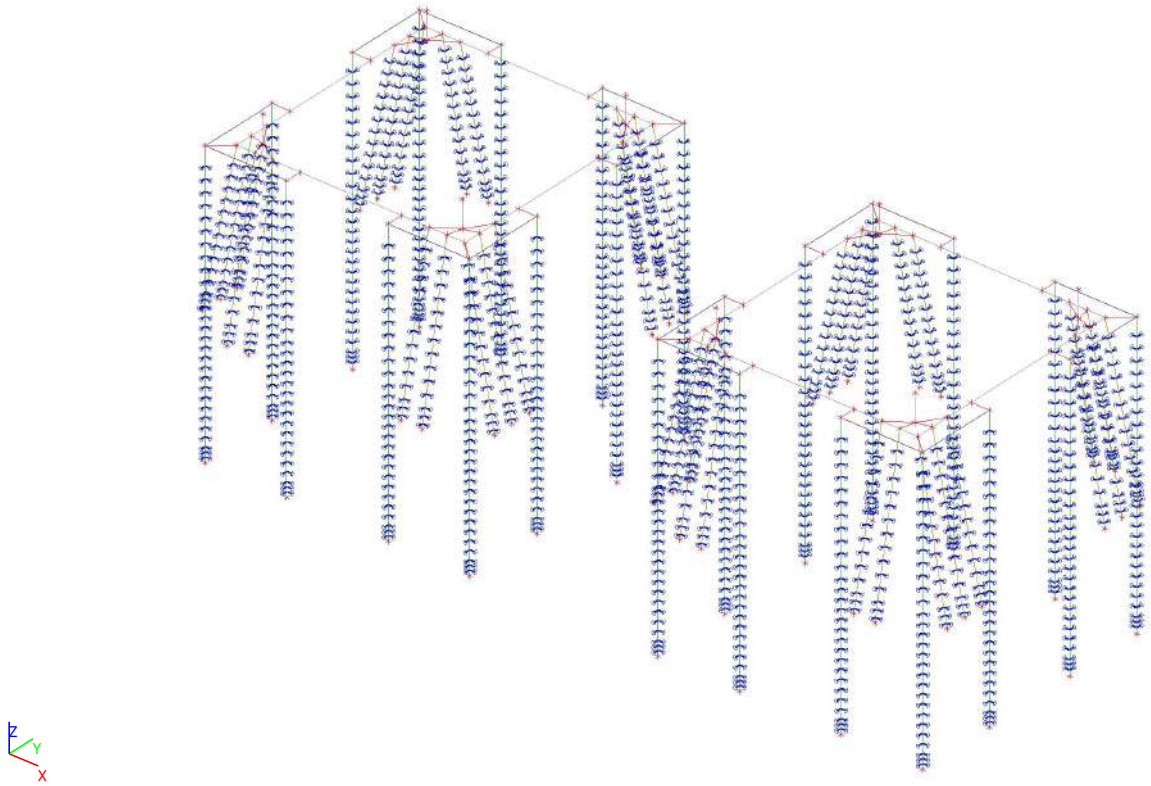
| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)1 | Lijn | Paal_P_29 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3) | Lijn | Paal_P_23 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V4)23 | Lijn | Paal_P_93 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)21 | Lijn | Paal_P_91 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)20 | Lijn | Paal_P_90 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)19 | Lijn | Paal_P_89 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)18 | Lijn | Paal_P_88 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)17 | Lijn | Paal_P_87 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)16 | Lijn | Paal_P_86 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)15 | Lijn | Paal_P_85 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)14 | Lijn | Paal_P_84 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)13 | Lijn | Paal_P_83 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)12 | Lijn | Paal_P_82 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)11 | Lijn | Paal_P_81 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)10 | Lijn | Paal_P_80 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)9 | Lijn | Paal_P_79 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)8 | Lijn | Paal_P_78 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)7 | Lijn | Paal_P_29 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)22 | Lijn | Paal_P_92 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)6 | Lijn | Paal_P_28 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)5 | Lijn | Paal_P_27 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)4 | Lijn | Paal_P_26 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)3 | Lijn | Paal_P_25 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)2 | Lijn | Paal_P_24 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)1 | Lijn | Paal_P_23 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4) | Lijn | Paal_P_22 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V5)23 | Lijn | Paal_P_93 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)21 | Lijn | Paal_P_91 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)20 | Lijn | Paal_P_90 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)19 | Lijn | Paal_P_89 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)17 | Lijn | Paal_P_87 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)16 | Lijn | Paal_P_86 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-2_V5)15 | Lijn | Paal_P_85 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)14 | Lijn | Paal_P_84 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)13 | Lijn | Paal_P_83 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)12 | Lijn | Paal_P_82 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)11 | Lijn | Paal_P_81 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)18 | Lijn | Paal_P_88 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)10 | Lijn | Paal_P_80 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)9 | Lijn | Paal_P_79 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)8 | Lijn | Paal_P_78 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)7 | Lijn | Paal_P_29 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)22 | Lijn | Paal_P_92 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)6 | Lijn | Paal_P_28 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)5 | Lijn | Paal_P_27 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)4 | Lijn | Paal_P_26 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)3 | Lijn | Paal_P_25 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)2 | Lijn | Paal_P_24 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)1 | Lijn | Paal_P_23 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5) | Lijn | Paal_P_22 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V6)23 | Lijn | Paal_P_93 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)21 | Lijn | Paal_P_91 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)20 | Lijn | Paal_P_90 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)19 | Lijn | Paal_P_89 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)18 | Lijn | Paal_P_88 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)17 | Lijn | Paal_P_87 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)16 | Lijn | Paal_P_86 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)15 | Lijn | Paal_P_85 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)14 | Lijn | Paal_P_84 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)13 | Lijn | Paal_P_83 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)12 | Lijn | Paal_P_82 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)11 | Lijn | Paal_P_81 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)10 | Lijn | Paal_P_80 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)9 | Lijn | Paal_P_79 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-2_V6)8 | Lijn | Paal_P_78 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)7 | Lijn | Paal_P_29 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)22 | Lijn | Paal_P_92 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)6 | Lijn | Paal_P_28 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)5 | Lijn | Paal_P_27 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)4 | Lijn | Paal_P_26 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)3 | Lijn | Paal_P_25 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)2 | Lijn | Paal_P_24 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)1 | Lijn | Paal_P_23 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6) | Lijn | Paal_P_22 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V7)6 | Lijn | Paal_P_28 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)5 | Lijn | Paal_P_27 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)4 | Lijn | Paal_P_26 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)3 | Lijn | Paal_P_25 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)2 | Lijn | Paal_P_24 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)1 | Lijn | Paal_P_23 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7) | Lijn | Paal_P_22 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)23 | Lijn | Paal_P_93 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)21 | Lijn | Paal_P_91 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)20 | Lijn | Paal_P_90 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)19 | Lijn | Paal_P_89 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)18 | Lijn | Paal_P_88 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)17 | Lijn | Paal_P_87 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)16 | Lijn | Paal_P_86 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)15 | Lijn | Paal_P_85 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)22 | Lijn | Paal_P_92 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)14 | Lijn | Paal_P_84 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)13 | Lijn | Paal_P_83 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)12 | Lijn | Paal_P_82 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)11 | Lijn | Paal_P_81 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)10 | Lijn | Paal_P_80 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)9 | Lijn | Paal_P_79 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |

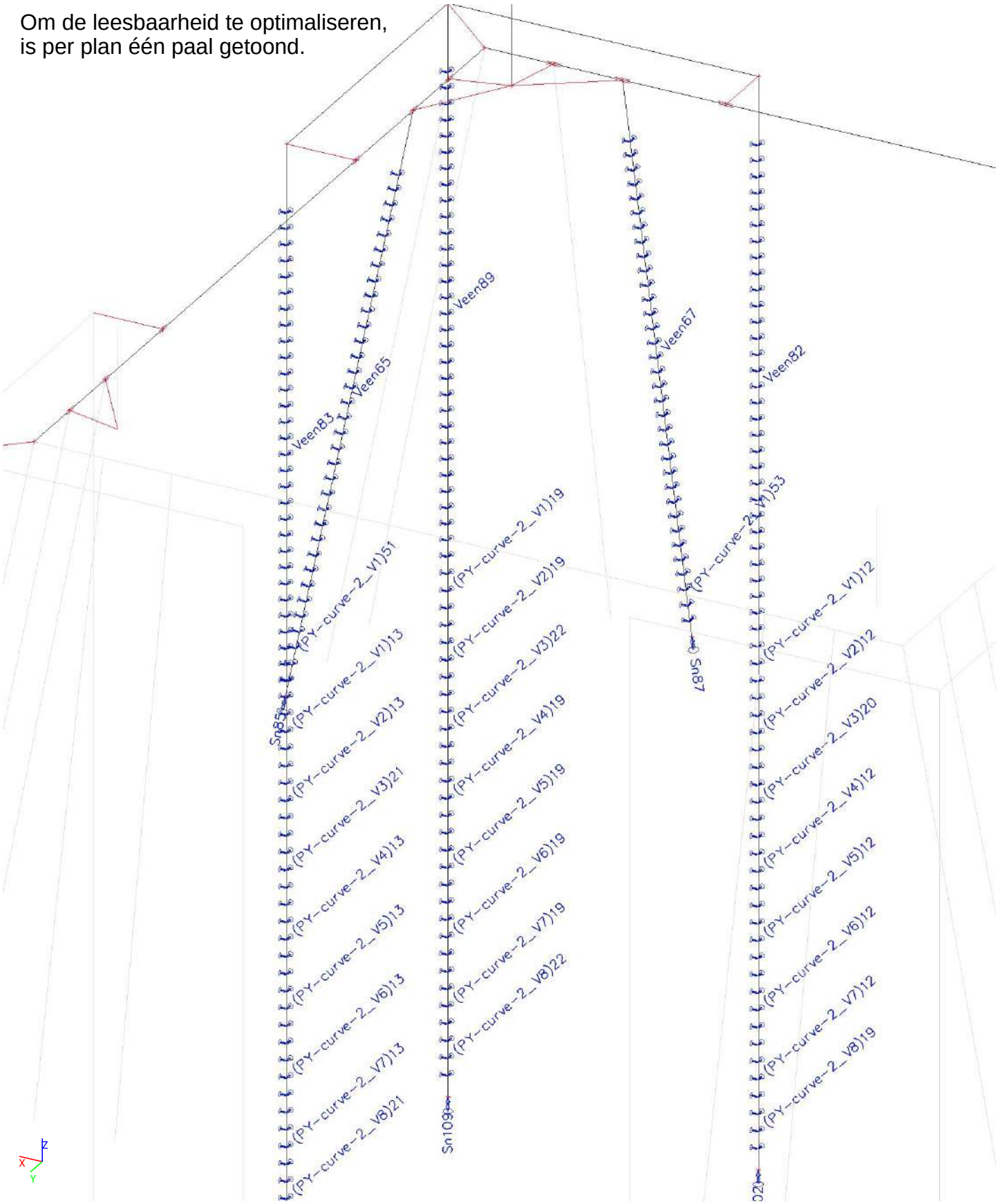
| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-2_V7)8 | Lijn | Paal_P_78 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)7 | Lijn | Paal_P_29 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V8)23 | Lijn | Paal_P_90 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)21 | Lijn | Paal_P_83 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)20 | Lijn | Paal_P_81 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)19 | Lijn | Paal_P_82 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)18 | Lijn | Paal_P_80 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)17 | Lijn | Paal_P_84 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)16 | Lijn | Paal_P_78 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)15 | Lijn | Paal_P_91 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)14 | Lijn | Paal_P_88 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)13 | Lijn | Paal_P_85 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)12 | Lijn | Paal_P_79 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)11 | Lijn | Paal_P_92 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)10 | Lijn | Paal_P_87 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)9 | Lijn | Paal_P_27 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)8 | Lijn | Paal_P_26 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)7 | Lijn | Paal_P_25 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)22 | Lijn | Paal_P_89 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)6 | Lijn | Paal_P_24 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)5 | Lijn | Paal_P_93 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)4 | Lijn | Paal_P_86 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)3 | Lijn | Paal_P_29 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)2 | Lijn | Paal_P_28 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)1 | Lijn | Paal_P_23 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8) | Lijn | Paal_P_22 | 15,000<br>15,500 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

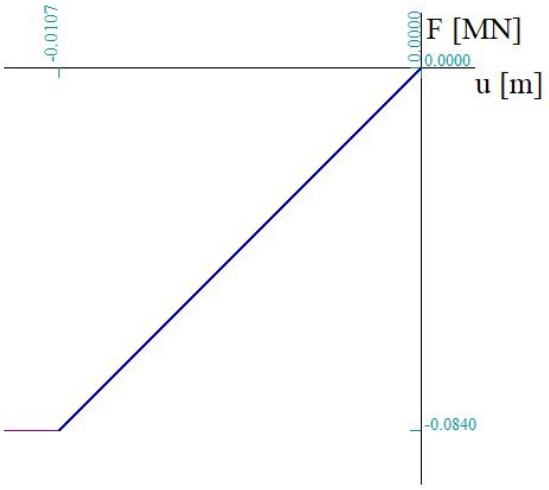
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

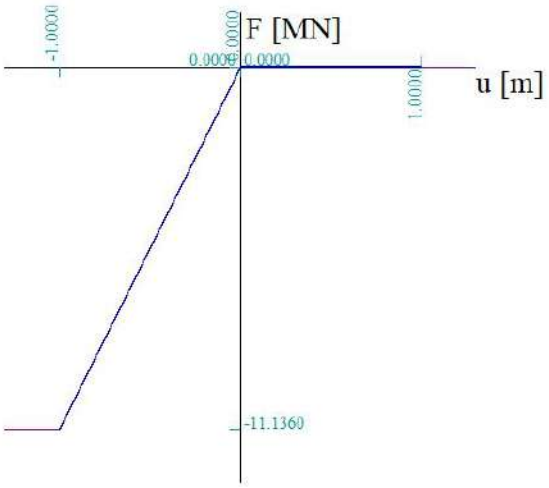
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt | Verplaatsing | -1,0670e-02[m] / -8,4000e-02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |

Tekenen



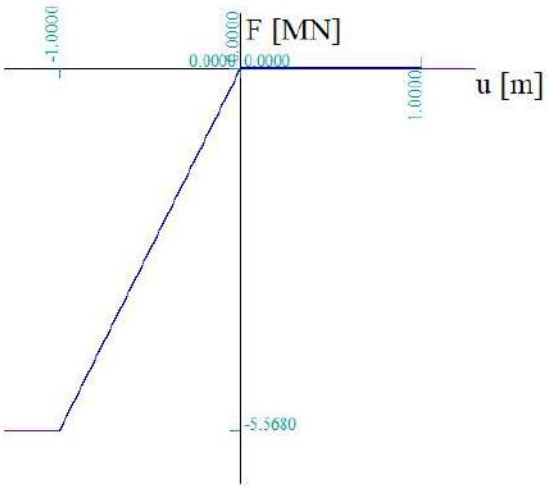

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt.LEKA.BG. | Verplaatsing | -1,0000e+00[m] / -1,1136e+01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 0,0000e+00[MN] | | |

Tekenen



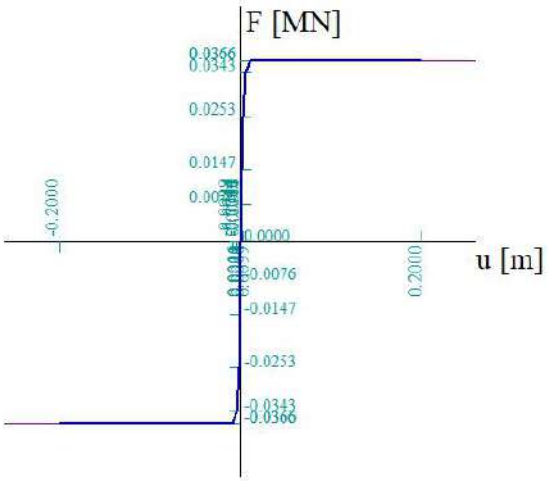

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt.LEKA.OG. | Verplaatsing | -1,0000e+00[m] / -5,5680e+00[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 0,0000e+00[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1 | Verplaatsing | -2,0000e-01[m] / -3,6624e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,6624e-02[MN] | | |
| | | -4,4000e-03[m] / -3,4259e-02[MN] | | |
| | | -2,2000e-03[m] / -2,5265e-02[MN] | | |
| | | -1,1000e-03[m] / -1,4650e-02[MN] | | |
| | | -5,5000e-04[m] / -7,6435e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 7,6435e-03[MN] | | |
| | | 1,1000e-03[m] / 1,4650e-02[MN] | | |
| | | 2,2000e-03[m] / 2,5265e-02[MN] | | |
| | | 4,4000e-03[m] / 3,4259e-02[MN] | | |
| | | 9,9000e-03[m] / 3,6624e-02[MN] | | |
| | | 2,0000e-01[m] / 3,6624e-02[MN] | | |

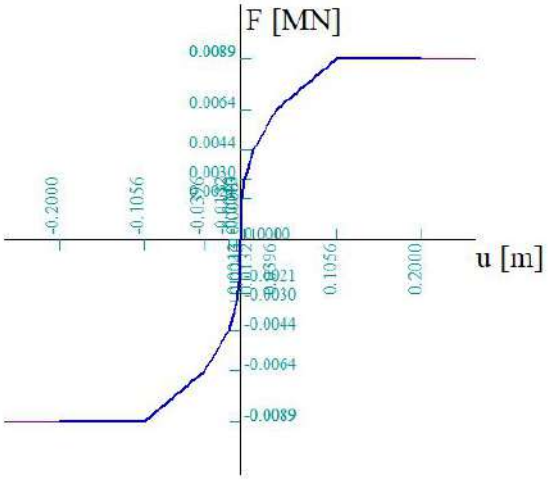
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen | Verplaatsing | -2,0000e-01[m] / -8,8944e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -8,8944e-03[MN] | | |
| | | -3,9600e-02[m] / -6,4138e-03[MN] | | |
| | | -1,3200e-02[m] / -4,4477e-03[MN] | | |
| | | -3,9600e-03[m] / -2,9770e-03[MN] | | |
| | | -1,3200e-03[m] / -2,0640e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 2,0640e-03[MN] | | |
| | | 3,9600e-03[m] / 2,9770e-03[MN] | | |

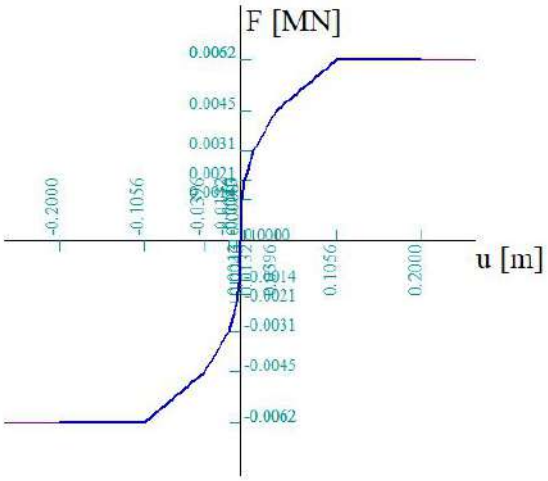
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 1,3200e-02[m] / 4,4477e-03[MN] | | |
| | | 3,9600e-02[m] / 6,4138e-03[MN] | | |
| | | 1,0560e-01[m] / 8,8944e-03[MN] | | |
| | | 2,0000e-01[m] / 8,8944e-03[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Verplaatsing | -2,0000e-01[m] / -6,2016e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -6,2016e-03[MN] | | |
| | | -3,9600e-02[m] / -4,4721e-03[MN] | | |
| | | -1,3200e-02[m] / -3,1008e-03[MN] | | |
| | | -3,9600e-03[m] / -2,0758e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4393e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4393e-03[MN] | | |
| | | 3,9600e-03[m] / 2,0758e-03[MN] | | |
| | | 1,3200e-02[m] / 3,1008e-03[MN] | | |
| | | 3,9600e-02[m] / 4,4721e-03[MN] | | |
| | | 1,0560e-01[m] / 6,2016e-03[MN] | | |
| | | 2,0000e-01[m] / 6,2016e-03[MN] | | |

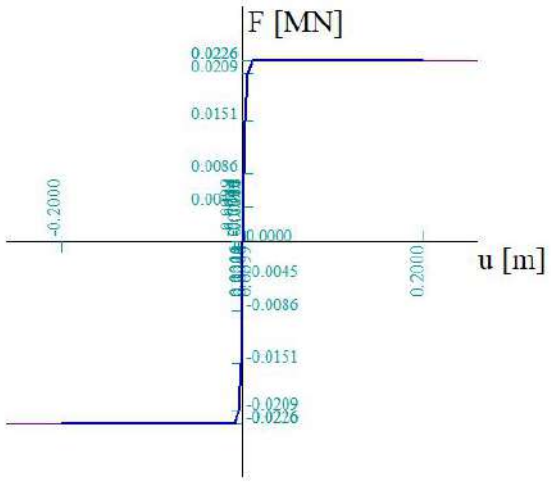
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1.B | Verplaatsing | -2,0000e-01[m] / -2,2567e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,2567e-02[MN] | | |
| | | -4,4000e-03[m] / -2,0854e-02[MN] | | |

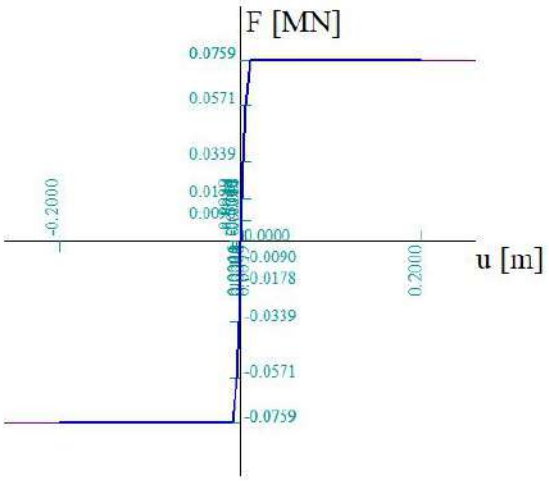
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -2,2000e-03[m] / -1,5054e-02[MN] | | |
| | | -1,1000e-03[m] / -8,6224e-03[MN] | | |
| | | -5,5000e-04[m] / -4,4807e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,4807e-03[MN] | | |
| | | 1,1000e-03[m] / 8,6224e-03[MN] | | |
| | | 2,2000e-03[m] / 1,5054e-02[MN] | | |
| | | 4,4000e-03[m] / 2,0854e-02[MN] | | |
| | | 9,9000e-03[m] / 2,2567e-02[MN] | | |
| | | 2,0000e-01[m] / 2,2567e-02[MN] | | |

Tekenen



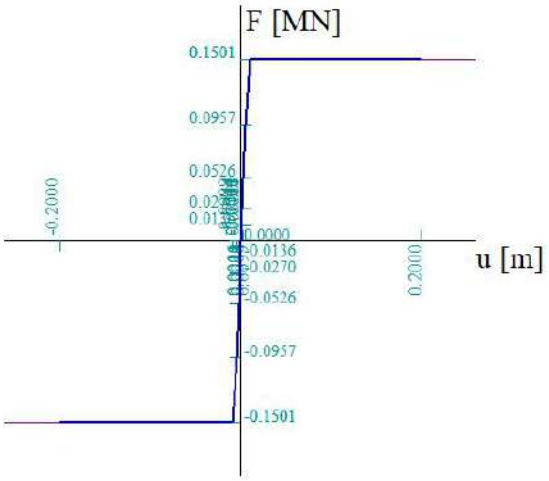

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V2.B | Verplaatsing | -2,0000e-01[m] / -7,5874e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -7,5874e-02[MN] | | |
| | | -4,4000e-03[m] / -5,7108e-02[MN] | | |
| | | -2,2000e-03[m] / -3,3923e-02[MN] | | |
| | | -1,1000e-03[m] / -1,7844e-02[MN] | | |
| | | -5,5000e-04[m] / -9,0410e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 9,0410e-03[MN] | | |
| | | 1,1000e-03[m] / 1,7844e-02[MN] | | |
| | | 2,2000e-03[m] / 3,3923e-02[MN] | | |
| | | 4,4000e-03[m] / 5,7108e-02[MN] | | |
| | | 9,9000e-03[m] / 7,5874e-02[MN] | | |
| | | 2,0000e-01[m] / 7,5874e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V3.B | Verplaatsing | -2,0000e-01[m] / -1,5011e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,5011e-01[MN] | | |
| | | -4,4000e-03[m] / -9,5744e-02[MN] | | |
| | | -2,2000e-03[m] / -5,2633e-02[MN] | | |
| | | -1,1000e-03[m] / -2,7005e-02[MN] | | |
| | | -5,5000e-04[m] / -1,3592e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,3592e-02[MN] | | |
| | | 1,1000e-03[m] / 2,7005e-02[MN] | | |
| | | 2,2000e-03[m] / 5,2633e-02[MN] | | |
| | | 4,4000e-03[m] / 9,5744e-02[MN] | | |
| | | 9,9000e-03[m] / 1,5011e-01[MN] | | |
| | | 2,0000e-01[m] / 1,5011e-01[MN] | | |

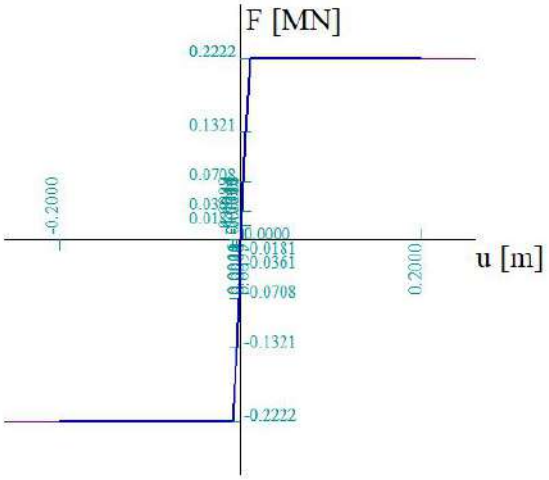
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V4.B | Verplaatsing | -2,0000e-01[m] / -2,2222e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,2222e-01[MN] | | |
| | | -4,4000e-03[m] / -1,3206e-01[MN] | | |
| | | -2,2000e-03[m] / -7,0850e-02[MN] | | |
| | | -1,1000e-03[m] / -3,6096e-02[MN] | | |
| | | -5,5000e-04[m] / -1,8134e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,8134e-02[MN] | | |
| | | 1,1000e-03[m] / 3,6096e-02[MN] | | |
| | | 2,2000e-03[m] / 7,0850e-02[MN] | | |

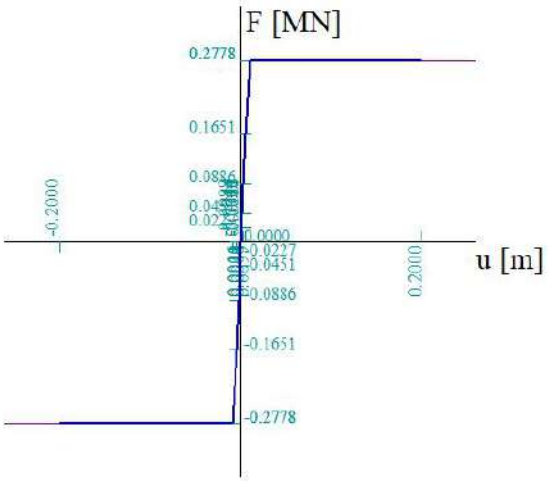
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 1,3206e-01[MN] | | |
| | | 9,9000e-03[m] / 2,2222e-01[MN] | | |
| | | 2,0000e-01[m] / 2,2222e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V5.B | Verplaatsing | -2,0000e-01[m] / -2,7778e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,7778e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6508e-01[MN] | | |
| | | -2,2000e-03[m] / -8,8562e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5120e-02[MN] | | |
| | | -5,5000e-04[m] / -2,2668e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,2668e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5120e-02[MN] | | |
| | | 2,2000e-03[m] / 8,8562e-02[MN] | | |
| | | 4,4000e-03[m] / 1,6508e-01[MN] | | |
| | | 9,9000e-03[m] / 2,7778e-01[MN] | | |
| | | 2,0000e-01[m] / 2,7778e-01[MN] | | |

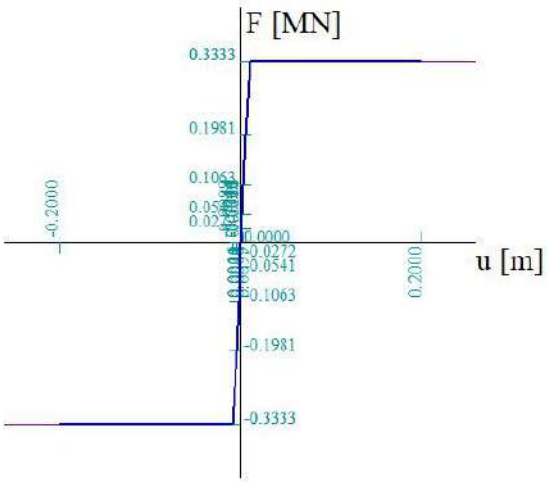
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V6.B | Verplaatsing | -2,0000e-01[m] / -3,3334e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,3334e-01[MN] | | |
| | | -4,4000e-03[m] / -1,9809e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0627e-01[MN] | | |

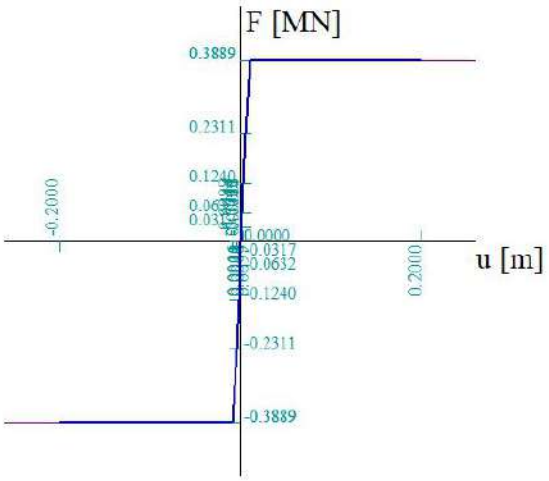
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -5,4144e-02[MN] | | |
| | | -5,5000e-04[m] / -2,7201e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,7201e-02[MN] | | |
| | | 1,1000e-03[m] / 5,4144e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0627e-01[MN] | | |
| | | 4,4000e-03[m] / 1,9809e-01[MN] | | |
| | | 9,9000e-03[m] / 3,3334e-01[MN] | | |
| | | 2,0000e-01[m] / 3,3334e-01[MN] | | |

Tekenen



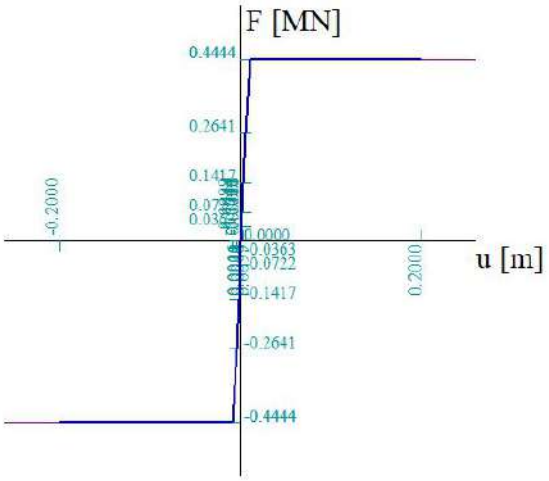

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V7.B | Verplaatsing | -2,0000e-01[m] / -3,8889e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,8889e-01[MN] | | |
| | | -4,4000e-03[m] / -2,3111e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2399e-01[MN] | | |
| | | -1,1000e-03[m] / -6,3168e-02[MN] | | |
| | | -5,5000e-04[m] / -3,1735e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,1735e-02[MN] | | |
| | | 1,1000e-03[m] / 6,3168e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2399e-01[MN] | | |
| | | 4,4000e-03[m] / 2,3111e-01[MN] | | |
| | | 9,9000e-03[m] / 3,8889e-01[MN] | | |
| | | 2,0000e-01[m] / 3,8889e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V8.B | Verplaatsing | -2,0000e-01[m] / -4,4445e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -4,4445e-01[MN] | | |
| | | -4,4000e-03[m] / -2,6412e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4170e-01[MN] | | |
| | | -1,1000e-03[m] / -7,2192e-02[MN] | | |
| | | -5,5000e-04[m] / -3,6268e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,6268e-02[MN] | | |
| | | 1,1000e-03[m] / 7,2192e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4170e-01[MN] | | |
| | | 4,4000e-03[m] / 2,6412e-01[MN] | | |
| | | 9,9000e-03[m] / 4,4445e-01[MN] | | |
| | | 2,0000e-01[m] / 4,4445e-01[MN] | | |

Tekenen

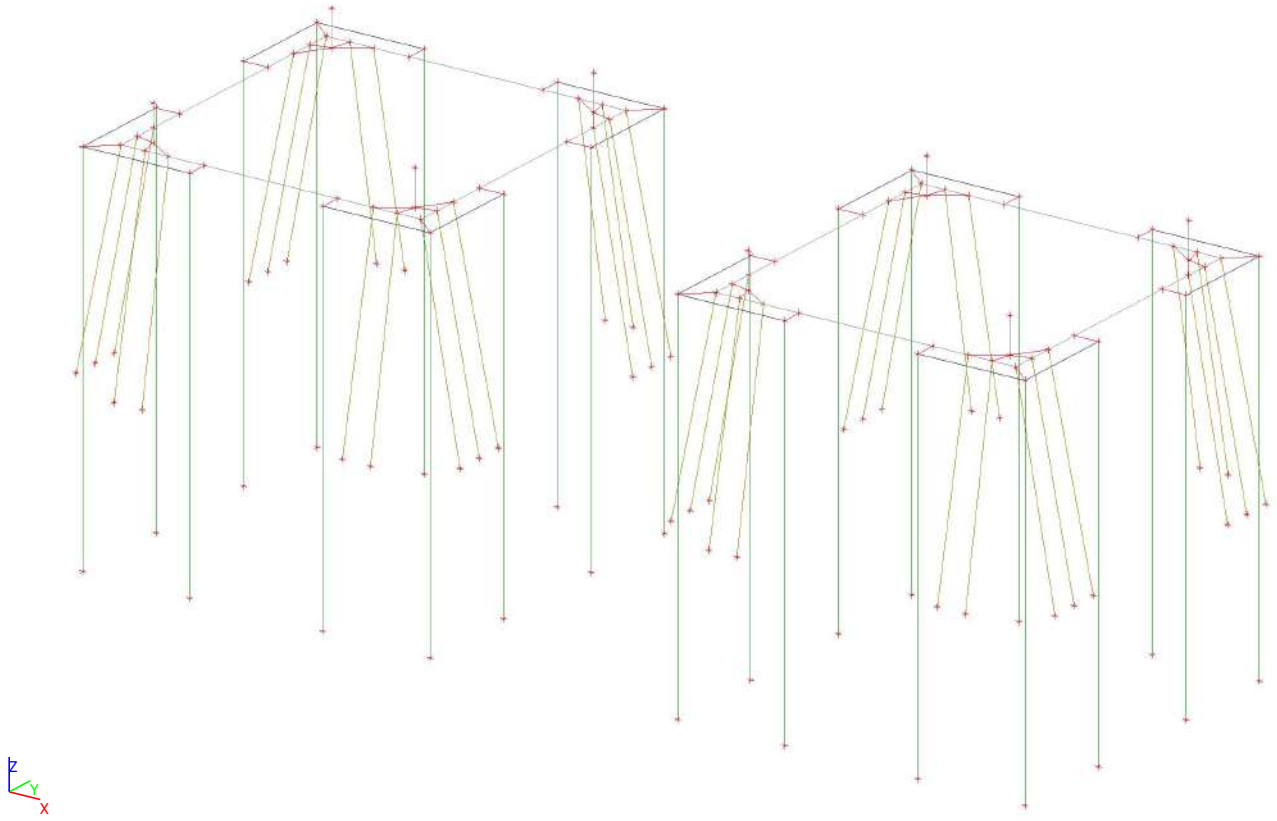


# 6. Belastingen

## 6.1. Belastingsgevallen

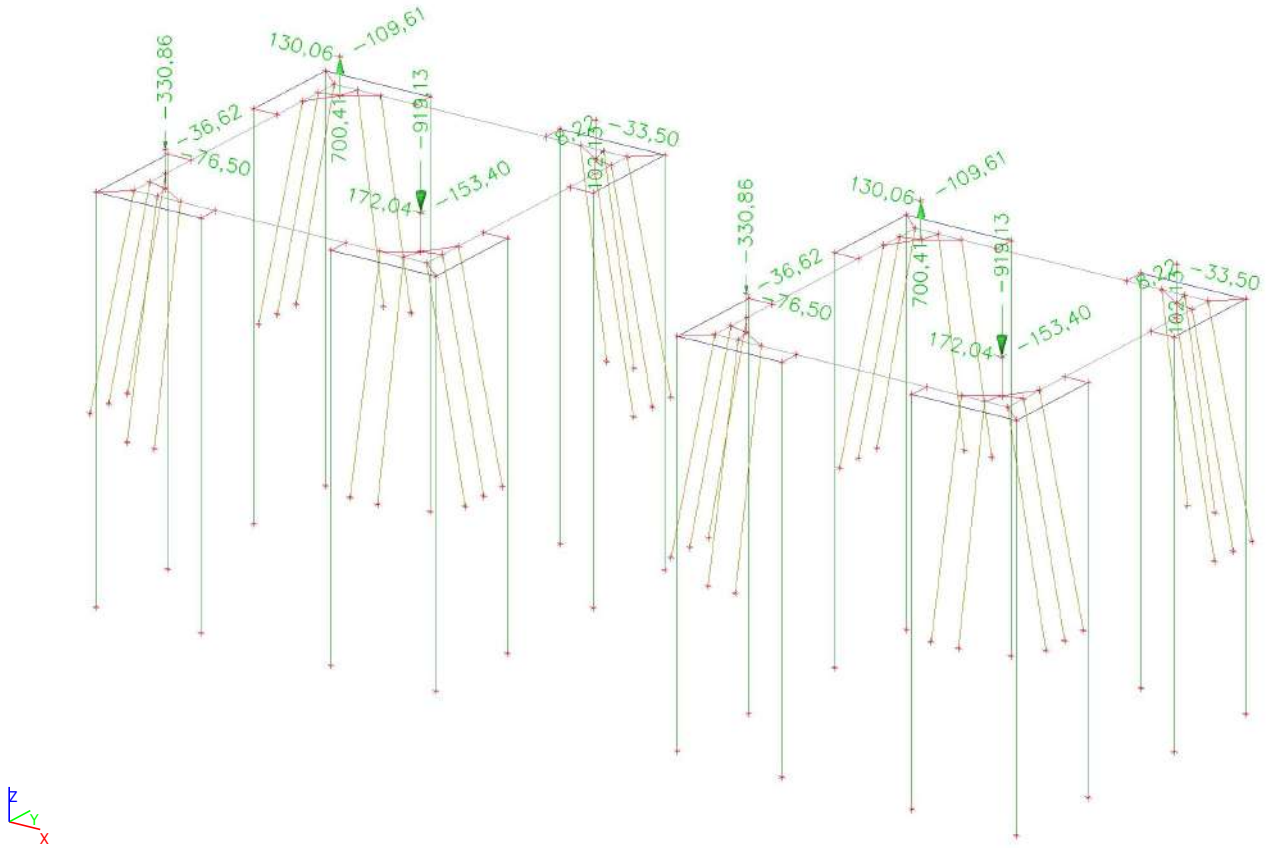
### 6.1.1. Belastingsgevallen - E.G.

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |




### 6.1.2. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -76,50 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -36,62 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -330,86 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 130,06 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -109,61 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 700,41 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -33,50 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 8,22 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 102,13 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 172,04 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -153,40 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -919,13 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Kracht | 172,04 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Kracht | -153,40 |
| high max Wnd | 1Y2 | high max Wnd ;225° | GCS | Z | Kracht | -919,13 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1Y_Z1 | | | | | | |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Kracht | -33,50 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Kracht | 8,22 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Kracht | 102,13 |
| high max Wnd ;225°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Kracht | -76,50 |
| high max Wnd ;225°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Kracht | -36,62 |
| high max Wnd ;225°_1P_Z1 | 1P2 | high max Wnd ;225° | GCS | Z | Kracht | -330,86 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Kracht | 130,06 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Kracht | -109,61 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Kracht | 700,41 |

### 6.1.3. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

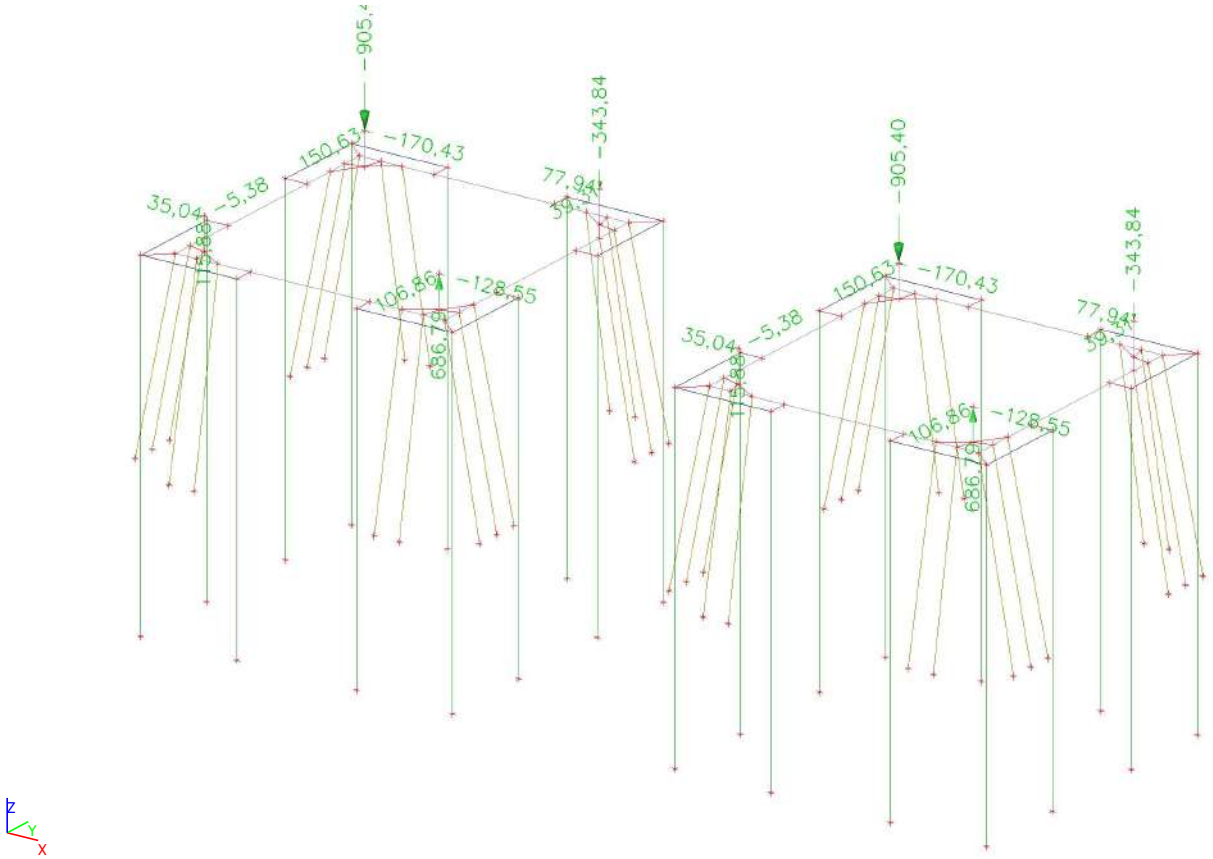


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 129,99 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 109,56 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 699,95 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -76,48 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 36,67 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -330,90 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 171,97 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 153,35 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -918,69 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -33,49 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -8,18 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 102,18 |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Kracht | -33,49 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Kracht | -8,18 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Kracht | 102,18 |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Kracht | 171,97 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Kracht | 153,35 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Kracht | -918,69 |
| high max Wnd ;135°_1P_X1 | 1P2 | high max Wnd ;135° | GCS | X | Kracht | 129,99 |
| high max Wnd ;135°_1P_Y1 | 1P2 | high max Wnd ;135° | GCS | Y | Kracht | 109,56 |
| high max Wnd ;135°_1P_Z1 | 1P2 | high max Wnd ;135° | GCS | Z | Kracht | 699,95 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Kracht | -76,48 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Kracht | 36,67 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Kracht | -330,90 |

### 6.1.4. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



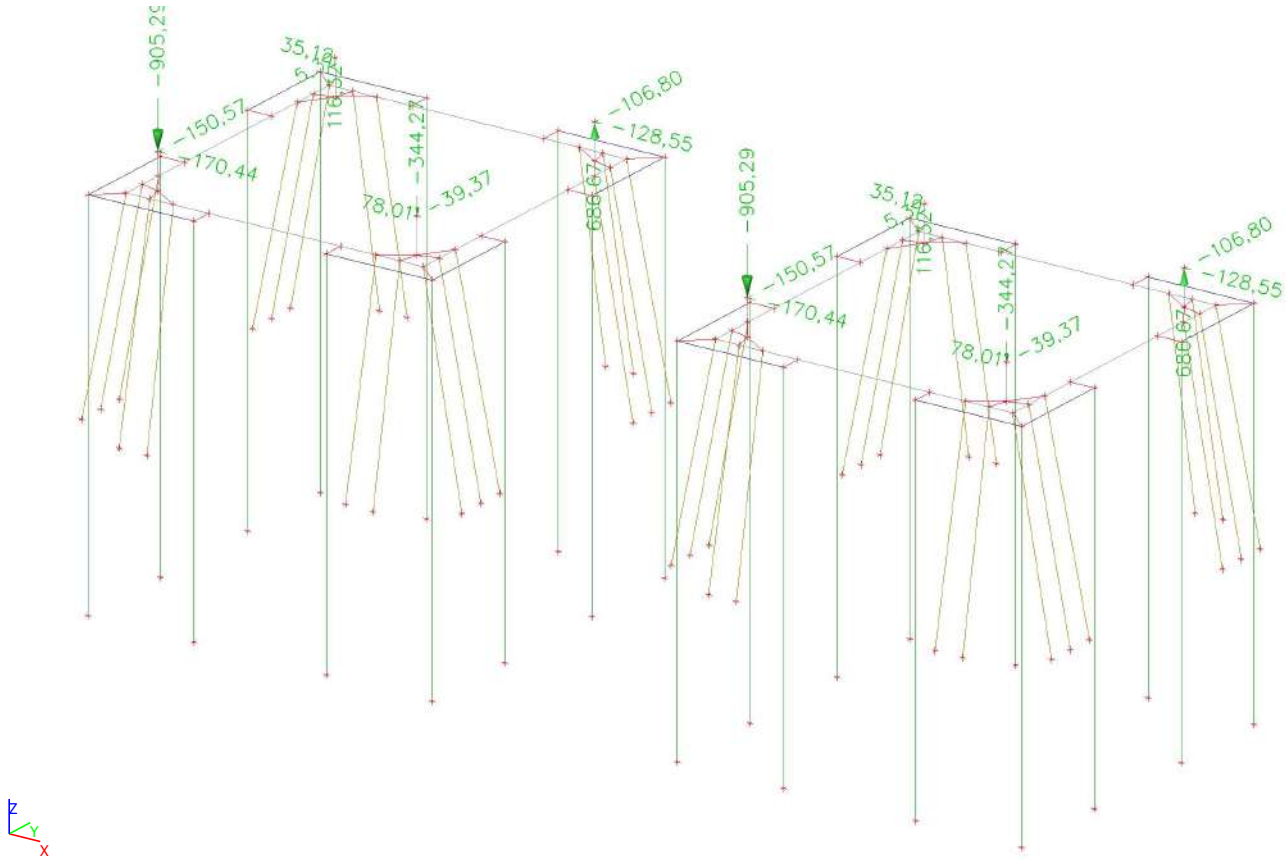

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 35,04 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -5,38 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 115,88 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -170,43 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 150,63 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -905,40 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 77,94 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 39,31 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -343,84 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -128,55 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 106,86 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 686,79 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Kracht | -128,55 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Kracht | 106,86 |
| high max Wnd | 1Y2 | high max Wnd ;45° | GCS | Z | Kracht | 686,79 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Kracht | 77,94 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Kracht | 39,31 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Kracht | -343,84 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Kracht | 35,04 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Kracht | -5,38 |
| high max Wnd ;45°_1P_Z1 | 1P2 | high max Wnd ;45° | GCS | Z | Kracht | 115,88 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Kracht | -170,43 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Kracht | 150,63 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Kracht | -905,40 |

### 6.1.5. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

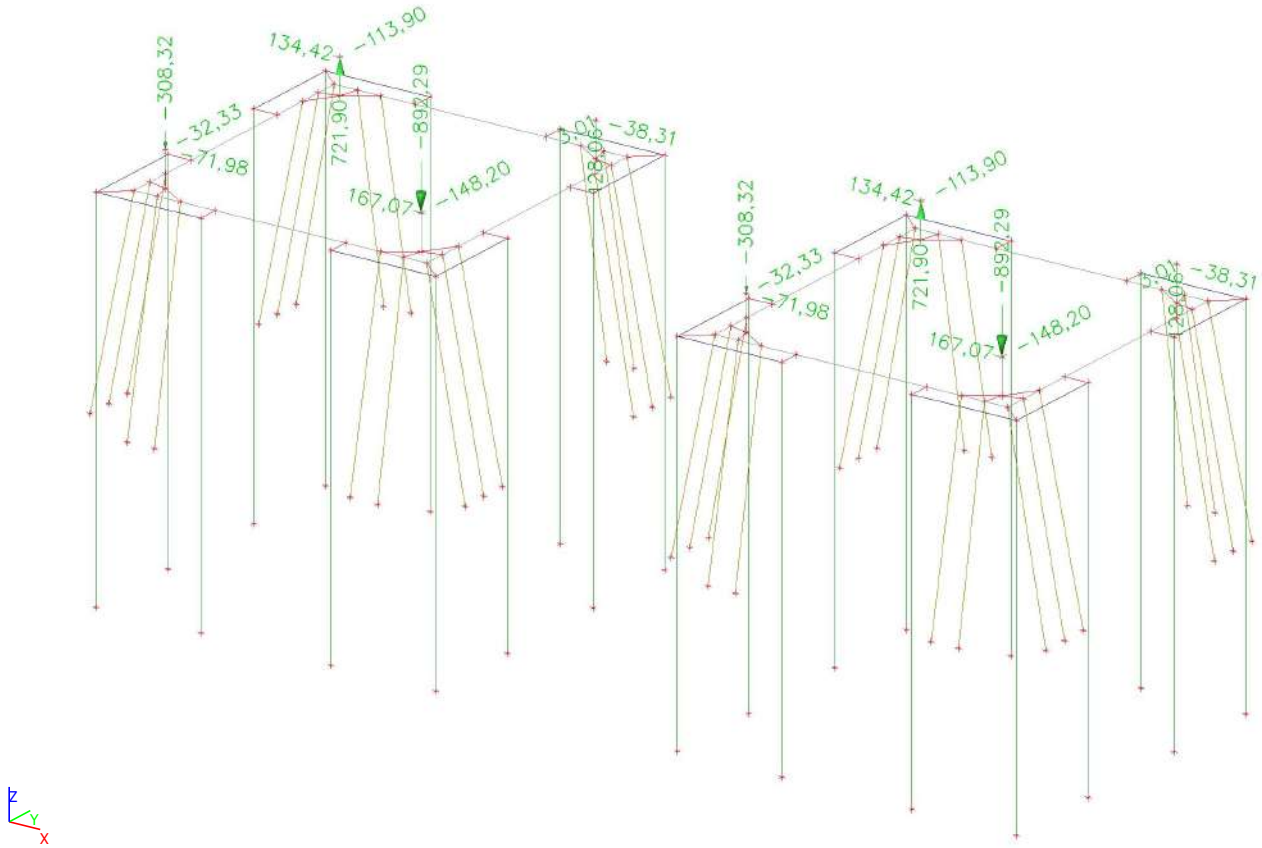


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -170,44 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -150,57 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -905,29 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 35,12 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 5,32 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 116,32 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -128,55 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -106,80 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 686,67 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 78,01 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -39,37 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -344,27 |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Kracht | 78,01 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Kracht | -39,37 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Kracht | -344,27 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Kracht | -128,55 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Kracht | -106,80 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Kracht | 686,67 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Kracht | -170,44 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Kracht | -150,57 |
| high max Wnd ;315°_1P_Z1 | 1P2 | high max Wnd ;315° | GCS | Z | Kracht | -905,29 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Kracht | 35,12 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Kracht | 5,32 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Kracht | 116,32 |

### 6.1.6. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



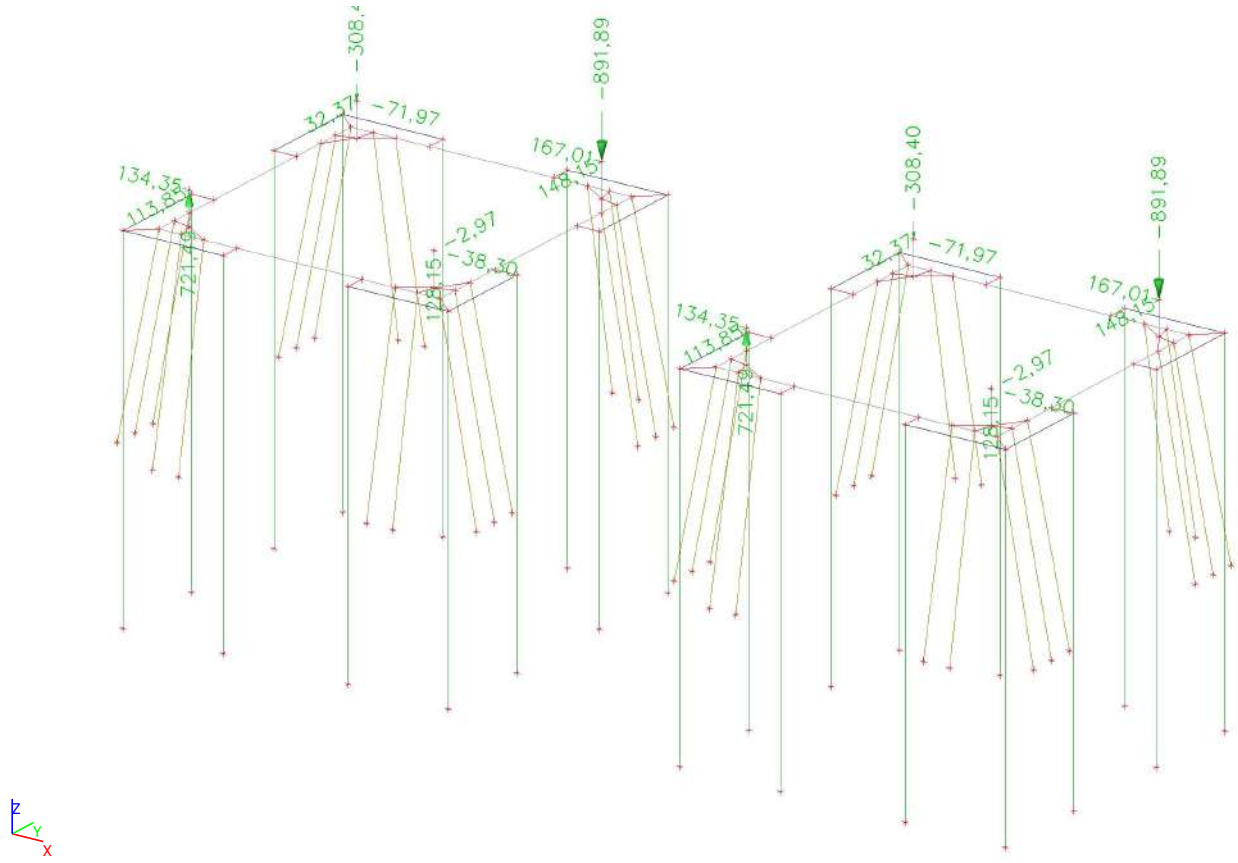

### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -71,98 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -32,33 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -308,32 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 134,42 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -113,90 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 721,90 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -38,31 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | 3,01 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 128,06 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 167,07 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -148,20 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -892,29 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Kracht | 167,07 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Kracht | -148,20 |
| low max Wnd | 1Y2 | low max Wnd ;225° | GCS | Z | Kracht | -892,29 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1Y_Z1 | | | | | | |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Kracht | -38,31 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Kracht | 3,01 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Kracht | 128,06 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Kracht | -71,98 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Kracht | -32,33 |
| low max Wnd ;225°_1P_Z1 | 1P2 | low max Wnd ;225° | GCS | Z | Kracht | -308,32 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Kracht | 134,42 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Kracht | -113,90 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Kracht | 721,90 |

### 6.1.7. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

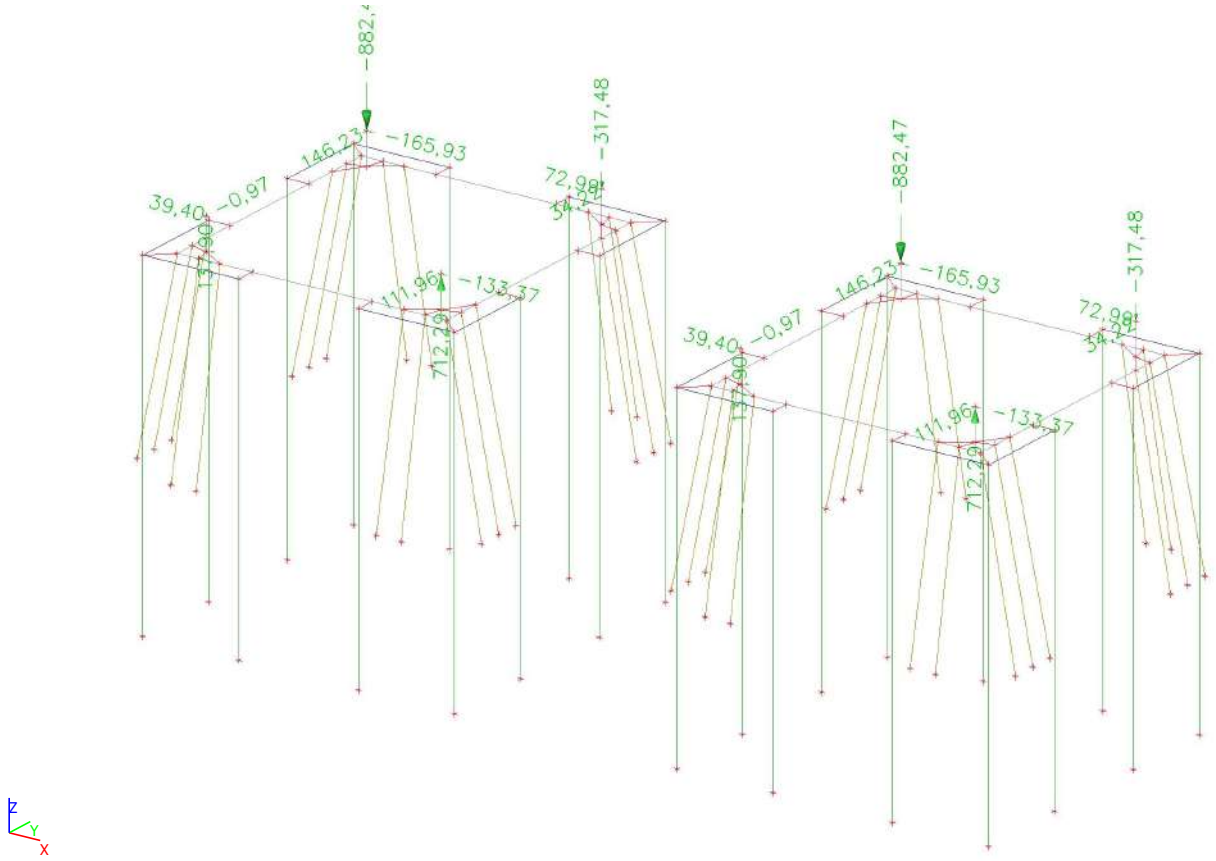


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 134,35 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 113,85 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 721,49 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -71,97 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -308,40 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 167,01 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 148,15 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -891,89 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -38,30 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | -2,97 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 128,15 |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Kracht | -38,30 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Kracht | -2,97 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Kracht | 128,15 |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Kracht | 167,01 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Kracht | 148,15 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Kracht | -891,89 |
| low max Wnd ;135°_1P_X1 | 1P2 | low max Wnd ;135° | GCS | X | Kracht | 134,35 |
| low max Wnd ;135°_1P_Y1 | 1P2 | low max Wnd ;135° | GCS | Y | Kracht | 113,85 |
| low max Wnd ;135°_1P_Z1 | 1P2 | low max Wnd ;135° | GCS | Z | Kracht | 721,49 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Kracht | -71,97 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Kracht | 32,37 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Kracht | -308,40 |

### 6.1.8. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



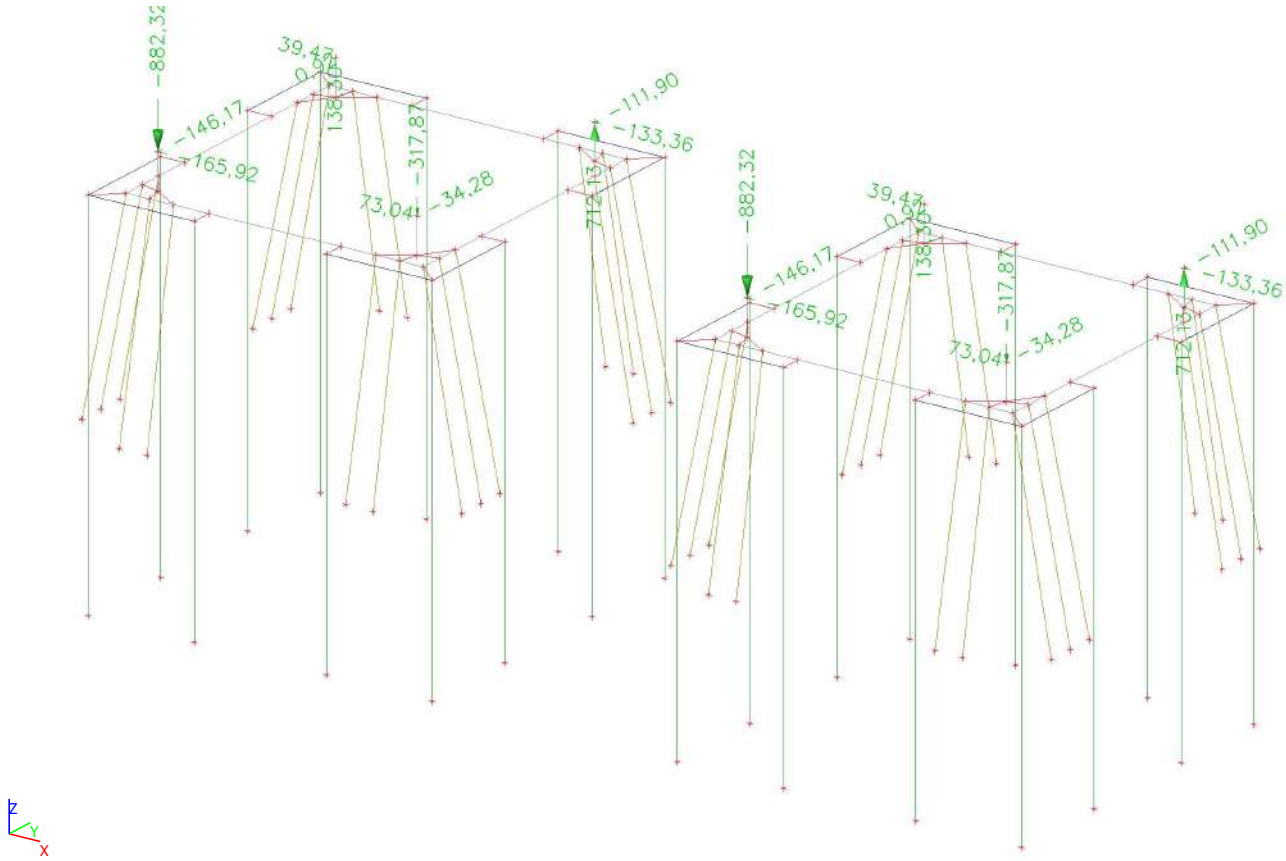

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 39,40 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | -0,97 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 137,90 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -165,93 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 146,23 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -882,47 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 72,99 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 34,22 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -317,48 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -133,37 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 111,96 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 712,29 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Kracht | -133,37 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Kracht | 111,96 |
| low max Wnd | 1Y2 | low max Wnd ;45° | GCS | Z | Kracht | 712,29 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Kracht | 72,99 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Kracht | 34,22 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Kracht | -317,48 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Kracht | 39,40 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Kracht | -0,97 |
| low max Wnd ;45°_1P_Z1 | 1P2 | low max Wnd ;45° | GCS | Z | Kracht | 137,90 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Kracht | -165,93 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Kracht | 146,23 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Kracht | -882,47 |

### 6.1.9. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.9.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -165,92 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -146,17 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -882,32 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 39,47 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | 0,92 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 138,30 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -133,36 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -111,90 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 712,13 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 73,04 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -34,28 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -317,87 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Kracht | 73,04 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Kracht | -34,28 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Kracht | -317,87 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Kracht | -133,36 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Kracht | -111,90 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Kracht | 712,13 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Kracht | -165,92 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Kracht | -146,17 |
| low max Wnd ;315°_1P_Z1 | 1P2 | low max Wnd ;315° | GCS | Z | Kracht | -882,32 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Kracht | 39,47 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Kracht | 0,92 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Kracht | 138,30 |

## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| high max Wnd ;225° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;225° | 1,00 |
| high max Wnd ;135° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;135° | 1,00 |
| high max Wnd ;45° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;45° | 1,00 |
| high max Wnd ;315° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;315° | 1,00 |
| low max Wnd ;45° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;45° | 1,00 |
| low max Wnd ;135° | Uiterste Grenstoestand | E.G. | 0,90 |

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| | | low max Wnd ;135° | 1,00 |
| low max Wnd ;315° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;315° | 1,00 |
| low max Wnd ;225° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;225° | 1,00 |

## 6.3. Resultaatklassen

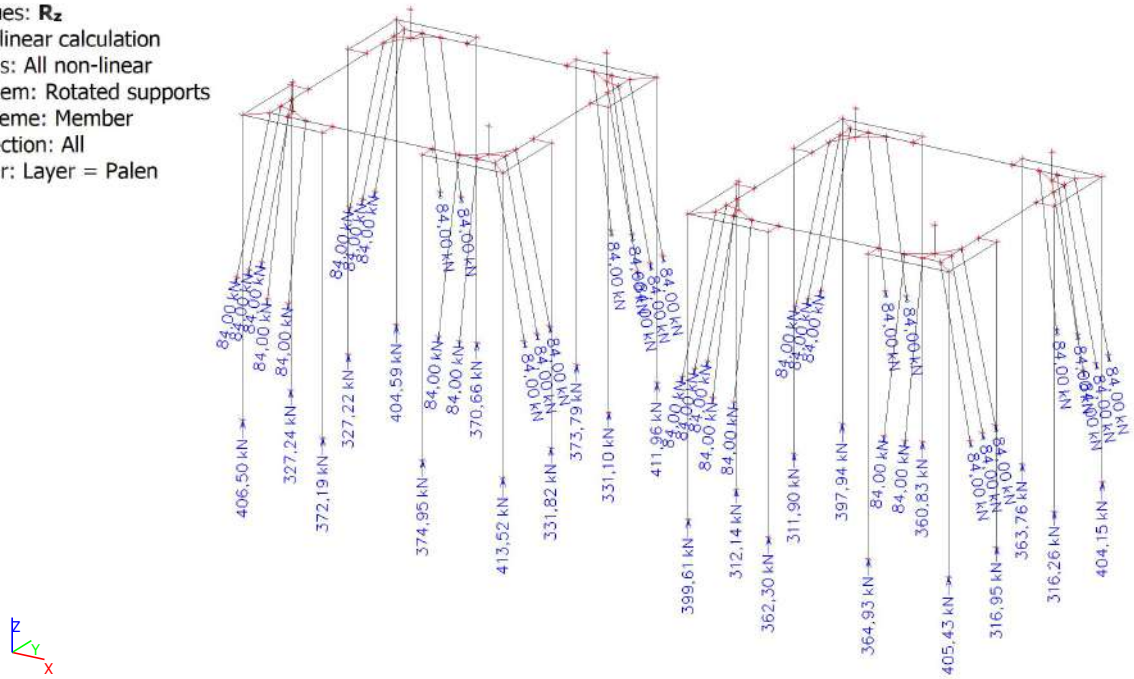
| Naam | Lijst |
|---|---|
| All non-linear | high max Wnd ;225° |
| | high max Wnd ;135° |
| | high max Wnd ;45° |
| | high max Wnd ;315° |
| | low max Wnd ;45° |
| | low max Wnd ;135° |
| | low max Wnd ;315° |
| | low max Wnd ;225° |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (320; 320)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn89/N206 | low max Wnd ;225° | **0,00** | 0,00 | 64,72 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | high max Wnd ;45° | **0,00** | 0,00 | 60,12 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn94/N211 | high max Wnd ;315° | 0,00 | **0,00** | 55,01 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn86/N203 | high max Wnd ;135° | 0,00 | **0,00** | 60,14 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn21/N44 | high max Wnd ;225° | 0,00 | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn107/N248 | high max Wnd ;225° | **0,00** | **0,00** | **413,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn42/N60 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | high max Wnd ;45° | **0,00** | 0,00 | 60,12 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn21/N44 | high max Wnd ;135° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn21/N44 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max Wnd ;45° | **0,00** | **0,00** | 42,99 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn22/N45 | high max Wnd ;225° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | high max Wnd ;135° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn23/N46 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | high max Wnd ;135° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn26/N48 | high max Wnd ;45° | 0,00 | **0,00** | 42,84 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | high max Wnd ;135° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn26/N48 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn28/N50 | high max Wnd ;45° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn28/N50 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max Wnd ;135° | **0,00** | 0,00 | 43,22 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn30/N52 | high max Wnd ;135° | 0,00 | **0,00** | 40,70 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | high max Wnd ;45° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn30/N52 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | high max | 0,00 | **0,00** | 41,53 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn31/N53 | high max Wnd ;45° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn32/N10 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | high max Wnd ;315° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn32/N10 | high max Wnd ;225° | **0,00** | 0,00 | 62,60 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn33/N11 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | low max Wnd ;45° | **0,00** | 0,00 | 54,03 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | high max Wnd ;315° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn34/N12 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | low max Wnd ;45° | **0,00** | 0,00 | 20,32 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | high max Wnd ;225° | 0,00 | **0,00** | 39,96 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | high max Wnd ;315° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn35/N13 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max Wnd ;225° | 0,00 | **0,00** | 40,49 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn36/N14 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max Wnd ;315° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn37/N15 | high max Wnd ;315° | 0,00 | **0,00** | 39,93 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | high max Wnd ;225° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn38/N2 | high max Wnd ;315° | 0,00 | **0,00** | 41,98 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | high max Wnd ;225° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn38/N2 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | low max Wnd ;315° | **0,00** | 0,00 | 18,66 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | low max Wnd ;135° | 0,00 | **0,00** | 83,46 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | high max Wnd ;225° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn39/N3 | high max Wnd ;135° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | low max Wnd ;135° | **0,00** | **0,00** | 48,72 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn40/N4 | high max Wnd ;135° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | low max Wnd ;315° | **0,00** | 0,00 | 65,86 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | high max Wnd ;225° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn41/N54 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn42/N60 | high max | **0,00** | **0,00** | **370,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;45° | | | | | | | | |
| Sn42/N60 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn43/N61 | high max Wnd ;45° | **0,00** | **0,00** | **327,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn43/N61 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn44/N70 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn44/N70 | high max Wnd ;135° | **0,00** | **0,00** | **373,79** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn45/N72 | low max Wnd ;45° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn45/N72 | high max Wnd ;135° | **0,00** | **0,00** | **331,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn46/N77 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn46/N77 | high max Wnd ;225° | 0,00 | 0,00 | **374,95** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn47/N79 | low max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn47/N79 | high max Wnd ;225° | 0,00 | 0,00 | **331,82** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn48/N82 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn48/N82 | high max Wnd ;315° | **0,00** | **0,00** | **372,19** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn49/N84 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn49/N84 | high max Wnd ;315° | **0,00** | **0,00** | **327,24** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N195 | low max Wnd ;45° | **0,00** | 0,00 | 23,73 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N195 | high max Wnd ;135° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn78/N195 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn79/N196 | low max Wnd ;45° | **0,00** | **0,00** | 64,91 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn79/N196 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn79/N196 | high max Wnd ;225° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn80/N197 | low max Wnd ;225° | **0,00** | 0,00 | 28,57 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn80/N197 | high max Wnd ;135° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn80/N197 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn81/N198 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn81/N198 | high max Wnd ;135° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn82/N199 | high max Wnd ;135° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn82/N199 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn83/N200 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn83/N200 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn84/N201 | high max Wnd ;45° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn84/N201 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn84/N201 | low max | **0,00** | 0,00 | 65,74 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn85/N202 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn85/N202 | high max Wnd ;45° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn85/N202 | low max Wnd ;315° | **0,00** | 0,00 | 39,94 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn86/N203 | high max Wnd ;135° | 0,00 | **0,00** | 60,14 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn86/N203 | high max Wnd ;45° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn86/N203 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn87/N204 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn87/N204 | high max Wnd ;135° | 0,00 | **0,00** | 56,94 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn87/N204 | high max Wnd ;45° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn88/N205 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn88/N205 | high max Wnd ;315° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn89/N206 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn89/N206 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn89/N206 | low max Wnd ;225° | **0,00** | 0,00 | 64,72 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn90/N207 | high max Wnd ;315° | 0,00 | **0,00** | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn90/N207 | high max Wnd ;225° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn90/N207 | low max Wnd ;45° | **0,00** | 0,00 | 40,94 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn91/N208 | high max Wnd ;225° | 0,00 | **0,00** | 59,21 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn91/N208 | high max Wnd ;315° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn91/N208 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn92/N209 | high max Wnd ;225° | 0,00 | **0,00** | 55,84 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn92/N209 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn92/N209 | high max Wnd ;315° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn93/N210 | high max Wnd ;315° | 0,00 | **0,00** | 56,80 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn93/N210 | high max Wnd ;135° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn93/N210 | high max Wnd ;225° | **0,00** | **0,00** | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn94/N211 | high max Wnd ;315° | 0,00 | **0,00** | 55,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn94/N211 | high max Wnd ;225° | **0,00** | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn94/N211 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn95/N212 | high max Wnd ;225° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn95/N212 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn96/N213 | low max Wnd ;315° | **0,00** | **0,00** | 63,54 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn96/N213 | high max | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |

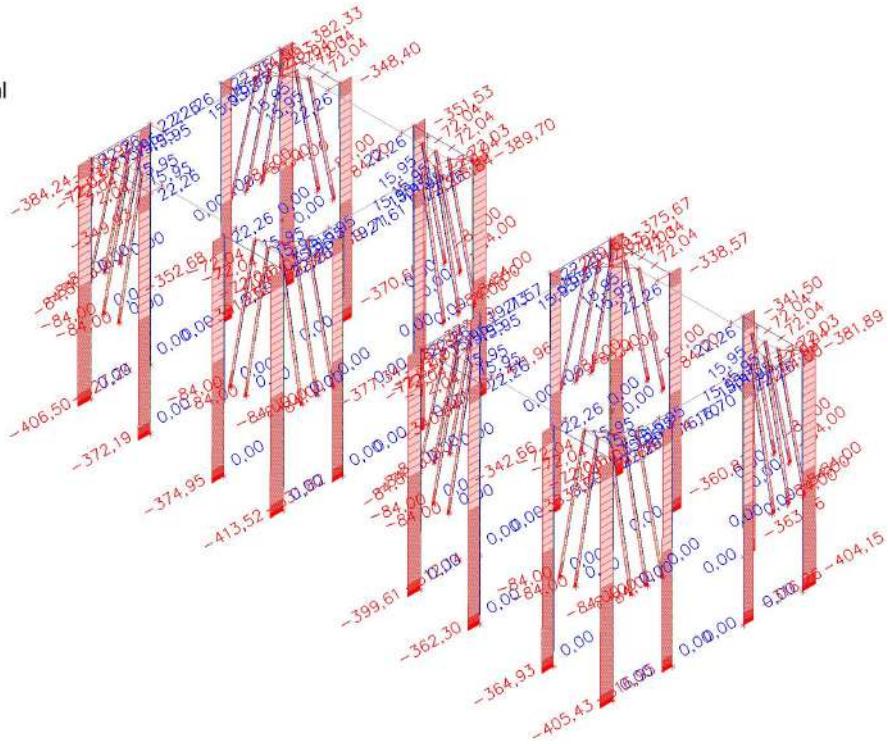
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;225° | | | | | | | | |
| Sn96/N213 | high max Wnd ;135° | **0,00** | 0,00 | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn97/N214 | high max Wnd ;225° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn97/N214 | high max Wnd ;135° | **0,00** | **0,00** | **84,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn98/N220 | high max Wnd ;45° | **0,00** | **0,00** | **360,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn98/N220 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn99/N221 | low max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn99/N221 | high max Wnd ;45° | **0,00** | **0,00** | **311,90** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn100/N226 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn100/N226 | high max Wnd ;135° | **0,00** | **0,00** | **363,76** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn101/N228 | low max Wnd ;45° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn101/N228 | high max Wnd ;135° | **0,00** | **0,00** | **316,26** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn102/N233 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn102/N233 | high max Wnd ;225° | 0,00 | 0,00 | **364,93** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn103/N235 | low max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn103/N235 | high max Wnd ;225° | 0,00 | 0,00 | **316,95** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn104/N238 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn104/N238 | high max Wnd ;315° | **0,00** | **0,00** | **362,30** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn105/N240 | low max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn105/N240 | high max Wnd ;315° | **0,00** | **0,00** | **312,14** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn106/N247 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn106/N247 | high max Wnd ;315° | **0,00** | **0,00** | **406,50** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn107/N248 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn107/N248 | high max Wnd ;225° | 0,00 | 0,00 | **413,52** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn108/N249 | high max Wnd ;135° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn108/N249 | high max Wnd ;315° | **0,00** | **0,00** | **399,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn109/N250 | high max Wnd ;45° | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | **0,00** | - | - |
| Sn109/N250 | high max Wnd ;225° | 0,00 | 0,00 | **405,43** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn110/N251 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn110/N251 | high max Wnd ;135° | **0,00** | **0,00** | **404,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn111/N252 | high max Wnd ;45° | **0,00** | **0,00** | **397,94** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn111/N252 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |
| Sn112/N253 | high max Wnd ;315° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | 0,00 | - | - |
| Sn112/N253 | high max | **0,00** | **0,00** | **411,96** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn113/N254 | high max Wnd ;45° | **0,00** | **0,00** | **404,59** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn113/N254 | high max Wnd ;225° | 0,00 | 0,00 | **0,00** | 0,00 | 0,00 | **0,00** | - | - |

## 7.2. Krachten van de Funderingspalen

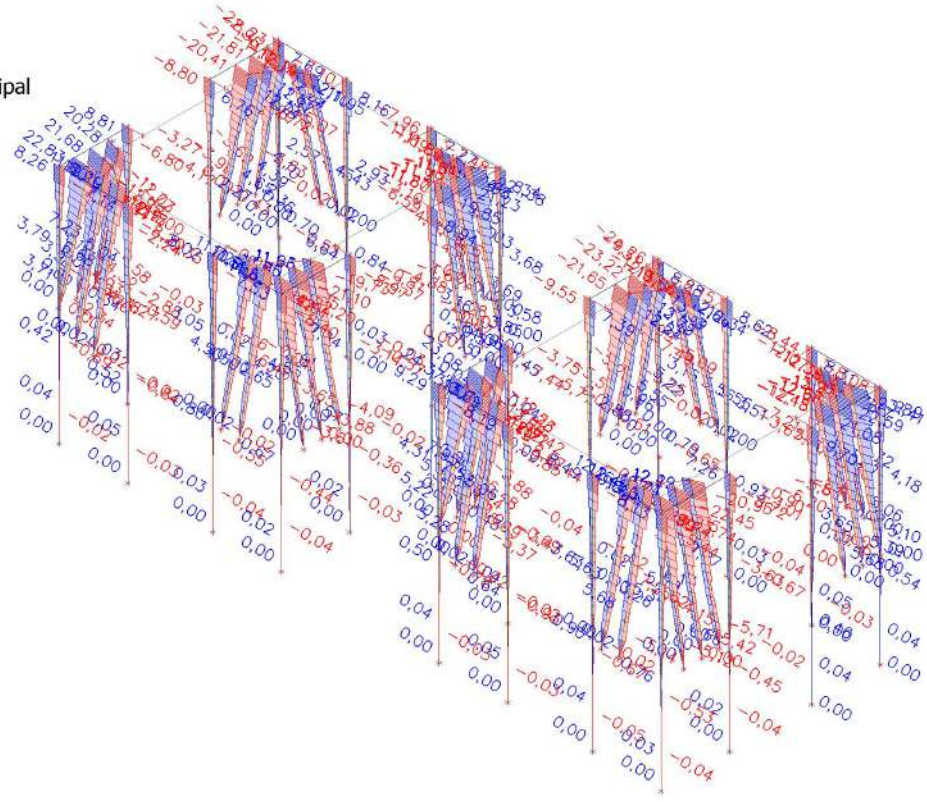
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



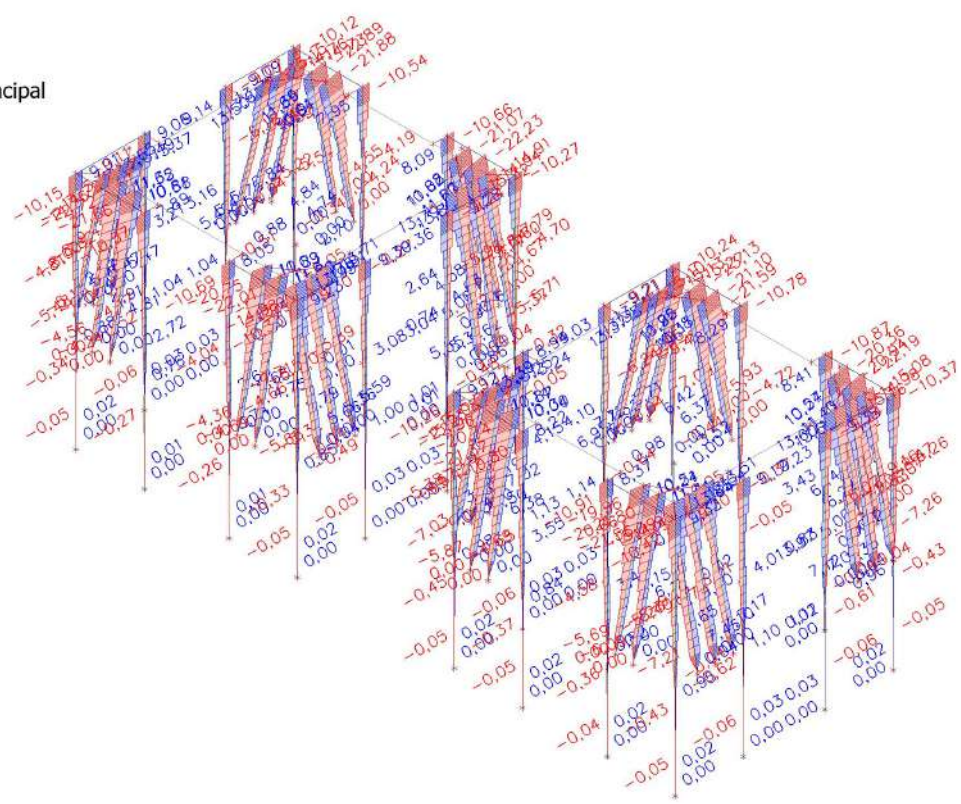
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



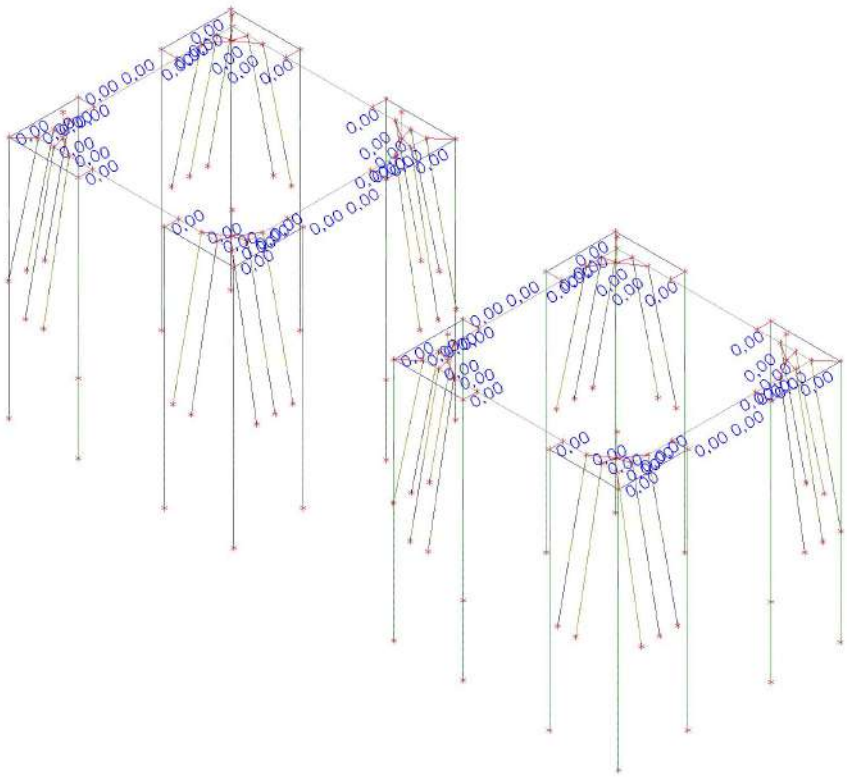
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



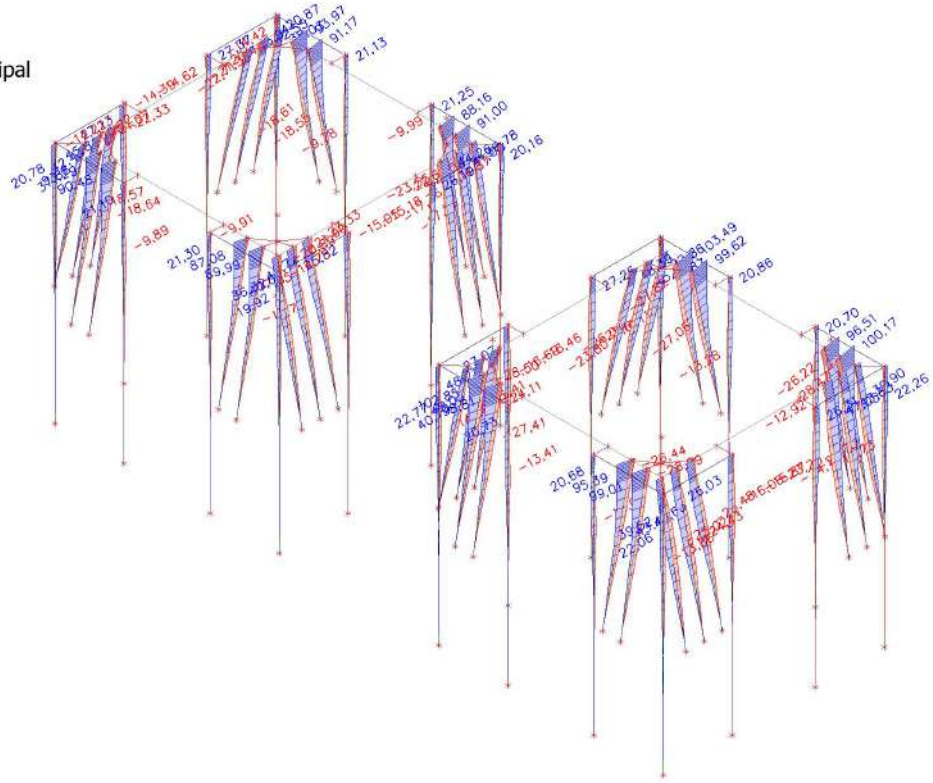
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



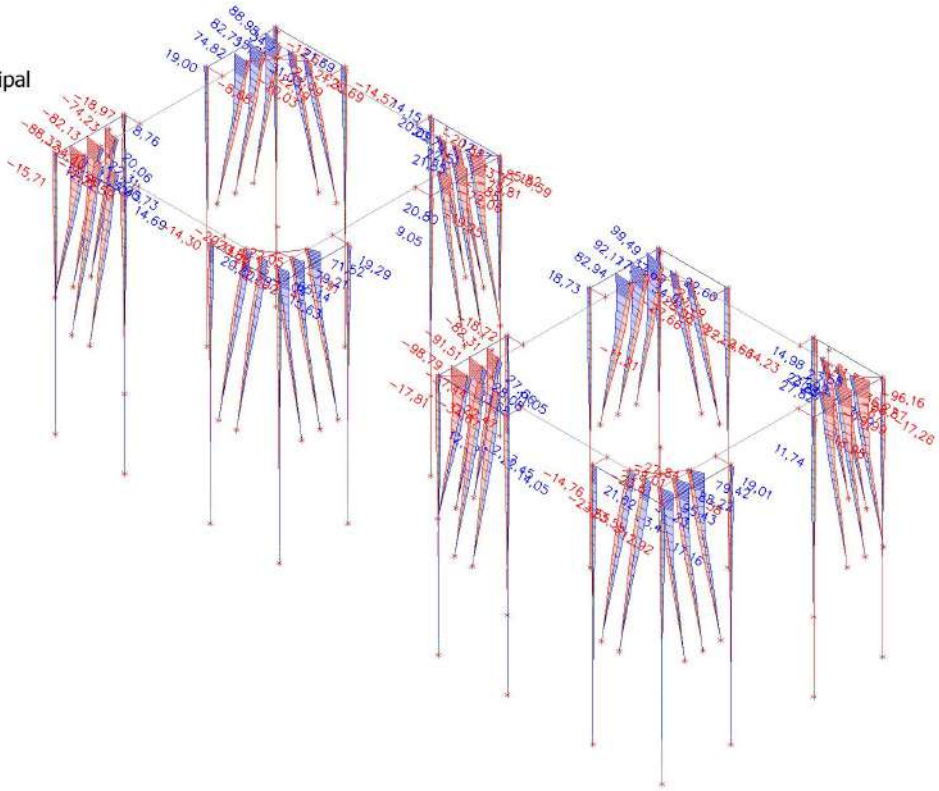
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (320; 320)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 9,000 | high max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | **-84,00** | 0,00 | 0,04 | 0,00 | 0,00 | 0,00 |
| Paal_P_3 | 0,000 | high max Wnd ;135° | Funderingspaal - Rectangle (320; 320) | **15,95** | 6,24 | 5,90 | **0,00** | 4,33 | -30,36 |
| Paal_P_75 | 0,000 | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | 11,97 | **-24,51** | 3,07 | 0,00 | 37,09 | **99,49** |
| Paal_P_73 | 0,000 | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | 11,96 | 1,22 | **-23,13** | 0,00 | **103,49** | 36,38 |
| Paal_P_12 | 0,900 | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | -7,82 | 6,58 | **14,01** | 0,00 | -8,39 | 12,80 |
| Paal_P_66 | 0,000 | high max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | -68,05 | -10,94 | 5,02 | 0,00 | **-28,69** | 18,69 |
| Paal_P_58 | 0,000 | low max Wnd ;135° | Funderingspaal - Rectangle (320; 320) | 11,97 | **24,37** | 3,04 | 0,00 | 36,99 | **-98,79** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_87 | 15,800 | high max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | **-413,52** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_22 | 0,000 | high max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | **22,26** | 0,03 | 4,12 | **0,00** | 0,80 | 9,58 |
| Paal_P_83 | 0,000 | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | -251,71 | **-9,72** | -9,30 | 0,00 | 10,49 | 16,94 |
| Paal_P_81 | 0,000 | low max Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -251,08 | **9,70** | -9,24 | 0,00 | 10,39 | -16,92 |
| Paal_P_82 | 0,000 | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | -288,75 | -8,35 | **-10,91** | 0,00 | 17,85 | 10,84 |
| Paal_P_90 | 0,000 | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 10,79 | 5,53 | **9,38** | 0,00 | -10,92 | 2,36 |
| Paal_P_85 | 3,000- | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 14,06 | -3,11 | -1,37 | 0,00 | **-16,69** | -9,43 |
| Paal_P_23 | 0,000 | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 16,70 | 2,83 | -1,01 | 0,00 | **27,37** | 8,98 |
| Paal_P_84 | 1,000- | low max | LEKA Paal - type | 15,64 | -0,44 | 3,95 | 0,00 | 17,70 | **-22,47** |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;135° | e (CHS219.1/10.0) | | | | | | |
| Paal_P_78 | 1,000- | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 15,64 | 0,46 | 3,99 | 0,00 | 17,73 | **22,60** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

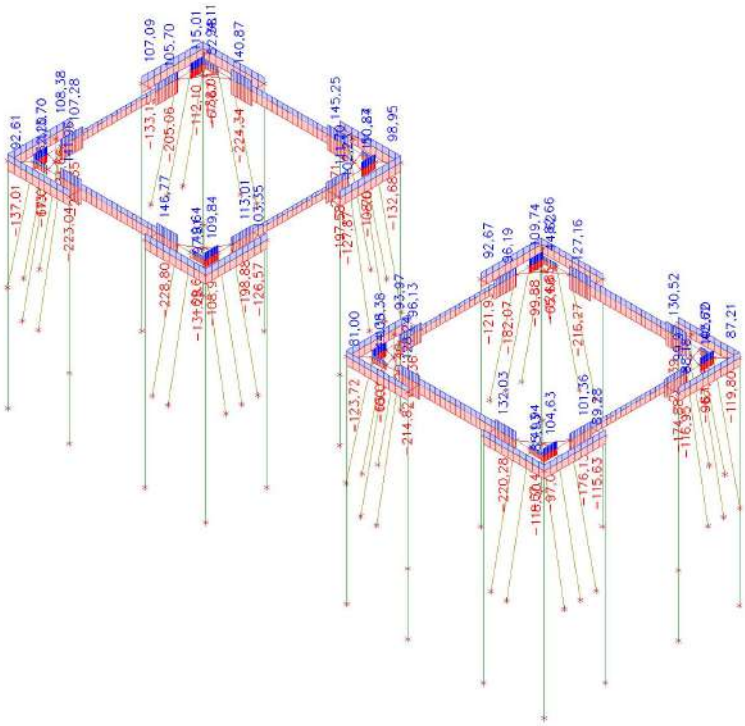
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer 8 | 0,000 | high max Wnd ;45° | **-931,49** | -221,22 | -19,81 | 2,13 | 29,09 | **227,41** |
| Poer 8 | 1,475 | low max Wnd ;225° | **722,88** | 171,09 | 19,02 | -0,23 | 0,00 | 8,67 |
| Poer 8 | 1,475 | high max Wnd ;45° | -906,69 | **-221,38** | -19,65 | 0,24 | 0,00 | -10,88 |
| Poer 8 | 0,000 | high max Wnd ;135° | -356,01 | -77,79 | **-30,37** | **3,27** | **44,68** | 77,99 |
| Poer 8 | 1,475 | low max Wnd ;315° | 138,29 | 26,40 | **29,42** | -0,35 | 0,00 | 1,66 |
| Poer 8 | 0,000 | low max Wnd ;315° | 119,69 | 26,51 | 29,31 | **-3,17** | **-43,32** | -24,91 |
| Poer 8 | 0,000 | low max Wnd ;225° | 704,28 | **171,20** | 18,90 | -2,05 | -27,97 | **-175,20** |

## 7.4. Krachten van de Funderingsbalken

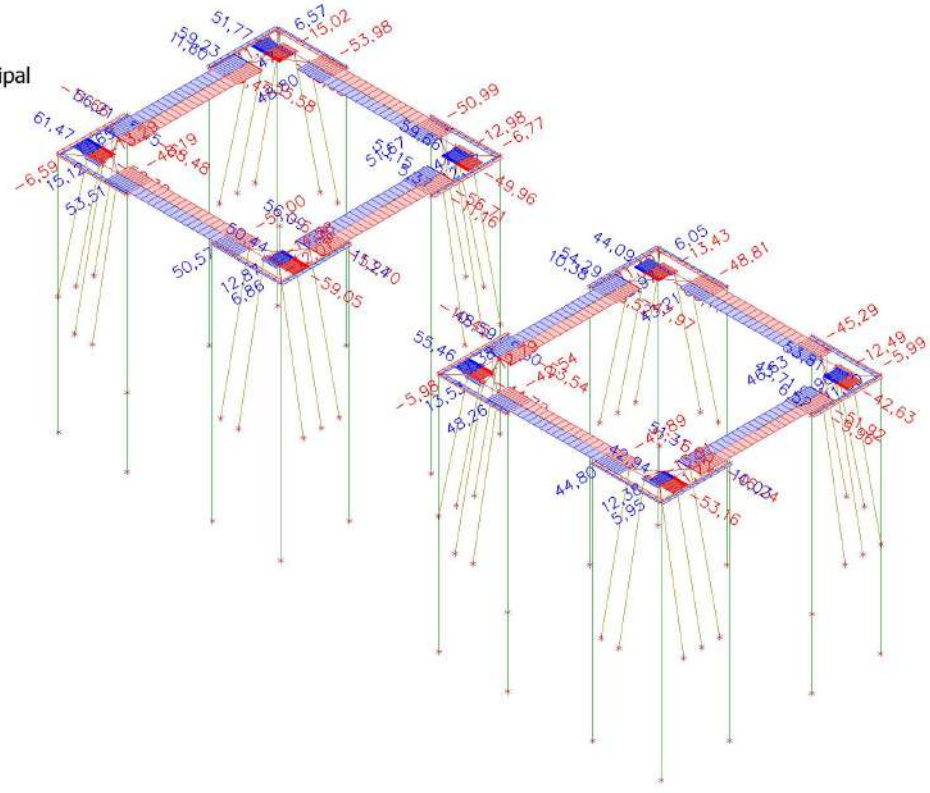
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



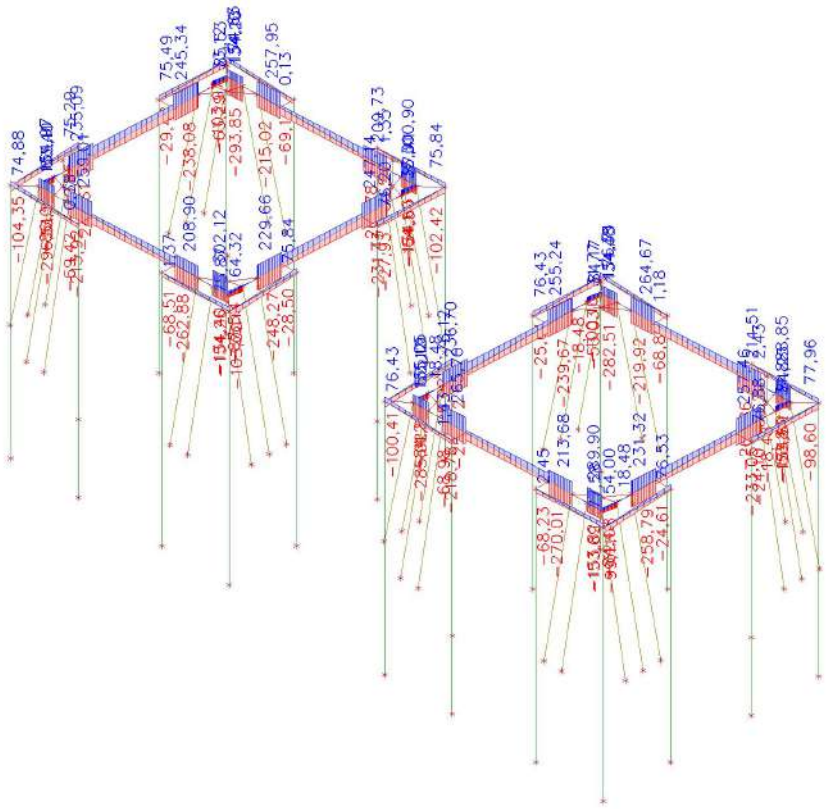
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



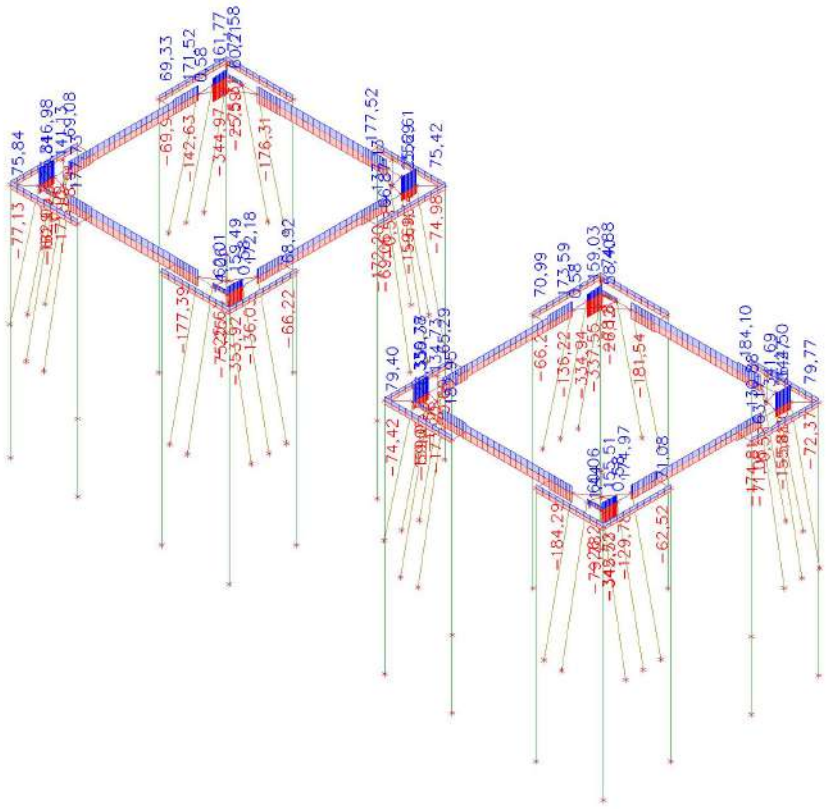
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



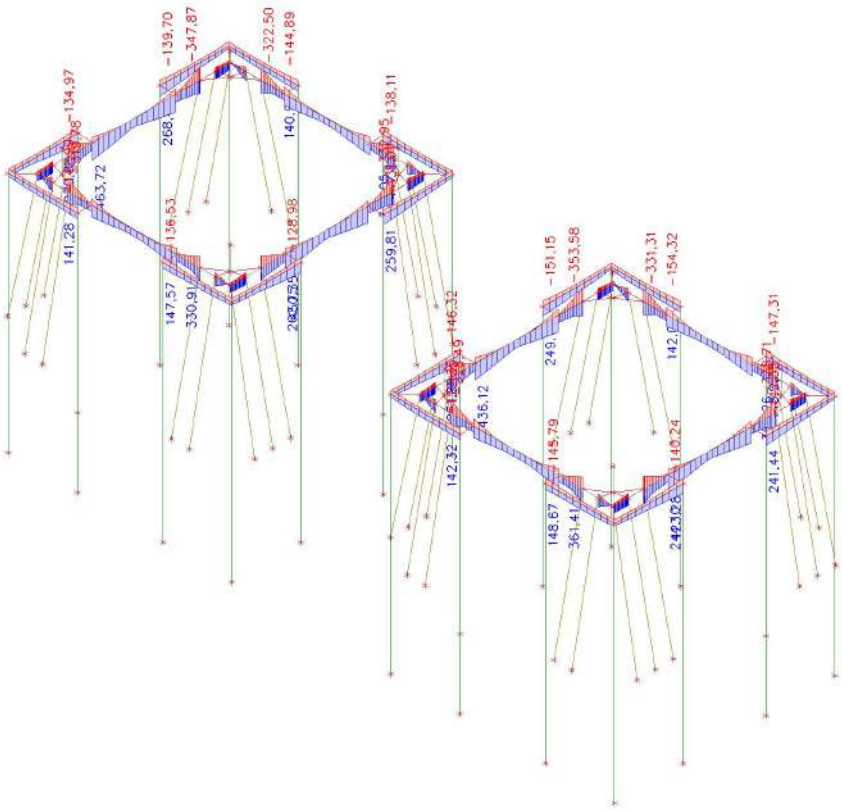
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



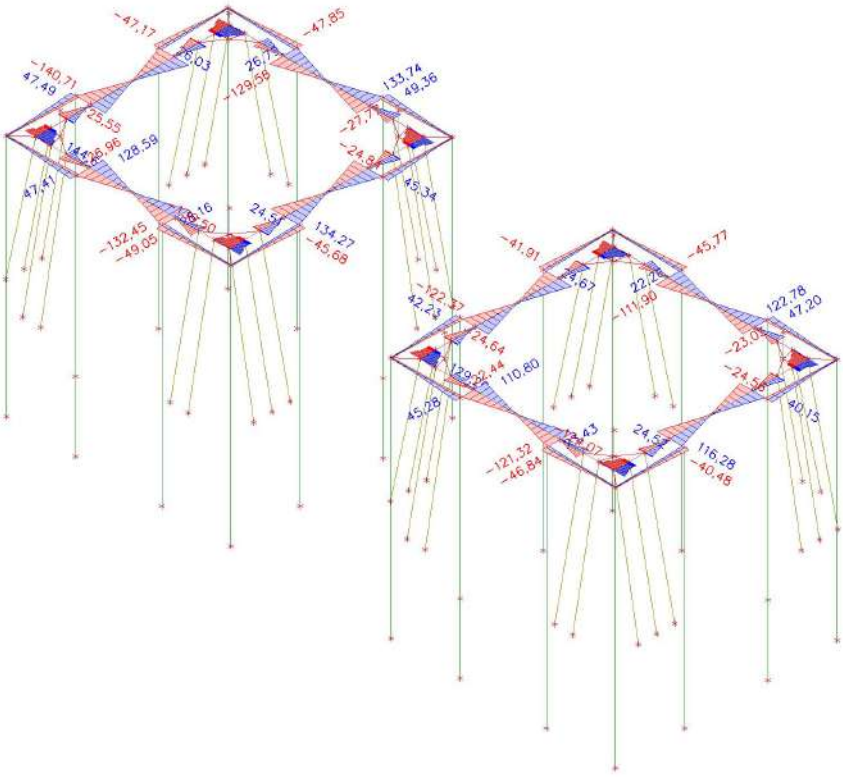
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken




### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Balk - Rectangle (750; 900)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Balk 4 | 2,000+ | low max Wnd ;225° | Balk - Rectangle (750; 900) | **-229,71** | -50,99 | -9,49 | 101,27 | 190,90 | 74,94 |
| Balk 7 | 2,000+ | low max Wnd ;225° | Balk - Rectangle (750; 900) | **146,77** | -25,96 | -189,63 | -99,02 | 222,68 | 39,85 |
| Balk 6 | 11,600+ | low max Wnd ;225° | Balk - Rectangle (750; 900) | 115,01 | **-62,08** | 25,87 | 137,63 | -82,24 | -3,65 |
| Balk 6 | 0,000 | low max Wnd ;135° | Balk - Rectangle (750; 900) | 113,70 | **61,47** | 12,92 | -141,93 | -75,27 | -102,57 |
| Balk 7 | 12,600 | high max Wnd ;315° | Balk - Rectangle (750; 900) | -27,52 | 7,26 | **-296,51** | -60,92 | -45,64 | 1,76 |
| Balk 7 | 0,000 | high max Wnd ;225° | Balk - Rectangle (750; 900) | -26,94 | -6,87 | **302,12** | 62,01 | -46,49 | 1,69 |
| Balk 5 | 0,000 | high max Wnd ;225° | Balk - Rectangle (750; 900) | -55,92 | 34,48 | 52,33 | **-353,92** | 177,17 | -60,25 |
| Balk 5 | 12,190+ | high max Wnd ;135° | Balk - Rectangle (750; 900) | -56,86 | -34,99 | -28,14 | **352,61** | 192,88 | -46,90 |
| Balk 14 | 10,600- | low max Wnd ;225° | Balk - Rectangle (750; 900) | 25,49 | 54,29 | -239,67 | -136,22 | **-353,58** | 65,02 |
| Balk 6 | 3,600+ | low max Wnd ;225° | Balk - Rectangle (750; 900) | -103,52 | 51,33 | -74,00 | -141,00 | **463,72** | **-140,71** |
| Balk 6 | 0,000 | low max Wnd ;225° | Balk - Rectangle (750; 900) | -113,05 | -52,39 | 5,21 | 85,48 | 79,61 | **144,68** |

### 7.4.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Ringbalk - Rectangle (750; 1000)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| S222 | 0,000 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | **-138,01** | 4,13 | 29,14 | 77,58 | -108,42 | 5,33 |
| S234 | 4,500 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 108,38 | -11,66 | **-104,35** | -55,50 | -31,14 | -4,99 |
| S245 | 0,000 | high max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | -28,99 | 3,96 | **77,96** | 7,98 | -69,49 | -6,70 |
| S247 | 0,000 | high max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 65,22 | -0,43 | 53,38 | **-79,78** | 76,64 | -4,58 |
| S245 | 0,000 | high max | Ringbalk - | 65,68 | 0,45 | 53,37 | **79,77** | 76,41 | 4,62 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;135° | Rectangle (750; 1000) | | | | | | |
| S243 | 4,500 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | -124,85 | 2,91 | -48,38 | 74,88 | **-154,32** | 18,85 |
| S234 | 0,000 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | **108,38** | -11,66 | -29,85 | -55,50 | **270,82** | 47,49 |
| S231 | 4,500 | low max Wnd ;135° | Ringbalk - Rectangle (750; 1000) | 97,81 | **-12,01** | 1,37 | -59,53 | 147,57 | **-49,05** |
| S229 | 4,500 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 98,95 | **12,07** | 1,35 | 59,87 | 147,80 | **49,36** |

# 1. Inhoudsopgave

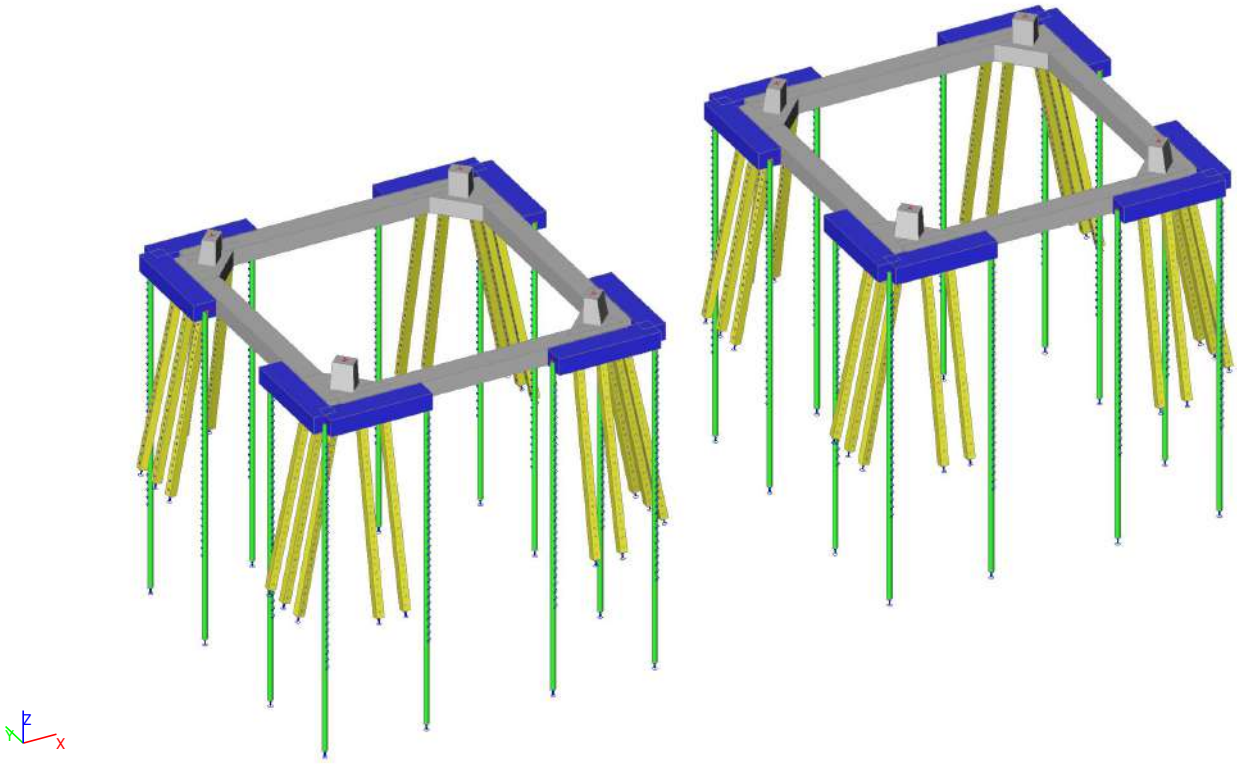
1. Inhoudsopgave 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materialen 4
4.2. Doorsneden 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 8
4.5. Instellingen net 8
5. Geometrie 8
5.1. Knopen 8
5.2. Analyse model met knopen 10
5.3. Staven 10
5.4. Analyse model met Staven 12
5.5. Knoopsteunpunten 12
5.6. Analyse model met Knoopondersteuningen 14
5.7. Lijnsteunpunten op staven 14
5.8. Analyse model met Lijnondersteuningen 20
5.9. Analyse model met Lijnondersteuningen 21
5.10. Niet-lineaire functies 22
6. Belastingen 27
6.1. Belastingsgevallen 27
6.1.1. Belastingsgevallen - E.G. 27
6.1.2. Belastingsgevallen - high max Wnd ;225° 27
6.1.2.1. Puntlast op knoop 28
6.1.3. Belastingsgevallen - high max Wnd ;135° 29
6.1.3.1. Puntlast op knoop 30
6.1.4. Belastingsgevallen - high max Wnd ;45° 30
6.1.4.1. Puntlast op knoop 31
6.1.5. Belastingsgevallen - high max Wnd ;315° 32
6.1.5.1. Puntlast op knoop 33
6.1.6. Belastingsgevallen - low max Wnd ;225° 33
6.1.6.1. Puntlast op knoop 34
6.1.7. Belastingsgevallen - low max Wnd ;135° 35
6.1.7.1. Puntlast op knoop 36
6.1.8. Belastingsgevallen - low max Wnd ;45° 36
6.1.8.1. Puntlast op knoop 37
6.1.9. Belastingsgevallen - low max Wnd ;315° 38
6.1.9.1. Puntlast op knoop 39
6.2. Niet-lineaire combinaties 39
6.3. Resultaatklasses 40
7. Resultaten 41
7.1. Reacties van de palen 41
7.1.1. Reactions; R_z 41
7.1.2. Reacties 41
7.1.3. Reacties 41
7.1.4. Reacties 42
7.2. Krachten van de Funderingspalen 48
7.2.1. Interne 1D- krachten; N 48
7.2.2. Interne 1D- krachten; V_y 48
7.2.3. Interne 1D- krachten; V_z 49
7.2.4. Interne 1D- krachten; M_x 49
7.2.5. Interne 1D- krachten; M_y 50
7.2.6. Interne 1D- krachten; M_z 50
7.2.7. Interne 1D-krachten 51
7.2.8. Interne 1D-krachten 51
7.3. Krachten van de Poeren 52
7.3.1. Interne 1D-krachten 52
7.4. Krachten van de Funderingsbalken 53
7.4.1. Interne 1D- krachten; N 53
7.4.2. Interne 1D- krachten; V_y 53
7.4.3. Interne 1D- krachten; V_z 54
7.4.4. Interne 1D- krachten; M_x 54
7.4.5. Interne 1D- krachten; M_y 55
7.4.6. Interne 1D- krachten; M_z 55

7.4.7. Interne 1D-krachten 56
7.4.8. Interne 1D-krachten 56

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-DIM 380kV |
| Onderdeel | Balkrooster 5xBeton32x32 mast 147 |
| Auteur | [redacted] |
| Datum | 22-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 168 |
| Aantal staven : | 96 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 5 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 6 |
| Gravitatieversnelling [m/s$^2$] | 9,810 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materialen

Staal EC3

| Naam | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Onderlimiet [mm] | Bovenlimiet [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |

| Naam | Type | ρ [kg/m³] | Dichtheid in natte toestand [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| C20/25 Ongescheurd | Beton | 1500,0 | 2600,0 | 2,4000e+04 | 0.2 | 0,00 | 20,00 | |
| C20/25 Gescheurd | Beton | 2500,0 | 2600,0 | 8,0000e+03 | 0.2 | 0,00 | 20,00 | |
| C30/37 Gescheurd | Beton | 2500,0 | 2600,0 | 1,1000e+04 | 0.2 | 0,00 | 30,00 | |
| C30/37 | Beton | 2400,0 | 2600,0 | 3,2800e+04 | 0.2 | 0,00 | 30,00 | |

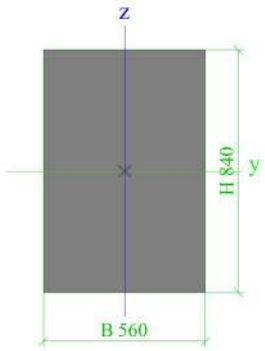
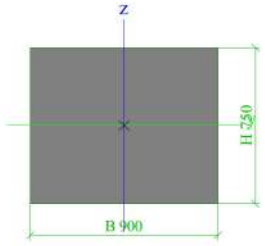
| Verklaring van symbolen | |
|---|---|
| Dichtheid in natte toestand | De waarde van de dichtheid van het kenmerk nieuwe toestand wordt alleen gebruikt als een samengesteld dek wordt ingevoerd en rekening wordt gehouden met de belasting van het eigengewicht. |

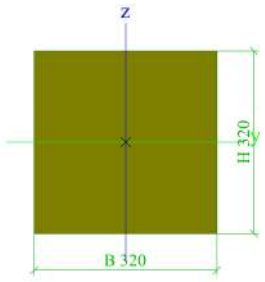
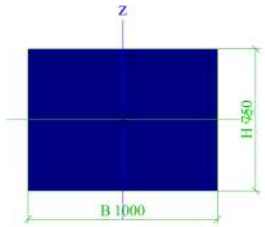
Wapening EC2

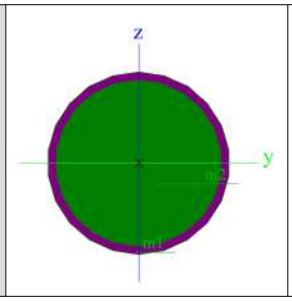
| Naam | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 500B | Betonstaal | 7850,0 | 2,0000e+05 | 8,3333e+04 | 0,00 | 500,0 |

## 4.2. Doorsneden

| Poer.Opstort | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 840; 560 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 4,7040e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 3,9200e-01 | 3,9200e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,8000e+00 | 2,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 280 | 420 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,7660e-02 | 1,2293e-02 |
| $i_y$ [mm], $i_z$ [mm] | 242 | 162 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 6,5856e-02 | 4,3904e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 2,8888e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

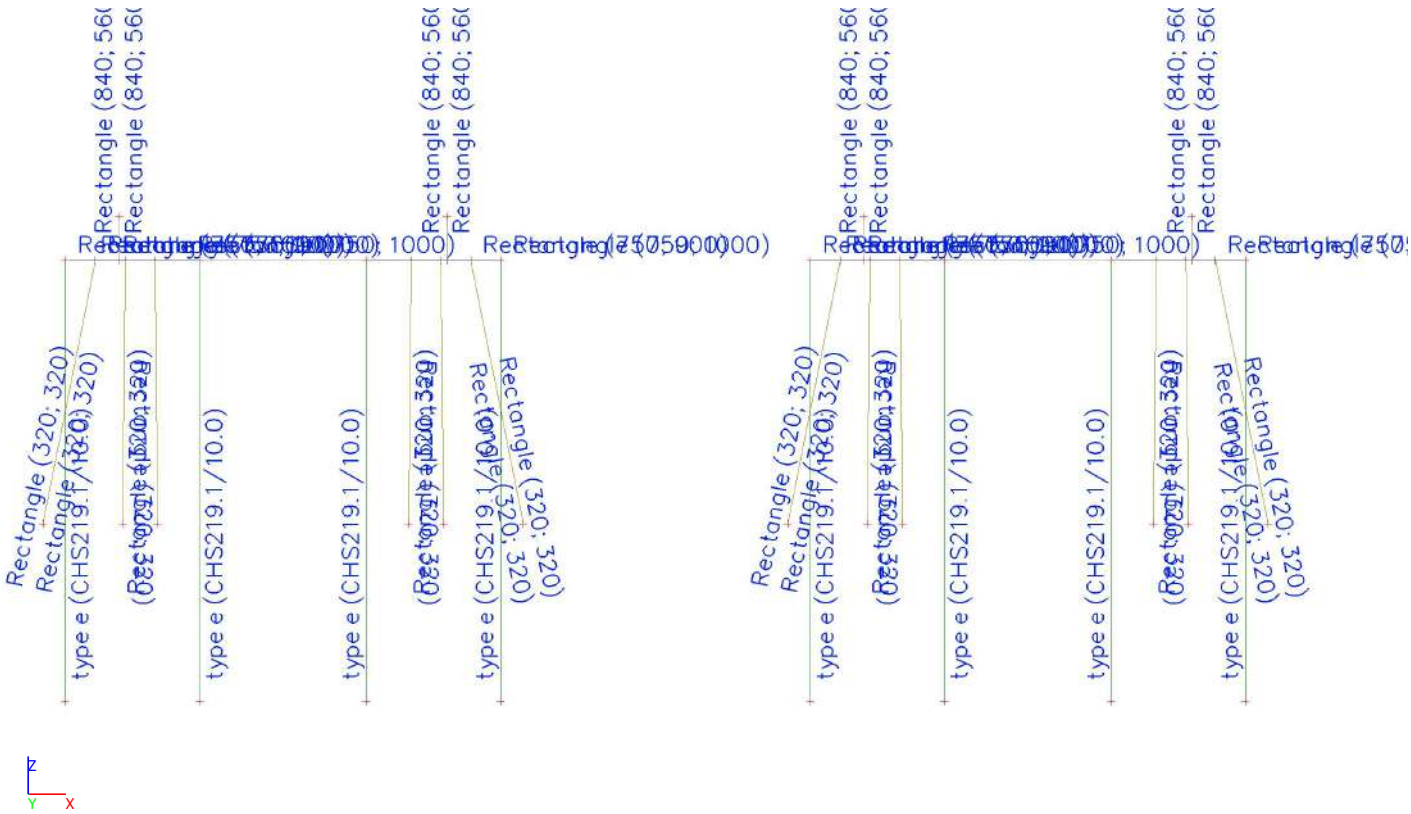
| | | |
|---|---|---|
| Afbeelding |  | |
| **Balk** | | |
| Type | Rectangle | |
| Gedetailleerd | 750; 900 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 6,7500e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 5,6250e-01 | 5,6250e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,3000e+00 | 3,3000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,1641e-02 | 4,5563e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 260 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 8,4375e-02 | 1,0125e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 6,3112e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **Funderingspaal** | | |
| Type | Rectangle | |
| Gedetailleerd | 320; 320 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Ongescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 1,0240e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 8,5333e-02 | 8,5333e-02 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,2800e+00 | 1,2800e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 160 | 160 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 8,7381e-04 | 8,7381e-04 |
| $i_y$ [mm], $i_z$ [mm] | 92 | 92 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 5,4613e-03 | 5,4613e-03 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 1,4757e-03 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| | | |
|---|---|---|
| Afbeelding |  | |
| **Ringbalk** | | |
| Type | Rectangle | |
| Gedetailleerd | 750; 1000 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C30/37 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 7,5000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 6,2517e-01 | 6,2531e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,5000e+00 | 3,5000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,5156e-02 | 6,2500e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 289 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 9,3750e-02 | 1,2500e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 7,6159e-02 | 2,7801e-04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Gedetailleerd | CHS219.1/10.0 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | S 235 | |
| | C30/37 | |
| Bouwwijze | beton | |
| Knik y-y, Knik z-z | a | a |
| A [m²] | 1,1430e-02 | |
| $A_y$ [m²], $A_z$ [m²] | 8,7249e-03 | 8,7249e-03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 110 | 110 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 4,8013e-05 | 4,8013e-05 |
| $i_y$ [mm], $i_z$ [mm] | 65 | 65 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 4,3827e-04 | 4,3827e-04 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 4,9123e-04 | 4,9123e-04 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 9,8040e-05 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

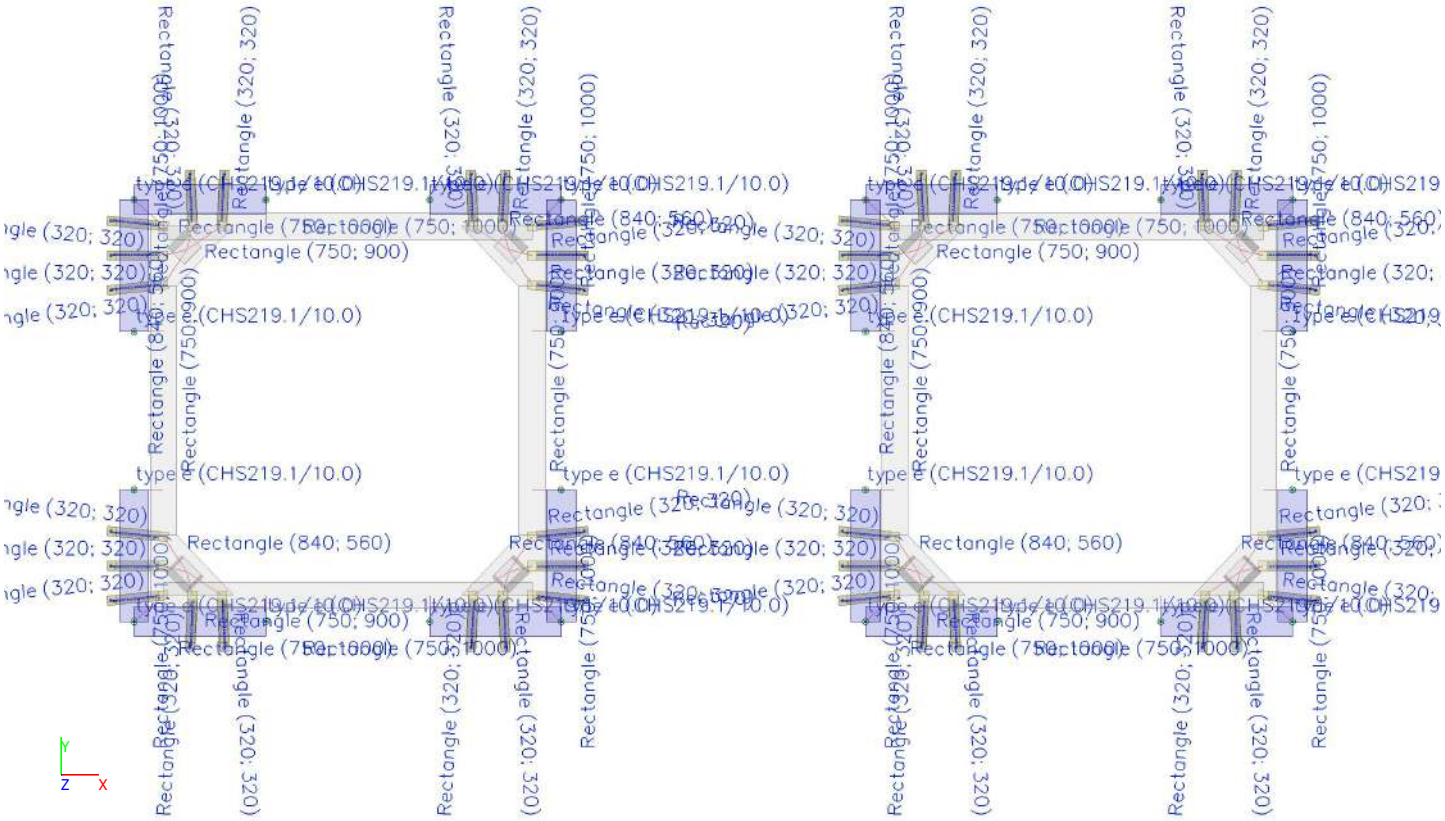
| Afbeelding | | |
|---|---|---|
| |  | |



## 4.3. Analyse model met doorsneden



## 4.4. Analyse model met doorsneden




## 4.5. Instellingen net

| | |
|---|---|
| Naam | NetInstelling1 |
| Generatie van variabele excentriciteiten op elementen in plaats van constante excentriciteiten | × |
| Generatie van knopen op staven | × |
| Elastisch net | ✓ |
| Pas automatische netverfijning toe | × |
| Constructie-entiteiten verbinden | ✓ |
| Verdeling op consoles en variabele staven | 5 |
| Verdeling voor integratiestrook en 2D-1D upgrade | 50 |
| Gemiddeld aantal 1D-netelementen op rechte 1D-elementen | 5 |
| Gemiddelde grootte van 2D-netelement [m] | 0,250 |
| Gemiddelde grootte van 1D-element op gebogen 1D-elementen [m] | 0,200 |
| Minimum lengte van staafelement [m] | 0,100 |
| Maximum lengte van staafelement [m] | 1000,000 |
| Gemiddelde grootte van voorspankabels, elementen op elastische bedding, niet-lineaire grondveer [m] | 1,000 |
| Maximale hoek uit het vlak van vierhoekig element [mrad] | 30,0 |
| Minimale afstand tussen definitiepunt en -lijn [m] | 0,001 |
| Gemiddelde afmeting van paneelelement [m] | 1,000 |
| Netverfijning volgens het liggertype | Geen |
| Definitie van netelementen afmetingen voor panelen | Handmatig |

# 5. Geometrie

## 5.1. Knopen

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N5 | 13,000 | 1,400 | 0,000 |
| N6 | 13,000 | 2,400 | 0,000 |
| N7 | 12,000 | 0,400 | 0,000 |
| N1 | 11,000 | 0,400 | 0,000 |
| N17 | 0,400 | 0,400 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N21 | 0,400 | 13,000 | 0,000 |
| 1Y | 12,200 | 1,200 | 1,475 |
| N22 | 12,200 | 1,200 | 0,000 |
| N23 | 12,200 | 12,200 | 0,000 |
| 1XY | 12,200 | 12,200 | 1,475 |

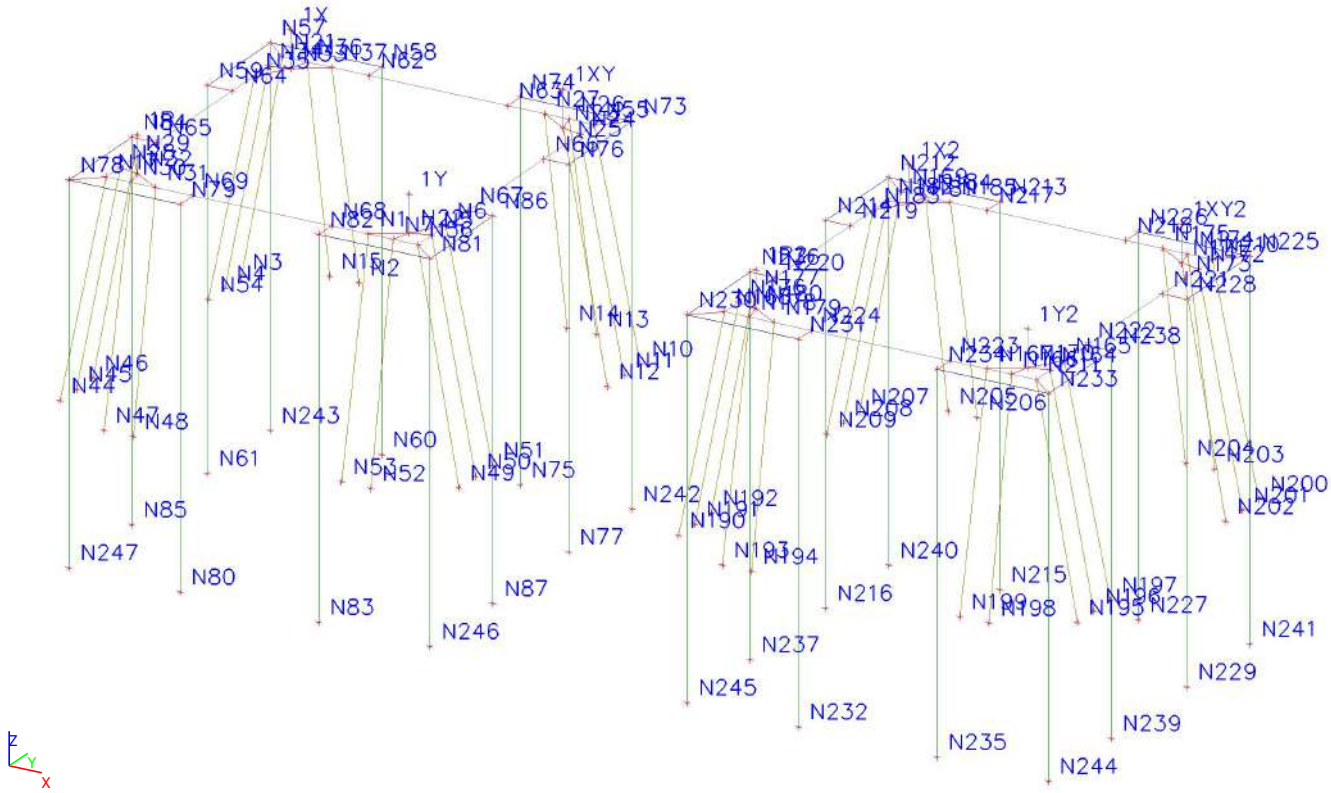
| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N24 | 13,000 | 12,000 | 0,000 |
| N25 | 13,000 | 11,000 | 0,000 |
| N26 | 12,000 | 13,000 | 0,000 |
| N27 | 11,000 | 13,000 | 0,000 |
| N28 | 0,400 | 1,400 | 0,000 |
| N29 | 0,400 | 2,400 | 0,000 |
| N30 | 1,400 | 0,400 | 0,000 |
| N31 | 2,400 | 0,400 | 0,000 |
| 1P | 1,200 | 1,200 | 1,475 |
| N32 | 1,200 | 1,200 | 0,000 |
| N33 | 1,200 | 12,200 | 0,000 |
| 1X | 1,200 | 12,187 | 1,475 |
| N34 | 0,400 | 12,000 | 0,000 |
| N35 | 0,400 | 11,000 | 0,000 |
| N36 | 1,400 | 13,000 | 0,000 |
| N37 | 2,400 | 13,000 | 0,000 |
| N38 | 12,200 | 1,200 | 0,000 |
| N39 | 1,200 | 1,200 | 0,000 |
| N40 | 12,200 | 12,200 | 0,000 |
| N41 | 1,200 | 12,200 | 0,000 |
| N44 | -1,365 | 0,224 | -8,824 |
| N45 | -1,364 | 1,400 | -8,821 |
| N46 | -1,365 | 2,576 | -8,824 |
| N47 | 1,312 | -1,364 | -8,822 |
| N48 | 2,488 | -1,364 | -8,822 |
| N49 | 14,765 | 0,224 | -8,824 |
| N50 | 14,764 | 1,400 | -8,821 |
| N51 | 14,765 | 2,576 | -8,824 |
| N52 | 12,088 | -1,364 | -8,822 |
| N53 | 10,912 | -1,364 | -8,822 |
| N10 | 14,765 | 13,176 | -8,824 |
| N11 | 14,764 | 12,000 | -8,821 |
| N12 | 14,765 | 10,824 | -8,824 |
| N13 | 12,088 | 14,764 | -8,822 |
| N14 | 10,912 | 14,764 | -8,822 |
| N15 | 1,312 | 14,764 | -8,822 |
| N2 | 2,488 | 14,764 | -8,822 |
| N3 | -1,365 | 13,176 | -8,824 |
| N4 | -1,364 | 12,000 | -8,821 |
| N54 | -1,365 | 10,824 | -8,824 |
| N55 | 13,000 | 13,000 | 0,000 |
| N56 | 13,000 | 0,400 | 0,000 |
| N57 | -0,600 | 13,900 | 0,000 |
| N58 | 3,900 | 13,900 | 0,000 |
| N59 | -0,600 | 9,400 | 0,000 |
| N60 | 3,900 | 13,900 | -14,770 |
| N61 | -0,600 | 9,400 | -14,770 |
| N62 | 3,900 | 13,000 | 0,000 |
| N63 | 9,500 | 13,000 | 0,000 |
| N64 | 0,400 | 9,400 | 0,000 |
| N65 | 0,400 | 4,000 | 0,000 |
| N66 | 13,000 | 9,400 | 0,000 |
| N67 | 13,000 | 4,000 | 0,000 |
| N68 | 9,500 | 0,400 | 0,000 |
| N69 | 3,900 | 0,400 | 0,000 |
| N73 | 14,000 | 13,900 | 0,000 |
| N74 | 9,500 | 13,900 | 0,000 |
| N75 | 9,500 | 13,900 | -14,770 |
| N76 | 14,000 | 9,400 | 0,000 |
| N77 | 14,000 | 9,400 | -14,770 |
| N78 | -0,600 | -0,500 | 0,000 |
| N79 | 3,900 | -0,500 | 0,000 |
| N80 | 3,900 | -0,500 | -14,770 |
| N81 | 14,000 | -0,500 | 0,000 |
| N82 | 9,500 | -0,500 | 0,000 |
| N83 | 9,500 | -0,500 | -14,770 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N84 | -0,600 | 4,000 | 0,000 |
| N85 | -0,600 | 4,000 | -14,770 |
| N86 | 14,000 | 4,000 | 0,000 |
| N87 | 14,000 | 4,000 | -14,770 |
| N164 | 38,000 | 1,400 | 0,000 |
| N165 | 38,000 | 2,400 | 0,000 |
| N166 | 37,000 | 0,400 | 0,000 |
| N167 | 36,000 | 0,400 | 0,000 |
| N168 | 25,400 | 0,400 | 0,000 |
| N169 | 25,400 | 13,000 | 0,000 |
| 1Y2 | 37,200 | 1,200 | 1,475 |
| N170 | 37,200 | 1,200 | 0,000 |
| N171 | 37,200 | 12,200 | 0,000 |
| 1XY2 | 37,200 | 12,200 | 1,475 |
| N172 | 38,000 | 12,000 | 0,000 |
| N173 | 38,000 | 11,000 | 0,000 |
| N174 | 37,000 | 13,000 | 0,000 |
| N175 | 36,000 | 13,000 | 0,000 |
| N176 | 25,400 | 1,400 | 0,000 |
| N177 | 25,400 | 2,400 | 0,000 |
| N178 | 26,400 | 0,400 | 0,000 |
| N179 | 27,400 | 0,400 | 0,000 |
| 1P2 | 26,200 | 1,200 | 1,475 |
| N180 | 26,200 | 1,200 | 0,000 |
| N181 | 26,200 | 12,200 | 0,000 |
| 1X2 | 26,200 | 12,187 | 1,475 |
| N182 | 25,400 | 12,000 | 0,000 |
| N183 | 25,400 | 11,000 | 0,000 |
| N184 | 26,400 | 13,000 | 0,000 |
| N185 | 27,400 | 13,000 | 0,000 |
| N186 | 37,200 | 1,200 | 0,000 |
| N187 | 26,200 | 1,200 | 0,000 |
| N188 | 37,200 | 12,200 | 0,000 |
| N189 | 26,200 | 12,200 | 0,000 |
| N190 | 23,635 | 0,224 | -8,824 |
| N191 | 23,636 | 1,400 | -8,821 |
| N192 | 23,635 | 2,576 | -8,824 |
| N193 | 26,312 | -1,364 | -8,822 |
| N194 | 27,488 | -1,364 | -8,822 |
| N195 | 39,765 | 0,224 | -8,824 |
| N196 | 39,764 | 1,400 | -8,821 |
| N197 | 39,765 | 2,576 | -8,824 |
| N198 | 37,088 | -1,364 | -8,822 |
| N199 | 35,912 | -1,364 | -8,822 |
| N200 | 39,765 | 13,176 | -8,824 |
| N201 | 39,764 | 12,000 | -8,821 |
| N202 | 39,765 | 10,824 | -8,824 |
| N203 | 37,088 | 14,764 | -8,822 |
| N204 | 35,912 | 14,764 | -8,822 |
| N205 | 26,312 | 14,764 | -8,822 |
| N206 | 27,488 | 14,764 | -8,822 |
| N207 | 23,635 | 13,176 | -8,824 |
| N208 | 23,636 | 12,000 | -8,821 |
| N209 | 23,635 | 10,824 | -8,824 |
| N210 | 38,000 | 13,000 | 0,000 |
| N211 | 38,000 | 0,400 | 0,000 |
| N212 | 24,400 | 13,900 | 0,000 |
| N213 | 28,900 | 13,900 | 0,000 |
| N214 | 24,400 | 9,400 | 0,000 |
| N215 | 28,900 | 13,900 | -14,770 |
| N216 | 24,400 | 9,400 | -14,770 |
| N217 | 28,900 | 13,000 | 0,000 |
| N218 | 34,500 | 13,000 | 0,000 |
| N219 | 25,400 | 9,400 | 0,000 |
| N220 | 25,400 | 4,000 | 0,000 |
| N221 | 38,000 | 9,400 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N222 | 38,000 | 4,000 | 0,000 |
| N223 | 34,500 | 0,400 | 0,000 |
| N224 | 28,900 | 0,400 | 0,000 |
| N225 | 39,000 | 13,900 | 0,000 |
| N226 | 34,500 | 13,900 | 0,000 |
| N227 | 34,500 | 13,900 | -14,770 |
| N228 | 39,000 | 9,400 | 0,000 |
| N229 | 39,000 | 9,400 | -14,770 |
| N230 | 24,400 | -0,500 | 0,000 |
| N231 | 28,900 | -0,500 | 0,000 |
| N232 | 28,900 | -0,500 | -14,770 |
| N233 | 39,000 | -0,500 | 0,000 |
| N234 | 34,500 | -0,500 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N235 | 34,500 | -0,500 | -14,770 |
| N236 | 24,400 | 4,000 | 0,000 |
| N237 | 24,400 | 4,000 | -14,770 |
| N238 | 39,000 | 4,000 | 0,000 |
| N239 | 39,000 | 4,000 | -14,770 |
| N240 | 24,400 | 13,900 | -14,770 |
| N241 | 39,000 | 13,900 | -14,770 |
| N242 | 14,000 | 13,900 | -14,770 |
| N243 | -0,600 | 13,900 | -14,770 |
| N244 | 39,000 | -0,500 | -14,770 |
| N245 | 24,400 | -0,500 | -14,770 |
| N246 | 14,000 | -0,500 | -14,770 |
| N247 | -0,600 | -0,500 | -14,770 |

## 5.2. Analyse model met knopen



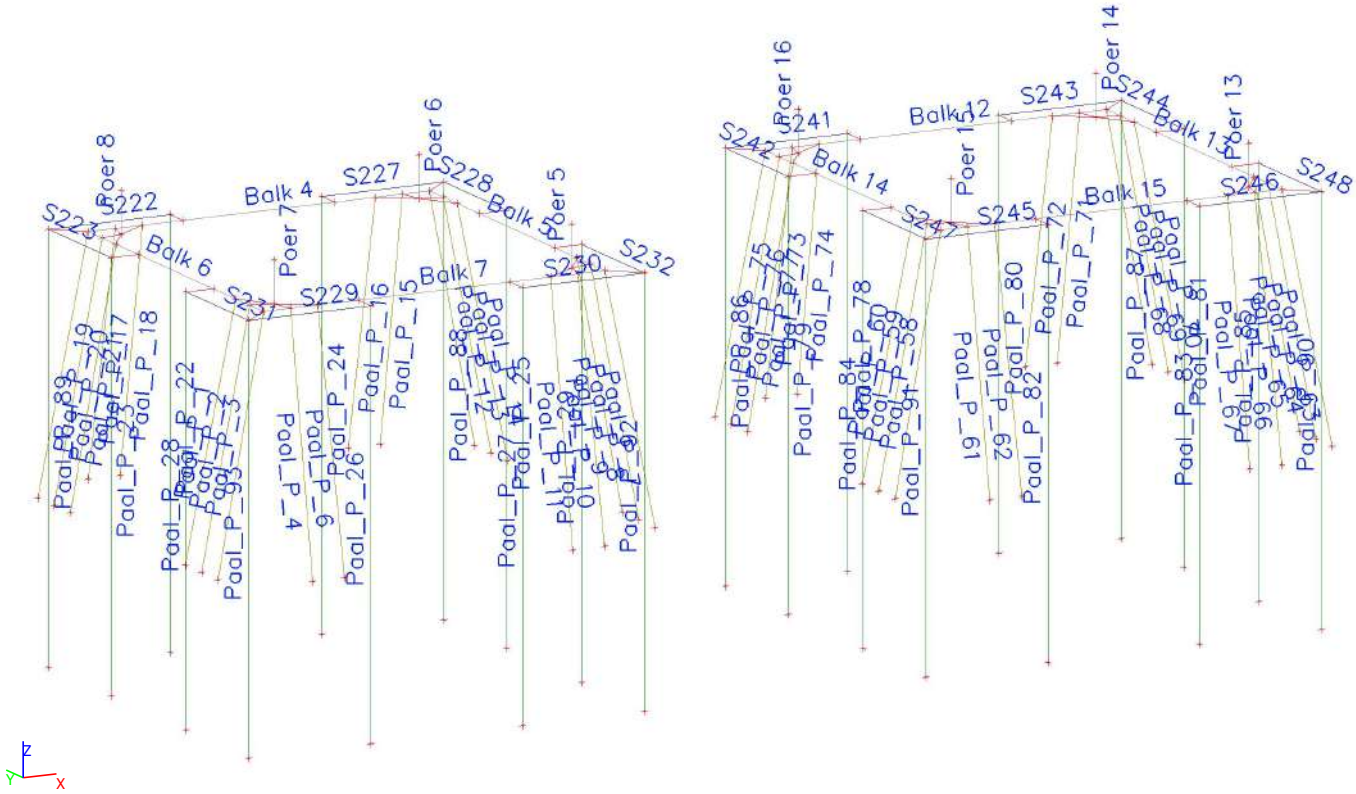

## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Balk 4 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N55 | N21 | Balk (80) |
| Balk 5 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N55 | Balk (80) |
| Balk 6 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N17 | N21 | Balk (80) |
| Balk 7 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N17 | Balk (80) |
| Balk 12 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N210 | N169 | Balk (80) |
| Balk 13 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N211 | N210 | Balk (80) |
| Balk 14 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N168 | N169 | Balk (80) |
| Balk 15 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N211 | N168 | Balk (80) |
| S222 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N57 | N58 | Balk (80) |
| S223 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N59 | N57 | Balk (80) |
| S227 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N73 | N74 | Balk (80) |
| S228 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N76 | N73 | Balk (80) |
| S229 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N78 | N79 | Balk (80) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| S230 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N81 | N82 | Balk (80) |
| S231 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N84 | N78 | Balk (80) |
| S232 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N86 | N81 | Balk (80) |
| S241 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N212 | N213 | Balk (80) |
| S242 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N214 | N212 | Balk (80) |
| S243 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N225 | N226 | Balk (80) |
| S244 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N228 | N225 | Balk (80) |
| S245 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N230 | N231 | Balk (80) |
| S246 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N233 | N234 | Balk (80) |
| S247 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N236 | N230 | Balk (80) |
| S248 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N238 | N233 | Balk (80) |
| Paal_P_3 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N17 | N44 | Kolom (100) |
| Paal_P_4 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N30 | N47 | Kolom (100) |
| Paal_P_16 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N27 | N14 | Kolom (100) |
| Poer 6 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N23 | 1XY | Kolom (100) |
| Paal_P_6 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N31 | N48 | Kolom (100) |
| Poer 15 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N180 | 1P2 | Kolom (100) |
| Poer 16 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N181 | 1X2 | Kolom (100) |
| Paal_P_7 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N56 | N49 | Kolom (100) |
| Paal_P_12 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N55 | N10 | Kolom (100) |
| Paal_P_14 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N25 | N12 | Kolom (100) |
| Paal_P_17 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N36 | N15 | Kolom (100) |
| Paal_P_18 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N37 | N2 | Kolom (100) |
| Paal_P_19 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N21 | N3 | Kolom (100) |
| Paal_P_20 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N34 | N4 | Kolom (100) |
| Paal_P_21 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N35 | N54 | Kolom (100) |
| Paal_P_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N58 | N60 | Kolom (100) |
| Paal_P_58 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N168 | N190 | Kolom (100) |
| Paal_P_59 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N176 | N191 | Kolom (100) |
| Paal_P_60 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N177 | N192 | Kolom (100) |
| Paal_P_61 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N178 | N193 | Kolom (100) |
| Paal_P_62 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N179 | N194 | Kolom (100) |
| Paal_P_63 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N211 | N195 | Kolom (100) |
| Paal_P_64 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N164 | N196 | Kolom (100) |
| Paal_P_66 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N166 | N198 | Kolom (100) |
| Paal_P_67 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N167 | N199 | Kolom (100) |
| Paal_P_68 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N210 | N200 | Kolom (100) |
| Poer 5 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N22 | 1Y | Kolom (100) |
| Poer 7 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N32 | 1P | Kolom (100) |
| Poer 8 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N33 | 1X | Kolom (100) |
| Poer 13 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N170 | 1Y2 | Kolom (100) |
| Poer 14 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N171 | 1XY2 | Kolom (100) |
| Paal_P_1 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N29 | N46 | Kolom (100) |
| Paal_P_2 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N28 | N45 | Kolom (100) |
| Paal_P_8 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N5 | N50 | Kolom (100) |
| Paal_P_65 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N165 | N197 | Kolom (100) |
| Paal_P_9 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N6 | N51 | Kolom (100) |
| Paal_P_10 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N7 | N52 | Kolom (100) |
| Paal_P_11 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N1 | N53 | Kolom (100) |
| Paal_P_13 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N24 | N11 | Kolom (100) |
| Paal_P_15 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N26 | N13 | Kolom (100) |
| Paal_P_23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N59 | N61 | Kolom (100) |
| Paal_P_24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N74 | N75 | Kolom (100) |
| Paal_P_25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N76 | N77 | Kolom (100) |
| Paal_P_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N79 | N80 | Kolom (100) |
| Paal_P_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N82 | N83 | Kolom (100) |
| Paal_P_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N84 | N85 | Kolom (100) |
| Paal_P_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N86 | N87 | Kolom (100) |
| Paal_P_69 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N172 | N201 | Kolom (100) |
| Paal_P_70 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N173 | N202 | Kolom (100) |
| Paal_P_71 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N174 | N203 | Kolom (100) |
| Paal_P_72 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N175 | N204 | Kolom (100) |
| Paal_P_73 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N184 | N205 | Kolom (100) |
| Paal_P_74 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,997 | N185 | N206 | Kolom (100) |
| Paal_P_75 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N169 | N207 | Kolom (100) |
| Paal_P_76 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 8,996 | N182 | N208 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_P_77 | Funderingspaal - Rectangle (320; 320) | C20/25 Ongescheurd | 9,000 | N183 | N209 | Kolom (100) |
| Paal_P_78 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N213 | N215 | Kolom (100) |
| Paal_P_79 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N214 | N216 | Kolom (100) |
| Paal_P_80 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N226 | N227 | Kolom (100) |
| Paal_P_81 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N228 | N229 | Kolom (100) |
| Paal_P_82 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N231 | N232 | Kolom (100) |
| Paal_P_83 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N234 | N235 | Kolom (100) |
| Paal_P_84 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N236 | N237 | Kolom (100) |
| Paal_P_85 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N238 | N239 | Kolom (100) |
| Paal_P_86 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N212 | N240 | Kolom (100) |
| Paal_P_87 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N225 | N241 | Kolom (100) |
| Paal_P_88 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N73 | N242 | Kolom (100) |
| Paal_P_89 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N57 | N243 | Kolom (100) |
| Paal_P_90 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N233 | N244 | Kolom (100) |
| Paal_P_91 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N230 | N245 | Kolom (100) |
| Paal_P_92 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N81 | N246 | Kolom (100) |
| Paal_P_93 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 14,770 | N78 | N247 | Kolom (100) |

## 5.4. Analyse model met Staven

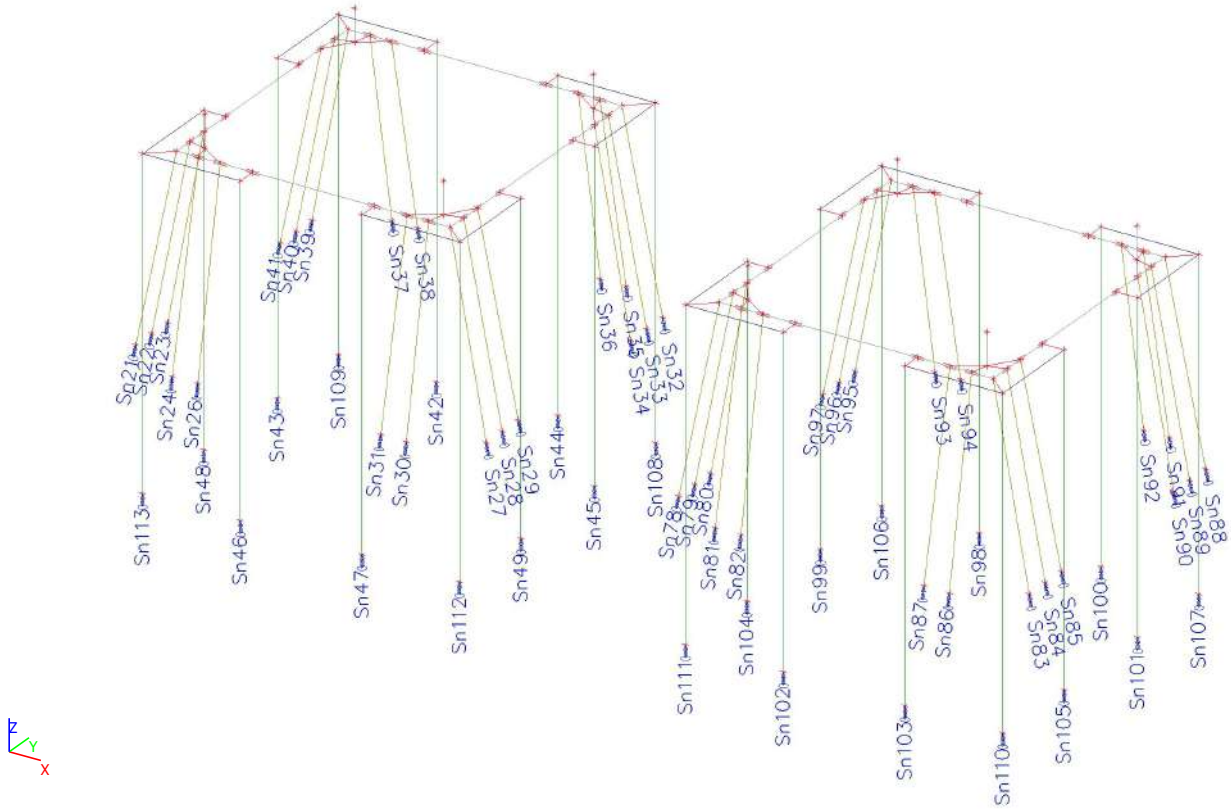



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn21 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn22 | N45 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn23 | N46 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn24 | N47 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn26 | N48 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn27 | N49 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn28 | N50 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn29 | N51 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn30 | N52 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn31 | N53 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn32 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn33 | N11 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn34 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn35 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn36 | N14 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn37 | N15 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn38 | N2 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn39 | N3 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn40 | N4 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn41 | N54 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn42 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn43 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn44 | N75 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn45 | N77 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn46 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn47 | N83 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn48 | N85 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn49 | N87 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn78 | N190 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn79 | N191 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn80 | N192 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn81 | N193 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn82 | N194 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn83 | N195 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn84 | N196 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn85 | N197 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn86 | N198 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn87 | N199 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn88 | N200 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn89 | N201 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn90 | N202 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn91 | N203 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn92 | N204 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn93 | N205 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn94 | N206 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn95 | N207 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn96 | N208 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn97 | N209 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn98 | N215 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn99 | N216 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn100 | N227 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn101 | N229 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn102 | N232 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn103 | N235 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn104 | N237 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn105 | N239 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn106 | N240 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn107 | N241 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn108 | N242 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn109 | N243 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn110 | N244 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn111 | N245 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn112 | N246 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn113 | N247 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen84 | Lijn | Paal_P_84 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen29 | Lijn | Paal_P_29 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen79 | Lijn | Paal_P_79 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen77 | Lijn | Paal_P_77 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen83 | Lijn | Paal_P_83 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen26 | Lijn | Paal_P_26 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen22 | Lijn | Paal_P_22 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen5 | Lijn | Paal_P_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen16 | Lijn | Paal_P_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen73 | Lijn | Paal_P_73 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen13 | Lijn | Paal_P_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen10 | Lijn | Paal_P_10 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen71 | Lijn | Paal_P_71 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen58 | Lijn | Paal_P_58 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen67 | Lijn | Paal_P_67 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen18 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen87 | Lijn | Paal_P_87 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen62 | Lijn | Paal_P_62 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen82 | Lijn | Paal_P_82 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen91 | Lijn | Paal_P_91 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen93 | Lijn | Paal_P_93 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen4 | Lijn | Paal_P_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen20 | Lijn | Paal_P_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen7 | Lijn | Paal_P_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen19 | Lijn | Paal_P_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen11 | Lijn | Paal_P_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen92 | Lijn | Paal_P_92 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen89 | Lijn | Paal_P_89 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen70 | Lijn | Paal_P_70 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen9 | Lijn | Paal_P_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen12 | Lijn | Paal_P_21 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen27 | Lijn | Paal_P_27 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen66 | Lijn | Paal_P_66 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen85 | Lijn | Paal_P_85 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen28 | Lijn | Paal_P_28 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen63 | Lijn | Paal_P_63 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Lijn | Paal_P_23 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen59 | Lijn | Paal_P_59 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen88 | Lijn | Paal_P_88 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen8 | Lijn | Paal_P_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen74 | Lijn | Paal_P_74 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen24 | Lijn | Paal_P_24 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen78 | Lijn | Paal_P_78 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen15 | Lijn | Paal_P_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen21 | Lijn | Paal_P_13 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen69 | Lijn | Paal_P_69 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen80 | Lijn | Paal_P_80 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen25 | Lijn | Paal_P_25 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen61 | Lijn | Paal_P_61 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen75 | Lijn | Paal_P_75 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen86 | Lijn | Paal_P_86 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen60 | Lijn | Paal_P_60 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen6 | Lijn | Paal_P_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen64 | Lijn | Paal_P_64 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen76 | Lijn | Paal_P_76 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen14 | Lijn | Paal_P_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen81 | Lijn | Paal_P_81 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen17 | Lijn | Paal_P_19 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen68 | Lijn | Paal_P_68 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen72 | Lijn | Paal_P_72 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen3 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen65 | Lijn | Paal_P_65 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen90 | Lijn | Paal_P_90 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| (PY-curve-2_V1)14 | Lijn | Paal_P_16 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)6 | Lijn | Paal_P_8 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)13 | Lijn | Paal_P_15 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)39 | Lijn | Paal_P_77 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)38 | Lijn | Paal_P_76 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)37 | Lijn | Paal_P_75 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)36 | Lijn | Paal_P_74 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)12 | Lijn | Paal_P_14 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)35 | Lijn | Paal_P_73 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)34 | Lijn | Paal_P_72 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)2 | Lijn | Paal_P_1 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)33 | Lijn | Paal_P_71 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)32 | Lijn | Paal_P_70 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)5 | Lijn | Paal_P_7 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |

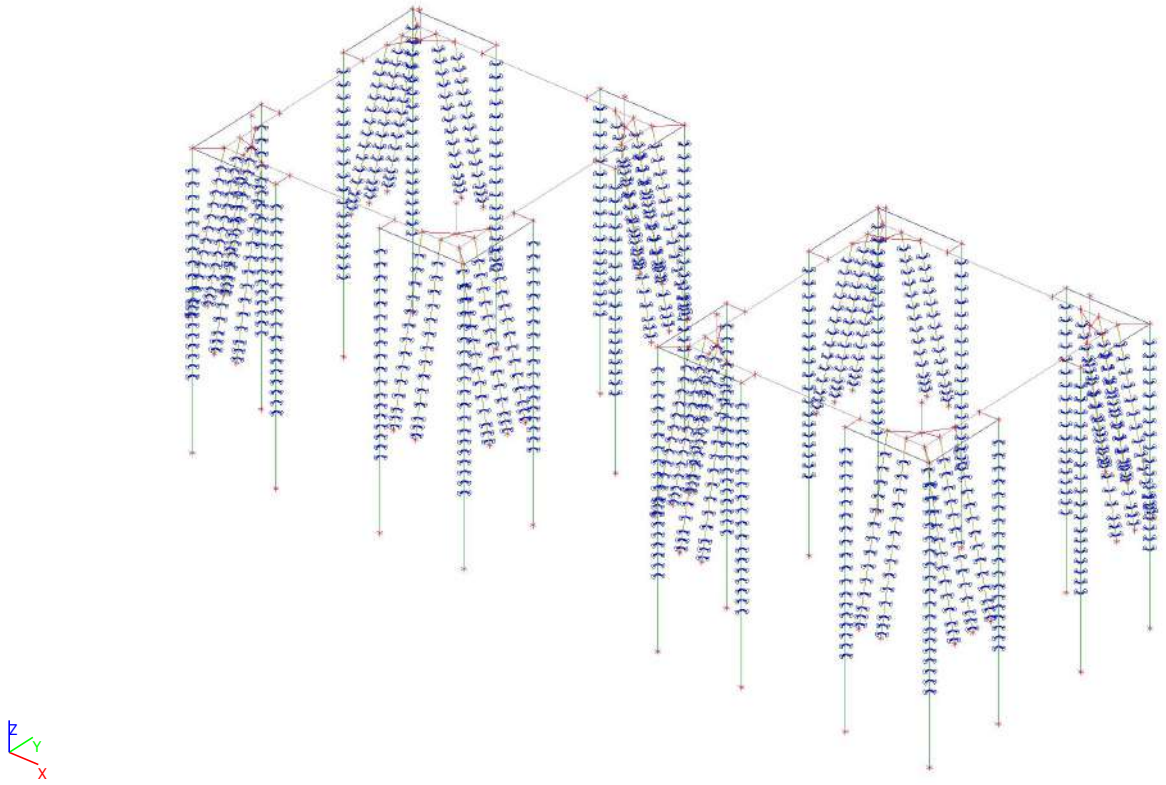
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,750 | | | | | | | | |
| (PY-curve-2_V1)11 | Lijn | Paal_P_13 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)31 | Lijn | Paal_P_69 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)30 | Lijn | Paal_P_68 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)29 | Lijn | Paal_P_67 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)28 | Lijn | Paal_P_66 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)10 | Lijn | Paal_P_12 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)27 | Lijn | Paal_P_65 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)4 | Lijn | Paal_P_6 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)24 | Lijn | Paal_P_62 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)9 | Lijn | Paal_P_11 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)19 | Lijn | Paal_P_21 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)23 | Lijn | Paal_P_61 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)22 | Lijn | Paal_P_60 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)21 | Lijn | Paal_P_59 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)20 | Lijn | Paal_P_58 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)1 | Lijn | Paal_P_2 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)26 | Lijn | Paal_P_64 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)8 | Lijn | Paal_P_10 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)17 | Lijn | Paal_P_19 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)18 | Lijn | Paal_P_20 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)16 | Lijn | Paal_P_18 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1) | Lijn | Paal_P_3 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)25 | Lijn | Paal_P_63 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)3 | Lijn | Paal_P_4 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)7 | Lijn | Paal_P_9 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)15 | Lijn | Paal_P_17 | 8,000<br>8,750 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)51 | Lijn | Paal_P_81 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)45 | Lijn | Paal_P_27 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)50 | Lijn | Paal_P_80 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)49 | Lijn | Paal_P_79 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)44 | Lijn | Paal_P_26 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)48 | Lijn | Paal_P_78 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-2_V1)43 | Lijn | Paal_P_25 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)42 | Lijn | Paal_P_24 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)41 | Lijn | Paal_P_23 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)62 | Lijn | Paal_P_92 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)40 | Lijn | Paal_P_22 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)61 | Lijn | Paal_P_91 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)60 | Lijn | Paal_P_90 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)59 | Lijn | Paal_P_89 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)58 | Lijn | Paal_P_88 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)57 | Lijn | Paal_P_87 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)56 | Lijn | Paal_P_86 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)55 | Lijn | Paal_P_85 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)47 | Lijn | Paal_P_29 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)54 | Lijn | Paal_P_84 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)63 | Lijn | Paal_P_93 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)53 | Lijn | Paal_P_83 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)46 | Lijn | Paal_P_28 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)52 | Lijn | Paal_P_82 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V2)5 | Lijn | Paal_P_27 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)11 | Lijn | Paal_P_81 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)10 | Lijn | Paal_P_80 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)4 | Lijn | Paal_P_26 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)9 | Lijn | Paal_P_79 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)8 | Lijn | Paal_P_78 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)3 | Lijn | Paal_P_25 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)2 | Lijn | Paal_P_24 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)1 | Lijn | Paal_P_23 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)23 | Lijn | Paal_P_93 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2) | Lijn | Paal_P_22 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)22 | Lijn | Paal_P_92 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)21 | Lijn | Paal_P_91 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)20 | Lijn | Paal_P_90 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-2_V2)19 | Lijn | Paal_P_89 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)18 | Lijn | Paal_P_88 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)17 | Lijn | Paal_P_87 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)16 | Lijn | Paal_P_86 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)7 | Lijn | Paal_P_29 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)15 | Lijn | Paal_P_85 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)14 | Lijn | Paal_P_84 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)6 | Lijn | Paal_P_28 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)13 | Lijn | Paal_P_83 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)12 | Lijn | Paal_P_82 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V3)10 | Lijn | Paal_P_80 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)4 | Lijn | Paal_P_26 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)9 | Lijn | Paal_P_79 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)8 | Lijn | Paal_P_78 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)3 | Lijn | Paal_P_25 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)2 | Lijn | Paal_P_24 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)1 | Lijn | Paal_P_23 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3) | Lijn | Paal_P_22 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)23 | Lijn | Paal_P_93 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)22 | Lijn | Paal_P_92 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)21 | Lijn | Paal_P_91 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)20 | Lijn | Paal_P_90 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)19 | Lijn | Paal_P_89 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)18 | Lijn | Paal_P_88 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)17 | Lijn | Paal_P_87 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)16 | Lijn | Paal_P_86 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Lijn | Paal_P_29 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)15 | Lijn | Paal_P_85 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)14 | Lijn | Paal_P_84 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)6 | Lijn | Paal_P_28 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)13 | Lijn | Paal_P_83 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)12 | Lijn | Paal_P_82 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |

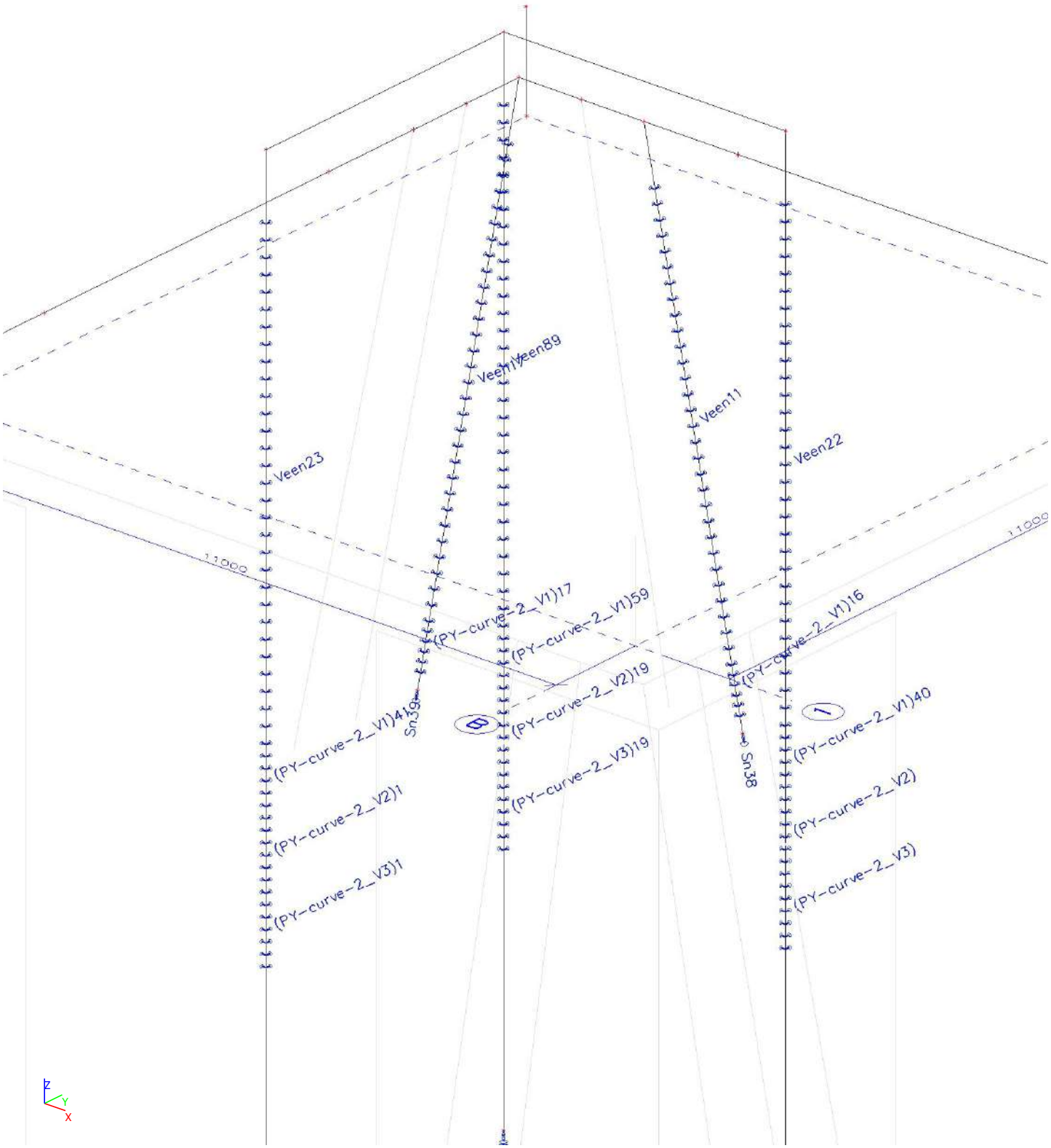
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)5 | Lijn | Paal_P_27 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)11 | Lijn | Paal_P_81 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |

## 5.8. Analyse model met Lijnondersteuningen



### 5.9. Analyse model met Lijnondersteuningen

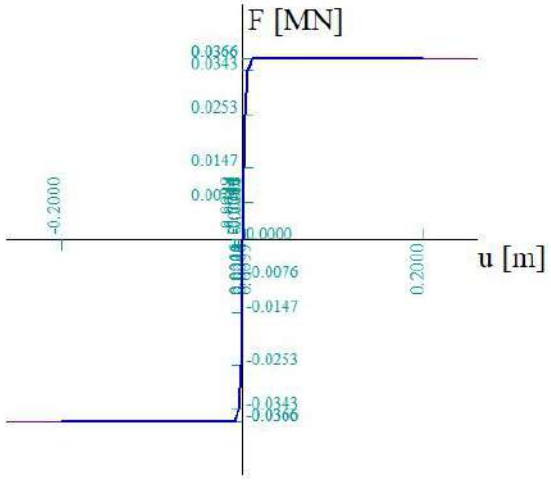
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

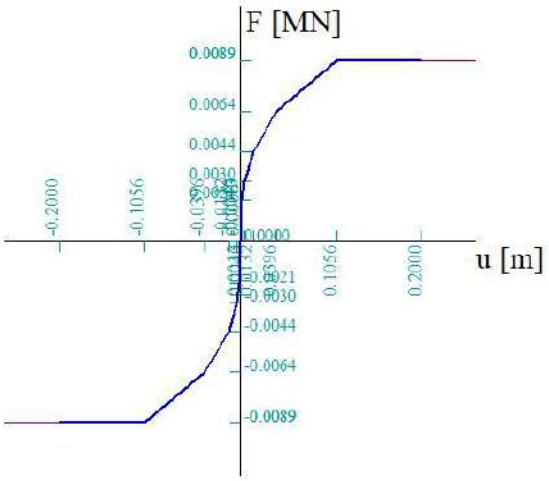
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1 | Verplaatsing | -2,0000e-01[m] / -3,6624e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,6624e-02[MN] | | |
| | | -4,4000e-03[m] / -3,4259e-02[MN] | | |
| | | -2,2000e-03[m] / -2,5265e-02[MN] | | |
| | | -1,1000e-03[m] / -1,4650e-02[MN] | | |
| | | -5,5000e-04[m] / -7,6435e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 7,6435e-03[MN] | | |
| | | 1,1000e-03[m] / 1,4650e-02[MN] | | |
| | | 2,2000e-03[m] / 2,5265e-02[MN] | | |
| | | 4,4000e-03[m] / 3,4259e-02[MN] | | |
| | | 9,9000e-03[m] / 3,6624e-02[MN] | | |
| | | 2,0000e-01[m] / 3,6624e-02[MN] | | |

Tekenen



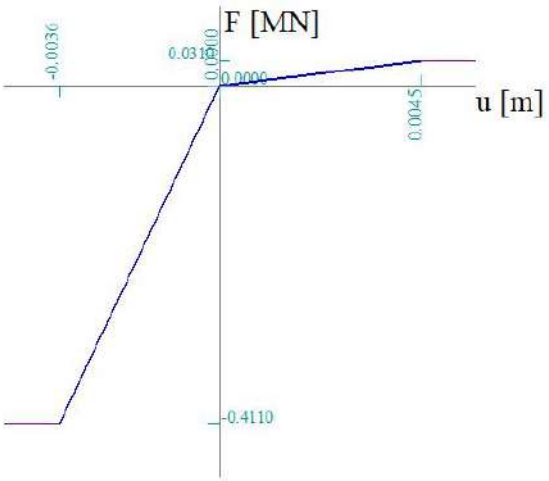

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen | Verplaatsing | -2,0000e-01[m] / -8,8944e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -8,8944e-03[MN] | | |
| | | -3,9600e-02[m] / -6,4138e-03[MN] | | |
| | | -1,3200e-02[m] / -4,4477e-03[MN] | | |
| | | -3,9600e-03[m] / -2,9770e-03[MN] | | |
| | | -1,3200e-03[m] / -2,0640e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 2,0640e-03[MN] | | |
| | | 3,9600e-03[m] / 2,9770e-03[MN] | | |
| | | 1,3200e-02[m] / 4,4477e-03[MN] | | |
| | | 3,9600e-02[m] / 6,4138e-03[MN] | | |
| | | 1,0560e-01[m] / 8,8944e-03[MN] | | |
| | | 2,0000e-01[m] / 8,8944e-03[MN] | | |

Tekenen



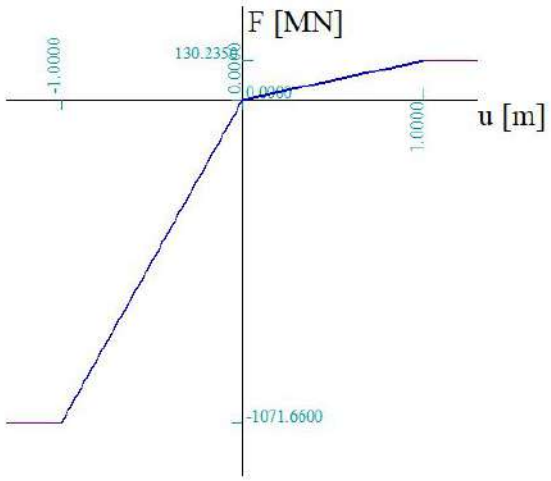

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt | Verplaatsing | -3,5600e-03[m] / -4,1100e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 4,5200e-03[m] / 3,1000e-02[MN] | | |

Tekenen



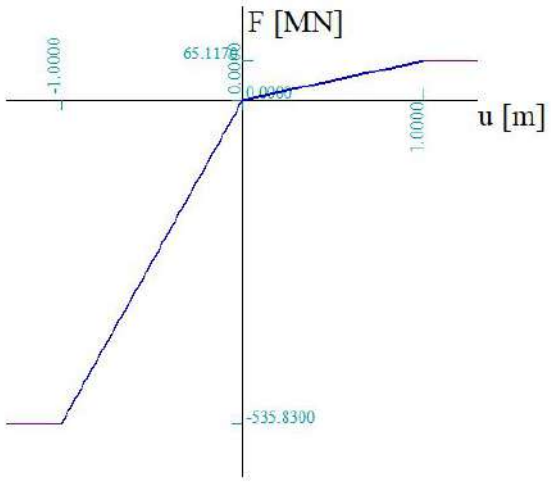

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt.LEKA.BG. | Verplaatsing | -1,0000e+00[m] / -1,0717e+03[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,3024e+02[MN] | | |

Tekenen



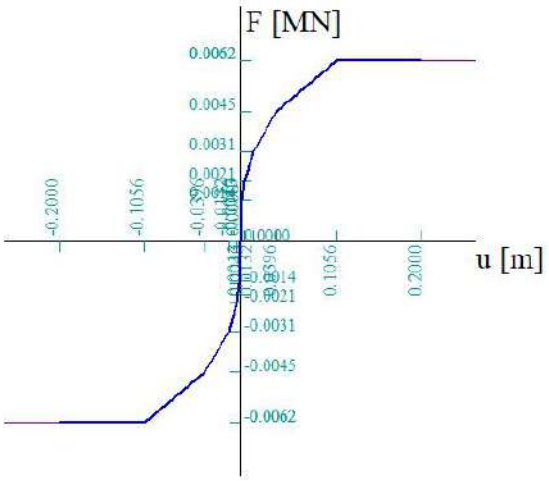

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt.LEKA.OG. | Verplaatsing | -1,0000e+00[m] / -5,3583e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 6,5117e+01[MN] | | |

Tekenen



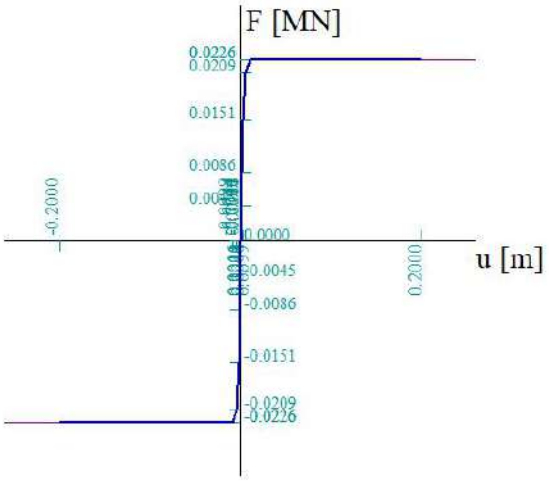

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Verplaatsing | -2,0000e-01[m] / -6,2016e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -6,2016e-03[MN] | | |
| | | -3,9600e-02[m] / -4,4721e-03[MN] | | |
| | | -1,3200e-02[m] / -3,1008e-03[MN] | | |
| | | -3,9600e-03[m] / -2,0758e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4393e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4393e-03[MN] | | |
| | | 3,9600e-03[m] / 2,0758e-03[MN] | | |
| | | 1,3200e-02[m] / 3,1008e-03[MN] | | |
| | | 3,9600e-02[m] / 4,4721e-03[MN] | | |
| | | 1,0560e-01[m] / 6,2016e-03[MN] | | |
| | | 2,0000e-01[m] / 6,2016e-03[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1.B | Verplaatsing | -2,0000e-01[m] / -2,2567e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,2567e-02[MN] | | |
| | | -4,4000e-03[m] / -2,0854e-02[MN] | | |
| | | -2,2000e-03[m] / -1,5054e-02[MN] | | |
| | | -1,1000e-03[m] / -8,6224e-03[MN] | | |
| | | -5,5000e-04[m] / -4,4807e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,4807e-03[MN] | | |
| | | 1,1000e-03[m] / 8,6224e-03[MN] | | |
| | | 2,2000e-03[m] / 1,5054e-02[MN] | | |
| | | 4,4000e-03[m] / 2,0854e-02[MN] | | |
| | | 9,9000e-03[m] / 2,2567e-02[MN] | | |
| | | 2,0000e-01[m] / 2,2567e-02[MN] | | |

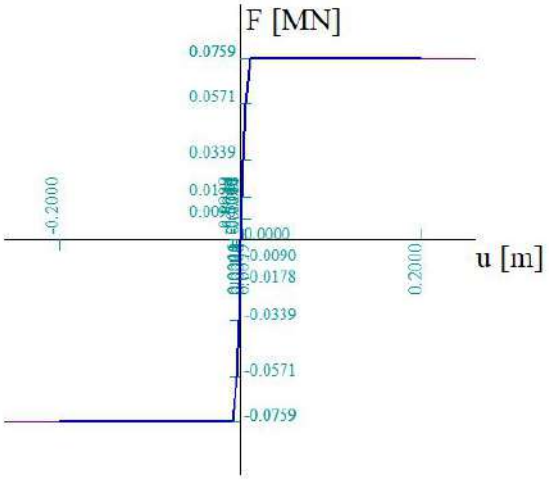
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V2.B | Verplaatsing | -2,0000e-01[m] / -7,5874e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -7,5874e-02[MN] | | |
| | | -4,4000e-03[m] / -5,7108e-02[MN] | | |
| | | -2,2000e-03[m] / -3,3923e-02[MN] | | |
| | | -1,1000e-03[m] / -1,7844e-02[MN] | | |
| | | -5,5000e-04[m] / -9,0410e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 9,0410e-03[MN] | | |
| | | 1,1000e-03[m] / 1,7844e-02[MN] | | |
| | | 2,2000e-03[m] / 3,3923e-02[MN] | | |

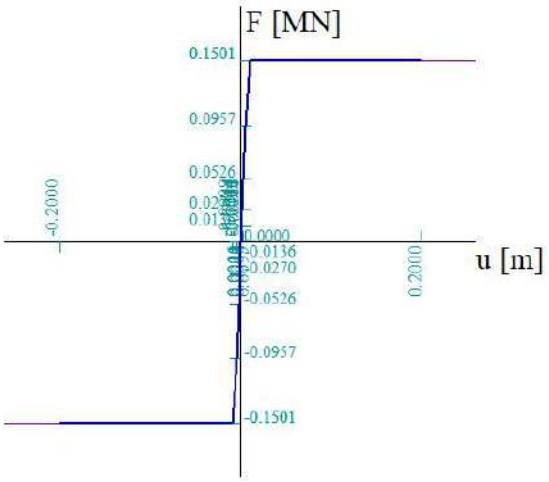
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 5,7108e-02[MN] | | |
| | | 9,9000e-03[m] / 7,5874e-02[MN] | | |
| | | 2,0000e-01[m] / 7,5874e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V3.B | Verplaatsing | -2,0000e-01[m] / -1,5011e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,5011e-01[MN] | | |
| | | -4,4000e-03[m] / -9,5744e-02[MN] | | |
| | | -2,2000e-03[m] / -5,2633e-02[MN] | | |
| | | -1,1000e-03[m] / -2,7005e-02[MN] | | |
| | | -5,5000e-04[m] / -1,3592e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,3592e-02[MN] | | |
| | | 1,1000e-03[m] / 2,7005e-02[MN] | | |
| | | 2,2000e-03[m] / 5,2633e-02[MN] | | |
| | | 4,4000e-03[m] / 9,5744e-02[MN] | | |
| | | 9,9000e-03[m] / 1,5011e-01[MN] | | |
| | | 2,0000e-01[m] / 1,5011e-01[MN] | | |

Tekenen

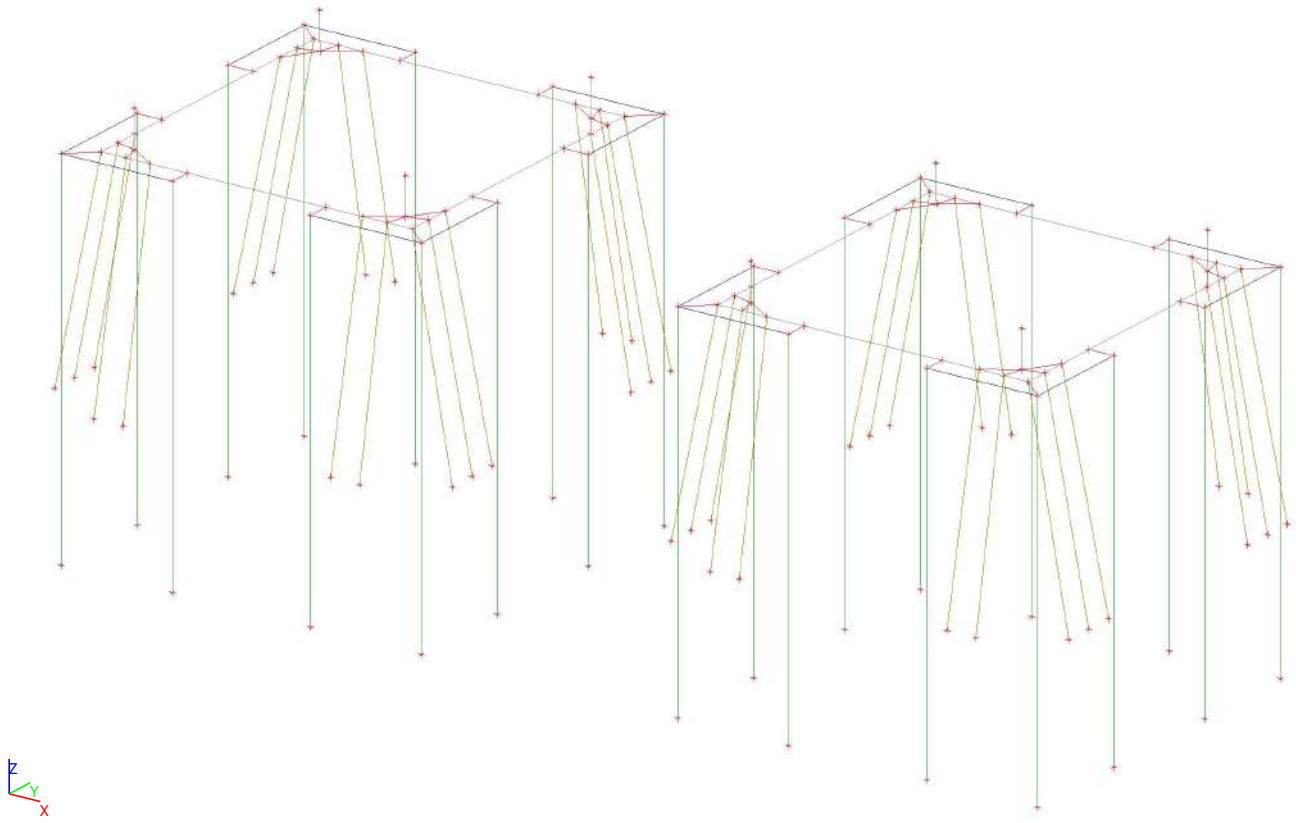


# 6. Belastingen

## 6.1. Belastingsgevallen

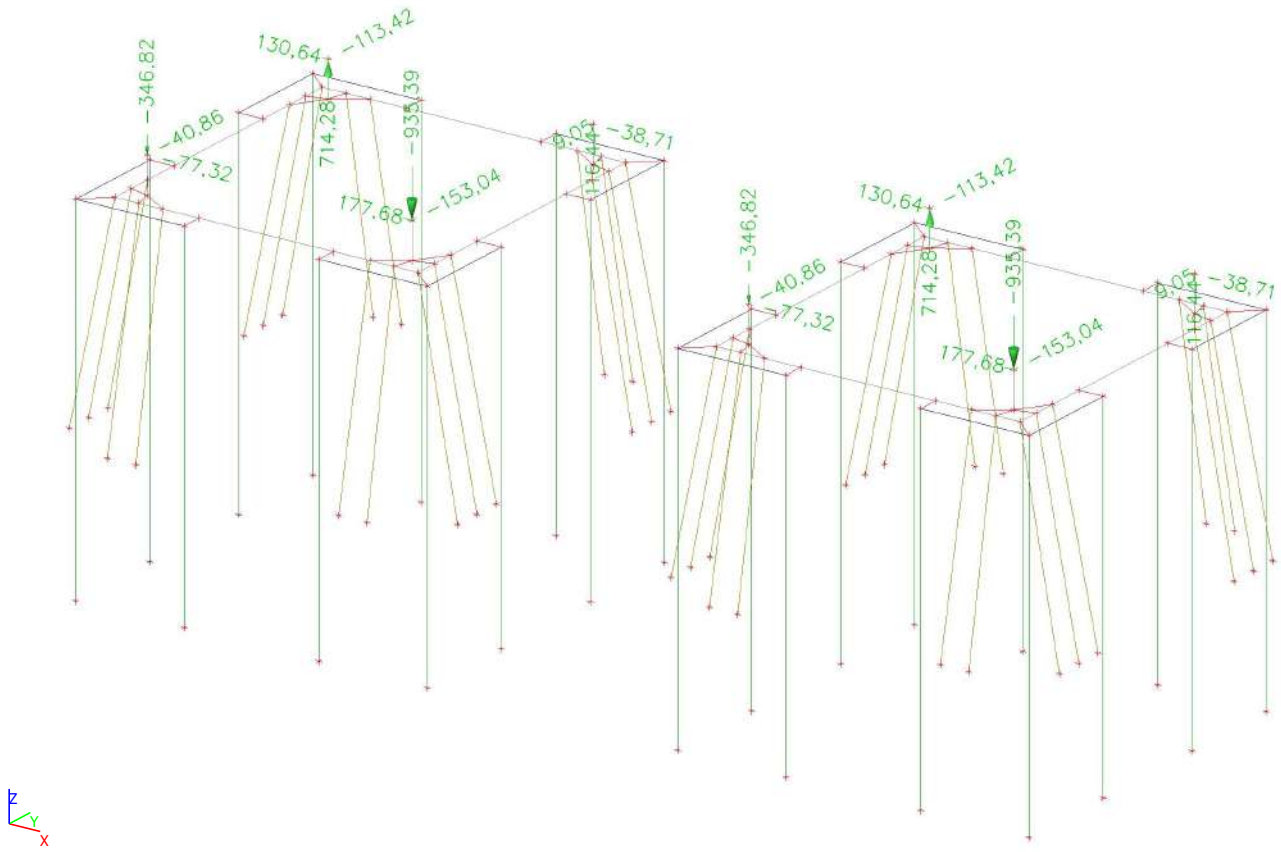
### 6.1.1. Belastingsgevallen - E.G.

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |




### 6.1.2. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



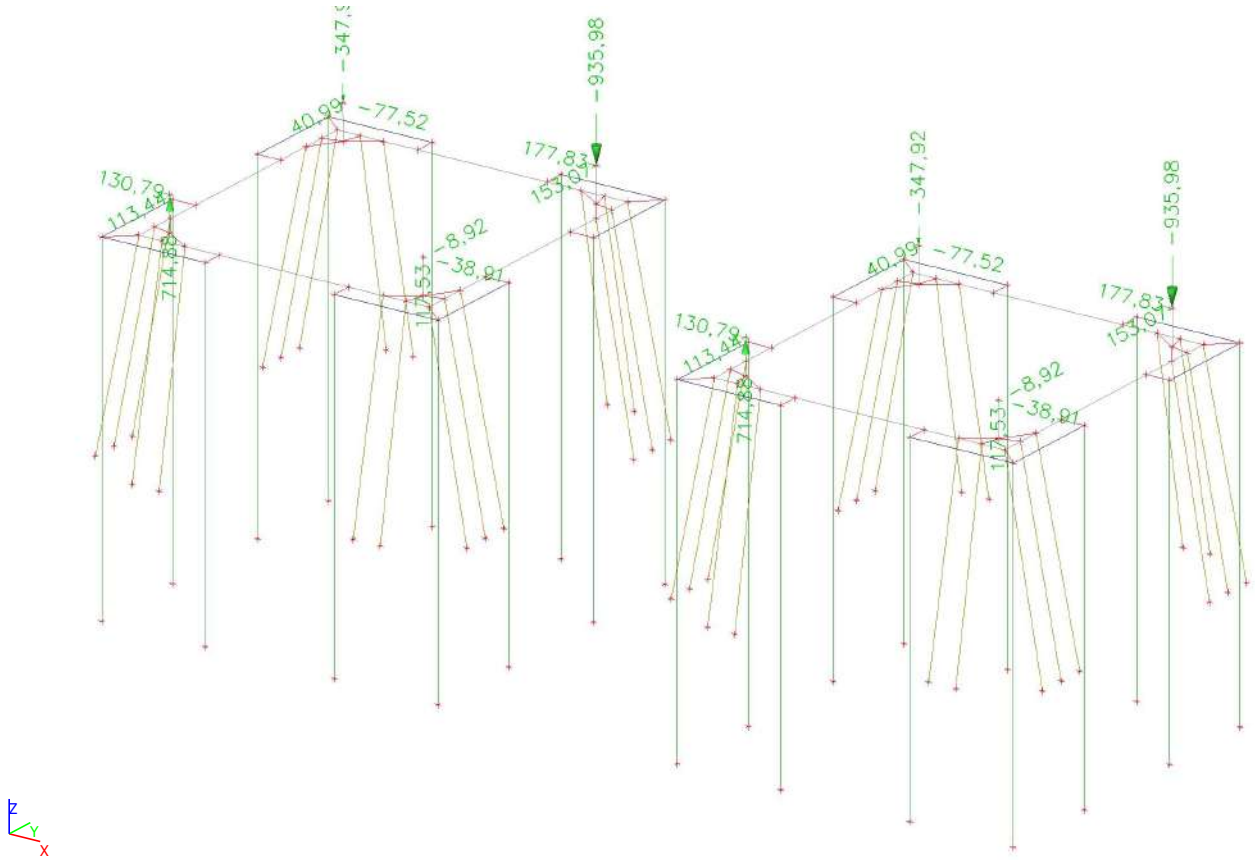

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -77,32 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -40,86 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -346,82 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 130,64 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -113,42 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 714,28 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -38,71 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 9,05 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 116,44 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 177,68 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -153,04 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -935,39 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Kracht | 177,68 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Kracht | -153,04 |
| high max Wnd | 1Y2 | high max Wnd ;225° | GCS | Z | Kracht | -935,39 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1Y_Z1 | | | | | | |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Kracht | -38,71 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Kracht | 9,05 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Kracht | 116,44 |
| high max Wnd ;225°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Kracht | -77,32 |
| high max Wnd ;225°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Kracht | -40,86 |
| high max Wnd ;225°_1P_Z1 | 1P2 | high max Wnd ;225° | GCS | Z | Kracht | -346,82 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Kracht | 130,64 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Kracht | -113,42 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Kracht | 714,28 |

### 6.1.3. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

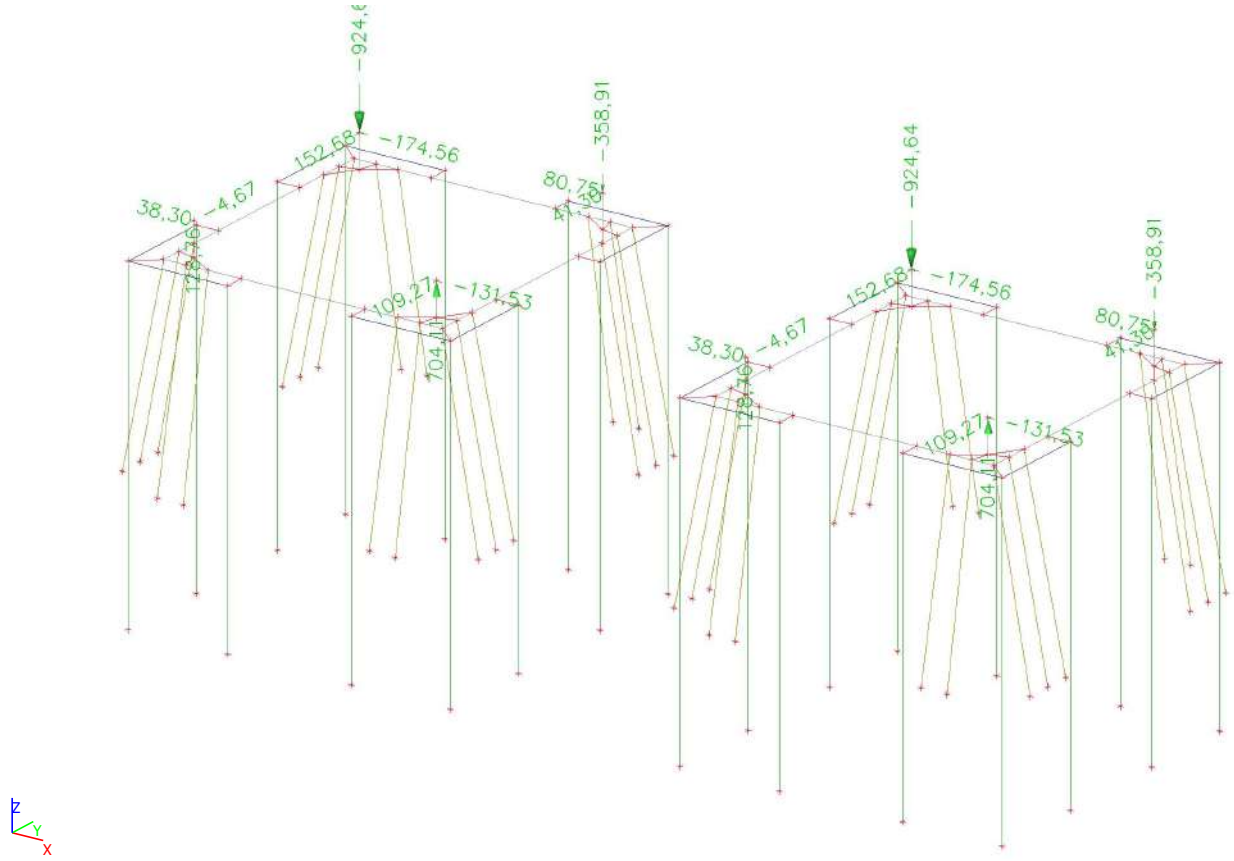


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 130,79 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 113,44 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 714,88 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -77,52 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 40,99 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -347,92 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 177,83 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 153,07 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -935,98 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -38,91 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -8,92 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 117,53 |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Kracht | -38,91 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Kracht | -8,92 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Kracht | 117,53 |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Kracht | 177,83 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Kracht | 153,07 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Kracht | -935,98 |
| high max Wnd ;135°_1P_X1 | 1P2 | high max Wnd ;135° | GCS | X | Kracht | 130,79 |
| high max Wnd ;135°_1P_Y1 | 1P2 | high max Wnd ;135° | GCS | Y | Kracht | 113,44 |
| high max Wnd ;135°_1P_Z1 | 1P2 | high max Wnd ;135° | GCS | Z | Kracht | 714,88 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Kracht | -77,52 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Kracht | 40,99 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Kracht | -347,92 |

### 6.1.4. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



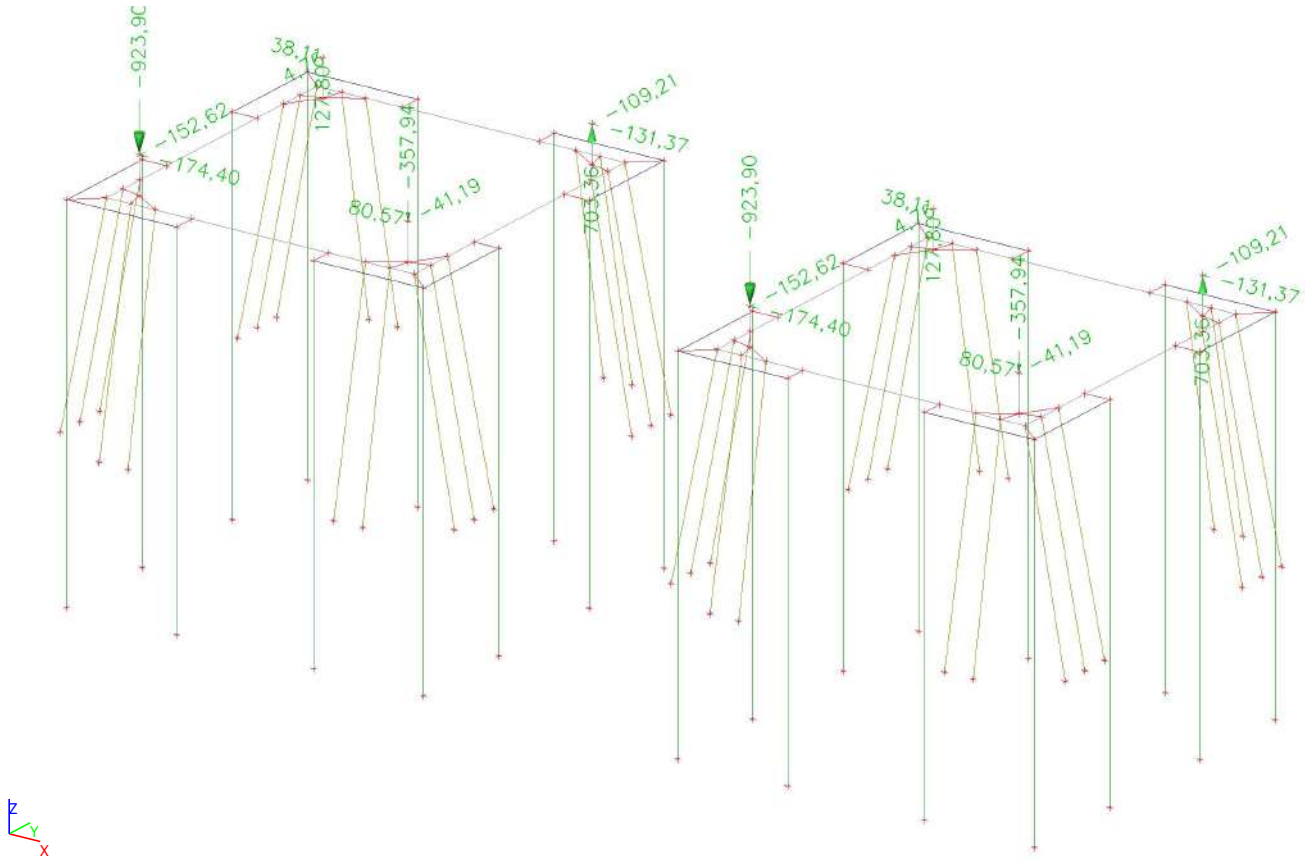

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 38,30 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -4,67 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 128,76 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -174,56 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 152,68 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -924,64 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 80,75 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 41,30 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -358,91 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -131,53 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 109,27 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 704,11 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Kracht | -131,53 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Kracht | 109,27 |
| high max Wnd | 1Y2 | high max Wnd ;45° | GCS | Z | Kracht | 704,11 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Kracht | 80,75 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Kracht | 41,30 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Kracht | -358,91 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Kracht | 38,30 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Kracht | -4,67 |
| high max Wnd ;45°_1P_Z1 | 1P2 | high max Wnd ;45° | GCS | Z | Kracht | 128,76 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Kracht | -174,56 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Kracht | 152,68 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Kracht | -924,64 |

### 6.1.5. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

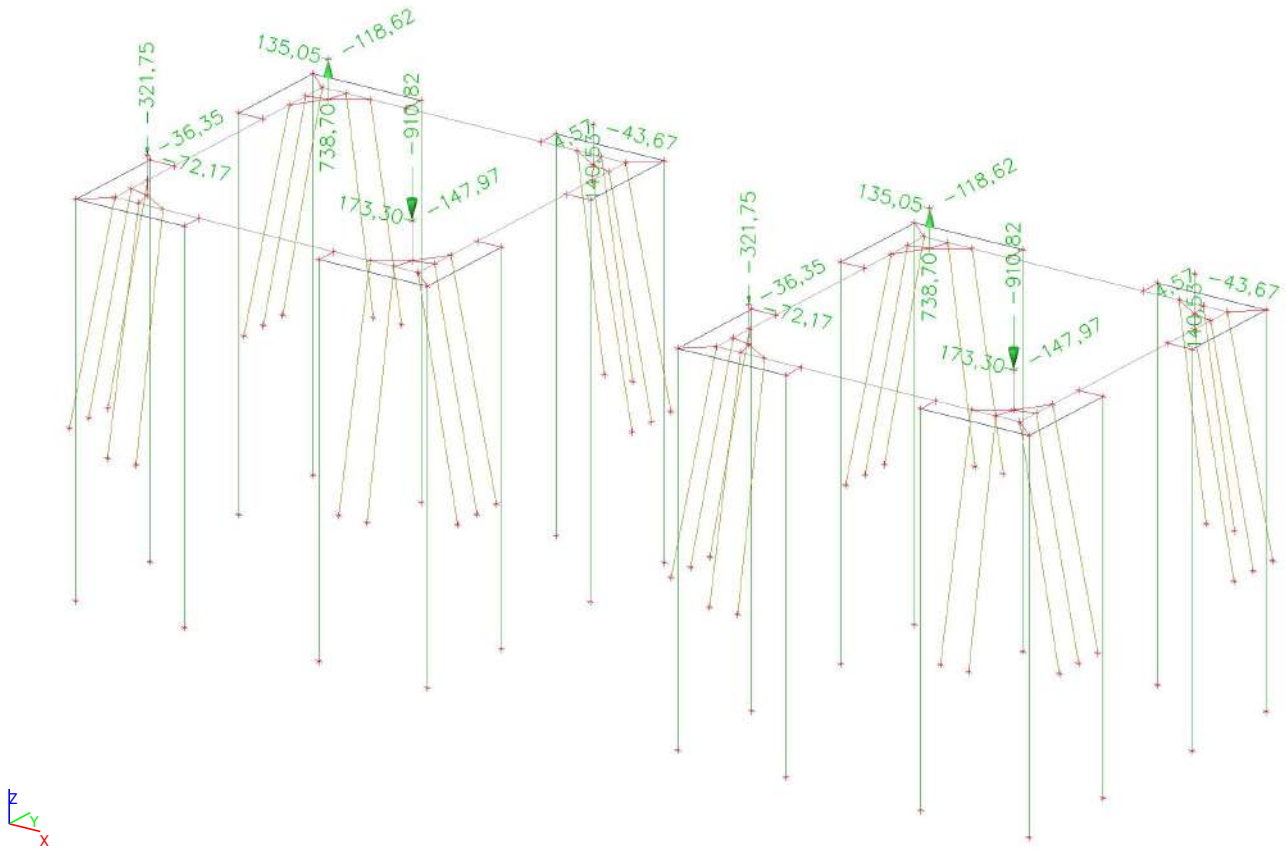


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -174,40 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -152,62 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -923,90 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 38,11 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 4,76 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 127,80 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -131,37 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -109,21 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 703,36 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 80,57 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -41,19 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -357,94 |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Kracht | 80,57 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Kracht | -41,19 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Kracht | -357,94 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Kracht | -131,37 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Kracht | -109,21 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Kracht | 703,36 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Kracht | -174,40 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Kracht | -152,62 |
| high max Wnd ;315°_1P_Z1 | 1P2 | high max Wnd ;315° | GCS | Z | Kracht | -923,90 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Kracht | 38,11 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Kracht | 4,76 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Kracht | 127,80 |

### 6.1.6. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |




### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -72,17 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -36,35 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -321,75 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 135,05 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -118,62 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 738,70 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -43,67 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | 4,57 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 140,53 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 173,30 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -147,97 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -910,82 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Kracht | 173,30 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Kracht | -147,97 |
| low max Wnd | 1Y2 | low max Wnd ;225° | GCS | Z | Kracht | -910,82 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1Y_Z1 | | | | | | |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Kracht | -43,67 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Kracht | 4,57 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Kracht | 140,53 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Kracht | -72,17 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Kracht | -36,35 |
| low max Wnd ;225°_1P_Z1 | 1P2 | low max Wnd ;225° | GCS | Z | Kracht | -321,75 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Kracht | 135,05 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Kracht | -118,62 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Kracht | 738,70 |

### 6.1.7. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

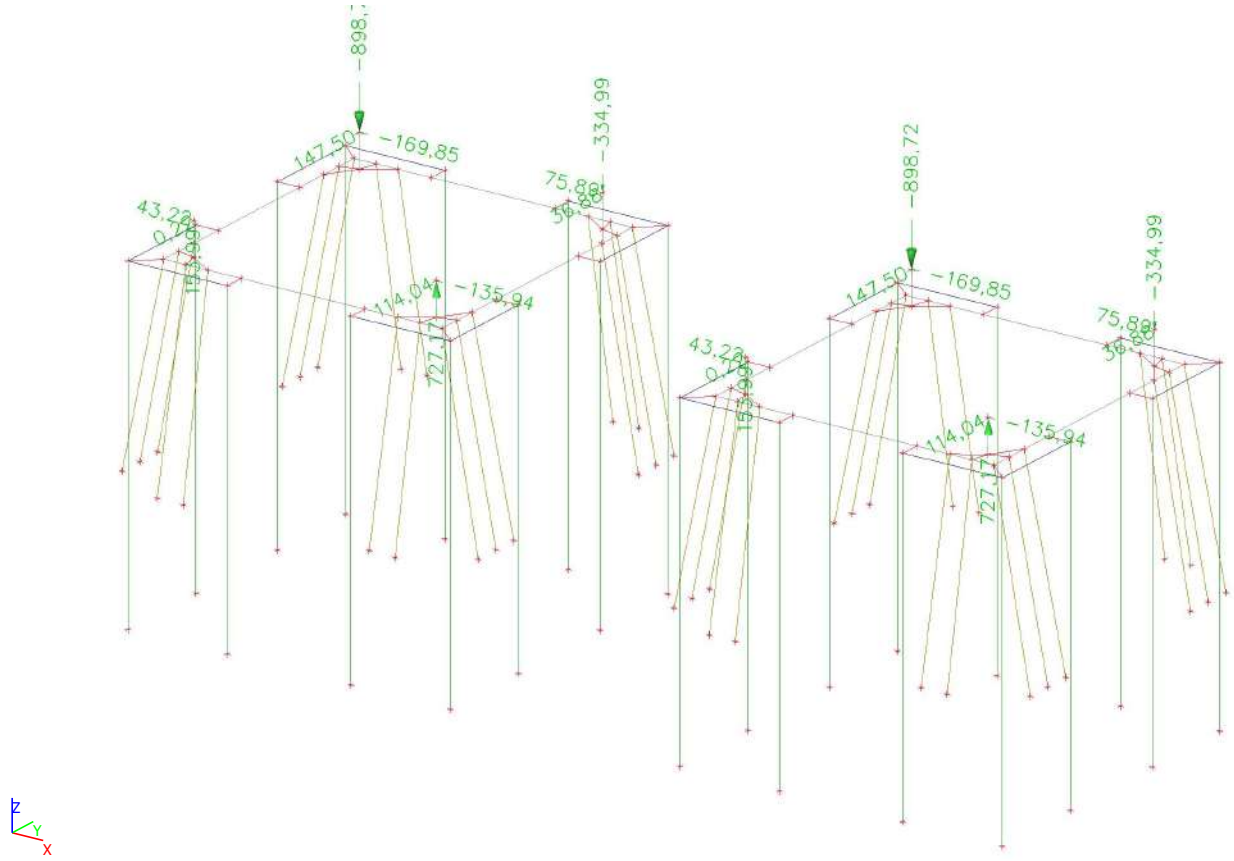


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 135,17 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 118,62 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 739,16 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -72,36 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 36,48 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -322,76 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 173,42 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 147,98 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -911,28 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -43,85 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | -4,44 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 141,52 |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Kracht | -43,85 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Kracht | -4,44 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Kracht | 141,52 |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Kracht | 173,42 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Kracht | 147,98 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Kracht | -911,28 |
| low max Wnd ;135°_1P_X1 | 1P2 | low max Wnd ;135° | GCS | X | Kracht | 135,17 |
| low max Wnd ;135°_1P_Y1 | 1P2 | low max Wnd ;135° | GCS | Y | Kracht | 118,62 |
| low max Wnd ;135°_1P_Z1 | 1P2 | low max Wnd ;135° | GCS | Z | Kracht | 739,16 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Kracht | -72,36 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Kracht | 36,48 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Kracht | -322,76 |

### 6.1.8. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



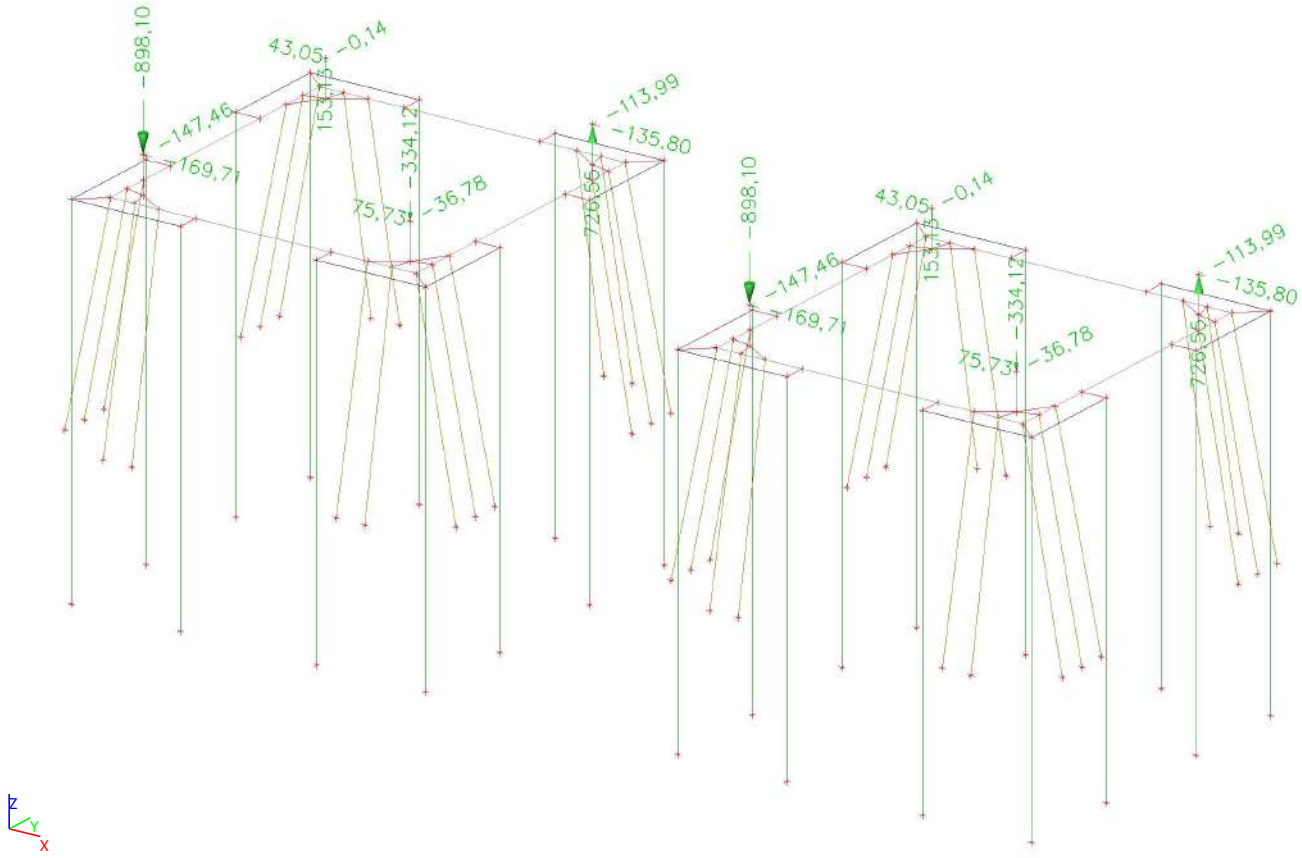

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 43,22 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | 0,22 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 153,99 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -169,85 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 147,50 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -898,72 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 75,89 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 36,88 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -334,99 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -135,94 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 114,04 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 727,17 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Kracht | -135,94 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Kracht | 114,04 |
| low max Wnd | 1Y2 | low max Wnd ;45° | GCS | Z | Kracht | 727,17 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Kracht | 75,89 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Kracht | 36,88 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Kracht | -334,99 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Kracht | 43,22 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Kracht | 0,22 |
| low max Wnd ;45°_1P_Z1 | 1P2 | low max Wnd ;45° | GCS | Z | Kracht | 153,99 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Kracht | -169,85 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Kracht | 147,50 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Kracht | -898,72 |

### 6.1.9. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.9.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -169,71 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -147,46 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -898,10 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 43,05 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | -0,14 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 153,13 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -135,80 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -113,99 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 726,55 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 75,73 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -36,78 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -334,12 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Kracht | 75,73 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Kracht | -36,78 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Kracht | -334,12 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Kracht | -135,80 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Kracht | -113,99 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Kracht | 726,55 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Kracht | -169,71 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Kracht | -147,46 |
| low max Wnd ;315°_1P_Z1 | 1P2 | low max Wnd ;315° | GCS | Z | Kracht | -898,10 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Kracht | 43,05 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Kracht | -0,14 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Kracht | 153,13 |

## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| high max Wnd ;225° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;225° | 1,00 |
| high max Wnd ;135° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;135° | 1,00 |
| high max Wnd ;45° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;45° | 1,00 |
| high max Wnd ;315° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;315° | 1,00 |
| low max Wnd ;45° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;45° | 1,00 |
| low max Wnd ;135° | Uiterste Grenstoestand | E.G. | 0,90 |

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| | | low max Wnd ;135° | 1,00 |
| low max Wnd ;315° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;315° | 1,00 |
| low max Wnd ;225° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;225° | 1,00 |

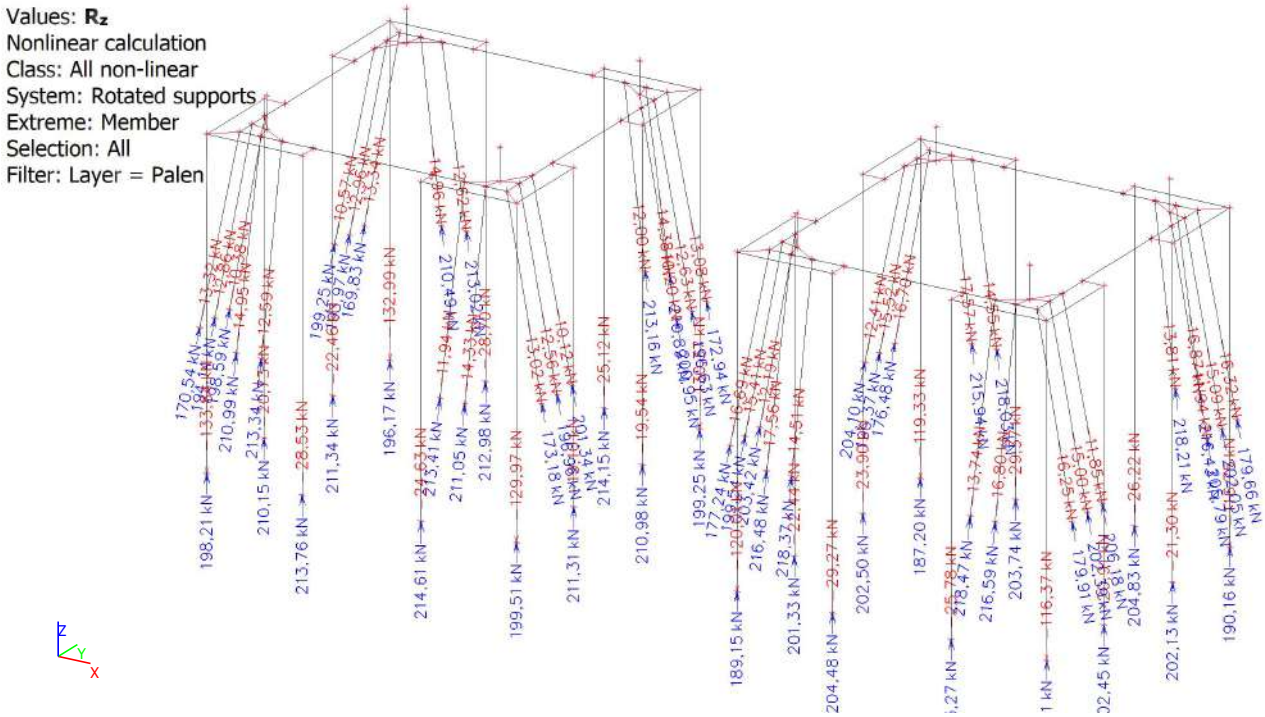
## 6.3. Resultaatklasses

| Naam | Lijst |
|---|---|
| All non-linear | high max Wnd ;225° |
| | high max Wnd ;135° |
| | high max Wnd ;45° |
| | high max Wnd ;315° |
| | low max Wnd ;45° |
| | low max Wnd ;135° |
| | low max Wnd ;315° |
| | low max Wnd ;225° |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z




### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (320; 320)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn27/N49 | low max Wnd ;225° | **0,00** | 0,00 | 157,68 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn89/N201 | low max Wnd ;135° | **0,00** | 0,00 | 182,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max Wnd ;135° | 0,00 | **0,00** | 213,16 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn92/N204 | low max Wnd ;45° | 0,00 | **0,00** | 137,41 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn93/N205 | low max Wnd ;225° | 0,00 | 0,00 | **-17,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn87/N199 | high max Wnd ;225° | 0,00 | 0,00 | **218,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn113/N247 | low max Wnd ;135° | 0,00 | 0,00 | **-133,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn47/N83 | high max Wnd ;225° | **0,00** | **0,00** | **214,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | low max Wnd ;135° | 0,00 | **0,00** | **-13,32** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | high max Wnd ;315° | **0,00** | **0,00** | **170,54** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn21/N44 | low max Wnd ;315° | **0,00** | 0,00 | 154,77 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max Wnd ;135° | 0,00 | 0,00 | **-12,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn22/N45 | high max Wnd ;315° | **0,00** | **0,00** | **194,14** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max Wnd ;315° | **0,00** | 0,00 | 174,41 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | high max Wnd ;225° | **0,00** | 0,00 | 104,27 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | high max Wnd ;315° | 0,00 | **0,00** | **198,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | low max Wnd ;135° | 0,00 | **0,00** | **-10,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | low max Wnd ;315° | **0,00** | 0,00 | 174,89 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | high max Wnd ;315° | **0,00** | **0,00** | **210,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn24/N47 | high max Wnd ;225° | 0,00 | **0,00** | 147,46 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | low max Wnd ;135° | **0,00** | 0,00 | **-14,95** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | high max Wnd ;135° | 0,00 | **0,00** | -6,93 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | low max Wnd ;135° | **0,00** | 0,00 | **-12,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn26/N48 | high max Wnd ;315° | **0,00** | **0,00** | **213,34** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | low max Wnd ;45° | 0,00 | **0,00** | **-13,02** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | high max Wnd ;225° | **0,00** | 0,00 | **173,18** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | low max Wnd ;225° | **0,00** | **0,00** | 157,68 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max Wnd ;135° | **0,00** | **0,00** | 49,80 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max Wnd ;45° | 0,00 | 0,00 | **-12,56** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn28/N50 | high max Wnd ;225° | **0,00** | 0,00 | **196,96** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max Wnd ;225° | **0,00** | **0,00** | **201,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | low max Wnd ;45° | 0,00 | **0,00** | **-10,12** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn29/N51 | high max | **0,00** | 0,00 | 107,23 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn30/N52 | low max Wnd ;225° | 0,00 | **0,00** | 191,64 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn30/N52 | high max Wnd ;315° | 0,00 | **0,00** | 147,12 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | low max Wnd ;45° | **0,00** | 0,00 | **-14,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn30/N52 | high max Wnd ;225° | **0,00** | 0,00 | **211,05** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | low max Wnd ;315° | 0,00 | **0,00** | 134,21 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | low max Wnd ;225° | 0,00 | **0,00** | 189,98 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | high max Wnd ;225° | **0,00** | 0,00 | **213,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | low max Wnd ;45° | **0,00** | 0,00 | **-11,94** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | low max Wnd ;45° | **0,00** | 0,00 | 62,11 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | high max Wnd ;135° | 0,00 | **0,00** | **172,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn32/N10 | low max Wnd ;315° | 0,00 | **0,00** | **-13,08** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn32/N10 | low max Wnd ;135° | **0,00** | 0,00 | 157,51 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | low max Wnd ;315° | 0,00 | 0,00 | **-12,63** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn33/N11 | high max Wnd ;135° | **0,00** | **0,00** | **196,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | low max Wnd ;135° | **0,00** | 0,00 | 177,31 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | low max Wnd ;45° | **0,00** | 0,00 | 81,73 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | low max Wnd ;315° | 0,00 | **0,00** | **-10,20** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn34/N12 | high max Wnd ;135° | **0,00** | **0,00** | **200,95** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | low max Wnd ;45° | 0,00 | **0,00** | 129,33 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | low max Wnd ;315° | **0,00** | 0,00 | **-14,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn35/N13 | high max Wnd ;135° | **0,00** | **0,00** | **210,89** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max Wnd ;135° | **0,00** | **0,00** | **213,16** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn36/N14 | low max Wnd ;45° | 0,00 | **0,00** | 134,04 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | low max Wnd ;315° | **0,00** | 0,00 | **-12,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | low max Wnd ;45° | **0,00** | **0,00** | 191,25 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | low max Wnd ;315° | 0,00 | **0,00** | -0,38 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | high max Wnd ;45° | 0,00 | 0,00 | **210,49** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | low max Wnd ;225° | **0,00** | 0,00 | **-14,96** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | low max Wnd ;135° | 0,00 | **0,00** | 134,29 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn38/N2 | high max Wnd ;135° | 0,00 | **0,00** | 156,11 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | low max Wnd ;225° | **0,00** | 0,00 | **-12,62** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn38/N2 | high max Wnd ;45° | **0,00** | 0,00 | **213,02** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | high max | **0,00** | 0,00 | 55,87 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn39/N3 | high max Wnd ;45° | 0,00 | **0,00** | **169,83** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | low max Wnd ;225° | 0,00 | **0,00** | **-13,34** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | low max Wnd ;135° | **0,00** | 0,00 | 59,01 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | high max Wnd ;315° | **0,00** | **0,00** | 67,15 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | low max Wnd ;225° | 0,00 | 0,00 | **-12,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn40/N4 | high max Wnd ;45° | 0,00 | 0,00 | **193,97** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn40/N4 | low max Wnd ;135° | **0,00** | 0,00 | 71,71 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | low max Wnd ;45° | **0,00** | 0,00 | 175,64 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | low max Wnd ;225° | 0,00 | **0,00** | **-10,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn41/N54 | high max Wnd ;45° | 0,00 | **0,00** | **199,25** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn41/N54 | high max Wnd ;135° | **0,00** | 0,00 | 104,43 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn42/N60 | low max Wnd ;225° | 0,00 | 0,00 | **-28,70** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn42/N60 | high max Wnd ;45° | **0,00** | **0,00** | **212,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn43/N61 | low max Wnd ;225° | 0,00 | 0,00 | **-22,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn43/N61 | high max Wnd ;45° | **0,00** | **0,00** | **211,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn44/N75 | low max Wnd ;315° | 0,00 | 0,00 | **-25,12** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn44/N75 | high max Wnd ;135° | **0,00** | **0,00** | **214,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn45/N77 | low max Wnd ;315° | 0,00 | 0,00 | **-19,54** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn45/N77 | high max Wnd ;135° | **0,00** | **0,00** | **210,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn46/N80 | low max Wnd ;135° | 0,00 | 0,00 | **-28,53** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn46/N80 | high max Wnd ;315° | **0,00** | **0,00** | **213,76** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn47/N83 | low max Wnd ;45° | **0,00** | **0,00** | **-24,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn47/N83 | high max Wnd ;225° | 0,00 | 0,00 | **214,61** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn48/N85 | low max Wnd ;135° | 0,00 | 0,00 | **-20,73** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn48/N85 | high max Wnd ;315° | **0,00** | **0,00** | **210,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn49/N87 | low max Wnd ;45° | **0,00** | **0,00** | **-19,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn49/N87 | high max Wnd ;225° | 0,00 | 0,00 | **211,31** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn78/N190 | high max Wnd ;45° | **0,00** | 0,00 | 57,73 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N190 | low max Wnd ;135° | 0,00 | **0,00** | **-16,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N190 | high max Wnd ;315° | 0,00 | **0,00** | **177,24** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N190 | low max Wnd ;315° | **0,00** | 0,00 | 160,78 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn79/N191 | low max Wnd ;135° | 0,00 | 0,00 | **-15,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn79/N191 | high max | **0,00** | **0,00** | **199,54** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn79/N191 | high max Wnd ;225° | **0,00** | 0,00 | 97,12 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn80/N192 | high max Wnd ;225° | **0,00** | 0,00 | 108,92 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn80/N192 | high max Wnd ;315° | 0,00 | **0,00** | **203,42** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn80/N192 | low max Wnd ;135° | **0,00** | **0,00** | **-12,19** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn81/N193 | high max Wnd ;45° | 0,00 | **0,00** | 20,30 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn81/N193 | low max Wnd ;315° | **0,00** | **0,00** | 196,36 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn81/N193 | high max Wnd ;315° | 0,00 | 0,00 | **216,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn81/N193 | low max Wnd ;135° | **0,00** | 0,00 | **-17,56** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn82/N194 | high max Wnd ;225° | 0,00 | **0,00** | 160,40 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn82/N194 | low max Wnd ;135° | **0,00** | 0,00 | **-14,51** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn82/N194 | high max Wnd ;315° | **0,00** | **0,00** | **218,37** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn83/N195 | low max Wnd ;45° | 0,00 | **0,00** | **-16,25** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn83/N195 | high max Wnd ;225° | **0,00** | **0,00** | **179,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn83/N195 | low max Wnd ;225° | **0,00** | 0,00 | 163,73 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn84/N196 | low max Wnd ;45° | 0,00 | 0,00 | **-15,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn84/N196 | high max Wnd ;225° | **0,00** | **0,00** | **202,39** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn84/N196 | low max Wnd ;135° | **0,00** | 0,00 | 51,58 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn85/N197 | low max Wnd ;135° | **0,00** | 0,00 | 64,64 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn85/N197 | high max Wnd ;225° | 0,00 | **0,00** | **206,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn85/N197 | low max Wnd ;45° | 0,00 | **0,00** | **-11,85** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn85/N197 | low max Wnd ;225° | **0,00** | 0,00 | 181,94 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn86/N198 | high max Wnd ;315° | 0,00 | **0,00** | 151,04 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn86/N198 | low max Wnd ;315° | 0,00 | **0,00** | 132,83 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn86/N198 | low max Wnd ;45° | **0,00** | 0,00 | **-16,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn86/N198 | high max Wnd ;225° | **0,00** | 0,00 | **216,59** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn87/N199 | low max Wnd ;315° | 0,00 | **0,00** | 137,59 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn87/N199 | high max Wnd ;225° | **0,00** | **0,00** | **218,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn87/N199 | low max Wnd ;45° | **0,00** | 0,00 | **-13,74** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn88/N200 | low max Wnd ;315° | 0,00 | **0,00** | **-16,32** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn88/N200 | high max Wnd ;135° | **0,00** | 0,00 | **179,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn88/N200 | low max Wnd ;135° | **0,00** | **0,00** | 163,55 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn89/N201 | low max Wnd ;135° | **0,00** | **0,00** | 182,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn89/N201 | low max | 0,00 | 0,00 | **-15,09** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

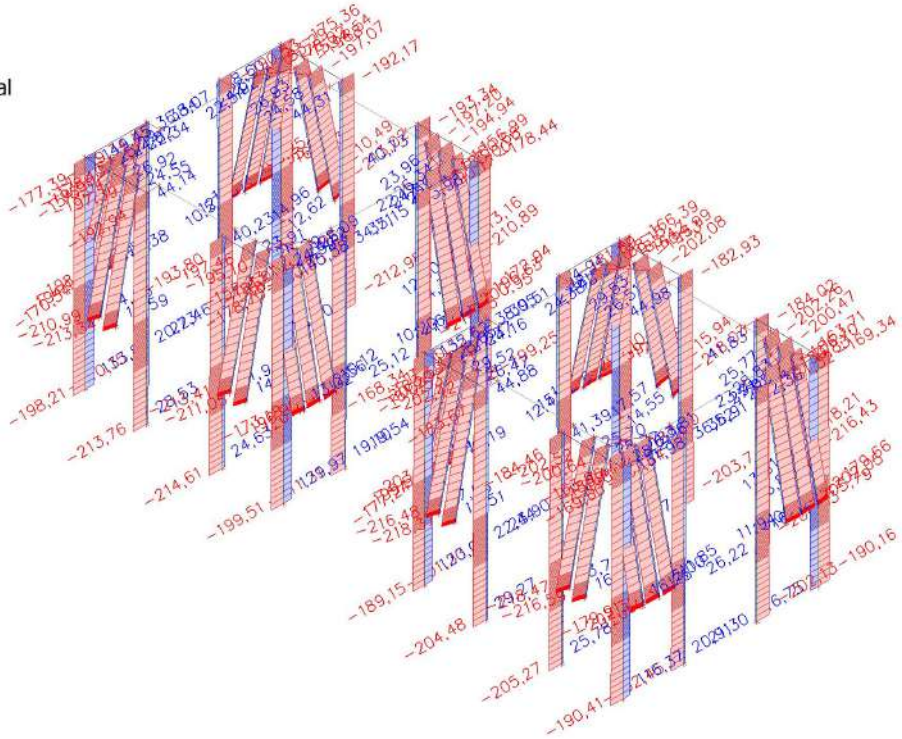
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn89/N201 | high max Wnd ;135° | **0,00** | 0,00 | **202,05** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn90/N202 | low max Wnd ;135° | **0,00** | 0,00 | 181,66 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn90/N202 | low max Wnd ;315° | 0,00 | **0,00** | **-11,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn90/N202 | high max Wnd ;135° | 0,00 | **0,00** | **205,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn90/N202 | low max Wnd ;45° | **0,00** | 0,00 | 85,28 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn91/N203 | high max Wnd ;315° | **0,00** | 0,00 | -10,18 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn91/N203 | low max Wnd ;45° | 0,00 | **0,00** | 132,69 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn91/N203 | low max Wnd ;315° | 0,00 | 0,00 | **-16,87** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn91/N203 | high max Wnd ;135° | **0,00** | **0,00** | **216,43** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn92/N204 | high max Wnd ;135° | **0,00** | **0,00** | **218,21** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn92/N204 | low max Wnd ;45° | 0,00 | **0,00** | 137,41 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn92/N204 | low max Wnd ;315° | **0,00** | 0,00 | **-13,81** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn93/N205 | high max Wnd ;45° | **0,00** | **0,00** | **215,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn93/N205 | high max Wnd ;135° | 0,00 | **0,00** | 151,13 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn93/N205 | low max Wnd ;225° | **0,00** | 0,00 | **-17,57** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn94/N206 | high max Wnd ;135° | 0,00 | **0,00** | 160,22 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn94/N206 | low max Wnd ;225° | **0,00** | 0,00 | **-14,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn94/N206 | high max Wnd ;45° | 0,00 | **0,00** | **218,03** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn94/N206 | low max Wnd ;45° | **0,00** | 0,00 | 193,78 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn95/N207 | low max Wnd ;45° | **0,00** | 0,00 | 160,11 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn95/N207 | high max Wnd ;45° | 0,00 | **0,00** | **176,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn95/N207 | low max Wnd ;225° | 0,00 | **0,00** | **-16,70** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn95/N207 | high max Wnd ;225° | **0,00** | 0,00 | -10,19 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn96/N208 | high max Wnd ;45° | **0,00** | **0,00** | **199,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn96/N208 | low max Wnd ;225° | **0,00** | 0,00 | **-15,52** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn97/N209 | low max Wnd ;225° | 0,00 | **0,00** | **-12,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn97/N209 | high max Wnd ;45° | **0,00** | **0,00** | **204,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn97/N209 | low max Wnd ;315° | **0,00** | 0,00 | 63,52 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn98/N215 | low max Wnd ;225° | 0,00 | 0,00 | **-29,37** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn98/N215 | high max Wnd ;45° | **0,00** | **0,00** | **203,74** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn99/N216 | low max Wnd ;225° | 0,00 | 0,00 | **-23,90** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn99/N216 | high max Wnd ;45° | **0,00** | **0,00** | **202,50** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn100/N227 | low max | 0,00 | 0,00 | **-26,22** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn100/N227 | high max Wnd ;135° | **0,00** | **0,00** | **204,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn101/N229 | low max Wnd ;315° | 0,00 | 0,00 | **-21,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn101/N229 | high max Wnd ;135° | **0,00** | **0,00** | **202,13** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn102/N232 | low max Wnd ;135° | 0,00 | 0,00 | **-29,27** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn102/N232 | high max Wnd ;315° | **0,00** | **0,00** | **204,48** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn103/N235 | low max Wnd ;45° | **0,00** | **0,00** | **-25,78** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn103/N235 | high max Wnd ;225° | 0,00 | 0,00 | **205,27** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn104/N237 | low max Wnd ;135° | 0,00 | 0,00 | **-22,44** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn104/N237 | high max Wnd ;315° | **0,00** | **0,00** | **201,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn105/N239 | low max Wnd ;45° | **0,00** | **0,00** | **-20,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn105/N239 | high max Wnd ;225° | 0,00 | 0,00 | **202,45** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn106/N240 | low max Wnd ;225° | 0,00 | 0,00 | **-119,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn106/N240 | high max Wnd ;45° | **0,00** | **0,00** | **187,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn107/N241 | low max Wnd ;315° | 0,00 | 0,00 | **-116,75** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn107/N241 | high max Wnd ;135° | **0,00** | **0,00** | **190,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn108/N242 | low max Wnd ;315° | 0,00 | 0,00 | **-130,37** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn108/N242 | high max Wnd ;135° | **0,00** | **0,00** | **199,25** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn109/N243 | low max Wnd ;225° | 0,00 | 0,00 | **-132,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn109/N243 | high max Wnd ;45° | **0,00** | **0,00** | **196,17** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn110/N244 | low max Wnd ;45° | **0,00** | **0,00** | **-116,37** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn110/N244 | high max Wnd ;225° | 0,00 | 0,00 | **190,41** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn111/N245 | low max Wnd ;135° | 0,00 | 0,00 | **-120,01** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn111/N245 | high max Wnd ;315° | **0,00** | **0,00** | **189,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn112/N246 | low max Wnd ;45° | **0,00** | **0,00** | **-129,97** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn112/N246 | high max Wnd ;225° | 0,00 | 0,00 | **199,51** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn113/N247 | low max Wnd ;135° | 0,00 | 0,00 | **-133,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn113/N247 | high max Wnd ;315° | **0,00** | **0,00** | **198,21** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

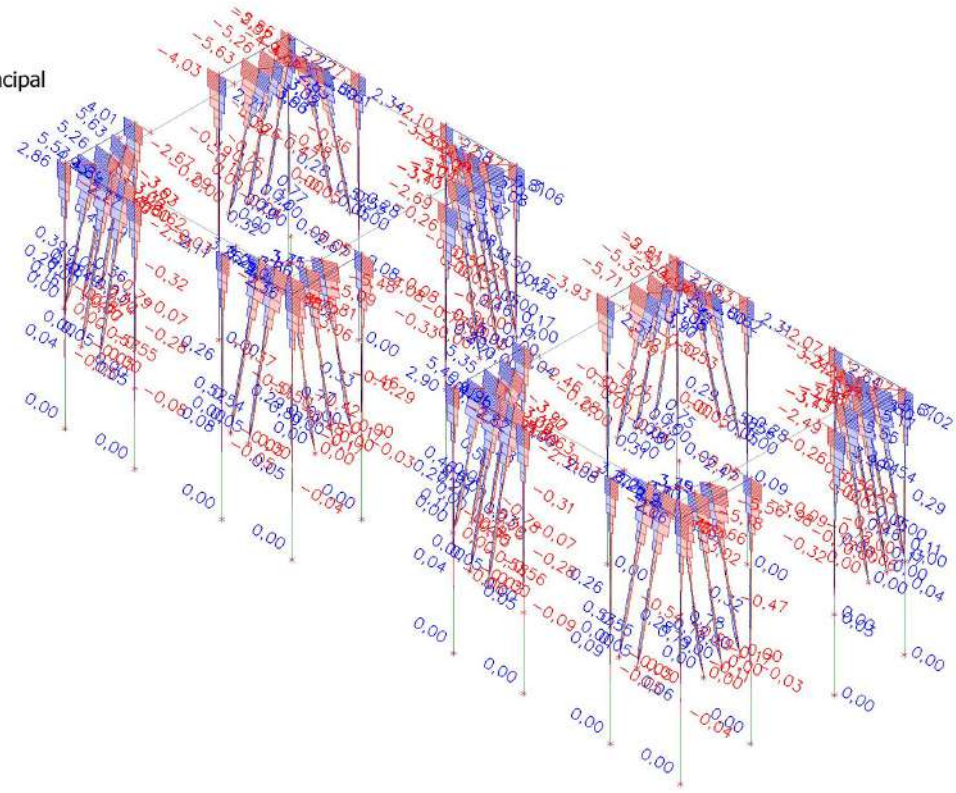
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



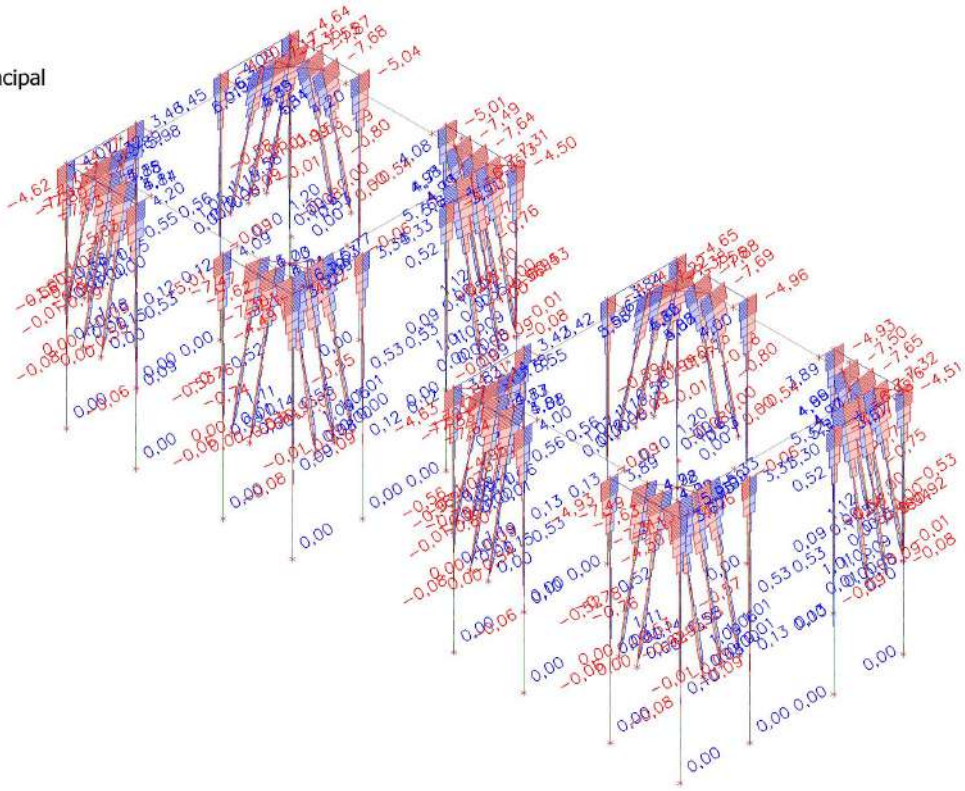
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



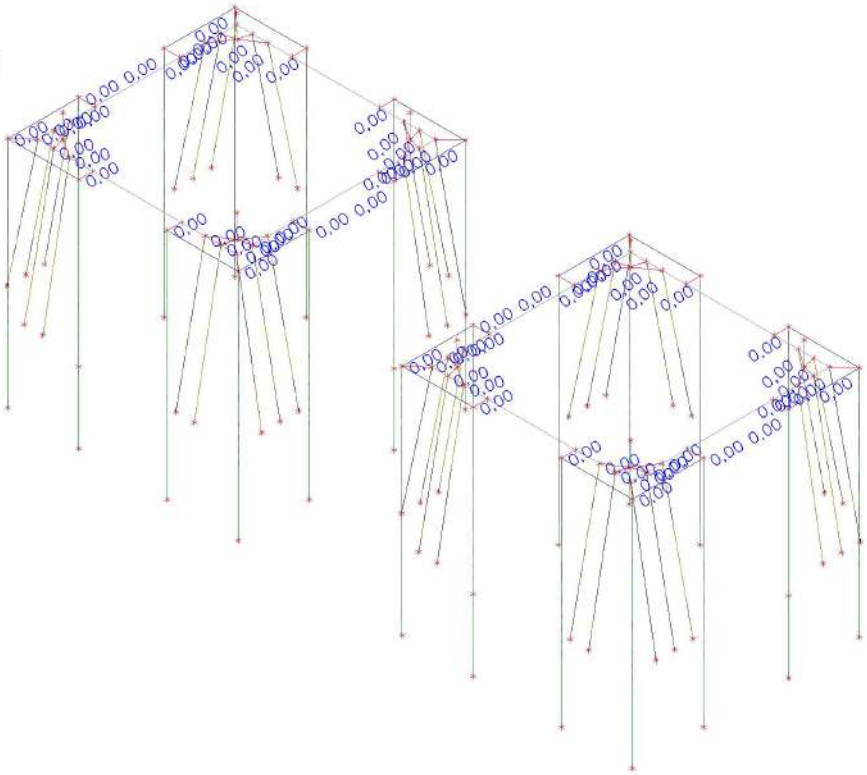
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



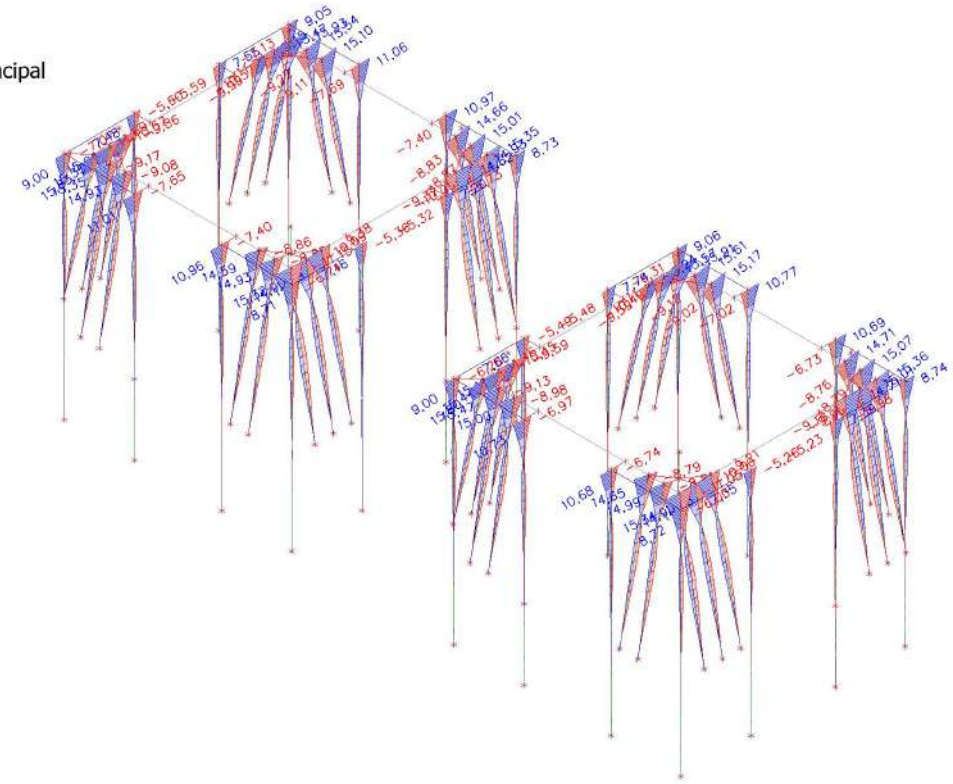
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



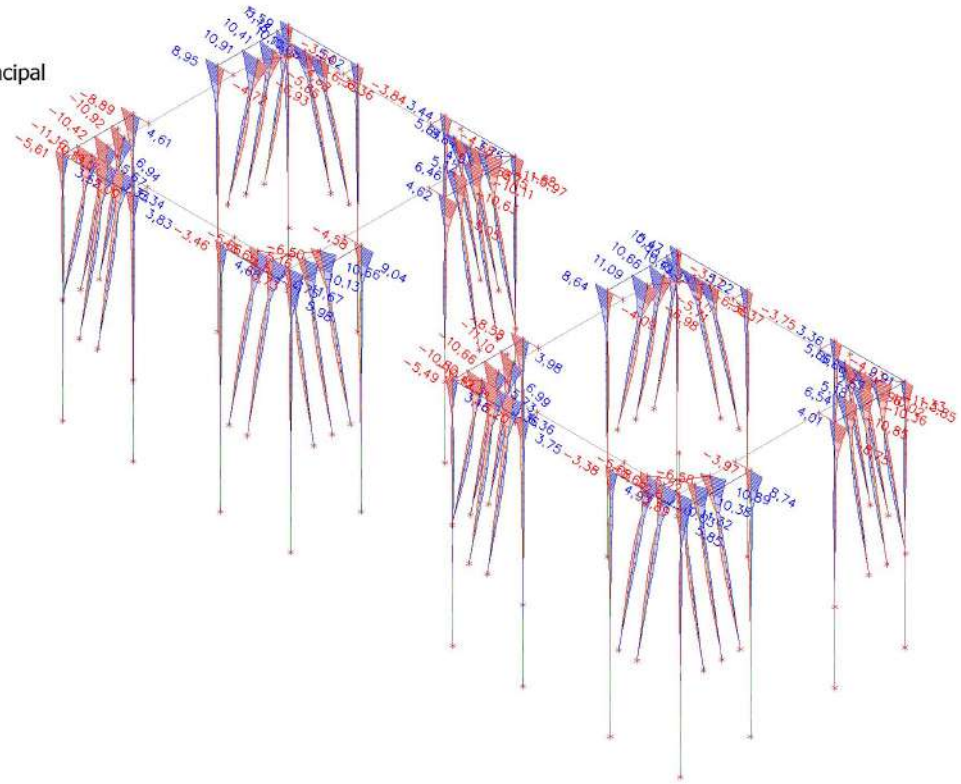
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (320; 320)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_67 | 8,997 | high max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | **-218,47** | -0,05 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_73 | 0,000 | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | **29,53** | 1,85 | 3,72 | **0,00** | -5,16 | -0,92 |
| Paal_P_7 | 0,000 | high max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | -157,23 | **-5,81** | -6,54 | 0,00 | 13,71 | **11,67** |
| Paal_P_73 | 0,000 | high max Wnd ;135° | Funderingspaal - Rectangle (320; 320) | -135,17 | 3,13 | **-7,88** | 0,00 | 15,61 | -5,20 |
| Paal_P_19 | 0,800- | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | 24,24 | 2,84 | **6,33** | 0,00 | -6,71 | -2,50 |
| Paal_P_19 | 0,000 | low max Wnd ;225° | Funderingspaal - Rectangle (320; 320) | 25,30 | 2,63 | 6,33 | 0,00 | **-11,78** | -4,68 |
| Paal_P_19 | 0,000 | low max Wnd ;135° | Funderingspaal - Rectangle (320; 320) | -47,04 | 1,88 | -7,55 | 0,00 | **15,93** | -3,00 |
| Paal_P_12 | 0,000 | high max Wnd ;135° | Funderingspaal - Rectangle (320; 320) | -156,99 | **5,81** | -6,56 | 0,00 | 13,77 | **-11,68** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_27 | 14,770 | high max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | **-214,61** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_93 | 0,000 | low max Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | **149,45** | -2,22 | 4,07 | **0,00** | -7,07 | 3,52 |
| Paal_P_29 | 0,000 | high max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | -190,50 | **-4,08** | -3,38 | 0,00 | 5,57 | **9,04** |
| Paal_P_22 | 0,000 | high max Wnd ;45° | LEKA Paal - type e (CHS219.1/10.0) | -192,17 | -1,74 | **-5,04** | **0,00** | **11,06** | 2,61 |
| Paal_P_22 | 0,000 | low max Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 44,31 | 0,76 | **4,20** | 0,00 | **-7,69** | 0,40 |
| Paal_P_25 | 0,000 | high max Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -190,17 | **4,08** | -3,40 | 0,00 | 5,62 | **-9,05** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

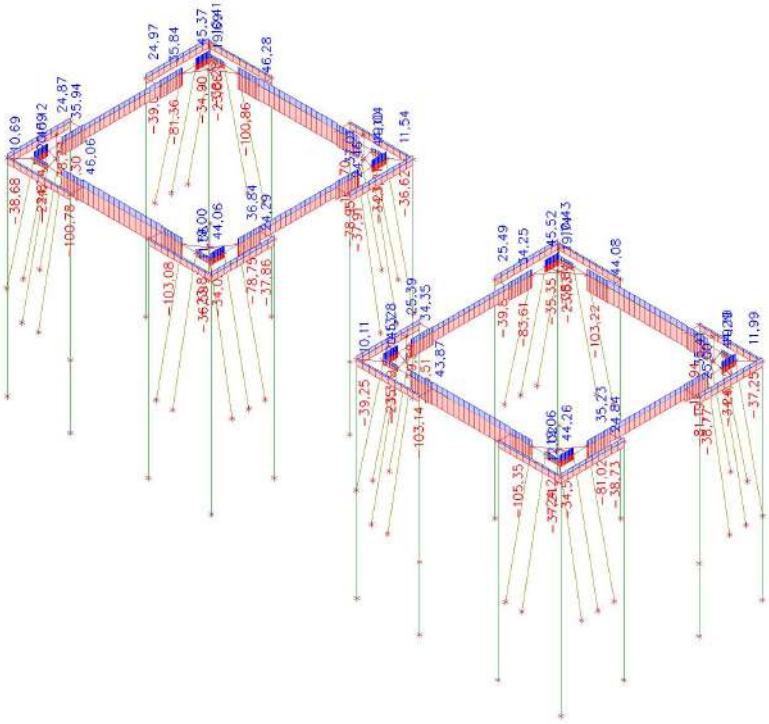
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer 5 | 0,000 | high max Wnd ;225° | **-963,30** | 233,85 | 17,42 | 1,88 | -25,70 | -242,72 |
| Poer 8 | 1,475 | low max Wnd ;225° | **739,72** | 174,76 | 16,23 | -0,19 | 0,00 | 8,88 |
| Poer 7 | 0,000 | high max Wnd ;315° | -951,81 | **-231,24** | 15,40 | -1,66 | -22,72 | **240,11** |
| Poer 5 | 0,000 | low max Wnd ;135° | 120,58 | -27,87 | **-34,15** | **-3,69** | **50,37** | 26,71 |
| Poer 6 | 0,000 | low max Wnd ;225° | 121,93 | -27,65 | **34,11** | **3,68** | **-50,31** | 26,43 |
| Poer 6 | 0,000 | high max Wnd ;135° | -960,78 | **233,98** | -17,51 | -1,89 | 25,82 | **-242,93** |

## 7.4. Krachten van de Funderingsbalken

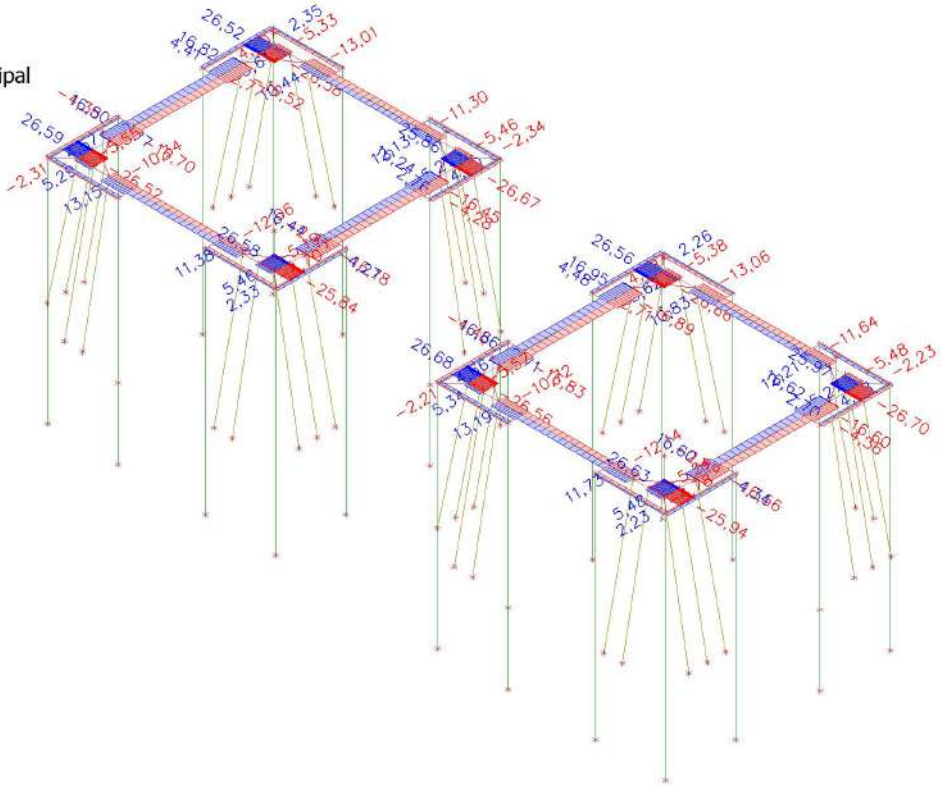
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



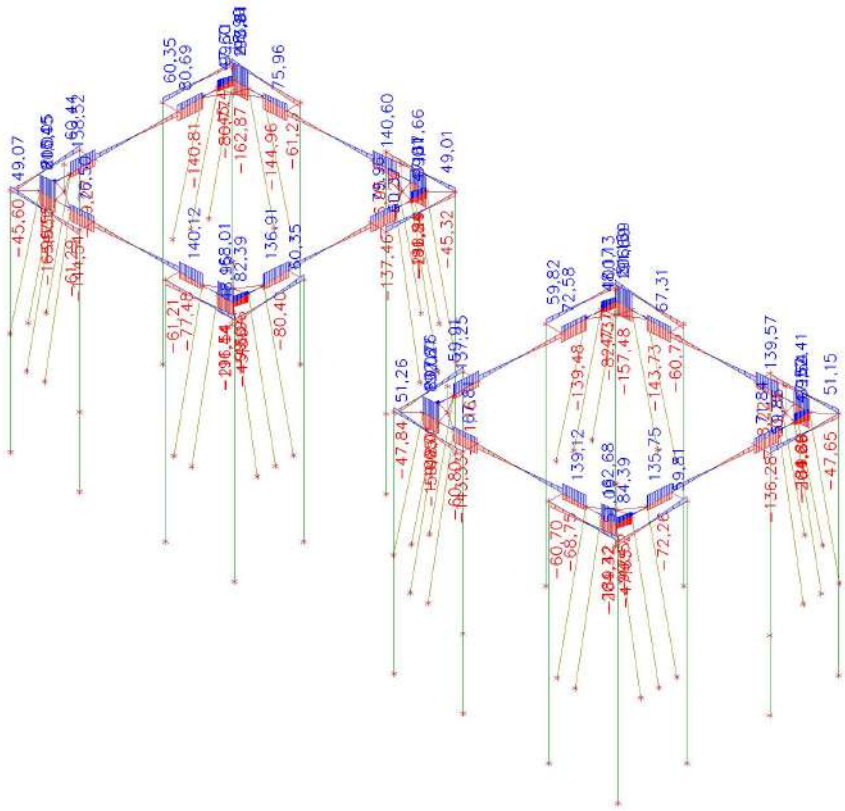
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



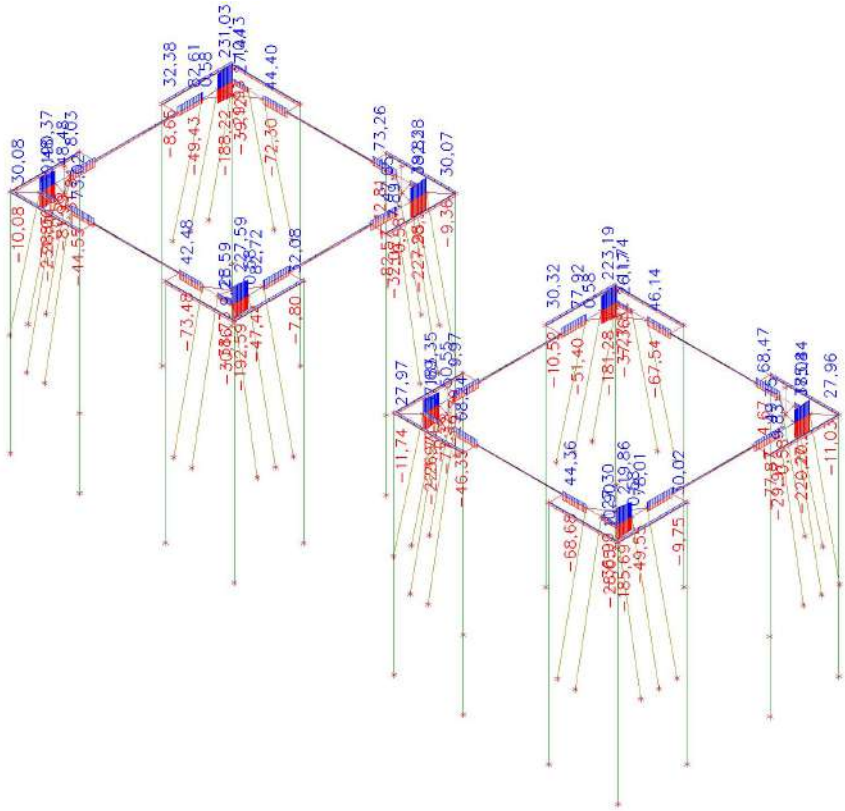
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



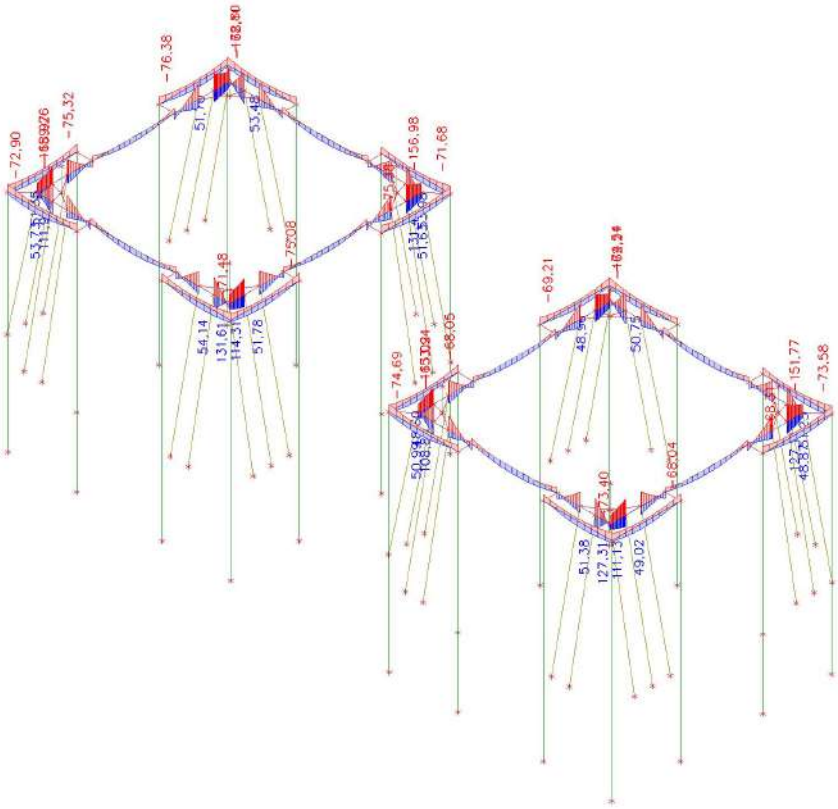
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



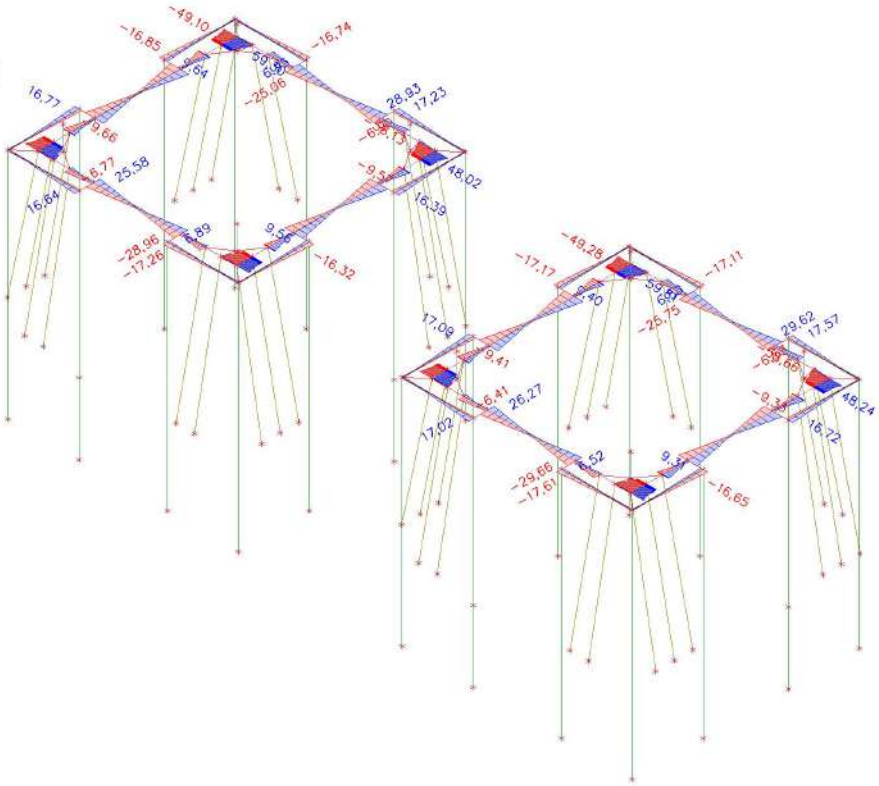
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Balk - Rectangle (750; 900)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Balk 15 | 2,000+ | low max Wnd ;135° | Balk - Rectangle (750; 900) | **-105,35** | 11,73 | 24,05 | -20,72 | 3,83 | -21,20 |
| Balk 4 | 3,500+ | low max Wnd ;135° | Balk - Rectangle (750; 900) | **46,28** | -0,32 | 41,66 | -5,24 | -43,72 | -3,02 |
| Balk 13 | 11,600+ | high max Wnd ;135° | Balk - Rectangle (750; 900) | -30,64 | **-26,70** | -31,88 | 167,89 | 106,60 | -5,18 |
| Balk 14 | 0,000 | low max Wnd ;135° | Balk - Rectangle (750; 900) | 45,28 | **26,68** | -48,09 | -223,97 | -85,07 | -48,49 |
| Balk 4 | 1,000- | low max Wnd ;315° | Balk - Rectangle (750; 900) | 19,04 | -5,46 | **-211,84** | 38,83 | -166,26 | -4,18 |
| Balk 6 | 0,000 | low max Wnd ;135° | Balk - Rectangle (750; 900) | 45,12 | 26,59 | -47,51 | **-231,85** | -90,97 | -48,29 |
| Balk 6 | 12,190+ | low max Wnd ;225° | Balk - Rectangle (750; 900) | 45,37 | -26,58 | 65,62 | **231,03** | -113,02 | -38,20 |
| Balk 7 | 11,600+ | low max Wnd ;135° | Balk - Rectangle (750; 900) | 20,09 | -5,55 | **215,05** | 39,48 | **-168,97** | 4,20 |
| Balk 7 | 1,000- | low max Wnd ;225° | Balk - Rectangle (750; 900) | -19,09 | -3,78 | 152,66 | 28,59 | **131,61** | -3,08 |
| Balk 13 | 12,600 | low max Wnd ;45° | Balk - Rectangle (750; 900) | -34,66 | -13,67 | -25,94 | 66,03 | 10,52 | **-58,66** |
| Balk 14 | 12,600 | low max Wnd ;135° | Balk - Rectangle (750; 900) | -35,35 | 13,49 | -24,41 | -63,25 | 9,10 | **59,81** |

### 7.4.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Ringbalk - Rectangle (750; 1000)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| S242 | 0,000 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | **-39,80** | -1,15 | 37,33 | -10,52 | -65,00 | 5,72 |
| S242 | 0,000 | low max Wnd ;135° | Ringbalk - Rectangle (750; 1000) | **25,49** | 4,48 | 37,69 | 19,50 | -12,20 | -17,17 |
| S229 | 4,500 | high max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 2,45 | -2,30 | **-61,29** | 21,86 | -53,84 | -6,77 |
| S231 | 0,000 | high max Wnd ;45° | Ringbalk - Rectangle (750; 1000) | -11,09 | 2,77 | **60,44** | -16,55 | -68,03 | -9,66 |
| S228 | 0,000 | high max | Ringbalk - | 19,92 | -0,86 | 56,68 | **-32,02** | -20,94 | 3,72 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;135° | Rectangle (750; 1000) | | | | | | |
| S223 | 0,000 | high max Wnd ;45° | Ringbalk - Rectangle (750; 1000) | 20,53 | 0,97 | 56,48 | **32,38** | -20,35 | -4,14 |
| S223 | 0,000 | high max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | -34,84 | -0,95 | 54,06 | 2,17 | **-76,38** | 4,61 |
| S230 | 1,800- | high max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 9,98 | 0,95 | -1,10 | -30,16 | **54,14** | -0,55 |
| S246 | 4,500 | low max Wnd ;135° | Ringbalk - Rectangle (750; 1000) | 12,02 | **-4,78** | -36,32 | -13,54 | -22,50 | **-17,61** |
| S243 | 4,500 | low max Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 11,99 | **4,78** | -36,21 | 13,30 | -22,28 | **17,57** |

# 1. Inhoudsopgave

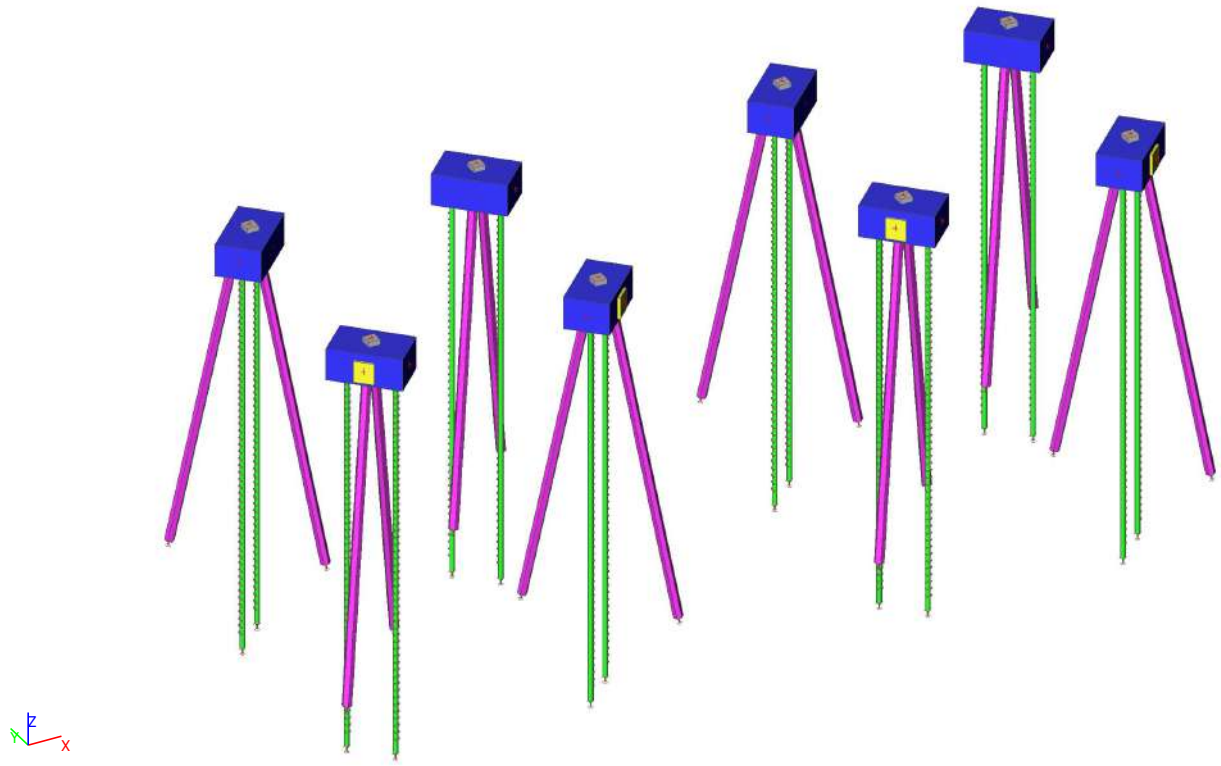
1. Inhoudsopgave 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materialen 4
4.2. Doorsneden 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 8
4.5. Instellingen net 8
5. Geometrie 8
5.1. Knopen 8
5.2. Analyse model met knopen 10
5.3. Staven 10
5.4. Analyse model met Staven 12
5.5. Knoopsteunpunten 12
5.6. Analyse model met Knoopondersteuningen 13
5.7. Lijnsteunpunten op staven 13
5.8. Analyse model met Lijnondersteuningen 23
5.9. Analyse model met Lijnondersteuningen 24
5.10. Niet-lineaire functies 25
6. Belastingen 38
6.1. Belastingsgevallen 38
6.1.1. Belastingsgevallen - E.G. 38
6.1.2. Belastingsgevallen - high max Wnd ;45° 38
6.1.2.1. Puntlast op knoop 39
6.1.3. Belastingsgevallen - high max Wnd ;135° 40
6.1.3.1. Puntlast op knoop 41
6.1.4. Belastingsgevallen - high max Wnd ;225° 41
6.1.4.1. Puntlast op knoop 42
6.1.5. Belastingsgevallen - high max Wnd ;315° 43
6.1.5.1. Puntlast op knoop 44
6.1.6. Belastingsgevallen - low max Wnd ;135° 44
6.1.6.1. Puntlast op knoop 45
6.1.7. Belastingsgevallen - low max Wnd ;225° 46
6.1.7.1. Puntlast op knoop 47
6.1.8. Belastingsgevallen - low max Wnd ;315° 47
6.1.8.1. Puntlast op knoop 48
6.1.9. Belastingsgevallen - low max Wnd ;45° 49
6.1.9.1. Puntlast op knoop 50
6.2. Niet-lineaire combinaties 50
6.3. Resultaatklasses 51
7. Resultaten 52
7.1. Reacties van de palen 52
7.1.1. Reactions; R_z 52
7.1.2. Reacties 52
7.1.3. Reacties 52
7.1.4. Reacties 53
8. Krachten van de Funderingspalen 58
8.1. Interne 1D- krachten; N 58
8.2. Interne 1D- krachten; V_y 58
8.3. Interne 1D- krachten; V_z 59
8.4. Interne 1D- krachten; M_x 59
8.5. Interne 1D- krachten; M_z 60
8.6. Interne 1D- krachten; M_y 60
8.7. Interne 1D-krachten 61
8.8. Interne 1D-krachten 61
9. Krachten van de Poeren 63
9.1. Interne 1D-krachten 63
10. Krachten van de Funderingsbalken 64
10.1. Interne 1D- krachten; N 64
10.2. Interne 1D- krachten; V_y 64
10.3. Interne 1D- krachten; V_z 65
10.4. Interne 1D- krachten; M_x 65
10.5. Interne 1D- krachten; M_y 66
10.6. Interne 1D- krachten; M_z 66

10.7. Interne 1D-krachten 67

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Blokpoer 2xLD1 |
| Auteur | [redacted] |
| Datum | 28-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 120 |
| Aantal staven : | 64 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 5 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materialen

Steel EC3

| Naam | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,00 | 2,1000e+05 | 0.3 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0.3 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Naam | Type | ρ [kg/m³] | Dichtheid in natte toestand [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Beton | 2500,00 | 2600,00 | 7,0000e+03 | 0.2 | 0,01e-003 | 12,00 | |
| C12/15 en zand | Beton | 1034,00 | 2600,00 | 2,7100e+04 | 0.2 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Beton | 2500,00 | 2600,00 | 1,1000e+04 | 0.2 | 0,01e-003 | 30,00 | |
| C30/37 | Beton | 2400,00 | 2600,00 | 3,2800e+04 | 0.2 | 0,01e-003 | 30,00 | |

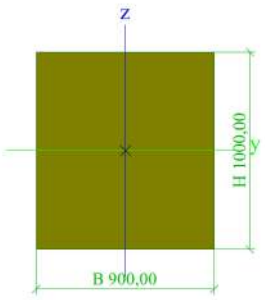
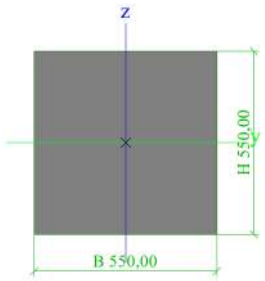
| Verklaring van symbolen | |
|---|---|
| Dichtheid in natte toestand | De waarde van de dichtheid van het kenmerk nieuwe toestand wordt alleen gebruikt als een samengesteld dek wordt ingevoerd en rekening wordt gehouden met de belasting van het eigengewicht. |

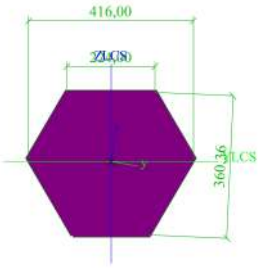
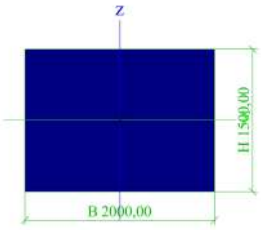
Wapening EC2

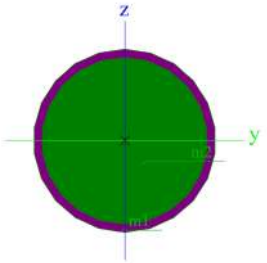
| Naam | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Betonstaal | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |

## 4.2. Doorsneden

| Balk | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 1000,00; 900,00 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C12/15 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [mm²] | 9,0000e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 7,5031e+05 | 7,5025e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,8000e+00 | 3,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450,00 | 500,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 7,5000e+10 | 6,0750e+10 |
| $i_y$ [mm], $i_z$ [mm] | 288,68 | 259,81 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 1,5000e+08 | 1,3500e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 1,1333e+11 | 1,5185e+14 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

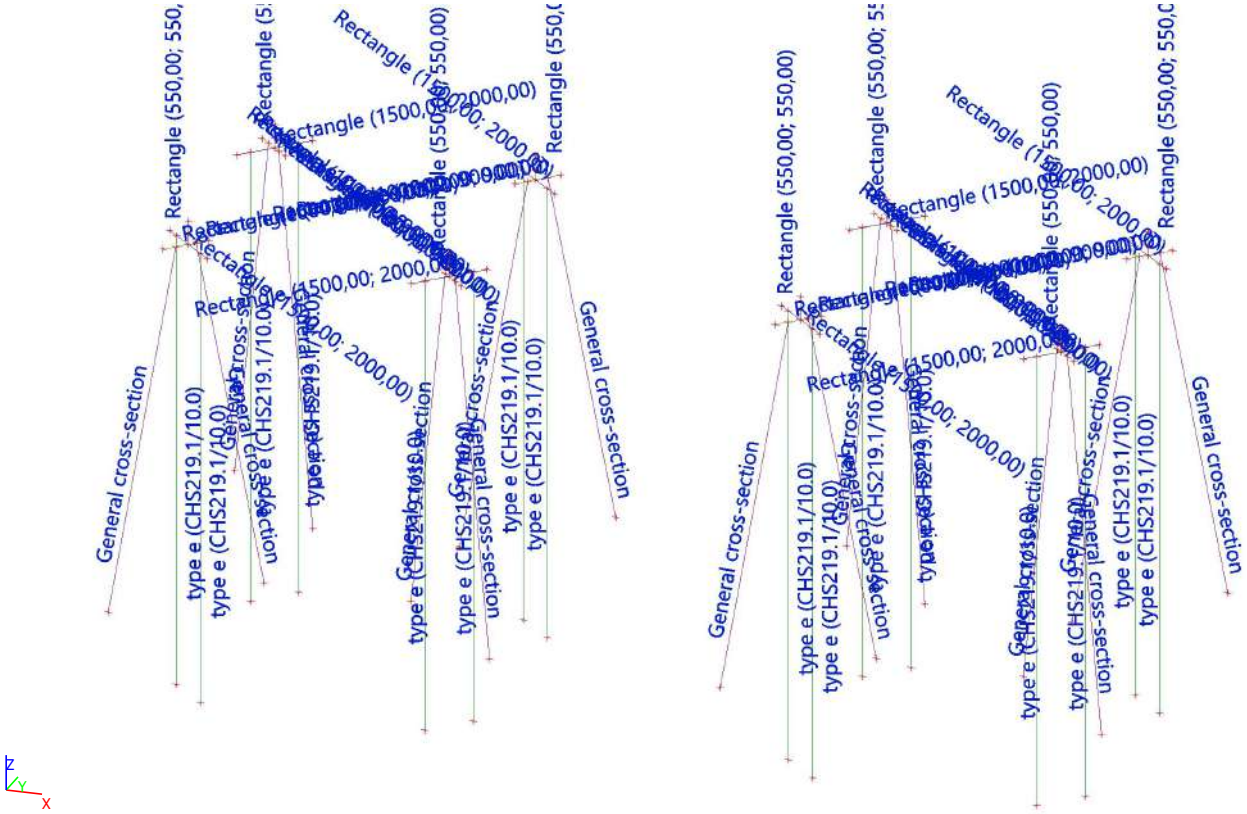
| | | |
|---|---|---|
| Afbeelding |  | |
| **Poer** | | |
| Type | Rectangle | |
| Gedetailleerd | 550,00; 550,00 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C12/15 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [mm²] | 3,0250e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,5218e+05 | 2,5218e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,2000e+00 | 2,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 275,00 | 275,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 7,6255e+09 | 7,6255e+09 |
| $i_y$ [mm], $i_z$ [mm] | 158,77 | 158,77 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 2,7729e+07 | 2,7729e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 1,2869e+10 | 3,7254e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Afbeelding |  | |
| **LD1** | | |
| Type | General cross-section | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C12/15 en zand | |
| | S 235 | |
| Bouwwijze | Algemeen | |
| Kleur | | |
| Knik y-y, Knik z-z | d | d |
| A [mm²] | 1,0395e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 8,2228e+05 | 8,2238e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,2942e+00 | 1,2942e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 0,02 | 4,66 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 9,9139e+09 | 9,9320e+09 |
| $I_{YZ.LCS}$ [mm⁴] | -2,9707e+06 | |
| α [deg] | -9,09 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 9,9134e+09 | 9,9325e+09 |
| $i_y$ [mm], $i_z$ [mm] | 97,65 | 97,75 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 4,8730e+07 | 4,6474e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,9850e+08 | 1,9985e+08 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 2381946504,64 | 2384211815,40 |

| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 2398157107,97 | 2399177721,95 |
| $d_y$ [mm], $d_z$ [mm] | -0,01 | -0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 1,7613e+10 | 4,6919e+11 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,05 | 0,02 |
| Afbeelding |   | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Gedetailleerd | 1500,00; 2000,00 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C30/37 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [mm²] | 3,0000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,5006e+06 | 2,5010e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 7,0000e+00 | 7,0000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 1000,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 5,6250e+11 | 1,0000e+12 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 577,35 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 7,5000e+08 | 1,0000e+09 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 1,2185e+12 | 1,7790e+16 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Afbeelding |   | |
| **LEKA Paal** | | |
| Type | type e | |
| Gedetailleerd | CHS219.1/10.0 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | S 235 | |
| | C30/37 | |
| Bouwwijze | beton | |
| Knik y-y, Knik z-z | a | a |
| A [mm²] | 1,1430e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 8,7249e+03 | 8,7249e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 109,55 | 109,55 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,8013e+07 | 4,8013e+07 |
| $i_y$ [mm], $i_z$ [mm] | 64,81 | 64,81 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 4,3827e+05 | 4,3827e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9123e+05 | 4,9123e+05 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 115439254,87 | 115439254,87 |

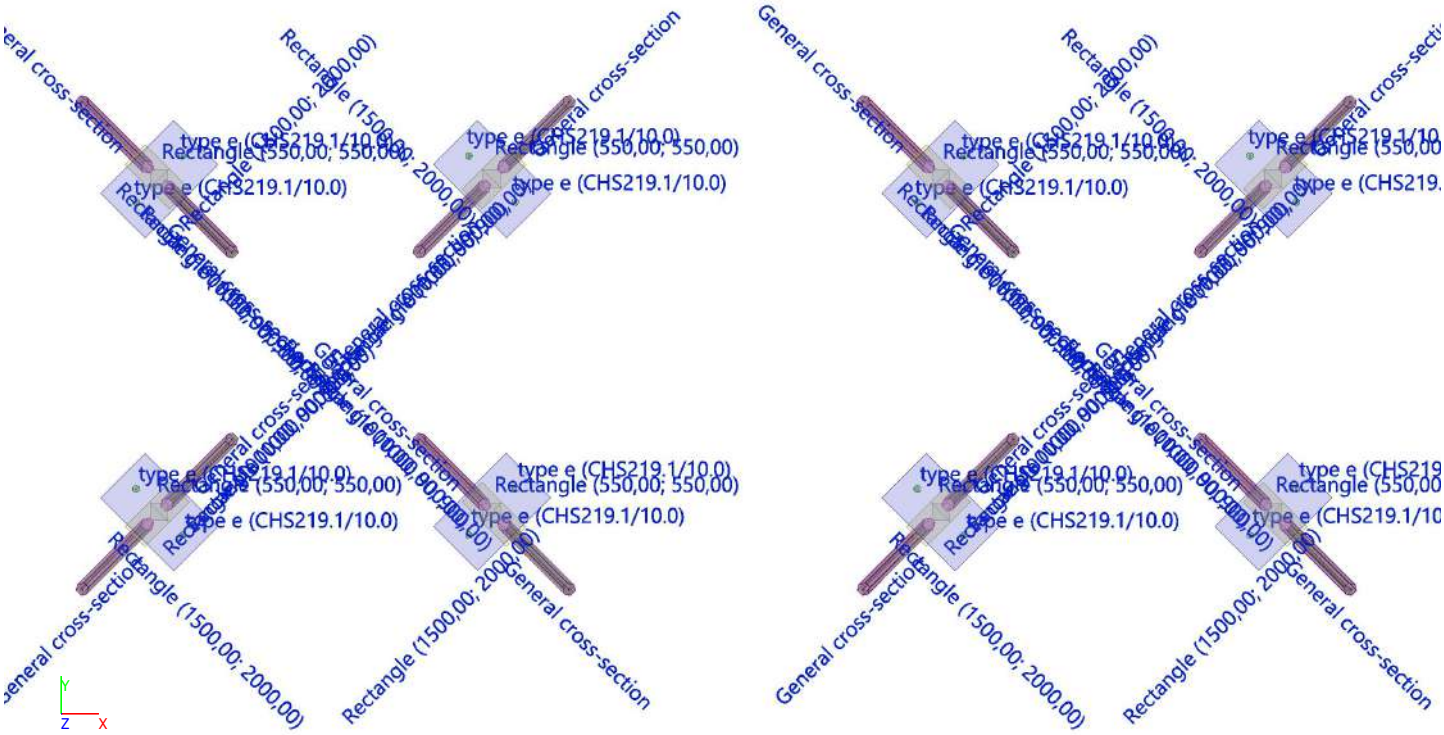
| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 115439254,87 | 115439254,87 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm$^4$], $I_w$ [mm$^6$] | 9,8040e+07 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Afbeelding |  | |



## 4.3. Analyse model met doorsneden



## 4.4. Analyse model met doorsneden




## 4.5. Instellingen net

| | |
|---|---|
| Naam | MeshSetup1 |
| Generatie van variabele excentriciteiten op elementen in plaats van constante excentriciteiten | × |
| Generatie van knopen op staven | × |
| Elastisch net | ✓ |
| Pas automatische netverfijning toe | × |
| Constructie-entiteiten verbinden | ✓ |
| Verdeling op consoles en variabele staven | 5 |
| Verdeling voor integratiestrook en 2D-1D upgrade | 50 |
| Gemiddeld aantal 1D-netelementen op rechte 1D-elementen | 1 |
| Gemiddelde grootte van 2D-netelement [m] | 0,200 |
| Gemiddelde grootte van 1D-element op gebogen 1D-elementen [m] | 0,100 |
| Minimum lengte van staafelement [m] | 0,100 |
| Maximum lengte van staafelement [m] | 1000,000 |
| Gemiddelde grootte van voorspankabels, elementen op elastische bedding, niet-lineaire grondveer [m] | 1,000 |
| Maximale hoek uit het vlak van vierhoekig element [mrad] | 30,0 |
| Minimale afstand tussen definitiepunt en -lijn [m] | 0,001 |
| Gemiddelde afmeting van paneelelement [m] | 1,000 |
| Netverfijning volgens het liggertype | Geen |
| Definitie van netelementen afmetingen voor panelen | Handmatig |

# 5. Geometrie

## 5.1. Knopen

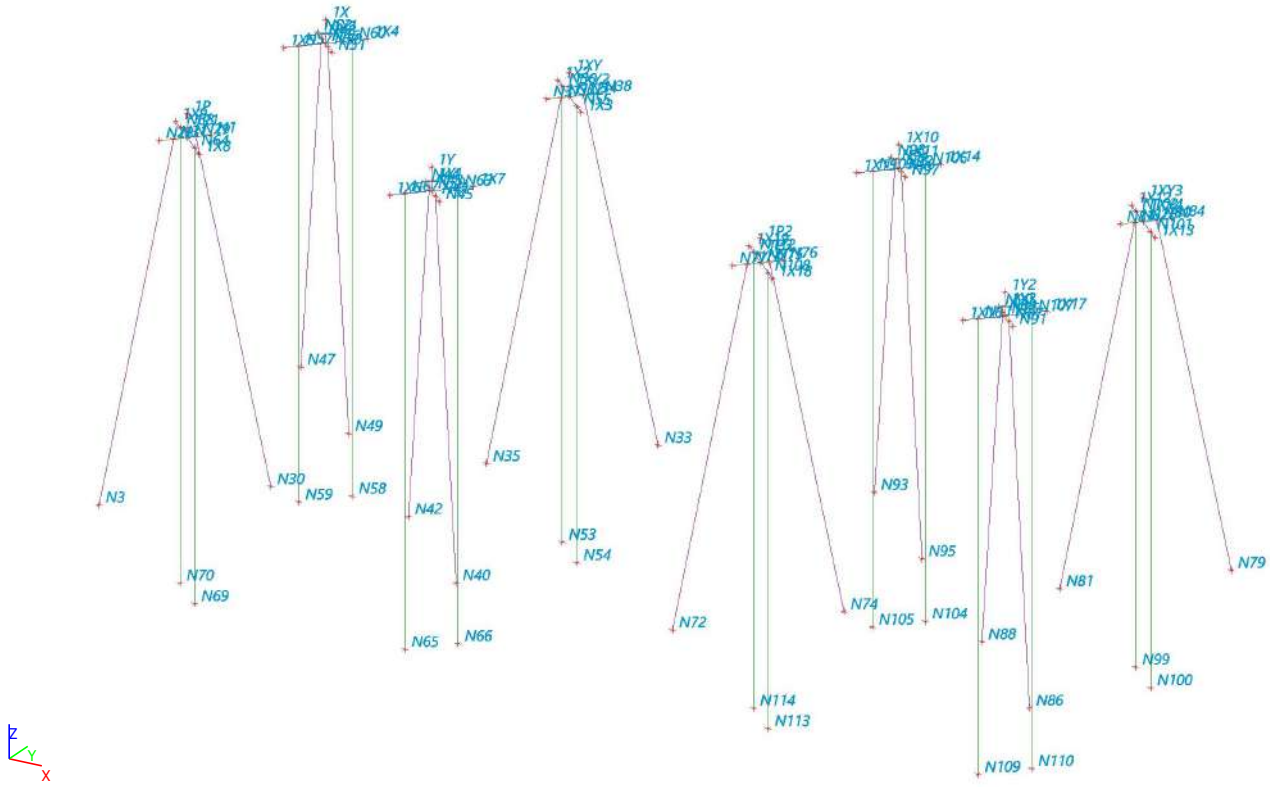
| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N | 0,000 | 0,000 | 0,000 |
| N3 | -2,462 | -2,462 | -14,706 |
| N31 | -0,382 | -0,382 | 0,000 |
| N30 | 2,320 | 2,320 | -14,706 |
| N29 | 0,240 | 0,240 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N1 | 0,636 | 0,636 | 0,000 |
| N28 | -0,778 | -0,778 | 0,000 |
| 1P | 0,000 | 0,000 | 0,970 |
| 1P1 | 0,000 | 0,000 | 0,400 |
| N32 | 10,646 | 10,646 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N33 | 13,108 | 13,108 | -14,706 |
| N34 | 11,028 | 11,028 | 0,000 |
| N35 | 8,326 | 8,326 | -14,706 |
| N36 | 10,406 | 10,406 | 0,000 |
| N37 | 10,010 | 10,010 | 0,000 |
| N38 | 11,424 | 11,424 | 0,000 |
| 1XY | 10,646 | 10,646 | 0,970 |
| 1XY2 | 10,646 | 10,646 | 0,400 |
| N39 | 10,646 | 0,000 | 0,000 |
| N40 | 13,108 | -2,462 | -14,706 |
| N41 | 11,028 | -0,382 | 0,000 |
| N42 | 8,326 | 2,320 | -14,706 |
| N43 | 10,406 | 0,240 | 0,000 |
| N44 | 10,010 | 0,636 | 0,000 |
| N45 | 11,424 | -0,778 | 0,000 |
| 1Y | 10,646 | 0,000 | 0,970 |
| 1Y1 | 10,646 | 0,000 | 0,400 |
| N46 | 0,000 | 10,646 | 0,000 |
| N47 | -2,462 | 13,108 | -14,706 |
| N48 | -0,382 | 11,028 | 0,000 |
| N49 | 2,320 | 8,326 | -14,706 |
| N50 | 0,240 | 10,406 | 0,000 |
| N51 | 0,636 | 10,010 | 0,000 |
| N52 | -0,778 | 11,424 | 0,000 |
| 1X | 0,000 | 10,646 | 0,970 |
| 1X1 | 0,000 | 10,646 | 0,400 |
| 1X2 | 9,479 | 11,813 | 0,000 |
| 1X3 | 11,813 | 9,479 | 0,000 |
| N53 | 9,904 | 11,388 | -18,720 |
| N54 | 11,388 | 9,904 | -18,720 |
| N55 | 11,388 | 9,904 | 0,000 |
| N56 | 9,904 | 11,388 | 0,000 |
| N57 | -0,742 | 9,904 | 0,000 |
| 1X4 | 1,167 | 11,813 | 0,000 |
| 1X5 | -1,167 | 9,479 | 0,000 |
| N58 | 0,742 | 11,388 | -18,720 |
| N59 | -0,742 | 9,904 | -18,720 |
| N60 | 0,742 | 11,388 | 0,000 |
| N63 | 11,388 | 0,742 | 0,000 |
| N64 | 0,742 | -0,742 | 0,000 |
| 1X6 | 9,479 | -1,167 | 0,000 |
| 1X7 | 11,813 | 1,167 | 0,000 |
| N65 | 9,904 | -0,742 | -18,720 |
| N66 | 11,388 | 0,742 | -18,720 |
| N67 | 9,904 | -0,742 | 0,000 |
| N68 | -0,742 | 0,742 | 0,000 |
| 1X8 | 1,167 | -1,167 | 0,000 |
| 1X9 | -1,167 | 1,167 | 0,000 |
| N69 | 0,742 | -0,742 | -18,720 |
| N70 | -0,742 | 0,742 | -18,720 |
| N71 | 25,000 | 0,000 | 0,000 |
| N72 | 22,538 | -2,462 | -14,706 |
| N73 | 24,618 | -0,382 | 0,000 |
| N74 | 27,320 | 2,320 | -14,706 |
| N75 | 25,240 | 0,240 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N76 | 25,636 | 0,636 | 0,000 |
| N77 | 24,222 | -0,778 | 0,000 |
| 1P2 | 25,000 | 0,000 | 0,970 |
| 1P3 | 25,000 | 0,000 | 0,400 |
| N78 | 35,646 | 10,646 | 0,000 |
| N79 | 38,108 | 13,108 | -14,706 |
| N80 | 36,028 | 11,028 | 0,000 |
| N81 | 33,326 | 8,326 | -14,706 |
| N82 | 35,406 | 10,406 | 0,000 |
| N83 | 35,010 | 10,010 | 0,000 |
| N84 | 36,424 | 11,424 | 0,000 |
| 1XY3 | 35,646 | 10,646 | 0,970 |
| 1XY4 | 35,646 | 10,646 | 0,400 |
| N85 | 35,646 | 0,000 | 0,000 |
| N86 | 38,108 | -2,462 | -14,706 |
| N87 | 36,028 | -0,382 | 0,000 |
| N88 | 33,326 | 2,320 | -14,706 |
| N89 | 35,406 | 0,240 | 0,000 |
| N90 | 35,010 | 0,636 | 0,000 |
| N91 | 36,424 | -0,778 | 0,000 |
| 1Y2 | 35,646 | 0,000 | 0,970 |
| 1Y3 | 35,646 | 0,000 | 0,400 |
| N92 | 25,000 | 10,646 | 0,000 |
| N93 | 22,538 | 13,108 | -14,706 |
| N94 | 24,618 | 11,028 | 0,000 |
| N95 | 27,320 | 8,326 | -14,706 |
| N96 | 25,240 | 10,406 | 0,000 |
| N97 | 25,636 | 10,010 | 0,000 |
| N98 | 24,222 | 11,424 | 0,000 |
| 1X10 | 25,000 | 10,646 | 0,970 |
| 1X11 | 25,000 | 10,646 | 0,400 |
| 1X12 | 34,479 | 11,813 | 0,000 |
| 1X13 | 36,813 | 9,479 | 0,000 |
| N99 | 34,904 | 11,388 | -18,720 |
| N100 | 36,388 | 9,904 | -18,720 |
| N101 | 36,388 | 9,904 | 0,000 |
| N102 | 34,904 | 11,388 | 0,000 |
| N103 | 24,258 | 9,904 | 0,000 |
| 1X14 | 26,167 | 11,813 | 0,000 |
| 1X15 | 23,833 | 9,479 | 0,000 |
| N104 | 25,742 | 11,388 | -18,720 |
| N105 | 24,258 | 9,904 | -18,720 |
| N106 | 25,742 | 11,388 | 0,000 |
| N107 | 36,388 | 0,742 | 0,000 |
| N108 | 25,742 | -0,742 | 0,000 |
| 1X16 | 34,479 | -1,167 | 0,000 |
| 1X17 | 36,813 | 1,167 | 0,000 |
| N109 | 34,904 | -0,742 | -18,720 |
| N110 | 36,388 | 0,742 | -18,720 |
| N111 | 34,904 | -0,742 | 0,000 |
| N112 | 24,258 | 0,742 | 0,000 |
| 1X18 | 26,167 | -1,167 | 0,000 |
| 1X19 | 23,833 | 1,167 | 0,000 |
| N113 | 25,742 | -0,742 | -18,720 |
| N114 | 24,258 | 0,742 | -18,720 |

## 5.2. Analyse model met knopen

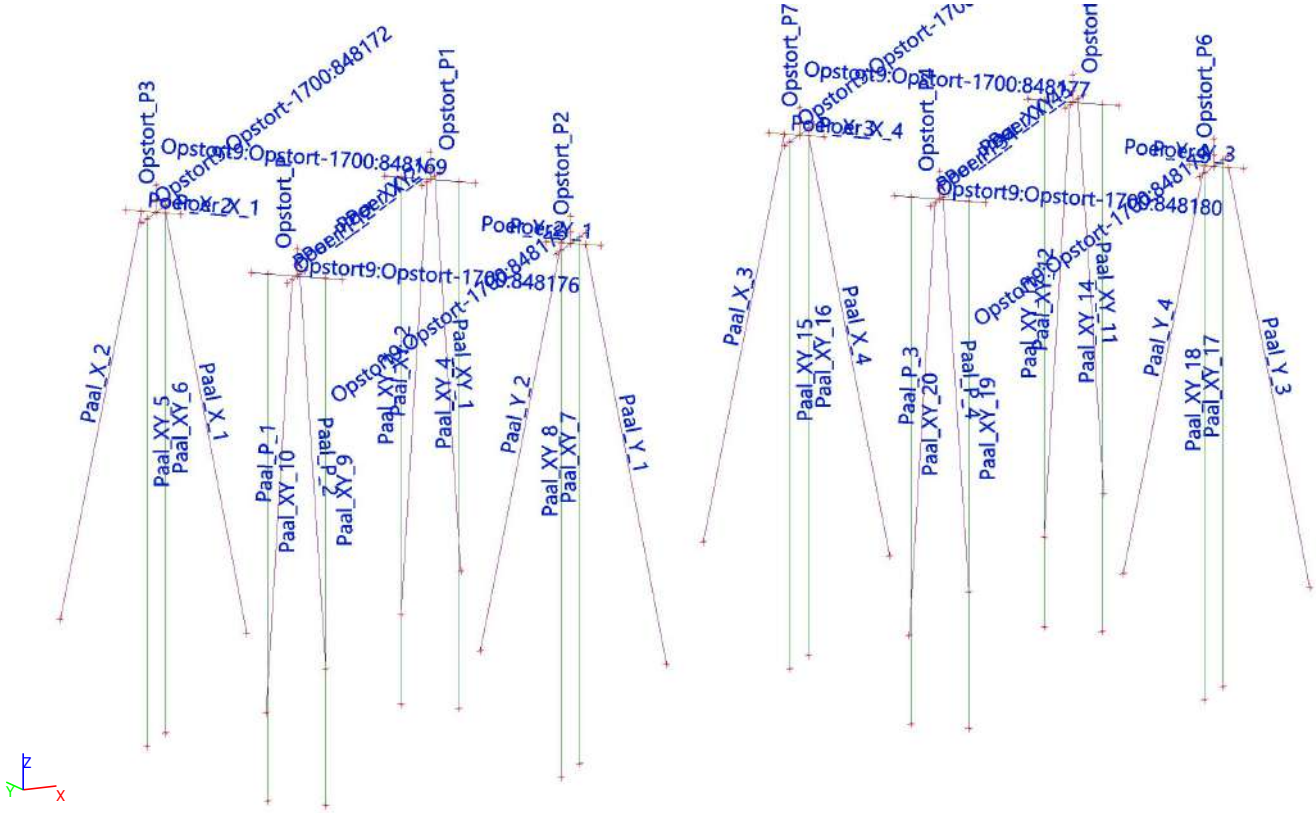



## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Opstort9:Opstort-1700:848169 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X3 | 1X2 | Balk (80) |
| Opstort9:Opstort-1700:848172 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X5 | 1X4 | Balk (80) |
| Poer_P_1 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N28 | N | Balk (80) |
| Opstort9:Opstort-1700:848176 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X9 | 1X8 | Balk (80) |
| Opstort9:Opstort-1700:848177 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X13 | 1X12 | Balk (80) |
| Opstort9:Opstort-1700:848178 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X15 | 1X14 | Balk (80) |
| Poer_P_2 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N | N1 | Balk (80) |
| Poer_P_3 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N77 | N71 | Balk (80) |
| Poer_P_4 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N71 | N76 | Balk (80) |
| Poer_XY_1 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N38 | N32 | Balk (80) |
| Poer_XY_2 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N32 | N37 | Balk (80) |
| Poer_XY_3 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N84 | N78 | Balk (80) |
| Poer_XY_4 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N78 | N83 | Balk (80) |
| Poer_X_1 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N46 | N51 | Balk (80) |
| Poer_X_2 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N52 | N46 | Balk (80) |
| Poer_X_3 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N98 | N92 | Balk (80) |
| Poer_X_4 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N92 | N97 | Balk (80) |
| Poer_Y_1 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N45 | N39 | Balk (80) |
| Opstort9:Opstort-1700:848175 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X7 | 1X6 | Balk (80) |
| Opstort9:Opstort-1700:848179 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X17 | 1X16 | Balk (80) |
| Poer_Y_2 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N39 | N44 | Balk (80) |
| Poer_Y_3 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 1,100 | N91 | N85 | Balk (80) |
| Poer_Y_4 | Balk - Rectangle (1000,00; 900,00) | C12/15 Gescheurd | 0,900 | N85 | N90 | Balk (80) |
| Opstort9:Opstort-1700:848180 | lijnpoer - Rectangle (1500,00; 2000,00) | C30/37 Gescheurd | 3,300 | 1X19 | 1X18 | Balk (80) |
| Opstort_P | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1P1 | 1P | Kolom (100) |
| Opstort_P1 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1XY2 | 1XY | Kolom (100) |
| Opstort_P2 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1Y1 | 1Y | Kolom (100) |
| Opstort_P3 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1X1 | 1X | Kolom (100) |
| Opstort_P4 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1P3 | 1P2 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Opstort_P5 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1XY4 | 1XY3 | Kolom (100) |
| Opstort_P6 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1Y3 | 1Y2 | Kolom (100) |
| Opstort_P7 | Poer - Rectangle (550,00; 550,00) | C12/15 Gescheurd | 0,570 | 1X11 | 1X10 | Kolom (100) |
| Paal_P_1 | LD1 - General cross-section | C12/15 en zand | 14,997 | N31 | N3 | Kolom (100) |
| Paal_P_2 | LD1 - General cross-section | C12/15 en zand | 14,997 | N29 | N30 | Kolom (100) |
| Paal_P_3 | LD1 - General cross-section | C12/15 en zand | 14,997 | N73 | N72 | Kolom (100) |
| Paal_P_4 | LD1 - General cross-section | C12/15 en zand | 14,997 | N75 | N74 | Kolom (100) |
| Paal_XY_1 | LD1 - General cross-section | C12/15 en zand | 14,997 | N34 | N33 | Kolom (100) |
| Paal_XY_2 | LD1 - General cross-section | C12/15 en zand | 14,997 | N36 | N35 | Kolom (100) |
| Paal_XY_3 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N56 | N53 | Kolom (100) |
| Paal_XY_4 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N55 | N54 | Kolom (100) |
| Paal_XY_5 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N57 | N59 | Kolom (100) |
| Paal_XY_6 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N60 | N58 | Kolom (100) |
| Paal_XY_7 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N63 | N66 | Kolom (100) |
| Paal_XY_8 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N67 | N65 | Kolom (100) |
| Paal_XY_9 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N64 | N69 | Kolom (100) |
| Paal_XY_10 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N68 | N70 | Kolom (100) |
| Paal_XY_11 | LD1 - General cross-section | C12/15 en zand | 14,997 | N80 | N79 | Kolom (100) |
| Paal_XY_12 | LD1 - General cross-section | C12/15 en zand | 14,997 | N82 | N81 | Kolom (100) |
| Paal_XY_13 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N102 | N99 | Kolom (100) |
| Paal_XY_14 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N101 | N100 | Kolom (100) |
| Paal_XY_15 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N103 | N105 | Kolom (100) |
| Paal_XY_16 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N106 | N104 | Kolom (100) |
| Paal_XY_17 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N107 | N110 | Kolom (100) |
| Paal_XY_18 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N111 | N109 | Kolom (100) |
| Paal_XY_19 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N108 | N113 | Kolom (100) |
| Paal_XY_20 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 18,720 | N112 | N114 | Kolom (100) |
| Paal_X_1 | LD1 - General cross-section | C12/15 en zand | 14,997 | N50 | N49 | Kolom (100) |
| Paal_X_2 | LD1 - General cross-section | C12/15 en zand | 14,997 | N48 | N47 | Kolom (100) |
| Paal_X_3 | LD1 - General cross-section | C12/15 en zand | 14,997 | N94 | N93 | Kolom (100) |
| Paal_X_4 | LD1 - General cross-section | C12/15 en zand | 14,997 | N96 | N95 | Kolom (100) |
| Paal_Y_1 | LD1 - General cross-section | C12/15 en zand | 14,997 | N41 | N40 | Kolom (100) |
| Paal_Y_2 | LD1 - General cross-section | C12/15 en zand | 14,997 | N43 | N42 | Kolom (100) |
| Paal_Y_3 | LD1 - General cross-section | C12/15 en zand | 14,997 | N87 | N86 | Kolom (100) |
| Paal_Y_4 | LD1 - General cross-section | C12/15 en zand | 14,997 | N89 | N88 | Kolom (100) |

## 5.4. Analyse model met Staven

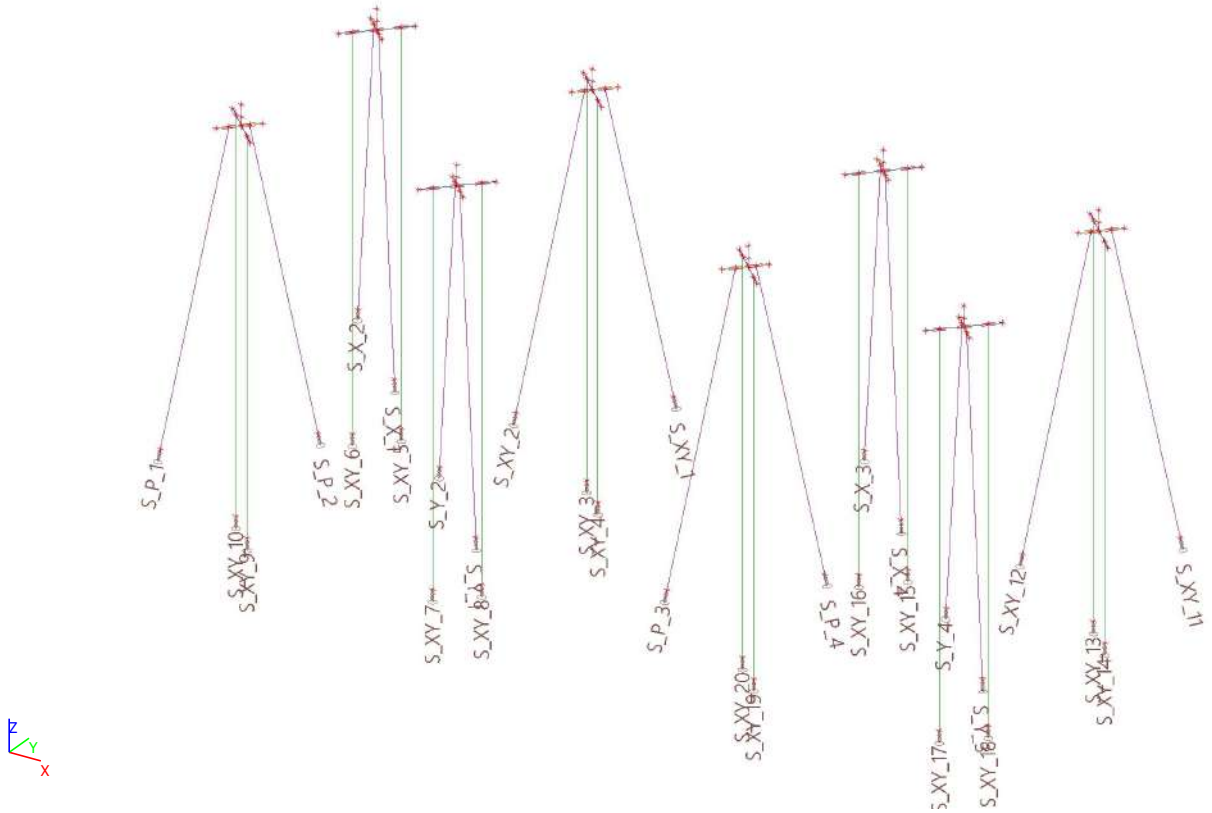



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P_1 | N3 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx-8,00 |
| S_P_2 | N30 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx8,00 |
| S_XY_1 | N33 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx8,00 |
| S_XY_2 | N35 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx-8,00 |
| S_Y_1 | N40 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx-8,00 |
| S_Y_2 | N42 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx8,00 |
| S_X_2 | N47 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx8,00 |
| S_X_1 | N49 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx-8,00 |
| S_XY_3 | N53 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_4 | N54 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_5 | N58 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_6 | N59 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_7 | N65 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_8 | N66 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_9 | N69 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_10 | N70 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_P_3 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx-8,00 |
| S_P_4 | N74 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx8,00 |
| S_XY_11 | N79 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx8,00 |
| S_XY_12 | N81 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx-8,00 |
| S_Y_3 | N86 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx-8,00 |
| S_Y_4 | N88 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx8,00 |
| S_X_3 | N93 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry8,00;Rx8,00 |
| S_X_4 | N95 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-8,00;Rx-8,00 |
| S_XY_13 | N99 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_14 | N100 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_15 | N104 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_16 | N105 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_17 | N109 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_18 | N110 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_XY_19 | N113 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| S_XY_20 | N114 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen1 | Lijn | Paal_XY_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen5 | Lijn | Paal_XY_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen4 | Lijn | Paal_XY_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen31 | Lijn | Paal_X_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen20 | Lijn | Paal_Y_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen19 | Lijn | Paal_XY_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen27 | Lijn | Paal_XY_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen12 | Lijn | Paal_XY_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen28 | Lijn | Paal_Y_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen15 | Lijn | Paal_XY_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen6 | Lijn | Paal_XY_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen7 | Lijn | Paal_XY_10 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen22 | Lijn | Paal_X_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen14 | Lijn | Paal_XY_19 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen11 | Lijn | Paal_XY_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen29 | Lijn | Paal_Y_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen9 | Lijn | Paal_XY_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen3 | Lijn | Paal_XY_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen21 | Lijn | Paal_Y_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen18 | Lijn | Paal_XY_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen25 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Lijn | Paal_XY_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen26 | Lijn | Paal_XY_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen17 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen30 | Lijn | Paal_X_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Lijn | Paal_X_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen8 | Lijn | Paal_XY_13 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen10 | Lijn | Paal_XY_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen24 | Lijn | Paal_P_3 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen2 | Lijn | Paal_XY_5 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen13 | Lijn | Paal_XY_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-1_Veen |
| Veen16 | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| (PY-curve-2_V1)12 | Lijn | Paal_XY_10 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)1 | Lijn | Paal_Y_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)15 | Lijn | Paal_XY_15 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)14 | Lijn | Paal_XY_14 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)10 | Lijn | Paal_XY_8 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)26 | Lijn | Paal_Y_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)4 | Lijn | Paal_X_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)24 | Lijn | Paal_XY_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)9 | Lijn | Paal_XY_7 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)13 | Lijn | Paal_XY_13 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)21 | Lijn | Paal_P_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)3 | Lijn | Paal_X_3 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-2_V1)5 | Lijn | Paal_XY_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)6 | Lijn | Paal_XY_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)16 | Lijn | Paal_XY_16 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)17 | Lijn | Paal_XY_17 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)27 | Lijn | Paal_X_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1) | Lijn | Paal_XY_12 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)20 | Lijn | Paal_XY_20 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)8 | Lijn | Paal_XY_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)31 | Lijn | Paal_XY_11 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)22 | Lijn | Paal_P_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)2 | Lijn | Paal_Y_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)18 | Lijn | Paal_XY_18 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)7 | Lijn | Paal_XY_5 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)19 | Lijn | Paal_XY_19 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)30 | Lijn | Paal_P_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)25 | Lijn | Paal_Y_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)28 | Lijn | Paal_X_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)11 | Lijn | Paal_XY_9 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)29 | Lijn | Paal_P_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V1)23 | Lijn | Paal_XY_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V2)21 | Lijn | Paal_XY_18 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)13 | Lijn | Paal_XY_9 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)20 | Lijn | Paal_XY_17 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)26 | Lijn | Paal_X_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)18 | Lijn | Paal_XY_15 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)2 | Lijn | Paal_P_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)17 | Lijn | Paal_XY_14 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)30 | Lijn | Paal_Y_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)19 | Lijn | Paal_XY_16 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)11 | Lijn | Paal_XY_7 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)16 | Lijn | Paal_XY_13 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)10 | Lijn | Paal_XY_6 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-2_V2)25 | Lijn | Paal_X_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)27 | Lijn | Paal_X_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)4 | Lijn | Paal_XY_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)8 | Lijn | Paal_XY_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)23 | Lijn | Paal_XY_20 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)31 | Lijn | Paal_Y_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)9 | Lijn | Paal_XY_5 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)28 | Lijn | Paal_Y_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)29 | Lijn | Paal_Y_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2) | Lijn | Paal_P_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)14 | Lijn | Paal_XY_10 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)22 | Lijn | Paal_XY_19 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)15 | Lijn | Paal_XY_12 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)6 | Lijn | Paal_XY_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)5 | Lijn | Paal_XY_11 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)12 | Lijn | Paal_XY_8 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)3 | Lijn | Paal_P_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)7 | Lijn | Paal_XY_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)24 | Lijn | Paal_X_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V2)1 | Lijn | Paal_P_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V3)22 | Lijn | Paal_XY_19 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)20 | Lijn | Paal_XY_17 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)13 | Lijn | Paal_XY_9 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3) | Lijn | Paal_P_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)6 | Lijn | Paal_XY_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)12 | Lijn | Paal_XY_8 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)17 | Lijn | Paal_XY_14 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)23 | Lijn | Paal_XY_20 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)26 | Lijn | Paal_X_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)11 | Lijn | Paal_XY_7 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)16 | Lijn | Paal_XY_13 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)10 | Lijn | Paal_XY_6 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)27 | Lijn | Paal_X_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)18 | Lijn | Paal_XY_15 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)30 | Lijn | Paal_Y_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)21 | Lijn | Paal_XY_18 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)31 | Lijn | Paal_Y_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)9 | Lijn | Paal_XY_5 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)29 | Lijn | Paal_Y_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)4 | Lijn | Paal_XY_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)15 | Lijn | Paal_XY_12 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)8 | Lijn | Paal_XY_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)5 | Lijn | Paal_XY_11 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)14 | Lijn | Paal_XY_10 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)25 | Lijn | Paal_X_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)28 | Lijn | Paal_Y_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)3 | Lijn | Paal_P_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)19 | Lijn | Paal_XY_16 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Lijn | Paal_XY_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)24 | Lijn | Paal_X_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)1 | Lijn | Paal_P_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V3)2 | Lijn | Paal_P_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V11 | PY-curve-2_V11 |
| (PY-curve-2_V4)14 | Lijn | Paal_XY_10 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)22 | Lijn | Paal_XY_19 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)24 | Lijn | Paal_X_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)6 | Lijn | Paal_XY_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)13 | Lijn | Paal_XY_9 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)20 | Lijn | Paal_XY_17 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)12 | Lijn | Paal_XY_8 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)26 | Lijn | Paal_X_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)18 | Lijn | Paal_XY_15 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)17 | Lijn | Paal_XY_14 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)11 | Lijn | Paal_XY_7 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)16 | Lijn | Paal_XY_13 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-2_V4)25 | Lijn | Paal_X_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)10 | Lijn | Paal_XY_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)30 | Lijn | Paal_Y_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)27 | Lijn | Paal_X_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)31 | Lijn | Paal_Y_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)4 | Lijn | Paal_XY_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)9 | Lijn | Paal_XY_5 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)29 | Lijn | Paal_Y_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)2 | Lijn | Paal_P_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)15 | Lijn | Paal_XY_12 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)8 | Lijn | Paal_XY_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)5 | Lijn | Paal_XY_11 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)28 | Lijn | Paal_Y_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)19 | Lijn | Paal_XY_16 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4) | Lijn | Paal_P_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)3 | Lijn | Paal_P_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)21 | Lijn | Paal_XY_18 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)7 | Lijn | Paal_XY_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)1 | Lijn | Paal_P_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V12 | PY-curve-2_V12 |
| (PY-curve-2_V4)23 | Lijn | Paal_XY_20 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V5)14 | Lijn | Paal_XY_10 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)24 | Lijn | Paal_X_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)22 | Lijn | Paal_XY_19 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)6 | Lijn | Paal_XY_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)21 | Lijn | Paal_XY_18 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)13 | Lijn | Paal_XY_9 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)20 | Lijn | Paal_XY_17 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)12 | Lijn | Paal_XY_8 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)26 | Lijn | Paal_X_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)18 | Lijn | Paal_XY_15 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)17 | Lijn | Paal_XY_14 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)11 | Lijn | Paal_XY_7 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-2_V5)16 | Lijn | Paal_XY_13 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)2 | Lijn | Paal_P_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)25 | Lijn | Paal_X_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)10 | Lijn | Paal_XY_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)30 | Lijn | Paal_Y_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)27 | Lijn | Paal_X_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5) | Lijn | Paal_P_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)4 | Lijn | Paal_XY_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)31 | Lijn | Paal_Y_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)9 | Lijn | Paal_XY_5 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)23 | Lijn | Paal_XY_20 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)29 | Lijn | Paal_Y_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)15 | Lijn | Paal_XY_12 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)8 | Lijn | Paal_XY_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)19 | Lijn | Paal_XY_16 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)28 | Lijn | Paal_Y_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)5 | Lijn | Paal_XY_11 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)3 | Lijn | Paal_P_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V5)7 | Lijn | Paal_XY_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)1 | Lijn | Paal_P_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V13 | PY-curve-2_V13 |
| (PY-curve-2_V6)14 | Lijn | Paal_XY_10 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)23 | Lijn | Paal_XY_20 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)6 | Lijn | Paal_XY_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)22 | Lijn | Paal_XY_19 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)13 | Lijn | Paal_XY_9 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)21 | Lijn | Paal_XY_18 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)20 | Lijn | Paal_XY_17 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)2 | Lijn | Paal_P_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)26 | Lijn | Paal_X_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)12 | Lijn | Paal_XY_8 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)19 | Lijn | Paal_XY_16 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)18 | Lijn | Paal_XY_15 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |

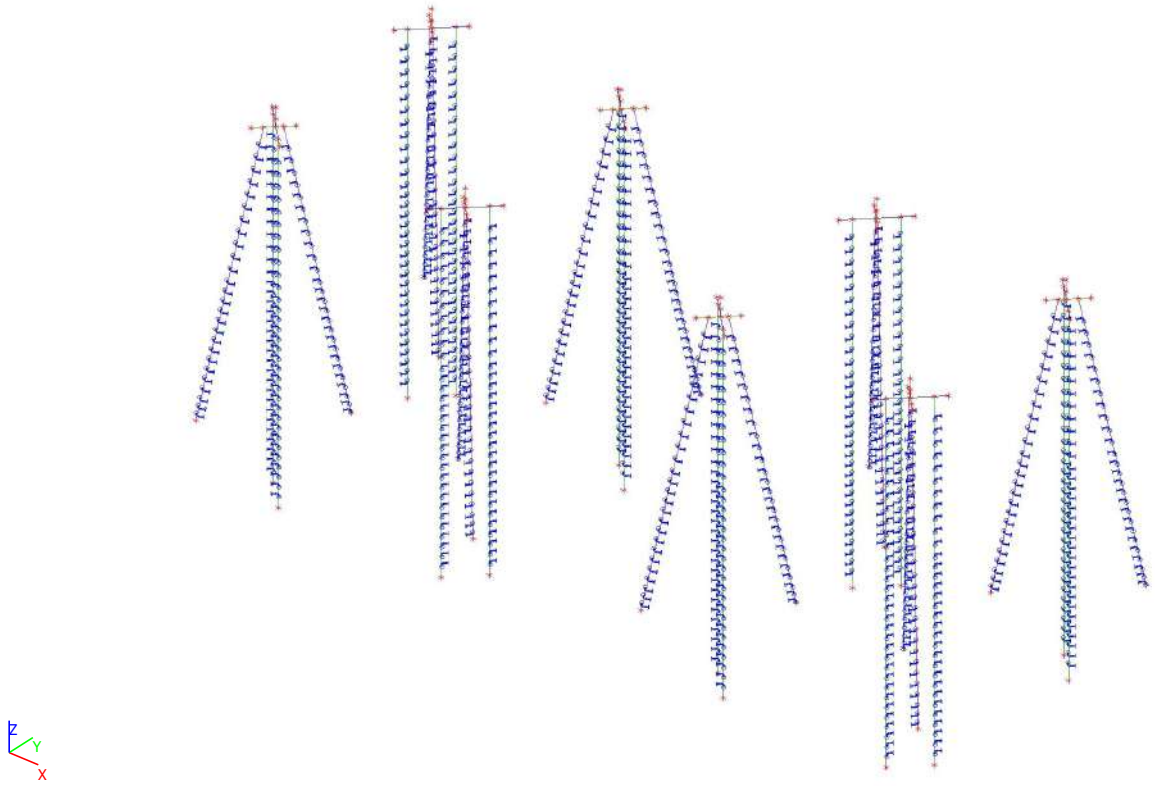
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-2_V6) | Lijn | Paal_P_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)11 | Lijn | Paal_XY_7 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)17 | Lijn | Paal_XY_14 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)16 | Lijn | Paal_XY_13 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)30 | Lijn | Paal_Y_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)10 | Lijn | Paal_XY_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)25 | Lijn | Paal_X_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)4 | Lijn | Paal_XY_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)24 | Lijn | Paal_X_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)27 | Lijn | Paal_X_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)9 | Lijn | Paal_XY_5 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)31 | Lijn | Paal_Y_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)29 | Lijn | Paal_Y_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)28 | Lijn | Paal_Y_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)8 | Lijn | Paal_XY_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)15 | Lijn | Paal_XY_12 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)5 | Lijn | Paal_XY_11 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)7 | Lijn | Paal_XY_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)3 | Lijn | Paal_P_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V6)1 | Lijn | Paal_P_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V14 | PY-curve-2_V14 |
| (PY-curve-2_V7) | Lijn | Paal_P_1 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)26 | Lijn | Paal_X_2 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)4 | Lijn | Paal_XY_1 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)30 | Lijn | Paal_Y_2 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)25 | Lijn | Paal_X_4 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)27 | Lijn | Paal_X_3 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)31 | Lijn | Paal_Y_4 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)29 | Lijn | Paal_Y_3 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)28 | Lijn | Paal_Y_1 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)15 | Lijn | Paal_XY_12 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)5 | Lijn | Paal_XY_11 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)3 | Lijn | Paal_P_4 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,800 | | | | | | | | |
| (PY-curve-2_V7)1 | Lijn | Paal_P_3 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)2 | Lijn | Paal_P_2 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)6 | Lijn | Paal_XY_2 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)24 | Lijn | Paal_X_1 | 14,000<br>14,800 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V15 | PY-curve-2_V15 |
| (PY-curve-2_V7)22 | Lijn | Paal_XY_19 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)13 | Lijn | Paal_XY_9 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)21 | Lijn | Paal_XY_18 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)20 | Lijn | Paal_XY_17 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)12 | Lijn | Paal_XY_8 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)19 | Lijn | Paal_XY_16 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)18 | Lijn | Paal_XY_15 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)11 | Lijn | Paal_XY_7 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)17 | Lijn | Paal_XY_14 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)16 | Lijn | Paal_XY_13 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)10 | Lijn | Paal_XY_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)9 | Lijn | Paal_XY_5 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)8 | Lijn | Paal_XY_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)7 | Lijn | Paal_XY_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)14 | Lijn | Paal_XY_10 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)23 | Lijn | Paal_XY_20 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V8)15 | Lijn | Paal_XY_20 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)13 | Lijn | Paal_XY_18 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)12 | Lijn | Paal_XY_16 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)11 | Lijn | Paal_XY_15 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)10 | Lijn | Paal_XY_13 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)9 | Lijn | Paal_XY_10 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)8 | Lijn | Paal_XY_9 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)7 | Lijn | Paal_XY_8 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)14 | Lijn | Paal_XY_19 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)6 | Lijn | Paal_XY_7 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)5 | Lijn | Paal_XY_6 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)4 | Lijn | Paal_XY_5 | 15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16,000 | | | | | | | | |
| (PY-curve-2_V8)3 | Lijn | Paal_XY_4 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)2 | Lijn | Paal_XY_3 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)1 | Lijn | Paal_XY_17 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8) | Lijn | Paal_XY_14 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V9)15 | Lijn | Paal_XY_20 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)13 | Lijn | Paal_XY_18 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)12 | Lijn | Paal_XY_16 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)11 | Lijn | Paal_XY_15 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)10 | Lijn | Paal_XY_13 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)9 | Lijn | Paal_XY_10 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)8 | Lijn | Paal_XY_9 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)7 | Lijn | Paal_XY_8 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)14 | Lijn | Paal_XY_19 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)6 | Lijn | Paal_XY_7 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)5 | Lijn | Paal_XY_6 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)4 | Lijn | Paal_XY_5 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)3 | Lijn | Paal_XY_4 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)2 | Lijn | Paal_XY_3 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)1 | Lijn | Paal_XY_17 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9) | Lijn | Paal_XY_14 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V10)15 | Lijn | Paal_XY_20 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)13 | Lijn | Paal_XY_18 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)12 | Lijn | Paal_XY_16 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)11 | Lijn | Paal_XY_15 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)10 | Lijn | Paal_XY_13 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)9 | Lijn | Paal_XY_10 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)8 | Lijn | Paal_XY_9 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)7 | Lijn | Paal_XY_8 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)14 | Lijn | Paal_XY_19 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)6 | Lijn | Paal_XY_7 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)5 | Lijn | Paal_XY_6 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)4 | Lijn | Paal_XY_5 | 17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |

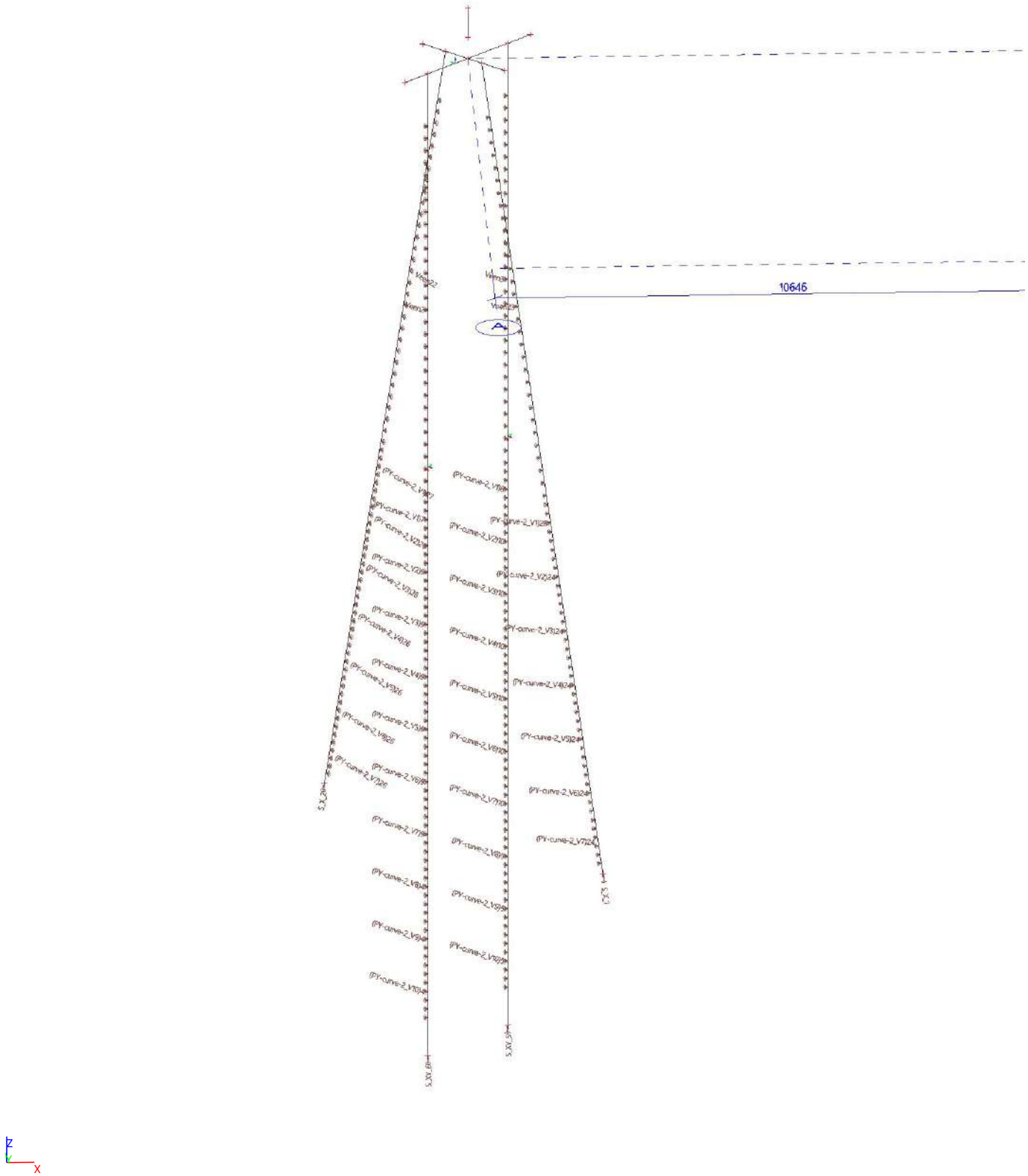
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 18,000 | | | | | | | | |
| (PY-curve-2_V10)3 | Lijn | Paal_XY_4 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)2 | Lijn | Paal_XY_3 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)1 | Lijn | Paal_XY_17 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10) | Lijn | Paal_XY_14 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



## 5.9. Analyse model met Lijnondersteuningen

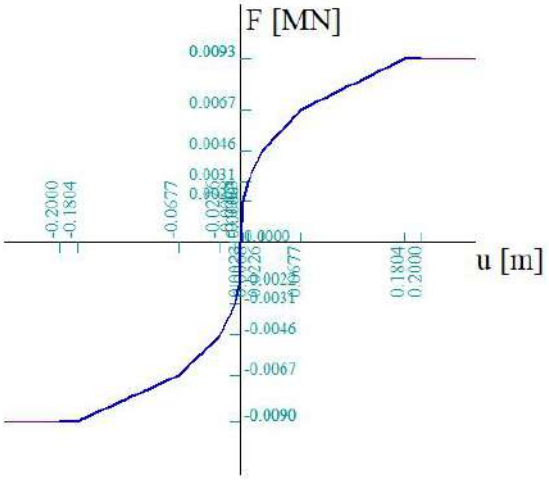
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

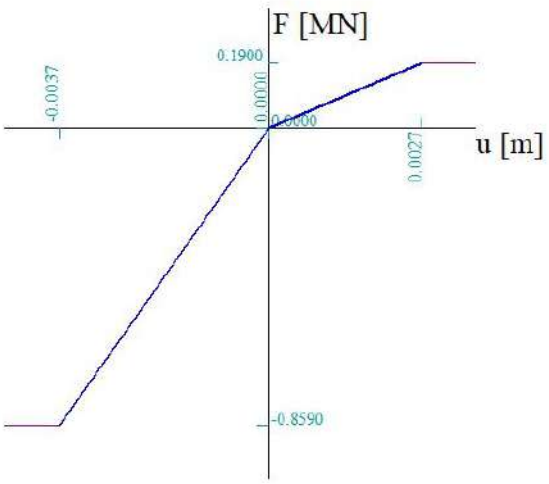
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-1_Veen | Verplaatsing | -0.200000 / -9000.000000 | Vrij | Vrij |
| | | -0.180400 / -9000.000000 | | |
| | | -0.067650 / -6700.000000 | | |
| | | -0.022550 / -4630.000000 | | |
| | | -0.006765 / -3100.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3100.000000 | | |
| | | 0.022550 / 4630.000000 | | |
| | | 0.067650 / 6700.000000 | | |
| | | 0.180400 / 9270.000000 | | |
| | | 0.200000 / 9270.000000 | | |

Tekenen



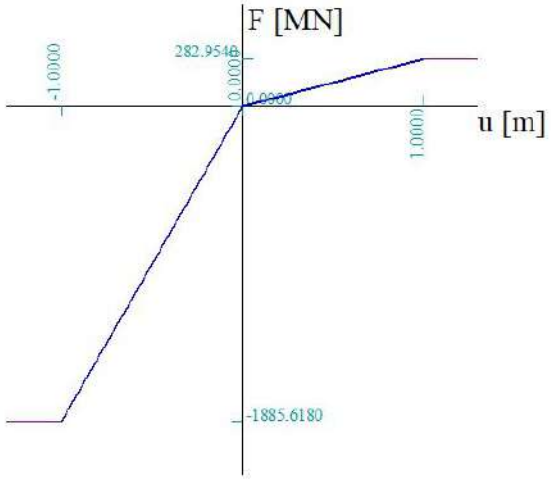

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-Mastnr148 | Verplaatsing | -0.003690 / -859000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 0.002720 / 190000.000000 | | |

Tekenen



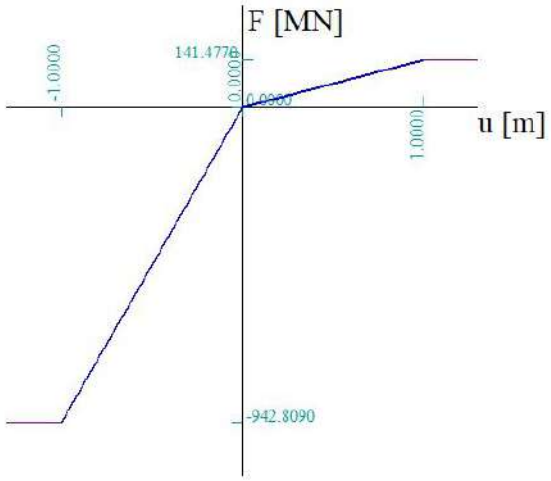
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.BG. | Verplaatsing | -1.000000 / -1885618000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 282954000.000000 | | |

Tekenen



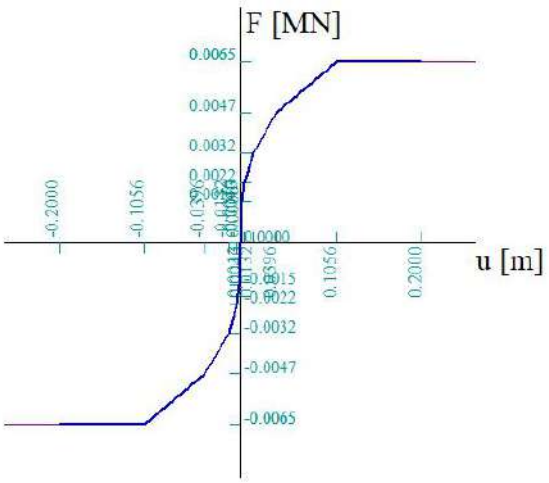

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Verplaatsing | -1.000000 / -942809000.000000 | Vrij | Vrij |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 141477000.000000 | | |

Tekenen



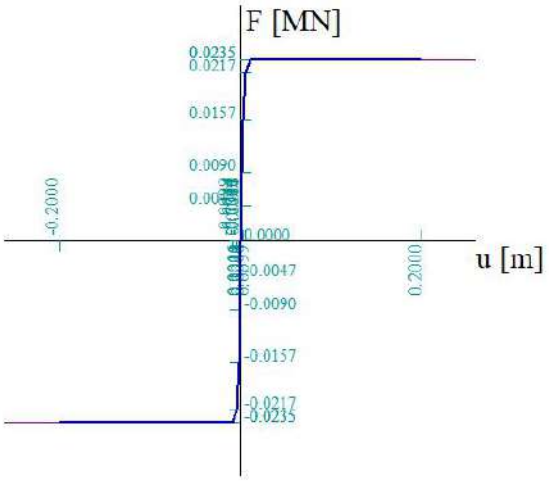

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Verplaatsing | -0.200000 / -6460.000000 | Vrij | Vrij |
| | | -0.105600 / -6460.000000 | | |
| | | -0.039600 / -4658.466112 | | |
| | | -0.013200 / -3230.000000 | | |
| | | -0.003960 / -2162.268429 | | |
| | | -0.001320 / -1499.233193 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.001320 / 1499.233193 | | |
| | | 0.003960 / 2162.268429 | | |
| | | 0.013200 / 3230.000000 | | |
| | | 0.039600 / 4658.466112 | | |
| | | 0.105600 / 6460.000000 | | |
| | | 0.200000 / 6460.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1.B | Verplaatsing | -0.200000 / -23507.363202 | Vrij | Vrij |
| | | -0.009900 / -23507.363202 | | |
| | | -0.004400 / -21723.306095 | | |
| | | -0.002200 / -15680.794047 | | |
| | | -0.001100 / -8981.671111 | | |
| | | -0.000550 / -4667.361101 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 4667.361101 | | |
| | | 0.001100 / 8981.671111 | | |
| | | 0.002200 / 15680.794047 | | |
| | | 0.004400 / 21723.306095 | | |
| | | 0.009900 / 23507.363202 | | |
| | | 0.200000 / 23507.363202 | | |

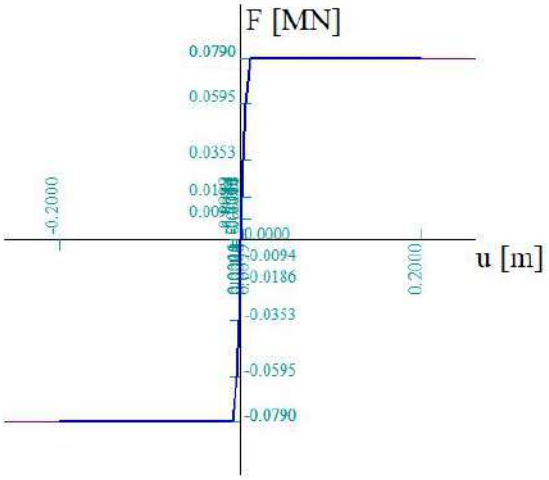
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V2.B | Verplaatsing | -0.200000 / -79035.038593 | Vrij | Vrij |
| | | -0.009900 / -79035.038593 | | |
| | | -0.004400 / -59487.765327 | | |
| | | -0.002200 / -35336.219808 | | |
| | | -0.001100 / -18587.236311 | | |
| | | -0.000550 / -9417.735746 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 9417.735746 | | |

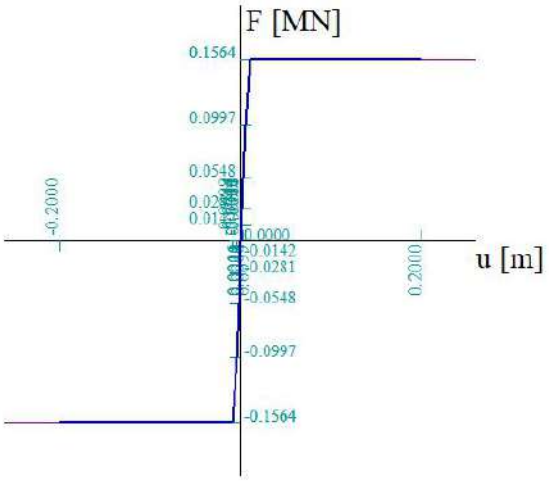
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.001100 / 18587.236311 | | |
| | | 0.002200 / 35336.219808 | | |
| | | 0.004400 / 59487.765327 | | |
| | | 0.009900 / 79035.038593 | | |
| | | 0.200000 / 79035.038593 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V3.B | Verplaatsing | -0.200000 / -156368.664870 | Vrij | Vrij |
| | | -0.009900 / -156368.664870 | | |
| | | -0.004400 / -99733.431143 | | |
| | | -0.002200 / -54825.793146 | | |
| | | -0.001100 / -28130.579433 | | |
| | | -0.000550 / -14158.573896 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 14158.573896 | | |
| | | 0.001100 / 28130.579433 | | |
| | | 0.002200 / 54825.793146 | | |
| | | 0.004400 / 99733.431143 | | |
| | | 0.009900 / 156368.664870 | | |
| | | 0.200000 / 156368.664870 | | |

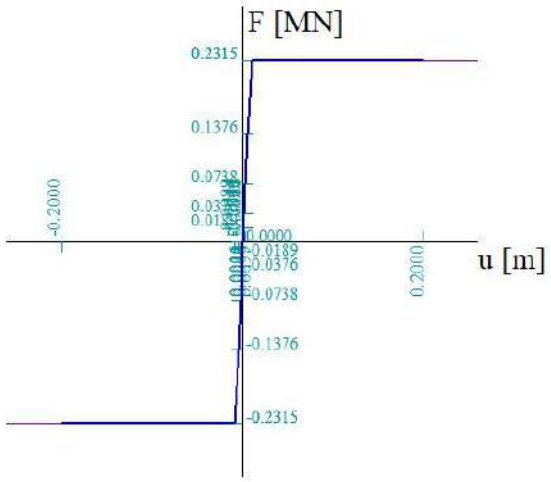
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V4.B | Verplaatsing | -0.200000 / -231483.603402 | Vrij | Vrij |
| | | -0.009900 / -231483.603402 | | |

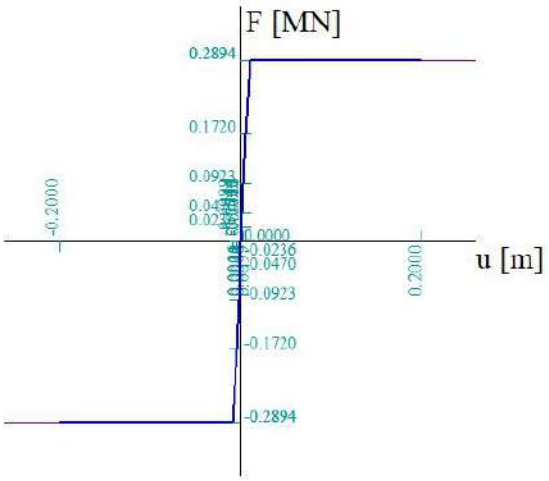
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.004400 / -137564.319138 | | |
| | | -0.002200 / -73801.743400 | | |
| | | -0.001100 / -37599.856384 | | |
| | | -0.000550 / -18889.809630 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 18889.809630 | | |
| | | 0.001100 / 37599.856384 | | |
| | | 0.002200 / 73801.743400 | | |
| | | 0.004400 / 137564.319138 | | |
| | | 0.009900 / 231483.603402 | | |
| | | 0.200000 / 231483.603402 | | |

Tekenen



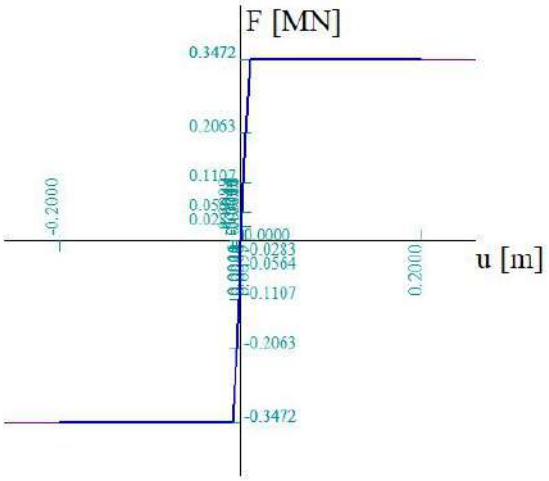

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V5.B | Verplaatsing | -0.200000 / -289354.504253 | Vrij | Vrij |
| | | -0.009900 / -289354.504253 | | |
| | | -0.004400 / -171955.398922 | | |
| | | -0.002200 / -92252.179250 | | |
| | | -0.001100 / -46999.820480 | | |
| | | -0.000550 / -23612.262038 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 23612.262038 | | |
| | | 0.001100 / 46999.820480 | | |
| | | 0.002200 / 92252.179250 | | |
| | | 0.004400 / 171955.398922 | | |
| | | 0.009900 / 289354.504253 | | |
| | | 0.200000 / 289354.504253 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V6.B | Verplaatsing | -0.200000 / -347225.405104 | Vrij | Vrij |
| | | -0.009900 / -347225.405104 | | |
| | | -0.004400 / -206346.478706 | | |
| | | -0.002200 / -110702.615099 | | |
| | | -0.001100 / -56399.784576 | | |
| | | -0.000550 / -28334.714446 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 28334.714446 | | |
| | | 0.001100 / 56399.784576 | | |
| | | 0.002200 / 110702.615099 | | |
| | | 0.004400 / 206346.478706 | | |
| | | 0.009900 / 347225.405104 | | |
| | | 0.200000 / 347225.405104 | | |

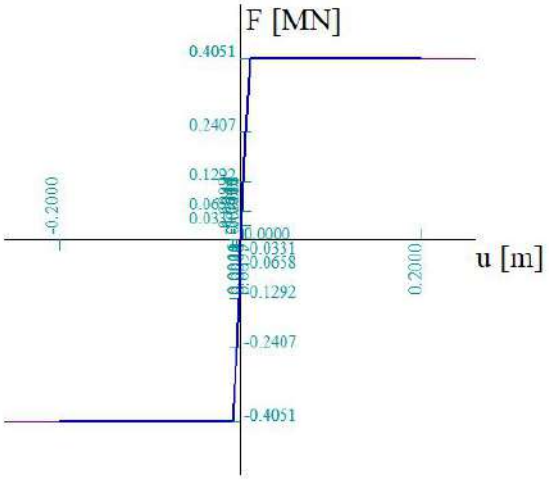
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V7.B | Verplaatsing | -0.200000 / -405096.305954 | Vrij | Vrij |
| | | -0.009900 / -405096.305954 | | |
| | | -0.004400 / -240737.558491 | | |
| | | -0.002200 / -129153.050949 | | |
| | | -0.001100 / -65799.748672 | | |
| | | -0.000550 / -33057.166853 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 33057.166853 | | |
| | | 0.001100 / 65799.748672 | | |
| | | 0.002200 / 129153.050949 | | |

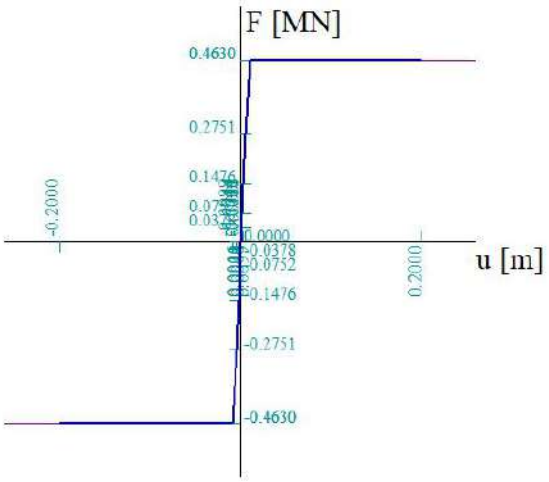
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.004400 / 240737.558491 | | |
| | | 0.009900 / 405096.305954 | | |
| | | 0.200000 / 405096.305954 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V8.B | Verplaatsing | -0.200000 / -462967.206805 | Vrij | Vrij |
| | | -0.009900 / -462967.206805 | | |
| | | -0.004400 / -275128.638275 | | |
| | | -0.002200 / -147603.486799 | | |
| | | -0.001100 / -75199.712768 | | |
| | | -0.000550 / -37779.619261 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 37779.619261 | | |
| | | 0.001100 / 75199.712768 | | |
| | | 0.002200 / 147603.486799 | | |
| | | 0.004400 / 275128.638275 | | |
| | | 0.009900 / 462967.206805 | | |
| | | 0.200000 / 462967.206805 | | |

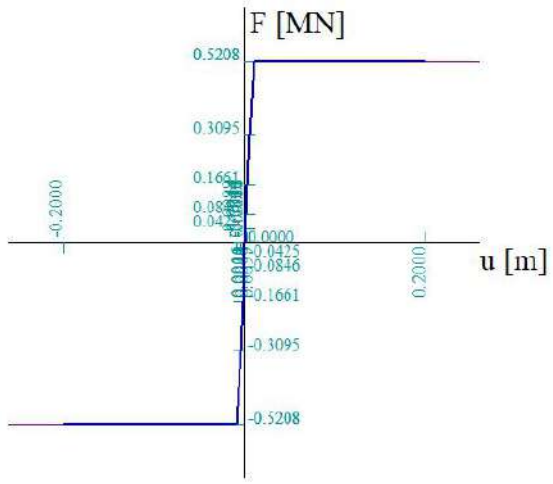
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V9.B | Verplaatsing | -0.200000 / -520838.107655 | Vrij | Vrij |
| | | -0.009900 / -520838.107655 | | |
| | | -0.004400 / -309519.718059 | | |
| | | -0.002200 / -166053.922649 | | |

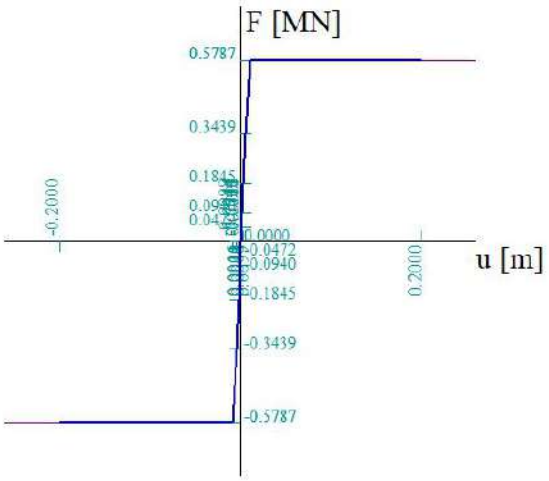
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.001100 / -84599.676864 | | |
| | | -0.000550 / -42502.071669 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 42502.071669 | | |
| | | 0.001100 / 84599.676864 | | |
| | | 0.002200 / 166053.922649 | | |
| | | 0.004400 / 309519.718059 | | |
| | | 0.009900 / 520838.107655 | | |
| | | 0.200000 / 520838.107655 | | |

Tekenen



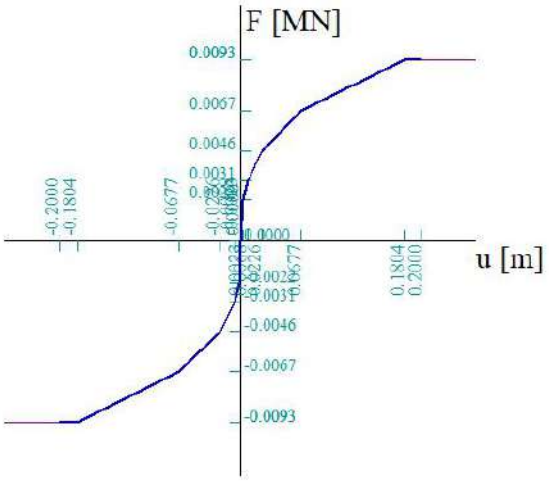

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V10.B | Verplaatsing | -0.200000 / -578709.008506 | Vrij | Vrij |
| | | -0.009900 / -578709.008506 | | |
| | | -0.004400 / -343910.797844 | | |
| | | -0.002200 / -184504.358499 | | |
| | | -0.001100 / -93999.640960 | | |
| | | -0.000550 / -47224.524076 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.000550 / 47224.524076 | | |
| | | 0.001100 / 93999.640960 | | |
| | | 0.002200 / 184504.358499 | | |
| | | 0.004400 / 343910.797844 | | |
| | | 0.009900 / 578709.008506 | | |
| | | 0.200000 / 578709.008506 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen | Verplaatsing | -0.200000 / -9265.000000 | Vrij | Vrij |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

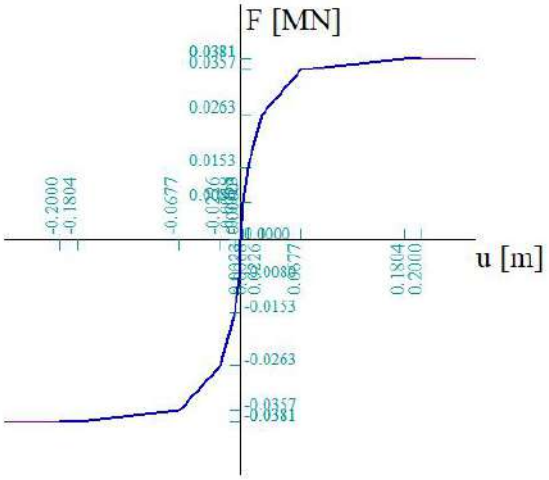
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V9 | Verplaatsing | -0.200000 / -38100.000000 | Vrij | Vrij |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |

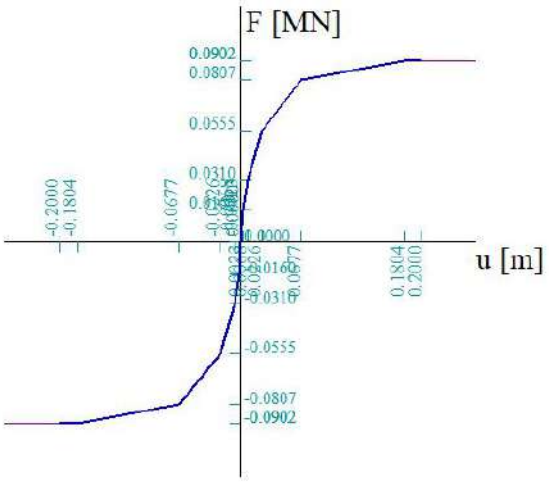
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V10 | Verplaatsing | -0.200000 / -90200.000000 | Vrij | Vrij |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

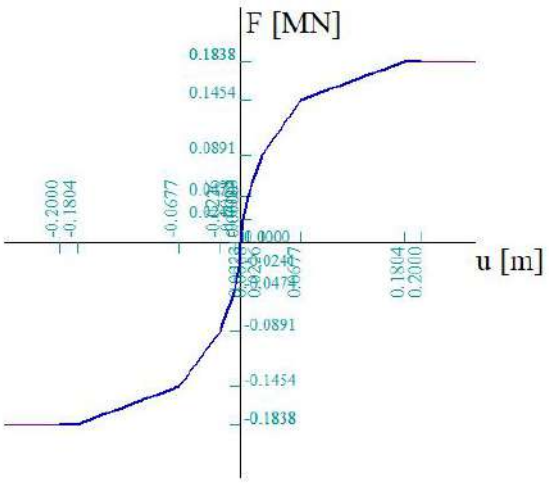
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V11 | Verplaatsing | -0.200000 / -183800.000000 | Vrij | Vrij |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |

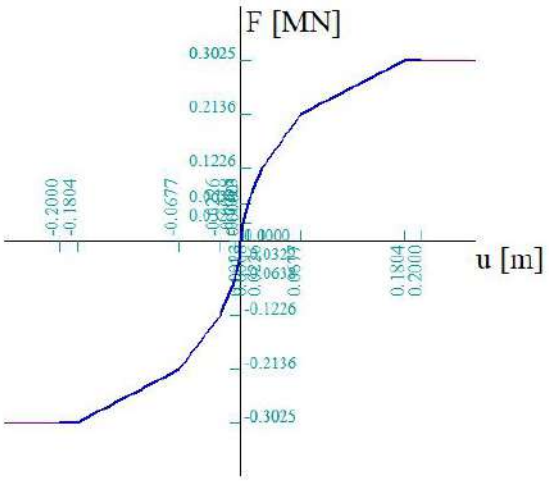
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

Tekenen



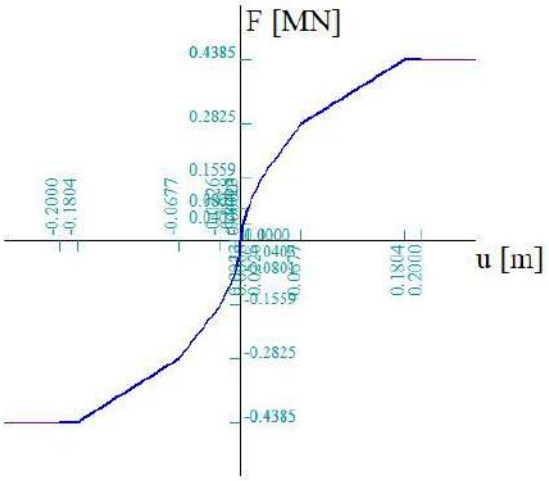

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V12 | Verplaatsing | -0.200000 / -302500.000000 | Vrij | Vrij |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V13 | Verplaatsing | -0.200000 / -438500.000000 | Vrij | Vrij |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

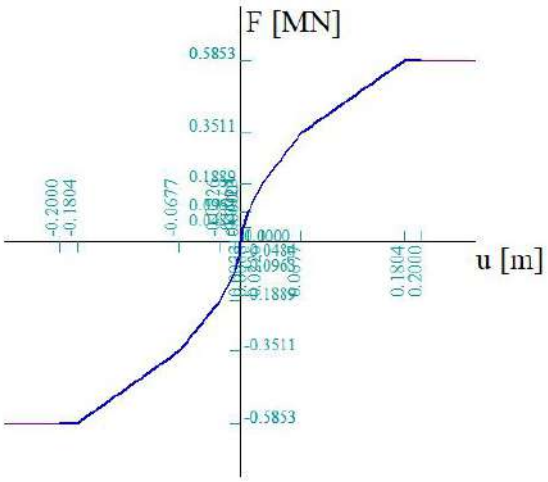
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V14 | Verplaatsing | -0.200000 / -585300.000000 | Vrij | Vrij |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |

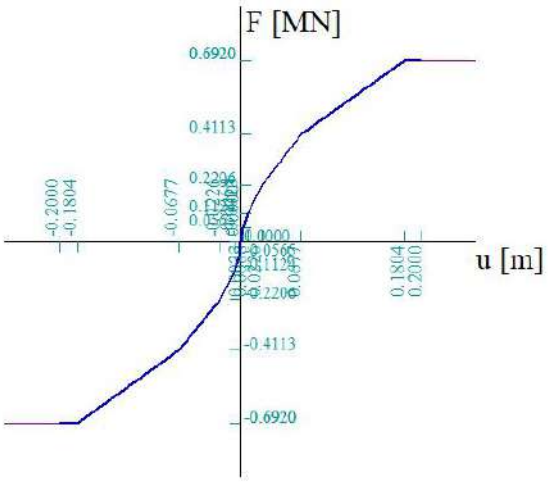
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V15 | Verplaatsing | -0.200000 / -692000.000000 | Vrij | Vrij |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

Tekenen

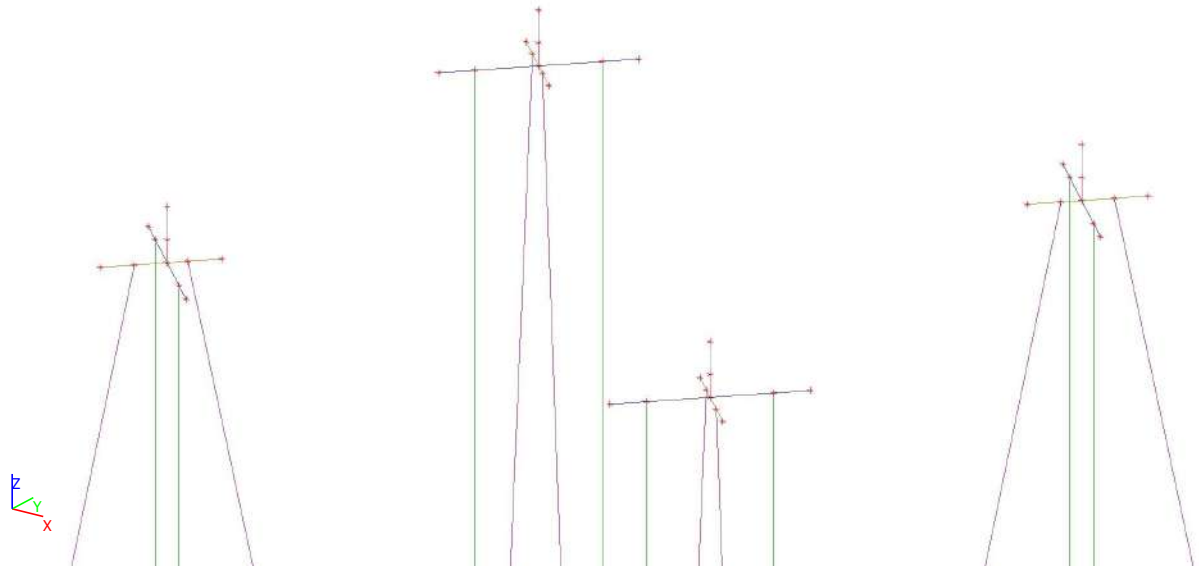


# 6. Belastingen

## 6.1. Belastingsgevallen

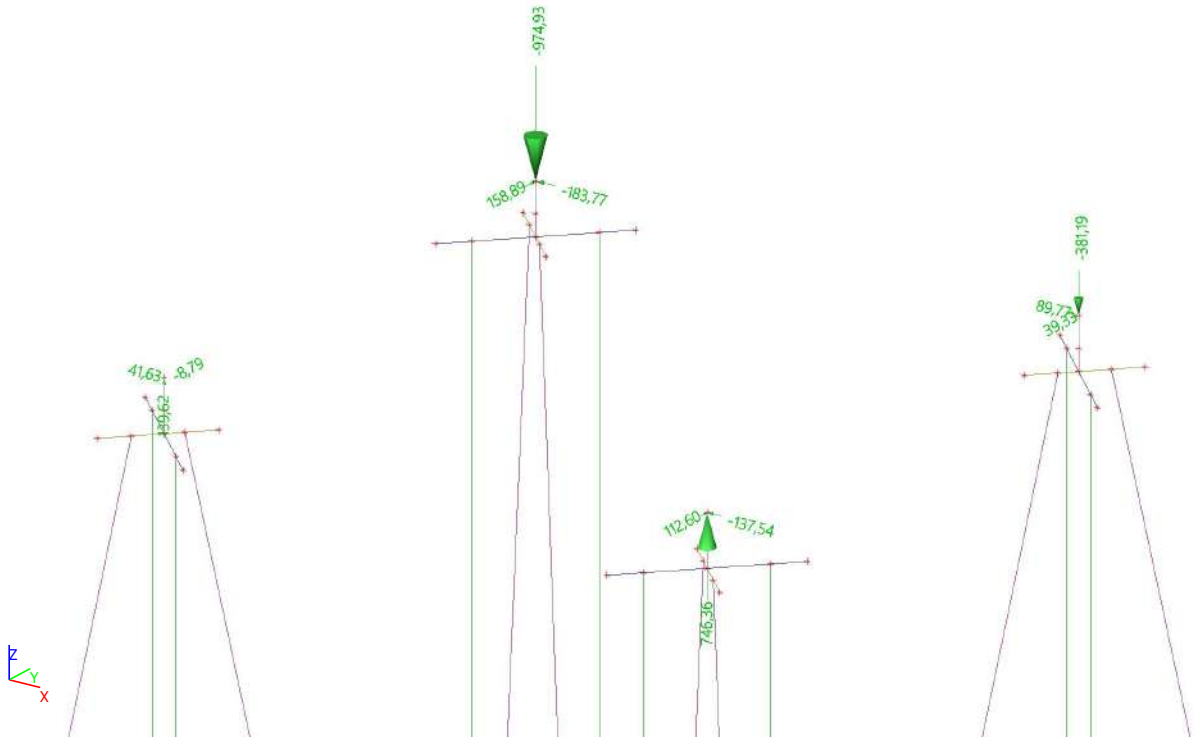
### 6.1.1. Belastingsgevallen - E.G.

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |




### 6.1.2. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



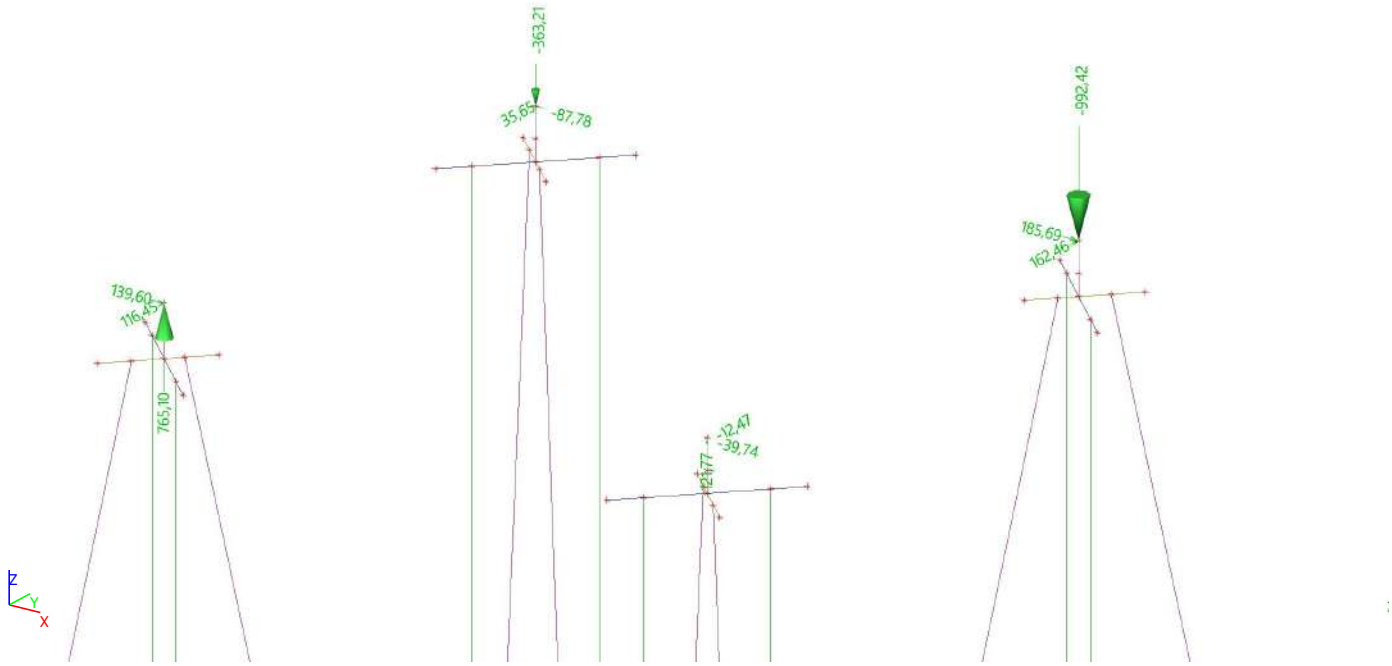

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 41,63 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -8,79 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 139,62 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -183,77 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 158,89 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -974,93 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 89,77 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 39,33 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -381,19 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -137,54 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 112,60 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 746,36 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Kracht | 41,63 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Kracht | -8,79 |
| high max Wnd | 1P2 | high max Wnd ;45° | GCS | Z | Kracht | 139,62 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| high max Wnd ;45°_1XY_X1 | 1XY3 | high max Wnd ;45° | GCS | X | Kracht | 89,77 |
| high max Wnd ;45°_1XY_Y1 | 1XY3 | high max Wnd ;45° | GCS | Y | Kracht | 39,33 |
| high max Wnd ;45°_1XY_Z1 | 1XY3 | high max Wnd ;45° | GCS | Z | Kracht | -381,19 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Kracht | -137,54 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Kracht | 112,60 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Kracht | 746,36 |
| high max Wnd ;45°_1X_X1 | 1X10 | high max Wnd ;45° | GCS | X | Kracht | -183,77 |
| high max Wnd ;45°_1X_Y1 | 1X10 | high max Wnd ;45° | GCS | Y | Kracht | 158,89 |
| high max Wnd ;45°_1X_Z1 | 1X10 | high max Wnd ;45° | GCS | Z | Kracht | -974,93 |

### 6.1.3. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

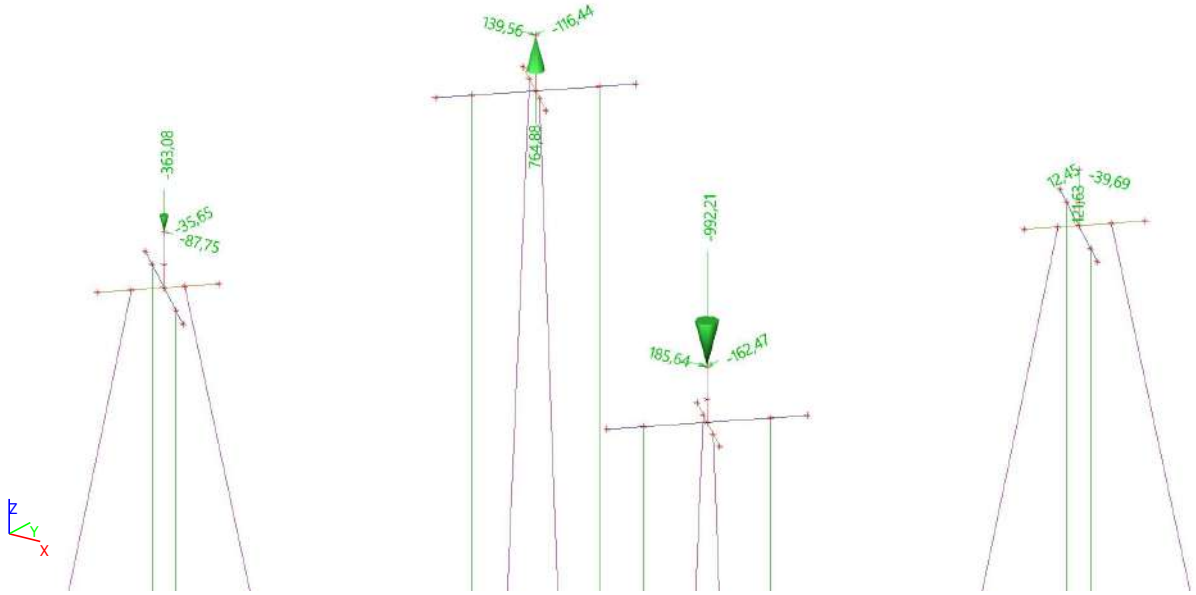


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 139,60 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 116,45 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 765,10 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -87,78 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 35,65 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -363,21 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 185,69 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 162,46 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -992,42 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -39,74 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -12,47 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 121,77 |
| high max Wnd ;135°_1P_X1 | 1P2 | high max Wnd ;135° | GCS | X | Kracht | 139,60 |
| high max Wnd ;135°_1P_Y1 | 1P2 | high max Wnd ;135° | GCS | Y | Kracht | 116,45 |
| high max Wnd ;135°_1P_Z1 | 1P2 | high max Wnd ;135° | GCS | Z | Kracht | 765,10 |
| high max Wnd ;135°_1XY_X1 | 1XY3 | high max Wnd ;135° | GCS | X | Kracht | 185,69 |
| high max Wnd ;135°_1XY_Y1 | 1XY3 | high max Wnd ;135° | GCS | Y | Kracht | 162,46 |
| high max Wnd ;135°_1XY_Z1 | 1XY3 | high max Wnd ;135° | GCS | Z | Kracht | -992,42 |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Kracht | -39,74 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Kracht | -12,47 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Kracht | 121,77 |
| high max Wnd ;135°_1X_X1 | 1X10 | high max Wnd ;135° | GCS | X | Kracht | -87,78 |
| high max Wnd ;135°_1X_Y1 | 1X10 | high max Wnd ;135° | GCS | Y | Kracht | 35,65 |
| high max Wnd ;135°_1X_Z1 | 1X10 | high max Wnd ;135° | GCS | Z | Kracht | -363,21 |

### 6.1.4. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



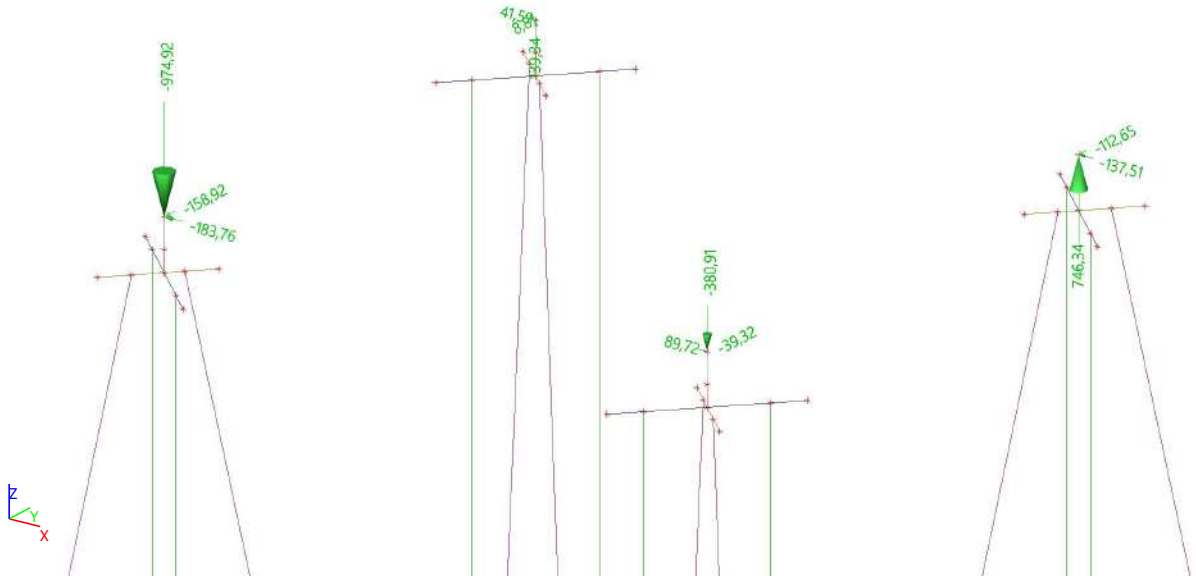

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -87,75 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -35,65 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -363,08 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 139,56 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -116,44 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 764,88 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -39,69 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 12,45 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 121,63 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 185,64 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -162,47 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -992,21 |
| high max Wnd ;225°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Kracht | -87,75 |
| high max Wnd ;225°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Kracht | -35,65 |
| high max Wnd | 1P2 | high max Wnd ;225° | GCS | Z | Kracht | -363,08 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;225°_1P_Z1 | | | | | | |
| high max Wnd ;225°_1XY_X1 | 1XY3 | high max Wnd ;225° | GCS | X | Kracht | -39,69 |
| high max Wnd ;225°_1XY_Y1 | 1XY3 | high max Wnd ;225° | GCS | Y | Kracht | 12,45 |
| high max Wnd ;225°_1XY_Z1 | 1XY3 | high max Wnd ;225° | GCS | Z | Kracht | 121,63 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Kracht | 185,64 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Kracht | -162,47 |
| high max Wnd ;225°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Kracht | -992,21 |
| high max Wnd ;225°_1X_X1 | 1X10 | high max Wnd ;225° | GCS | X | Kracht | 139,56 |
| high max Wnd ;225°_1X_Y1 | 1X10 | high max Wnd ;225° | GCS | Y | Kracht | -116,44 |
| high max Wnd ;225°_1X_Z1 | 1X10 | high max Wnd ;225° | GCS | Z | Kracht | 764,88 |

### 6.1.5. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

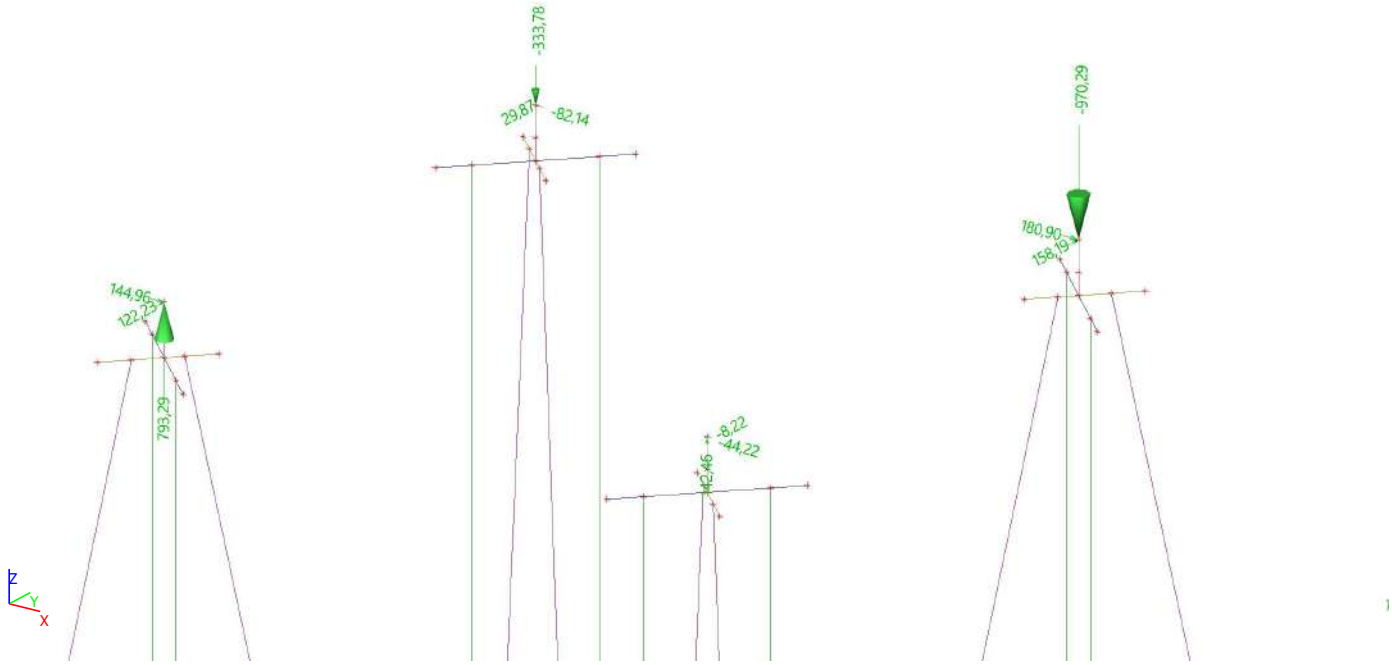


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -183,76 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -158,92 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -974,92 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 41,59 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 8,81 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 139,34 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -137,51 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -112,65 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 746,34 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 89,72 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -39,32 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -380,91 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Kracht | -183,76 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Kracht | -158,92 |
| high max Wnd ;315°_1P_Z1 | 1P2 | high max Wnd ;315° | GCS | Z | Kracht | -974,92 |
| high max Wnd ;315°_1XY_X1 | 1XY3 | high max Wnd ;315° | GCS | X | Kracht | -137,51 |
| high max Wnd ;315°_1XY_Y1 | 1XY3 | high max Wnd ;315° | GCS | Y | Kracht | -112,65 |
| high max Wnd ;315°_1XY_Z1 | 1XY3 | high max Wnd ;315° | GCS | Z | Kracht | 746,34 |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Kracht | 89,72 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Kracht | -39,32 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Kracht | -380,91 |
| high max Wnd ;315°_1X_X1 | 1X10 | high max Wnd ;315° | GCS | X | Kracht | 41,59 |
| high max Wnd ;315°_1X_Y1 | 1X10 | high max Wnd ;315° | GCS | Y | Kracht | 8,81 |
| high max Wnd ;315°_1X_Z1 | 1X10 | high max Wnd ;315° | GCS | Z | Kracht | 139,34 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



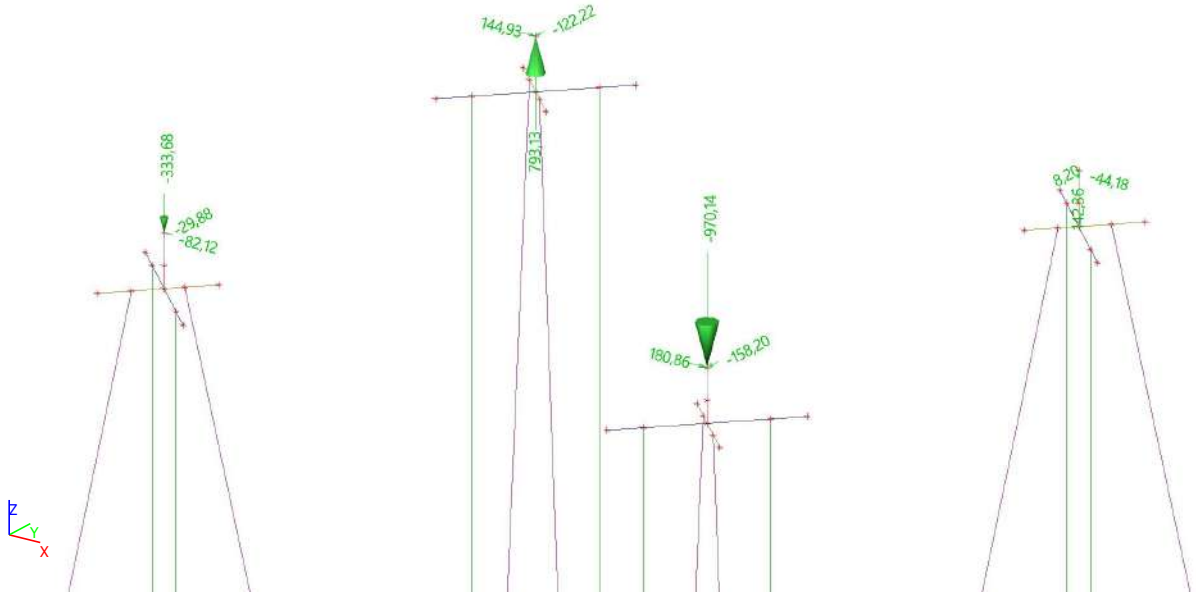

### 6.1.6.1. Puntlast op knoop

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 144,96 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 122,23 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 793,29 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -82,14 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 29,87 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -333,78 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 180,90 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 158,19 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -970,29 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -44,22 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | -8,22 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 142,46 |
| low max Wnd ;135°_1P_X1 | 1P2 | low max Wnd ;135° | GCS | X | Kracht | 144,96 |
| low max Wnd ;135°_1P_Y1 | 1P2 | low max Wnd ;135° | GCS | Y | Kracht | 122,23 |
| low max Wnd | 1P2 | low max Wnd ;135° | GCS | Z | Kracht | 793,29 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1XY_X1 | 1XY3 | low max Wnd ;135° | GCS | X | Kracht | 180,90 |
| low max Wnd ;135°_1XY_Y1 | 1XY3 | low max Wnd ;135° | GCS | Y | Kracht | 158,19 |
| low max Wnd ;135°_1XY_Z1 | 1XY3 | low max Wnd ;135° | GCS | Z | Kracht | -970,29 |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Kracht | -44,22 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Kracht | -8,22 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Kracht | 142,46 |
| low max Wnd ;135°_1X_X1 | 1X10 | low max Wnd ;135° | GCS | X | Kracht | -82,14 |
| low max Wnd ;135°_1X_Y1 | 1X10 | low max Wnd ;135° | GCS | Y | Kracht | 29,87 |
| low max Wnd ;135°_1X_Z1 | 1X10 | low max Wnd ;135° | GCS | Z | Kracht | -333,78 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

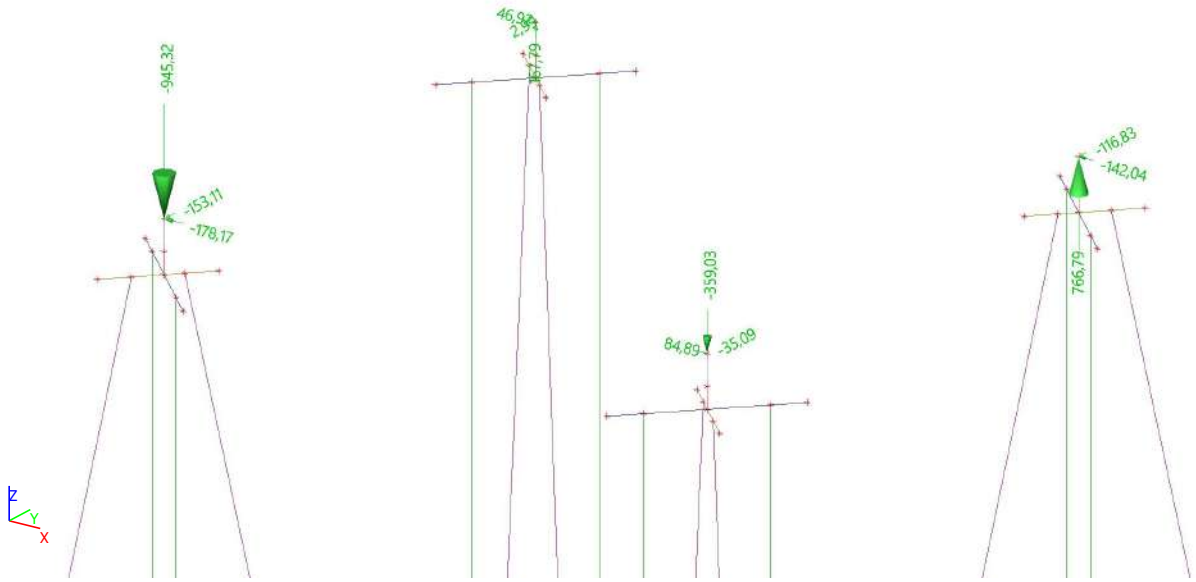


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -82,12 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -29,88 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -333,68 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 144,93 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -122,22 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 793,13 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -44,18 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | 8,20 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 142,36 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 180,86 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -158,20 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -970,14 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Kracht | -82,12 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Kracht | -29,88 |
| low max Wnd ;225°_1P_Z1 | 1P2 | low max Wnd ;225° | GCS | Z | Kracht | -333,68 |
| low max Wnd ;225°_1XY_X1 | 1XY3 | low max Wnd ;225° | GCS | X | Kracht | -44,18 |
| low max Wnd ;225°_1XY_Y1 | 1XY3 | low max Wnd ;225° | GCS | Y | Kracht | 8,20 |
| low max Wnd ;225°_1XY_Z1 | 1XY3 | low max Wnd ;225° | GCS | Z | Kracht | 142,36 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Kracht | 180,86 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Kracht | -158,20 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Kracht | -970,14 |
| low max Wnd ;225°_1X_X1 | 1X10 | low max Wnd ;225° | GCS | X | Kracht | 144,93 |
| low max Wnd ;225°_1X_Y1 | 1X10 | low max Wnd ;225° | GCS | Y | Kracht | -122,22 |
| low max Wnd ;225°_1X_Z1 | 1X10 | low max Wnd ;225° | GCS | Z | Kracht | 793,13 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



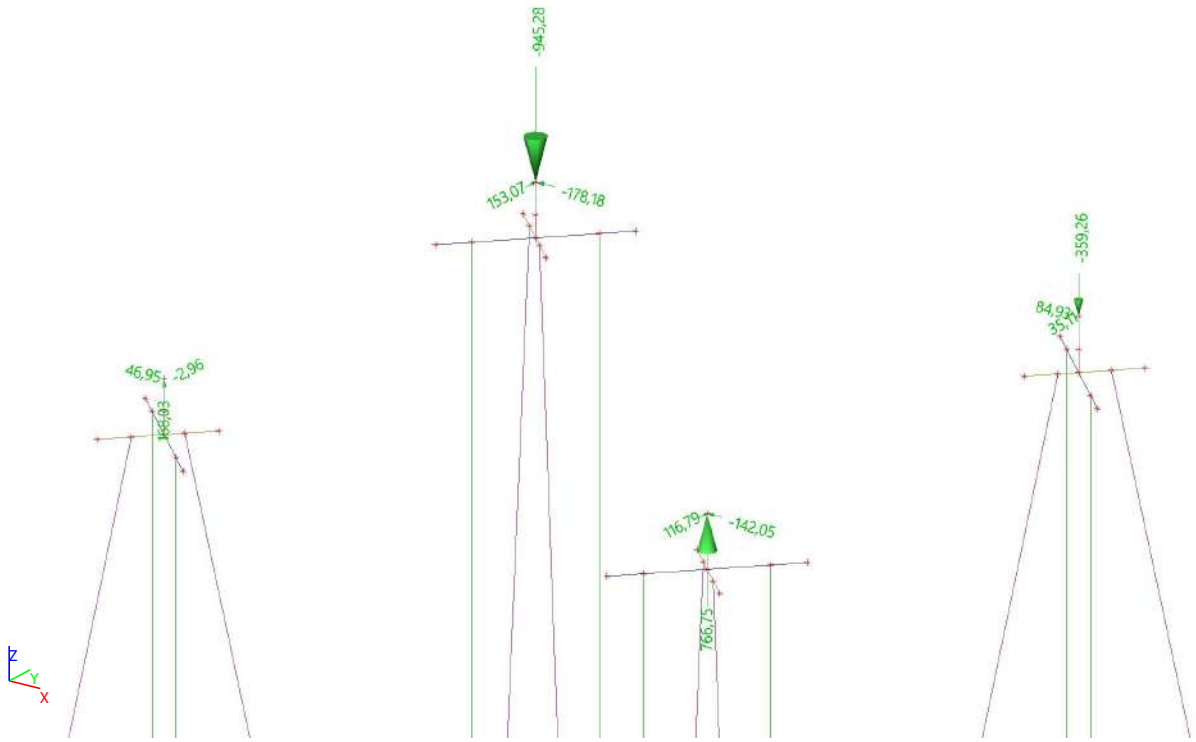

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -178,17 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -153,11 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -945,32 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 46,92 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | 2,99 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 167,79 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -142,04 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -116,83 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 766,79 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 84,89 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -35,09 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -359,03 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Kracht | -178,17 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Kracht | -153,11 |
| low max Wnd | 1P2 | low max Wnd ;315° | GCS | Z | Kracht | -945,32 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1P_Z1 | | | | | | |
| low max Wnd ;315°_1XY_X1 | 1XY3 | low max Wnd ;315° | GCS | X | Kracht | -142,04 |
| low max Wnd ;315°_1XY_Y1 | 1XY3 | low max Wnd ;315° | GCS | Y | Kracht | -116,83 |
| low max Wnd ;315°_1XY_Z1 | 1XY3 | low max Wnd ;315° | GCS | Z | Kracht | 766,79 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Kracht | 84,89 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Kracht | -35,09 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Kracht | -359,03 |
| low max Wnd ;315°_1X_X1 | 1X10 | low max Wnd ;315° | GCS | X | Kracht | 46,92 |
| low max Wnd ;315°_1X_Y1 | 1X10 | low max Wnd ;315° | GCS | Y | Kracht | 2,99 |
| low max Wnd ;315°_1X_Z1 | 1X10 | low max Wnd ;315° | GCS | Z | Kracht | 167,79 |

### 6.1.9. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.9.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 46,95 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | -2,96 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 168,03 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -178,18 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 153,07 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -945,28 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 84,93 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 35,11 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -359,26 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -142,05 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 116,79 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 766,75 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Kracht | 46,95 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Kracht | -2,96 |
| low max Wnd ;45°_1P_Z1 | 1P2 | low max Wnd ;45° | GCS | Z | Kracht | 168,03 |
| low max Wnd ;45°_1XY_X1 | 1XY3 | low max Wnd ;45° | GCS | X | Kracht | 84,93 |
| low max Wnd ;45°_1XY_Y1 | 1XY3 | low max Wnd ;45° | GCS | Y | Kracht | 35,11 |
| low max Wnd ;45°_1XY_Z1 | 1XY3 | low max Wnd ;45° | GCS | Z | Kracht | -359,26 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Kracht | -142,05 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Kracht | 116,79 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Kracht | 766,75 |
| low max Wnd ;45°_1X_X1 | 1X10 | low max Wnd ;45° | GCS | X | Kracht | -178,18 |
| low max Wnd ;45°_1X_Y1 | 1X10 | low max Wnd ;45° | GCS | Y | Kracht | 153,07 |
| low max Wnd ;45°_1X_Z1 | 1X10 | low max Wnd ;45° | GCS | Z | Kracht | -945,28 |

## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| high max Wnd ;45° + EG_Ongunstig | Uiterste Grenstoestand | E.G. | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;135° + EG_Ongunstig | Uiterste Grenstoestand | E.G. | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° + EG_Ongunstig | Uiterste Grenstoestand | E.G. | 1,200 |
| | | high max Wnd ;315° | 1,000 |
| high max Wnd ;225° + EG_Ongunstig | Uiterste Grenstoestand | E.G. | 1,200 |

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| | | high max Wnd ;225° | 1,000 |
| low max Wnd ;45° + EG_Gunstig | Uiterste Grenstoestand | E.G. | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;135° + EG_Gunstig | Uiterste Grenstoestand | E.G. | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° + EG_Gunstig | Uiterste Grenstoestand | E.G. | 0,900 |
| | | low max Wnd ;315° | 1,000 |
| low max Wnd ;225° + EG_Gunstig | Uiterste Grenstoestand | E.G. | 0,900 |
| | | low max Wnd ;225° | 1,000 |

## 6.3. Resultaatklasses

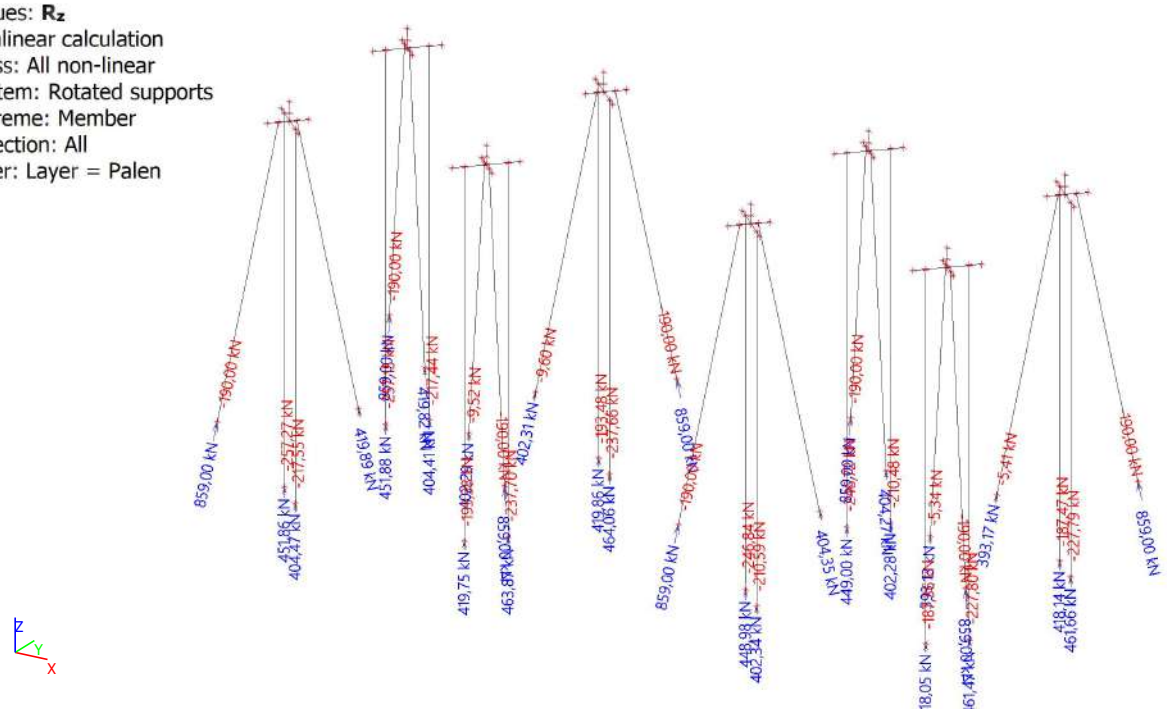
| Naam | Lijst |
|---|---|
| All non-linear | high max Wnd ;45° + EG_Ongunstig |
| | high max Wnd ;135° + EG_Ongunstig |
| | high max Wnd ;315° + EG_Ongunstig |
| | high max Wnd ;225° + EG_Ongunstig |
| | low max Wnd ;45° + EG_Gunstig |
| | low max Wnd ;135° + EG_Gunstig |
| | low max Wnd ;315° + EG_Gunstig |
| | low max Wnd ;225° + EG_Gunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen




### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LD1 - General cross-section

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_1/N33 | high max Wnd ;135° + EG_Ongunstig | **0,00** | 0,00 | 859,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_11/N79 | high max Wnd ;45° + EG_Ongunstig | 0,00 | **0,00** | 508,20 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N49 | low max Wnd ;225° + EG_Gunstig | 0,00 | **0,00** | 419,82 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N3 | high max Wnd ;135° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N3 | high max Wnd ;315° + EG_Ongunstig | **0,00** | 0,00 | **859,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle

Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_10/N70 | low max Wnd ;135° + EG_Gunstig | 0,00 | 0,00 | **-257,27** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N54 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **464,06** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P_1/N3 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_1/N3 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_1/N3 | low max Wnd ;45° + EG_Gunstig | **0,00** | 0,00 | 62,18 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_2/N30 | low max Wnd ;315° + EG_Gunstig | **0,00** | 0,00 | 13,52 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_2/N30 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | 414,21 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N30 | high max Wnd ;315° + EG_Ongunstig | 0,00 | 0,00 | **0,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N30 | low max Wnd ;135° + EG_Gunstig | 0,00 | **0,00** | **419,89** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_2/N30 | low max Wnd ;45° + EG_Gunstig | **0,00** | 0,00 | 169,31 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_1/N33 | low max Wnd ;225° + EG_Gunstig | **0,00** | 0,00 | 79,90 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_1/N33 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_1/N33 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_2/N35 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | 402,15 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_2/N35 | high max Wnd ;135° + EG_Ongunstig | 0,00 | 0,00 | **-9,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N35 | low max Wnd ;315° + EG_Gunstig | 0,00 | 0,00 | **402,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_2/N35 | low max Wnd ;45° + EG_Gunstig | **0,00** | **0,00** | 140,07 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_Y_1/N40 | low max Wnd ;135° + EG_Gunstig | **0,00** | 0,00 | 79,82 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_1/N40 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | 500,49 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N40 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_1/N40 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_2/N42 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | 192,24 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N42 | high max Wnd ;45° + EG_Ongunstig | 0,00 | **0,00** | 402,17 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_2/N42 | high max Wnd ;225° + EG_Ongunstig | 0,00 | 0,00 | **-9,52** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N42 | low max Wnd ;45° + EG_Gunstig | **0,00** | 0,00 | **402,29** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_2/N42 | high max Wnd ;135° + EG_Ongunstig | **0,00** | 0,00 | 220,82 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_2/N47 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | 140,60 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N47 | high max Wnd ;225° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_2/N47 | high max Wnd ;45° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_2/N47 | low max Wnd ;315° + EG_Gunstig | **0,00** | 0,00 | 62,33 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_1/N49 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | 221,81 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_1/N49 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **0,73** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_1/N49 | low max Wnd ;225° + EG_Gunstig | **0,00** | **0,00** | **419,82** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_3/N53 | low max Wnd ;315° + EG_Gunstig | 0,00 | 0,00 | **-193,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_3/N53 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **419,86** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_4/N54 | low max Wnd ;315° + EG_Gunstig | 0,00 | 0,00 | **-237,66** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_4/N54 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **464,06** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N59 | low max Wnd ;225° + EG_Gunstig | **0,00** | **0,00** | **-257,15** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_6/N59 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **451,88** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

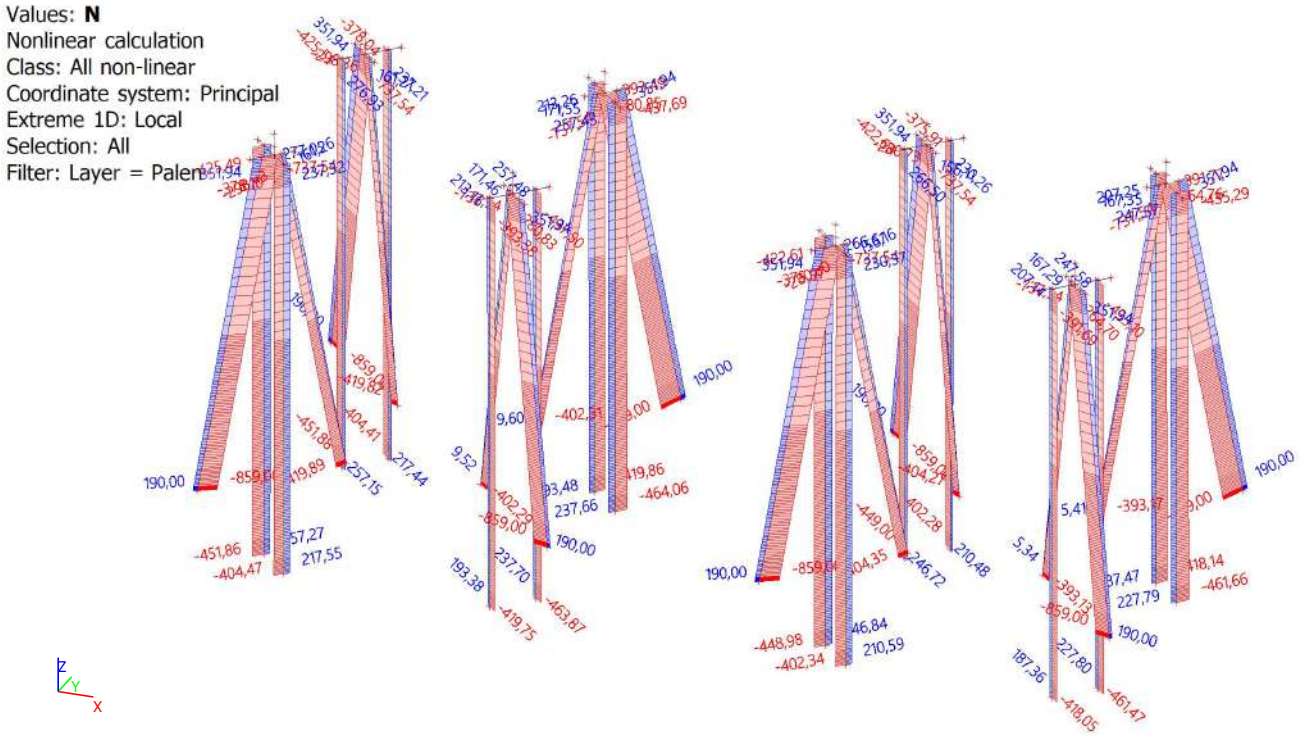
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_5/N58 | low max Wnd ;225° + EG_Gunstig | **0,00** | **0,00** | **-217,44** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_5/N58 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **404,41** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_8/N66 | low max Wnd ;45° + EG_Gunstig | 0,00 | 0,00 | **-237,70** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_8/N66 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **463,87** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_7/N65 | low max Wnd ;45° + EG_Gunstig | 0,00 | 0,00 | **-193,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_7/N65 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **419,75** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_9/N69 | low max Wnd ;135° + EG_Gunstig | 0,00 | 0,00 | **-217,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_9/N69 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **404,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_10/N70 | low max Wnd ;135° + EG_Gunstig | 0,00 | 0,00 | **-257,27** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_10/N70 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **451,86** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N72 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N72 | high max Wnd ;225° + EG_Ongunstig | 0,00 | **0,00** | 495,12 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_3/N72 | high max Wnd ;135° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_3/N72 | low max Wnd ;45° + EG_Gunstig | **0,00** | 0,00 | 64,80 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P_4/N74 | low max Wnd ;315° + EG_Gunstig | **0,00** | 0,00 | 17,56 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P_4/N74 | high max Wnd ;315° + EG_Ongunstig | 0,00 | 0,00 | **5,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N74 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | **404,35** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P_4/N74 | low max Wnd ;135° + EG_Gunstig | **0,00** | **0,00** | 402,26 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_11/N79 | high max Wnd ;225° + EG_Ongunstig | **0,00** | 0,00 | 157,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_11/N79 | high max Wnd ;45° + EG_Ongunstig | 0,00 | **0,00** | 508,20 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_11/N79 | high max Wnd ;315° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_11/N79 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_12/N81 | low max Wnd ;45° + EG_Gunstig | **0,00** | 0,00 | 146,99 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_12/N81 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | **393,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_12/N81 | high max Wnd ;225° + EG_Ongunstig | 0,00 | **0,00** | 225,53 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_12/N81 | high max Wnd ;135° + EG_Ongunstig | **0,00** | 0,00 | **-5,41** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_3/N86 | high max Wnd ;315° + EG_Ongunstig | 0,00 | **0,00** | 508,04 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_3/N86 | high max Wnd ;45° + EG_Ongunstig | **0,00** | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_3/N86 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y_4/N88 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | 225,52 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_4/N88 | low max Wnd ;315° + EG_Gunstig | 0,00 | **0,00** | 146,99 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y_4/N88 | high max Wnd ;225° + EG_Ongunstig | 0,00 | 0,00 | **-5,34** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_4/N88 | high max Wnd ;45° + EG_Ongunstig | **0,00** | 0,00 | **393,13** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_Y_4/N88 | low max Wnd ;135° + EG_Gunstig | **0,00** | 0,00 | 171,04 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_3/N93 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | 495,20 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N93 | high max Wnd ;225° + EG_Ongunstig | 0,00 | 0,00 | **-190,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_3/N93 | high max Wnd ;45° + EG_Ongunstig | **0,00** | **0,00** | **859,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_3/N93 | low max Wnd ;315° + EG_Gunstig | **0,00** | 0,00 | 64,95 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X_4/N95 | high max Wnd ;135° + EG_Ongunstig | 0,00 | **0,00** | 202,07 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N95 | high max Wnd ;45° + EG_Ongunstig | **0,00** | 0,00 | **5,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_X_4/N95 | high max Wnd ;225° + EG_Ongunstig | 0,00 | **0,00** | **404,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X_4/N95 | low max Wnd ;225° + EG_Gunstig | **0,00** | 0,00 | 402,19 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_13/N99 | low max Wnd ;315° + EG_Gunstig | 0,00 | 0,00 | **-187,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_13/N99 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **418,14** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

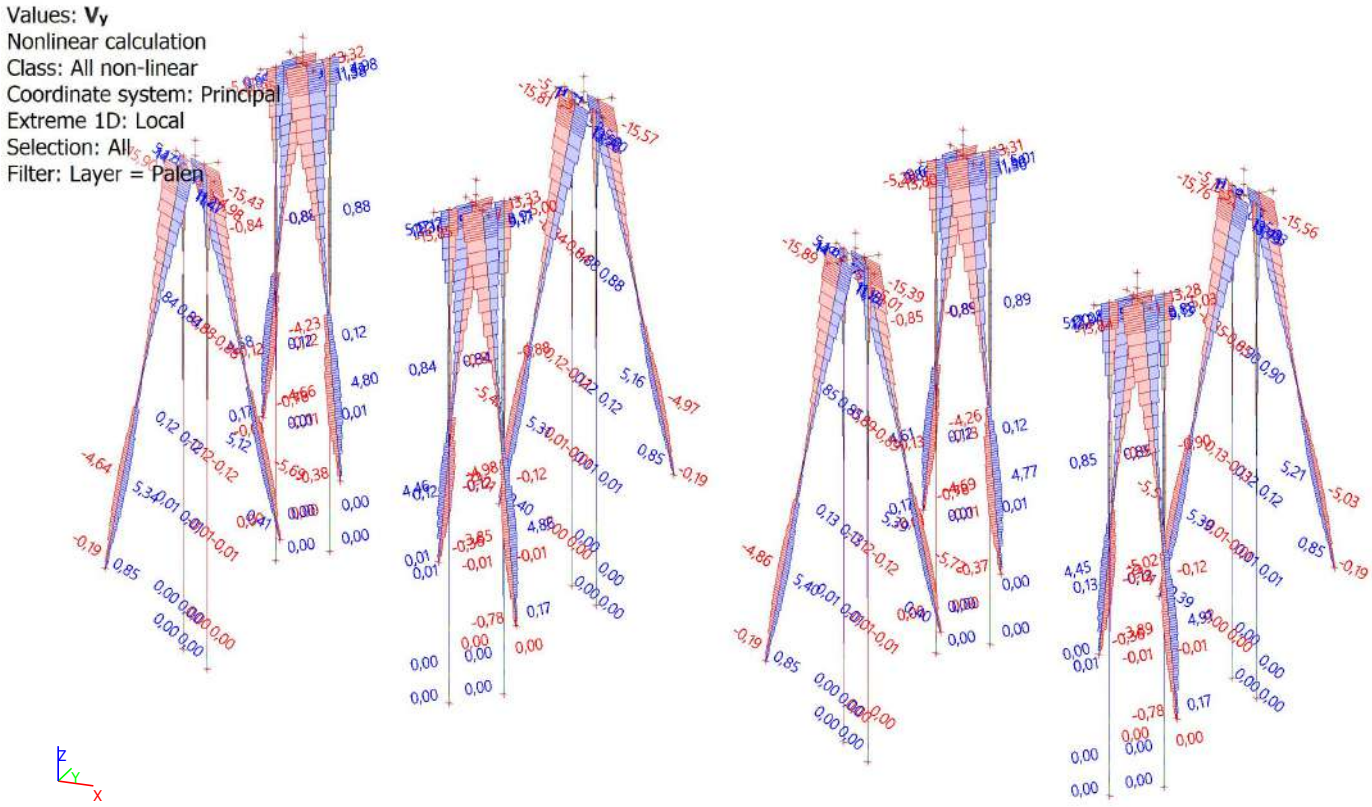
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_XY_14/N100 | low max Wnd ;315° + EG_Gunstig | 0,00 | 0,00 | **-227,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_14/N100 | high max Wnd ;135° + EG_Ongunstig | **0,00** | **0,00** | **461,66** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_16/N105 | low max Wnd ;225° + EG_Gunstig | **0,00** | **0,00** | **-246,72** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_16/N105 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **449,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_15/N104 | low max Wnd ;225° + EG_Gunstig | **0,00** | **0,00** | **-210,48** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_15/N104 | high max Wnd ;45° + EG_Ongunstig | 0,00 | 0,00 | **402,28** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY_18/N110 | low max Wnd ;45° + EG_Gunstig | 0,00 | 0,00 | **-227,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_18/N110 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **461,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_17/N109 | low max Wnd ;45° + EG_Gunstig | 0,00 | 0,00 | **-187,36** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_17/N109 | high max Wnd ;225° + EG_Ongunstig | **0,00** | **0,00** | **418,05** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_19/N113 | low max Wnd ;135° + EG_Gunstig | 0,00 | 0,00 | **-210,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_19/N113 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **402,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_XY_20/N114 | low max Wnd ;135° + EG_Gunstig | 0,00 | 0,00 | **-246,84** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY_20/N114 | high max Wnd ;315° + EG_Ongunstig | **0,00** | **0,00** | **448,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

## 8.1. Interne 1D- krachten; N

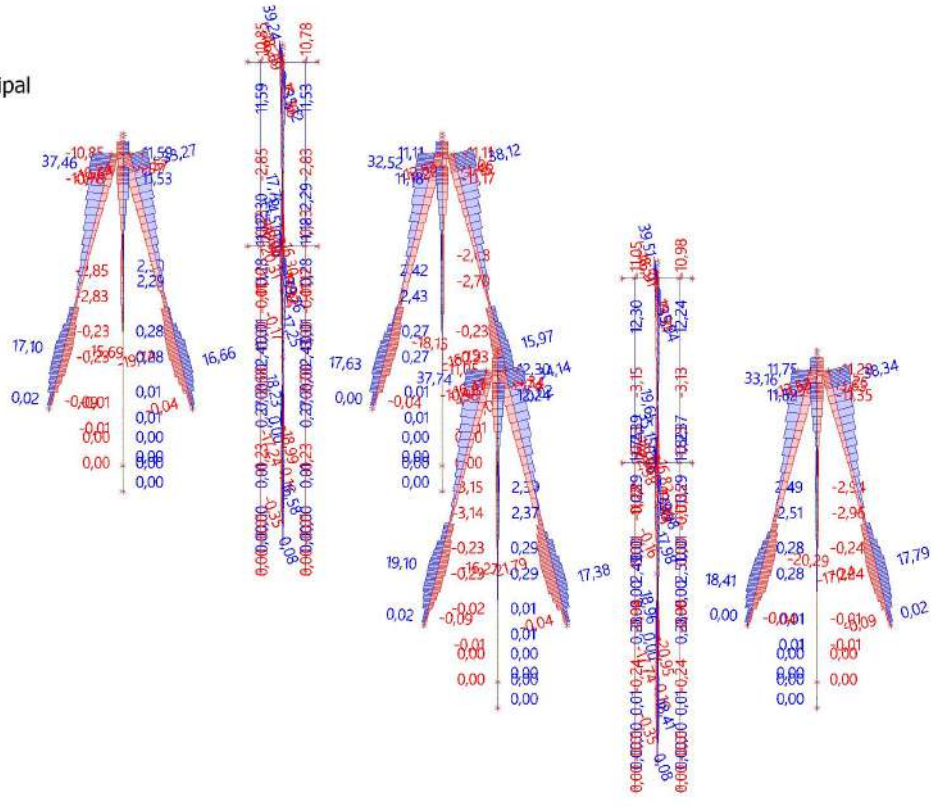



## 8.2. Interne 1D- krachten; V_y



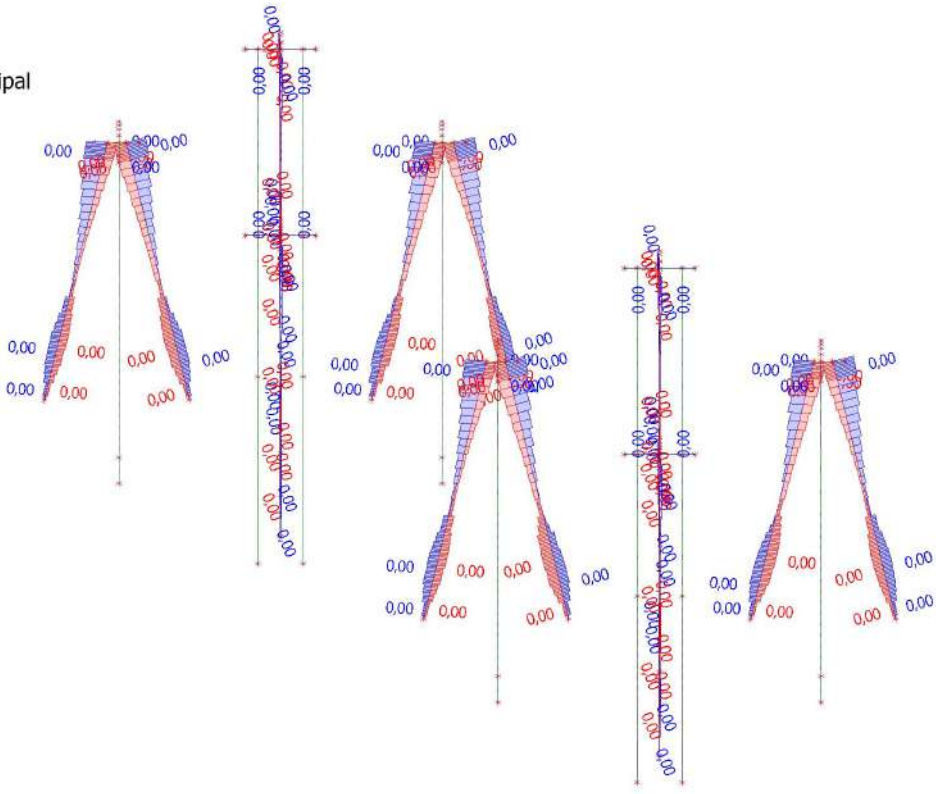
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



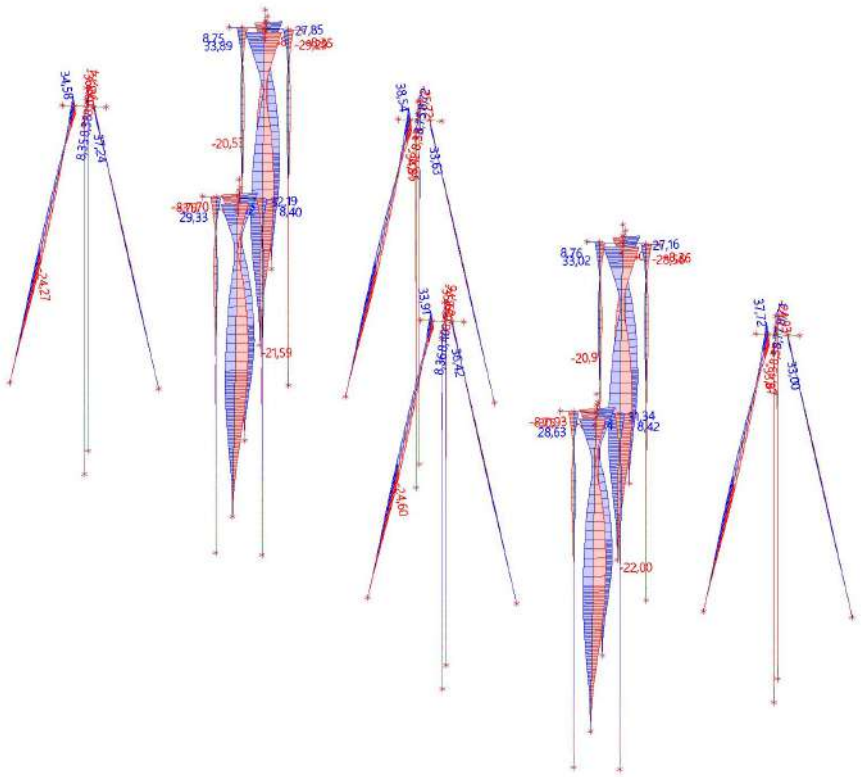
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



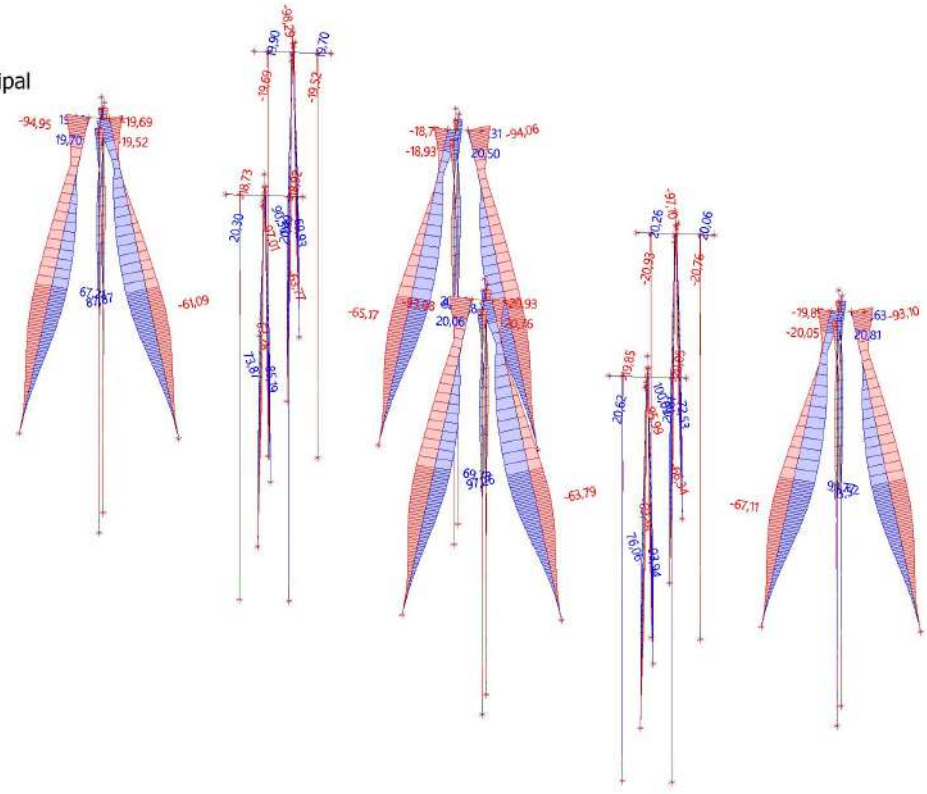
## 8.5. Interne 1D- krachten; M_z

Values: **Mz**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.6. Interne 1D- krachten; M_y

Values: **My**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LD1 - General cross-section

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_1 | 14,997 | high max Wnd ;315° + EG_Ongunstig | LD1 - General cross-section | **-859,00** | 0,85 | -0,09 | 0,00 | 0,00 | 0,00 |
| Paal_P_1 | 0,000 | high max Wnd ;135° + EG_Ongunstig | LD1 - General cross-section | **351,94** | 6,43 | -7,53 | 0,00 | 3,62 | -8,48 |
| Paal_P_1 | 0,000 | high max Wnd ;225° + EG_Ongunstig | LD1 - General cross-section | -325,77 | **-15,90** | 19,61 | 0,00 | -44,96 | 34,58 |
| Paal_P_2 | 1,000- | low max Wnd ;225° + EG_Gunstig | LD1 - General cross-section | -28,63 | **14,33** | -0,98 | 0,00 | 2,80 | -22,16 |
| Paal_X_4 | 11,000+ | low max Wnd ;225° + EG_Gunstig | LD1 - General cross-section | -371,85 | 1,69 | **-22,38** | 0,00 | 59,65 | -4,13 |
| Paal_Y_3 | 0,000 | high max Wnd ;225° + EG_Ongunstig | LD1 - General cross-section | -697,05 | -1,12 | **39,98** | 0,00 | -91,28 | 5,15 |
| Paal_P_4 | 1,000- | low max Wnd ;315° + EG_Gunstig | LD1 - General cross-section | 95,80 | 9,18 | -16,47 | **0,00** | 38,01 | -13,85 |
| Paal_P_3 | 0,000 | high max Wnd ;315° + EG_Ongunstig | LD1 - General cross-section | -697,05 | -11,72 | 37,74 | **0,00** | -88,93 | 24,42 |
| Paal_X_2 | 0,000 | low max Wnd ;45° + EG_Gunstig | LD1 - General cross-section | -737,54 | 0,18 | 34,94 | 0,00 | **-98,29** | 4,99 |
| Paal_X_4 | 8,000- | low max Wnd ;225° + EG_Gunstig | LD1 - General cross-section | -341,47 | -0,35 | 1,16 | 0,00 | **100,09** | -6,86 |
| Paal_P_2 | 0,000 | low max Wnd ;225° + EG_Gunstig | LD1 - General cross-section | -20,53 | 14,07 | 0,62 | 0,00 | 2,98 | **-36,36** |
| Paal_XY_2 | 0,000 | high max Wnd ;225° + EG_Ongunstig | LD1 - General cross-section | -58,86 | -15,81 | 10,51 | 0,00 | -18,11 | **38,54** |

## 8.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_XY_4 | 18,720 | high max Wnd ;135° + EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | **-464,06** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_XY_10 | 0,000 | low max Wnd ;135° + EG_Gunstig | LEKA Paal - type e (CHS219.1/10.0) | **277,05** | -2,70 | 11,59 | **0,00** | -19,69 | 4,06 |
| Paal_XY_14 | 0,000 | low max Wnd ;225° + EG_Gunstig | LEKA Paal - type e (CHS219.1/10.0) | -2,07 | **-5,20** | 1,44 | 0,00 | -2,22 | **8,77** |
| Paal_XY_14 | 0,000 | high max Wnd ;135° + EG_Ongunstig | LEKA Paal - type e (CHS219.1/10.0) | -435,29 | 2,69 | **-11,35** | 0,00 | **20,81** | -4,10 |
| Paal_XY_20 | 0,000 | low max Wnd ;135° + EG_Gunstig | LEKA Paal - type e (CHS219.1/10.0) | 266,61 | -2,76 | **12,30** | 0,00 | **-20,93** | 4,06 |
| Paal_XY_17 | 0,000 | low max Wnd ;135° + EG_Gunstig | LEKA Paal - type e (CHS219.1/10.0) | -1,97 | **5,21** | 1,45 | 0,00 | -2,22 | **-8,78** |

# 9. Krachten van de Poeren

## 9.1. Interne 1D-krachten

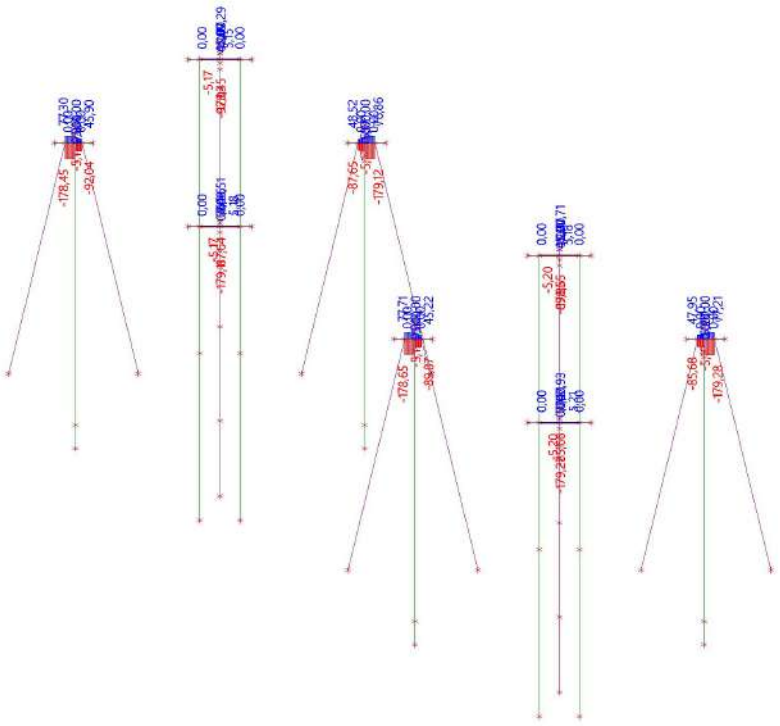
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Opstort_P | 0,570 | low max Wnd ;135° + EG_Gunstig | **793,29** | -122,23 | 144,96 | **0,00** | 0,00 | 0,00 |
| Opstort_P1 | 0,000 | high max Wnd ;135° + EG_Ongunstig | **-997,49** | 162,46 | **-185,69** | 0,00 | **105,84** | -92,60 |
| Opstort_P3 | 0,000 | high max Wnd ;45° + EG_Ongunstig | -980,00 | **-183,77** | **158,89** | 0,00 | **-90,57** | **104,75** |
| Opstort_P2 | 0,000 | high max Wnd ;225° + EG_Ongunstig | -997,28 | **185,64** | -162,47 | 0,00 | 92,61 | **-105,81** |

# 10. Krachten van de Funderingsbalken

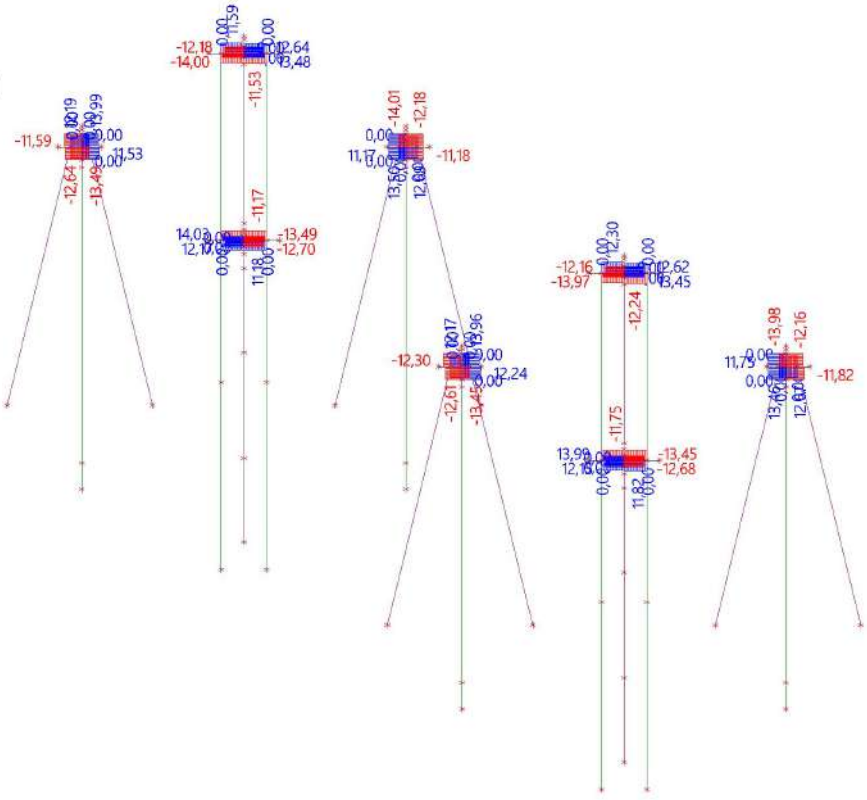
## 10.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



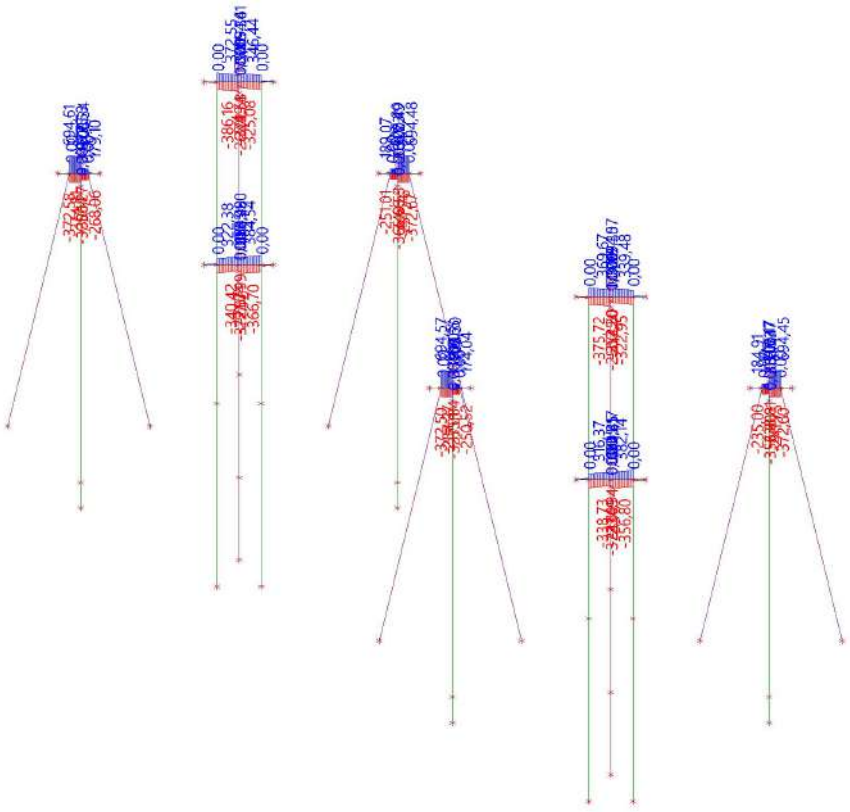
## 10.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



## 10.3. Interne 1D- krachten; V_z

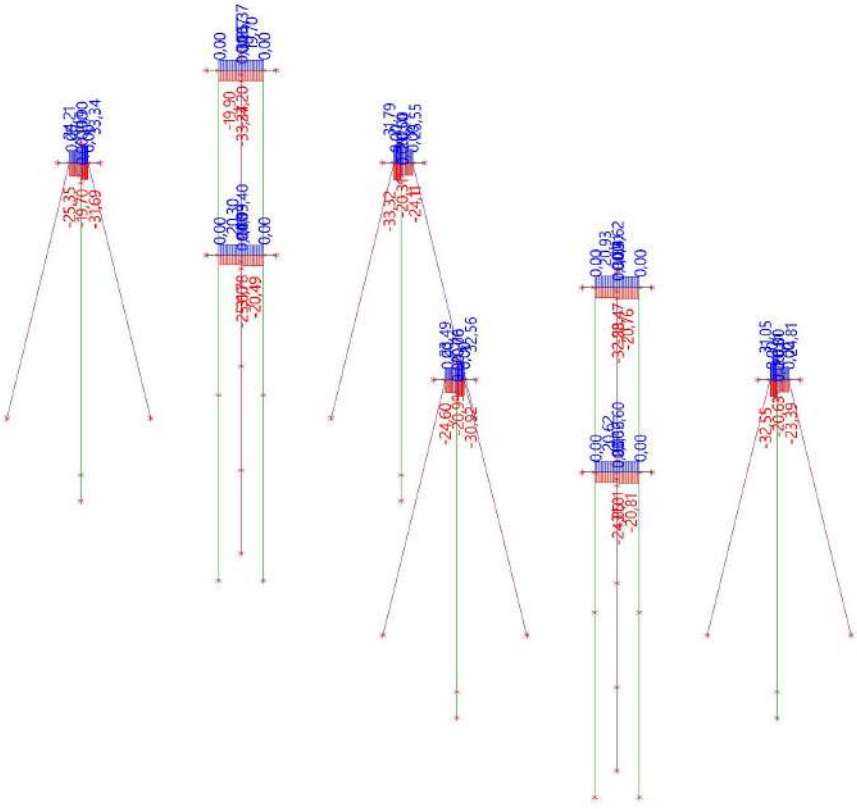
Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken






## 10.4. Interne 1D- krachten; M_x

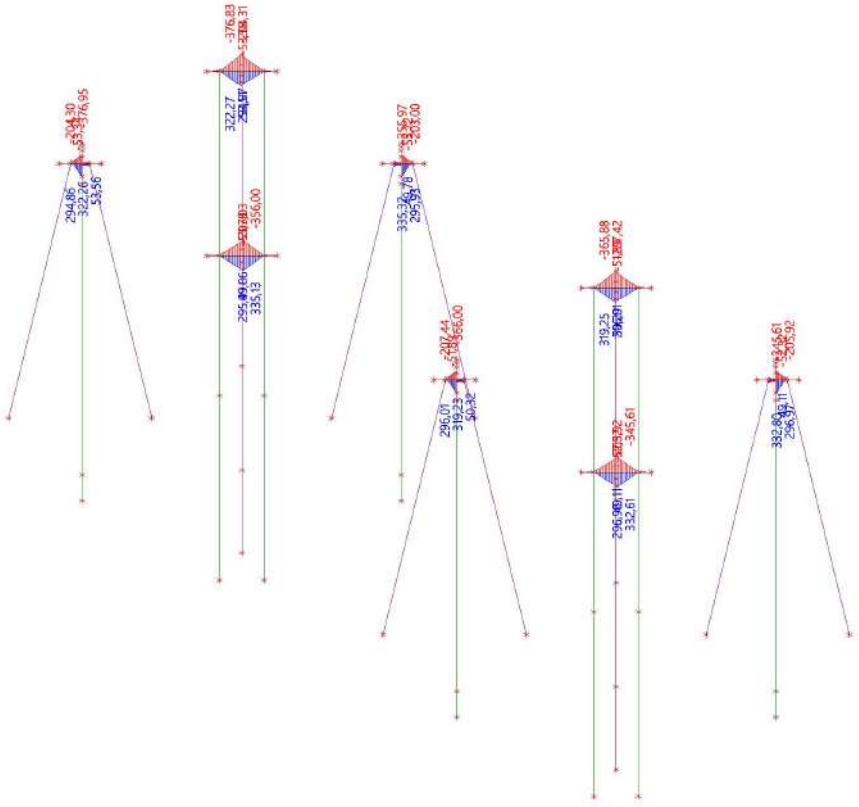
Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken





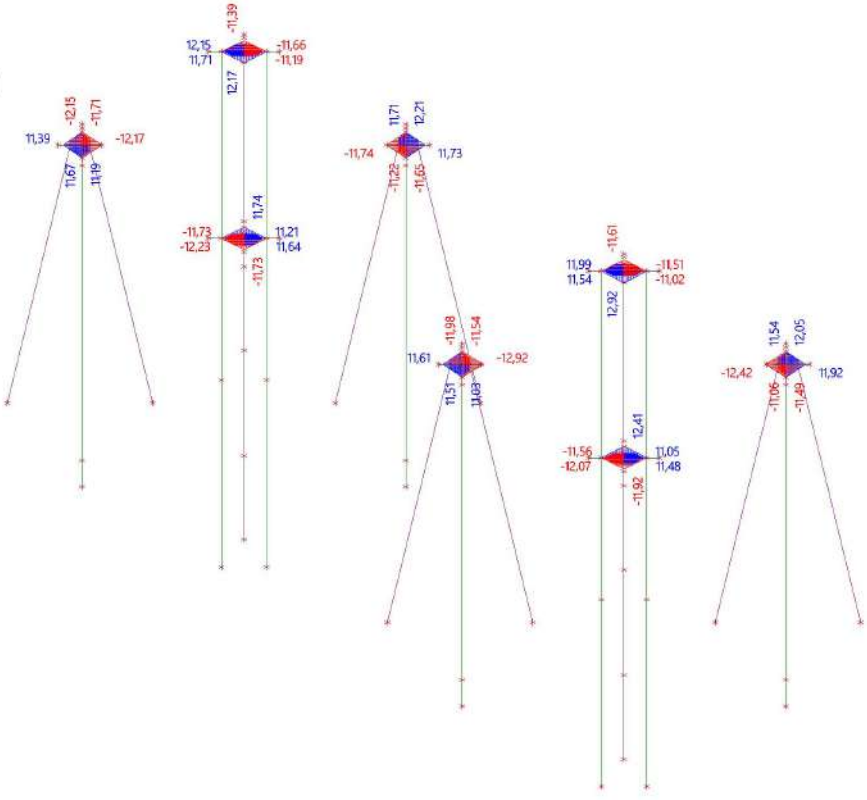
## 10.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Balken

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer_XY_3 | 0,560+ | low max Wnd ;135° + EG_Gunstig | **-179,28** | -5,11 | 705,17 | -8,47 | -80,93 | -1,80 |
| Poer_P_3 | 0,560+ | high max Wnd ;135° + EG_Ongunstig | **77,71** | 5,10 | -358,20 | 5,30 | -10,15 | 1,16 |
| Poer_XY_2 | 0,000 | low max Wnd ;225° + EG_Gunstig | -19,92 | **-14,01** | -25,50 | -33,32 | -12,44 | 11,71 |
| Poer_X_2 | 0,560+ | low max Wnd ;45° + EG_Gunstig | -178,45 | 5,70 | **705,34** | 9,82 | -83,11 | 2,08 |
| Poer_X_1 | 0,000 | low max Wnd ;135° + EG_Gunstig | -2,45 | -14,00 | -2,59 | **-33,37** | 7,84 | 11,71 |
| Poer_Y_2 | 0,000 | low max Wnd ;135° + EG_Gunstig | -19,91 | **14,03** | -25,51 | **33,40** | -12,46 | -11,73 |
| Opstort9:Opstort-1700:848176 | 1,650- | low max Wnd ;135° + EG_Gunstig | 2,70 | -11,59 | **-386,27** | -19,69 | **-376,95** | -12,17 |
| Opstort9:Opstort-1700:848169 | 1,650- | high max Wnd ;135° + EG_Ongunstig | -2,67 | 11,17 | 292,06 | 20,50 | **335,32** | 11,73 |
| Opstort9:Opstort-1700:848180 | 1,650- | low max Wnd ;135° + EG_Gunstig | 2,76 | -12,30 | -375,84 | -20,93 | -366,00 | **-12,92** |
| Opstort9:Opstort-1700:848178 | 1,650- | low max Wnd ;225° + EG_Gunstig | 2,76 | 12,30 | -375,72 | 20,93 | -365,88 | **12,92** |

# 1. Table of contents

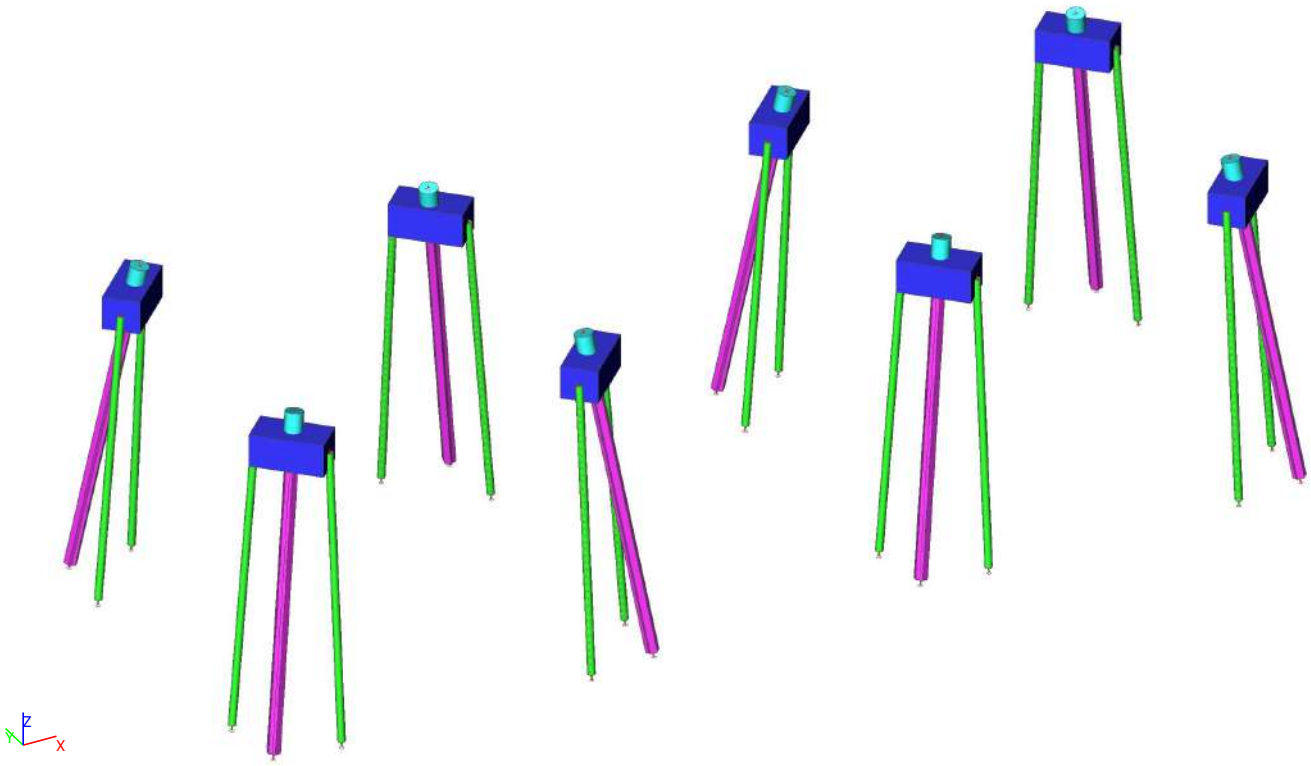
1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 7
4.5. Mesh setup 8
5. Geometrie 8
5.1. Nodes 8
5.2. Analyse model met knopen 9
5.3. Members 9
5.4. Analyse model met Staven 10
5.5. Nodal supports 10
5.6. Analyse model met Knoopondersteuningen 11
5.7. Line supports on member 11
5.8. Analyse model met Lijnondersteuningen 16
5.9. Analyse model met Lijnondersteuningen 17
5.10. Nonlinear functions 17
6. Belastingen 27
6.1. Load cases 27
6.1.1. Load cases - EG_Fundering 27
6.1.2. Load cases - high max Wnd ;45° 27
6.1.2.1. Point force in node 28
6.1.3. Load cases - high max Wnd ;315° 29
6.1.3.1. Point force in node 30
6.1.4. Load cases - high max Wnd ;135° 30
6.1.4.1. Point force in node 31
6.1.5. Load cases - high max Wnd ;225° 32
6.1.5.1. Point force in node 33
6.1.6. Load cases - low max Wnd ;45° 33
6.1.6.1. Point force in node 34
6.1.7. Load cases - low max Wnd ;225° 35
6.1.7.1. Point force in node 36
6.1.8. Load cases - low max Wnd ;135° 36
6.1.8.1. Point force in node 37
6.1.9. Load cases - low max Wnd ;315° 38
6.1.9.1. Point force in node 39
6.2. Nonlinear combinations 39
6.3. Result classes 40
7. Resultaten 41
7.1. Reacties van de palen 41
7.1.1. Reactions; R_z 41
7.1.2. Reactions 41
7.1.3. Reactions 41
7.1.4. Reactions 42
8. Krachten van de Funderingspalen 45
8.1. Interne 1D- krachten; N 45
8.2. Interne 1D- krachten; V_y 45
8.3. Interne 1D- krachten; V_z 46
8.4. Interne 1D- krachten; M_x 46
8.5. Interne 1D- krachten; M_y 47
8.6. Interne 1D- krachten; M_z 47
8.7. 1D internal forces 48
8.8. 1D internal forces 48
9. Krachten van de Poeren 49
9.1. 1D internal forces 49
10. Krachten van de Funderingsbalken 50
10.1. Interne 1D- krachten; N 50
10.2. Interne 1D- krachten; V_y 50
10.3. Interne 1D- krachten; V_z 51
10.4. Interne 1D- krachten; M_x 51
10.5. Interne 1D- krachten; M_y 52
10.6. Interne 1D- krachten; M_z 52

10.7. 1D internal forces 53

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Cilinder 75 + palen S+9 |
| Author | [redacted] |
| Date | 12-05-2026 |
| Structure | General XYZ |
| No. of nodes : | 56 |
| No. of beams : | 40 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 8 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ [-] | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ [-] | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Concrete | 2500,00 | 2600,00 | 9,0000e+03 | 0,23 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Concrete | 2500,00 | 2600,00 | 1,1000e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C30/37 | Concrete | 1500,00 | 2600,00 | 1,0900e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C12/15 Gescheurd | Concrete | 1500,00 | 2600,00 | 7,0000e+03 | 0,20 | 0,01e-003 | 12,00 | |

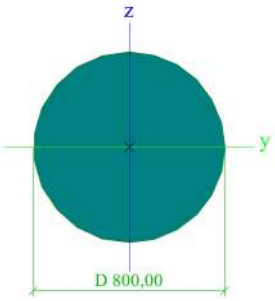
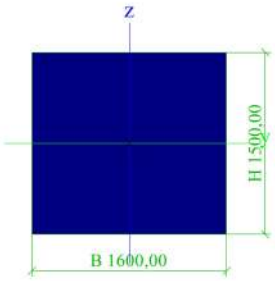
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

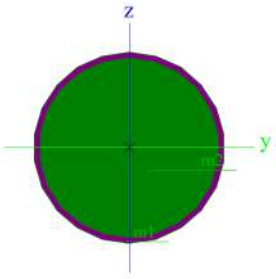
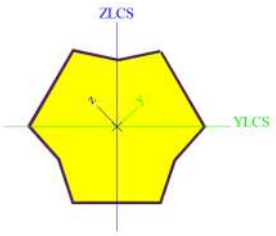
Reinforcement EC2

| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |

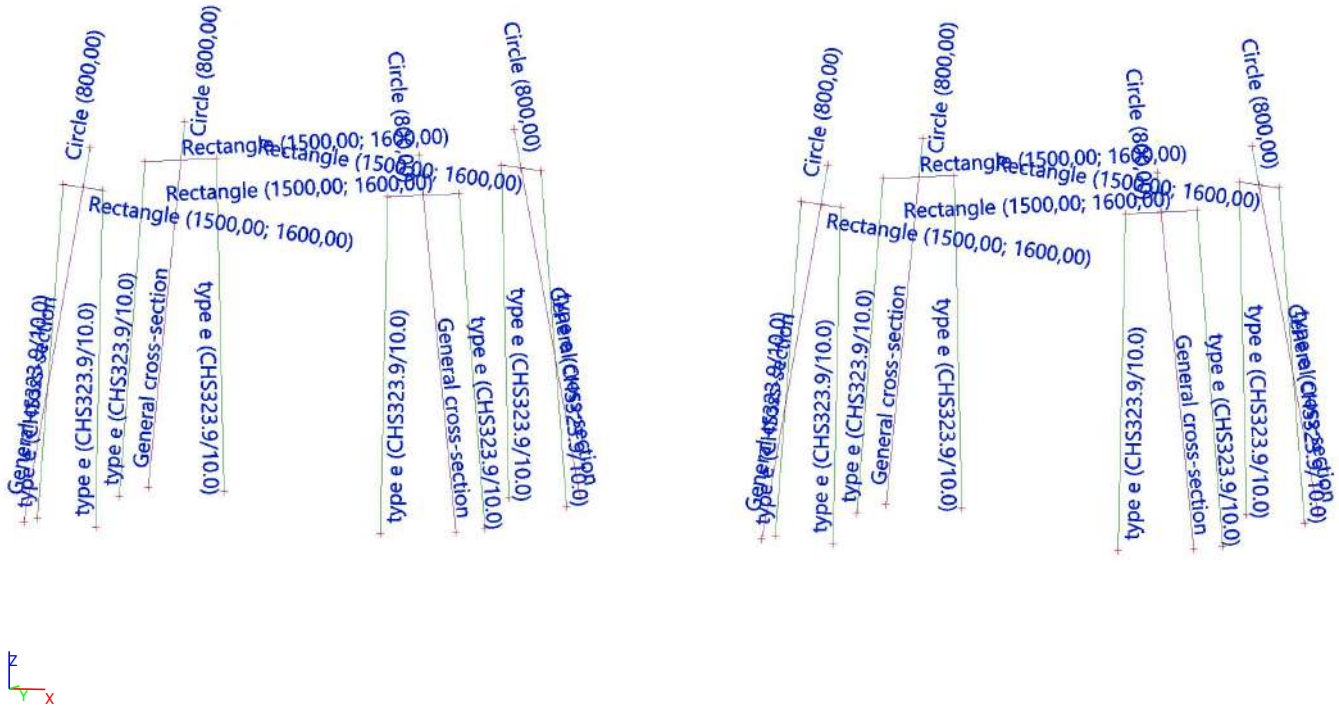
## 4.2. Cross-sections

| Poer800 | | |
|---|---|---|
| Type | Circle | |
| Detailed | 800,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 5,0265e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 4,5239e+05 | 4,5239e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,5131e+00 | 2,5131e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 400,00 | 400,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,0106e+10 | 2,0106e+10 |
| $i_y$ [mm], $i_z$ [mm] | 199,98 | 199,98 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,0265e+07 | 5,0265e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 8,5333e+07 | 8,5333e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 4,0212e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

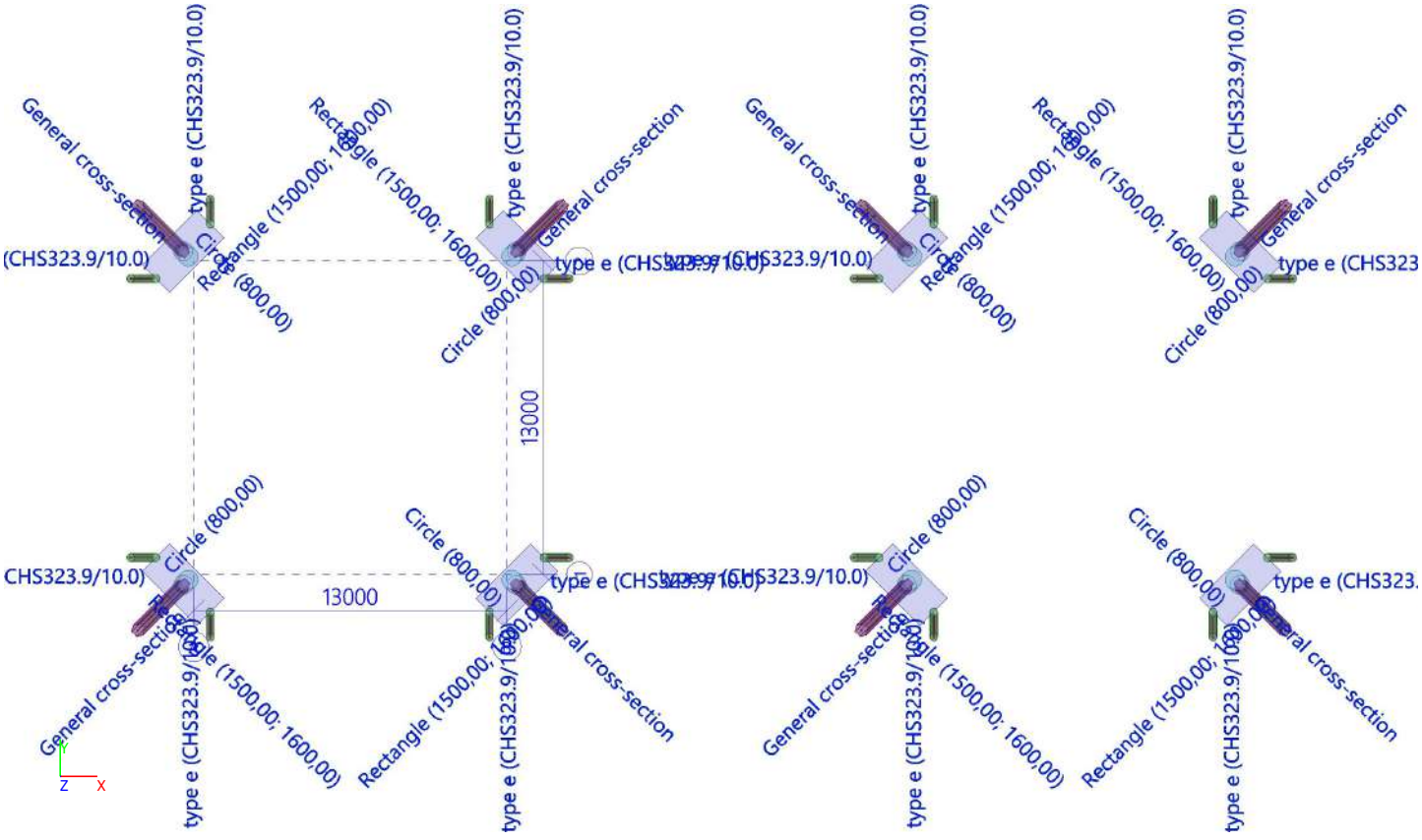
| | | |
|---|---|---|
| Picture |  | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Detailed | 1500,00; 1600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 2,4000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,0007e+06 | 2,0008e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,2000e+00 | 6,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 800,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,5000e+11 | 5,1200e+11 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 461,88 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 6,0000e+08 | 6,4000e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 8,0849e+11 | 2,2447e+15 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Detailed | CHS323.9/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [mm²] | 1,3624e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 9,1187e+03 | 9,1187e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,0175e+00 | 1,0175e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 161,95 | 161,95 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,4326e+08 | 1,4326e+08 |
| $i_y$ [mm], $i_z$ [mm] | 102,54 | 102,54 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 8,8458e+05 | 8,8458e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,1479e+06 | 1,1479e+06 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 269749430,18 | 269749430,18 |

| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 269749430,18 | 269749430,18 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,9003e+08 | 2,9935e+04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LD1(31-plank)** | | |
| Type | General cross-section | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| | S 235 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | d | d |
| A [mm²] | 6,0572e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 3,6248e+05 | 3,6314e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,7651e+00 | 3,4664e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 553,25 | 9,99 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 1,6274e+10 | 1,6264e+10 |
| $I_{YZ.LCS}$ [mm⁴] | -1,0231e+08 | |
| α [deg] | 43,55 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,6372e+10 | 1,6167e+10 |
| $i_y$ [mm], $i_z$ [mm] | 164,40 | 163,37 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,7898e+07 | 5,8163e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9594e+07 | 4,9245e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 601215312,58 | 595125922,92 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 597037111,16 | 590937542,96 |
| $d_y$ [mm], $d_z$ [mm] | 0,12 | 0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,6243e+10 | 1,7700e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,09 | 0,21 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

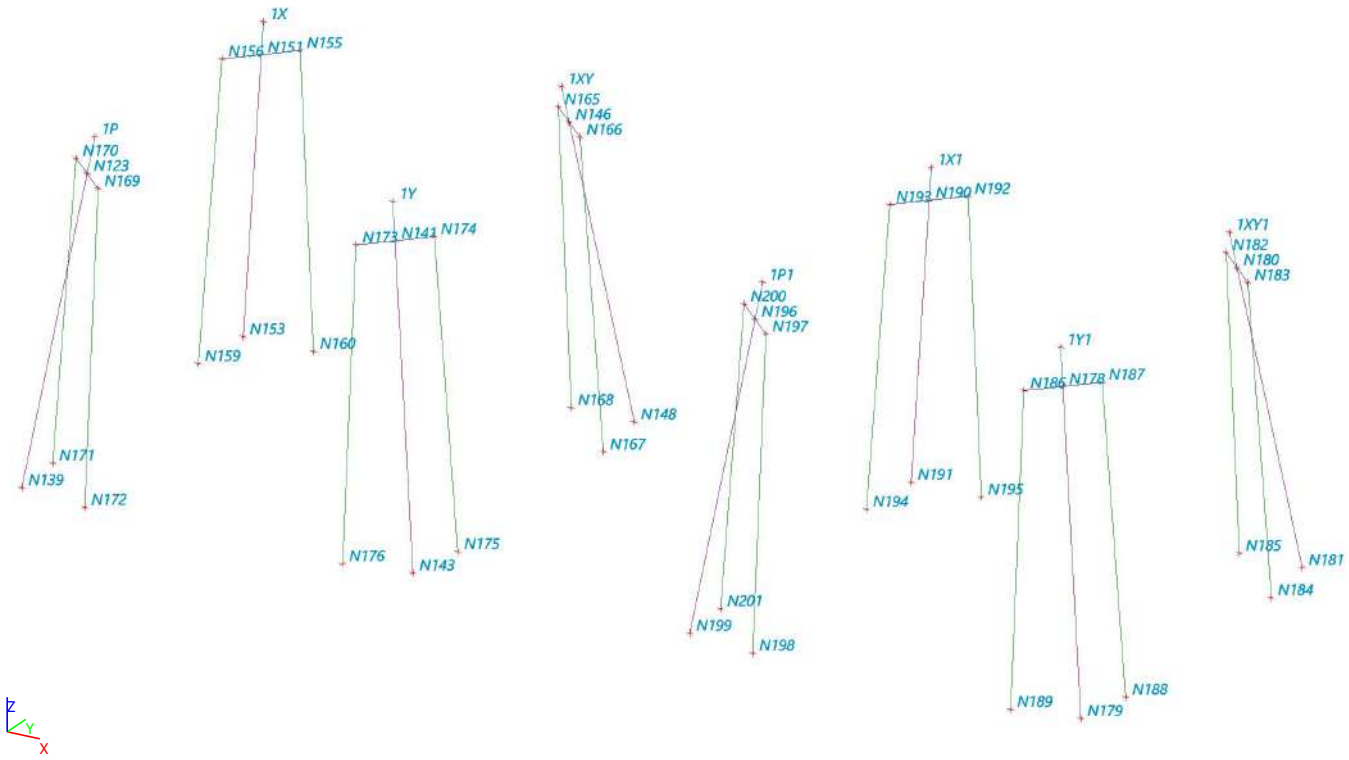
| | |
|---|---|
| Name | MeshSetup1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 1 |
| Average size of 2D mesh element [m] | 0,200 |
| Average size of 1D mesh element on curved 1D members [m] | 0,100 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

### 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N123 | -0,427 | -0,433 | -0,250 |
| 1P | -0,209 | -0,212 | 1,279 |
| N139 | -2,297 | -2,305 | -13,245 |
| N141 | 13,399 | -0,433 | -0,250 |
| 1Y | 13,181 | -0,212 | 1,279 |
| N143 | 15,269 | -2,305 | -13,245 |
| N146 | 13,399 | 13,405 | -0,250 |
| 1XY | 13,181 | 13,184 | 1,279 |
| N148 | 15,269 | 15,277 | -13,245 |
| N151 | -0,427 | 13,405 | -0,250 |
| 1X | -0,209 | 13,184 | 1,279 |
| N153 | -2,297 | 15,277 | -13,245 |
| N155 | 0,693 | 14,525 | -0,250 |
| N156 | -1,560 | 12,272 | -0,250 |
| N159 | -2,609 | 12,272 | -13,360 |
| N160 | 0,693 | 15,574 | -13,360 |
| N165 | 12,279 | 14,525 | -0,250 |
| N166 | 14,532 | 12,272 | -0,250 |
| N167 | 15,581 | 12,272 | -13,360 |
| N168 | 12,279 | 15,574 | -13,360 |
| N169 | 0,693 | -1,553 | -0,250 |
| N170 | -1,560 | 0,700 | -0,250 |
| N171 | -2,609 | 0,700 | -13,360 |
| N172 | 0,693 | -2,602 | -13,360 |
| N173 | 12,279 | -1,553 | -0,250 |
| N174 | 14,532 | 0,700 | -0,250 |
| N175 | 15,581 | 0,700 | -13,360 |
| N176 | 12,279 | -2,602 | -13,360 |
| N178 | 43,399 | -0,433 | -0,250 |
| 1Y1 | 43,181 | -0,212 | 1,279 |
| N179 | 45,269 | -2,305 | -13,245 |
| N180 | 43,399 | 13,405 | -0,250 |
| 1XY1 | 43,181 | 13,184 | 1,279 |
| N181 | 45,269 | 15,277 | -13,245 |
| N182 | 42,279 | 14,525 | -0,250 |
| N183 | 44,532 | 12,272 | -0,250 |
| N184 | 45,581 | 12,272 | -13,360 |
| N185 | 42,279 | 15,574 | -13,360 |
| N186 | 42,279 | -1,553 | -0,250 |
| N187 | 44,532 | 0,700 | -0,250 |
| N188 | 45,581 | 0,700 | -13,360 |
| N189 | 42,279 | -2,602 | -13,360 |
| N190 | 29,573 | 13,405 | -0,250 |
| 1X1 | 29,791 | 13,184 | 1,279 |
| N191 | 27,703 | 15,277 | -13,245 |
| N192 | 30,693 | 14,525 | -0,250 |
| N193 | 28,440 | 12,272 | -0,250 |
| N194 | 27,391 | 12,272 | -13,360 |
| N195 | 30,693 | 15,574 | -13,360 |
| N196 | 29,573 | -0,433 | -0,250 |
| 1P1 | 29,791 | -0,212 | 1,279 |
| N197 | 30,693 | -1,553 | -0,250 |
| N198 | 30,693 | -2,602 | -13,360 |
| N199 | 27,703 | -2,305 | -13,245 |
| N200 | 28,440 | 0,700 | -0,250 |
| N201 | 27,391 | 0,700 | -13,360 |

## 5.2. Analyse model met knopen

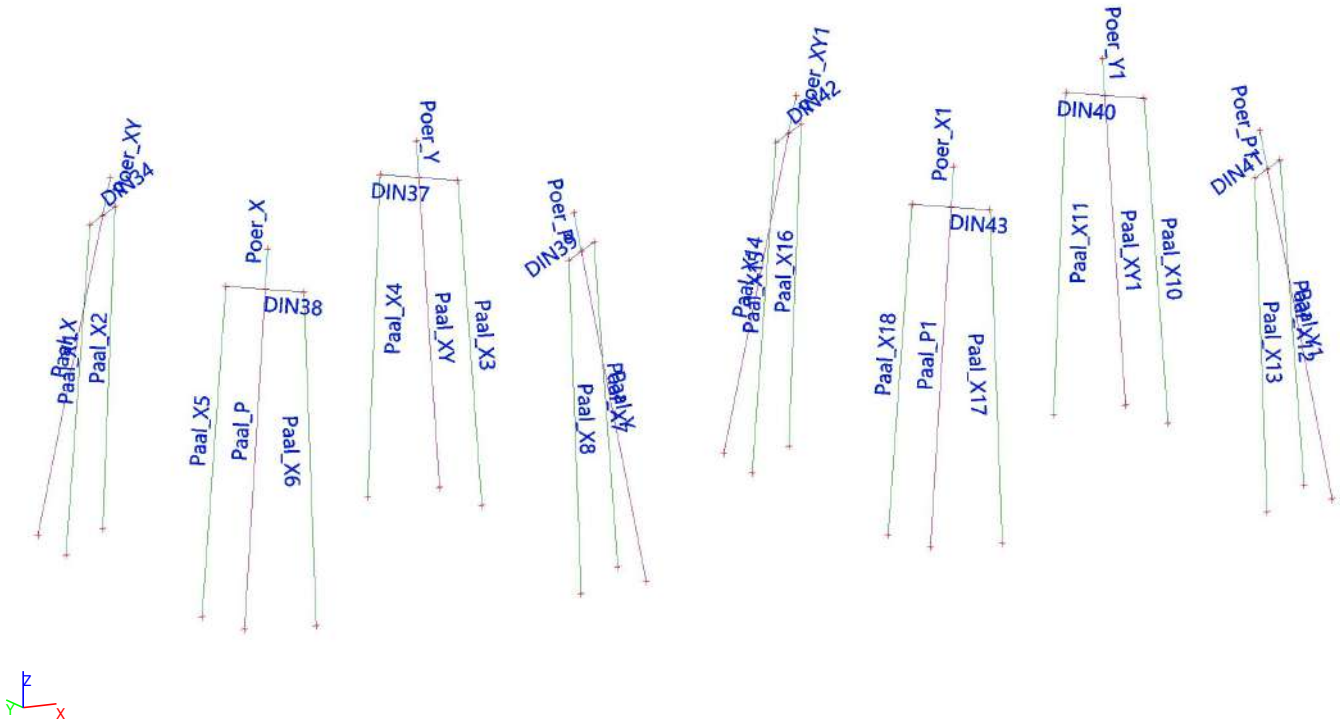



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| DIN34 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N156 | N155 | beam (80) |
| DIN37 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N166 | N165 | beam (80) |
| DIN38 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N170 | N169 | beam (80) |
| DIN39 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N174 | N173 | beam (80) |
| DIN40 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N183 | N182 | beam (80) |
| DIN41 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N187 | N186 | beam (80) |
| DIN42 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N193 | N192 | beam (80) |
| DIN43 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N200 | N197 | beam (80) |
| Paal_P | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N123 | N139 | column (100) |
| Paal_P1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N196 | N199 | column (100) |
| Paal_X | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N151 | N153 | column (100) |
| Paal_X1 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N156 | N159 | column (100) |
| Paal_X2 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N155 | N160 | column (100) |
| Paal_X3 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N166 | N167 | column (100) |
| Paal_X4 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N165 | N168 | column (100) |
| Paal_X5 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N170 | N171 | column (100) |
| Paal_X6 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N169 | N172 | column (100) |
| Paal_X7 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N174 | N175 | column (100) |
| Paal_X8 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N173 | N176 | column (100) |
| Paal_X10 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N183 | N184 | column (100) |
| Paal_X11 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N182 | N185 | column (100) |
| Paal_X12 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N187 | N188 | column (100) |
| Paal_X13 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N186 | N189 | column (100) |
| Paal_X14 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N190 | N191 | column (100) |
| Paal_X15 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N193 | N194 | column (100) |
| Paal_X16 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N192 | N195 | column (100) |
| Paal_X17 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N197 | N198 | column (100) |
| Paal_X18 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 13,152 | N200 | N201 | column (100) |
| Paal_XY | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N146 | N148 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N180 | N181 | column (100) |
| Paal_Y | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N141 | N143 | column (100) |
| Paal_Y1 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 13,261 | N178 | N179 | column (100) |
| Poer_P | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N141 | 1Y | column (100) |
| Poer_P1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N178 | 1Y1 | column (100) |
| Poer_X | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N123 | 1P | column (100) |
| Poer_X1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N196 | 1P1 | column (100) |
| Poer_XY | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N151 | 1X | column (100) |
| Poer_XY1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N190 | 1X1 | column (100) |
| Poer_Y | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N146 | 1XY | column (100) |
| Poer_Y1 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N180 | 1XY1 | column (100) |

## 5.4. Analyse model met Staven

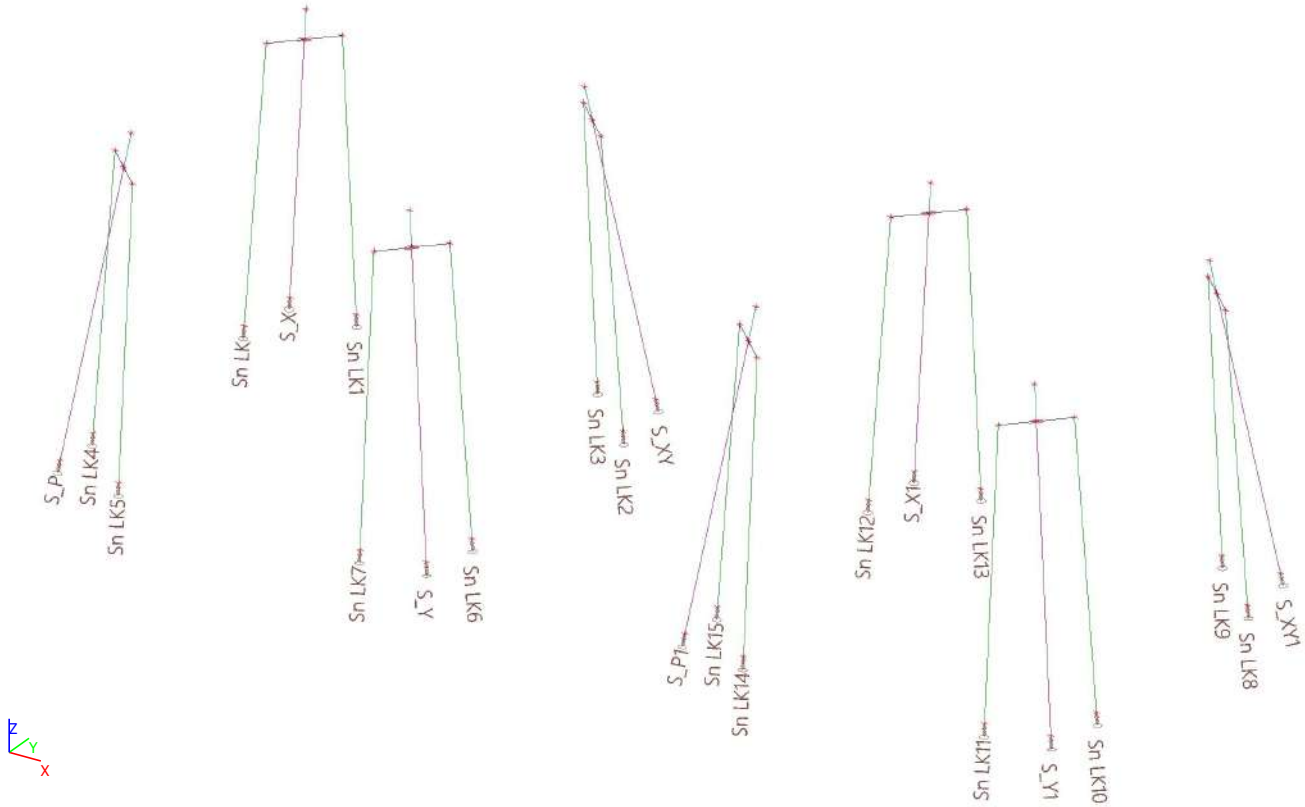



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P | N139 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y | N143 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY | N148 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X | N153 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK | N159 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK1 | N160 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK2 | N167 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK3 | N168 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK4 | N171 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK5 | N172 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| Sn LK6 | N175 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK7 | N176 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| S_Y1 | N179 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY1 | N181 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| Sn LK8 | N184 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK9 | N185 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn LK10 | N188 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK11 | N189 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| S_X1 | N191 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK12 | N194 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK13 | N195 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK14 | N198 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| S_P1 | N199 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| Sn LK15 | N201 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Line supports on member

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| Slb_P_Veen | Line | Paal_P | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_Veen | Line | Paal_Y | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_Veen | Line | Paal_XY | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_Veen | Line | Paal_X | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V9 | Line | Paal_P | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V9 | Line | Paal_Y | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V9 | Line | Paal_XY | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V9 | Line | Paal_X | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V10 | Line | Paal_P | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V11 | Line | Paal_P | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V12 | Line | Paal_P | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V13 | Line | Paal_P | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_Y_V10 | Line | Paal_Y | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V11 | Line | Paal_Y | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V12 | Line | Paal_Y | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V13 | Line | Paal_Y | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_XY_V10 | Line | Paal_XY | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V11 | Line | Paal_XY | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V12 | Line | Paal_XY | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V13 | Line | Paal_XY | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_X_V10 | Line | Paal_X | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V11 | Line | Paal_X | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V12 | Line | Paal_X | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V13 | Line | Paal_X | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_X_Veen1 | Line | Paal_X1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V22 | Line | Paal_X1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V23 | Line | Paal_X1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V24 | Line | Paal_X1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V25 | Line | Paal_X1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V26 | Line | Paal_X1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen2 | Line | Paal_X2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V32 | Line | Paal_X2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V33 | Line | Paal_X2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V34 | Line | Paal_X2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V35 | Line | Paal_X2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V36 | Line | Paal_X2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen3 | Line | Paal_X3 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V42 | Line | Paal_X3 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V43 | Line | Paal_X3 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V44 | Line | Paal_X3 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V45 | Line | Paal_X3 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

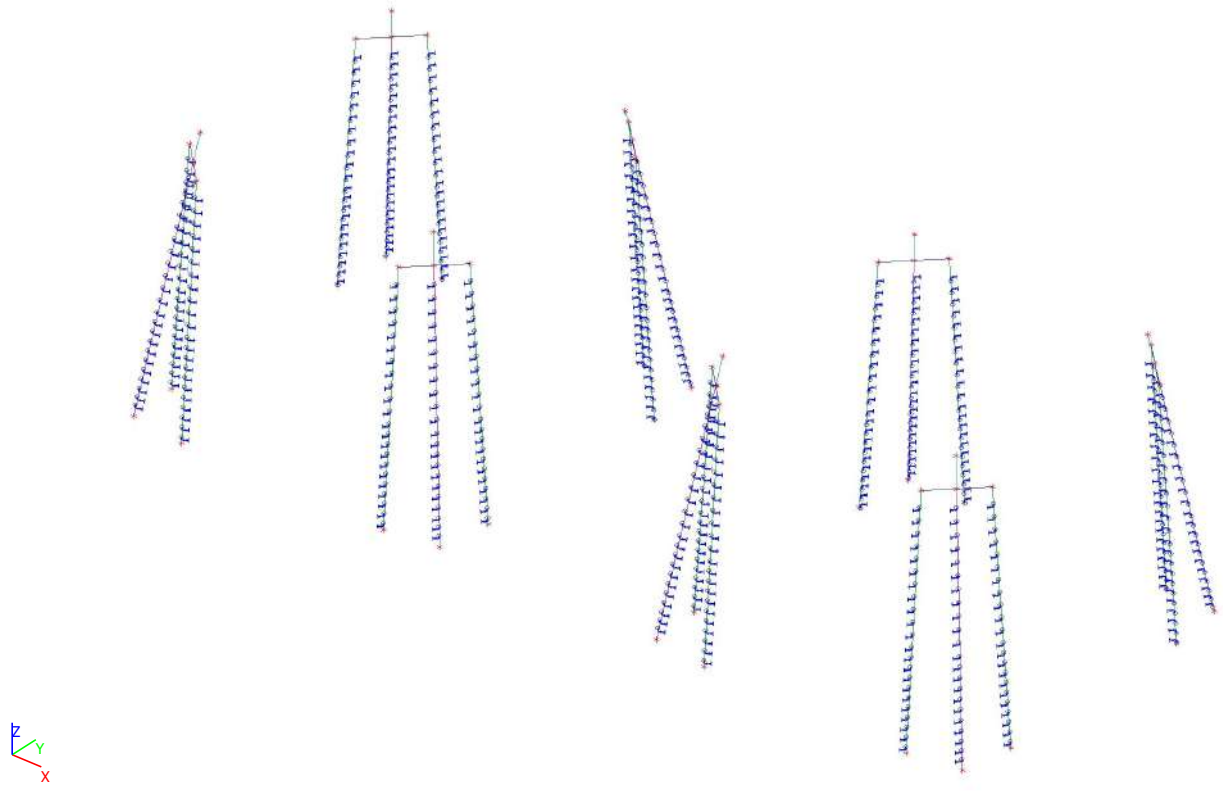
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V46 | Line | Paal_X3 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen4 | Line | Paal_X4 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V52 | Line | Paal_X4 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V53 | Line | Paal_X4 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V54 | Line | Paal_X4 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V55 | Line | Paal_X4 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V56 | Line | Paal_X4 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen5 | Line | Paal_X5 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V62 | Line | Paal_X5 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V63 | Line | Paal_X5 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V64 | Line | Paal_X5 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V65 | Line | Paal_X5 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V66 | Line | Paal_X5 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen6 | Line | Paal_X6 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V72 | Line | Paal_X6 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V73 | Line | Paal_X6 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V74 | Line | Paal_X6 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V75 | Line | Paal_X6 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V76 | Line | Paal_X6 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen7 | Line | Paal_X7 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V82 | Line | Paal_X7 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V83 | Line | Paal_X7 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V84 | Line | Paal_X7 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V85 | Line | Paal_X7 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V86 | Line | Paal_X7 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen8 | Line | Paal_X8 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V92 | Line | Paal_X8 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V93 | Line | Paal_X8 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V94 | Line | Paal_X8 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V95 | Line | Paal_X8 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V96 | Line | Paal_X8 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_Y_Veen1 | Line | Paal_Y1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_V14 | Line | Paal_Y1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V15 | Line | Paal_Y1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V16 | Line | Paal_Y1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V17 | Line | Paal_Y1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V18 | Line | Paal_Y1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_XY_Veen1 | Line | Paal_XY1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_V14 | Line | Paal_XY1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V15 | Line | Paal_XY1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V16 | Line | Paal_XY1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V17 | Line | Paal_XY1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V18 | Line | Paal_XY1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_X_Veen10 | Line | Paal_X10 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V112 | Line | Paal_X10 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V113 | Line | Paal_X10 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V114 | Line | Paal_X10 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V115 | Line | Paal_X10 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V116 | Line | Paal_X10 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen11 | Line | Paal_X11 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V120 | Line | Paal_X11 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V121 | Line | Paal_X11 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V122 | Line | Paal_X11 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V123 | Line | Paal_X11 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V124 | Line | Paal_X11 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen12 | Line | Paal_X12 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V128 | Line | Paal_X12 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V129 | Line | Paal_X12 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V130 | Line | Paal_X12 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V131 | Line | Paal_X12 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V132 | Line | Paal_X12 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen13 | Line | Paal_X13 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V136 | Line | Paal_X13 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V137 | Line | Paal_X13 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

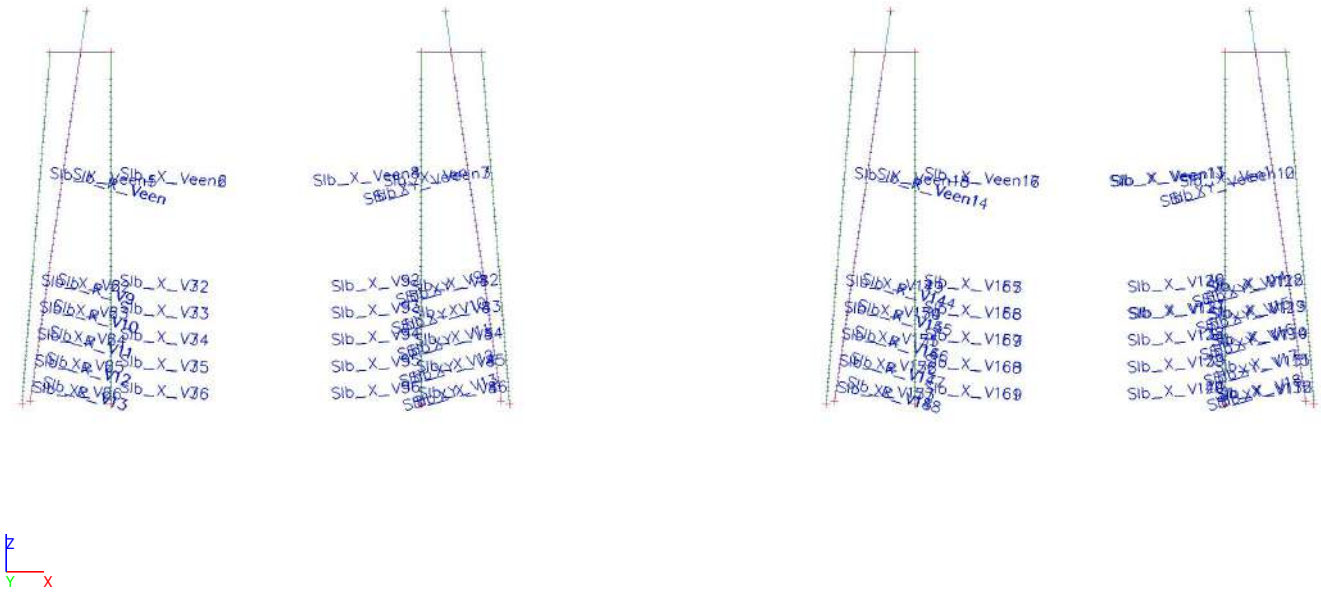
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V138 | Line | Paal_X13 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V139 | Line | Paal_X13 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V140 | Line | Paal_X13 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen14 | Line | Paal_X14 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V144 | Line | Paal_X14 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V145 | Line | Paal_X14 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V146 | Line | Paal_X14 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V147 | Line | Paal_X14 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V148 | Line | Paal_X14 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_X_Veen15 | Line | Paal_X15 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V149 | Line | Paal_X15 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V150 | Line | Paal_X15 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V151 | Line | Paal_X15 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V152 | Line | Paal_X15 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V153 | Line | Paal_X15 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen16 | Line | Paal_X16 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V157 | Line | Paal_X16 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V158 | Line | Paal_X16 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V159 | Line | Paal_X16 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V160 | Line | Paal_X16 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V161 | Line | Paal_X16 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_P_Veen1 | Line | Paal_P1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V14 | Line | Paal_P1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V15 | Line | Paal_P1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V16 | Line | Paal_P1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V17 | Line | Paal_P1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V18 | Line | Paal_P1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,850 | From start | | | | | | |
| Slb_X_Veen17 | Line | Paal_X17 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V165 | Line | Paal_X17 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V166 | Line | Paal_X17 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V167 | Line | Paal_X17 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V168 | Line | Paal_X17 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V169 | Line | Paal_X17 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen18 | Line | Paal_X18 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V173 | Line | Paal_X18 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V174 | Line | Paal_X18 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V175 | Line | Paal_X18 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V176 | Line | Paal_X18 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V177 | Line | Paal_X18 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



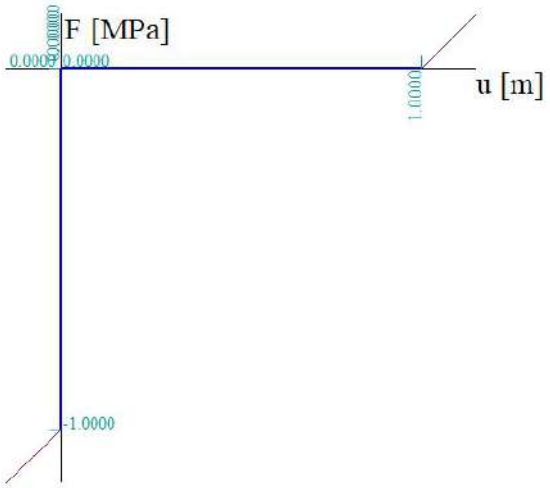
## 5.9. Analyse model met Lijnondersteuningen



## 5.10. Nonlinear functions

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| soil press only | Nonlinear subsoil | | Flexible | Flexible |

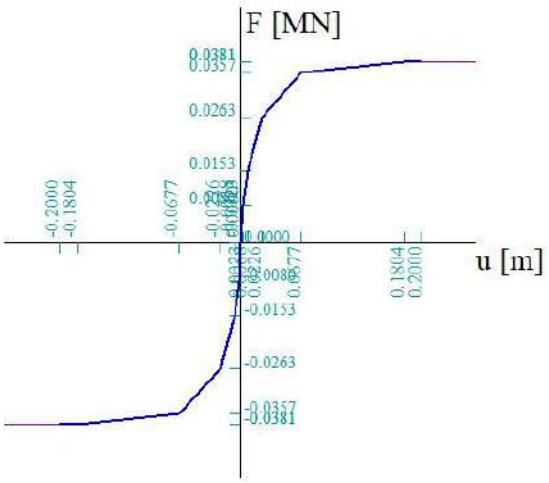
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -0.200000 / -38100.000000 | Free | Free |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |

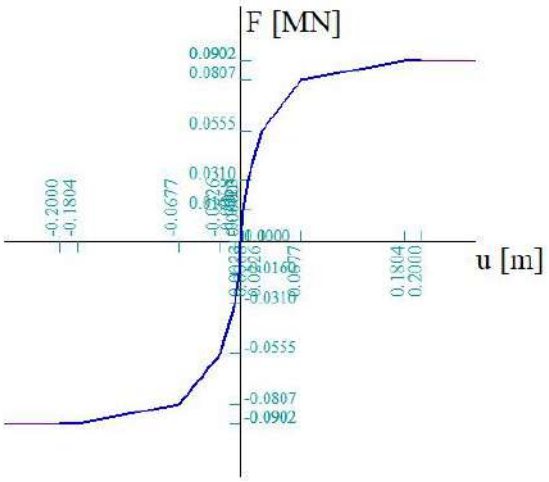
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

Drawing



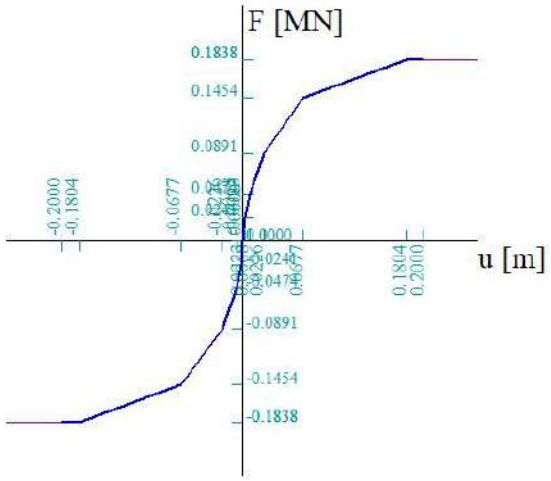

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -0.200000 / -90200.000000 | Free | Free |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

Drawing



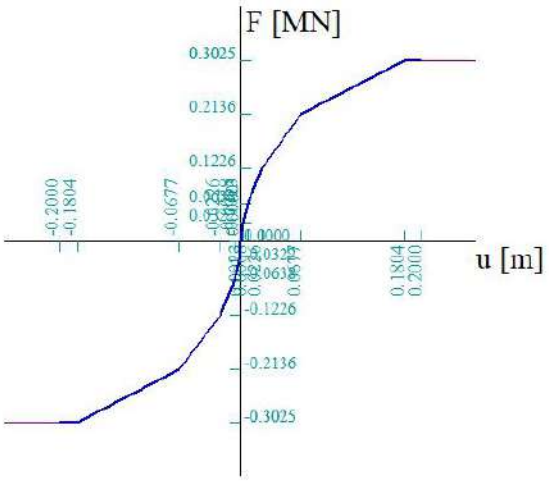
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V11 | Translation | -0.200000 / -183800.000000 | Free | Free |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

Drawing



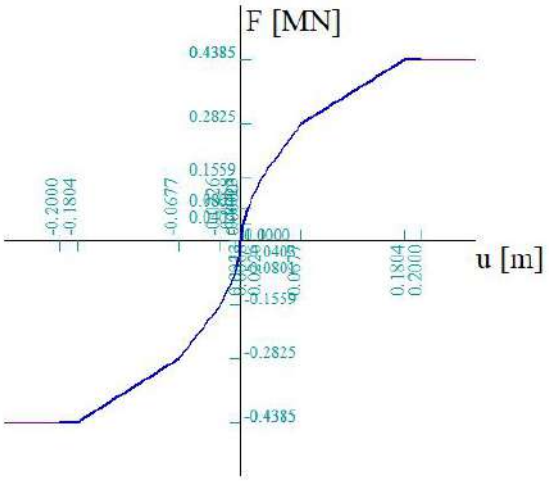

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V12 | Translation | -0.200000 / -302500.000000 | Free | Free |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V13 | Translation | -0.200000 / -438500.000000 | Free | Free |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

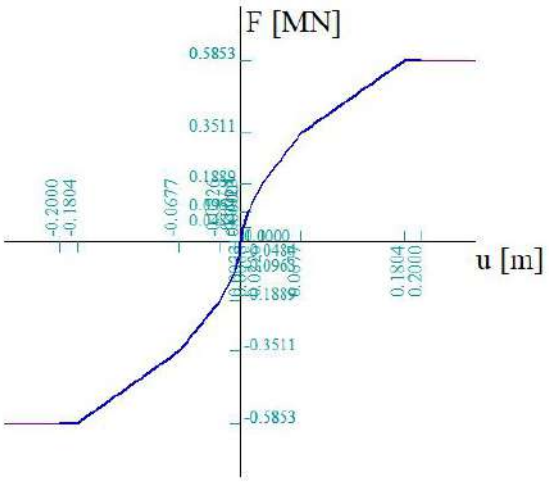
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V14 | Translation | -0.200000 / -585300.000000 | Free | Free |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |

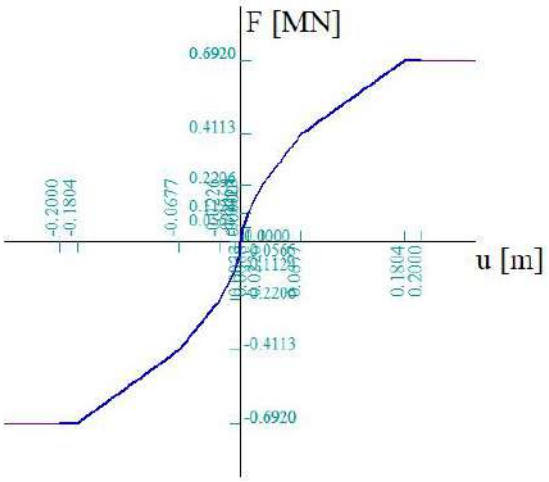
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V15 | Translation | -0.200000 / -692000.000000 | Free | Free |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

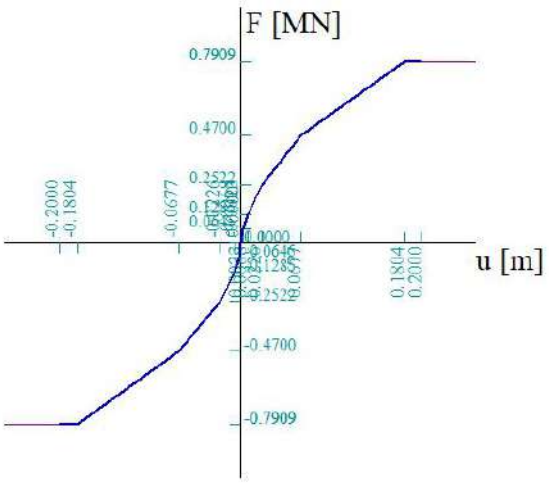
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V16 | Translation | -0.200000 / -790900.000000 | Free | Free |
| | | -0.180400 / -790900.000000 | | |
| | | -0.067650 / -470000.000000 | | |
| | | -0.022550 / -252200.000000 | | |

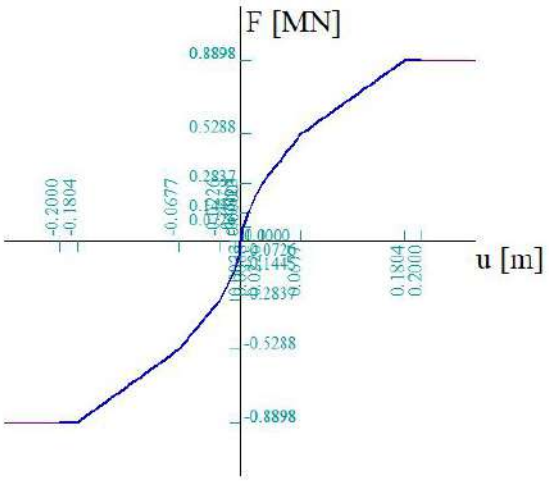
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -128500.000000 | | |
| | | -0.002255 / -64500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 64500.000000 | | |
| | | 0.006765 / 128500.000000 | | |
| | | 0.022550 / 252200.000000 | | |
| | | 0.067650 / 470000.000000 | | |
| | | 0.180400 / 790900.000000 | | |
| | | 0.200000 / 790900.000000 | | |

Drawing



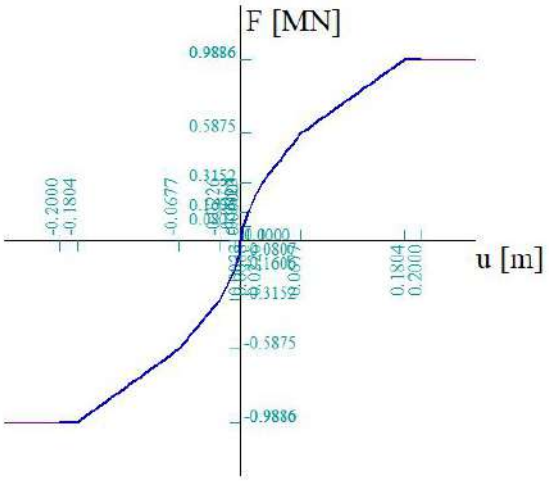

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V17 | Translation | -0.200000 / -889800.000000 | Free | Free |
| | | -0.180400 / -889800.000000 | | |
| | | -0.067650 / -528800.000000 | | |
| | | -0.022550 / -283700.000000 | | |
| | | -0.006765 / -144500.000000 | | |
| | | -0.002255 / -72600.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 72600.000000 | | |
| | | 0.006765 / 144500.000000 | | |
| | | 0.022550 / 283700.000000 | | |
| | | 0.067650 / 528800.000000 | | |
| | | 0.180400 / 889800.000000 | | |
| | | 0.200000 / 889800.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V18 | Translation | -0.200000 / -988600.000000 | Free | Free |
| | | -0.180400 / -988600.000000 | | |
| | | -0.067650 / -587500.000000 | | |
| | | -0.022550 / -315200.000000 | | |
| | | -0.006765 / -160600.000000 | | |
| | | -0.002255 / -80700.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 80700.000000 | | |
| | | 0.006765 / 160600.000000 | | |
| | | 0.022550 / 315200.000000 | | |
| | | 0.067650 / 587500.000000 | | |
| | | 0.180400 / 988600.000000 | | |
| | | 0.200000 / 988600.000000 | | |

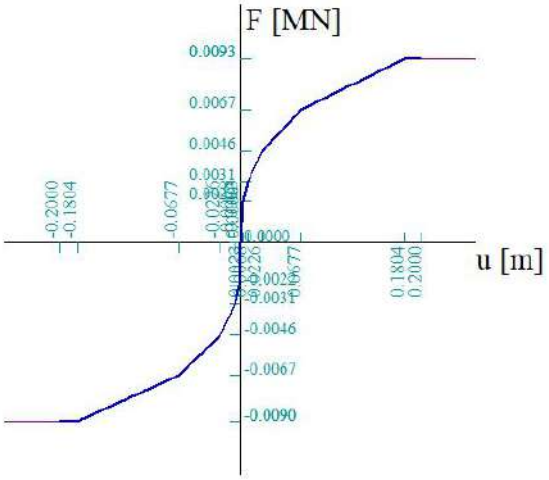
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-1_Veen | Translation | -0.200000 / -9000.000000 | Free | Free |
| | | -0.180400 / -9000.000000 | | |
| | | -0.067650 / -6700.000000 | | |
| | | -0.022550 / -4630.000000 | | |
| | | -0.006765 / -3100.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3100.000000 | | |
| | | 0.022550 / 4630.000000 | | |

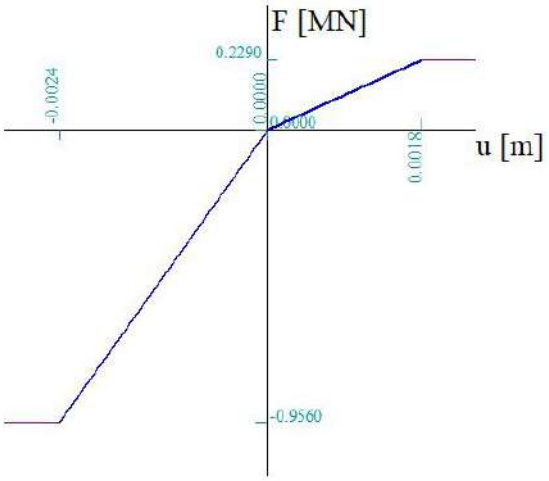
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 6700.000000 | | |
| | | 0.180400 / 9270.000000 | | |
| | | 0.200000 / 9270.000000 | | |

Drawing



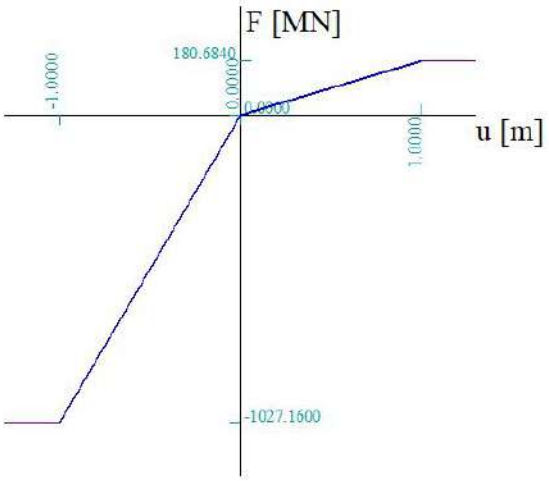

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt_min.B. | Translation | -0.002420 / -956000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 0.001810 / 229000.000000 | | |

Drawing



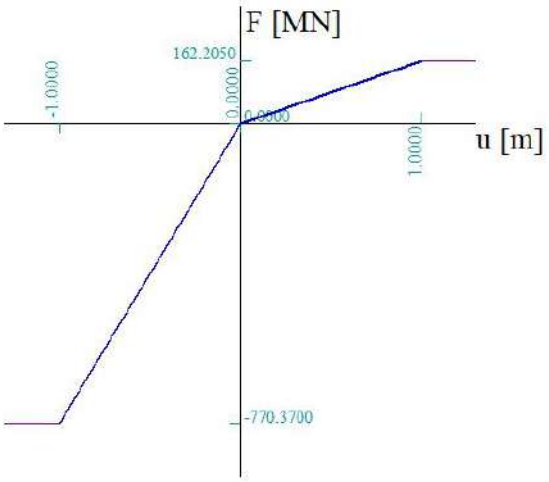

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-max.LEKA | Translation | -1.000000 / -1027160000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 180684000.000000 | | |

Drawing



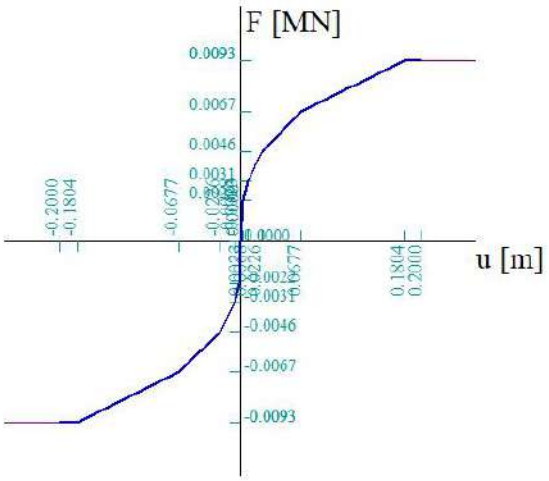

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-min.LEKA | Translation | -1.000000 / -770370000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 162205000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -0.200000 / -9265.000000 | Free | Free |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

Drawing

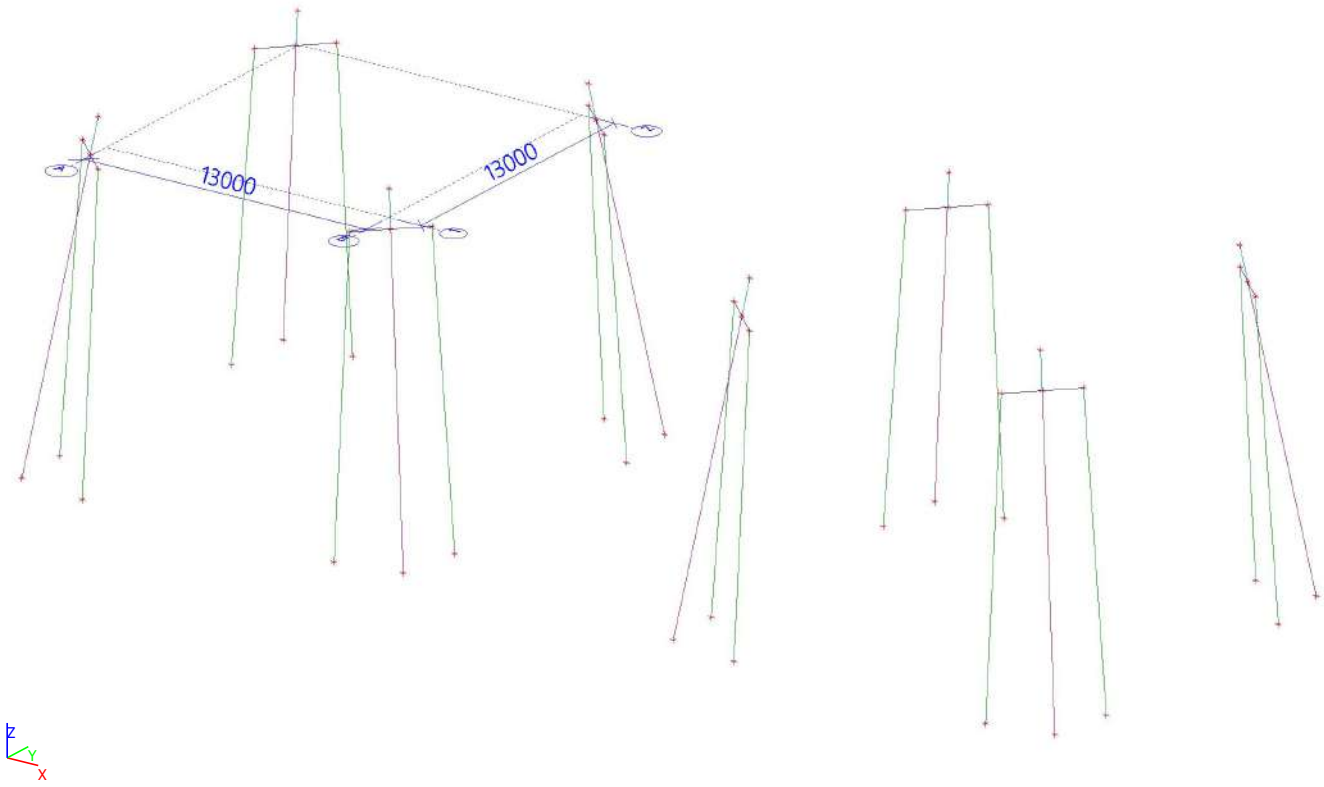

F [MN]
0.0093
0.0067
0.0046
0.0031
-0.2000
-0.1804
-0.0677
0.0000
0.1804
0.2000
u [m]
-0.0046
-0.0067
-0.0093

# 6. Belastingen

## 6.1. Load cases

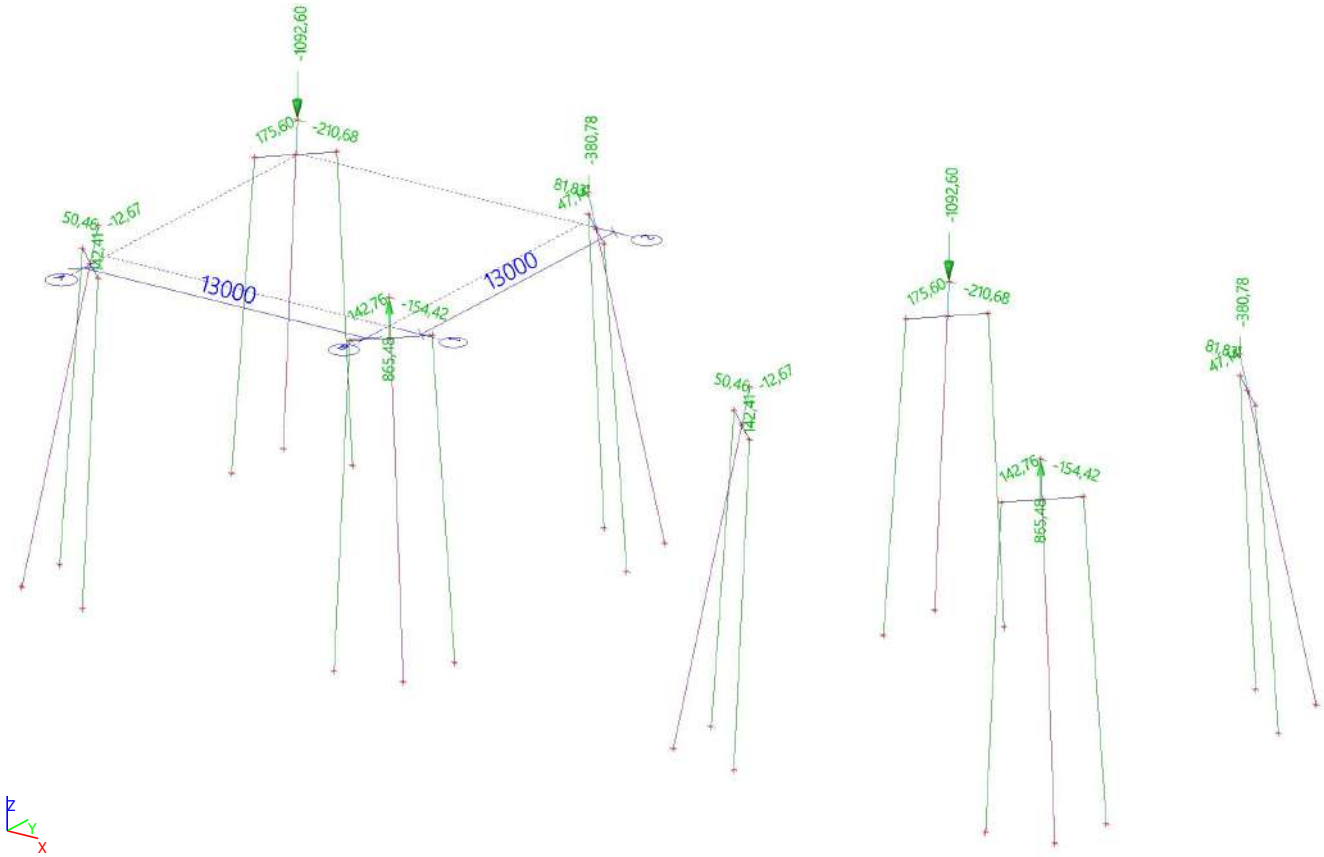
### 6.1.1. Load cases - EG_Fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_Fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |




### 6.1.2. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



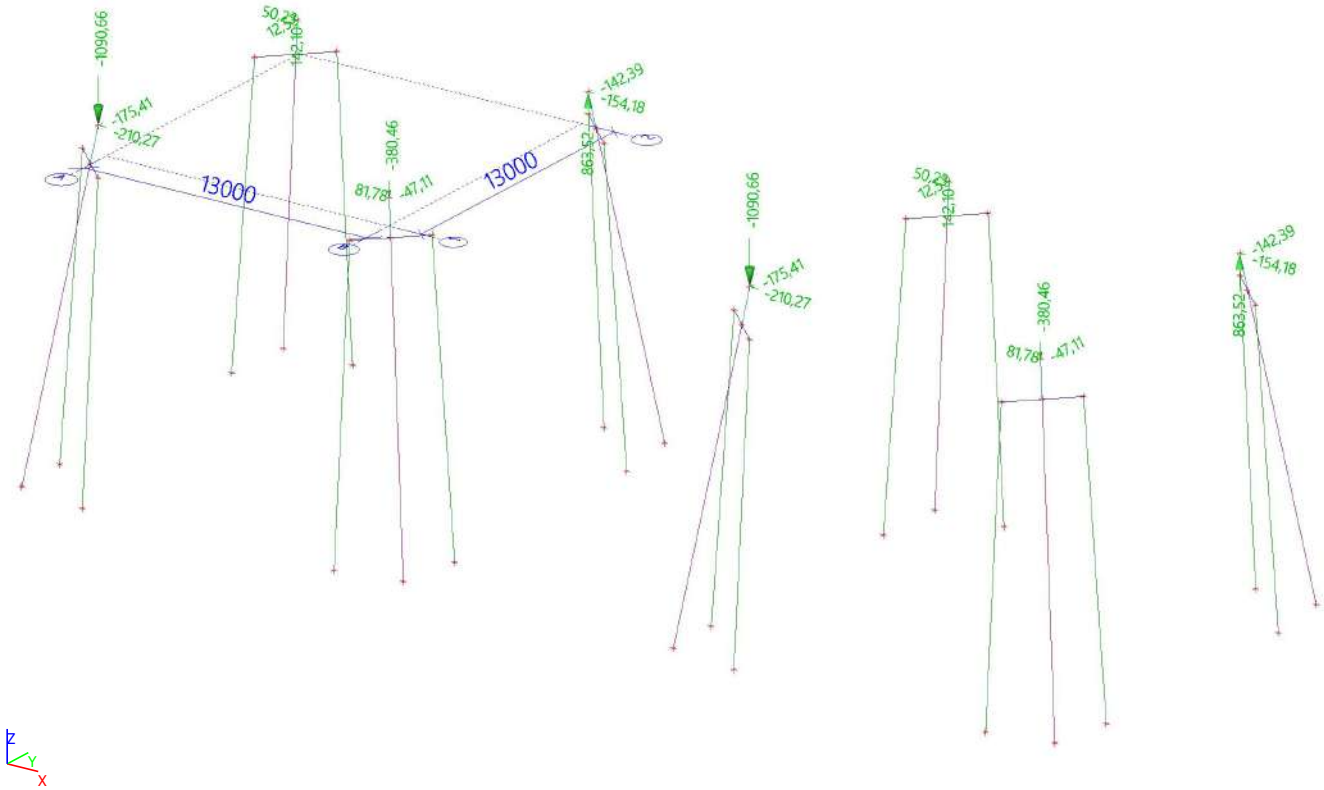

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 50,46 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -12,67 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 142,41 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -210,68 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 175,60 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -1092,60 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 81,83 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 47,14 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -380,78 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -154,42 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 142,76 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 865,48 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Force | -154,42 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Force | 142,76 |
| high max Wnd | 1Y1 | high max Wnd ;45° | GCS | Z | Force | 865,48 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Force | 81,83 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Force | 47,14 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Force | -380,78 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Force | -210,68 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Force | 175,60 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Force | -1092,60 |
| high max Wnd ;45°_1P_X1 | 1P1 | high max Wnd ;45° | GCS | X | Force | 50,46 |
| high max Wnd ;45°_1P_Y1 | 1P1 | high max Wnd ;45° | GCS | Y | Force | -12,67 |
| high max Wnd ;45°_1P_Z1 | 1P1 | high max Wnd ;45° | GCS | Z | Force | 142,41 |

### 6.1.3. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

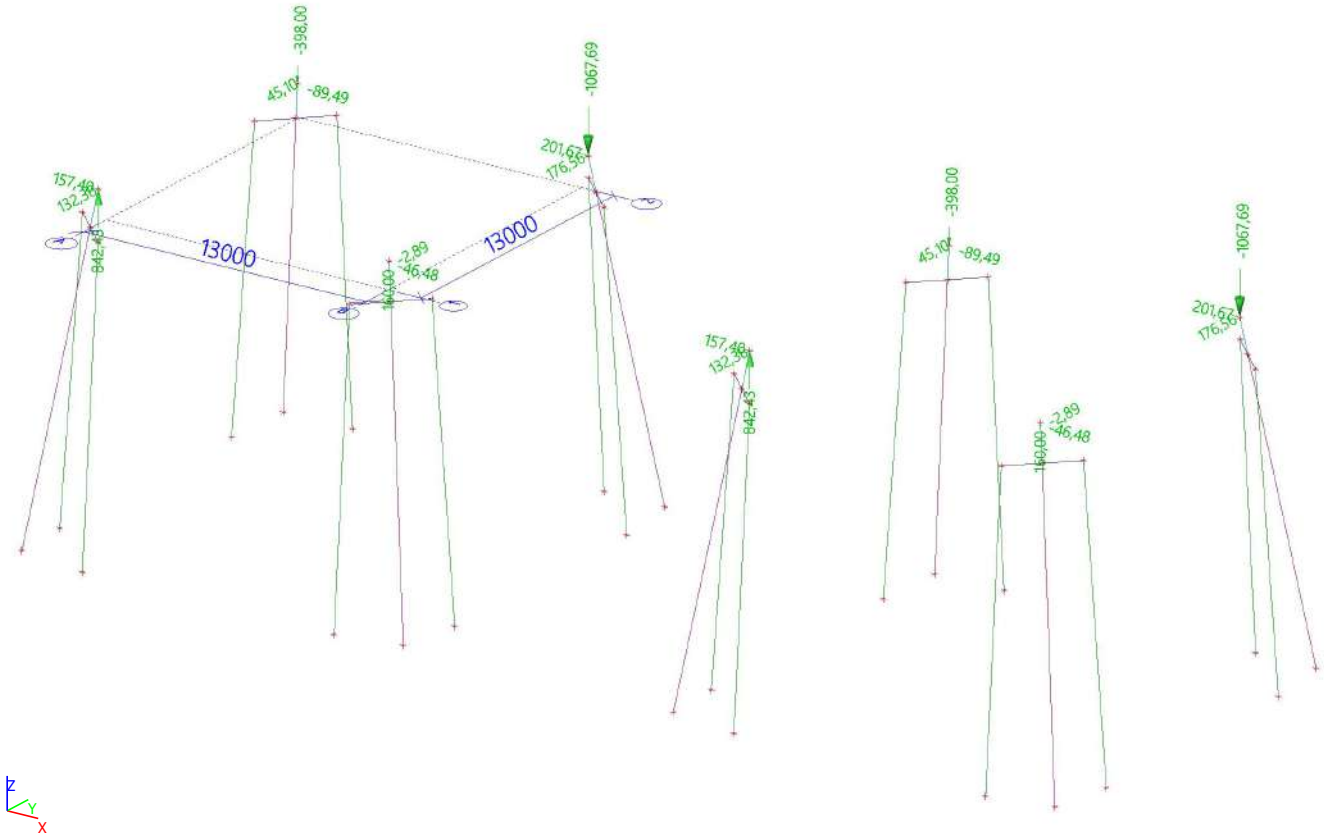


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -210,27 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -175,41 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -1090,66 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 50,23 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 12,53 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 142,10 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -154,18 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -142,39 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 863,52 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 81,78 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -47,11 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -380,46 |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Force | 81,78 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Force | -47,11 |
| high max Wnd ;315°_1Y_Z1 | 1Y1 | high max Wnd ;315° | GCS | Z | Force | -380,46 |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Force | -154,18 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Force | -142,39 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Force | 863,52 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Force | 50,23 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Force | 12,53 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Force | 142,10 |
| high max Wnd ;315°_1P_X1 | 1P1 | high max Wnd ;315° | GCS | X | Force | -210,27 |
| high max Wnd ;315°_1P_Y1 | 1P1 | high max Wnd ;315° | GCS | Y | Force | -175,41 |
| high max Wnd ;315°_1P_Z1 | 1P1 | high max Wnd ;315° | GCS | Z | Force | -1090,66 |

### 6.1.4. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



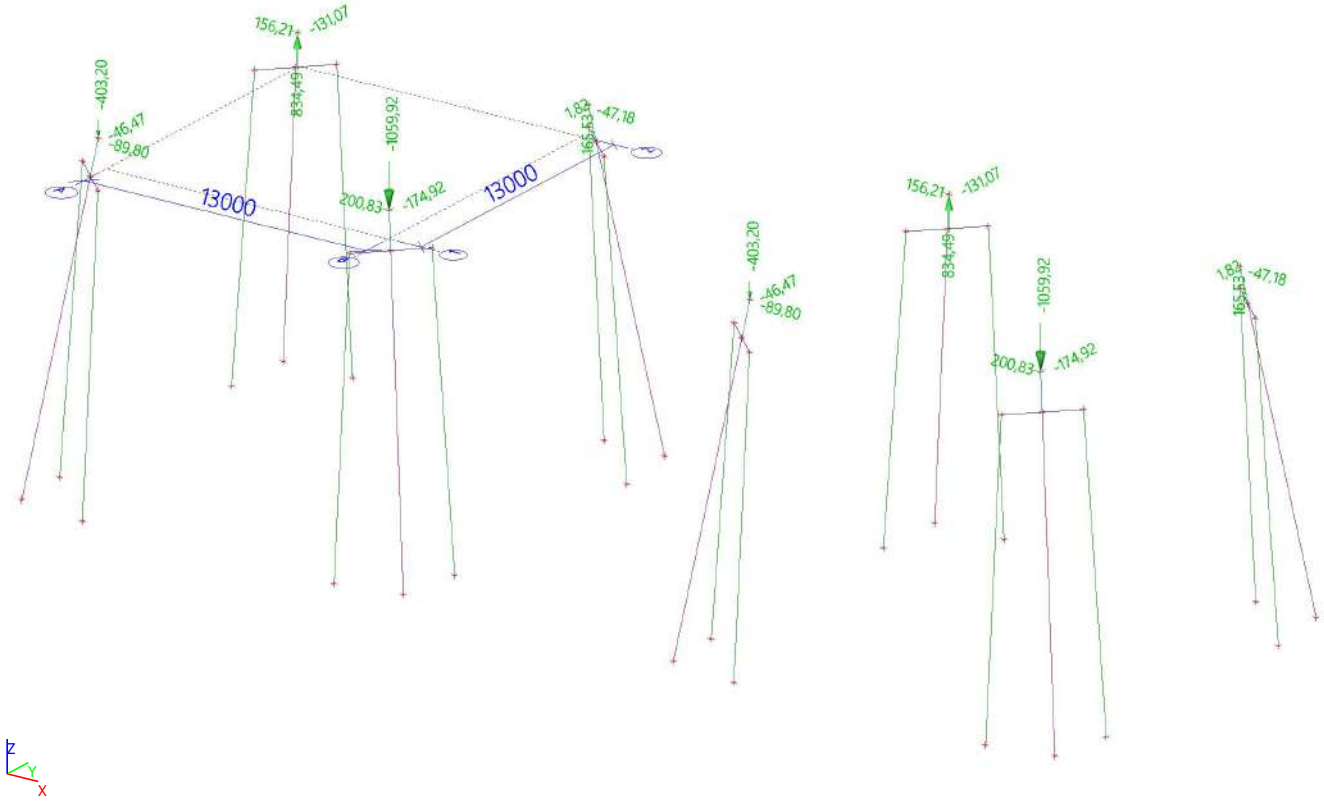

### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 157,40 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 132,38 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 842,43 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -89,49 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 45,10 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -398,00 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 201,67 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 176,56 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -1067,69 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -46,48 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -2,89 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 160,00 |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Force | -46,48 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Force | -2,89 |
| high max Wnd | 1Y1 | high max Wnd ;135° | GCS | Z | Force | 160,00 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Force | 201,67 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Force | 176,56 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Force | -1067,69 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Force | -89,49 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Force | 45,10 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Force | -398,00 |
| high max Wnd ;135°_1P_X1 | 1P1 | high max Wnd ;135° | GCS | X | Force | 157,40 |
| high max Wnd ;135°_1P_Y1 | 1P1 | high max Wnd ;135° | GCS | Y | Force | 132,38 |
| high max Wnd ;135°_1P_Z1 | 1P1 | high max Wnd ;135° | GCS | Z | Force | 842,43 |

### 6.1.5. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

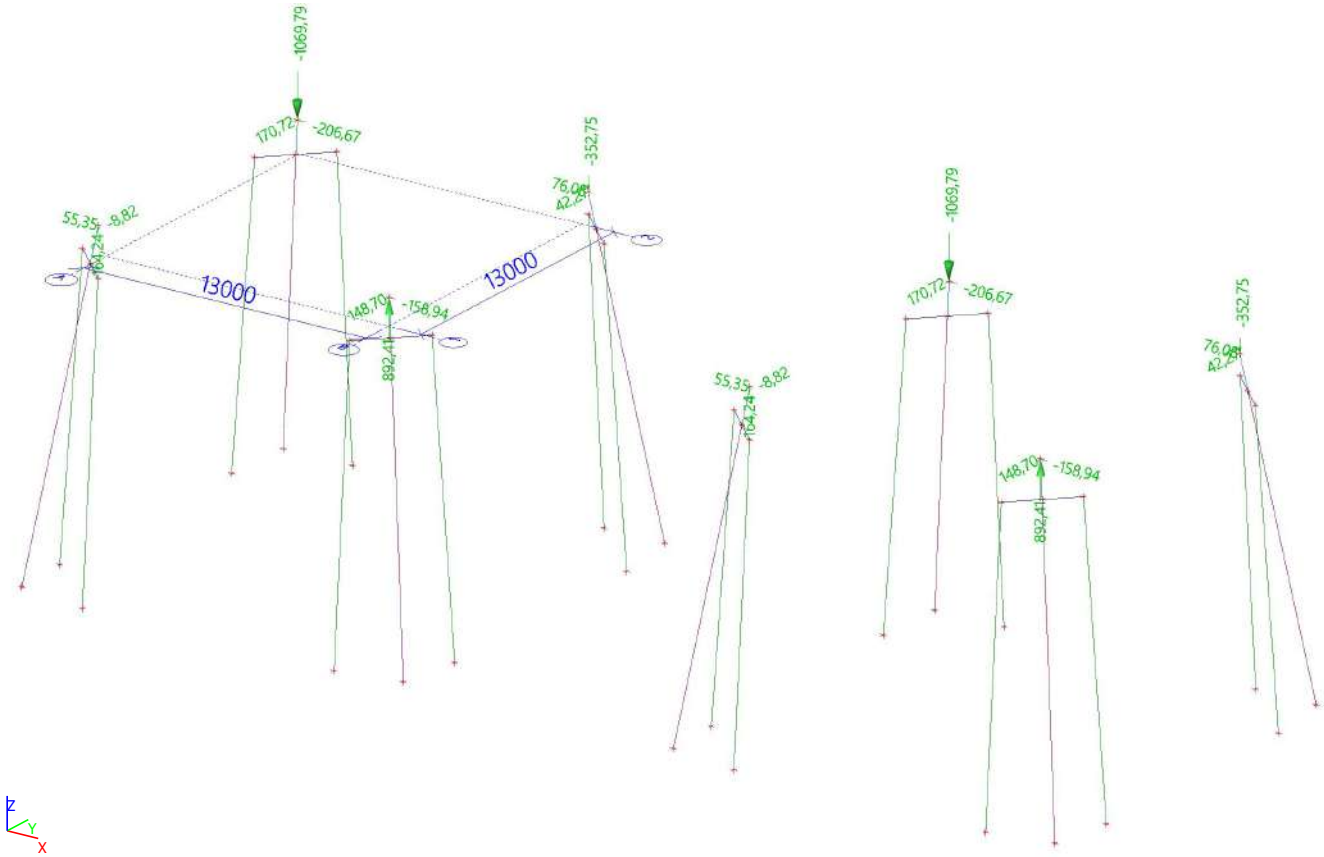


#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -89,80 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -46,47 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -403,20 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 156,21 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -131,07 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 834,49 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -47,18 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 1,82 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 165,53 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 200,83 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -174,92 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -1059,92 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Force | 200,83 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Force | -174,92 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Force | -1059,92 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Force | -47,18 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Force | 1,82 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Force | 165,53 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Force | 156,21 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Force | -131,07 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Force | 834,49 |
| high max Wnd ;225°_1P_X1 | 1P1 | high max Wnd ;225° | GCS | X | Force | -89,80 |
| high max Wnd ;225°_1P_Y1 | 1P1 | high max Wnd ;225° | GCS | Y | Force | -46,47 |
| high max Wnd ;225°_1P_Z1 | 1P1 | high max Wnd ;225° | GCS | Z | Force | -403,20 |

### 6.1.6. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



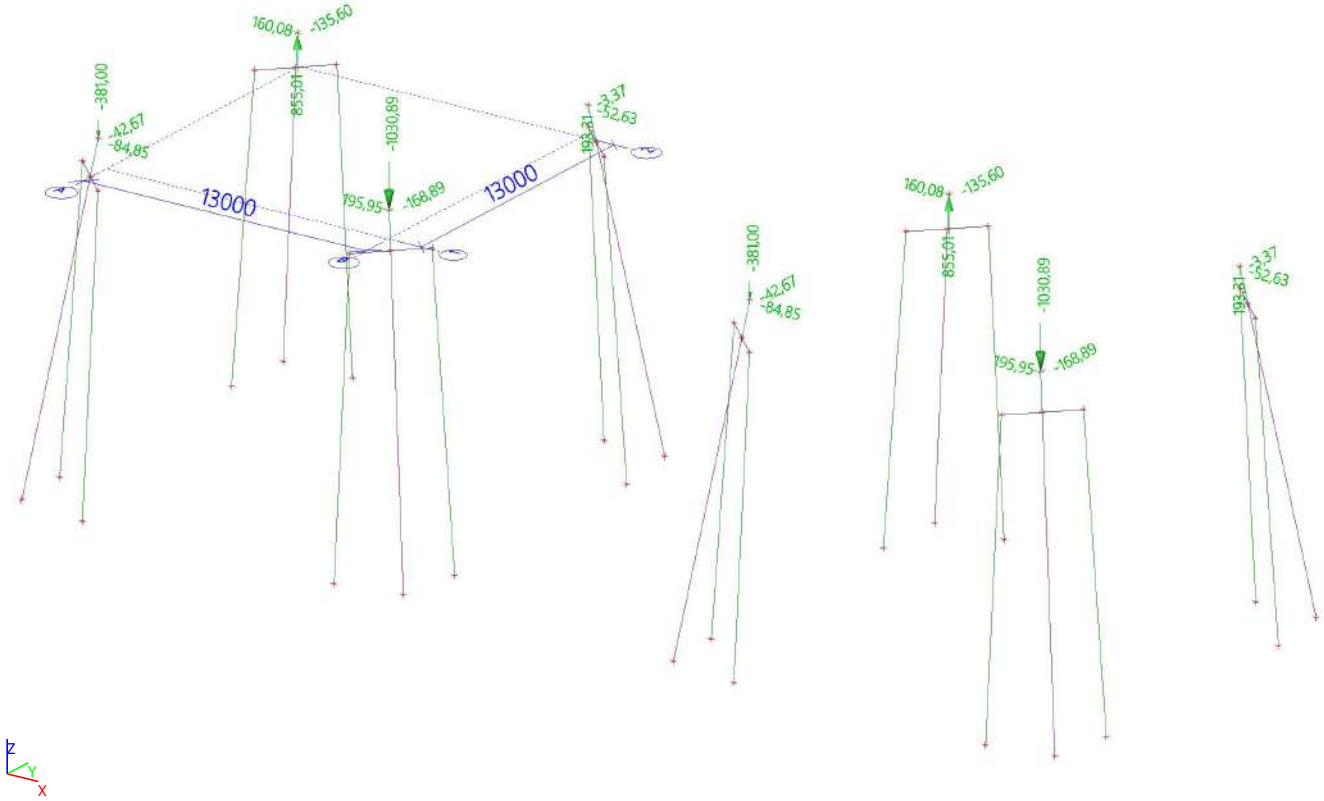

### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 55,35 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | -8,82 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 164,24 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -206,67 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 170,72 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -1069,79 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 76,08 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 42,27 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -352,75 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -158,94 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 148,70 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 892,41 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Force | -158,94 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Force | 148,70 |
| low max Wnd | 1Y1 | low max Wnd ;45° | GCS | Z | Force | 892,41 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1Y_Z1 | | | | | | |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Force | 76,08 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Force | 42,27 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Force | -352,75 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Force | -206,67 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Force | 170,72 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Force | -1069,79 |
| low max Wnd ;45°_1P_X1 | 1P1 | low max Wnd ;45° | GCS | X | Force | 55,35 |
| low max Wnd ;45°_1P_Y1 | 1P1 | low max Wnd ;45° | GCS | Y | Force | -8,82 |
| low max Wnd ;45°_1P_Z1 | 1P1 | low max Wnd ;45° | GCS | Z | Force | 164,24 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |

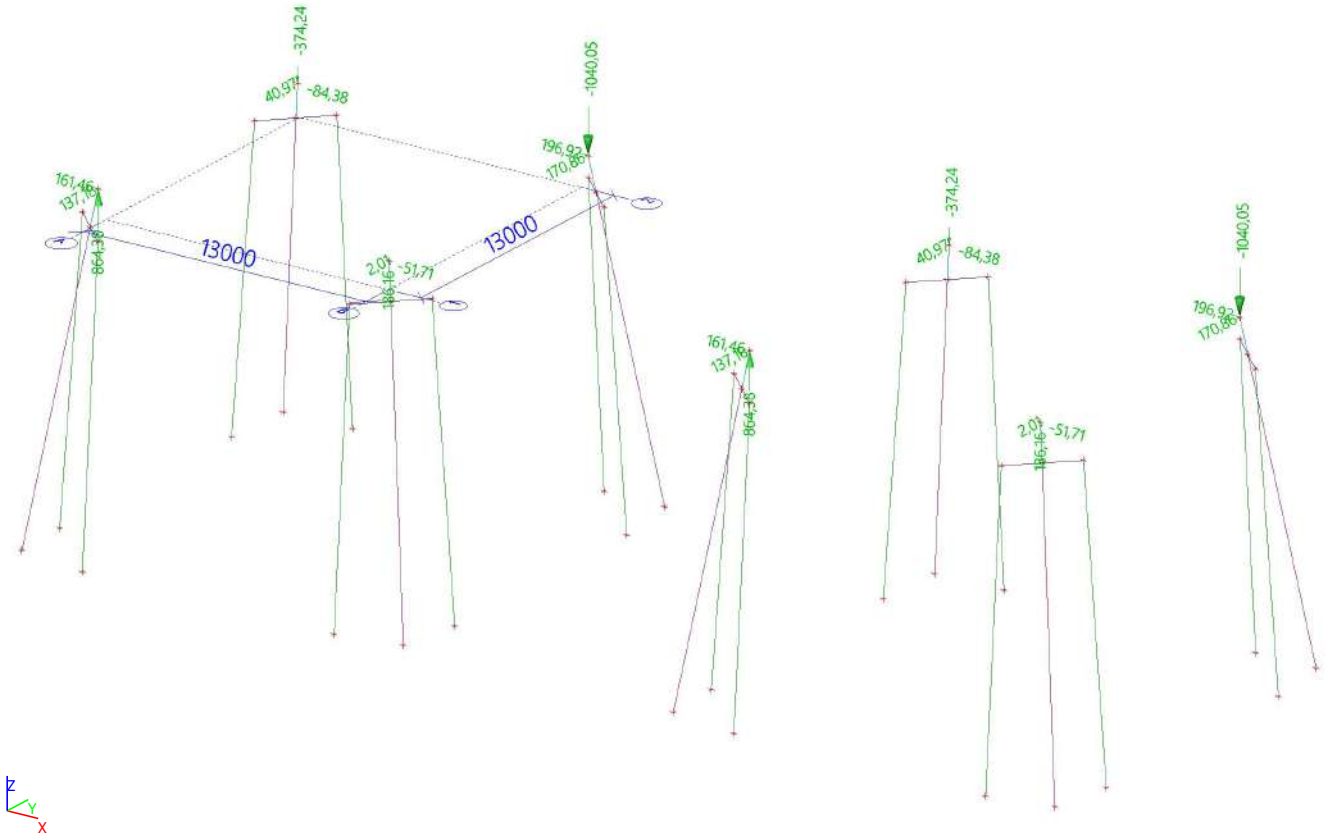


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -84,85 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -42,67 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -381,00 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 160,08 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -135,60 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 855,01 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -52,63 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | -3,37 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 193,31 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 195,95 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -168,89 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -1030,89 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Force | 195,95 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Force | -168,89 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Force | -1030,89 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Force | -52,63 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Force | -3,37 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Force | 193,31 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Force | 160,08 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Force | -135,60 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Force | 855,01 |
| low max Wnd ;225°_1P_X1 | 1P1 | low max Wnd ;225° | GCS | X | Force | -84,85 |
| low max Wnd ;225°_1P_Y1 | 1P1 | low max Wnd ;225° | GCS | Y | Force | -42,67 |
| low max Wnd ;225°_1P_Z1 | 1P1 | low max Wnd ;225° | GCS | Z | Force | -381,00 |

### 6.1.8. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



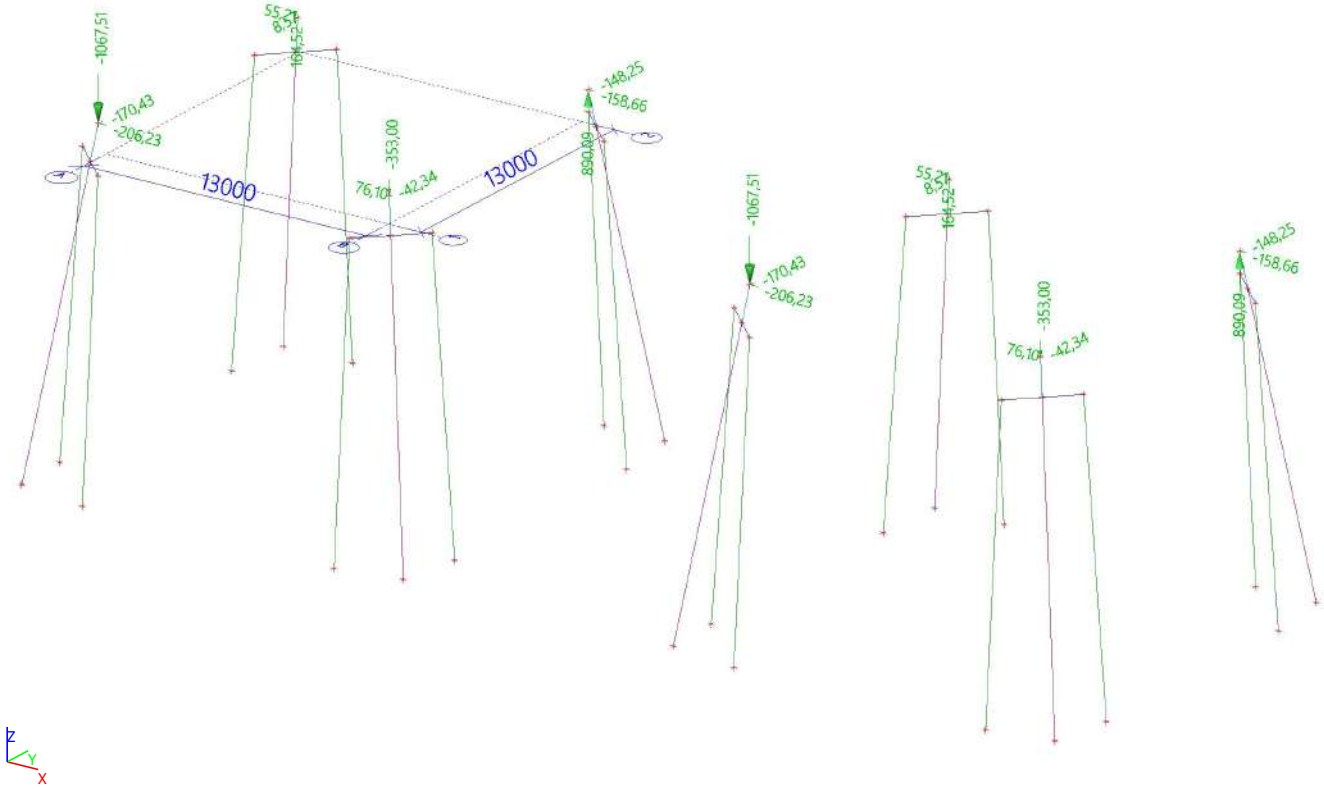

### 6.1.8.1. Point force in node

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 161,46 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 137,18 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 864,38 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -84,38 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 40,97 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -374,24 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 196,92 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 170,86 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -1040,05 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -51,71 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | 2,01 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 186,16 |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Force | -51,71 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Force | 2,01 |
| low max Wnd | 1Y1 | low max Wnd ;135° | GCS | Z | Force | 186,16 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Force | 196,92 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Force | 170,86 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Force | -1040,05 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Force | -84,38 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Force | 40,97 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Force | -374,24 |
| low max Wnd ;135°_1P_X1 | 1P1 | low max Wnd ;135° | GCS | X | Force | 161,46 |
| low max Wnd ;135°_1P_Y1 | 1P1 | low max Wnd ;135° | GCS | Y | Force | 137,18 |
| low max Wnd ;135°_1P_Z1 | 1P1 | low max Wnd ;135° | GCS | Z | Force | 864,38 |

### 6.1.9. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | Standard | Variable Static | LG4 | Short | None |



#### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -206,23 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -170,43 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -1067,51 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 55,21 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | 8,57 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 164,52 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -158,66 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -148,25 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 890,09 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 76,10 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -42,34 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -353,00 |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Force | 76,10 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Force | -42,34 |
| low max Wnd ;315°_1Y_Z1 | 1Y1 | low max Wnd ;315° | GCS | Z | Force | -353,00 |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Force | -158,66 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Force | -148,25 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Force | 890,09 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Force | 55,21 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Force | 8,57 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Force | 164,52 |
| low max Wnd ;315°_1P_X1 | 1P1 | low max Wnd ;315° | GCS | X | Force | -206,23 |
| low max Wnd ;315°_1P_Y1 | 1P1 | low max Wnd ;315° | GCS | Y | Force | -170,43 |
| low max Wnd ;315°_1P_Z1 | 1P1 | low max Wnd ;315° | GCS | Z | Force | -1067,51 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;225° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;225° | 1,000 |
| low max Wnd ;135° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| | | low max Wnd ;315° | 1,000 |
| high max Wnd ;45° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;225° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;315° | 1,000 |
| high max Wnd ;135° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;225° | 1,000 |

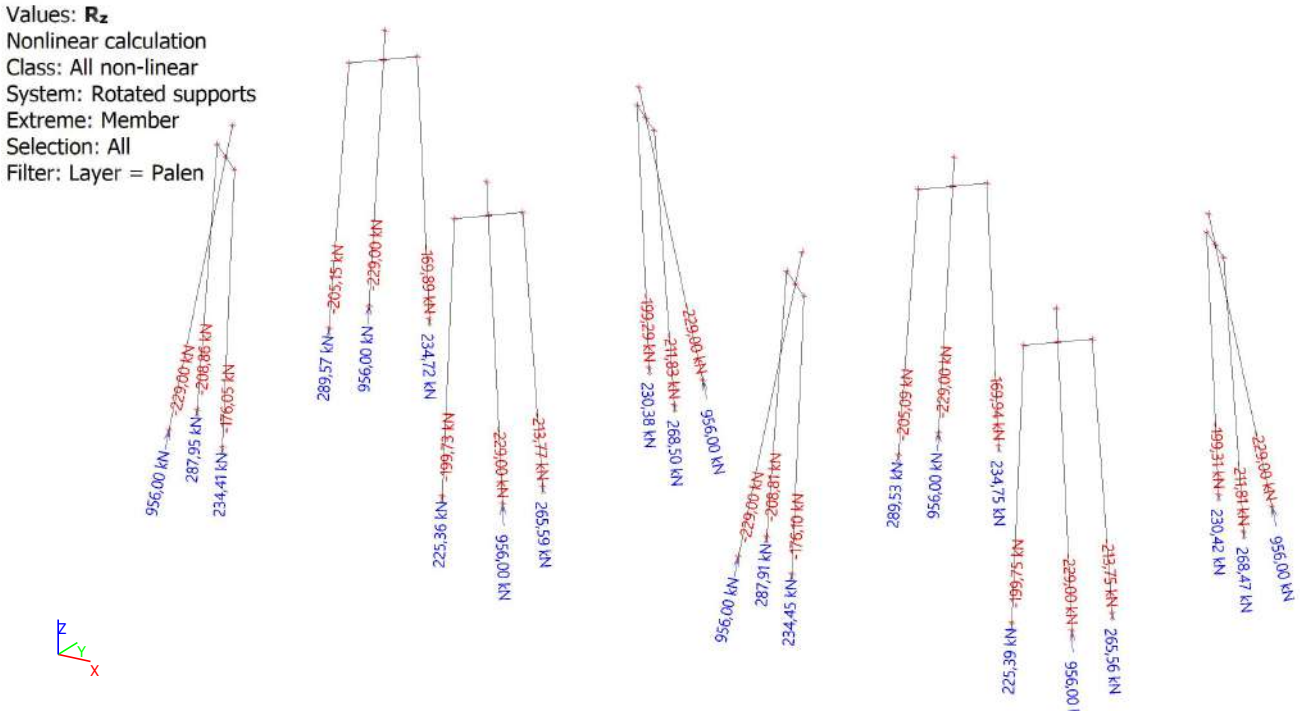
## 6.3. Result classes

| Name | List |
|---|---|
| All non-linear | low max Wnd ;45° - EG_Gunstig |
| | low max Wnd ;225° - EG_Gunstig |
| | low max Wnd ;135° - EG_Gunstig |
| | low max Wnd ;315° - EG_Gunstig |
| | high max Wnd ;45° - EG_Ongunstig |
| | high max Wnd ;225° - EG_Ongunstig |
| | high max Wnd ;135° - EG_Ongunstig |
| | high max Wnd ;315° - EG_Ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z




### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LD1(31-plank) - General cross-section
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-213,77** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **289,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-229,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **956,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-205,15** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **289,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK1/N160 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-169,89** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK1/N160 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **234,72** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK2/N167 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-211,83** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **268,50** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK3/N168 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-199,29** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK3/N168 | high max Wnd ;135° - | **0,00** | **0,00** | **230,38** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

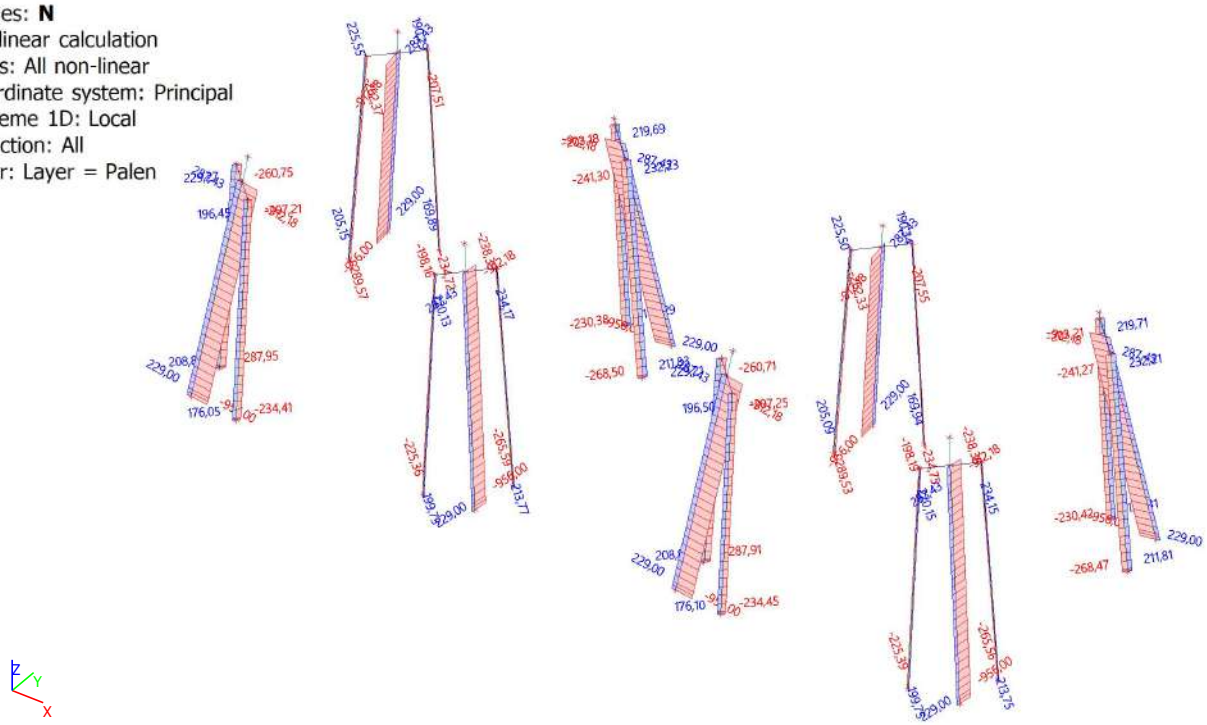
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK4/N171 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-208,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **287,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK5/N172 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-176,05** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **234,41** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **265,59** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-213,77** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **225,36** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-199,73** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_Y1/N179 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y1/N179 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY1/N181 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY1/N181 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK8/N184 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-211,81** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK8/N184 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **268,47** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK9/N185 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-199,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK9/N185 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **230,42** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK10/N188 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **265,56** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK10/N188 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-213,75** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK11/N189 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **225,39** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK11/N189 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-199,75** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_X1/N191 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-229,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X1/N191 | low max Wnd ;45° - | 0,00 | 0,00 | **956,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Gunstig | | | | | | | | |
| Sn LK12/N194 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-205,09** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK12/N194 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **289,53** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK13/N195 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-169,94** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK13/N195 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **234,75** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_P1/N199 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-229,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P1/N199 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **956,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK14/N198 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-176,10** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK14/N198 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **234,45** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK15/N201 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-208,81** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK15/N201 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **287,91** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

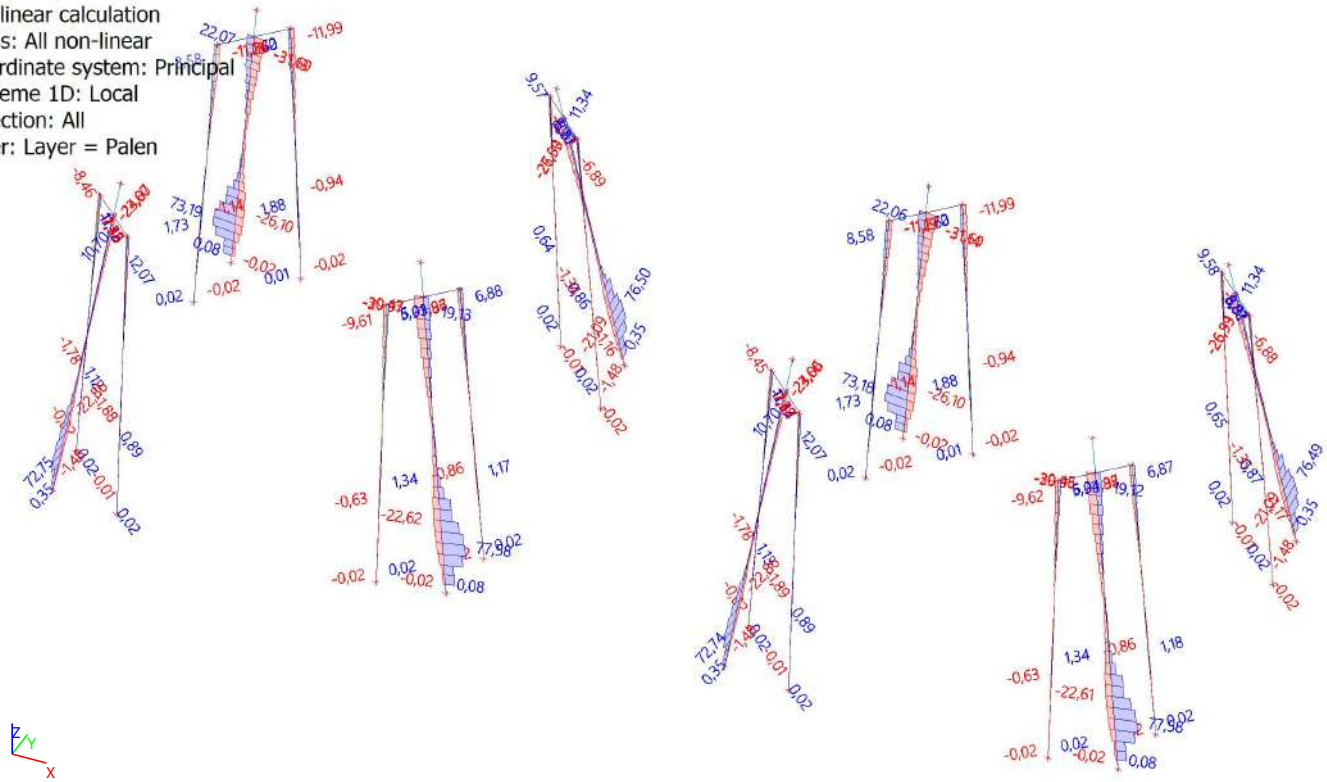
## 8.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



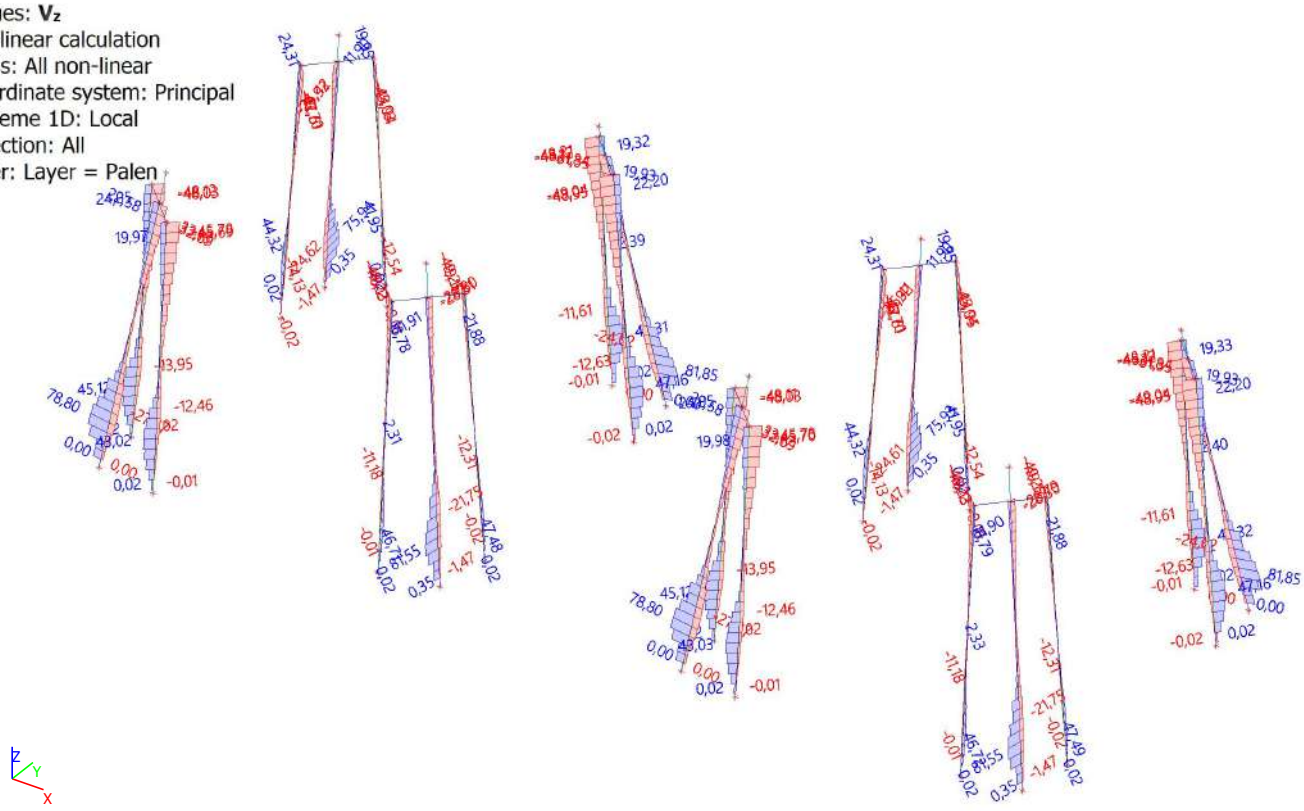
## 8.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



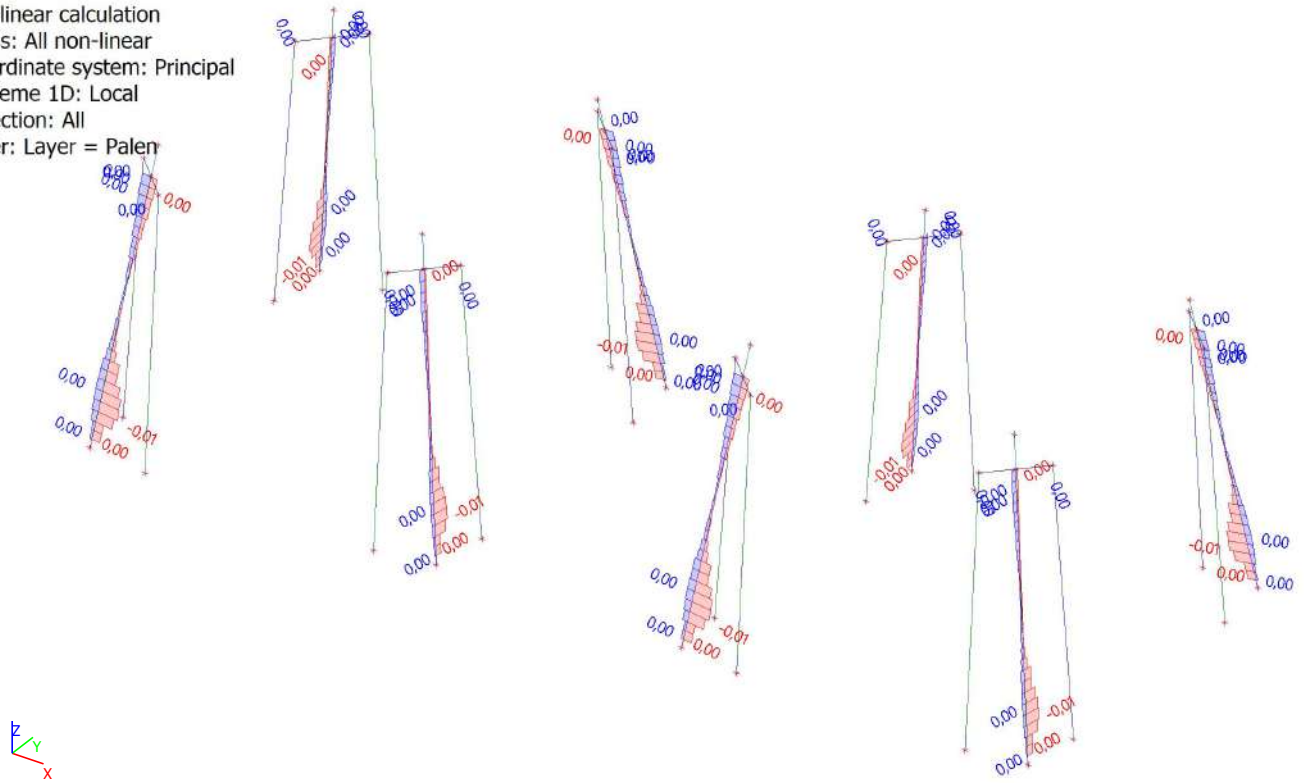
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



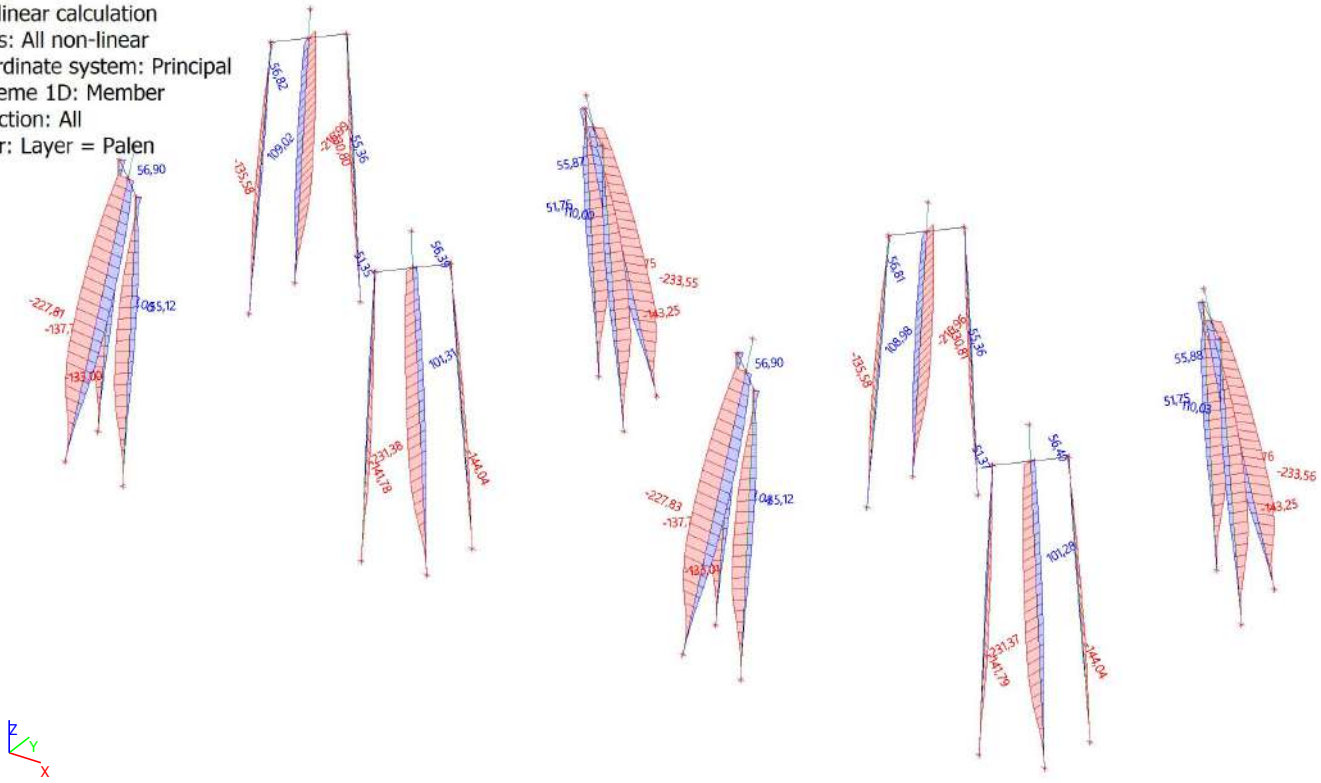
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



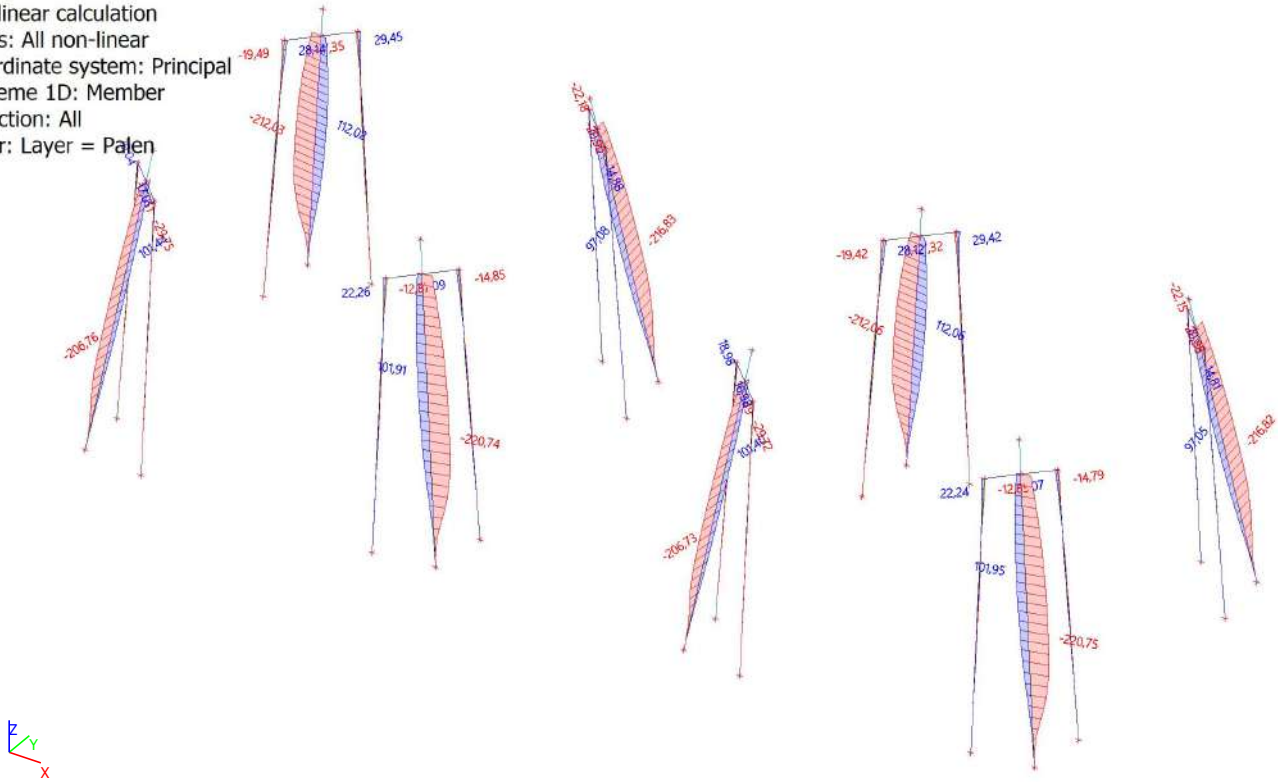
## 8.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen




## 8.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
**Nothing in selection to display.**

## 8.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X1 | 13,152 | high max Wnd ;45° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | **-289,57** | 0,02 | 0,02 | 0,00 | 0,00 | 0,00 |
| Paal_X7 | 0,000 | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | **234,17** | -3,07 | -49,16 | **0,00** | 56,39 | 6,38 |
| Paal_X16 | 0,000 | low max Wnd ;315° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | -119,65 | **-11,99** | -1,79 | 0,00 | -9,13 | 29,42 |
| Paal_X17 | 0,000 | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | -119,85 | **12,07** | -1,90 | 0,00 | -8,87 | -29,72 |
| Paal_X12 | 1,000- | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 232,60 | -3,14 | **-49,25** | 0,00 | 7,19 | 3,23 |
| Paal_X12 | 10,500+ | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 217,47 | 0,21 | **47,49** | 0,00 | -76,95 | -0,25 |
| Paal_X12 | 8,000- | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 222,42 | 0,28 | -2,10 | 0,00 | **-144,04** | -1,01 |
| Paal_X5 | 0,000 | low max Wnd ;135° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 229,27 | 5,80 | -48,03 | 0,00 | **56,90** | -12,28 |
| Paal_X6 | 0,000 | low max Wnd ;45° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | -120,46 | 12,07 | -1,83 | 0,00 | -8,91 | **-29,75** |
| Paal_X2 | 0,000 | low max Wnd ;315° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | -120,25 | -11,99 | -1,73 | 0,00 | -9,17 | **29,45** |

# 9. Krachten van de Poeren

## 9.1. 1D internal forces

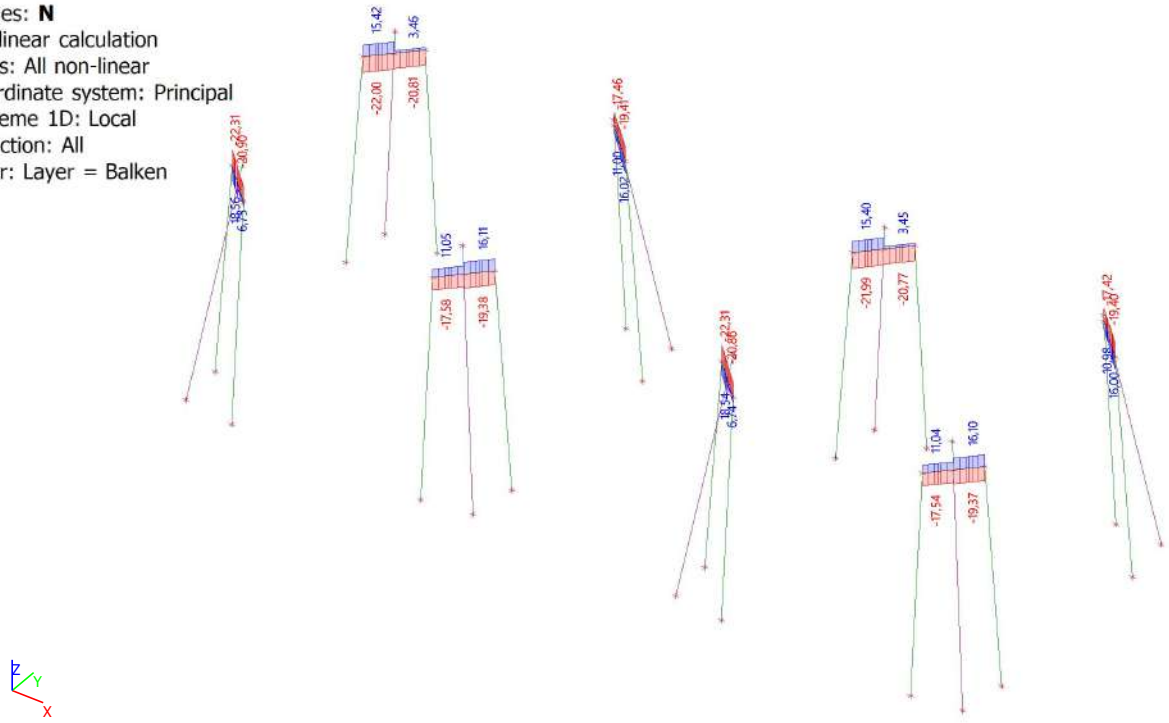
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Poer800 - Circle (800,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer_P | 1,560 | low max Wnd ;45° - EG_Gunstig | Poer800 - Circle (800,00) | **917,83** | -35,77 | -8,46 | **0,00** | 0,00 | 0,00 |
| Poer_P | 0,000 | low max Wnd ;45° - EG_Gunstig | Poer800 - Circle (800,00) | 900,88 | **-39,21** | -8,44 | 0,00 | 13,18 | **58,48** |
| Poer_XY | 1,560 | high max Wnd ;45° - EG_Ongunstig | Poer800 - Circle (800,00) | -1125,06 | **50,46** | 26,30 | 0,00 | 0,00 | 0,00 |
| Poer_XY | 1,560 | low max Wnd ;315° - EG_Gunstig | Poer800 - Circle (800,00) | 167,73 | 0,39 | **-45,32** | 0,00 | 0,00 | 0,00 |
| Poer_X | 1,560 | low max Wnd ;45° - EG_Gunstig | Poer800 - Circle (800,00) | 167,44 | 0,41 | **45,60** | 0,00 | 0,00 | 0,00 |
| Poer_X | 0,000 | low max Wnd ;45° - EG_Gunstig | Poer800 - Circle (800,00) | 150,48 | -3,03 | 45,57 | 0,00 | **-71,12** | 2,05 |
| Poer_XY | 0,000 | low max Wnd ;315° - EG_Gunstig | Poer800 - Circle (800,00) | 150,77 | -3,05 | -45,30 | 0,00 | **70,69** | 2,08 |
| Poer_XY | 0,000 | high max Wnd ;45° - EG_Ongunstig | Poer800 - Circle (800,00) | **-1147,67** | 45,87 | 26,33 | 0,00 | -41,05 | **-75,15** |

# 10. Krachten van de Funderingsbalken

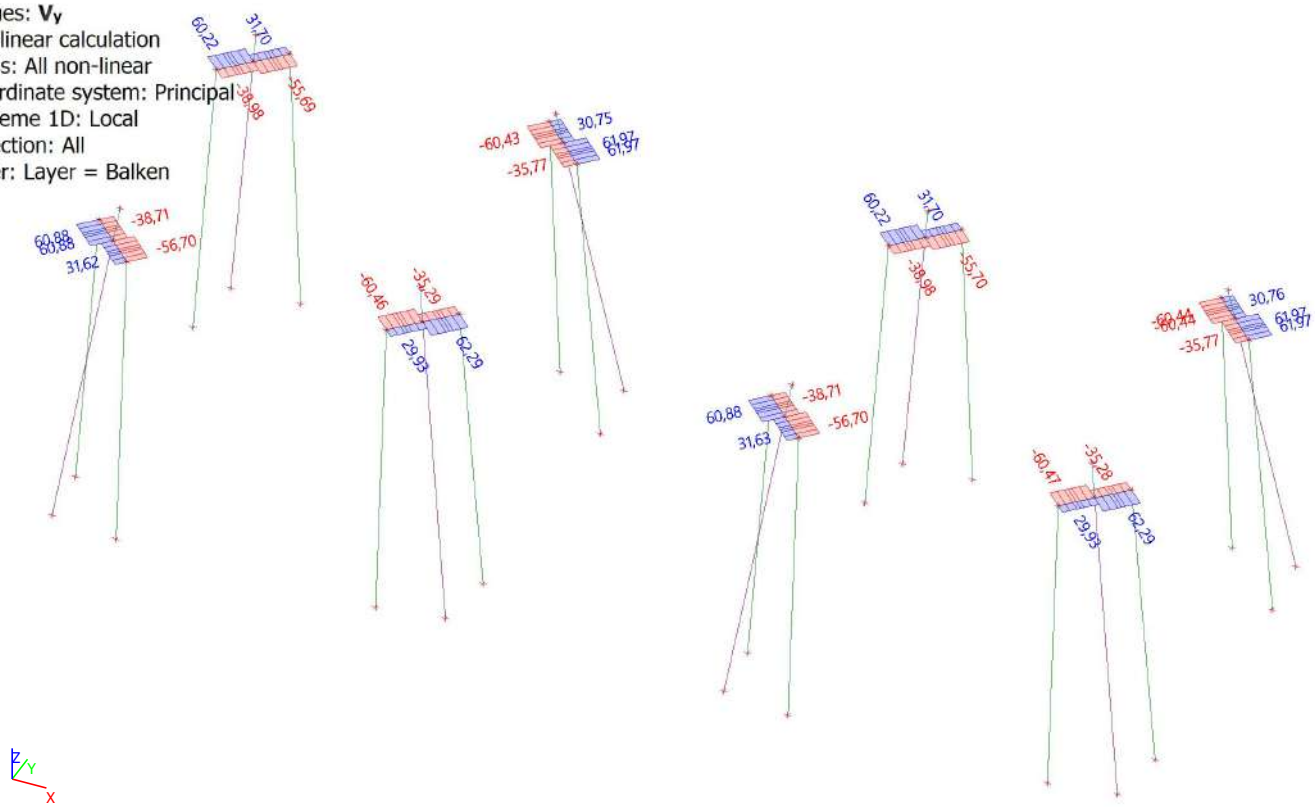
## 10.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



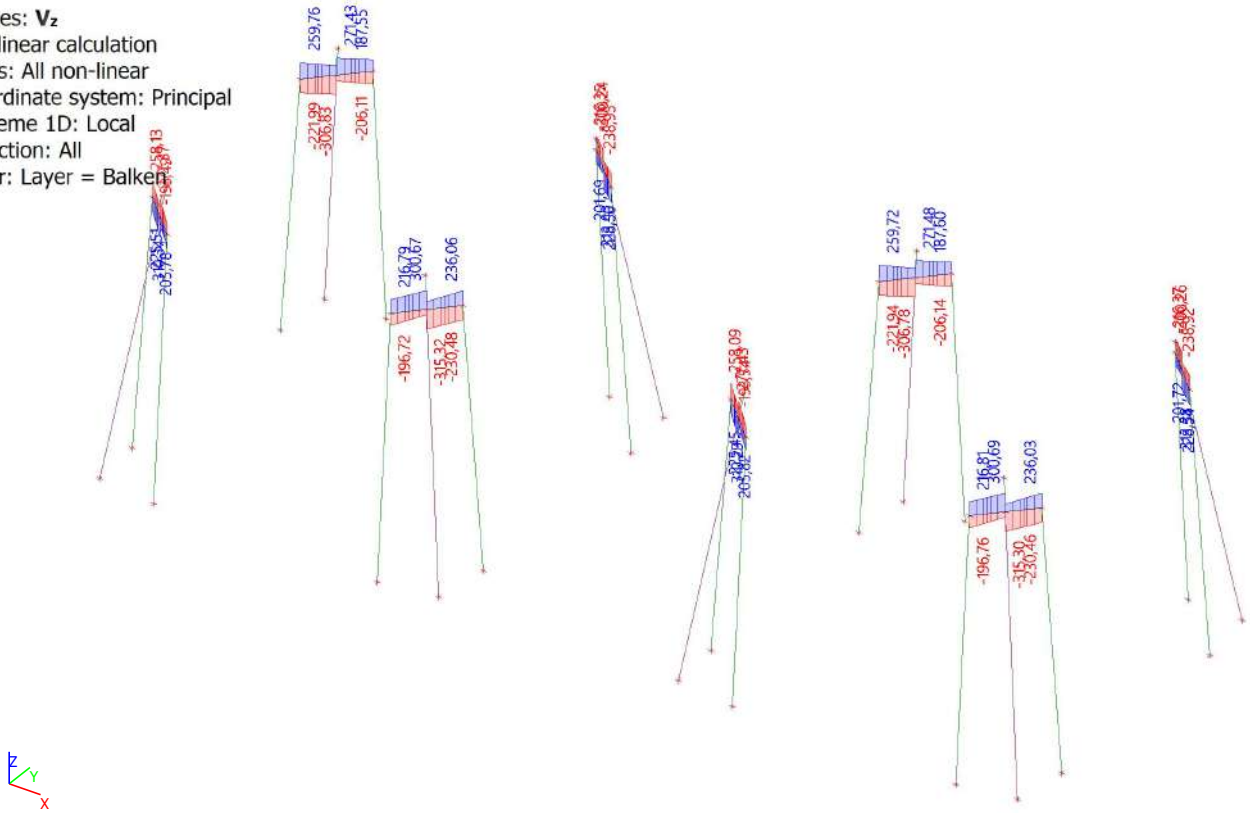

## 10.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



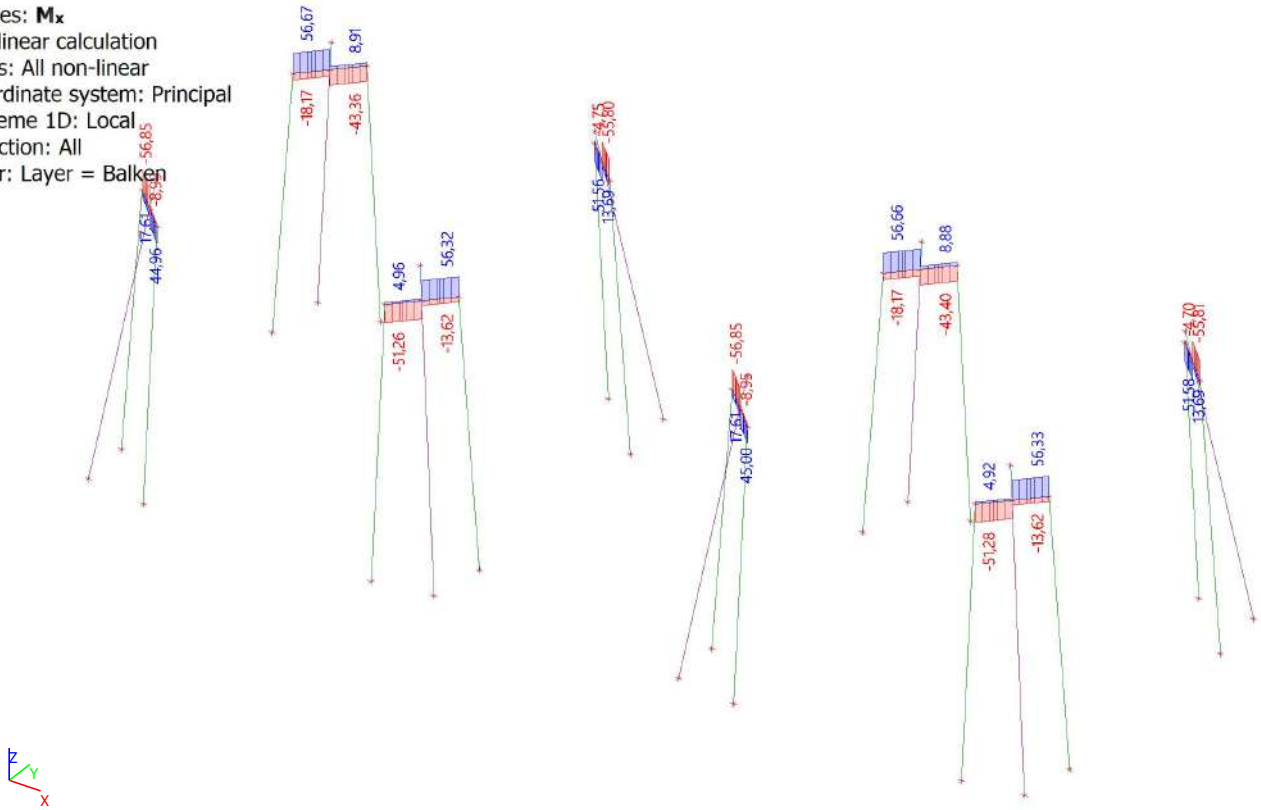
## 10.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



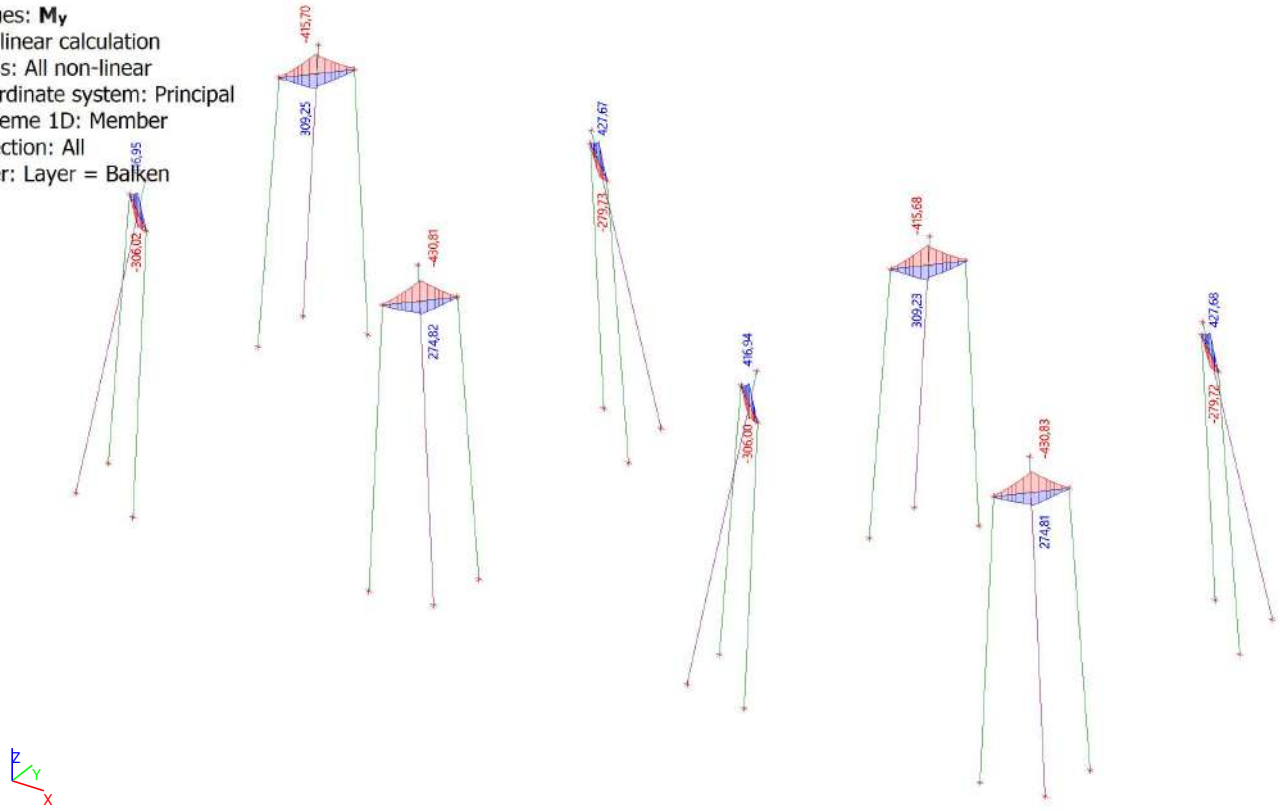

## 10.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



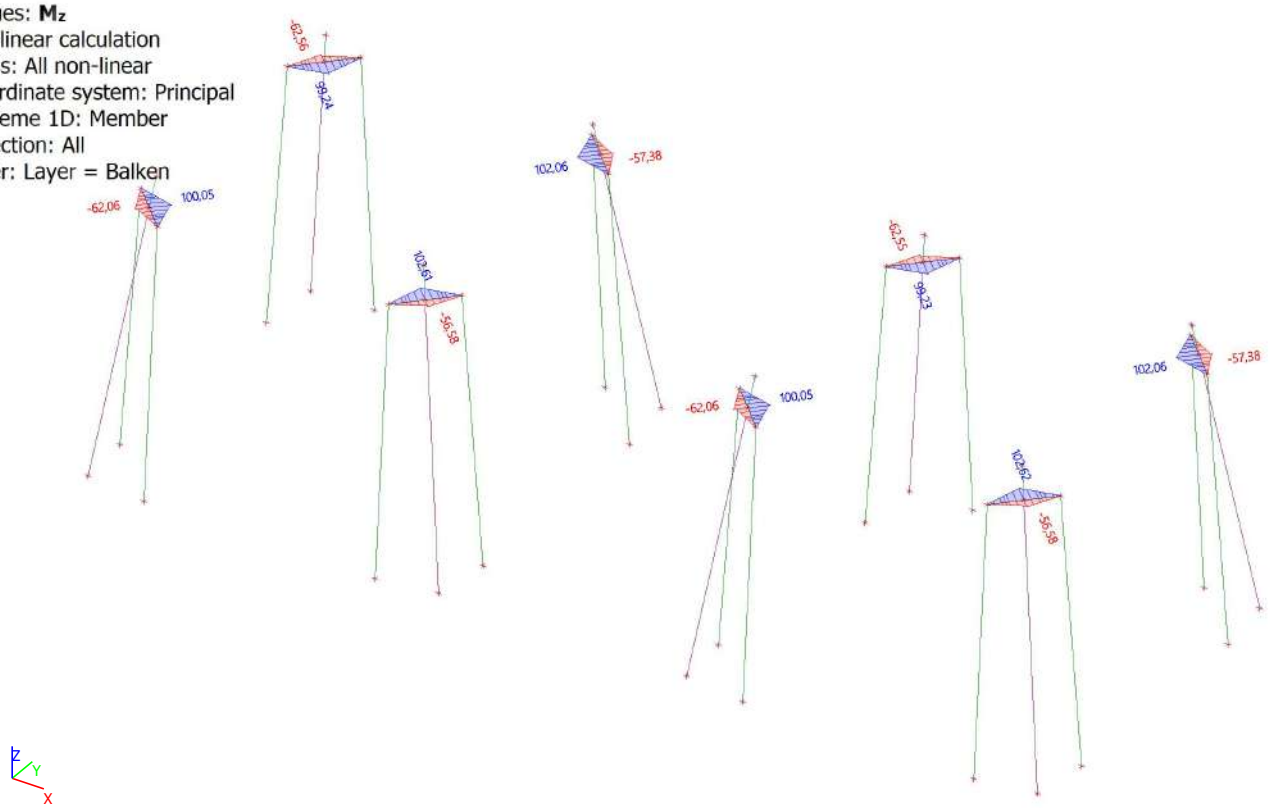
## 10.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken




## 10.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1500,00; 1600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| DIN38 | 0,000 | high max Wnd ;225° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **-22,31** | -38,71 | -258,13 | 17,61 | 16,89 | -0,04 |
| DIN41 | 1,602+ | low max Wnd ;45° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 11,04 | **-60,47** | 300,69 | -51,28 | -412,47 | 98,83 |
| DIN39 | 1,602- | low max Wnd ;45° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 16,11 | **62,29** | **-315,32** | 56,32 | -430,81 | 102,61 |
| DIN37 | 1,602- | low max Wnd ;315° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 16,02 | 61,97 | **313,40** | -55,80 | 427,67 | 102,06 |
| DIN38 | 0,000 | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **18,56** | 60,88 | 225,51 | **-56,85** | -12,26 | 2,52 |
| DIN34 | 0,000 | low max Wnd ;225° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 15,42 | 60,22 | -221,99 | **56,67** | 7,88 | 2,76 |
| DIN41 | 1,602- | low max Wnd ;45° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 16,10 | 62,29 | -315,30 | 56,33 | **-430,83** | **102,62** |
| DIN40 | 1,602- | low max Wnd ;315° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 16,00 | 61,97 | 313,38 | -55,81 | **427,68** | 102,06 |
| DIN34 | 1,602- | high max Wnd ;45° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -22,00 | -38,98 | 146,64 | -18,17 | 309,25 | **-62,56** |

# 1. Table of contents

1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 7
4.4. Analyse model met doorsneden 7
4.5. Mesh setup 8
5. Geometrie 8
5.1. Nodes 8
5.2. Analyse model met knopen 9
5.3. Members 9
5.4. Analyse model met Staven 10
5.5. Nodal supports 10
5.6. Analyse model met Knoopondersteuningen 11
5.7. Line supports on member 11
5.8. Analyse model met Lijnondersteuningen 19
5.9. Analyse model met Lijnondersteuningen 19
5.10. Nonlinear functions 20
6. Belastingen 29
6.1. Load cases 29
6.1.1. Load cases - EG_Fundering 29
6.1.2. Load cases - high max Wnd ;45° 29
6.1.2.1. Point force in node 30
6.1.3. Load cases - high max Wnd ;315° 31
6.1.3.1. Point force in node 32
6.1.4. Load cases - high max Wnd ;135° 32
6.1.4.1. Point force in node 33
6.1.5. Load cases - high max Wnd ;225° 34
6.1.5.1. Point force in node 35
6.1.6. Load cases - low max Wnd ;45° 35
6.1.6.1. Point force in node 36
6.1.7. Load cases - low max Wnd ;225° 37
6.1.7.1. Point force in node 38
6.1.8. Load cases - low max Wnd ;135° 38
6.1.8.1. Point force in node 39
6.1.9. Load cases - low max Wnd ;315° 40
6.1.9.1. Point force in node 41
6.2. Nonlinear combinations 41
6.3. Result classes 42
7. Resultaten 43
7.1. Reacties van de palen 43
7.1.1. Reactions; R_z 43
7.1.2. Reactions 43
7.1.3. Reactions 43
7.1.4. Reactions 44
8. Krachten van de Funderingspalen 47
8.1. Interne 1D- krachten; N 47
8.2. Interne 1D- krachten; V_y 47
8.3. Interne 1D- krachten; V_z 48
8.4. Interne 1D- krachten; M_x 48
8.5. Interne 1D- krachten; M_y 49
8.6. Interne 1D- krachten; M_z 49
8.7. 1D internal forces 50
8.8. 1D internal forces 50
9. Krachten van de Poeren 51
9.1. 1D internal forces 51
10. Krachten van de Funderingsbalken 52
10.1. Interne 1D- krachten; N 52
10.2. Interne 1D- krachten; V_y 52
10.3. Interne 1D- krachten; V_z 53
10.4. Interne 1D- krachten; M_x 53
10.5. Interne 1D- krachten; M_y 54
10.6. Interne 1D- krachten; M_z 54

10.7. 1D internal forces 55

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Part | Cilinder 75 + palen S II |
| Author | [redacted] |
| Date | 12-05-2026 |
| Structure | General XYZ |
| No. of nodes : | 56 |
| No. of beams : | 40 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 4 |
| No. of load cases : | 9 |
| No. of used materials : | 8 |
| Acceleration of gravity [m/s$^2$] | 9,807 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ [-] | Lower limit [mm] | Upper limit [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |
| S 235 | 6850,00 | 2,1000e+05 | 0,30 | 0,00 | 40,00 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,01e-003 | 40,00 | 80,00 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ [-] | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C12/15 Gescheurd | Concrete | 2500,00 | 2600,00 | 9,0000e+03 | 0,23 | 0,01e-003 | 12,00 | |
| C30/37 Gescheurd | Concrete | 1500,00 | 2600,00 | 1,1000e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C30/37 | Concrete | 1500,00 | 2600,00 | 1,0900e+04 | 0,20 | 0,01e-003 | 30,00 | |
| C12/15 Gescheurd | Concrete | 1500,00 | 2600,00 | 7,0000e+03 | 0,20 | 0,01e-003 | 12,00 | |

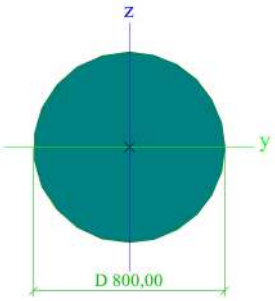
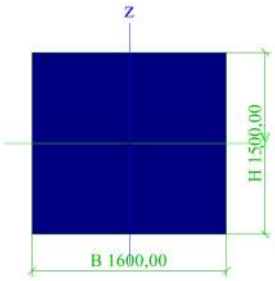
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

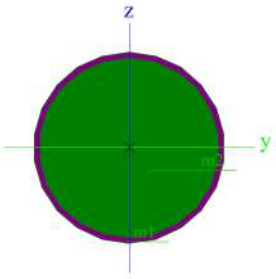
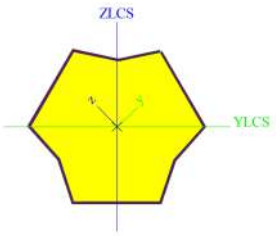
Reinforcement EC2

| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 400A | Reinforcement steel | 7850,00 | 2,0000e+05 | 8,3333e+04 | 0,01e-003 | 400,0 |

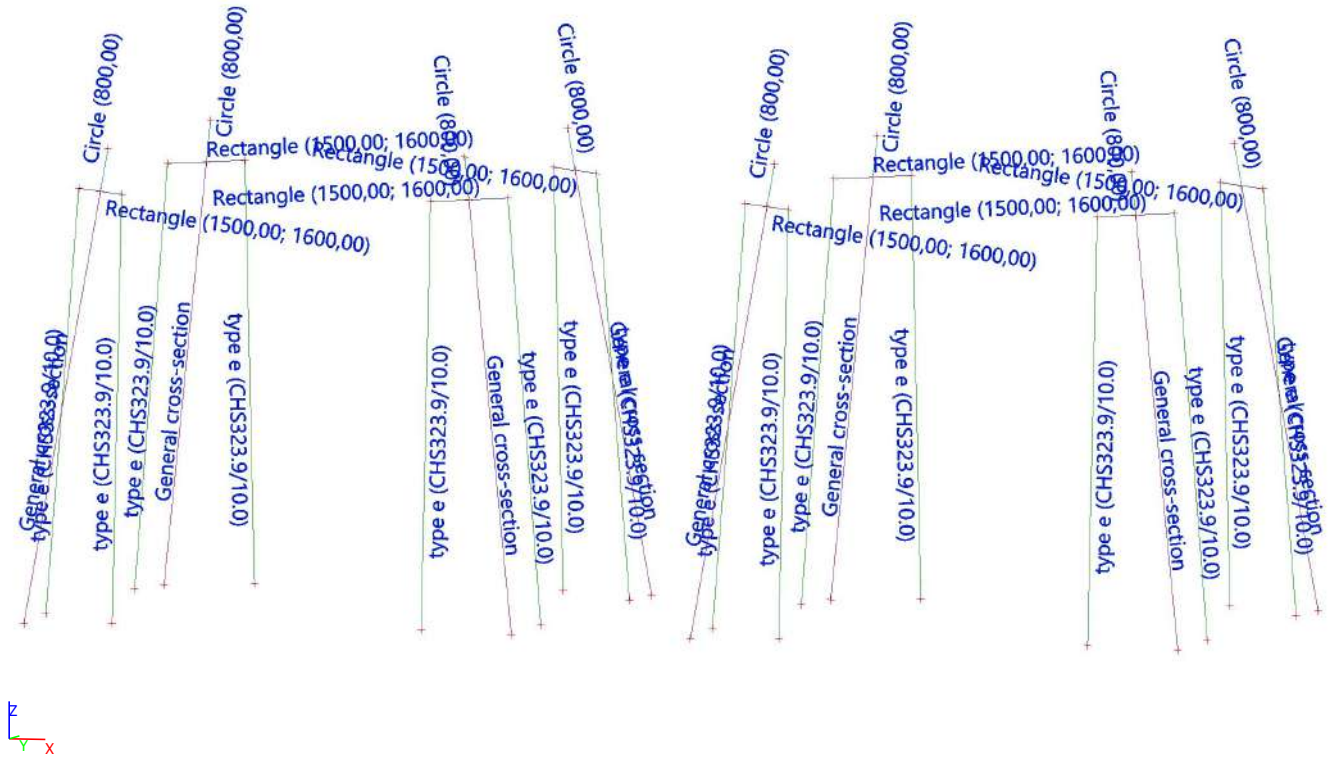
## 4.2. Cross-sections

| Poer800 | | |
|---|---|---|
| Type | Circle | |
| Detailed | 800,00 | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| Fabrication | general | |
| Colour | | |
| A [mm²] | 5,0265e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 4,5239e+05 | 4,5239e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,5131e+00 | 2,5131e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 400,00 | 400,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 2,0106e+10 | 2,0106e+10 |
| $i_y$ [mm], $i_z$ [mm] | 199,98 | 199,98 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,0265e+07 | 5,0265e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 8,5333e+07 | 8,5333e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 4,0212e+10 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |

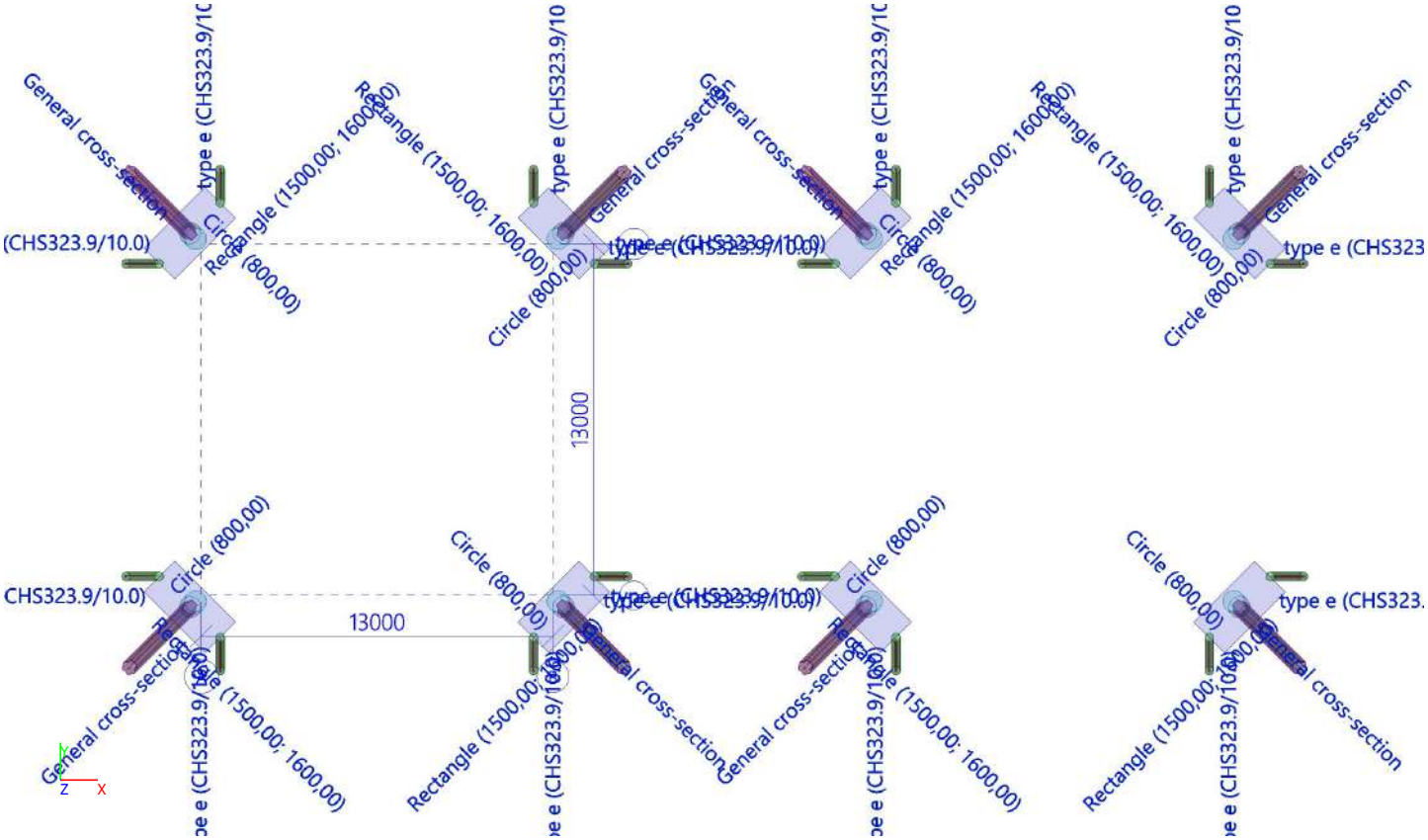
| | | |
|---|---|---|
| Picture |  | |
| **lijnpoer** | | |
| Type | Rectangle | |
| Detailed | 1500,00; 1600,00 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [mm²] | 2,4000e+06 | |
| $A_y$ [mm²], $A_z$ [mm²] | 2,0007e+06 | 2,0008e+06 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,2000e+00 | 6,2000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 800,00 | 750,00 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 4,5000e+11 | 5,1200e+11 |
| $i_y$ [mm], $i_z$ [mm] | 433,01 | 461,88 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 6,0000e+08 | 6,4000e+08 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 0,00 | 0,00 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 0,00 | 0,00 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 8,0849e+11 | 2,2447e+15 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Detailed | CHS323.9/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [mm²] | 1,3624e+04 | |
| $A_y$ [mm²], $A_z$ [mm²] | 9,1187e+03 | 9,1187e+03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,0175e+00 | 1,0175e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 161,95 | 161,95 |
| α [deg] | 0,00 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,4326e+08 | 1,4326e+08 |
| $i_y$ [mm], $i_z$ [mm] | 102,54 | 102,54 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 8,8458e+05 | 8,8458e+05 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 1,1479e+06 | 1,1479e+06 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 269749430,18 | 269749430,18 |

| | | |
|---|---|---|
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 269749430,18 | 269749430,18 |
| $d_y$ [mm], $d_z$ [mm] | 0,00 | 0,00 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,9003e+08 | 2,9935e+04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,00 | 0,00 |
| Picture |  | |
| **LD1(31-plank)** | | |
| Type | General cross-section | |
| Shape type | Thick-walled | |
| Item material | C12/15 Gescheurd | |
| | S 235 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | d | d |
| A [mm²] | 6,0572e+05 | |
| $A_y$ [mm²], $A_z$ [mm²] | 3,6248e+05 | 3,6314e+05 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,7651e+00 | 3,4664e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 553,25 | 9,99 |
| $I_{Y.LCS}$ [mm⁴], $I_{Z.LCS}$ [mm⁴] | 1,6274e+10 | 1,6264e+10 |
| $I_{YZ.LCS}$ [mm⁴] | -1,0231e+08 | |
| α [deg] | 43,55 | |
| $I_y$ [mm⁴], $I_z$ [mm⁴] | 1,6372e+10 | 1,6167e+10 |
| $i_y$ [mm], $i_z$ [mm] | 164,40 | 163,37 |
| $W_{el.y}$ [mm³], $W_{el.z}$ [mm³] | 5,7898e+07 | 5,8163e+07 |
| $W_{pl.y}$ [mm³], $W_{pl.z}$ [mm³] | 4,9594e+07 | 4,9245e+07 |
| $M_{pl.y.+}$ [Nmm], $M_{pl.y.-}$ [Nmm] | 601215312,58 | 595125922,92 |
| $M_{pl.z.+}$ [Nmm], $M_{pl.z.-}$ [Nmm] | 597037111,16 | 590937542,96 |
| $d_y$ [mm], $d_z$ [mm] | 0,12 | 0,03 |
| $I_t$ [mm⁴], $I_w$ [mm⁶] | 2,6243e+10 | 1,7700e+12 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0,09 | 0,21 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

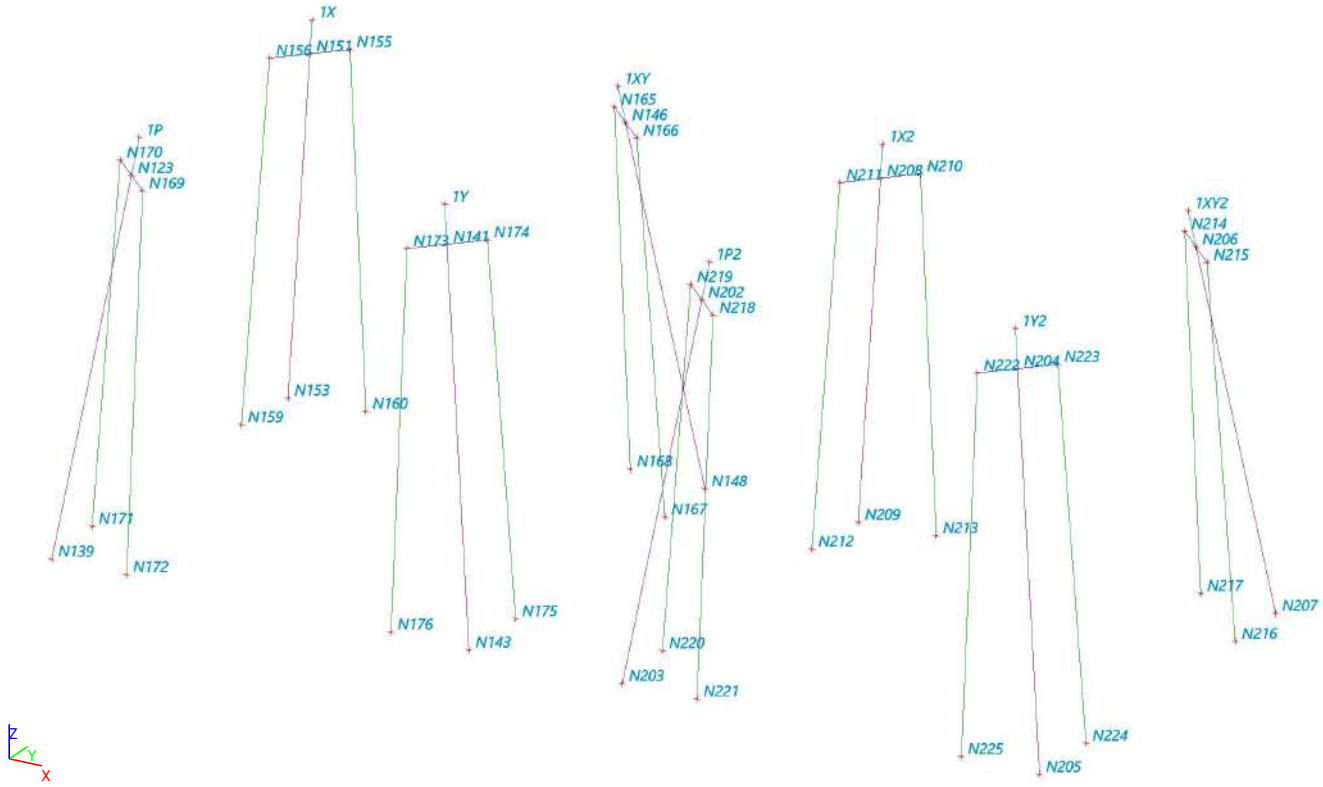
| | |
|---|---|
| Name | MeshSetup1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 1 |
| Average size of 2D mesh element [m] | 0,200 |
| Average size of 1D mesh element on curved 1D members [m] | 0,100 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

### 5.1. Nodes

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N123 | -0,427 | -0,433 | -0,250 |
| 1P | -0,209 | -0,212 | 1,279 |
| N139 | -2,655 | -2,664 | -15,732 |
| N141 | 13,399 | -0,433 | -0,250 |
| 1Y | 13,181 | -0,212 | 1,279 |
| N143 | 15,627 | -2,664 | -15,732 |
| N146 | 13,399 | 13,405 | -0,250 |
| 1XY | 13,181 | 13,184 | 1,279 |
| N148 | 15,627 | 15,636 | -15,732 |
| N151 | -0,427 | 13,405 | -0,250 |
| 1X | -0,209 | 13,184 | 1,279 |
| N153 | -2,655 | 15,636 | -15,732 |
| N155 | 0,693 | 14,525 | -0,250 |
| N156 | -1,560 | 12,272 | -0,250 |
| N159 | -2,794 | 12,272 | -15,640 |
| N160 | 0,693 | 15,759 | -15,640 |
| N165 | 12,279 | 14,525 | -0,250 |
| N166 | 14,532 | 12,272 | -0,250 |
| N167 | 15,766 | 12,272 | -15,640 |
| N168 | 12,279 | 15,759 | -15,640 |
| N169 | 0,693 | -1,553 | -0,250 |
| N170 | -1,560 | 0,700 | -0,250 |
| N171 | -2,794 | 0,700 | -15,640 |
| N172 | 0,693 | -2,787 | -15,640 |
| N173 | 12,279 | -1,553 | -0,250 |
| N174 | 14,532 | 0,700 | -0,250 |
| N175 | 15,766 | 0,700 | -15,640 |
| N176 | 12,279 | -2,787 | -15,640 |
| N202 | 24,573 | -0,433 | -0,250 |
| 1P2 | 24,791 | -0,212 | 1,279 |
| N203 | 22,345 | -2,664 | -15,732 |
| N204 | 38,399 | -0,433 | -0,250 |
| 1Y2 | 38,181 | -0,212 | 1,279 |
| N205 | 40,627 | -2,664 | -15,732 |
| N206 | 38,399 | 13,405 | -0,250 |
| 1XY2 | 38,181 | 13,184 | 1,279 |
| N207 | 40,627 | 15,636 | -15,732 |
| N208 | 24,573 | 13,405 | -0,250 |
| 1X2 | 24,791 | 13,184 | 1,279 |
| N209 | 22,345 | 15,636 | -15,732 |
| N210 | 25,693 | 14,525 | -0,250 |
| N211 | 23,440 | 12,272 | -0,250 |
| N212 | 22,206 | 12,272 | -15,640 |
| N213 | 25,693 | 15,759 | -15,640 |
| N214 | 37,279 | 14,525 | -0,250 |
| N215 | 39,532 | 12,272 | -0,250 |
| N216 | 40,766 | 12,272 | -15,640 |
| N217 | 37,279 | 15,759 | -15,640 |
| N218 | 25,693 | -1,553 | -0,250 |
| N219 | 23,440 | 0,700 | -0,250 |
| N220 | 22,206 | 0,700 | -15,640 |
| N221 | 25,693 | -2,787 | -15,640 |
| N222 | 37,279 | -1,553 | -0,250 |
| N223 | 39,532 | 0,700 | -0,250 |
| N224 | 40,766 | 0,700 | -15,640 |
| N225 | 37,279 | -2,787 | -15,640 |

## 5.2. Analyse model met knopen

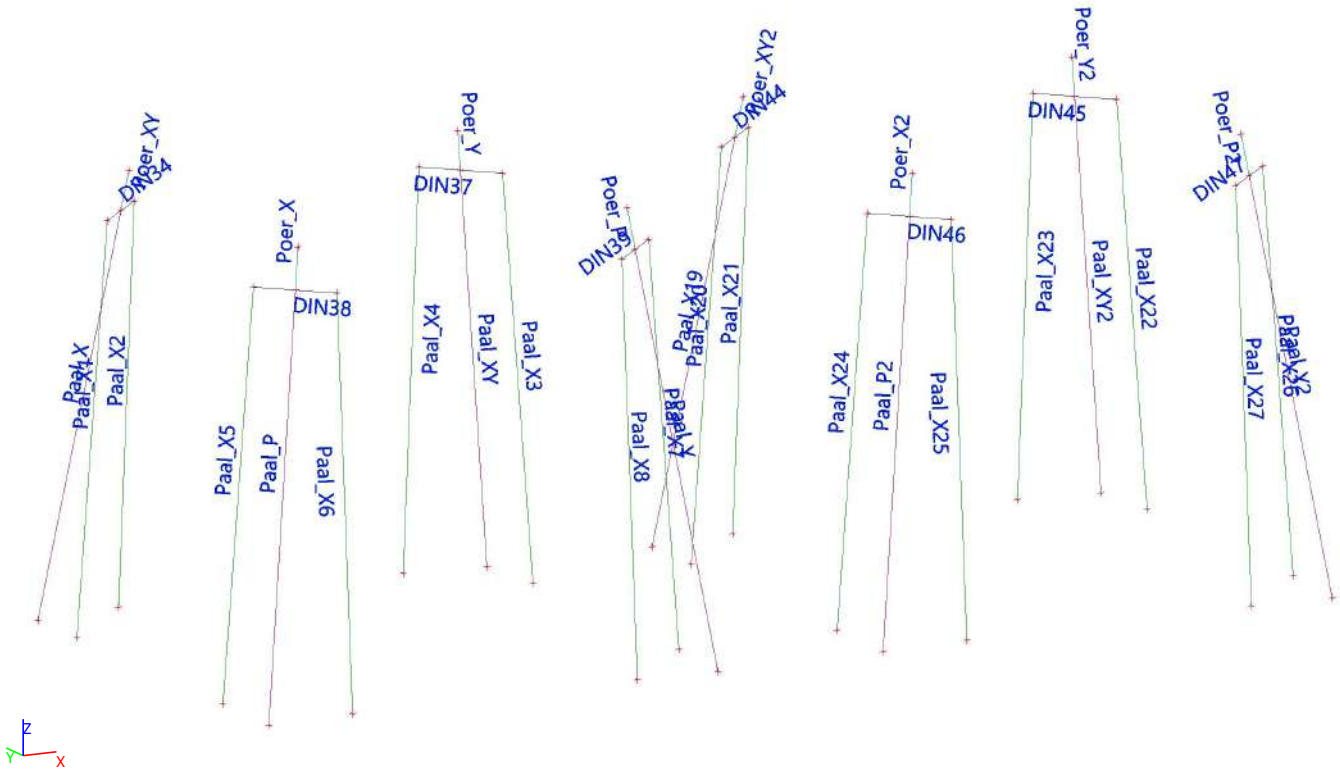



## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| DIN34 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N156 | N155 | beam (80) |
| DIN37 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N166 | N165 | beam (80) |
| DIN38 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N170 | N169 | beam (80) |
| DIN39 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N174 | N173 | beam (80) |
| DIN44 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N211 | N210 | beam (80) |
| DIN45 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N215 | N214 | beam (80) |
| DIN46 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N219 | N218 | beam (80) |
| DIN47 | lijnpoer - Rectangle (1500,00; 1600,00) | C30/37 Gescheurd | 3,186 | N223 | N222 | beam (80) |
| Paal_P | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N123 | N139 | column (100) |
| Paal_P2 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N202 | N203 | column (100) |
| Paal_X | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N151 | N153 | column (100) |
| Paal_X1 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N156 | N159 | column (100) |
| Paal_X2 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N155 | N160 | column (100) |
| Paal_X3 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N166 | N167 | column (100) |
| Paal_X4 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N165 | N168 | column (100) |
| Paal_X5 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N170 | N171 | column (100) |
| Paal_X6 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N169 | N172 | column (100) |
| Paal_X7 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N174 | N175 | column (100) |
| Paal_X8 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N173 | N176 | column (100) |
| Paal_X19 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N208 | N209 | column (100) |
| Paal_X20 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N211 | N212 | column (100) |
| Paal_X21 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N210 | N213 | column (100) |
| Paal_X22 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N215 | N216 | column (100) |
| Paal_X23 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N214 | N217 | column (100) |
| Paal_X24 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N219 | N220 | column (100) |
| Paal_X25 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N218 | N221 | column (100) |
| Paal_X26 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N223 | N224 | column (100) |
| Paal_X27 | LEKA Paal - type e (CHS323.9/10.0) | S 235 | 15,439 | N222 | N225 | column (100) |
| Paal_XY | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N146 | N148 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_XY2 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N206 | N207 | column (100) |
| Paal_Y | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N141 | N143 | column (100) |
| Paal_Y2 | LD1(31-plank) - General cross-section | C12/15 Gescheurd | 15,800 | N204 | N205 | column (100) |
| Poer_P | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N141 | 1Y | column (100) |
| Poer_P2 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N204 | 1Y2 | column (100) |
| Poer_X | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N123 | 1P | column (100) |
| Poer_X2 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N202 | 1P2 | column (100) |
| Poer_XY | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N151 | 1X | column (100) |
| Poer_XY2 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N208 | 1X2 | column (100) |
| Poer_Y | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N146 | 1XY | column (100) |
| Poer_Y2 | Poer800 - Circle (800,00) | C12/15 Gescheurd | 1,560 | N206 | 1XY2 | column (100) |

## 5.4. Analyse model met Staven

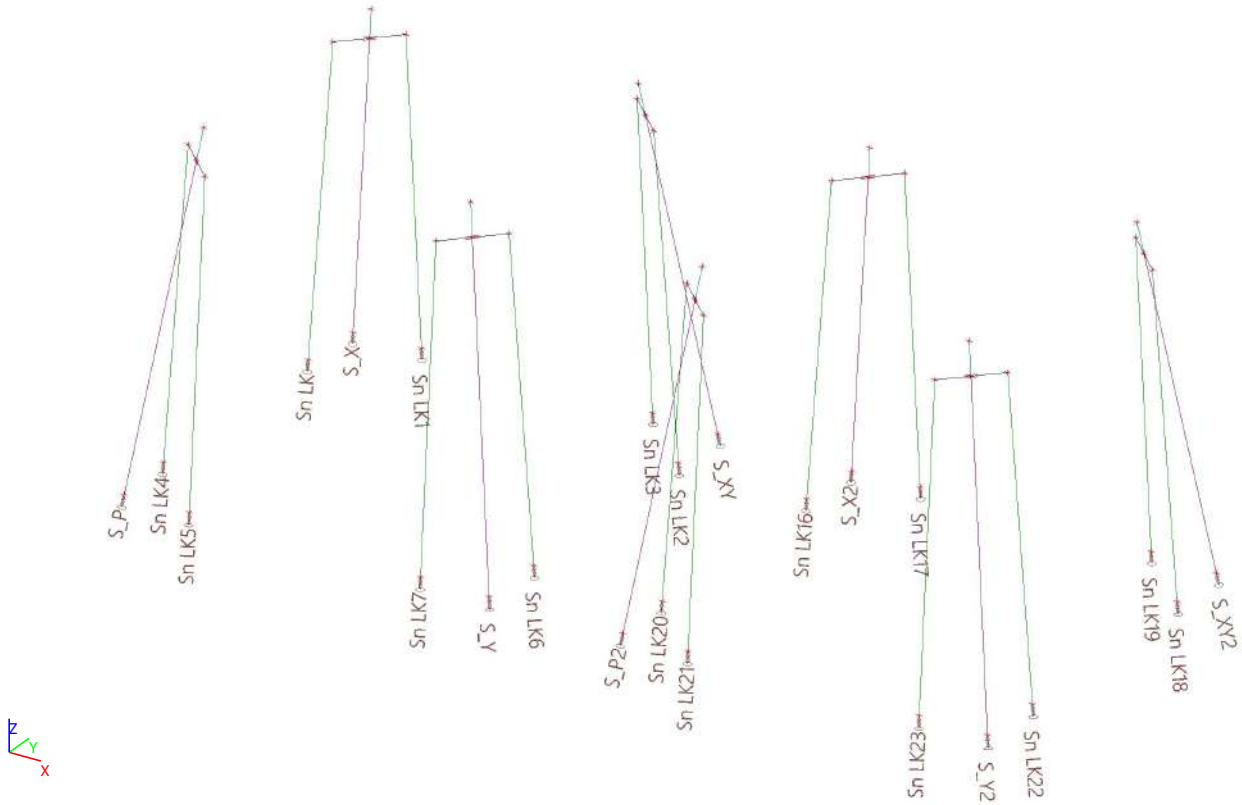



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| S_P | N139 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y | N143 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY | N148 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X | N153 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |
| Sn LK | N159 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK1 | N160 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK2 | N167 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK3 | N168 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK4 | N171 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK5 | N172 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| Sn LK6 | N175 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK7 | N176 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| S_P2 | N203 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry8,11 |
| S_Y2 | N205 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-8,11;Ry-8,11 |
| S_XY2 | N207 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry-8,11 |
| S_X2 | N209 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx8,11;Ry8,11 |

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn LK16 | N212 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK17 | N213 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK18 | N216 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK19 | N217 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx4,58 |
| Sn LK20 | N220 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry4,58 |
| Sn LK21 | N221 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |
| Sn LK22 | N224 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-4,58 |
| Sn LK23 | N225 | GCS | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-4,58 |

## 5.6. Analyse model met Knoopondersteuningen




## 5.7. Line supports on member

| Name | Type | Member | Pos $x_1$ [m] | Coor | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | System | Pos $x_2$ [m] | Orig | | | | | | |
| Slb_P_Veen | Line | Paal_P | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_Veen | Line | Paal_Y | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_Veen | Line | Paal_XY | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_Veen | Line | Paal_X | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V9 | Line | Paal_P | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V9 | Line | Paal_Y | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V9 | Line | Paal_XY | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V9 | Line | Paal_X | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V10 | Line | Paal_P | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V11 | Line | Paal_P | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V12 | Line | Paal_P | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V13 | Line | Paal_P | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_Y_V10 | Line | Paal_Y | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V11 | Line | Paal_Y | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V12 | Line | Paal_Y | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V13 | Line | Paal_Y | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_XY_V10 | Line | Paal_XY | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V11 | Line | Paal_XY | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V12 | Line | Paal_XY | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V13 | Line | Paal_XY | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_V10 | Line | Paal_X | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V11 | Line | Paal_X | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V12 | Line | Paal_X | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V13 | Line | Paal_X | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen1 | Line | Paal_X1 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V22 | Line | Paal_X1 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V23 | Line | Paal_X1 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V24 | Line | Paal_X1 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V25 | Line | Paal_X1 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V26 | Line | Paal_X1 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen2 | Line | Paal_X2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V32 | Line | Paal_X2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V33 | Line | Paal_X2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V34 | Line | Paal_X2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V35 | Line | Paal_X2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V36 | Line | Paal_X2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen3 | Line | Paal_X3 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V42 | Line | Paal_X3 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V43 | Line | Paal_X3 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V44 | Line | Paal_X3 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V45 | Line | Paal_X3 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V46 | Line | Paal_X3 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen4 | Line | Paal_X4 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V52 | Line | Paal_X4 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V53 | Line | Paal_X4 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V54 | Line | Paal_X4 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V55 | Line | Paal_X4 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V56 | Line | Paal_X4 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen5 | Line | Paal_X5 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V62 | Line | Paal_X5 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V63 | Line | Paal_X5 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V64 | Line | Paal_X5 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V65 | Line | Paal_X5 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V66 | Line | Paal_X5 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen6 | Line | Paal_X6 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V72 | Line | Paal_X6 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V73 | Line | Paal_X6 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V74 | Line | Paal_X6 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V75 | Line | Paal_X6 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V76 | Line | Paal_X6 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen7 | Line | Paal_X7 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V82 | Line | Paal_X7 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V83 | Line | Paal_X7 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V84 | Line | Paal_X7 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V85 | Line | Paal_X7 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V86 | Line | Paal_X7 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen8 | Line | Paal_X8 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V92 | Line | Paal_X8 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V93 | Line | Paal_X8 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V94 | Line | Paal_X8 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V95 | Line | Paal_X8 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V96 | Line | Paal_X8 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_P_Veen2 | Line | Paal_P2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | From start | | | | | | |
| Slb_P_V19 | Line | Paal_P2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_P_V20 | Line | Paal_P2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_P_V21 | Line | Paal_P2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_P_V22 | Line | Paal_P2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_P_V23 | Line | Paal_P2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_Y_Veen2 | Line | Paal_Y2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_Y_V19 | Line | Paal_Y2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_Y_V20 | Line | Paal_Y2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_Y_V21 | Line | Paal_Y2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_Y_V22 | Line | Paal_Y2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_Y_V23 | Line | Paal_Y2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_XY_Veen2 | Line | Paal_XY2 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_XY_V19 | Line | Paal_XY2 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_XY_V20 | Line | Paal_XY2 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_XY_V21 | Line | Paal_XY2 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_XY_V22 | Line | Paal_XY2 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_XY_V23 | Line | Paal_XY2 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen19 | Line | Paal_X19 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V181 | Line | Paal_X19 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V182 | Line | Paal_X19 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V183 | Line | Paal_X19 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V184 | Line | Paal_X19 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V185 | Line | Paal_X19 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen20 | Line | Paal_X20 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V186 | Line | Paal_X20 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V187 | Line | Paal_X20 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V188 | Line | Paal_X20 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V189 | Line | Paal_X20 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V190 | Line | Paal_X20 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen21 | Line | Paal_X21 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V194 | Line | Paal_X21 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V195 | Line | Paal_X21 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

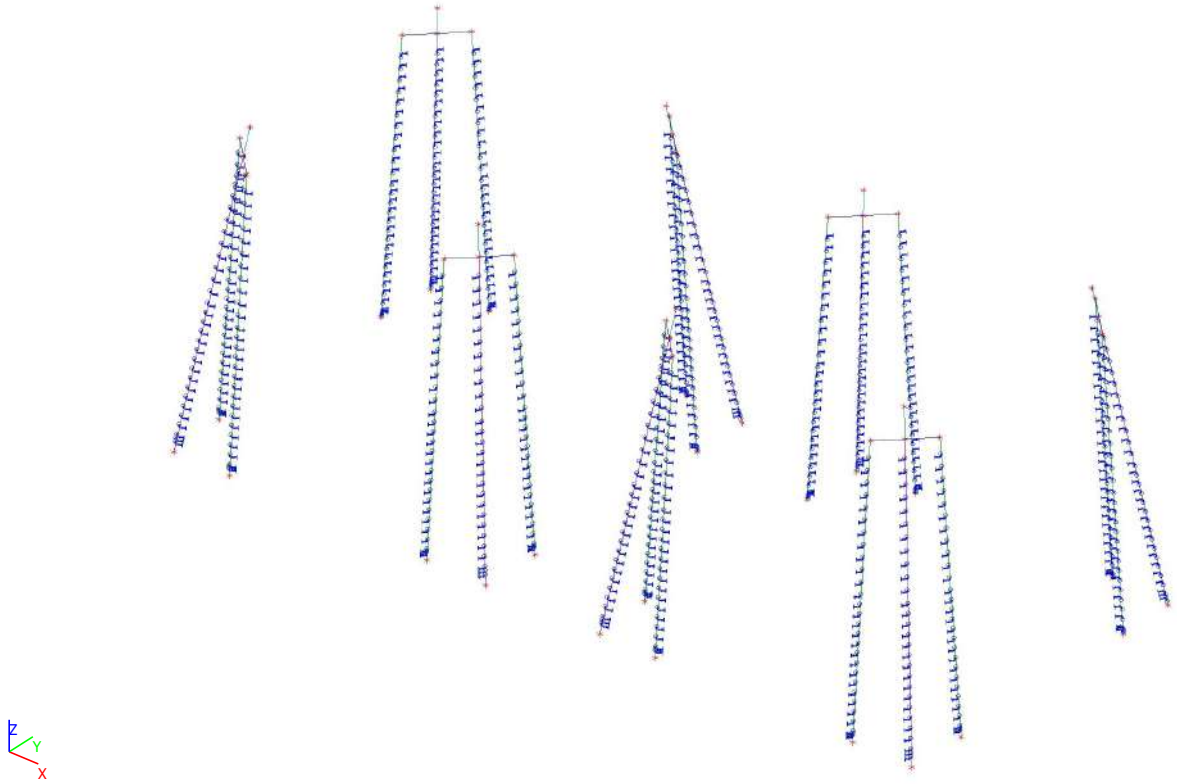
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V196 | Line | Paal_X21 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V197 | Line | Paal_X21 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V198 | Line | Paal_X21 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen22 | Line | Paal_X22 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V202 | Line | Paal_X22 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V203 | Line | Paal_X22 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V204 | Line | Paal_X22 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V205 | Line | Paal_X22 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V206 | Line | Paal_X22 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen23 | Line | Paal_X23 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V210 | Line | Paal_X23 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V211 | Line | Paal_X23 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V212 | Line | Paal_X23 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V213 | Line | Paal_X23 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V214 | Line | Paal_X23 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen24 | Line | Paal_X24 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V218 | Line | Paal_X24 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V219 | Line | Paal_X24 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V220 | Line | Paal_X24 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V221 | Line | Paal_X24 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V222 | Line | Paal_X24 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen25 | Line | Paal_X25 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V226 | Line | Paal_X25 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V227 | Line | Paal_X25 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V228 | Line | Paal_X25 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V229 | Line | Paal_X25 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V230 | Line | Paal_X25 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen26 | Line | Paal_X26 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V234 | Line | Paal_X26 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V235 | Line | Paal_X26 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V236 | Line | Paal_X26 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V237 | Line | Paal_X26 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V238 | Line | Paal_X26 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_Veen27 | Line | Paal_X27 | 1,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 8,000 | From start | | | | | | |
| Slb_X_V242 | Line | Paal_X27 | 8,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 9,000 | From start | | | | | | |
| Slb_X_V243 | Line | Paal_X27 | 9,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 10,000 | From start | | | | | | |
| Slb_X_V244 | Line | Paal_X27 | 10,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 11,000 | From start | | | | | | |
| Slb_X_V245 | Line | Paal_X27 | 11,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 12,000 | From start | | | | | | |
| Slb_X_V246 | Line | Paal_X27 | 12,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 13,000 | From start | | | | | | |
| Slb_X_V18 | Line | Paal_P | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V247 | Line | Paal_X | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V248 | Line | Paal_X1 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V249 | Line | Paal_X5 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V250 | Line | Paal_X2 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V251 | Line | Paal_X6 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V252 | Line | Paal_X4 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V253 | Line | Paal_X8 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V254 | Line | Paal_X3 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V255 | Line | Paal_X7 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V256 | Line | Paal_Y | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V257 | Line | Paal_XY | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V258 | Line | Paal_P2 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V259 | Line | Paal_X19 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V260 | Line | Paal_X20 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V261 | Line | Paal_X24 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V262 | Line | Paal_X21 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V263 | Line | Paal_X25 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V264 | Line | Paal_X23 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V265 | Line | Paal_X27 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V266 | Line | Paal_X22 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V267 | Line | Paal_X26 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V268 | Line | Paal_Y2 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V269 | Line | Paal_XY2 | 13,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 14,000 | From start | | | | | | |
| Slb_X_V270 | Line | Paal_P | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

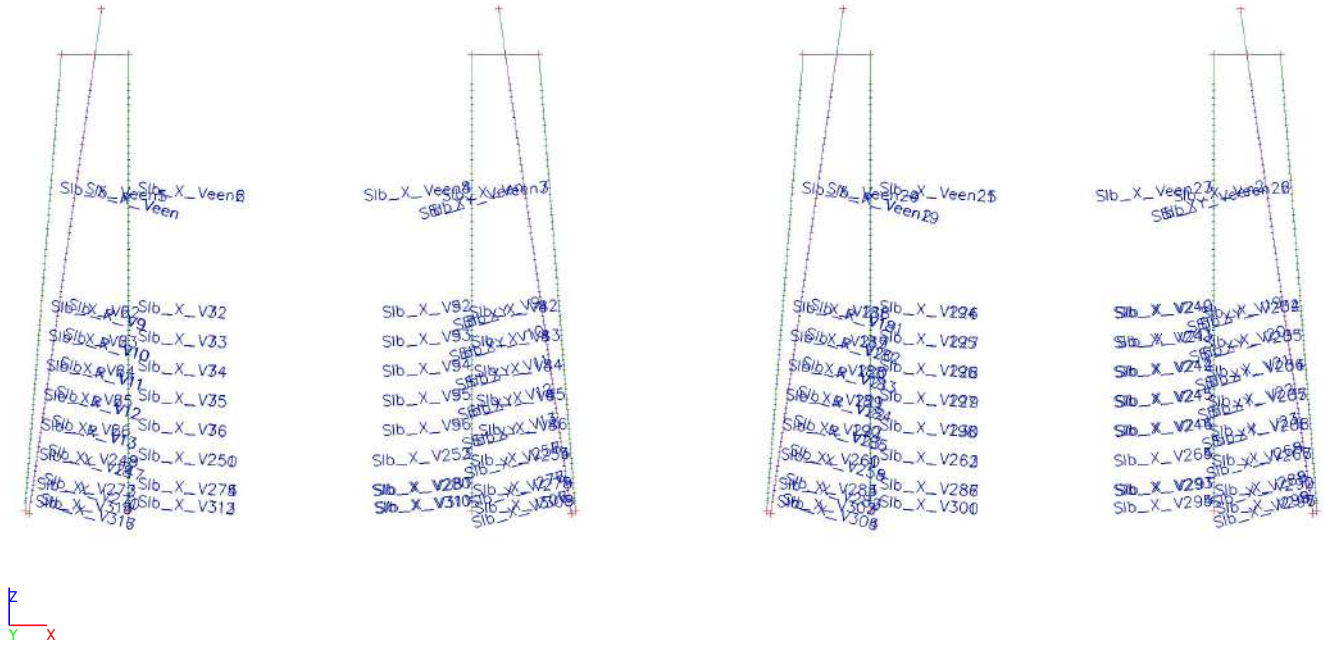
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V271 | Line | Paal_X | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V272 | Line | Paal_X1 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V273 | Line | Paal_X5 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V274 | Line | Paal_X2 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V275 | Line | Paal_X6 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V276 | Line | Paal_Y | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V277 | Line | Paal_XY | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V278 | Line | Paal_X3 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V279 | Line | Paal_X7 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V280 | Line | Paal_X4 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V281 | Line | Paal_X8 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V282 | Line | Paal_P2 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V283 | Line | Paal_X19 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V284 | Line | Paal_X20 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V285 | Line | Paal_X24 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V286 | Line | Paal_X21 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V287 | Line | Paal_X25 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V288 | Line | Paal_Y2 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V289 | Line | Paal_XY2 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V290 | Line | Paal_X22 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V291 | Line | Paal_X23 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V292 | Line | Paal_X26 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V293 | Line | Paal_X27 | 14,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,000 | From start | | | | | | |
| Slb_X_V294 | Line | Paal_X23 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V295 | Line | Paal_X27 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V296 | Line | Paal_X22 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V297 | Line | Paal_X26 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V298 | Line | Paal_Y2 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V299 | Line | Paal_XY2 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V300 | Line | Paal_X21 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V301 | Line | Paal_X25 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V302 | Line | Paal_X20 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | Coor<br>Orig | X | Y | Z | Rx | Ry | Rz |
|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V303 | Line | Paal_X24 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V304 | Line | Paal_P2 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V305 | Line | Paal_X19 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V306 | Line | Paal_Y | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V307 | Line | Paal_XY | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V308 | Line | Paal_X3 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V309 | Line | Paal_X7 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V310 | Line | Paal_X4 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V311 | Line | Paal_X8 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V312 | Line | Paal_X2 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V313 | Line | Paal_X6 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V314 | Line | Paal_X1 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V315 | Line | Paal_X5 | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,200 | From start | | | | | | |
| Slb_X_V316 | Line | Paal_P | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |
| Slb_X_V317 | Line | Paal_X | 15,000 | Abso | Free | Nonlinear | Nonlinear | Free | Free | Free |
| | | LCS | 15,390 | From start | | | | | | |

## 5.8. Analyse model met Lijnondersteuningen



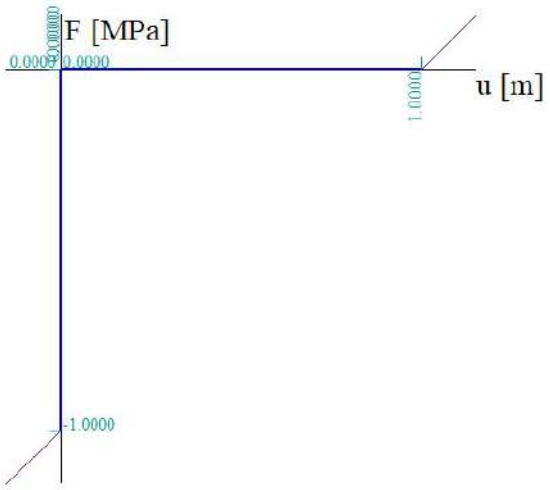
## 5.9. Analyse model met Lijnondersteuningen



## 5.10. Nonlinear functions

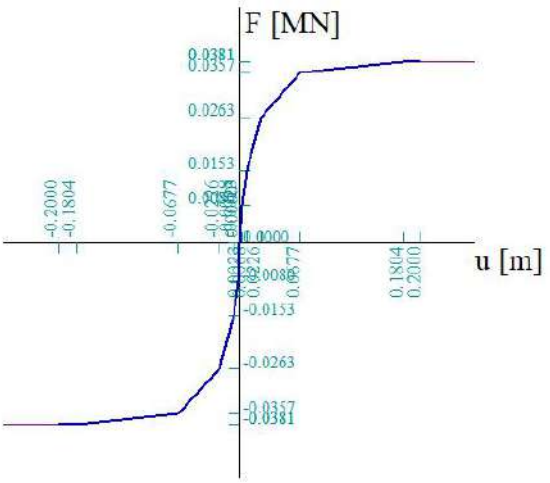
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| soil press only | Nonlinear subsoil | | Flexible | Flexible |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -0.200000 / -38100.000000 | Free | Free |
| | | -0.180400 / -38100.000000 | | |
| | | -0.067650 / -35700.000000 | | |
| | | -0.022550 / -26300.000000 | | |
| | | -0.006765 / -15300.000000 | | |
| | | -0.002255 / -8000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 8000.000000 | | |
| | | 0.006765 / 15300.000000 | | |
| | | 0.022550 / 26300.000000 | | |
| | | 0.067650 / 35700.000000 | | |
| | | 0.180400 / 38100.000000 | | |
| | | 0.200000 / 38100.000000 | | |

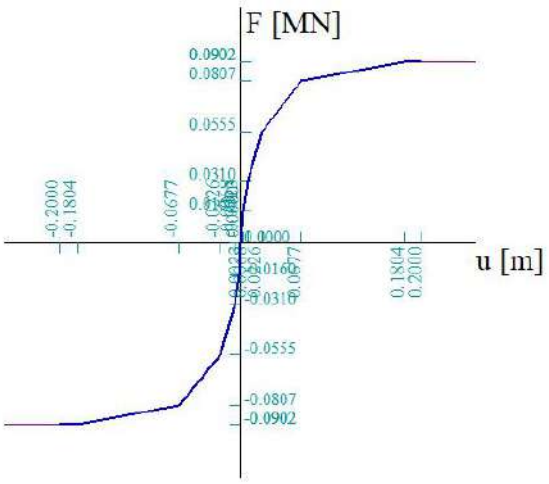
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -0.200000 / -90200.000000 | Free | Free |
| | | -0.180400 / -90200.000000 | | |
| | | -0.067650 / -80700.000000 | | |
| | | -0.022550 / -55500.000000 | | |

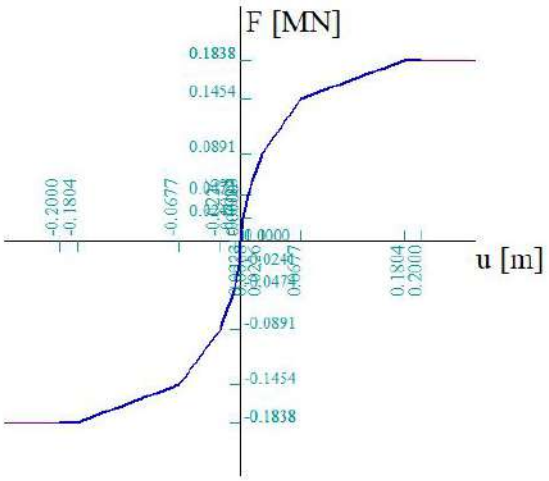
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -31000.000000 | | |
| | | -0.002255 / -16000.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 16000.000000 | | |
| | | 0.006765 / 31000.000000 | | |
| | | 0.022550 / 55500.000000 | | |
| | | 0.067650 / 80700.000000 | | |
| | | 0.180400 / 90200.000000 | | |
| | | 0.200000 / 90200.000000 | | |

Drawing



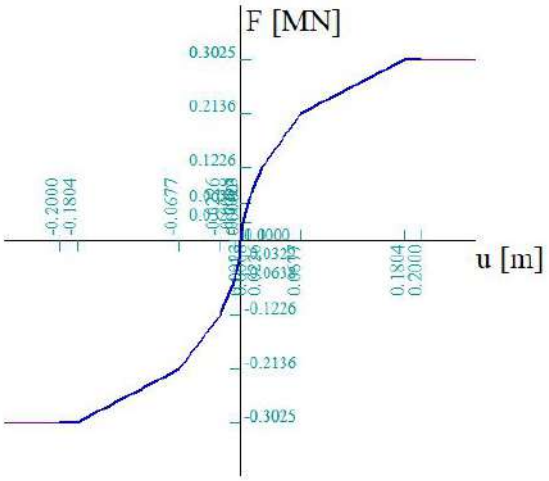

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V11 | Translation | -0.200000 / -183800.000000 | Free | Free |
| | | -0.180400 / -183800.000000 | | |
| | | -0.067650 / -145400.000000 | | |
| | | -0.022550 / -89100.000000 | | |
| | | -0.006765 / -47400.000000 | | |
| | | -0.002255 / -24100.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 24100.000000 | | |
| | | 0.006765 / 47400.000000 | | |
| | | 0.022550 / 89100.000000 | | |
| | | 0.067650 / 145400.000000 | | |
| | | 0.180400 / 183800.000000 | | |
| | | 0.200000 / 183800.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V12 | Translation | -0.200000 / -302500.000000 | Free | Free |
| | | -0.180400 / -302500.000000 | | |
| | | -0.067650 / -213600.000000 | | |
| | | -0.022550 / -122600.000000 | | |
| | | -0.006765 / -63800.000000 | | |
| | | -0.002255 / -32200.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 32200.000000 | | |
| | | 0.006765 / 63800.000000 | | |
| | | 0.022550 / 122600.000000 | | |
| | | 0.067650 / 213600.000000 | | |
| | | 0.180400 / 302500.000000 | | |
| | | 0.200000 / 302500.000000 | | |

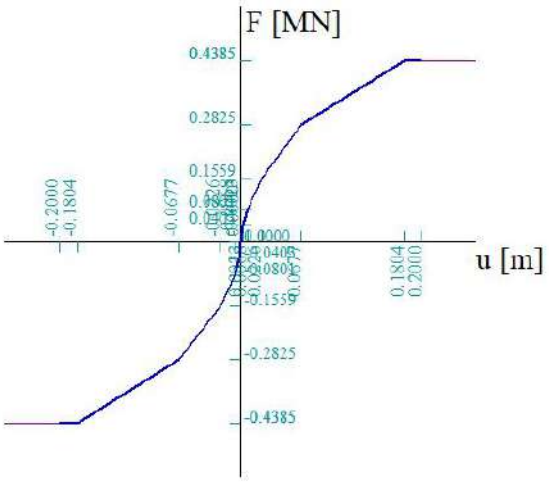
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V13 | Translation | -0.200000 / -438500.000000 | Free | Free |
| | | -0.180400 / -438500.000000 | | |
| | | -0.067650 / -282500.000000 | | |
| | | -0.022550 / -155900.000000 | | |
| | | -0.006765 / -80100.000000 | | |
| | | -0.002255 / -40300.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 40300.000000 | | |
| | | 0.006765 / 80100.000000 | | |
| | | 0.022550 / 155900.000000 | | |

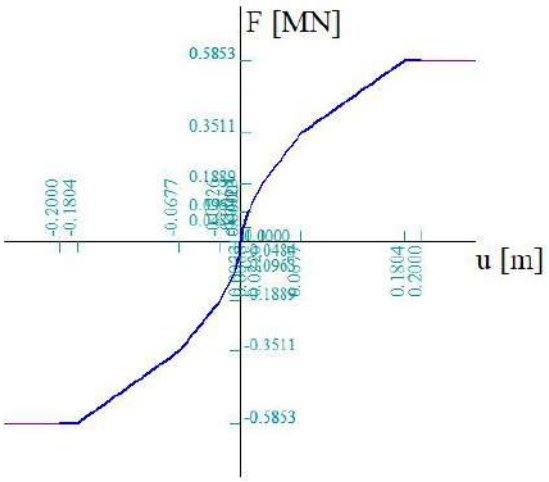
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 282500.000000 | | |
| | | 0.180400 / 438500.000000 | | |
| | | 0.200000 / 438500.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V14 | Translation | -0.200000 / -585300.000000 | Free | Free |
| | | -0.180400 / -585300.000000 | | |
| | | -0.067650 / -351100.000000 | | |
| | | -0.022550 / -188900.000000 | | |
| | | -0.006765 / -96300.000000 | | |
| | | -0.002255 / -48400.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 48400.000000 | | |
| | | 0.006765 / 96300.000000 | | |
| | | 0.022550 / 188900.000000 | | |
| | | 0.067650 / 351100.000000 | | |
| | | 0.180400 / 585300.000000 | | |
| | | 0.200000 / 585300.000000 | | |

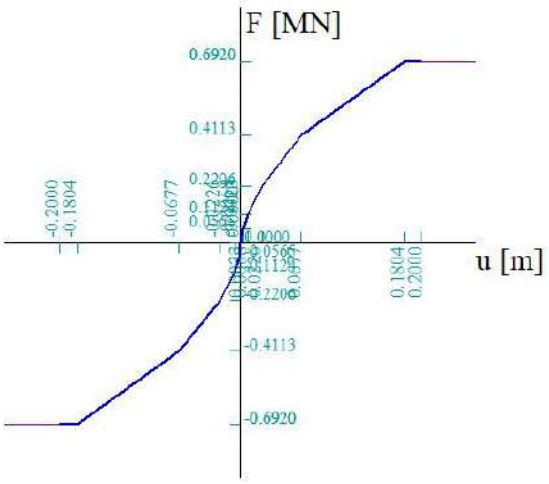
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V15 | Translation | -0.200000 / -692000.000000 | Free | Free |
| | | -0.180400 / -692000.000000 | | |
| | | -0.067650 / -411300.000000 | | |
| | | -0.022550 / -220600.000000 | | |

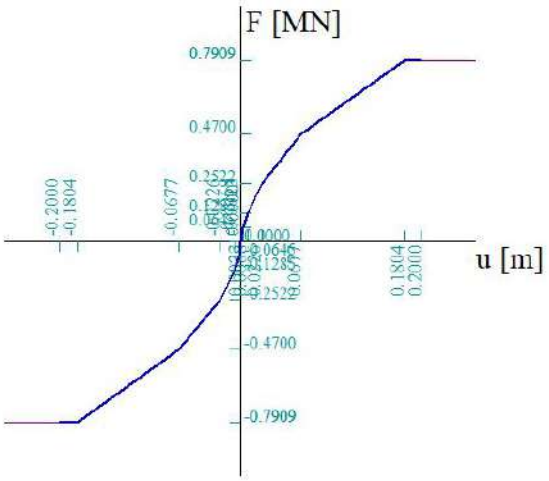
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -0.006765 / -112400.000000 | | |
| | | -0.002255 / -56500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 56500.000000 | | |
| | | 0.006765 / 112400.000000 | | |
| | | 0.022550 / 220600.000000 | | |
| | | 0.067650 / 411300.000000 | | |
| | | 0.180400 / 692000.000000 | | |
| | | 0.200000 / 692000.000000 | | |

Drawing



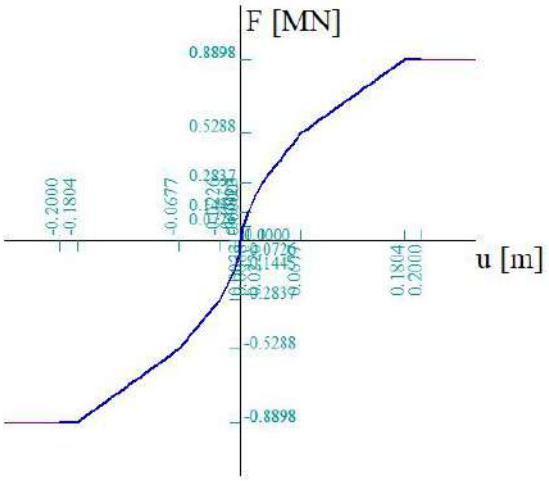

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V16 | Translation | -0.200000 / -790900.000000 | Free | Free |
| | | -0.180400 / -790900.000000 | | |
| | | -0.067650 / -470000.000000 | | |
| | | -0.022550 / -252200.000000 | | |
| | | -0.006765 / -128500.000000 | | |
| | | -0.002255 / -64500.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 64500.000000 | | |
| | | 0.006765 / 128500.000000 | | |
| | | 0.022550 / 252200.000000 | | |
| | | 0.067650 / 470000.000000 | | |
| | | 0.180400 / 790900.000000 | | |
| | | 0.200000 / 790900.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V17 | Translation | -0.200000 / -889800.000000 | Free | Free |
| | | -0.180400 / -889800.000000 | | |
| | | -0.067650 / -528800.000000 | | |
| | | -0.022550 / -283700.000000 | | |
| | | -0.006765 / -144500.000000 | | |
| | | -0.002255 / -72600.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 72600.000000 | | |
| | | 0.006765 / 144500.000000 | | |
| | | 0.022550 / 283700.000000 | | |
| | | 0.067650 / 528800.000000 | | |
| | | 0.180400 / 889800.000000 | | |
| | | 0.200000 / 889800.000000 | | |

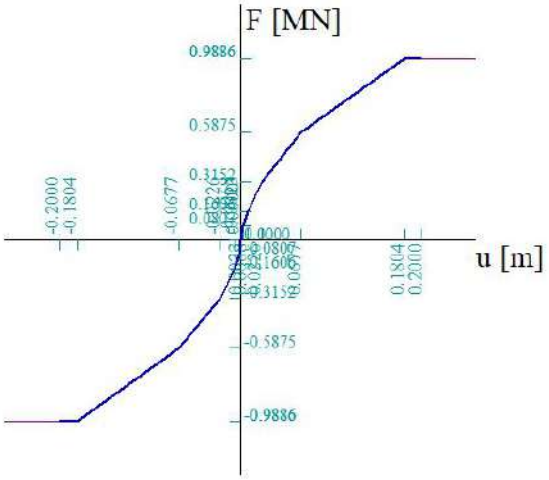
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V18 | Translation | -0.200000 / -988600.000000 | Free | Free |
| | | -0.180400 / -988600.000000 | | |
| | | -0.067650 / -587500.000000 | | |
| | | -0.022550 / -315200.000000 | | |
| | | -0.006765 / -160600.000000 | | |
| | | -0.002255 / -80700.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 80700.000000 | | |
| | | 0.006765 / 160600.000000 | | |
| | | 0.022550 / 315200.000000 | | |

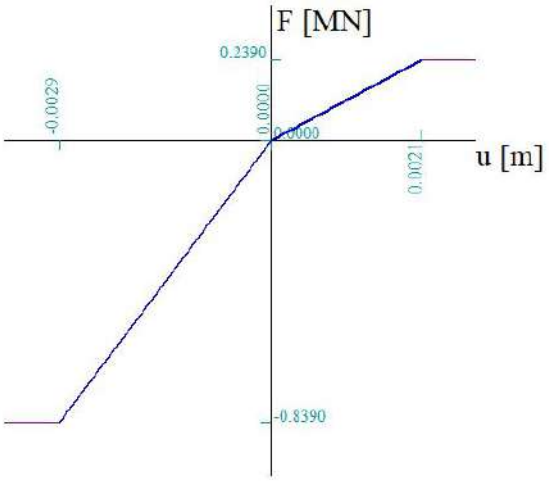
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 0.067650 / 587500.000000 | | |
| | | 0.180400 / 988600.000000 | | |
| | | 0.200000 / 988600.000000 | | |

Drawing



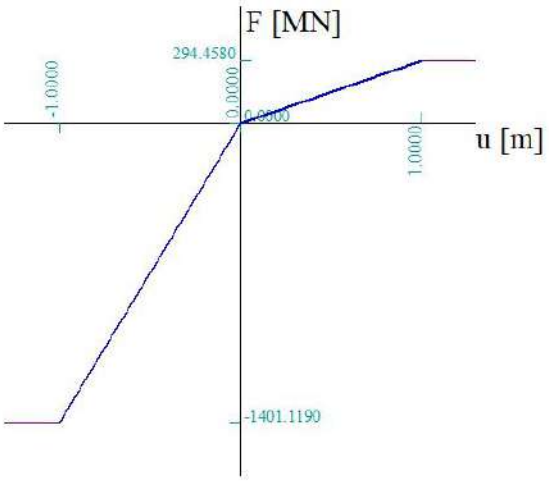

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt_B.mast 153 | Translation | -0.002890 / -839000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 0.002060 / 239000.000000 | | |

Drawing



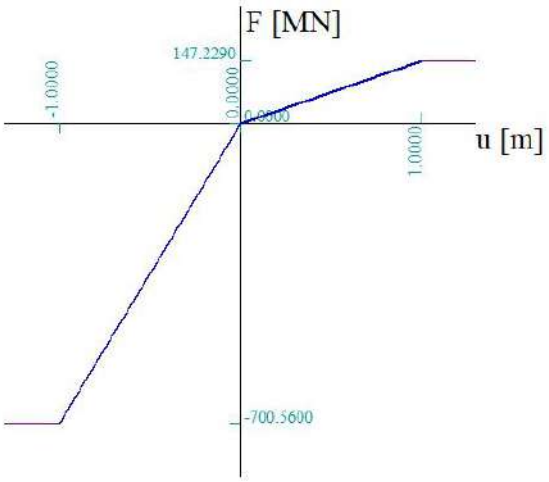

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt.LEKA.BG. | Translation | -1.000000 / -1401119000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 294458000.000000 | | |

Drawing



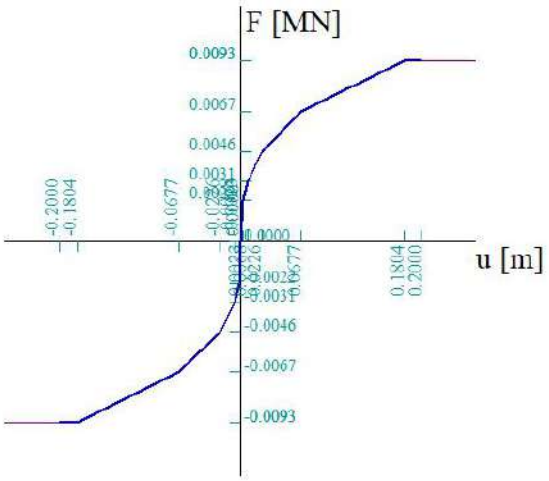

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Translation | -1.000000 / -700560000.000000 | Free | Free |
| | | 0.000000 / 0.000000 | | |
| | | 1.000000 / 147229000.000000 | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -0.200000 / -9265.000000 | Free | Free |
| | | -0.180400 / -9265.000000 | | |
| | | -0.067650 / -6681.000000 | | |
| | | -0.022550 / -4633.000000 | | |
| | | -0.006765 / -3101.000000 | | |
| | | -0.002255 / -2150.000000 | | |
| | | 0.000000 / 0.000000 | | |
| | | 0.002255 / 2150.000000 | | |
| | | 0.006765 / 3101.000000 | | |
| | | 0.022550 / 4633.000000 | | |
| | | 0.067650 / 6681.000000 | | |
| | | 0.180400 / 9265.000000 | | |
| | | 0.200000 / 9265.000000 | | |

Drawing

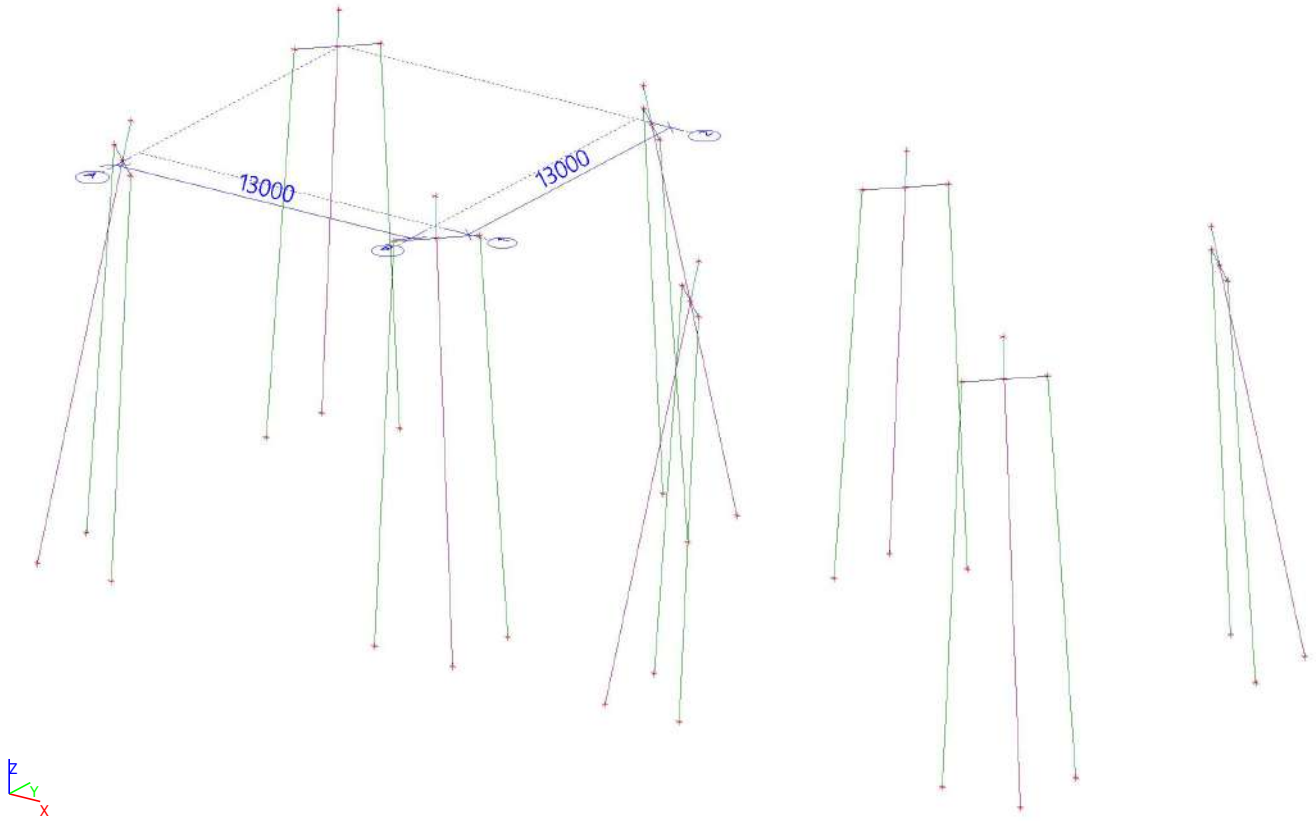

F [MN]
0.0093
0.0067
0.0046
0.0031
-0.2000
-0.1804
-0.0677
0.0000
0.1804
0.2000
u [m]
-0.0031
-0.0046
-0.0067
-0.0093

# 6. Belastingen

## 6.1. Load cases

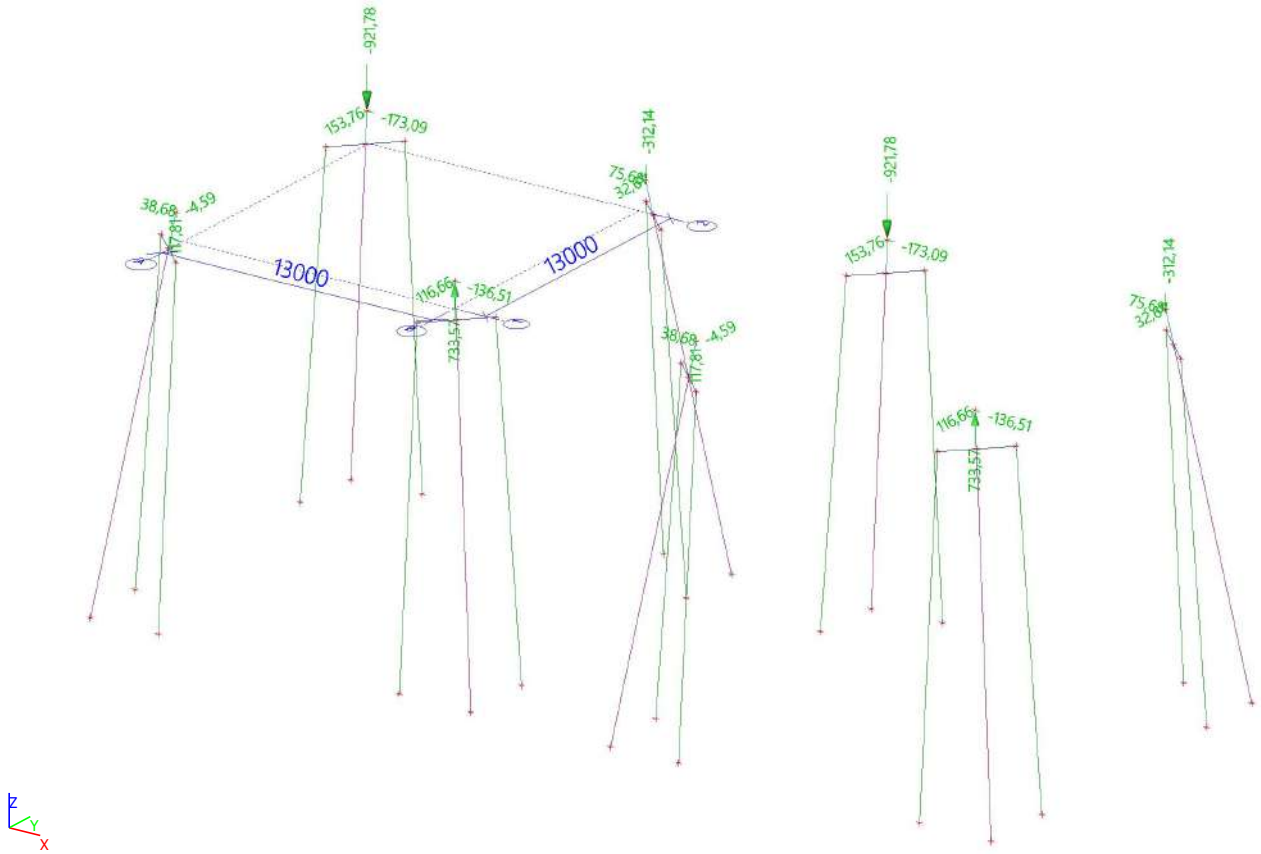
### 6.1.1. Load cases - EG_Fundering

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| EG_Fundering | | Permanent | LG1 | -Z |
| | | Self weight | | |




### 6.1.2. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



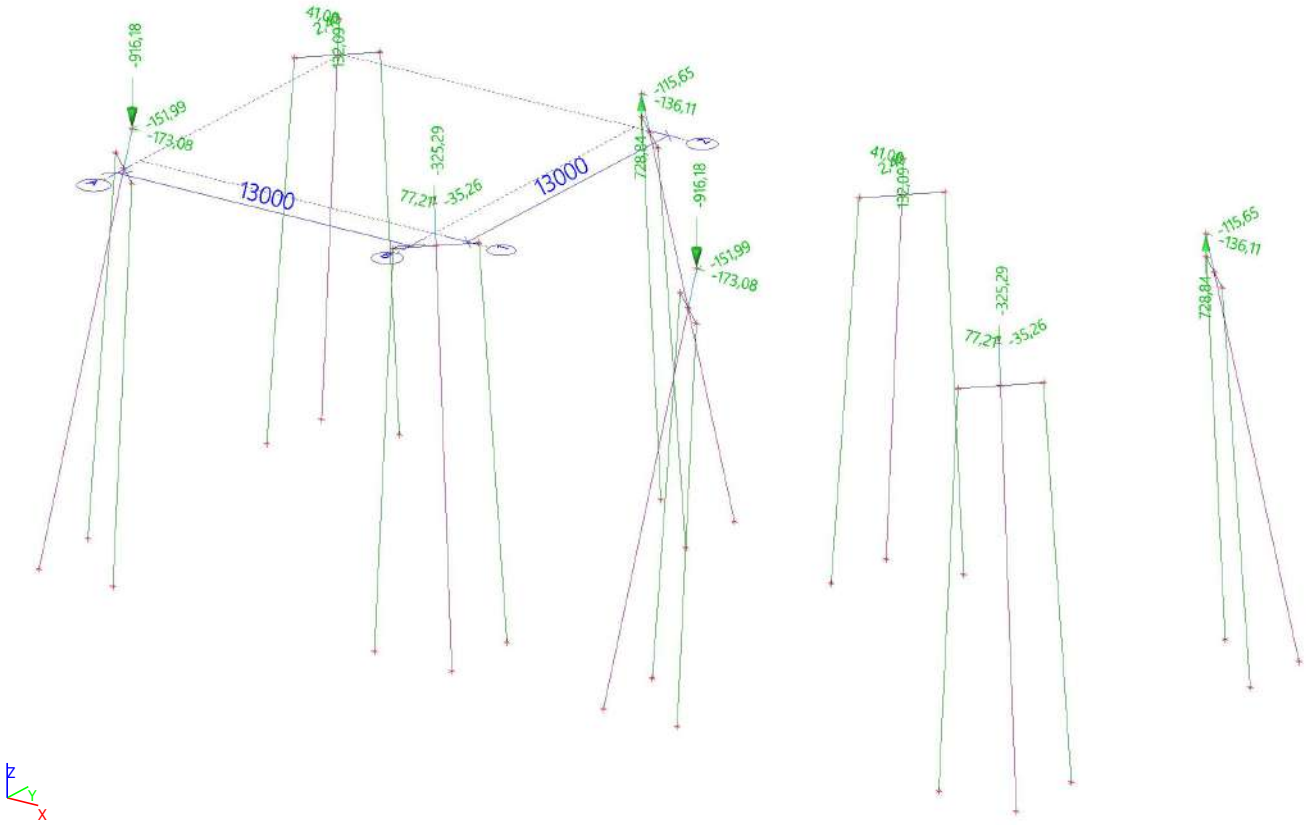

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 38,68 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -4,59 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 117,81 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -173,09 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 153,76 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -921,78 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 75,68 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 32,61 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -312,14 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -136,51 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 116,66 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 733,57 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Force | 38,68 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Force | -4,59 |
| high max Wnd | 1P2 | high max Wnd ;45° | GCS | Z | Force | 117,81 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Force | -136,51 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Force | 116,66 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Force | 733,57 |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Force | 75,68 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Force | 32,61 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Force | -312,14 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Force | -173,09 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Force | 153,76 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Force | -921,78 |

### 6.1.3. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |

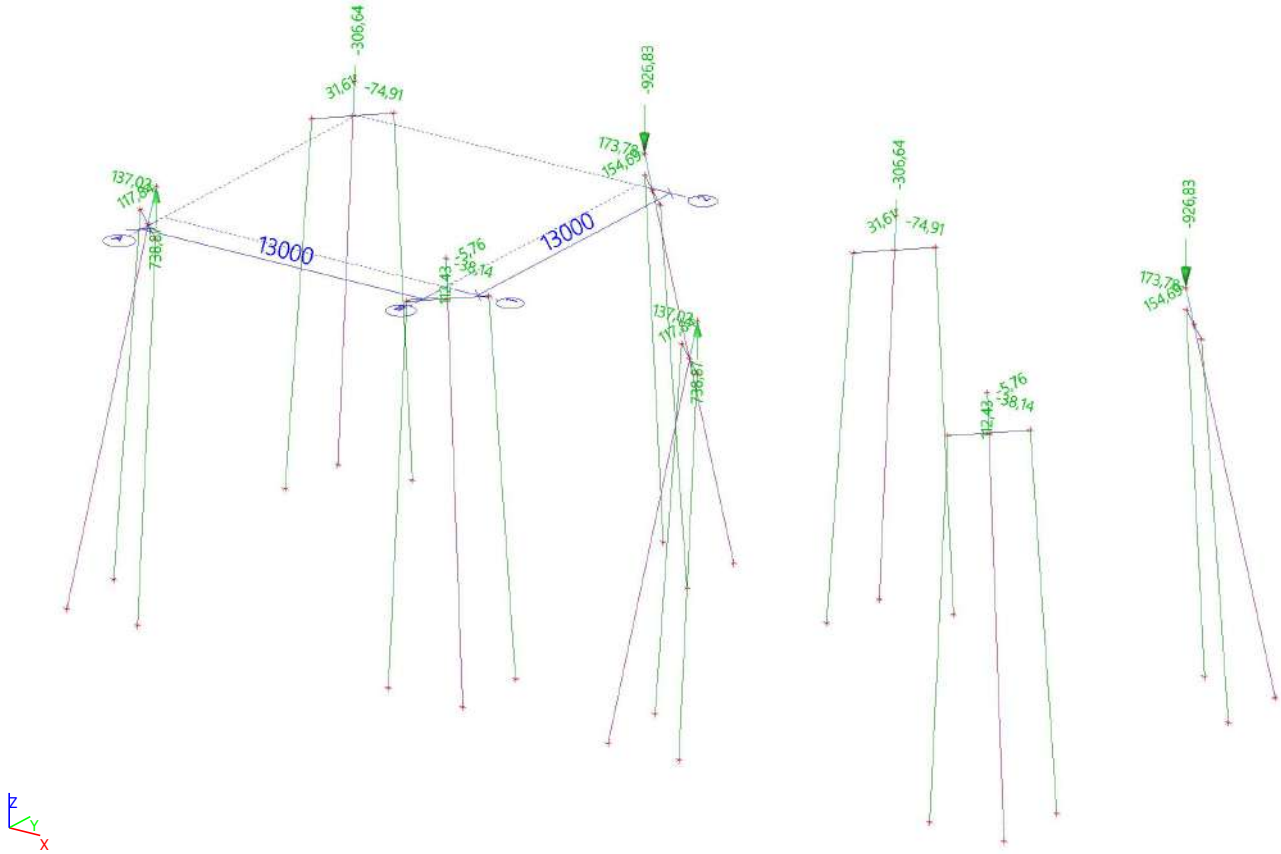


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -173,08 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -151,99 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -916,18 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 41,08 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 2,40 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 132,09 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -136,11 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -115,65 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 728,84 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 77,21 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -35,26 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -325,29 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Force | -173,08 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Force | -151,99 |
| high max Wnd ;315°_1P_Z1 | 1P2 | high max Wnd ;315° | GCS | Z | Force | -916,18 |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Force | 77,21 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Force | -35,26 |
| high max Wnd ;315°_1Y_Z1 | 1Y2 | high max Wnd ;315° | GCS | Z | Force | -325,29 |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Force | -136,11 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Force | -115,65 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Force | 728,84 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Force | 41,08 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Force | 2,40 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Force | 132,09 |

### 6.1.4. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



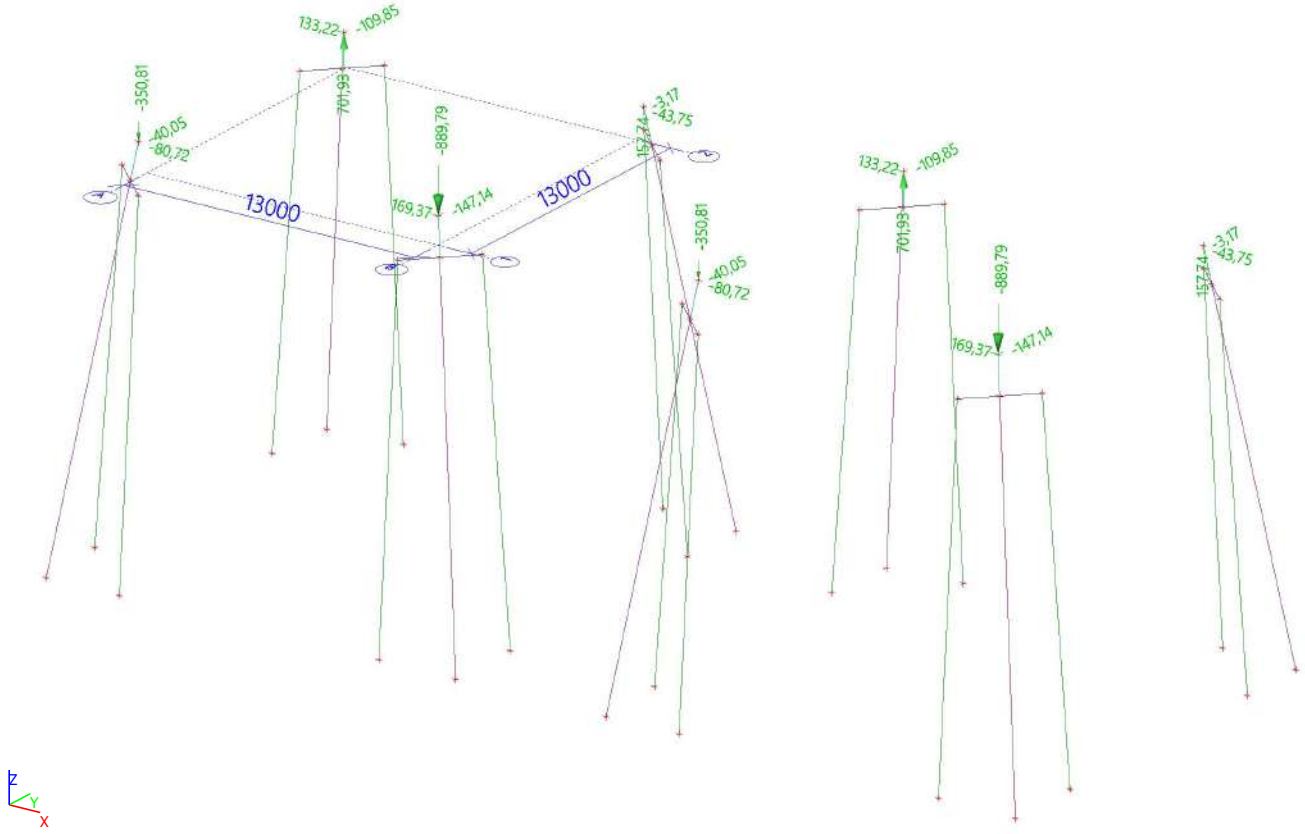

### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 137,02 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 117,84 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 738,87 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -74,91 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 31,61 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -306,64 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 173,78 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 154,69 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -926,83 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -38,14 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -5,76 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 112,43 |
| high max Wnd ;135°_1P_X1 | 1P2 | high max Wnd ;135° | GCS | X | Force | 137,02 |
| high max Wnd ;135°_1P_Y1 | 1P2 | high max Wnd ;135° | GCS | Y | Force | 117,84 |
| high max Wnd | 1P2 | high max Wnd ;135° | GCS | Z | Force | 738,87 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Force | -38,14 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Force | -5,76 |
| high max Wnd ;135°_1Y_Z1 | 1Y2 | high max Wnd ;135° | GCS | Z | Force | 112,43 |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Force | 173,78 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Force | 154,69 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Force | -926,83 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Force | -74,91 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Force | 31,61 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Force | -306,64 |

### 6.1.5. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | Standard | Variable<br>Static | LG4 | Short | None |

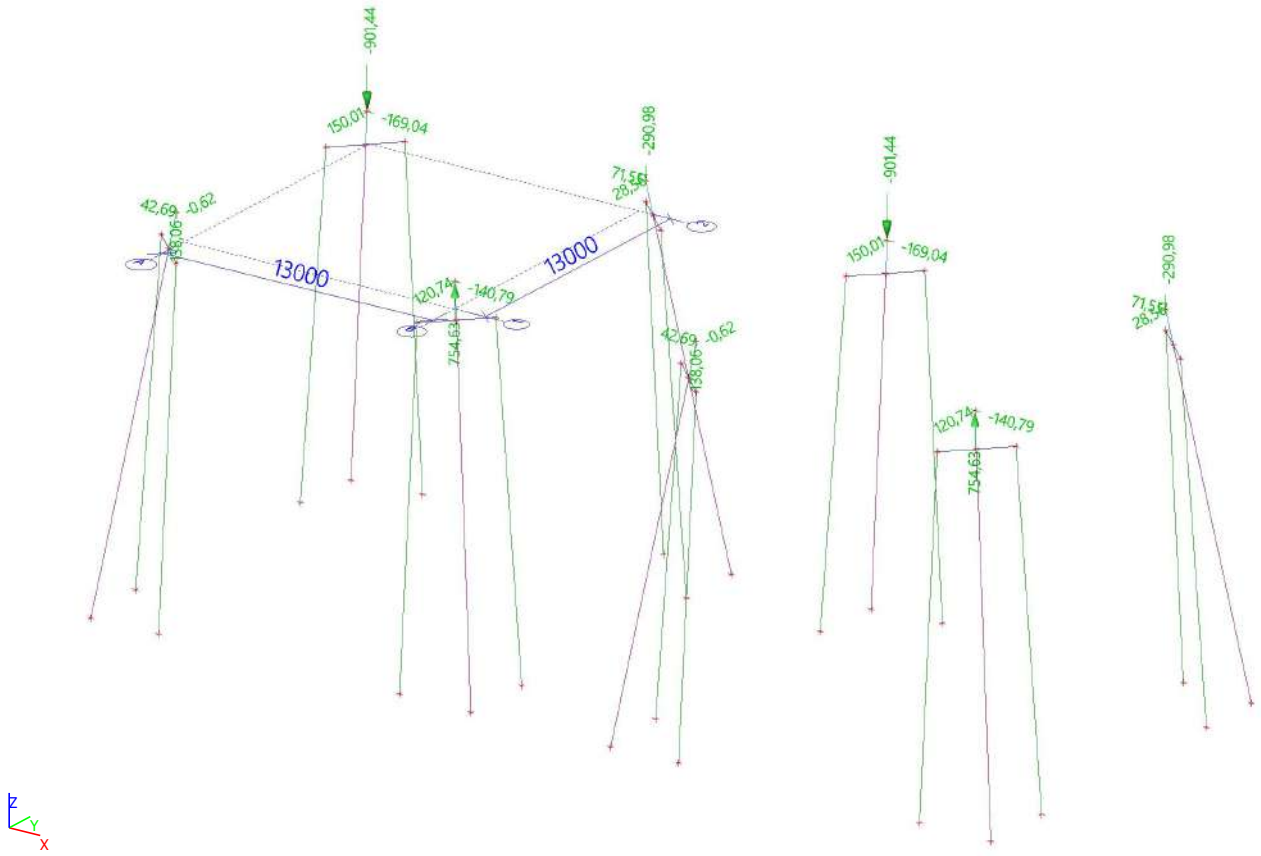


#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -80,72 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -40,05 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -350,81 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 133,22 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -109,85 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 701,93 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -43,75 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | -3,17 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 157,74 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 169,37 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -147,14 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -889,79 |
| high max Wnd ;225°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Force | -80,72 |
| high max Wnd ;225°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Force | -40,05 |
| high max Wnd ;225°_1P_Z1 | 1P2 | high max Wnd ;225° | GCS | Z | Force | -350,81 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Force | 169,37 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Force | -147,14 |
| high max Wnd ;225°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Force | -889,79 |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Force | -43,75 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Force | -3,17 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Force | 157,74 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Force | 133,22 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Force | -109,85 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Force | 701,93 |

### 6.1.6. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



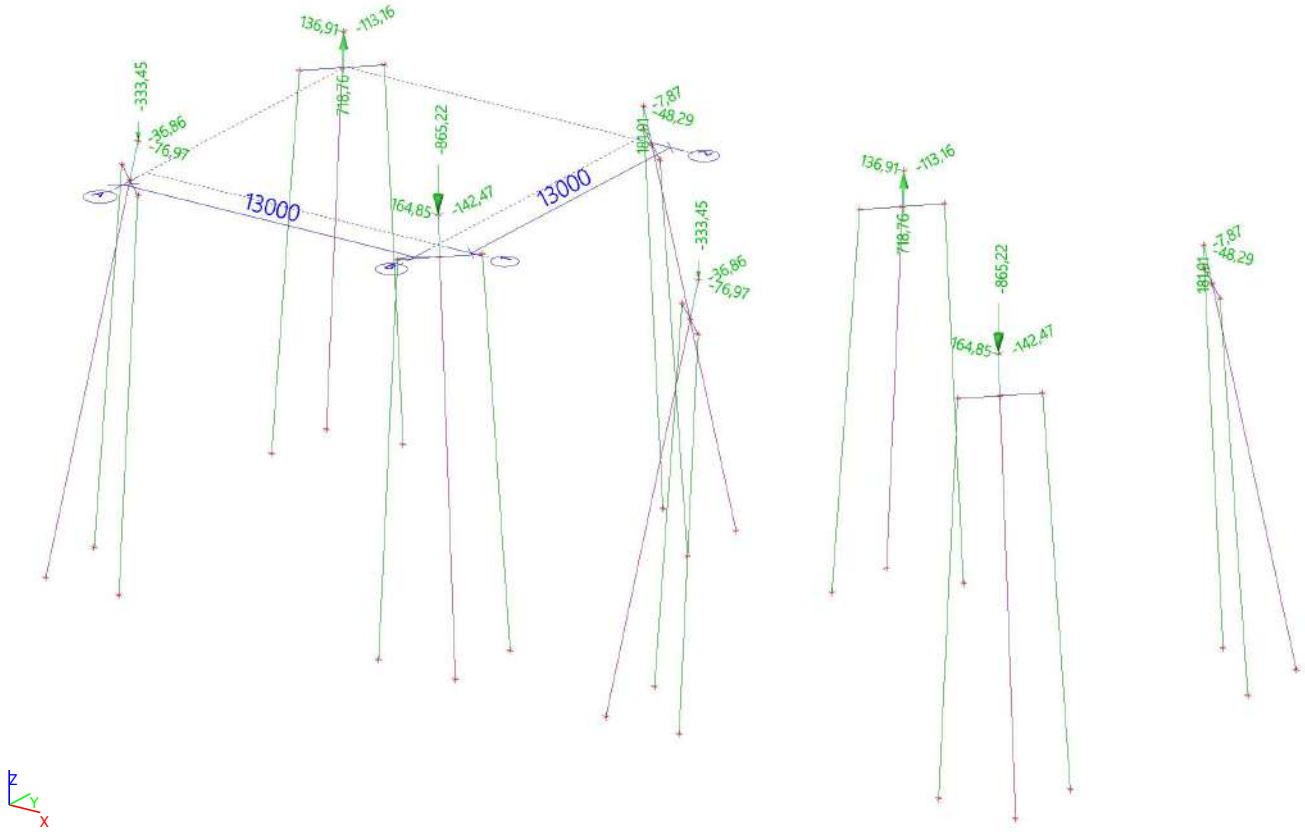

### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 42,69 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | -0,62 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 138,06 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -169,04 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 150,01 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -901,44 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 71,55 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 28,56 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -290,98 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -140,79 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 120,74 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 754,63 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Force | 42,69 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Force | -0,62 |
| low max Wnd | 1P2 | low max Wnd ;45° | GCS | Z | Force | 138,06 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;45°_1P_Z1 | | | | | | |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Force | -140,79 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Force | 120,74 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Force | 754,63 |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Force | 71,55 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Force | 28,56 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Force | -290,98 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Force | -169,04 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Force | 150,01 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Force | -901,44 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |

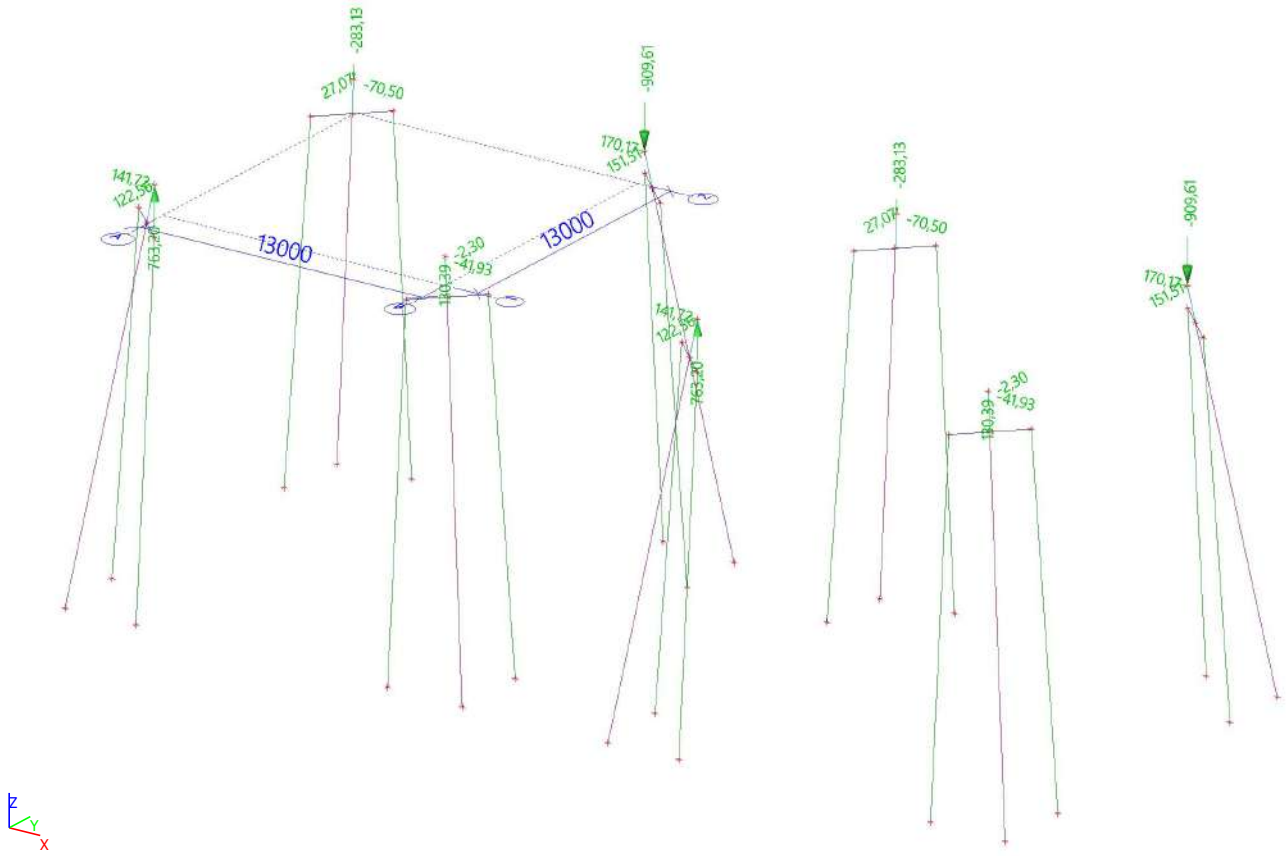


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -76,97 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -36,86 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -333,45 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 136,91 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -113,16 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 718,76 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -48,29 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | -7,87 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 181,91 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 164,85 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -142,47 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -865,22 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Force | -76,97 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Force | -36,86 |
| low max Wnd ;225°_1P_Z1 | 1P2 | low max Wnd ;225° | GCS | Z | Force | -333,45 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Force | 164,85 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Force | -142,47 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Force | -865,22 |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Force | -48,29 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Force | -7,87 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Force | 181,91 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Force | 136,91 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Force | -113,16 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Force | 718,76 |

### 6.1.8. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



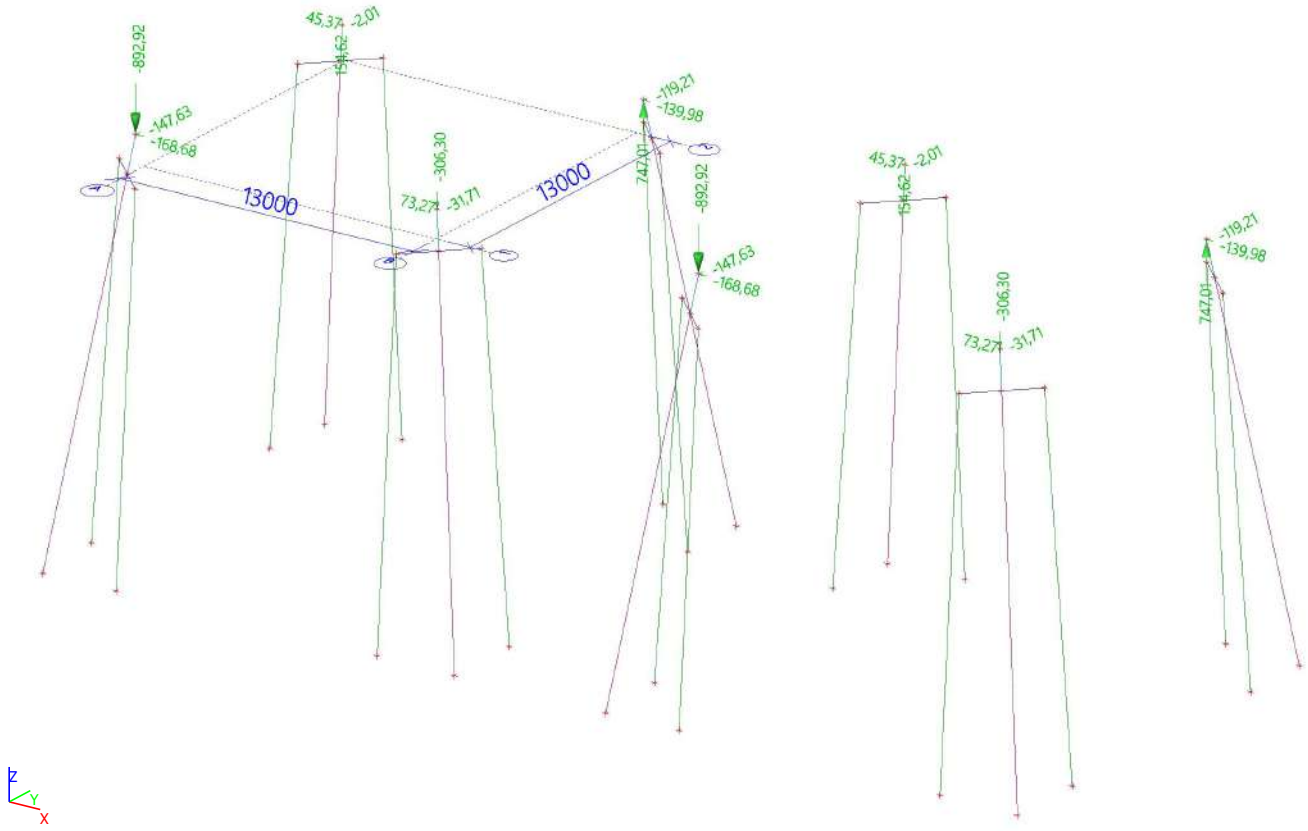

### *6.1.8.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 141,72 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 122,56 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 763,20 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -70,50 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 27,07 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -283,13 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 170,17 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 151,51 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -909,61 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -41,93 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -2,30 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 130,39 |
| low max Wnd ;135°_1P_X1 | 1P2 | low max Wnd ;135° | GCS | X | Force | 141,72 |
| low max Wnd ;135°_1P_Y1 | 1P2 | low max Wnd ;135° | GCS | Y | Force | 122,56 |
| low max Wnd | 1P2 | low max Wnd ;135° | GCS | Z | Force | 763,20 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1P_Z1 | | | | | | |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Force | -41,93 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Force | -2,30 |
| low max Wnd ;135°_1Y_Z1 | 1Y2 | low max Wnd ;135° | GCS | Z | Force | 130,39 |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Force | 170,17 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Force | 151,51 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Force | -909,61 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Force | -70,50 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Force | 27,07 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Force | -283,13 |

### 6.1.9. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | Standard | Variable Static | LG4 | Short | None |



#### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -168,68 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -147,63 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -892,92 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 45,37 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | -2,01 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 154,62 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -139,98 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -119,21 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 747,01 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 73,27 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -31,71 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -306,30 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Force | -168,68 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Force | -147,63 |
| low max Wnd ;315°_1P_Z1 | 1P2 | low max Wnd ;315° | GCS | Z | Force | -892,92 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Force | 73,27 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Force | -31,71 |
| low max Wnd ;315°_1Y_Z1 | 1Y2 | low max Wnd ;315° | GCS | Z | Force | -306,30 |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Force | -139,98 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Force | -119,21 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Force | 747,01 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Force | 45,37 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Force | -2,01 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Force | 154,62 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| low max Wnd ;45° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;45° | 1,000 |
| low max Wnd ;225° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;225° | 1,000 |
| low max Wnd ;135° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |
| | | low max Wnd ;135° | 1,000 |
| low max Wnd ;315° - EG_Gunstig | Ultimate | EG_Fundering | 0,900 |

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| | | low max Wnd ;315° | 1,000 |
| high max Wnd ;45° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;45° | 1,000 |
| high max Wnd ;225° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;315° | 1,000 |
| high max Wnd ;135° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;135° | 1,000 |
| high max Wnd ;315° - EG_Ongunstig | Ultimate | EG_Fundering | 1,200 |
| | | high max Wnd ;225° | 1,000 |

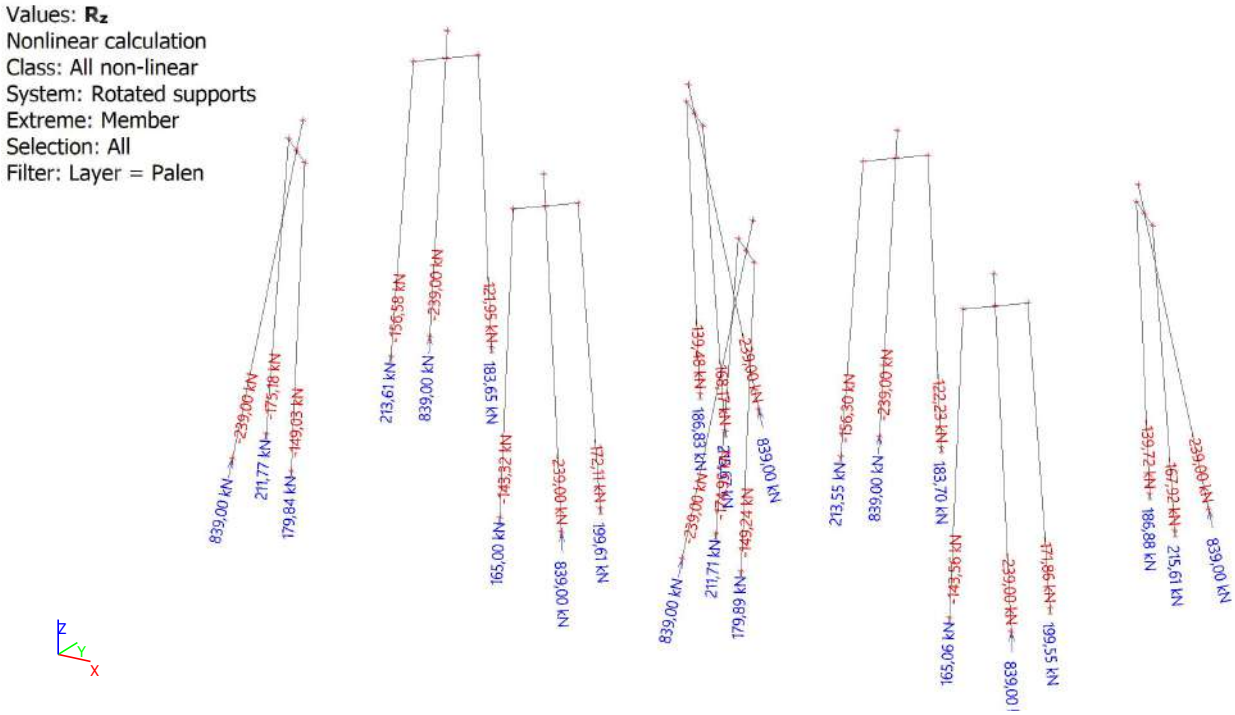
## 6.3. Result classes

| Name | List |
|---|---|
| All non-linear | low max Wnd ;45° - EG_Gunstig |
| | low max Wnd ;225° - EG_Gunstig |
| | low max Wnd ;135° - EG_Gunstig |
| | low max Wnd ;315° - EG_Gunstig |
| | high max Wnd ;45° - EG_Ongunstig |
| | high max Wnd ;225° - EG_Ongunstig |
| | high max Wnd ;135° - EG_Ongunstig |
| | high max Wnd ;315° - EG_Ongunstig |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z




### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LD1(31-plank) - General cross-section
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn LK4/N171 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-175,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **215,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| S_P/N139 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P/N139 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y/N143 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY/N148 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-239,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X/N153 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **839,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK/N159 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-156,58** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK/N159 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **213,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK1/N160 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-121,95** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK1/N160 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **183,65** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK2/N167 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-168,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK2/N167 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **215,67** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK3/N168 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-139,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK3/N168 | high max Wnd ;135° - | **0,00** | **0,00** | **186,83** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

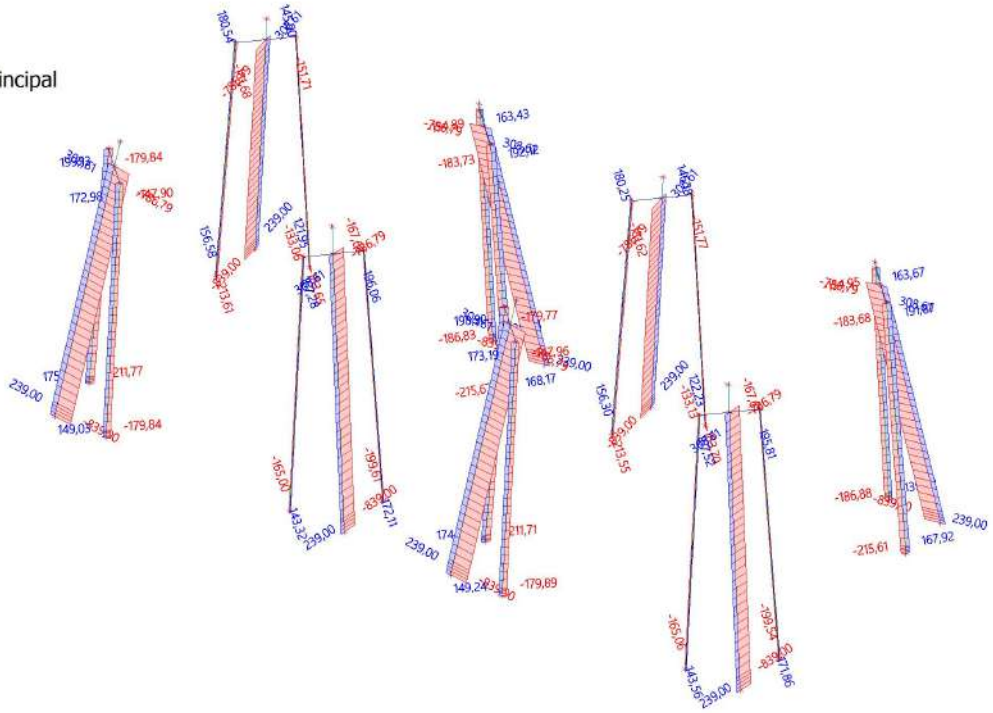
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK4/N171 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-175,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK4/N171 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **211,77** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK5/N172 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-149,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK5/N172 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **179,84** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **199,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK6/N175 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-172,11** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **165,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK7/N176 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-143,32** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_P2/N203 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_P2/N203 | low max Wnd ;315° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y2/N205 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_Y2/N205 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| S_XY2/N207 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-239,00** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| S_XY2/N207 | low max Wnd ;135° - EG_Gunstig | **0,00** | **0,00** | **839,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X2/N209 | low max Wnd ;225° - EG_Gunstig | **0,00** | **0,00** | **-239,00** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| S_X2/N209 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **839,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK16/N212 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-156,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK16/N212 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **213,55** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK17/N213 | low max Wnd ;225° - EG_Gunstig | 0,00 | 0,00 | **-122,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK17/N213 | high max Wnd ;45° - EG_Ongunstig | **0,00** | **0,00** | **183,70** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK18/N216 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-167,92** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK18/N216 | high max Wnd ;135° - | **0,00** | **0,00** | **215,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | EG_Ongunstig | | | | | | | | |
| Sn LK19/N217 | low max Wnd ;315° - EG_Gunstig | 0,00 | 0,00 | **-139,72** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK19/N217 | high max Wnd ;135° - EG_Ongunstig | **0,00** | **0,00** | **186,88** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK20/N220 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-174,95** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK20/N220 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **211,71** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK21/N221 | low max Wnd ;135° - EG_Gunstig | 0,00 | 0,00 | **-149,24** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn LK21/N221 | high max Wnd ;225° - EG_Ongunstig | **0,00** | **0,00** | **179,89** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK22/N224 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **199,54** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK22/N224 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-171,86** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn LK23/N225 | high max Wnd ;315° - EG_Ongunstig | **0,00** | **0,00** | **165,06** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn LK23/N225 | low max Wnd ;45° - EG_Gunstig | 0,00 | 0,00 | **-143,56** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

# 8. Krachten van de Funderingspalen

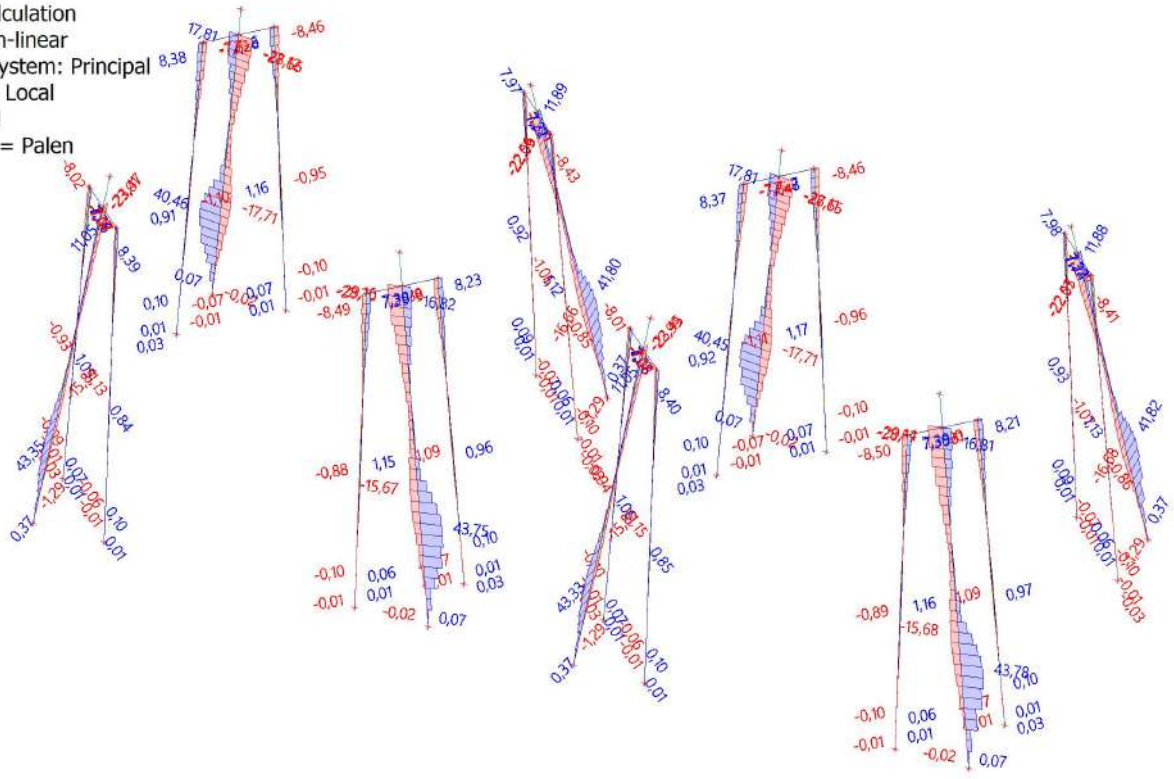
## 8.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



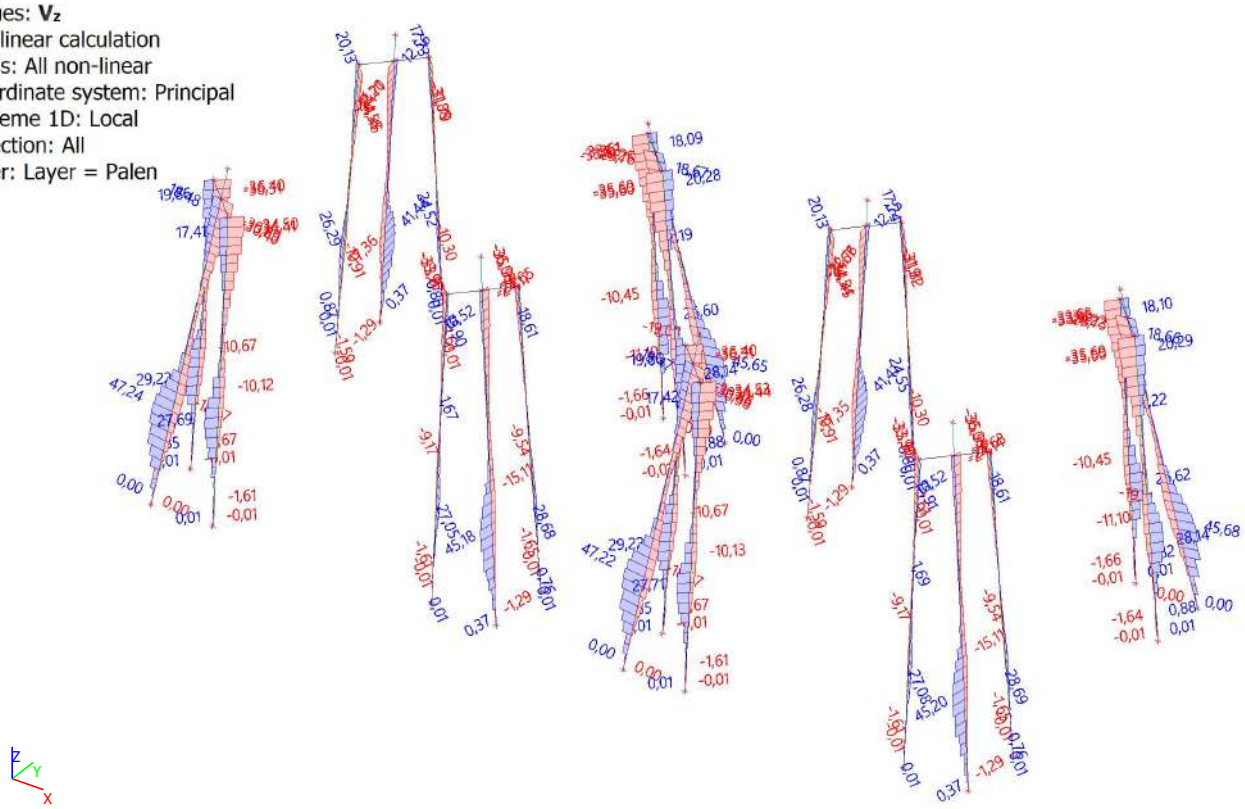
## 8.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



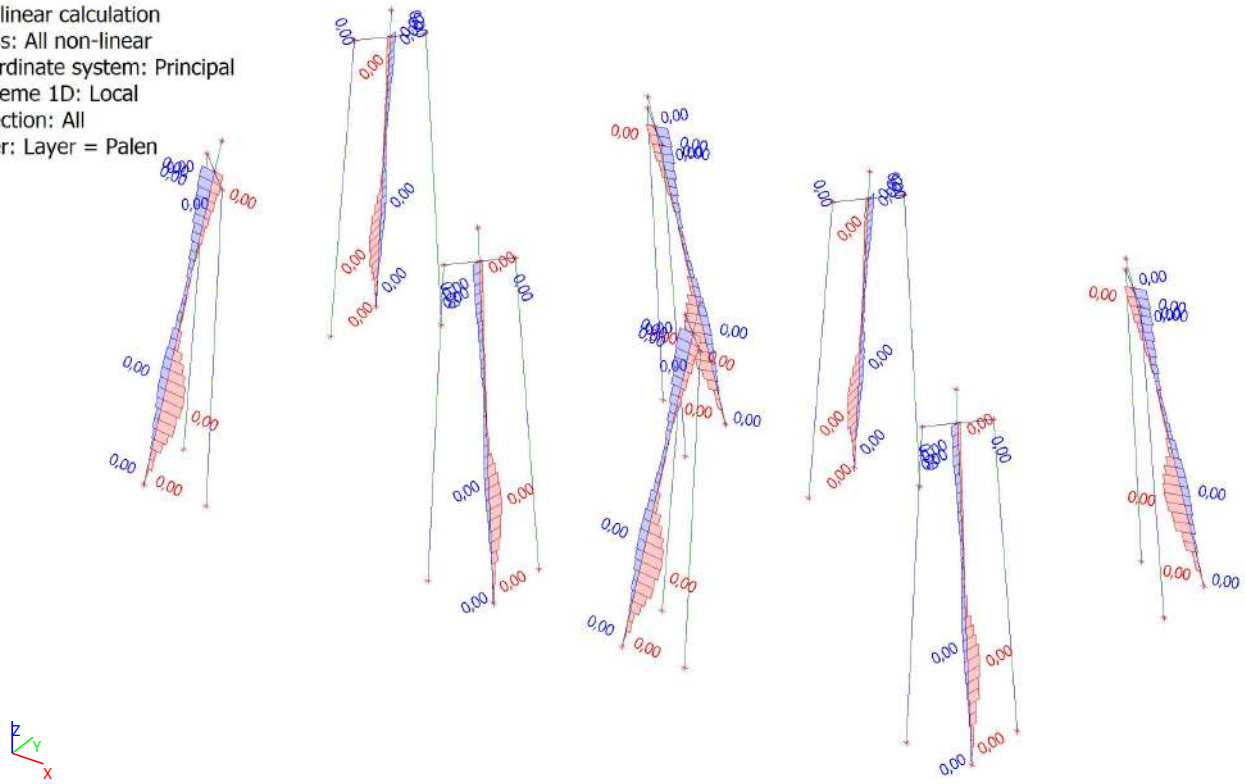
## 8.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



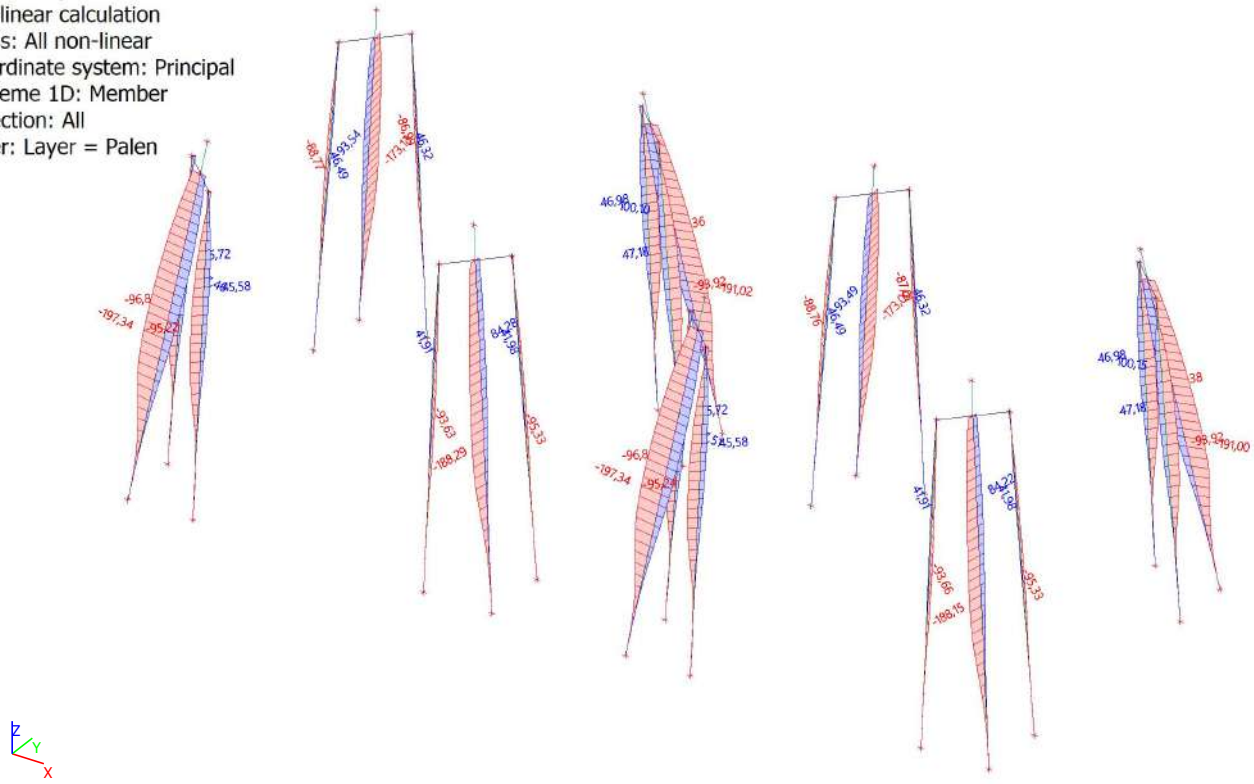
## 8.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



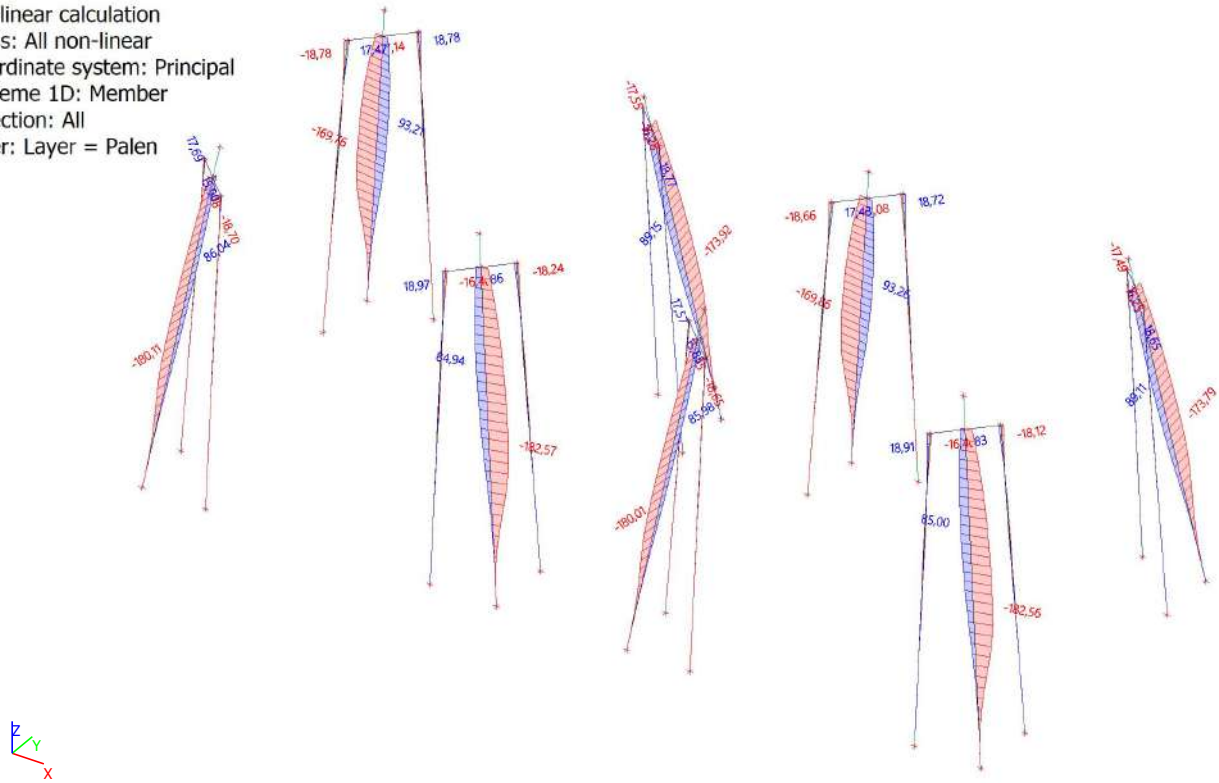
## 8.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



## 8.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
**Nothing in selection to display.**

## 8.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS323.9/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_X3 | 15,439 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | **-215,67** | 0,01 | -0,01 | 0,00 | 0,00 | 0,00 |
| Paal_X5 | 0,000 | low max Wnd ;135° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | **199,13** | 4,42 | -36,31 | **0,00** | 33,84 | -9,39 |
| Paal_X27 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -100,03 | **-8,50** | -2,29 | 0,00 | -4,37 | 18,91 |
| Paal_X25 | 0,000 | high max Wnd ;45° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -98,29 | **8,40** | -2,51 | 0,00 | -4,20 | -18,65 |
| Paal_X5 | 1,000- | low max Wnd ;135° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 197,58 | 4,51 | **-36,40** | 0,00 | -2,51 | -4,92 |
| Paal_X5 | 10,000+ | low max Wnd ;135° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 182,84 | -0,34 | **29,22** | 0,00 | -57,43 | 0,52 |
| Paal_X5 | 7,000- | low max Wnd ;135° - EG_Gunstig | LEKA Paal - type e (CHS323.9/10.0) | 189,05 | -0,34 | -1,26 | 0,00 | **-96,85** | 1,83 |
| Paal_X3 | 5,000- | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -193,04 | -0,40 | 2,36 | 0,00 | **47,18** | -2,32 |
| Paal_X1 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -164,68 | 8,38 | 8,40 | 0,00 | -8,99 | **-18,78** |
| Paal_X8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | LEKA Paal - type e (CHS323.9/10.0) | -101,44 | -8,49 | -2,15 | 0,00 | -4,45 | **18,97** |

# 9. Krachten van de Poeren

## 9.1. 1D internal forces

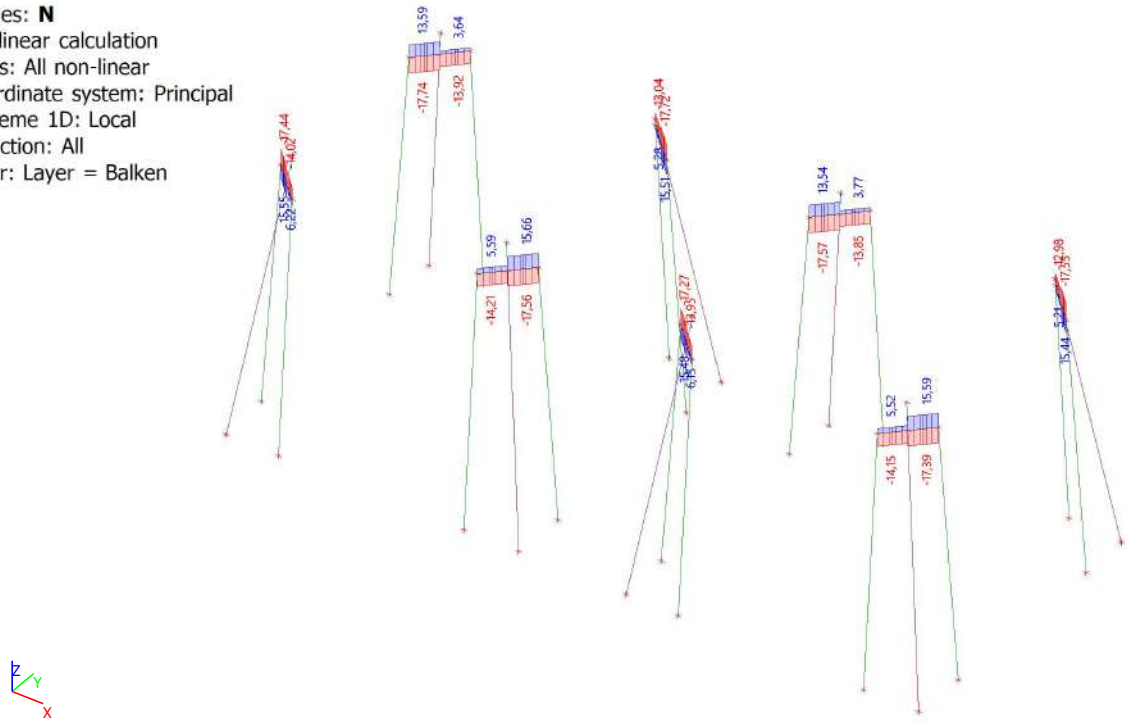
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Poer800 - Circle (800,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Poer_X | 1,560 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | **785,10** | -31,41 | 14,59 | **0,00** | 0,00 | 0,00 |
| Poer_X | 0,000 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | 768,14 | **-34,85** | 14,57 | 0,00 | -22,74 | **51,68** |
| Poer_Y | 1,560 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | -954,49 | **43,36** | -14,76 | 0,00 | 0,00 | 0,00 |
| Poer_P | 1,560 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | 133,32 | -1,54 | **-31,45** | 0,00 | 0,00 | 0,00 |
| Poer_XY | 0,000 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | -308,11 | 7,88 | **31,12** | 0,00 | **-48,53** | -14,98 |
| Poer_P | 0,000 | low max Wnd ;135° - EG_Gunstig | Poer800 - Circle (800,00) | 116,36 | -4,98 | -31,43 | 0,00 | **49,05** | 5,09 |
| Poer_Y | 0,000 | high max Wnd ;135° - EG_Ongunstig | Poer800 - Circle (800,00) | **-977,10** | 38,77 | -14,79 | 0,00 | 23,06 | **-64,06** |

# 10. Krachten van de Funderingsbalken

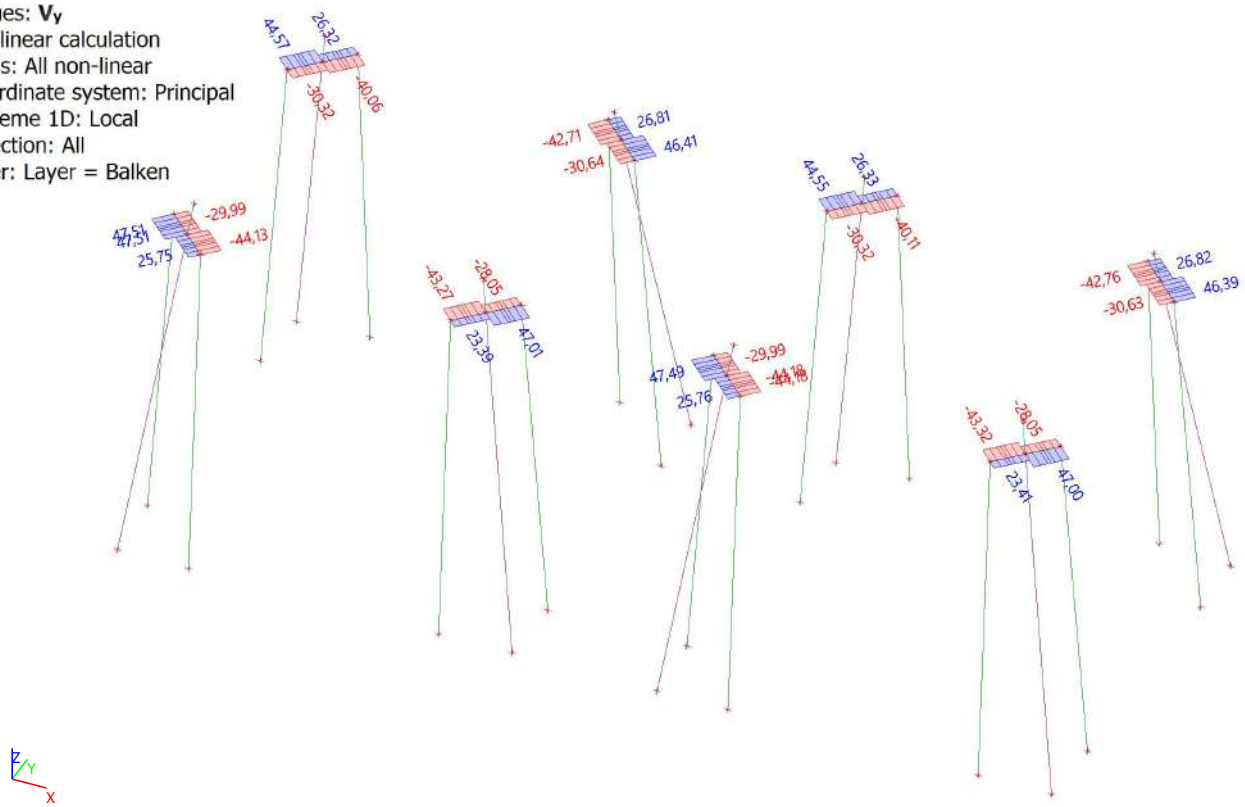
## 10.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



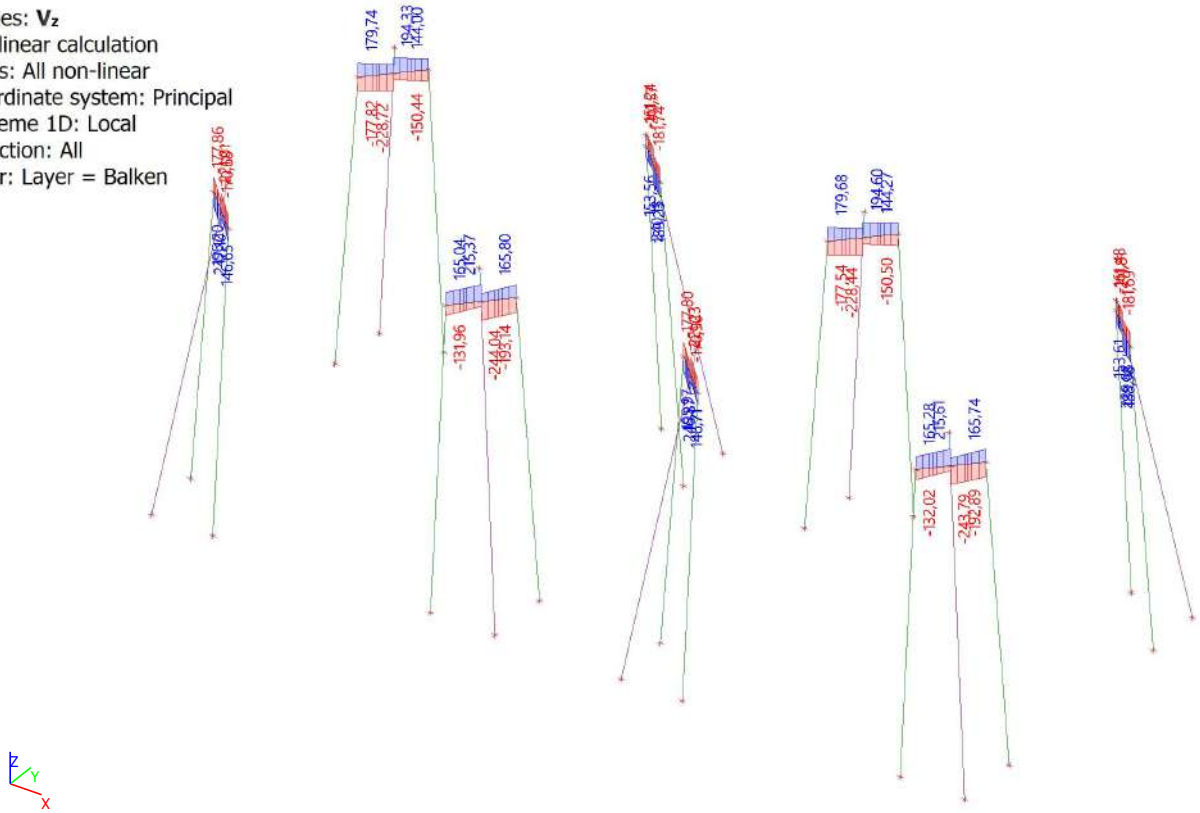

## 10.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



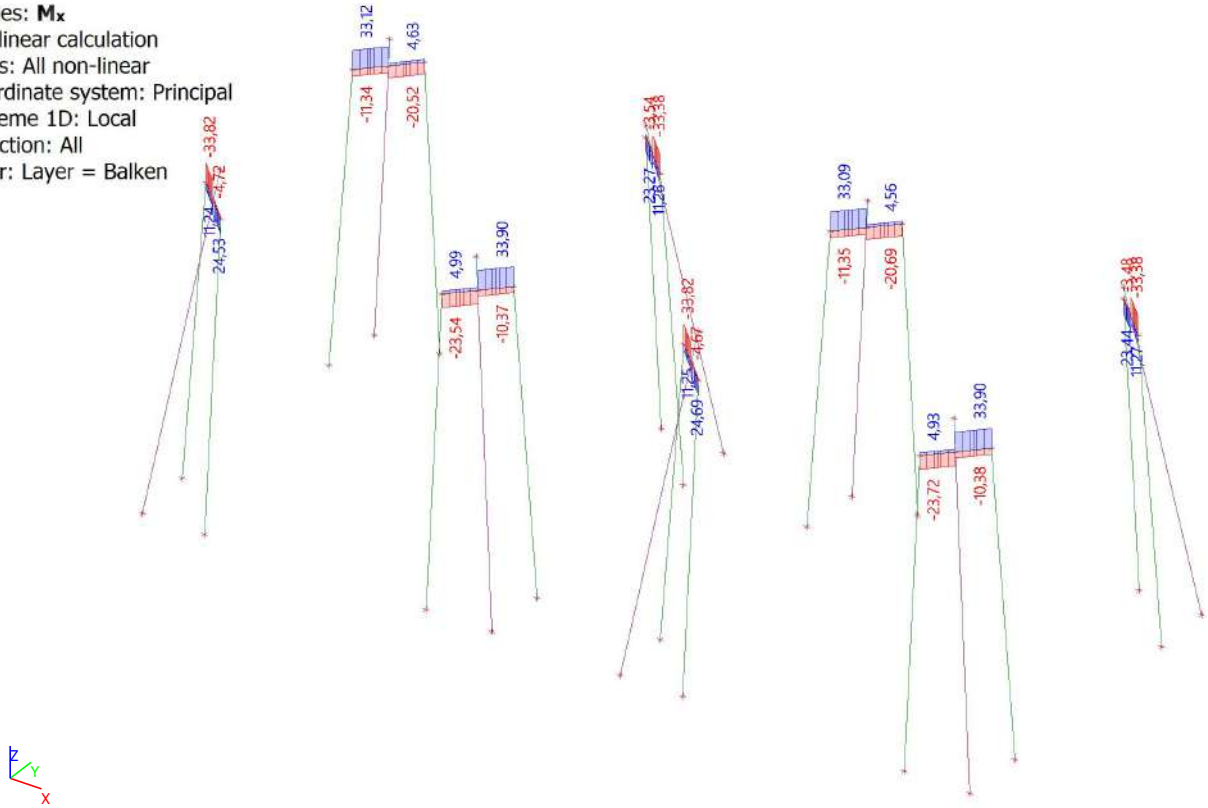
## 10.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



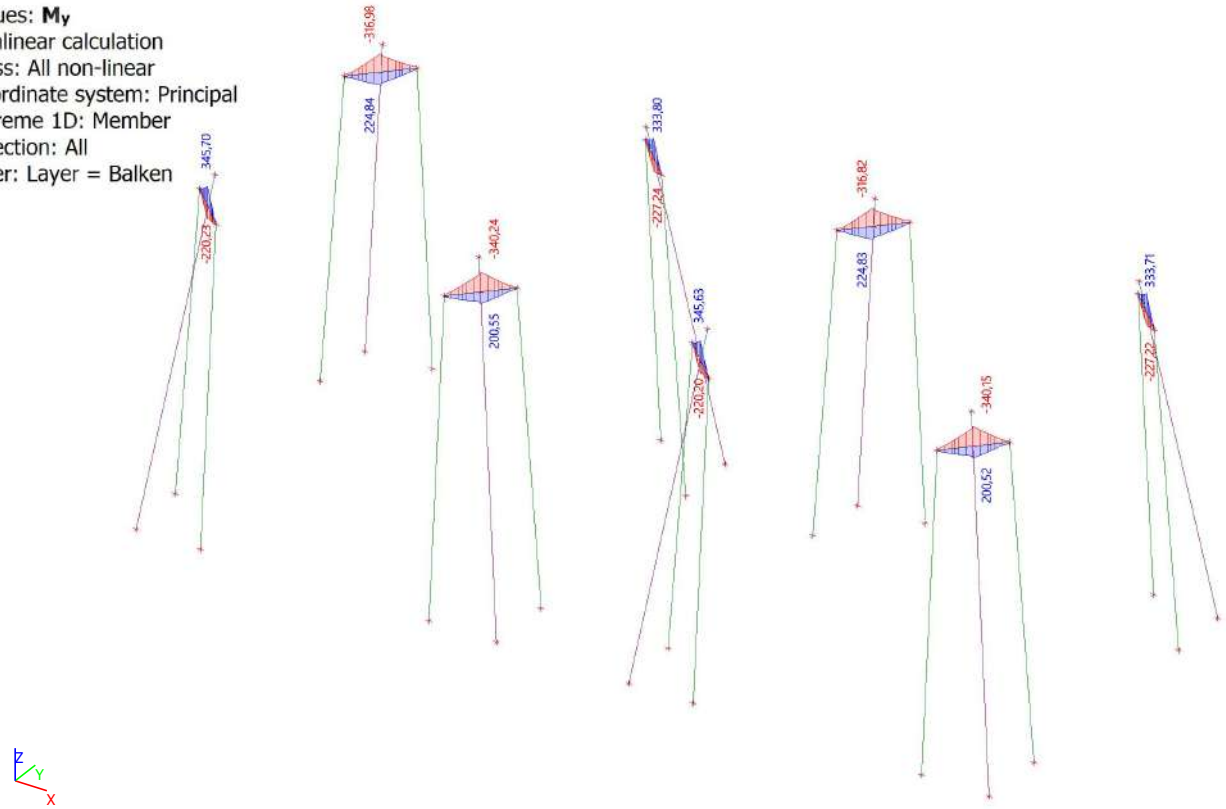

## 10.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



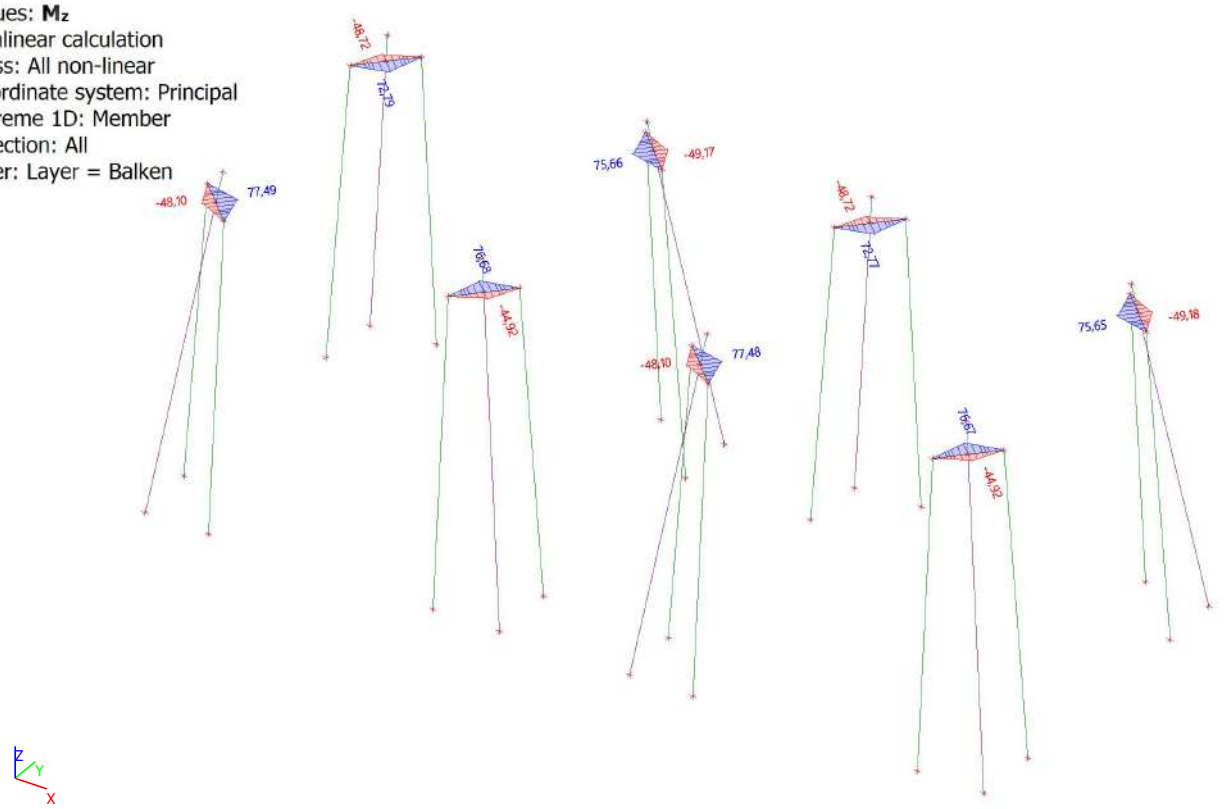
## 10.5. Interne 1D- krachten; M_y

Values: **My**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken




## 10.6. Interne 1D- krachten; M_z

Values: **Mz**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



## 10.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = lijnpoer - Rectangle (1500,00; 1600,00)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| DIN34 | 0,000 | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **-17,74** | -17,60 | 163,20 | -8,82 | -18,85 | 0,57 |
| DIN46 | 1,602+ | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 6,15 | **-44,18** | -221,23 | 24,69 | 317,83 | 71,78 |
| DIN39 | 1,602- | low max Wnd ;45° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | **15,66** | 47,01 | **-244,04** | **33,90** | **-340,24** | 76,68 |
| DIN45 | 1,602- | high max Wnd ;135° - EG_Ongunstig | lijnpoer - Rectangle (1500,00; 1600,00) | -14,87 | -30,63 | -113,82 | 11,27 | -227,22 | **-49,18** |
| DIN38 | 1,602- | low max Wnd ;135° - EG_Gunstig | lijnpoer - Rectangle (1500,00; 1600,00) | 15,55 | **47,51** | **247,10** | **-33,82** | **345,70** | **77,49** |

# 1. Inhoudsopgave

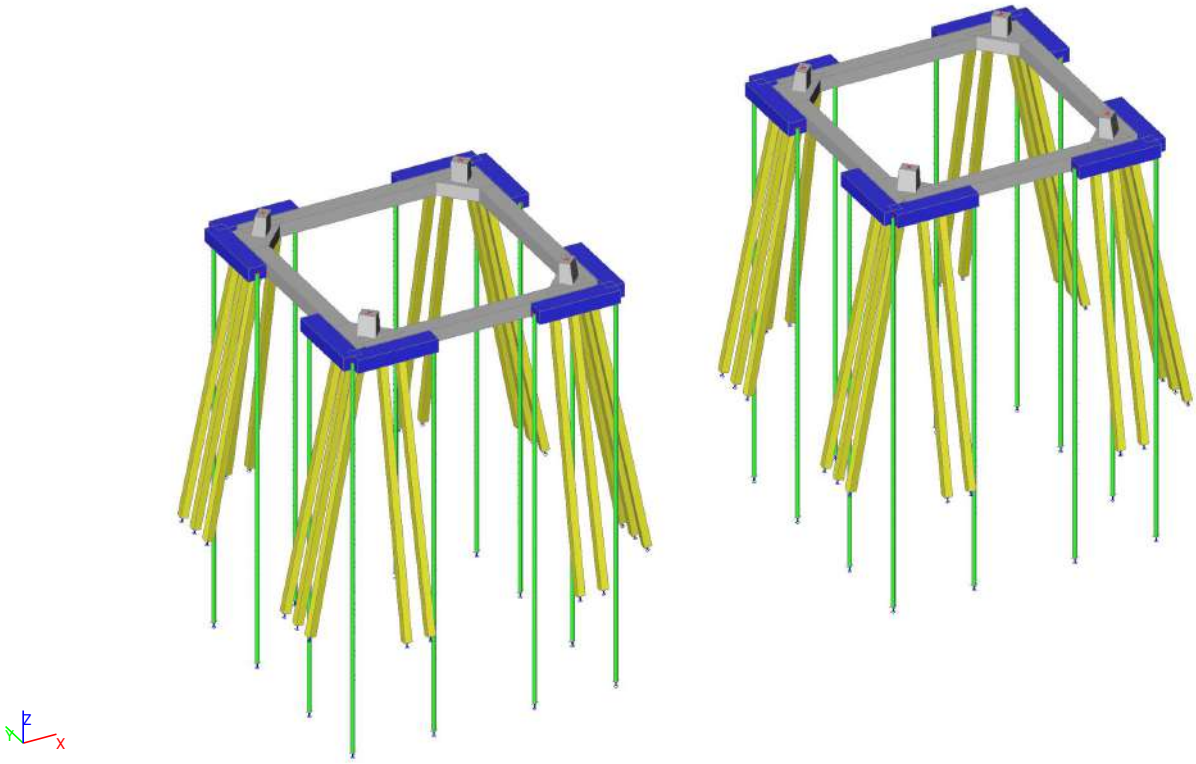
1. Inhoudsopgave 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materialen 4
4.2. Doorsneden 4
4.3. Analyse model met doorsneden 6
4.4. Analyse model met doorsneden 6
4.5. Instellingen net 7
5. Geometrie 7
5.1. Knopen 7
5.2. Analyse model met knopen 9
5.3. Staven 9
5.4. Analyse model met Staven 11
5.5. Knoopsteunpunten 11
5.6. Analyse model met Knoopondersteuningen 13
5.7. Lijnsteunpunten op staven 13
5.8. Analyse model met Lijnondersteuningen 33
5.9. Analyse model met Lijnondersteuningen 34
5.10. Niet-lineaire functies 35
6. Belastingen 49
6.1. Belastingsgevallen 49
6.1.1. Belastingsgevallen - E.G. 49
6.1.2. Belastingsgevallen - high max Wnd ;135° 49
6.1.2.1. Puntlast op knoop 50
6.1.3. Belastingsgevallen - high max Wnd ;225° 51
6.1.3.1. Puntlast op knoop 52
6.1.4. Belastingsgevallen - high max Wnd ;315° 52
6.1.4.1. Puntlast op knoop 53
6.1.5. Belastingsgevallen - high max Wnd ;45° 54
6.1.5.1. Puntlast op knoop 55
6.1.6. Belastingsgevallen - low max Wnd ;135° 55
6.1.6.1. Puntlast op knoop 56
6.1.7. Belastingsgevallen - low max Wnd ;225° 57
6.1.7.1. Puntlast op knoop 58
6.1.8. Belastingsgevallen - low max Wnd ;315° 58
6.1.8.1. Puntlast op knoop 59
6.1.9. Belastingsgevallen - low max Wnd ;45° 60
6.1.9.1. Puntlast op knoop 61
6.2. Niet-lineaire combinaties 61
6.3. Resultaatklasses 62
7. Resultaten 63
7.1. Reacties van de palen 63
7.1.1. Reactions; R_z 63
7.1.2. Reacties 63
7.1.3. Reacties 63
7.1.4. Reacties 64
7.2. Krachten van de Funderingspalen 71
7.2.1. Interne 1D- krachten; N 71
7.2.2. Interne 1D- krachten; V_y 71
7.2.3. Interne 1D- krachten; V_z 72
7.2.4. Interne 1D- krachten; M_x 72
7.2.5. Interne 1D- krachten; M_y 73
7.2.6. Interne 1D- krachten; M_z 73
7.2.7. Interne 1D-krachten 74
7.2.8. Interne 1D-krachten 74
7.3. Krachten van de Poeren 75
7.3.1. Interne 1D-krachten 75
7.4. Krachten van de Funderingsbalken 76
7.4.1. Interne 1D- krachten; N 76
7.4.2. Interne 1D- krachten; V_y 76
7.4.3. Interne 1D- krachten; V_z 77
7.4.4. Interne 1D- krachten; M_x 77
7.4.5. Interne 1D- krachten; M_y 78
7.4.6. Interne 1D- krachten; M_z 78

7.4.7. Interne 1D-krachten 79
7.4.8. Interne 1D-krachten 79

## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-DIM 380kV |
| Onderdeel | Balkrooster 5xBeton40x40 mast 157 |
| Auteur | [redacted] |
| Datum | 28-01-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 176 |
| Aantal staven : | 96 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 5 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 7 |
| Gravitatieversnelling [m/s$^2$] | 9,810 |
| Nationale norm | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materialen

Staal EC3

| Naam | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Onderlimiet [mm] | Bovenlimiet [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |

| Naam | Type | ρ [kg/m³] | Dichtheid in natte toestand [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Kleur |
|---|---|---|---|---|---|---|---|---|
| C20/25 Ongescheurd | Beton | 1500,0 | 2600,0 | 2,4000e+04 | 0.2 | 0,00 | 20,00 | |
| C20/25 Gescheurd | Beton | 2500,0 | 2600,0 | 8,0000e+03 | 0.2 | 0,00 | 20,00 | |
| C30/37 Gescheurd | Beton | 2500,0 | 2600,0 | 1,1000e+04 | 0.2 | 0,00 | 30,00 | |
| C30/37 | Beton | 2400,0 | 2600,0 | 3,2800e+04 | 0.2 | 0,00 | 30,00 | |

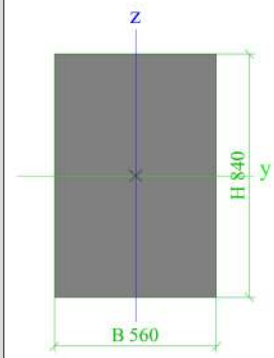
| Verklaring van symbolen | |
|---|---|
| Dichtheid in natte toestand | De waarde van de dichtheid van het kenmerk nieuwe toestand wordt alleen gebruikt als een samengesteld dek wordt ingevoerd en rekening wordt gehouden met de belasting van het eigengewicht. |

Wapening EC2

| Naam | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 500B | Betonstaal | 7850,0 | 2,0000e+05 | 8,3333e+04 | 0,00 | 500,0 |

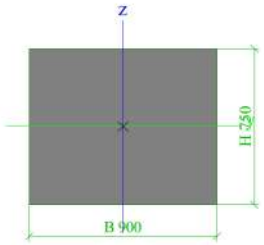
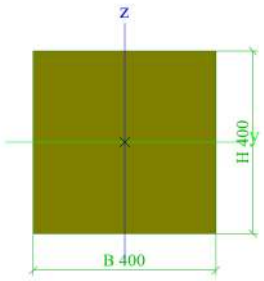
## 4.2. Doorsneden

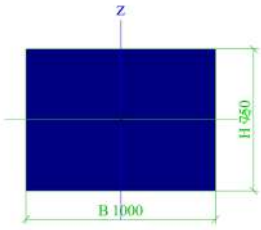
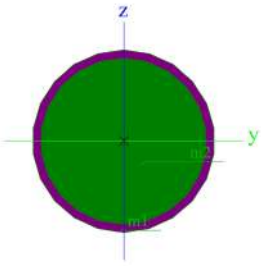
| Poer.Opstort | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 840; 560 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 4,7040e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 3,9200e-01 | 3,9200e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,8000e+00 | 2,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 280 | 420 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,7660e-02 | 1,2293e-02 |
| $i_y$ [mm], $i_z$ [mm] | 242 | 162 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 6,5856e-02 | 4,3904e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 2,8888e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| Afbeelding |  | |
|---|---|---|

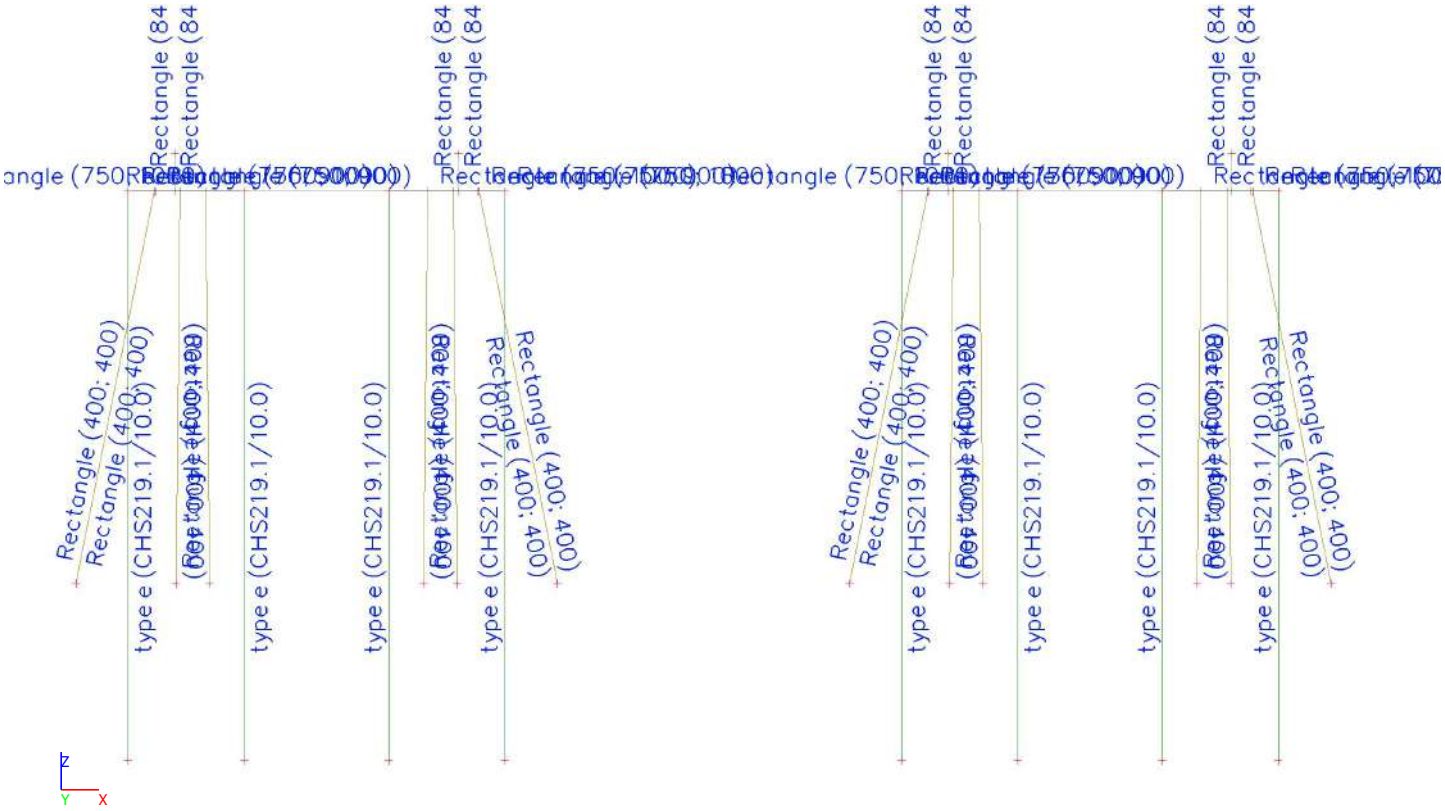


| Balk | | |
|---|---|---|
| Type | Rectangle | |
| Gedetailleerd | 750; 900 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 6,7500e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 5,6250e-01 | 5,6250e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,3000e+00 | 3,3000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,1641e-02 | 4,5563e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 260 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 8,4375e-02 | 1,0125e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |

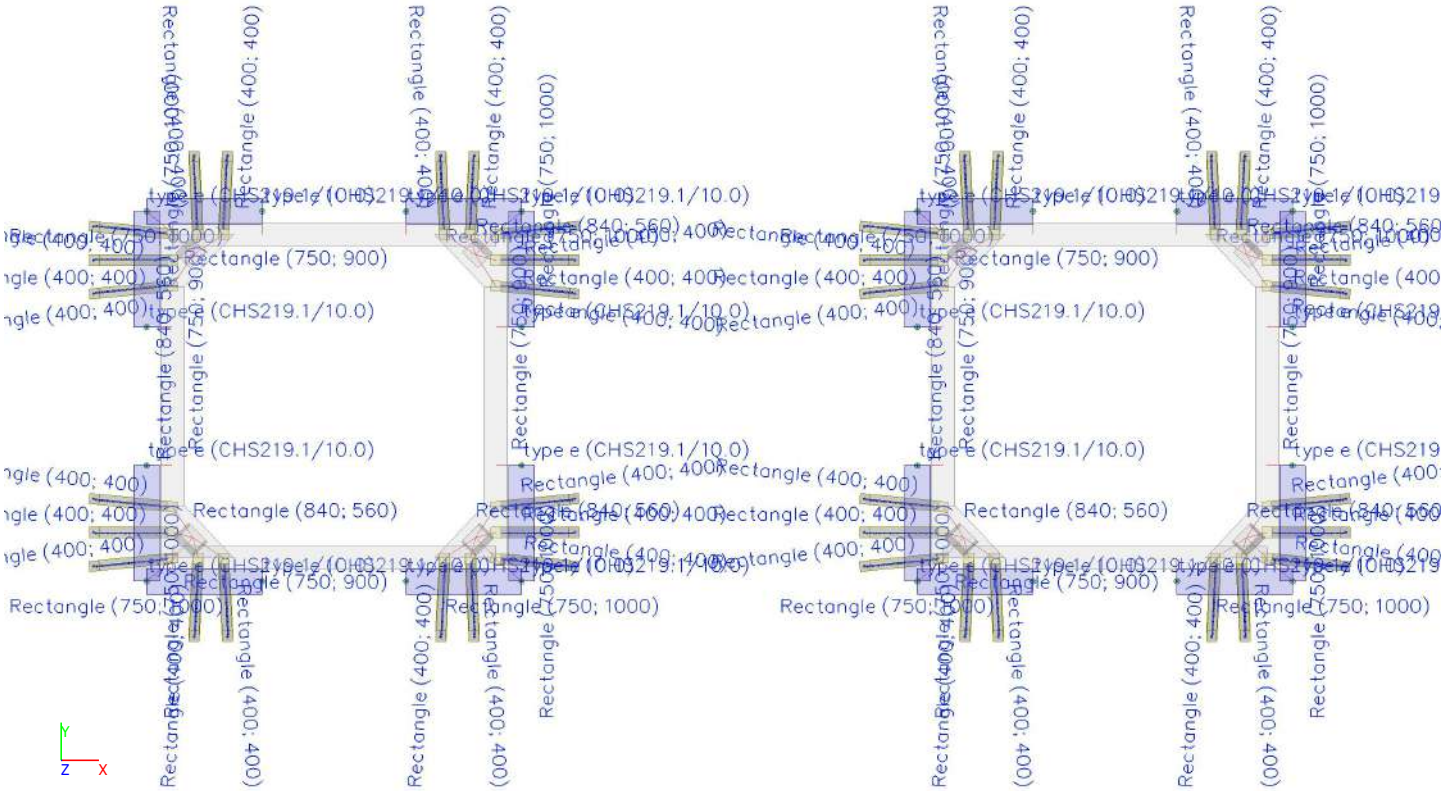
| | | |
|---|---|---|
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 6,3112e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **Funderingspaal** | | |
| Type | Rectangle | |
| Gedetailleerd | 400; 400 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C20/25 Ongescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 1,6000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 1,3333e-01 | 1,3333e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,6000e+00 | 1,6000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 200 | 200 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,1333e-03 | 2,1333e-03 |
| $i_y$ [mm], $i_z$ [mm] | 115 | 115 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 1,0667e-02 | 1,0667e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 3,6027e-03 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |
| **Ringbalk** | | |
| Type | Rectangle | |
| Gedetailleerd | 750; 1000 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | C30/37 Gescheurd | |
| Bouwwijze | beton | |
| Kleur | | |
| A [m²] | 7,5000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 6,2517e-01 | 6,2531e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,5000e+00 | 3,5000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,5156e-02 | 6,2500e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 289 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 9,3750e-02 | 1,2500e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 7,6159e-02 | 2,7801e-04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| | | |
|---|---|---|
| Afbeelding |  | |
| **LEKA Paal** | | |
| Type | type e | |
| Gedetailleerd | CHS219.1/10.0 | |
| Vorm type | Dikke wanden | |
| Onderdeelmateriaal | S 235 | |
| | C30/37 | |
| Bouwwijze | beton | |
| Knik y-y, Knik z-z | a | a |
| A [m²] | 1,1430e-02 | |
| $A_y$ [m²], $A_z$ [m²] | 8,7249e-03 | 8,7249e-03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 110 | 110 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 4,8013e-05 | 4,8013e-05 |
| $i_y$ [mm], $i_z$ [mm] | 65 | 65 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 4,3827e-04 | 4,3827e-04 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 4,9123e-04 | 4,9123e-04 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 9,8040e-05 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Afbeelding |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Instellingen net

| Naam | NetInstelling1 |
|---|---|
| Generatie van variabele excentriciteiten op elementen in plaats van constante excentriciteiten | × |
| Generatie van knopen op staven | × |
| Elastisch net | ✓ |
| Pas automatische netverfijning toe | × |
| Constructie-entiteiten verbinden | ✓ |
| Verdeling op consoles en variabele staven | 5 |
| Verdeling voor integratiestrook en 2D-1D upgrade | 50 |
| Gemiddeld aantal 1D-netelementen op rechte 1D-elementen | 5 |
| Gemiddelde grootte van 2D-netelement [m] | 0,250 |
| Gemiddelde grootte van 1D-element op gebogen 1D-elementen [m] | 0,200 |
| Minimum lengte van staafelement [m] | 0,100 |
| Maximum lengte van staafelement [m] | 1000,000 |
| Gemiddelde grootte van voorspankabels, elementen op elastische bedding, niet-lineaire grondveer [m] | 1,000 |
| Maximale hoek uit het vlak van vierhoekig element [mrad] | 30,0 |
| Minimale afstand tussen definitiepunt en -lijn [m] | 0,001 |
| Gemiddelde afmeting van paneelelement [m] | 1,000 |
| Netverfijning volgens het liggertype | Geen |
| Definitie van netelementen afmetingen voor panelen | Handmatig |

# 5. Geometrie

## 5.1. Knopen

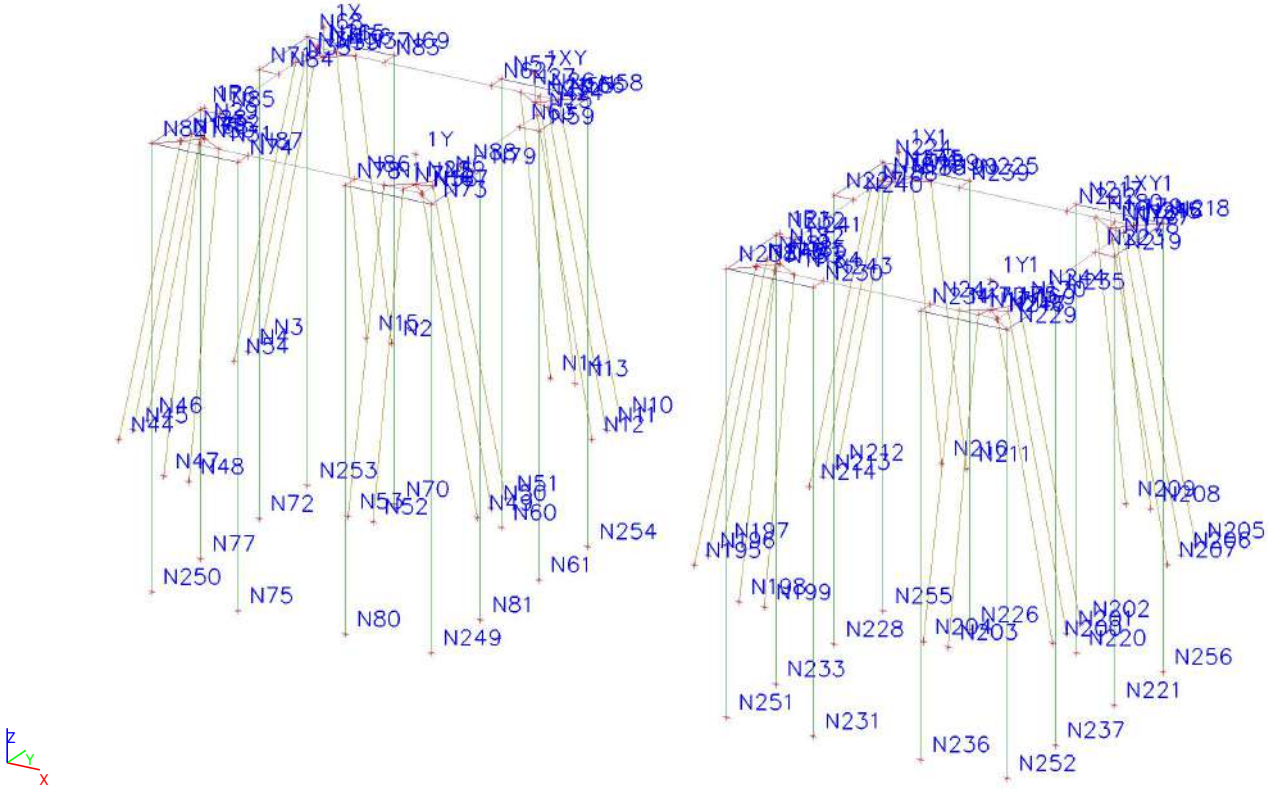
| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N5 | 13,000 | 1,400 | 0,000 |
| N6 | 13,000 | 2,400 | 0,000 |
| N7 | 12,000 | 0,400 | 0,000 |
| N1 | 11,000 | 0,400 | 0,000 |
| N17 | 0,400 | 0,400 | 0,000 |
| N21 | 0,400 | 13,000 | 0,000 |
| 1Y | 12,200 | 1,200 | 1,475 |
| N22 | 12,200 | 1,200 | 0,000 |
| N23 | 12,200 | 12,200 | 0,000 |
| 1XY | 12,200 | 12,200 | 1,475 |
| N24 | 13,000 | 12,000 | 0,000 |
| N25 | 13,000 | 11,000 | 0,000 |
| N26 | 12,000 | 13,000 | 0,000 |
| N27 | 11,000 | 13,000 | 0,000 |
| N28 | 0,400 | 1,400 | 0,000 |
| N29 | 0,400 | 2,400 | 0,000 |
| N30 | 1,400 | 0,400 | 0,000 |
| N31 | 2,400 | 0,400 | 0,000 |
| 1P | 1,200 | 1,200 | 1,475 |
| N32 | 1,200 | 1,200 | 0,000 |
| N33 | 1,200 | 12,200 | 0,000 |
| 1X | 1,200 | 12,187 | 1,475 |
| N34 | 0,400 | 12,000 | 0,000 |
| N35 | 0,400 | 11,000 | 0,000 |
| N36 | 1,400 | 13,000 | 0,000 |
| N37 | 2,400 | 13,000 | 0,000 |
| N38 | 12,200 | 1,200 | 0,000 |
| N39 | 1,200 | 1,200 | 0,000 |
| N40 | 12,200 | 12,200 | 0,000 |
| N41 | 1,200 | 12,200 | 0,000 |
| N44 | -2,639 | 0,096 | -15,196 |
| N45 | -2,639 | 1,400 | -15,195 |
| N46 | -2,639 | 2,704 | -15,196 |
| N47 | 1,248 | -2,640 | -15,198 |
| N48 | 2,552 | -2,640 | -15,198 |
| N49 | 16,040 | 0,096 | -15,199 |
| N50 | 16,039 | 1,400 | -15,195 |
| N51 | 16,039 | 2,704 | -15,196 |
| N52 | 12,152 | -2,640 | -15,198 |
| N53 | 10,848 | -2,640 | -15,198 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N10 | 16,039 | 13,304 | -15,196 |
| N11 | 16,039 | 12,000 | -15,195 |
| N12 | 16,039 | 10,696 | -15,196 |
| N13 | 12,152 | 16,040 | -15,198 |
| N14 | 10,848 | 16,040 | -15,198 |
| N15 | 1,248 | 16,040 | -15,198 |
| N2 | 2,552 | 16,040 | -15,198 |
| N3 | -2,639 | 13,304 | -15,196 |
| N4 | -2,639 | 12,000 | -15,195 |
| N54 | -2,639 | 10,696 | -15,196 |
| N55 | 13,000 | 13,000 | 0,000 |
| N56 | 13,000 | 0,400 | 0,000 |
| N57 | 9,500 | 13,900 | 0,000 |
| N58 | 14,000 | 13,900 | 0,000 |
| N59 | 14,000 | 9,400 | 0,000 |
| N60 | 9,500 | 13,900 | -22,040 |
| N61 | 14,000 | 9,400 | -22,040 |
| N62 | 9,500 | 13,000 | 0,000 |
| N63 | 13,000 | 9,400 | 0,000 |
| N68 | -0,600 | 13,900 | 0,000 |
| N69 | 3,900 | 13,900 | 0,000 |
| N70 | 3,900 | 13,900 | -22,040 |
| N71 | -0,600 | 9,400 | 0,000 |
| N72 | -0,600 | 9,400 | -22,040 |
| N73 | 14,000 | -0,500 | 0,000 |
| N74 | 3,900 | -0,500 | 0,000 |
| N75 | 3,900 | -0,500 | -22,040 |
| N76 | -0,600 | 4,000 | 0,000 |
| N77 | -0,600 | 4,000 | -22,040 |
| N78 | 9,500 | -0,500 | 0,000 |
| N79 | 14,000 | 4,000 | 0,000 |
| N80 | 9,500 | -0,500 | -22,040 |
| N81 | 14,000 | 4,000 | -22,040 |
| N82 | -0,600 | -0,500 | 0,000 |
| N83 | 3,900 | 13,000 | 0,000 |
| N84 | 0,400 | 9,400 | 0,000 |
| N85 | 0,400 | 4,000 | 0,000 |
| N86 | 9,500 | 0,400 | 0,000 |
| N87 | 3,900 | 0,400 | 0,000 |
| N88 | 13,000 | 4,000 | 0,000 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N165 | 0,450 | 13,000 | 0,000 |
| N166 | 12,950 | 13,000 | 0,000 |
| N167 | 12,950 | 0,400 | 0,000 |
| N168 | 0,450 | 0,400 | 0,000 |
| N169 | 43,000 | 1,400 | 0,000 |
| N170 | 43,000 | 2,400 | 0,000 |
| N171 | 42,000 | 0,400 | 0,000 |
| N172 | 41,000 | 0,400 | 0,000 |
| N173 | 30,400 | 0,400 | 0,000 |
| N174 | 30,400 | 13,000 | 0,000 |
| 1Y1 | 42,200 | 1,200 | 1,475 |
| N175 | 42,200 | 1,200 | 0,000 |
| N176 | 42,200 | 12,200 | 0,000 |
| 1XY1 | 42,200 | 12,200 | 1,475 |
| N177 | 43,000 | 12,000 | 0,000 |
| N178 | 43,000 | 11,000 | 0,000 |
| N179 | 42,000 | 13,000 | 0,000 |
| N180 | 41,000 | 13,000 | 0,000 |
| N181 | 30,400 | 1,400 | 0,000 |
| N182 | 30,400 | 2,400 | 0,000 |
| N183 | 31,400 | 0,400 | 0,000 |
| N184 | 32,400 | 0,400 | 0,000 |
| 1P1 | 31,200 | 1,200 | 1,475 |
| N185 | 31,200 | 1,200 | 0,000 |
| N186 | 31,200 | 12,200 | 0,000 |
| 1X1 | 31,200 | 12,187 | 1,475 |
| N187 | 30,400 | 12,000 | 0,000 |
| N188 | 30,400 | 11,000 | 0,000 |
| N189 | 31,400 | 13,000 | 0,000 |
| N190 | 32,400 | 13,000 | 0,000 |
| N191 | 42,200 | 1,200 | 0,000 |
| N192 | 31,200 | 1,200 | 0,000 |
| N193 | 42,200 | 12,200 | 0,000 |
| N194 | 31,200 | 12,200 | 0,000 |
| N195 | 27,361 | 0,096 | -15,196 |
| N196 | 27,361 | 1,400 | -15,195 |
| N197 | 27,361 | 2,704 | -15,196 |
| N198 | 31,248 | -2,640 | -15,198 |
| N199 | 32,552 | -2,640 | -15,198 |
| N200 | 46,040 | 0,096 | -15,199 |
| N201 | 46,039 | 1,400 | -15,195 |
| N202 | 46,039 | 2,704 | -15,196 |
| N203 | 42,152 | -2,640 | -15,198 |
| N204 | 40,848 | -2,640 | -15,198 |
| N205 | 46,039 | 13,304 | -15,196 |
| N206 | 46,039 | 12,000 | -15,195 |
| N207 | 46,039 | 10,696 | -15,196 |
| N208 | 42,152 | 16,040 | -15,198 |

| Naam | Coördinaat X [m] | Coördinaat Y [m] | Coördinaat Z [m] |
|---|---|---|---|
| N209 | 40,848 | 16,040 | -15,198 |
| N210 | 31,248 | 16,040 | -15,198 |
| N211 | 32,552 | 16,040 | -15,198 |
| N212 | 27,361 | 13,304 | -15,196 |
| N213 | 27,361 | 12,000 | -15,195 |
| N214 | 27,361 | 10,696 | -15,196 |
| N215 | 43,000 | 13,000 | 0,000 |
| N216 | 43,000 | 0,400 | 0,000 |
| N217 | 39,500 | 13,900 | 0,000 |
| N218 | 44,000 | 13,900 | 0,000 |
| N219 | 44,000 | 9,400 | 0,000 |
| N220 | 39,500 | 13,900 | -22,040 |
| N221 | 44,000 | 9,400 | -22,040 |
| N222 | 39,500 | 13,000 | 0,000 |
| N223 | 43,000 | 9,400 | 0,000 |
| N224 | 29,400 | 13,900 | 0,000 |
| N225 | 33,900 | 13,900 | 0,000 |
| N226 | 33,900 | 13,900 | -22,040 |
| N227 | 29,400 | 9,400 | 0,000 |
| N228 | 29,400 | 9,400 | -22,040 |
| N229 | 44,000 | -0,500 | 0,000 |
| N230 | 33,900 | -0,500 | 0,000 |
| N231 | 33,900 | -0,500 | -22,040 |
| N232 | 29,400 | 4,000 | 0,000 |
| N233 | 29,400 | 4,000 | -22,040 |
| N234 | 39,500 | -0,500 | 0,000 |
| N235 | 44,000 | 4,000 | 0,000 |
| N236 | 39,500 | -0,500 | -22,040 |
| N237 | 44,000 | 4,000 | -22,040 |
| N238 | 29,400 | -0,500 | 0,000 |
| N239 | 33,900 | 13,000 | 0,000 |
| N240 | 30,400 | 9,400 | 0,000 |
| N241 | 30,400 | 4,000 | 0,000 |
| N242 | 39,500 | 0,400 | 0,000 |
| N243 | 33,900 | 0,400 | 0,000 |
| N244 | 43,000 | 4,000 | 0,000 |
| N245 | 30,450 | 13,000 | 0,000 |
| N246 | 42,950 | 13,000 | 0,000 |
| N247 | 42,950 | 0,400 | 0,000 |
| N248 | 30,450 | 0,400 | 0,000 |
| N249 | 14,000 | -0,500 | -22,040 |
| N250 | -0,600 | -0,500 | -22,040 |
| N251 | 29,400 | -0,500 | -22,040 |
| N252 | 44,000 | -0,500 | -22,040 |
| N253 | -0,600 | 13,900 | -22,040 |
| N254 | 14,000 | 13,900 | -22,040 |
| N255 | 29,400 | 13,900 | -22,040 |
| N256 | 44,000 | 13,900 | -22,040 |

## 5.2. Analyse model met knopen



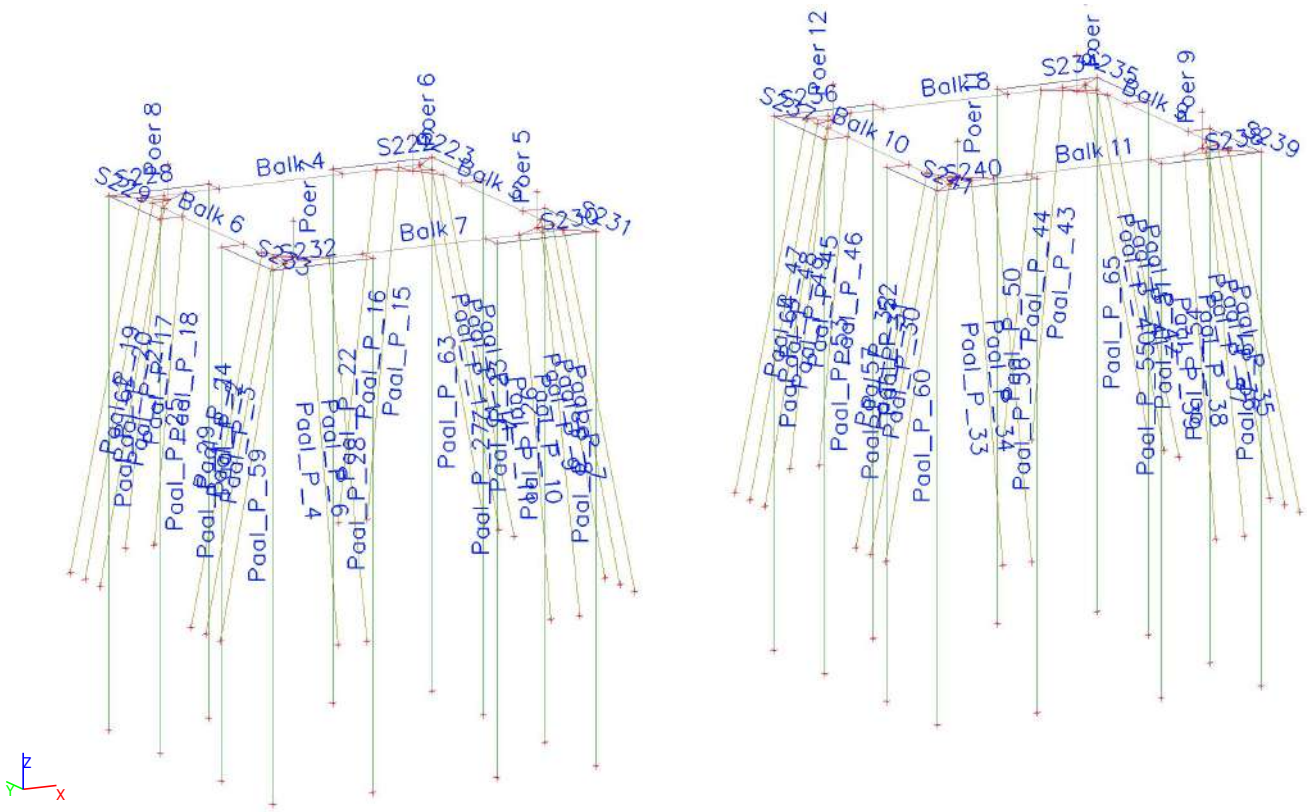

## 5.3. Staven

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Balk 4 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N55 | N21 | Balk (80) |
| Balk 5 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N55 | Balk (80) |
| Balk 6 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N17 | N21 | Balk (80) |
| Balk 7 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N17 | Balk (80) |
| Balk 8 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N215 | N174 | Balk (80) |
| Balk 9 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N216 | N215 | Balk (80) |
| Balk 10 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N173 | N174 | Balk (80) |
| Balk 11 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N216 | N173 | Balk (80) |
| S222 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N57 | N58 | Balk (80) |
| S223 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N59 | N58 | Balk (80) |
| S228 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N69 | N68 | Balk (80) |
| S229 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N71 | N68 | Balk (80) |
| S230 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N78 | N73 | Balk (80) |
| S231 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N79 | N73 | Balk (80) |
| S232 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N74 | N82 | Balk (80) |
| S233 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N76 | N82 | Balk (80) |
| S234 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N217 | N218 | Balk (80) |
| S235 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N219 | N218 | Balk (80) |
| S236 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N225 | N224 | Balk (80) |
| S237 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N227 | N224 | Balk (80) |
| S238 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N234 | N229 | Balk (80) |
| S239 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N235 | N229 | Balk (80) |
| S240 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N230 | N238 | Balk (80) |
| S241 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N232 | N238 | Balk (80) |
| Paal_P_3 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N17 | N44 | Kolom (100) |
| Paal_P_4 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N30 | N47 | Kolom (100) |
| Paal_P_16 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N27 | N14 | Kolom (100) |
| Poer 6 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N23 | 1XY | Kolom (100) |
| Paal_P_6 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N31 | N48 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Poer 11 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N185 | 1P1 | Kolom (100) |
| Poer 12 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N186 | 1X1 | Kolom (100) |
| Paal_P_7 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,503 | N56 | N49 | Kolom (100) |
| Paal_P_14 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N25 | N12 | Kolom (100) |
| Paal_P_17 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N36 | N15 | Kolom (100) |
| Paal_P_18 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N37 | N2 | Kolom (100) |
| Paal_P_19 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N21 | N3 | Kolom (100) |
| Paal_P_20 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N34 | N4 | Kolom (100) |
| Paal_P_21 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N35 | N54 | Kolom (100) |
| Paal_P_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N57 | N60 | Kolom (100) |
| Paal_P_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N79 | N81 | Kolom (100) |
| Paal_P_30 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N173 | N195 | Kolom (100) |
| Paal_P_31 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N181 | N196 | Kolom (100) |
| Paal_P_32 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N182 | N197 | Kolom (100) |
| Paal_P_33 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N183 | N198 | Kolom (100) |
| Paal_P_34 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N184 | N199 | Kolom (100) |
| Paal_P_35 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,503 | N216 | N200 | Kolom (100) |
| Paal_P_36 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N169 | N201 | Kolom (100) |
| Paal_P_38 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N171 | N203 | Kolom (100) |
| Paal_P_39 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N172 | N204 | Kolom (100) |
| Paal_P_40 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N215 | N205 | Kolom (100) |
| Poer 5 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N22 | 1Y | Kolom (100) |
| Poer 7 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N32 | 1P | Kolom (100) |
| Poer 8 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N33 | 1X | Kolom (100) |
| Poer 9 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N175 | 1Y1 | Kolom (100) |
| Poer 10 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N176 | 1XY1 | Kolom (100) |
| Paal_P_1 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N29 | N46 | Kolom (100) |
| Paal_P_2 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N28 | N45 | Kolom (100) |
| Paal_P_8 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N5 | N50 | Kolom (100) |
| Paal_P_37 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N170 | N202 | Kolom (100) |
| Paal_P_9 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N6 | N51 | Kolom (100) |
| Paal_P_10 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N7 | N52 | Kolom (100) |
| Paal_P_11 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N1 | N53 | Kolom (100) |
| Paal_P_12 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N55 | N10 | Kolom (100) |
| Paal_P_13 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N24 | N11 | Kolom (100) |
| Paal_P_15 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N26 | N13 | Kolom (100) |
| Paal_P_23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N59 | N61 | Kolom (100) |
| Paal_P_24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N69 | N70 | Kolom (100) |
| Paal_P_25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N71 | N72 | Kolom (100) |
| Paal_P_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N78 | N80 | Kolom (100) |
| Paal_P_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N74 | N75 | Kolom (100) |
| Paal_P_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N76 | N77 | Kolom (100) |
| Paal_P_41 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N177 | N206 | Kolom (100) |
| Paal_P_42 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N178 | N207 | Kolom (100) |
| Paal_P_43 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N179 | N208 | Kolom (100) |
| Paal_P_44 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N180 | N209 | Kolom (100) |
| Paal_P_45 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N189 | N210 | Kolom (100) |
| Paal_P_46 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N190 | N211 | Kolom (100) |
| Paal_P_47 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N174 | N212 | Kolom (100) |
| Paal_P_48 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,496 | N187 | N213 | Kolom (100) |
| Paal_P_49 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 15,500 | N188 | N214 | Kolom (100) |
| Paal_P_50 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N217 | N220 | Kolom (100) |
| Paal_P_51 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N219 | N221 | Kolom (100) |
| Paal_P_52 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N225 | N226 | Kolom (100) |
| Paal_P_53 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N227 | N228 | Kolom (100) |
| Paal_P_54 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N235 | N237 | Kolom (100) |
| Paal_P_55 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N234 | N236 | Kolom (100) |
| Paal_P_56 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N230 | N231 | Kolom (100) |
| Paal_P_57 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N232 | N233 | Kolom (100) |
| Paal_P_58 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N73 | N249 | Kolom (100) |
| Paal_P_59 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N82 | N250 | Kolom (100) |
| Paal_P_60 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N238 | N251 | Kolom (100) |
| Paal_P_61 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N229 | N252 | Kolom (100) |
| Paal_P_62 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N68 | N253 | Kolom (100) |
| Paal_P_63 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N58 | N254 | Kolom (100) |
| Paal_P_64 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N224 | N255 | Kolom (100) |

| Naam | Doorsnede | Materiaal | Lengte [m] | Beginknoop | Eindknoop | Type |
|---|---|---|---|---|---|---|
| Paal_P_65 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 22,040 | N218 | N256 | Kolom (100) |

## 5.4. Analyse model met Staven

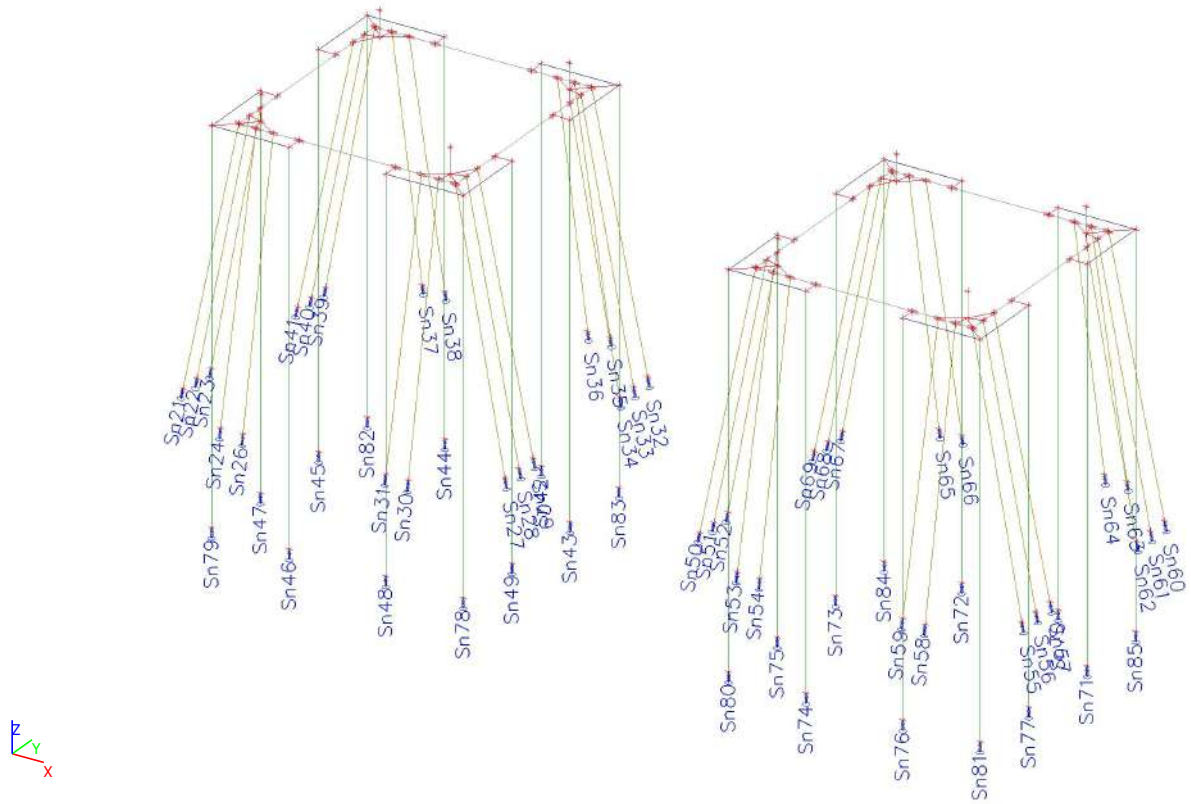



## 5.5. Knoopsteunpunten

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn21 | N44 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn22 | N45 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn23 | N46 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn24 | N47 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn26 | N48 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn27 | N49 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn28 | N50 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn29 | N51 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn30 | N52 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn31 | N53 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn32 | N10 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn33 | N11 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn34 | N12 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn35 | N13 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn36 | N14 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn37 | N15 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn38 | N2 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn39 | N3 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn40 | N4 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn41 | N54 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn42 | N60 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn43 | N61 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn44 | N70 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn45 | N72 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn46 | N75 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn47 | N77 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

| Naam | Knoop | Systeem | Type | X | Y | Z | Rx | Ry | Rz | Hoek [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn48 | N80 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn49 | N81 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn50 | N195 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn51 | N196 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn52 | N197 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn53 | N198 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn54 | N199 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn55 | N200 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn56 | N201 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn57 | N202 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn58 | N203 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx-11,31 |
| Sn59 | N204 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx-11,31 |
| Sn60 | N205 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry-11,31 |
| Sn61 | N206 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-11,31 |
| Sn62 | N207 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry-11,31 |
| Sn63 | N208 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn64 | N209 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn65 | N210 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry0,56;Rx11,31 |
| Sn66 | N211 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry-0,56;Rx11,31 |
| Sn67 | N212 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx1,12;Ry11,31 |
| Sn68 | N213 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Ry11,31 |
| Sn69 | N214 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | Rx-1,12;Ry11,31 |
| Sn70 | N220 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn71 | N221 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn72 | N226 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn73 | N228 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn74 | N231 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn75 | N233 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn76 | N236 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn77 | N237 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn78 | N249 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn79 | N250 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn80 | N251 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn81 | N252 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn82 | N253 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn83 | N254 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn84 | N255 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |
| Sn85 | N256 | LCS van knoop | Standaard | Vrij | Vrij | Niet-lineair | Vrij | Vrij | Vrij | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Lijnsteunpunten op staven

| Naam | Type | Staaf | Pos $x_1$ [m] / Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen16 | Lijn | Paal_P_8 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Lijn | Paal_P_1 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen62 | Lijn | Paal_P_62 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen31 | Lijn | Paal_P_31 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen33 | Lijn | Paal_P_33 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen36 | Lijn | Paal_P_36 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen12 | Lijn | Paal_P_21 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen45 | Lijn | Paal_P_45 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen60 | Lijn | Paal_P_60 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen52 | Lijn | Paal_P_52 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen3 | Lijn | Paal_P_2 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen21 | Lijn | Paal_P_13 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen24 | Lijn | Paal_P_24 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen40 | Lijn | Paal_P_40 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen58 | Lijn | Paal_P_58 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen41 | Lijn | Paal_P_41 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen53 | Lijn | Paal_P_53 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen39 | Lijn | Paal_P_39 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen6 | Lijn | Paal_P_14 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen5 | Lijn | Paal_P_11 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen35 | Lijn | Paal_P_35 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen47 | Lijn | Paal_P_47 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen25 | Lijn | Paal_P_25 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen42 | Lijn | Paal_P_42 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen17 | Lijn | Paal_P_19 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen54 | Lijn | Paal_P_54 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen9 | Lijn | Paal_P_6 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen56 | Lijn | Paal_P_56 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen57 | Lijn | Paal_P_57 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen10 | Lijn | Paal_P_10 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen46 | Lijn | Paal_P_46 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen14 | Lijn | Paal_P_15 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen48 | Lijn | Paal_P_48 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen18 | Lijn | Paal_P_4 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Lijn | Paal_P_23 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen26 | Lijn | Paal_P_26 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen51 | Lijn | Paal_P_51 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen7 | Lijn | Paal_P_12 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen61 | Lijn | Paal_P_61 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen15 | Lijn | Paal_P_20 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen65 | Lijn | Paal_P_65 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen37 | Lijn | Paal_P_37 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen19 | Lijn | Paal_P_17 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen32 | Lijn | Paal_P_32 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen43 | Lijn | Paal_P_43 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen4 | Lijn | Paal_P_3 | 1,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8,000 | | | | | | | | |
| Veen29 | Lijn | Paal_P_29 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen59 | Lijn | Paal_P_59 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen27 | Lijn | Paal_P_27 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen13 | Lijn | Paal_P_9 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen11 | Lijn | Paal_P_18 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen44 | Lijn | Paal_P_44 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen38 | Lijn | Paal_P_38 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen55 | Lijn | Paal_P_55 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen49 | Lijn | Paal_P_49 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen64 | Lijn | Paal_P_64 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen20 | Lijn | Paal_P_16 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen22 | Lijn | Paal_P_22 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen63 | Lijn | Paal_P_63 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen50 | Lijn | Paal_P_50 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen34 | Lijn | Paal_P_34 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen30 | Lijn | Paal_P_30 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen28 | Lijn | Paal_P_28 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen8 | Lijn | Paal_P_7 | 1,000<br>8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_Veen | PY-curve-2_Veen |
| (PY-curve-2_V1)18 | Lijn | Paal_P_60 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)46 | Lijn | Paal_P_32 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)5 | Lijn | Paal_P_27 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)50 | Lijn | Paal_P_36 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)22 | Lijn | Paal_P_64 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)2 | Lijn | Paal_P_24 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)59 | Lijn | Paal_P_45 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)52 | Lijn | Paal_P_38 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)30 | Lijn | Paal_P_8 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)33 | Lijn | Paal_P_11 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)14 | Lijn | Paal_P_56 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)40 | Lijn | Paal_P_18 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)1 | Lijn | Paal_P_23 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)60 | Lijn | Paal_P_46 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-2_V1)61 | Lijn | Paal_P_47 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)62 | Lijn | Paal_P_48 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)26 | Lijn | Paal_P_1 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)47 | Lijn | Paal_P_33 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)57 | Lijn | Paal_P_43 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)34 | Lijn | Paal_P_12 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1) | Lijn | Paal_P_22 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)8 | Lijn | Paal_P_50 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)29 | Lijn | Paal_P_7 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)44 | Lijn | Paal_P_30 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)12 | Lijn | Paal_P_54 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)24 | Lijn | Paal_P_3 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)54 | Lijn | Paal_P_40 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)53 | Lijn | Paal_P_39 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)43 | Lijn | Paal_P_21 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)15 | Lijn | Paal_P_57 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)4 | Lijn | Paal_P_26 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)9 | Lijn | Paal_P_51 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)56 | Lijn | Paal_P_42 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)35 | Lijn | Paal_P_13 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)51 | Lijn | Paal_P_37 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)25 | Lijn | Paal_P_2 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)42 | Lijn | Paal_P_20 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)58 | Lijn | Paal_P_44 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)27 | Lijn | Paal_P_4 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)3 | Lijn | Paal_P_25 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)49 | Lijn | Paal_P_35 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)19 | Lijn | Paal_P_61 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)17 | Lijn | Paal_P_59 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)28 | Lijn | Paal_P_6 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)55 | Lijn | Paal_P_41 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)21 | Lijn | Paal_P_63 | 8,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9,000 | | | | | | | | |
| (PY-curve-2_V1)7 | Lijn | Paal_P_29 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)16 | Lijn | Paal_P_58 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)10 | Lijn | Paal_P_52 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)39 | Lijn | Paal_P_17 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)23 | Lijn | Paal_P_65 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)45 | Lijn | Paal_P_31 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)41 | Lijn | Paal_P_19 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)6 | Lijn | Paal_P_28 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)11 | Lijn | Paal_P_53 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)48 | Lijn | Paal_P_34 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)37 | Lijn | Paal_P_15 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)20 | Lijn | Paal_P_62 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)31 | Lijn | Paal_P_9 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)63 | Lijn | Paal_P_49 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)32 | Lijn | Paal_P_10 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)36 | Lijn | Paal_P_14 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)13 | Lijn | Paal_P_55 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)38 | Lijn | Paal_P_16 | 8,000<br>9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V2)13 | Lijn | Paal_P_55 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)57 | Lijn | Paal_P_43 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)27 | Lijn | Paal_P_4 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)30 | Lijn | Paal_P_8 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)58 | Lijn | Paal_P_44 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)10 | Lijn | Paal_P_52 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)9 | Lijn | Paal_P_51 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)5 | Lijn | Paal_P_27 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)46 | Lijn | Paal_P_32 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)8 | Lijn | Paal_P_50 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)36 | Lijn | Paal_P_14 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)4 | Lijn | Paal_P_26 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)51 | Lijn | Paal_P_37 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)62 | Lijn | Paal_P_48 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-2_V2)59 | Lijn | Paal_P_45 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)7 | Lijn | Paal_P_29 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)21 | Lijn | Paal_P_63 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)2 | Lijn | Paal_P_24 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)15 | Lijn | Paal_P_57 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)32 | Lijn | Paal_P_10 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)24 | Lijn | Paal_P_3 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)61 | Lijn | Paal_P_47 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)34 | Lijn | Paal_P_12 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)60 | Lijn | Paal_P_46 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2) | Lijn | Paal_P_22 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)53 | Lijn | Paal_P_39 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)54 | Lijn | Paal_P_40 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)28 | Lijn | Paal_P_6 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)43 | Lijn | Paal_P_21 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)26 | Lijn | Paal_P_1 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)40 | Lijn | Paal_P_18 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)52 | Lijn | Paal_P_38 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)33 | Lijn | Paal_P_11 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)11 | Lijn | Paal_P_53 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)3 | Lijn | Paal_P_25 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)42 | Lijn | Paal_P_20 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)50 | Lijn | Paal_P_36 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)44 | Lijn | Paal_P_30 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)41 | Lijn | Paal_P_19 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)48 | Lijn | Paal_P_34 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)37 | Lijn | Paal_P_15 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)38 | Lijn | Paal_P_16 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)23 | Lijn | Paal_P_65 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)17 | Lijn | Paal_P_59 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)39 | Lijn | Paal_P_17 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)19 | Lijn | Paal_P_61 | 9,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10,000 | | | | | | | | |
| (PY-curve-2_V2)22 | Lijn | Paal_P_64 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)20 | Lijn | Paal_P_62 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)18 | Lijn | Paal_P_60 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)56 | Lijn | Paal_P_42 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)63 | Lijn | Paal_P_49 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)35 | Lijn | Paal_P_13 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)49 | Lijn | Paal_P_35 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)45 | Lijn | Paal_P_31 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)12 | Lijn | Paal_P_54 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)16 | Lijn | Paal_P_58 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)29 | Lijn | Paal_P_7 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)1 | Lijn | Paal_P_23 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)6 | Lijn | Paal_P_28 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)25 | Lijn | Paal_P_2 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)47 | Lijn | Paal_P_33 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)55 | Lijn | Paal_P_41 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)14 | Lijn | Paal_P_56 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)31 | Lijn | Paal_P_9 | 9,000<br>10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V3)20 | Lijn | Paal_P_62 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)13 | Lijn | Paal_P_55 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Lijn | Paal_P_29 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)11 | Lijn | Paal_P_53 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)10 | Lijn | Paal_P_52 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)45 | Lijn | Paal_P_31 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)30 | Lijn | Paal_P_8 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)47 | Lijn | Paal_P_33 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)9 | Lijn | Paal_P_51 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)5 | Lijn | Paal_P_27 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)8 | Lijn | Paal_P_50 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)36 | Lijn | Paal_P_14 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)63 | Lijn | Paal_P_49 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)4 | Lijn | Paal_P_26 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)3 | Lijn | Paal_P_25 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)35 | Lijn | Paal_P_13 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)15 | Lijn | Paal_P_57 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)59 | Lijn | Paal_P_45 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)2 | Lijn | Paal_P_24 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)58 | Lijn | Paal_P_44 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)29 | Lijn | Paal_P_7 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)6 | Lijn | Paal_P_28 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)57 | Lijn | Paal_P_43 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)1 | Lijn | Paal_P_23 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)18 | Lijn | Paal_P_60 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)26 | Lijn | Paal_P_1 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)56 | Lijn | Paal_P_42 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)34 | Lijn | Paal_P_12 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)25 | Lijn | Paal_P_2 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)55 | Lijn | Paal_P_41 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3) | Lijn | Paal_P_22 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)22 | Lijn | Paal_P_64 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)54 | Lijn | Paal_P_40 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)37 | Lijn | Paal_P_15 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)53 | Lijn | Paal_P_39 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)43 | Lijn | Paal_P_21 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)52 | Lijn | Paal_P_38 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)16 | Lijn | Paal_P_58 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)33 | Lijn | Paal_P_11 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)61 | Lijn | Paal_P_47 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)51 | Lijn | Paal_P_37 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)42 | Lijn | Paal_P_20 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)50 | Lijn | Paal_P_36 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)24 | Lijn | Paal_P_3 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)44 | Lijn | Paal_P_30 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)28 | Lijn | Paal_P_6 | 10,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11,000 | | | | | | | | |
| (PY-curve-2_V3)49 | Lijn | Paal_P_35 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)41 | Lijn | Paal_P_19 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)27 | Lijn | Paal_P_4 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)23 | Lijn | Paal_P_65 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)32 | Lijn | Paal_P_10 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)40 | Lijn | Paal_P_18 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)21 | Lijn | Paal_P_63 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)62 | Lijn | Paal_P_48 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)12 | Lijn | Paal_P_54 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)46 | Lijn | Paal_P_32 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)19 | Lijn | Paal_P_61 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)39 | Lijn | Paal_P_17 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)17 | Lijn | Paal_P_59 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)48 | Lijn | Paal_P_34 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)31 | Lijn | Paal_P_9 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)38 | Lijn | Paal_P_16 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)60 | Lijn | Paal_P_46 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)14 | Lijn | Paal_P_56 | 10,000<br>11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V4)12 | Lijn | Paal_P_54 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)26 | Lijn | Paal_P_1 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)37 | Lijn | Paal_P_15 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)11 | Lijn | Paal_P_53 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)6 | Lijn | Paal_P_28 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)10 | Lijn | Paal_P_52 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)5 | Lijn | Paal_P_27 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)25 | Lijn | Paal_P_2 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)36 | Lijn | Paal_P_14 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)8 | Lijn | Paal_P_50 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)4 | Lijn | Paal_P_26 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)62 | Lijn | Paal_P_48 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)24 | Lijn | Paal_P_3 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)3 | Lijn | Paal_P_25 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-2_V4)45 | Lijn | Paal_P_31 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)35 | Lijn | Paal_P_13 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)60 | Lijn | Paal_P_46 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)15 | Lijn | Paal_P_57 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)59 | Lijn | Paal_P_45 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)2 | Lijn | Paal_P_24 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)29 | Lijn | Paal_P_7 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)9 | Lijn | Paal_P_51 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)58 | Lijn | Paal_P_44 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)57 | Lijn | Paal_P_43 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)1 | Lijn | Paal_P_23 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)34 | Lijn | Paal_P_12 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)56 | Lijn | Paal_P_42 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)55 | Lijn | Paal_P_41 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4) | Lijn | Paal_P_22 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)54 | Lijn | Paal_P_40 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)20 | Lijn | Paal_P_62 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)53 | Lijn | Paal_P_39 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)43 | Lijn | Paal_P_21 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)33 | Lijn | Paal_P_11 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)52 | Lijn | Paal_P_38 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)61 | Lijn | Paal_P_47 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)51 | Lijn | Paal_P_37 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)42 | Lijn | Paal_P_20 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)28 | Lijn | Paal_P_6 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)50 | Lijn | Paal_P_36 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)30 | Lijn | Paal_P_8 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)49 | Lijn | Paal_P_35 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)41 | Lijn | Paal_P_19 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)31 | Lijn | Paal_P_9 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)7 | Lijn | Paal_P_29 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)23 | Lijn | Paal_P_65 | 11,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12,000 | | | | | | | | |
| (PY-curve-2_V4)47 | Lijn | Paal_P_33 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)40 | Lijn | Paal_P_18 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)17 | Lijn | Paal_P_59 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)46 | Lijn | Paal_P_32 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)63 | Lijn | Paal_P_49 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)13 | Lijn | Paal_P_55 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)39 | Lijn | Paal_P_17 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)18 | Lijn | Paal_P_60 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)44 | Lijn | Paal_P_30 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)21 | Lijn | Paal_P_63 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)16 | Lijn | Paal_P_58 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)32 | Lijn | Paal_P_10 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)48 | Lijn | Paal_P_34 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)38 | Lijn | Paal_P_16 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)19 | Lijn | Paal_P_61 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)14 | Lijn | Paal_P_56 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)22 | Lijn | Paal_P_64 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)27 | Lijn | Paal_P_4 | 11,000<br>12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V5)53 | Lijn | Paal_P_55 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)13 | Lijn | Paal_P_15 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)51 | Lijn | Paal_P_53 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)6 | Lijn | Paal_P_8 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)45 | Lijn | Paal_P_28 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)50 | Lijn | Paal_P_52 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)44 | Lijn | Paal_P_27 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)12 | Lijn | Paal_P_14 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)48 | Lijn | Paal_P_50 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)27 | Lijn | Paal_P_49 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)26 | Lijn | Paal_P_48 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)43 | Lijn | Paal_P_25 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)25 | Lijn | Paal_P_47 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)11 | Lijn | Paal_P_13 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-2_V5)49 | Lijn | Paal_P_51 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)23 | Lijn | Paal_P_46 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)5 | Lijn | Paal_P_7 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)42 | Lijn | Paal_P_24 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)22 | Lijn | Paal_P_45 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)21 | Lijn | Paal_P_44 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)41 | Lijn | Paal_P_23 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)20 | Lijn | Paal_P_43 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)10 | Lijn | Paal_P_12 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)32 | Lijn | Paal_P_42 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)40 | Lijn | Paal_P_22 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)39 | Lijn | Paal_P_41 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)38 | Lijn | Paal_P_40 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)19 | Lijn | Paal_P_21 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)37 | Lijn | Paal_P_39 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)9 | Lijn | Paal_P_11 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)36 | Lijn | Paal_P_38 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)4 | Lijn | Paal_P_6 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)18 | Lijn | Paal_P_20 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)35 | Lijn | Paal_P_37 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)34 | Lijn | Paal_P_36 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)29 | Lijn | Paal_P_31 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)52 | Lijn | Paal_P_54 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)17 | Lijn | Paal_P_19 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)33 | Lijn | Paal_P_35 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)8 | Lijn | Paal_P_10 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)63 | Lijn | Paal_P_65 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)46 | Lijn | Paal_P_29 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)16 | Lijn | Paal_P_18 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)31 | Lijn | Paal_P_33 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)61 | Lijn | Paal_P_63 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)30 | Lijn | Paal_P_32 | 12,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13,000 | | | | | | | | |
| (PY-curve-2_V5)59 | Lijn | Paal_P_61 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)47 | Lijn | Paal_P_26 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)15 | Lijn | Paal_P_17 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)58 | Lijn | Paal_P_60 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)1 | Lijn | Paal_P_2 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)7 | Lijn | Paal_P_9 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)2 | Lijn | Paal_P_1 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)57 | Lijn | Paal_P_59 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)28 | Lijn | Paal_P_30 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)56 | Lijn | Paal_P_58 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)24 | Lijn | Paal_P_34 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)60 | Lijn | Paal_P_62 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)55 | Lijn | Paal_P_57 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)3 | Lijn | Paal_P_4 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)14 | Lijn | Paal_P_16 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5) | Lijn | Paal_P_3 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)54 | Lijn | Paal_P_56 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)62 | Lijn | Paal_P_64 | 12,000<br>13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V6)53 | Lijn | Paal_P_55 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)46 | Lijn | Paal_P_29 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)13 | Lijn | Paal_P_15 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)52 | Lijn | Paal_P_54 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)6 | Lijn | Paal_P_8 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)51 | Lijn | Paal_P_53 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)45 | Lijn | Paal_P_28 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)50 | Lijn | Paal_P_52 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)49 | Lijn | Paal_P_51 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)44 | Lijn | Paal_P_27 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)12 | Lijn | Paal_P_14 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)48 | Lijn | Paal_P_50 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)47 | Lijn | Paal_P_26 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)27 | Lijn | Paal_P_49 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-2_V6)26 | Lijn | Paal_P_48 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)43 | Lijn | Paal_P_25 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)25 | Lijn | Paal_P_47 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)11 | Lijn | Paal_P_13 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)5 | Lijn | Paal_P_7 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)23 | Lijn | Paal_P_46 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)42 | Lijn | Paal_P_24 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)22 | Lijn | Paal_P_45 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)21 | Lijn | Paal_P_44 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)41 | Lijn | Paal_P_23 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)20 | Lijn | Paal_P_43 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)10 | Lijn | Paal_P_12 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)32 | Lijn | Paal_P_42 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)40 | Lijn | Paal_P_22 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)39 | Lijn | Paal_P_41 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)38 | Lijn | Paal_P_40 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)19 | Lijn | Paal_P_21 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)37 | Lijn | Paal_P_39 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)9 | Lijn | Paal_P_11 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)4 | Lijn | Paal_P_6 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)36 | Lijn | Paal_P_38 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)2 | Lijn | Paal_P_1 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)18 | Lijn | Paal_P_20 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)35 | Lijn | Paal_P_37 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)34 | Lijn | Paal_P_36 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)1 | Lijn | Paal_P_2 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)17 | Lijn | Paal_P_19 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)33 | Lijn | Paal_P_35 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)8 | Lijn | Paal_P_10 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)24 | Lijn | Paal_P_34 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)62 | Lijn | Paal_P_64 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)16 | Lijn | Paal_P_18 | 13,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14,000 | | | | | | | | |
| (PY-curve-2_V6)31 | Lijn | Paal_P_33 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)61 | Lijn | Paal_P_63 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)30 | Lijn | Paal_P_32 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)60 | Lijn | Paal_P_62 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6) | Lijn | Paal_P_3 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)29 | Lijn | Paal_P_31 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)59 | Lijn | Paal_P_61 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)15 | Lijn | Paal_P_17 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)7 | Lijn | Paal_P_9 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)58 | Lijn | Paal_P_60 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)57 | Lijn | Paal_P_59 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)28 | Lijn | Paal_P_30 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)3 | Lijn | Paal_P_4 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)63 | Lijn | Paal_P_65 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)56 | Lijn | Paal_P_58 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)14 | Lijn | Paal_P_16 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)55 | Lijn | Paal_P_57 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)54 | Lijn | Paal_P_56 | 13,000<br>14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V7)53 | Lijn | Paal_P_55 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)46 | Lijn | Paal_P_29 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)6 | Lijn | Paal_P_8 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)13 | Lijn | Paal_P_15 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)52 | Lijn | Paal_P_54 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)51 | Lijn | Paal_P_53 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)45 | Lijn | Paal_P_28 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)50 | Lijn | Paal_P_52 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)12 | Lijn | Paal_P_14 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)44 | Lijn | Paal_P_27 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)49 | Lijn | Paal_P_51 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)48 | Lijn | Paal_P_50 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)47 | Lijn | Paal_P_26 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)27 | Lijn | Paal_P_49 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-2_V7)26 | Lijn | Paal_P_48 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)11 | Lijn | Paal_P_13 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)43 | Lijn | Paal_P_25 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)5 | Lijn | Paal_P_7 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)25 | Lijn | Paal_P_47 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)23 | Lijn | Paal_P_46 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)42 | Lijn | Paal_P_24 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)22 | Lijn | Paal_P_45 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)21 | Lijn | Paal_P_44 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)10 | Lijn | Paal_P_12 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)41 | Lijn | Paal_P_23 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)2 | Lijn | Paal_P_1 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)20 | Lijn | Paal_P_43 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)32 | Lijn | Paal_P_42 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)1 | Lijn | Paal_P_2 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)40 | Lijn | Paal_P_22 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)39 | Lijn | Paal_P_41 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)38 | Lijn | Paal_P_40 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)9 | Lijn | Paal_P_11 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)19 | Lijn | Paal_P_21 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7) | Lijn | Paal_P_3 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)4 | Lijn | Paal_P_6 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)37 | Lijn | Paal_P_39 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)36 | Lijn | Paal_P_38 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)18 | Lijn | Paal_P_20 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)35 | Lijn | Paal_P_37 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)34 | Lijn | Paal_P_36 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)8 | Lijn | Paal_P_10 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)17 | Lijn | Paal_P_19 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)33 | Lijn | Paal_P_35 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)24 | Lijn | Paal_P_34 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)16 | Lijn | Paal_P_18 | 14,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,000 | | | | | | | | |
| (PY-curve-2_V7)63 | Lijn | Paal_P_65 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)62 | Lijn | Paal_P_64 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)31 | Lijn | Paal_P_33 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)61 | Lijn | Paal_P_63 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)30 | Lijn | Paal_P_32 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)60 | Lijn | Paal_P_62 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)59 | Lijn | Paal_P_61 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)15 | Lijn | Paal_P_17 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)29 | Lijn | Paal_P_31 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)3 | Lijn | Paal_P_4 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)7 | Lijn | Paal_P_9 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)58 | Lijn | Paal_P_60 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)57 | Lijn | Paal_P_59 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)28 | Lijn | Paal_P_30 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)56 | Lijn | Paal_P_58 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)14 | Lijn | Paal_P_16 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)55 | Lijn | Paal_P_57 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)54 | Lijn | Paal_P_56 | 14,000<br>15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V8)13 | Lijn | Paal_P_15 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)6 | Lijn | Paal_P_8 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)12 | Lijn | Paal_P_14 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)27 | Lijn | Paal_P_49 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)26 | Lijn | Paal_P_48 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)2 | Lijn | Paal_P_1 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)5 | Lijn | Paal_P_7 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)11 | Lijn | Paal_P_13 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)25 | Lijn | Paal_P_47 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)1 | Lijn | Paal_P_2 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)23 | Lijn | Paal_P_46 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8) | Lijn | Paal_P_3 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)22 | Lijn | Paal_P_45 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)21 | Lijn | Paal_P_44 | 15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |

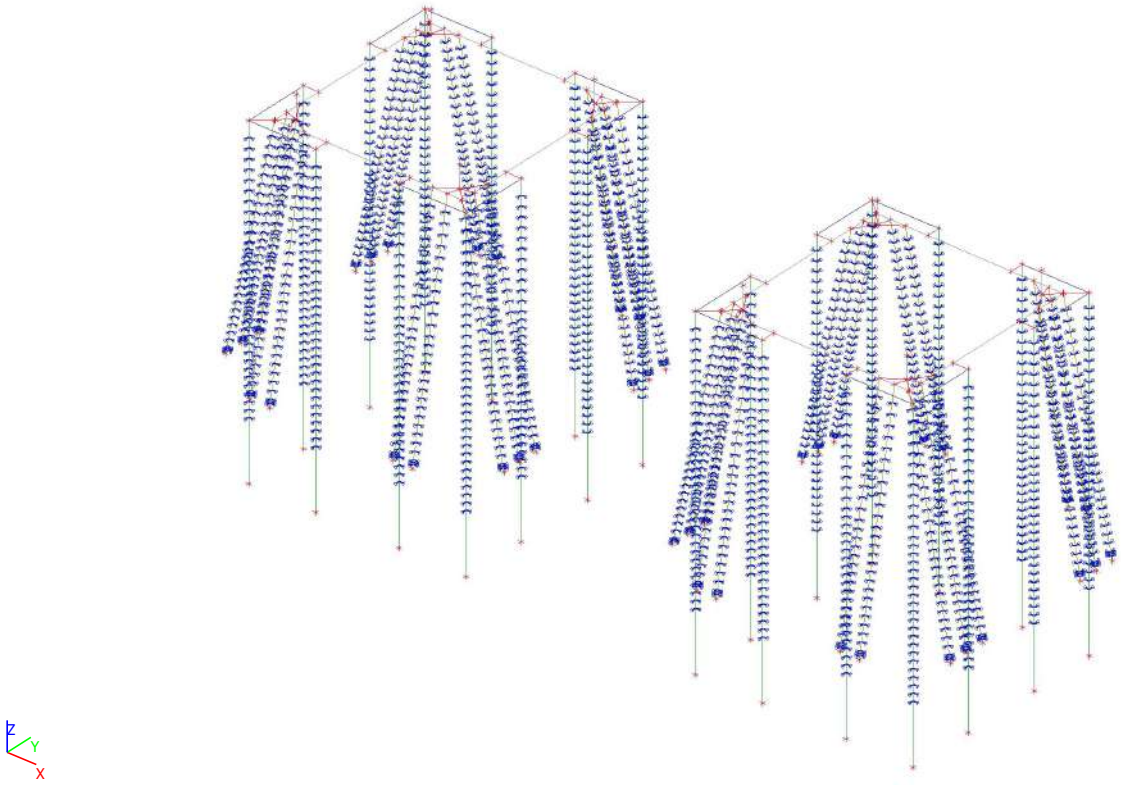
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15,250 | | | | | | | | |
| (PY-curve-2_V8)10 | Lijn | Paal_P_12 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)20 | Lijn | Paal_P_43 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)32 | Lijn | Paal_P_42 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)39 | Lijn | Paal_P_41 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)38 | Lijn | Paal_P_40 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)4 | Lijn | Paal_P_6 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)9 | Lijn | Paal_P_11 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)19 | Lijn | Paal_P_21 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)37 | Lijn | Paal_P_39 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)36 | Lijn | Paal_P_38 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)18 | Lijn | Paal_P_20 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)35 | Lijn | Paal_P_37 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)34 | Lijn | Paal_P_36 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)8 | Lijn | Paal_P_10 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)17 | Lijn | Paal_P_19 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)33 | Lijn | Paal_P_35 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)24 | Lijn | Paal_P_34 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)16 | Lijn | Paal_P_18 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)31 | Lijn | Paal_P_33 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)30 | Lijn | Paal_P_32 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)7 | Lijn | Paal_P_9 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)3 | Lijn | Paal_P_4 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)15 | Lijn | Paal_P_17 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)29 | Lijn | Paal_P_31 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)28 | Lijn | Paal_P_30 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)14 | Lijn | Paal_P_16 | 15,000<br>15,250 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)46 | Lijn | Paal_P_29 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)52 | Lijn | Paal_P_54 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)51 | Lijn | Paal_P_53 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)45 | Lijn | Paal_P_28 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)50 | Lijn | Paal_P_52 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)44 | Lijn | Paal_P_27 | 15,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16,000 | | | | | | | | |
| (PY-curve-2_V8)49 | Lijn | Paal_P_51 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)48 | Lijn | Paal_P_50 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)47 | Lijn | Paal_P_26 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)43 | Lijn | Paal_P_25 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)42 | Lijn | Paal_P_24 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)41 | Lijn | Paal_P_23 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)40 | Lijn | Paal_P_22 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)63 | Lijn | Paal_P_65 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)62 | Lijn | Paal_P_64 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)61 | Lijn | Paal_P_63 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)60 | Lijn | Paal_P_62 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)59 | Lijn | Paal_P_61 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)58 | Lijn | Paal_P_60 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)57 | Lijn | Paal_P_59 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)56 | Lijn | Paal_P_58 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)55 | Lijn | Paal_P_57 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)54 | Lijn | Paal_P_56 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)53 | Lijn | Paal_P_55 | 15,000<br>16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V9)2 | Lijn | Paal_P_25 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)1 | Lijn | Paal_P_28 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9) | Lijn | Paal_P_27 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)12 | Lijn | Paal_P_54 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)11 | Lijn | Paal_P_53 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)10 | Lijn | Paal_P_52 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)9 | Lijn | Paal_P_51 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)8 | Lijn | Paal_P_50 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)23 | Lijn | Paal_P_65 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)22 | Lijn | Paal_P_64 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)21 | Lijn | Paal_P_63 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)20 | Lijn | Paal_P_62 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)19 | Lijn | Paal_P_61 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)18 | Lijn | Paal_P_60 | 16,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |

| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17,000 | | | | | | | | |
| (PY-curve-2_V9)17 | Lijn | Paal_P_59 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)16 | Lijn | Paal_P_58 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)15 | Lijn | Paal_P_57 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)14 | Lijn | Paal_P_56 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)7 | Lijn | Paal_P_23 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)6 | Lijn | Paal_P_26 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)5 | Lijn | Paal_P_22 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)4 | Lijn | Paal_P_24 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)3 | Lijn | Paal_P_29 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)13 | Lijn | Paal_P_55 | 16,000<br>17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V10)12 | Lijn | Paal_P_54 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)11 | Lijn | Paal_P_53 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)10 | Lijn | Paal_P_52 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)9 | Lijn | Paal_P_51 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)8 | Lijn | Paal_P_50 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)23 | Lijn | Paal_P_65 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)22 | Lijn | Paal_P_64 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)21 | Lijn | Paal_P_63 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)20 | Lijn | Paal_P_62 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)19 | Lijn | Paal_P_61 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)18 | Lijn | Paal_P_60 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)17 | Lijn | Paal_P_59 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)16 | Lijn | Paal_P_58 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)7 | Lijn | Paal_P_28 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)15 | Lijn | Paal_P_57 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)6 | Lijn | Paal_P_29 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)5 | Lijn | Paal_P_25 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)4 | Lijn | Paal_P_24 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)3 | Lijn | Paal_P_27 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)2 | Lijn | Paal_P_22 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)1 | Lijn | Paal_P_26 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)14 | Lijn | Paal_P_56 | 17,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |

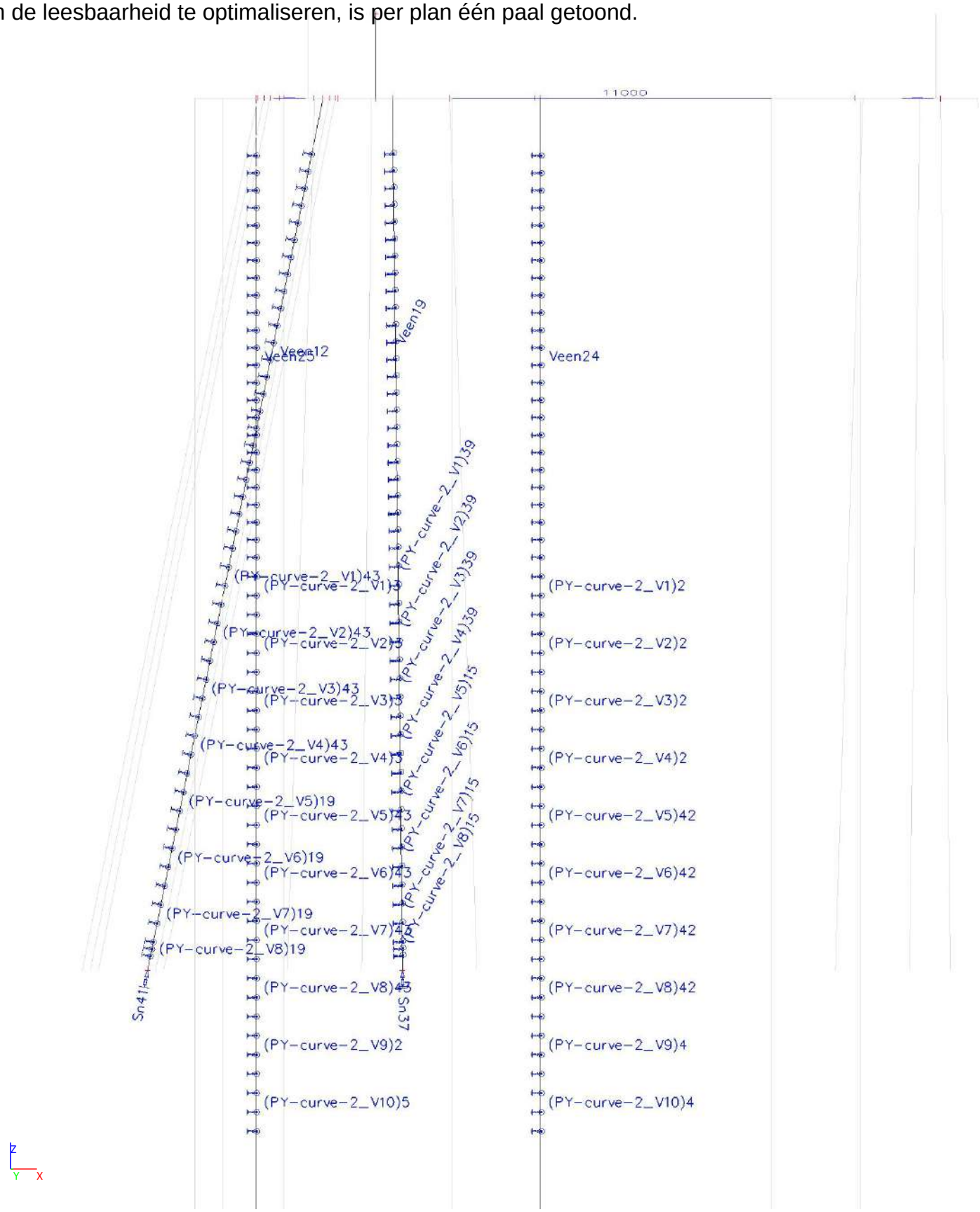
| Naam | Type | Staaf | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Functie Y | Functie Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 18,000 | | | | | | | | |
| (PY-curve-2_V10) | Lijn | Paal_P_23 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)13 | Lijn | Paal_P_55 | 17,000<br>18,000 | Vrij | Niet-lineair | Niet-lineair | Vrij | Vrij | Vrij | PY-curve-2_V10.B | PY-curve-2_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



### 5.9. Analyse model met Lijnondersteuningen

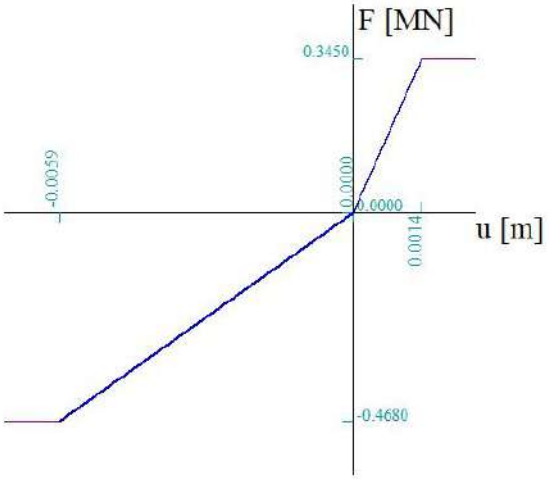
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Niet-lineaire functies

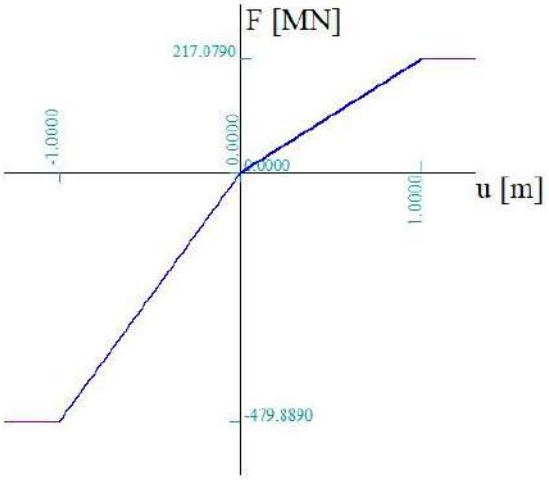
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-S+paalpunt mast 157 | Verplaatsing | -5,8500e-03[m] / -4,6800e-01[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3700e-03[m] / 3,4500e-01[MN] | | |

Tekenen



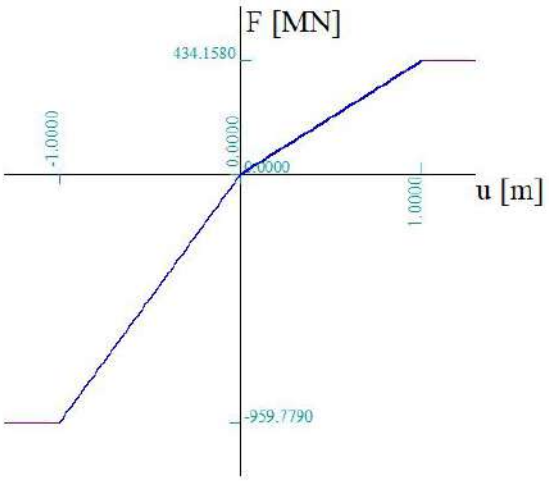

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Verplaatsing | -1,0000e+00[m] / -4,7989e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,1708e+02[MN] | | |

Tekenen



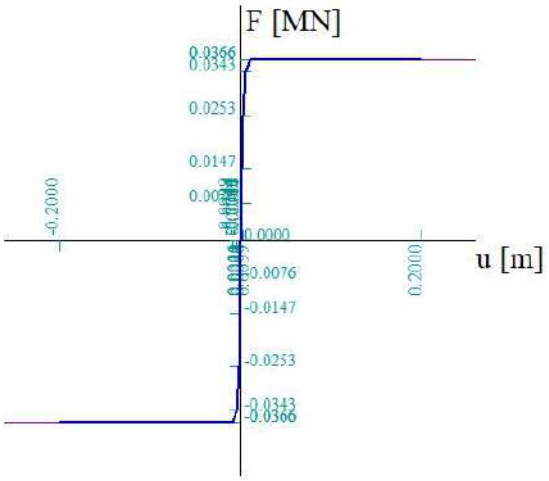

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| Trek-druk-paalpunt.LEKA.BG. | Verplaatsing | -1,0000e+00[m] / -9,5978e+02[MN] | Vrij | Vrij |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 4,3416e+02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1 | Verplaatsing | -2,0000e-01[m] / -3,6624e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,6624e-02[MN] | | |
| | | -4,4000e-03[m] / -3,4259e-02[MN] | | |
| | | -2,2000e-03[m] / -2,5265e-02[MN] | | |
| | | -1,1000e-03[m] / -1,4650e-02[MN] | | |
| | | -5,5000e-04[m] / -7,6435e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 7,6435e-03[MN] | | |
| | | 1,1000e-03[m] / 1,4650e-02[MN] | | |
| | | 2,2000e-03[m] / 2,5265e-02[MN] | | |
| | | 4,4000e-03[m] / 3,4259e-02[MN] | | |
| | | 9,9000e-03[m] / 3,6624e-02[MN] | | |
| | | 2,0000e-01[m] / 3,6624e-02[MN] | | |

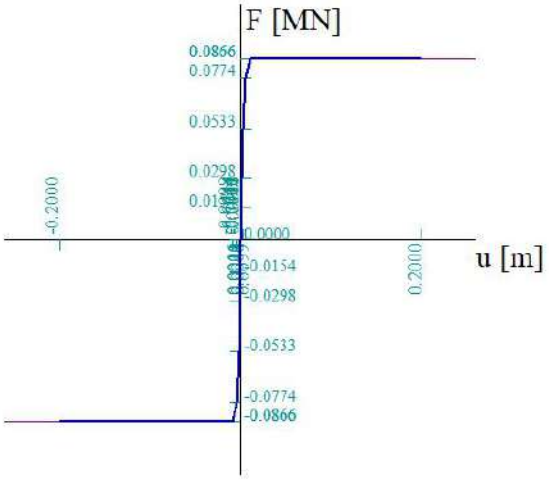
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V2 | Verplaatsing | -2,0000e-01[m] / -8,6571e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -8,6571e-02[MN] | | |
| | | -4,4000e-03[m] / -7,7425e-02[MN] | | |
| | | -2,2000e-03[m] / -5,3284e-02[MN] | | |
| | | -1,1000e-03[m] / -2,9773e-02[MN] | | |
| | | -5,5000e-04[m] / -1,5351e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,5351e-02[MN] | | |
| | | 1,1000e-03[m] / 2,9773e-02[MN] | | |
| | | 2,2000e-03[m] / 5,3284e-02[MN] | | |

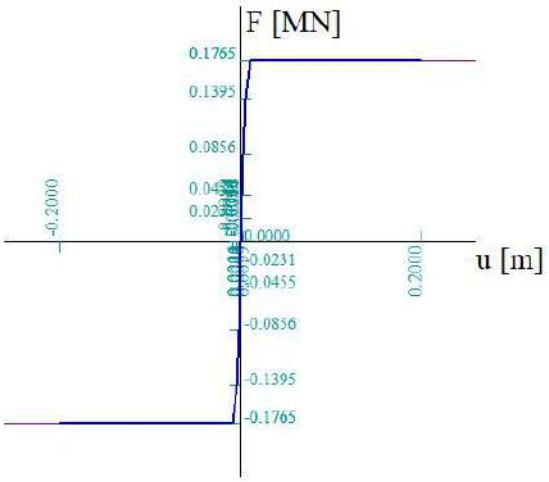
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 7,7425e-02[MN] | | |
| | | 9,9000e-03[m] / 8,6571e-02[MN] | | |
| | | 2,0000e-01[m] / 8,6571e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V3 | Verplaatsing | -2,0000e-01[m] / -1,7645e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,7645e-01[MN] | | |
| | | -4,4000e-03[m] / -1,3955e-01[MN] | | |
| | | -2,2000e-03[m] / -8,5576e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5531e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3143e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3143e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5531e-02[MN] | | |
| | | 2,2000e-03[m] / 8,5576e-02[MN] | | |
| | | 4,4000e-03[m] / 1,3955e-01[MN] | | |
| | | 9,9000e-03[m] / 1,7645e-01[MN] | | |
| | | 2,0000e-01[m] / 1,7645e-01[MN] | | |

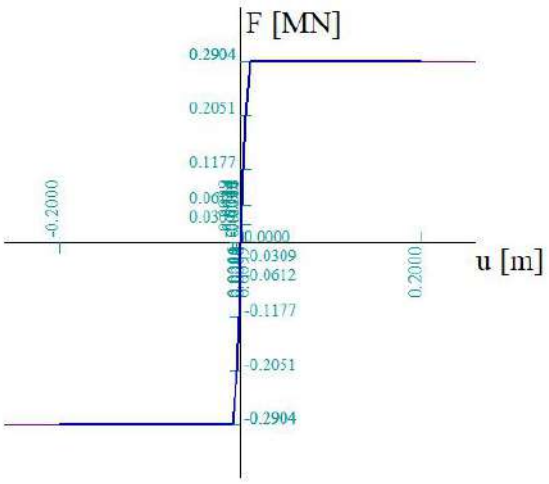
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V4 | Verplaatsing | -2,0000e-01[m] / -2,9038e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,9038e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0506e-01[MN] | | |
| | | -2,2000e-03[m] / -1,1772e-01[MN] | | |

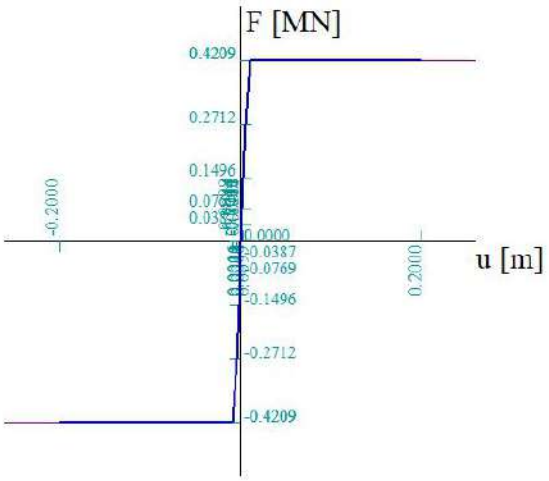
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -6,1220e-02[MN] | | |
| | | -5,5000e-04[m] / -3,0923e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,0923e-02[MN] | | |
| | | 1,1000e-03[m] / 6,1220e-02[MN] | | |
| | | 2,2000e-03[m] / 1,1772e-01[MN] | | |
| | | 4,4000e-03[m] / 2,0506e-01[MN] | | |
| | | 9,9000e-03[m] / 2,9038e-01[MN] | | |
| | | 2,0000e-01[m] / 2,9038e-01[MN] | | |

Tekenen



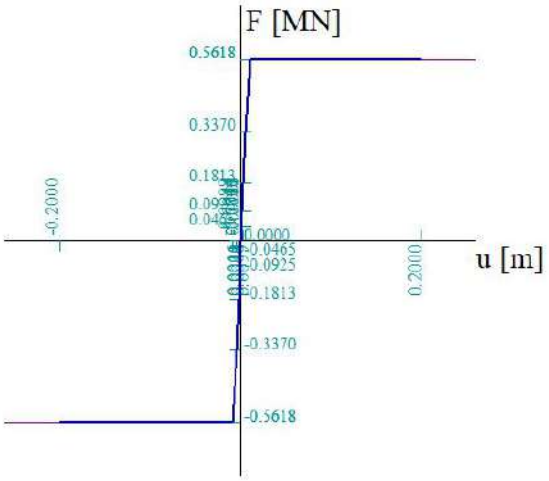

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V5 | Verplaatsing | -2,0000e-01[m] / -4,2094e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -4,2094e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7117e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4963e-01[MN] | | |
| | | -1,1000e-03[m] / -7,6860e-02[MN] | | |
| | | -5,5000e-04[m] / -3,8696e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,8696e-02[MN] | | |
| | | 1,1000e-03[m] / 7,6860e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4963e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7117e-01[MN] | | |
| | | 9,9000e-03[m] / 4,2094e-01[MN] | | |
| | | 2,0000e-01[m] / 4,2094e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V6 | Verplaatsing | -2,0000e-01[m] / -5,6184e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -5,6184e-01[MN] | | |
| | | -4,4000e-03[m] / -3,3701e-01[MN] | | |
| | | -2,2000e-03[m] / -1,8134e-01[MN] | | |
| | | -1,1000e-03[m] / -9,2468e-02[MN] | | |
| | | -5,5000e-04[m] / -4,6465e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,6465e-02[MN] | | |
| | | 1,1000e-03[m] / 9,2468e-02[MN] | | |
| | | 2,2000e-03[m] / 1,8134e-01[MN] | | |
| | | 4,4000e-03[m] / 3,3701e-01[MN] | | |
| | | 9,9000e-03[m] / 5,6184e-01[MN] | | |
| | | 2,0000e-01[m] / 5,6184e-01[MN] | | |

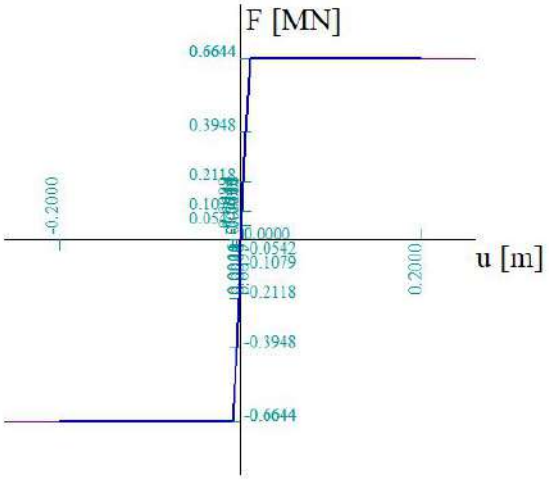
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V7 | Verplaatsing | -2,0000e-01[m] / -6,6436e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -6,6436e-01[MN] | | |
| | | -4,4000e-03[m] / -3,9481e-01[MN] | | |
| | | -2,2000e-03[m] / -2,1181e-01[MN] | | |
| | | -1,1000e-03[m] / -1,0791e-01[MN] | | |
| | | -5,5000e-04[m] / -5,4214e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 5,4214e-02[MN] | | |
| | | 1,1000e-03[m] / 1,0791e-01[MN] | | |
| | | 2,2000e-03[m] / 2,1181e-01[MN] | | |

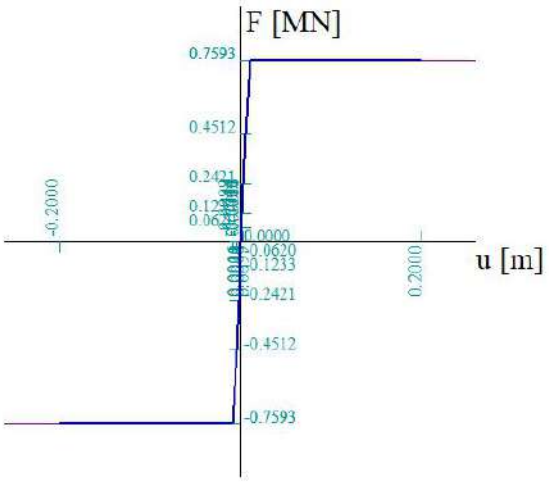
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 3,9481e-01[MN] | | |
| | | 9,9000e-03[m] / 6,6436e-01[MN] | | |
| | | 2,0000e-01[m] / 6,6436e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V8 | Verplaatsing | -2,0000e-01[m] / -7,5927e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -7,5927e-01[MN] | | |
| | | -4,4000e-03[m] / -4,5121e-01[MN] | | |
| | | -2,2000e-03[m] / -2,4207e-01[MN] | | |
| | | -1,1000e-03[m] / -1,2333e-01[MN] | | |
| | | -5,5000e-04[m] / -6,1959e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 6,1959e-02[MN] | | |
| | | 1,1000e-03[m] / 1,2333e-01[MN] | | |
| | | 2,2000e-03[m] / 2,4207e-01[MN] | | |
| | | 4,4000e-03[m] / 4,5121e-01[MN] | | |
| | | 9,9000e-03[m] / 7,5927e-01[MN] | | |
| | | 2,0000e-01[m] / 7,5927e-01[MN] | | |

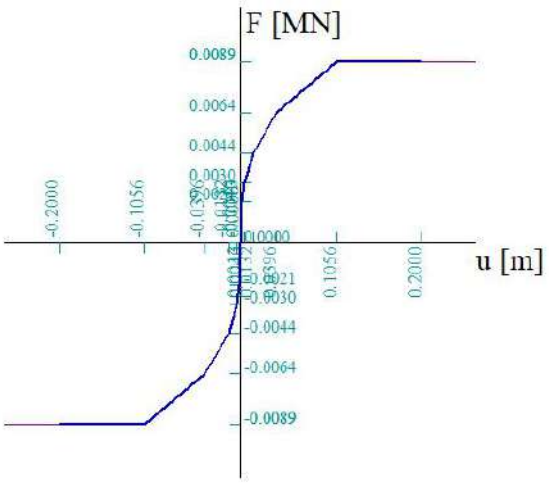
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen | Verplaatsing | -2,0000e-01[m] / -8,8944e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -8,8944e-03[MN] | | |
| | | -3,9600e-02[m] / -6,4138e-03[MN] | | |
| | | -1,3200e-02[m] / -4,4477e-03[MN] | | |

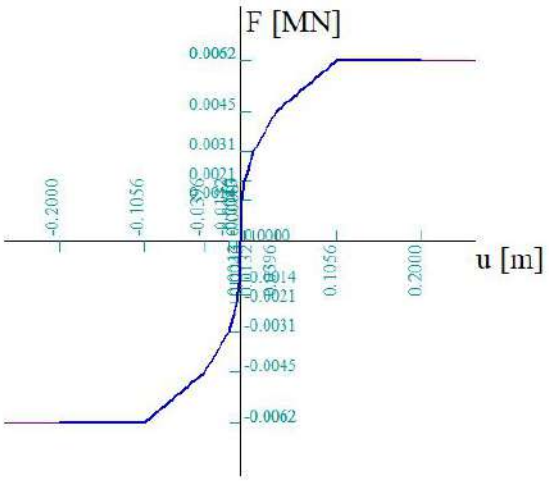
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -3,9600e-03[m] / -2,9770e-03[MN] | | |
| | | -1,3200e-03[m] / -2,0640e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 2,0640e-03[MN] | | |
| | | 3,9600e-03[m] / 2,9770e-03[MN] | | |
| | | 1,3200e-02[m] / 4,4477e-03[MN] | | |
| | | 3,9600e-02[m] / 6,4138e-03[MN] | | |
| | | 1,0560e-01[m] / 8,8944e-03[MN] | | |
| | | 2,0000e-01[m] / 8,8944e-03[MN] | | |

Tekenen



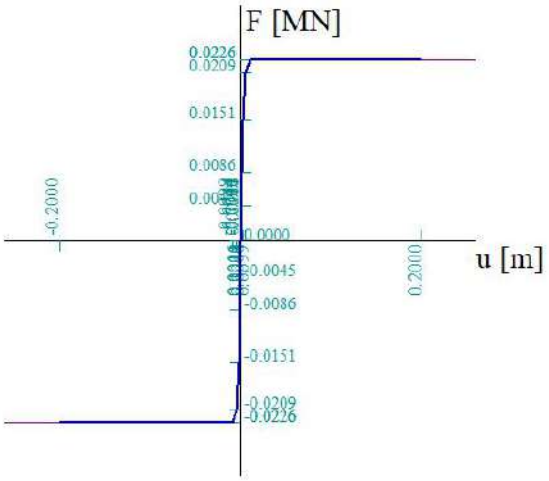

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Verplaatsing | -2,0000e-01[m] / -6,2016e-03[MN] | Vrij | Vrij |
| | | -1,0560e-01[m] / -6,2016e-03[MN] | | |
| | | -3,9600e-02[m] / -4,4721e-03[MN] | | |
| | | -1,3200e-02[m] / -3,1008e-03[MN] | | |
| | | -3,9600e-03[m] / -2,0758e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4393e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4393e-03[MN] | | |
| | | 3,9600e-03[m] / 2,0758e-03[MN] | | |
| | | 1,3200e-02[m] / 3,1008e-03[MN] | | |
| | | 3,9600e-02[m] / 4,4721e-03[MN] | | |
| | | 1,0560e-01[m] / 6,2016e-03[MN] | | |
| | | 2,0000e-01[m] / 6,2016e-03[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V1.B | Verplaatsing | -2,0000e-01[m] / -2,2567e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,2567e-02[MN] | | |
| | | -4,4000e-03[m] / -2,0854e-02[MN] | | |
| | | -2,2000e-03[m] / -1,5054e-02[MN] | | |
| | | -1,1000e-03[m] / -8,6224e-03[MN] | | |
| | | -5,5000e-04[m] / -4,4807e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,4807e-03[MN] | | |
| | | 1,1000e-03[m] / 8,6224e-03[MN] | | |
| | | 2,2000e-03[m] / 1,5054e-02[MN] | | |
| | | 4,4000e-03[m] / 2,0854e-02[MN] | | |
| | | 9,9000e-03[m] / 2,2567e-02[MN] | | |
| | | 2,0000e-01[m] / 2,2567e-02[MN] | | |

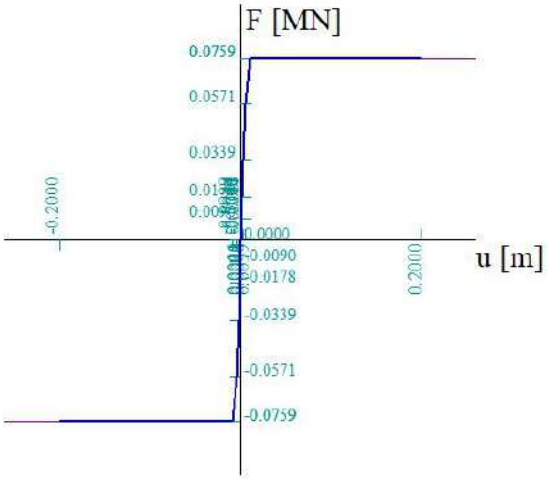
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V2.B | Verplaatsing | -2,0000e-01[m] / -7,5874e-02[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -7,5874e-02[MN] | | |
| | | -4,4000e-03[m] / -5,7108e-02[MN] | | |
| | | -2,2000e-03[m] / -3,3923e-02[MN] | | |
| | | -1,1000e-03[m] / -1,7844e-02[MN] | | |
| | | -5,5000e-04[m] / -9,0410e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 9,0410e-03[MN] | | |
| | | 1,1000e-03[m] / 1,7844e-02[MN] | | |
| | | 2,2000e-03[m] / 3,3923e-02[MN] | | |

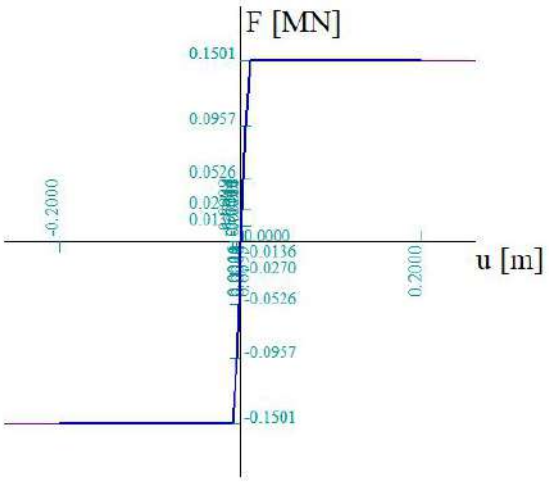
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 5,7108e-02[MN] | | |
| | | 9,9000e-03[m] / 7,5874e-02[MN] | | |
| | | 2,0000e-01[m] / 7,5874e-02[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V3.B | Verplaatsing | -2,0000e-01[m] / -1,5011e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -1,5011e-01[MN] | | |
| | | -4,4000e-03[m] / -9,5744e-02[MN] | | |
| | | -2,2000e-03[m] / -5,2633e-02[MN] | | |
| | | -1,1000e-03[m] / -2,7005e-02[MN] | | |
| | | -5,5000e-04[m] / -1,3592e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,3592e-02[MN] | | |
| | | 1,1000e-03[m] / 2,7005e-02[MN] | | |
| | | 2,2000e-03[m] / 5,2633e-02[MN] | | |
| | | 4,4000e-03[m] / 9,5744e-02[MN] | | |
| | | 9,9000e-03[m] / 1,5011e-01[MN] | | |
| | | 2,0000e-01[m] / 1,5011e-01[MN] | | |

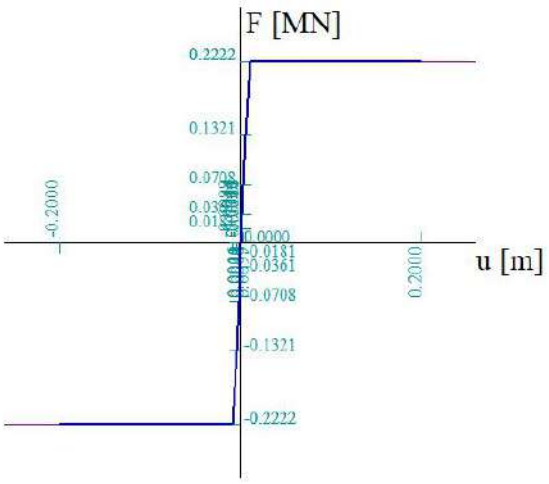
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V4.B | Verplaatsing | -2,0000e-01[m] / -2,2222e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,2222e-01[MN] | | |
| | | -4,4000e-03[m] / -1,3206e-01[MN] | | |
| | | -2,2000e-03[m] / -7,0850e-02[MN] | | |

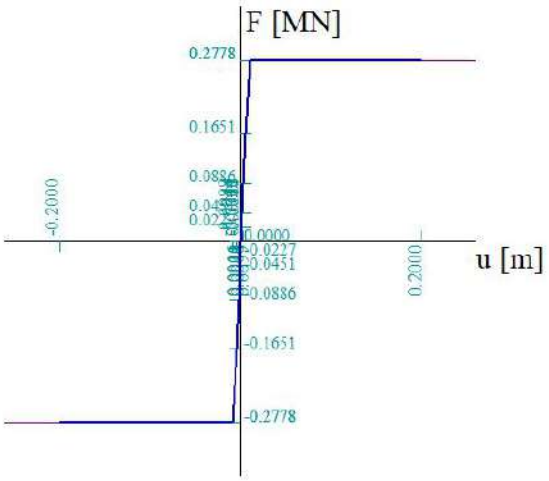
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -3,6096e-02[MN] | | |
| | | -5,5000e-04[m] / -1,8134e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,8134e-02[MN] | | |
| | | 1,1000e-03[m] / 3,6096e-02[MN] | | |
| | | 2,2000e-03[m] / 7,0850e-02[MN] | | |
| | | 4,4000e-03[m] / 1,3206e-01[MN] | | |
| | | 9,9000e-03[m] / 2,2222e-01[MN] | | |
| | | 2,0000e-01[m] / 2,2222e-01[MN] | | |

Tekenen



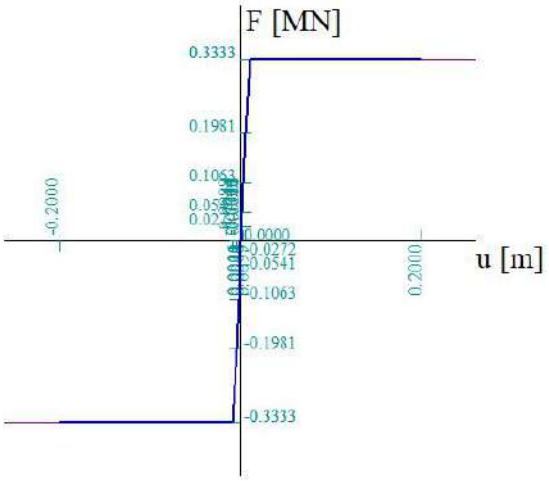

| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V5.B | Verplaatsing | -2,0000e-01[m] / -2,7778e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -2,7778e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6508e-01[MN] | | |
| | | -2,2000e-03[m] / -8,8562e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5120e-02[MN] | | |
| | | -5,5000e-04[m] / -2,2668e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,2668e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5120e-02[MN] | | |
| | | 2,2000e-03[m] / 8,8562e-02[MN] | | |
| | | 4,4000e-03[m] / 1,6508e-01[MN] | | |
| | | 9,9000e-03[m] / 2,7778e-01[MN] | | |
| | | 2,0000e-01[m] / 2,7778e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V6.B | Verplaatsing | -2,0000e-01[m] / -3,3334e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,3334e-01[MN] | | |
| | | -4,4000e-03[m] / -1,9809e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0627e-01[MN] | | |
| | | -1,1000e-03[m] / -5,4144e-02[MN] | | |
| | | -5,5000e-04[m] / -2,7201e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,7201e-02[MN] | | |
| | | 1,1000e-03[m] / 5,4144e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0627e-01[MN] | | |
| | | 4,4000e-03[m] / 1,9809e-01[MN] | | |
| | | 9,9000e-03[m] / 3,3334e-01[MN] | | |
| | | 2,0000e-01[m] / 3,3334e-01[MN] | | |

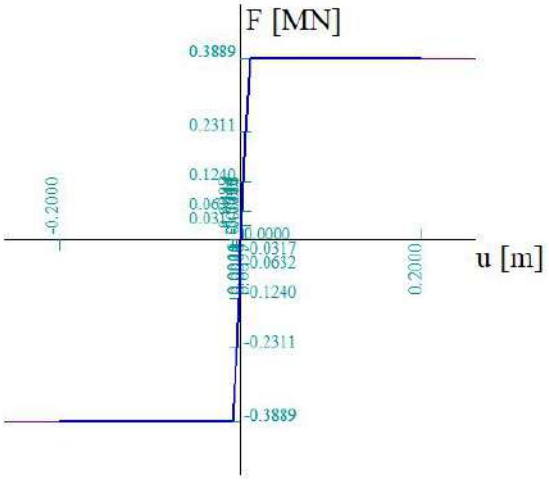
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V7.B | Verplaatsing | -2,0000e-01[m] / -3,8889e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -3,8889e-01[MN] | | |
| | | -4,4000e-03[m] / -2,3111e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2399e-01[MN] | | |
| | | -1,1000e-03[m] / -6,3168e-02[MN] | | |
| | | -5,5000e-04[m] / -3,1735e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,1735e-02[MN] | | |
| | | 1,1000e-03[m] / 6,3168e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2399e-01[MN] | | |

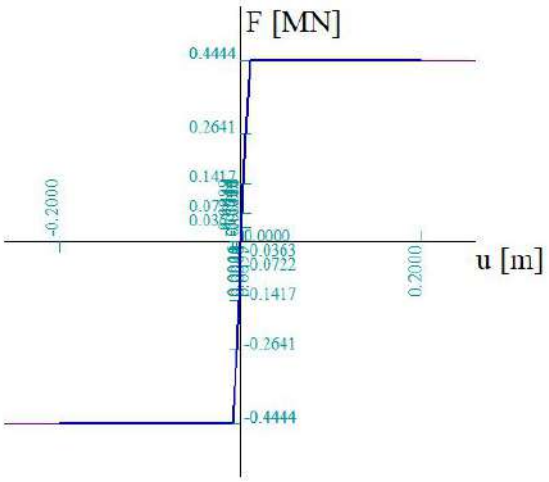
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 2,3111e-01[MN] | | |
| | | 9,9000e-03[m] / 3,8889e-01[MN] | | |
| | | 2,0000e-01[m] / 3,8889e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V8.B | Verplaatsing | -2,0000e-01[m] / -4,4445e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -4,4445e-01[MN] | | |
| | | -4,4000e-03[m] / -2,6412e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4170e-01[MN] | | |
| | | -1,1000e-03[m] / -7,2192e-02[MN] | | |
| | | -5,5000e-04[m] / -3,6268e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,6268e-02[MN] | | |
| | | 1,1000e-03[m] / 7,2192e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4170e-01[MN] | | |
| | | 4,4000e-03[m] / 2,6412e-01[MN] | | |
| | | 9,9000e-03[m] / 4,4445e-01[MN] | | |
| | | 2,0000e-01[m] / 4,4445e-01[MN] | | |

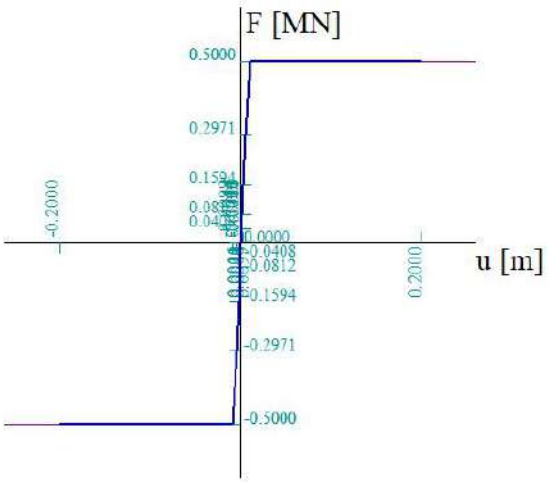
Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V9.B | Verplaatsing | -2,0000e-01[m] / -5,0000e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -5,0000e-01[MN] | | |
| | | -4,4000e-03[m] / -2,9714e-01[MN] | | |
| | | -2,2000e-03[m] / -1,5941e-01[MN] | | |

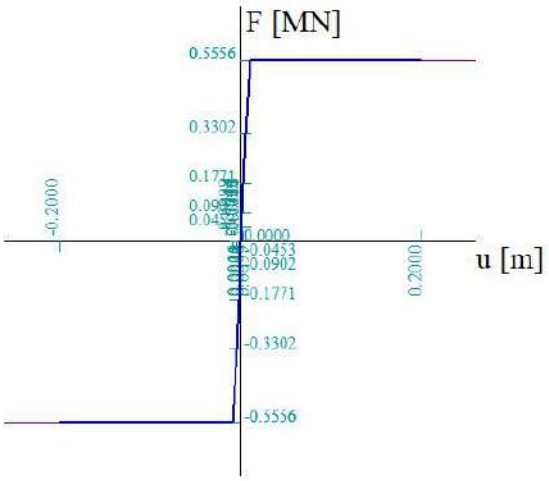
| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -8,1216e-02[MN] | | |
| | | -5,5000e-04[m] / -4,0802e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,0802e-02[MN] | | |
| | | 1,1000e-03[m] / 8,1216e-02[MN] | | |
| | | 2,2000e-03[m] / 1,5941e-01[MN] | | |
| | | 4,4000e-03[m] / 2,9714e-01[MN] | | |
| | | 9,9000e-03[m] / 5,0000e-01[MN] | | |
| | | 2,0000e-01[m] / 5,0000e-01[MN] | | |

Tekenen




| Naam | Type | u / F | Positief einde | Negatief einde |
|---|---|---|---|---|
| PY-curve-2_V10.B | Verplaatsing | -2,0000e-01[m] / -5,5556e-01[MN] | Vrij | Vrij |
| | | -9,9000e-03[m] / -5,5556e-01[MN] | | |
| | | -4,4000e-03[m] / -3,3015e-01[MN] | | |
| | | -2,2000e-03[m] / -1,7712e-01[MN] | | |
| | | -1,1000e-03[m] / -9,0240e-02[MN] | | |
| | | -5,5000e-04[m] / -4,5336e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,5336e-02[MN] | | |
| | | 1,1000e-03[m] / 9,0240e-02[MN] | | |
| | | 2,2000e-03[m] / 1,7712e-01[MN] | | |
| | | 4,4000e-03[m] / 3,3015e-01[MN] | | |
| | | 9,9000e-03[m] / 5,5556e-01[MN] | | |
| | | 2,0000e-01[m] / 5,5556e-01[MN] | | |

Tekenen

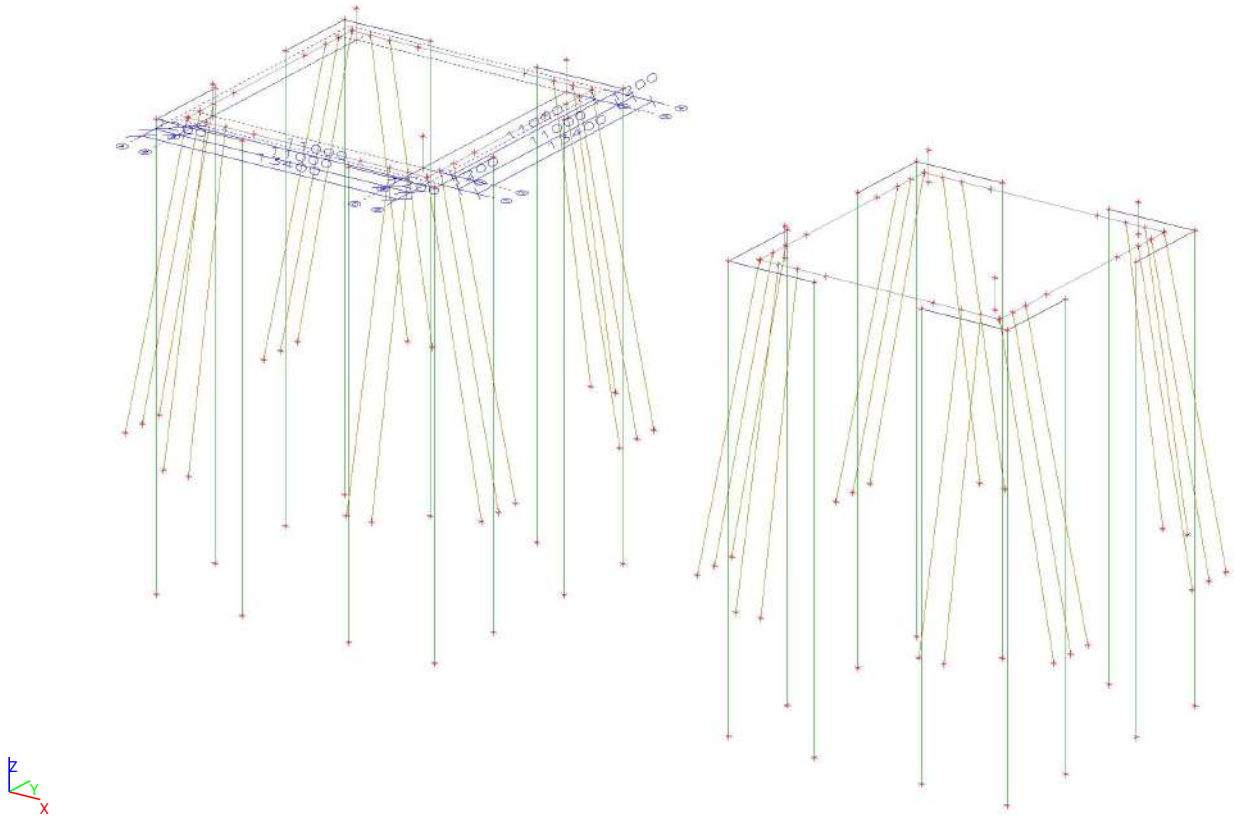

F [MN]
0.5556
0.3302
0.1771
0.0902
0.0453
0.0000
-0.2000
0.2000
u [m]
-0.0902
-0.1771
-0.3302
-0.5556

# 6. Belastingen

## 6.1. Belastingsgevallen

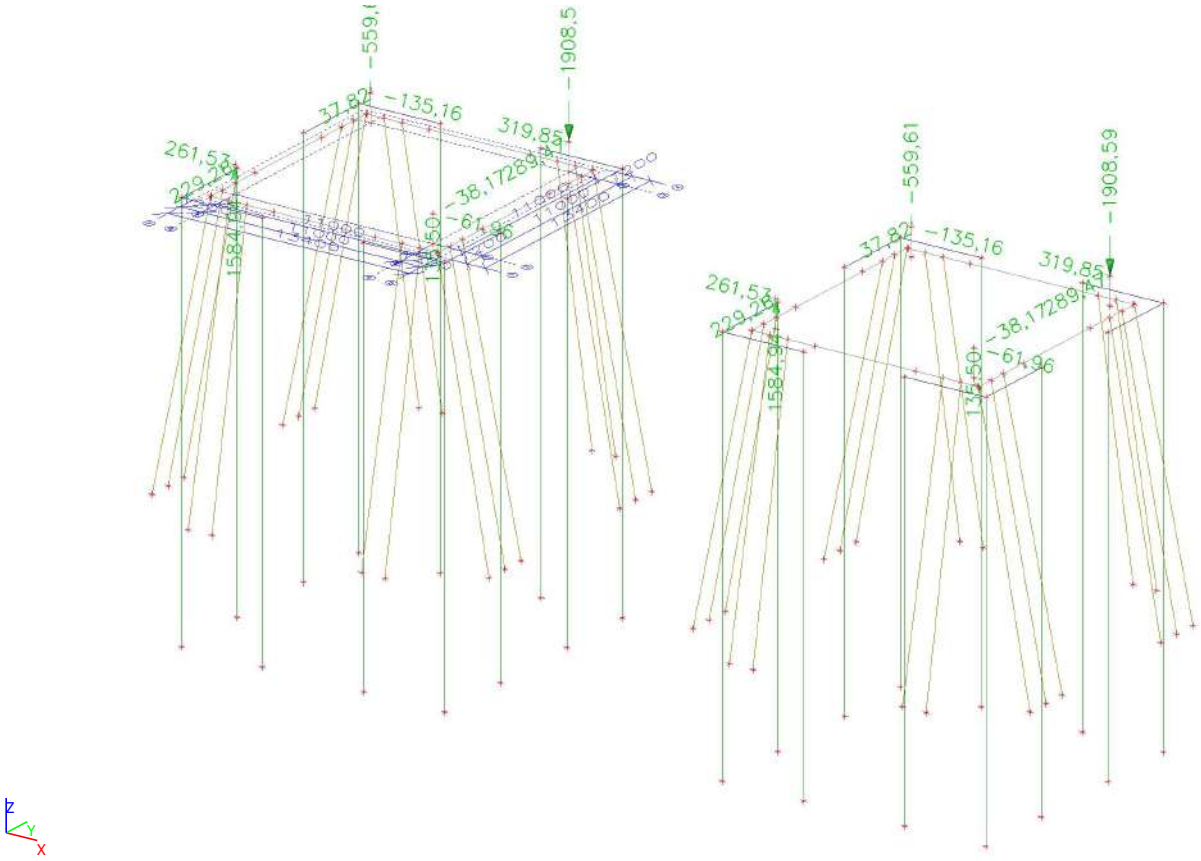
### 6.1.1. Belastingsgevallen - E.G.

| Naam | Omschrijving | Actie type | Lastgroep | Richting |
|---|---|---|---|---|
| | Spec | Belastingtype | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Eigen gewicht | | |



### 6.1.2. Belastingsgevallen - high max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



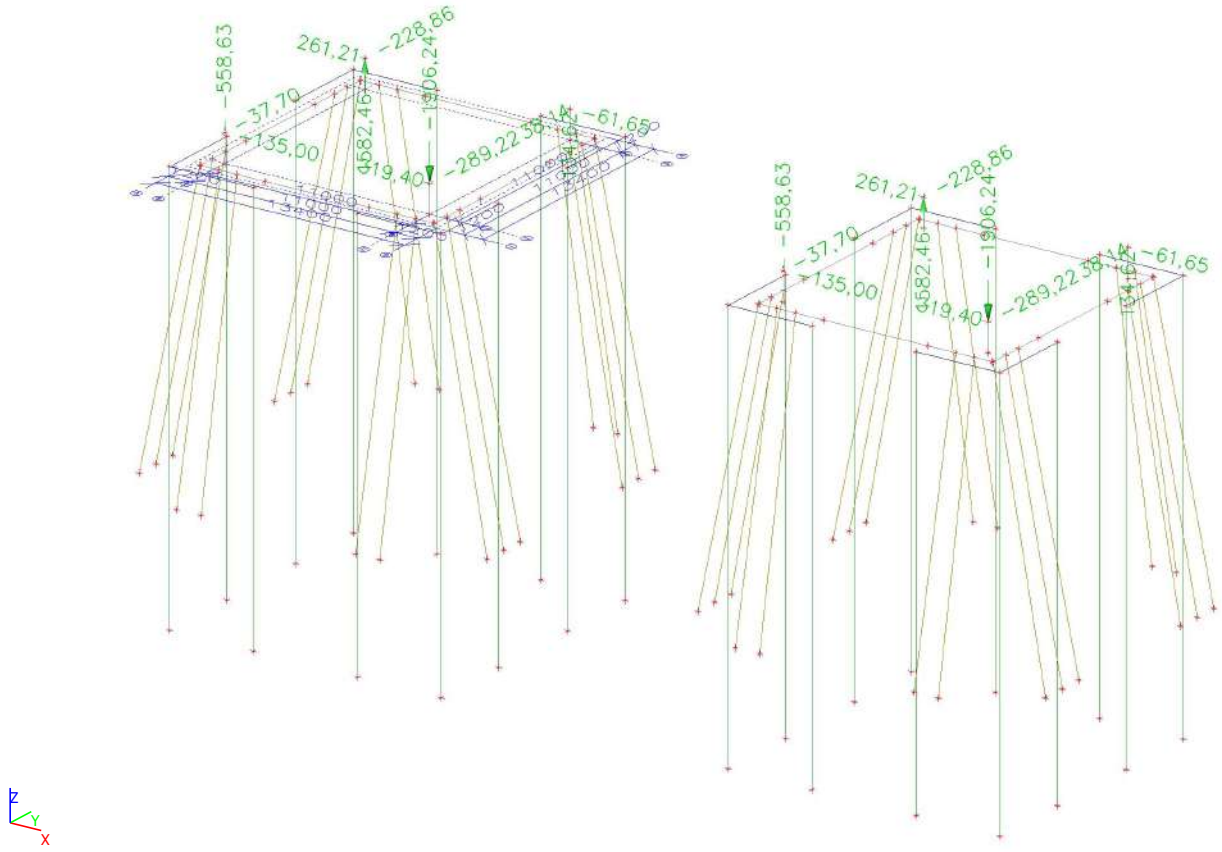

### *6.1.2.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Kracht | 261,53 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Kracht | 229,26 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Kracht | 1584,94 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Kracht | -135,16 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Kracht | 37,82 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Kracht | -559,61 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Kracht | 319,85 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Kracht | 289,47 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Kracht | -1908,59 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Kracht | -61,96 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Kracht | -38,17 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Kracht | 135,50 |
| high max Wnd ;135°_1Y_X1 | 1Y1 | high max Wnd ;135° | GCS | X | Kracht | -61,96 |
| high max Wnd ;135°_1Y_Y1 | 1Y1 | high max Wnd ;135° | GCS | Y | Kracht | -38,17 |
| high max Wnd | 1Y1 | high max Wnd ;135° | GCS | Z | Kracht | 135,50 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| high max Wnd ;135°_1XY_X1 | 1XY1 | high max Wnd ;135° | GCS | X | Kracht | 319,85 |
| high max Wnd ;135°_1XY_Y1 | 1XY1 | high max Wnd ;135° | GCS | Y | Kracht | 289,47 |
| high max Wnd ;135°_1XY_Z1 | 1XY1 | high max Wnd ;135° | GCS | Z | Kracht | -1908,59 |
| high max Wnd ;135°_1P_X1 | 1P1 | high max Wnd ;135° | GCS | X | Kracht | 261,53 |
| high max Wnd ;135°_1P_Y1 | 1P1 | high max Wnd ;135° | GCS | Y | Kracht | 229,26 |
| high max Wnd ;135°_1P_Z1 | 1P1 | high max Wnd ;135° | GCS | Z | Kracht | 1584,94 |
| high max Wnd ;135°_1X_X1 | 1X1 | high max Wnd ;135° | GCS | X | Kracht | -135,16 |
| high max Wnd ;135°_1X_Y1 | 1X1 | high max Wnd ;135° | GCS | Y | Kracht | 37,82 |
| high max Wnd ;135°_1X_Z1 | 1X1 | high max Wnd ;135° | GCS | Z | Kracht | -559,61 |

### 6.1.3. Belastingsgevallen - high max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

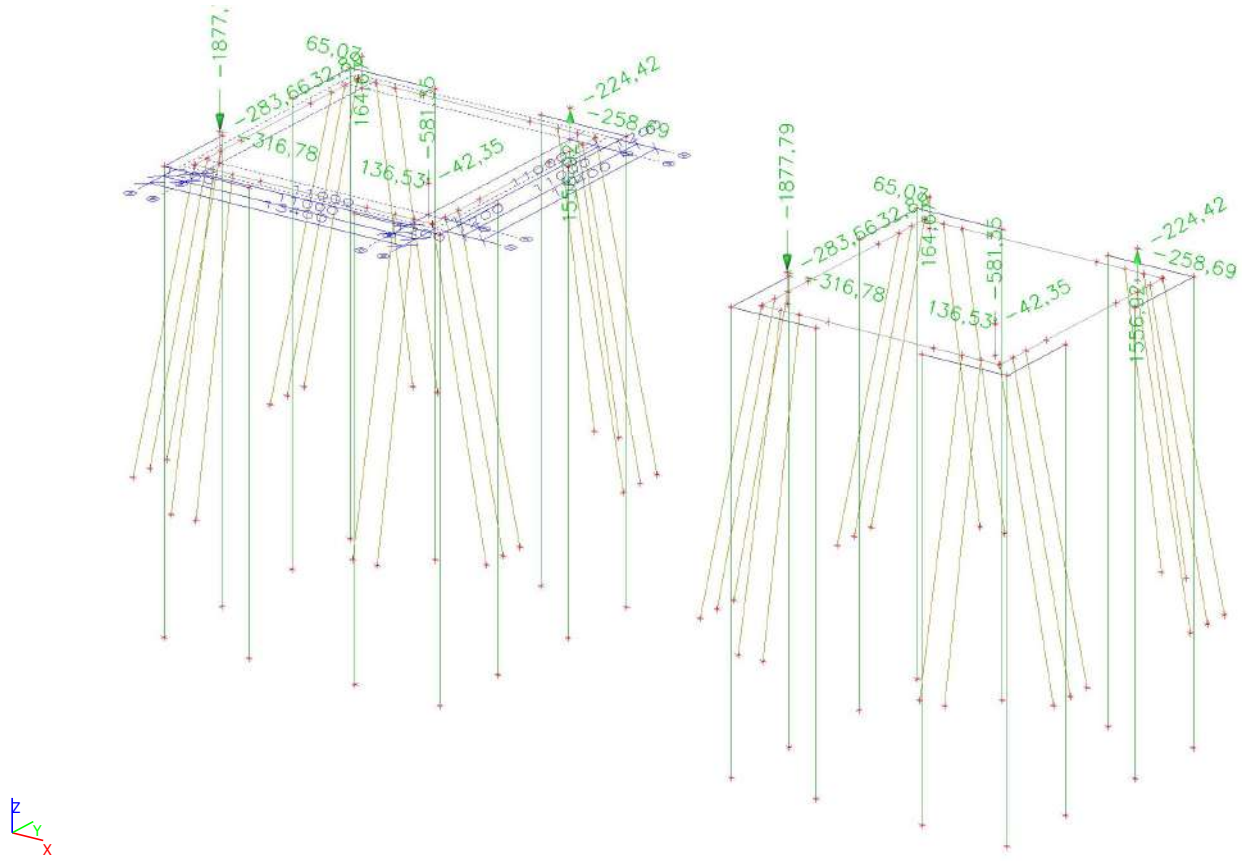


#### *6.1.3.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Kracht | -135,00 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Kracht | -37,70 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Kracht | -558,63 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Kracht | 261,21 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Kracht | -228,86 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Kracht | 1582,46 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Kracht | -61,65 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Kracht | 38,14 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Kracht | 134,62 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Kracht | 319,40 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Kracht | -289,22 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Kracht | -1906,24 |
| high max Wnd ;225°_1Y_X1 | 1Y1 | high max Wnd ;225° | GCS | X | Kracht | 319,40 |
| high max Wnd ;225°_1Y_Y1 | 1Y1 | high max Wnd ;225° | GCS | Y | Kracht | -289,22 |
| high max Wnd ;225°_1Y_Z1 | 1Y1 | high max Wnd ;225° | GCS | Z | Kracht | -1906,24 |
| high max Wnd ;225°_1XY_X1 | 1XY1 | high max Wnd ;225° | GCS | X | Kracht | -61,65 |
| high max Wnd ;225°_1XY_Y1 | 1XY1 | high max Wnd ;225° | GCS | Y | Kracht | 38,14 |
| high max Wnd ;225°_1XY_Z1 | 1XY1 | high max Wnd ;225° | GCS | Z | Kracht | 134,62 |
| high max Wnd ;225°_1P_X1 | 1P1 | high max Wnd ;225° | GCS | X | Kracht | -135,00 |
| high max Wnd ;225°_1P_Y1 | 1P1 | high max Wnd ;225° | GCS | Y | Kracht | -37,70 |
| high max Wnd ;225°_1P_Z1 | 1P1 | high max Wnd ;225° | GCS | Z | Kracht | -558,63 |
| high max Wnd ;225°_1X_X1 | 1X1 | high max Wnd ;225° | GCS | X | Kracht | 261,21 |
| high max Wnd ;225°_1X_Y1 | 1X1 | high max Wnd ;225° | GCS | Y | Kracht | -228,86 |
| high max Wnd ;225°_1X_Z1 | 1X1 | high max Wnd ;225° | GCS | Z | Kracht | 1582,46 |

### 6.1.4. Belastingsgevallen - high max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



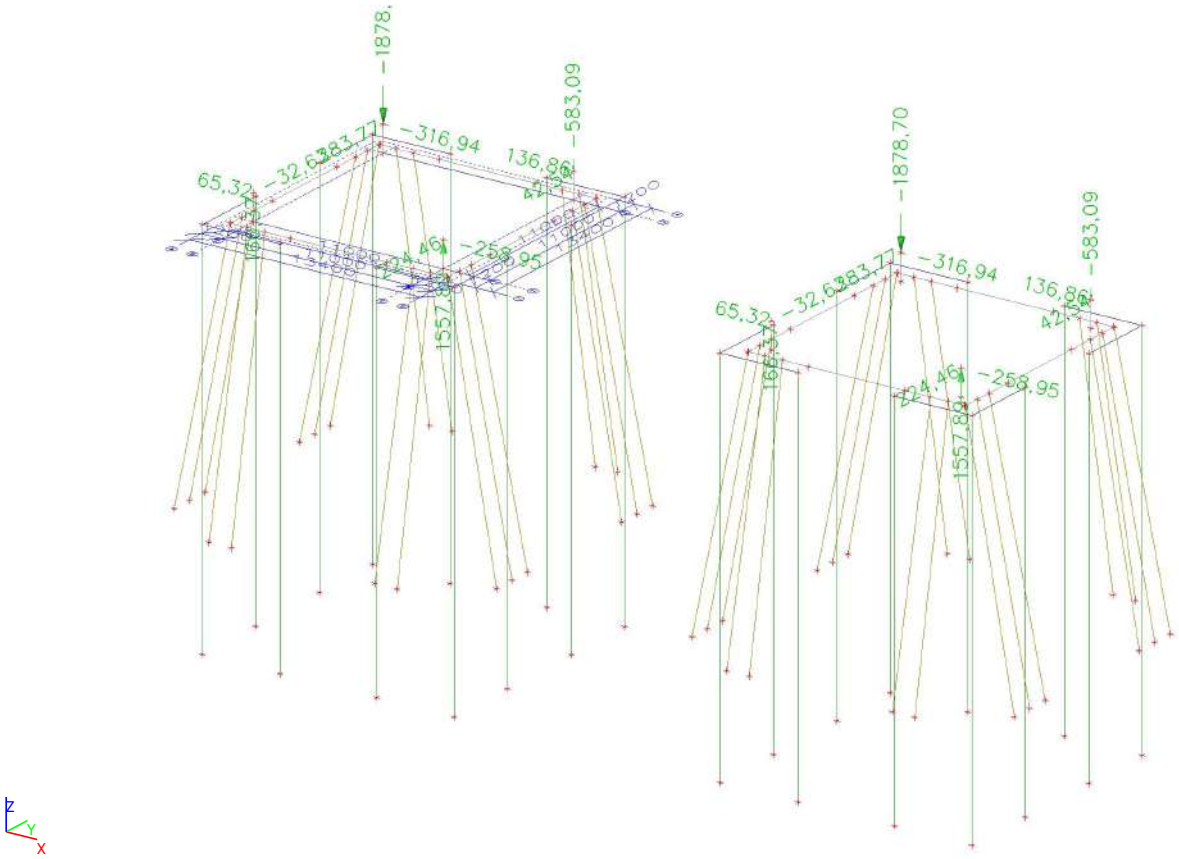

### *6.1.4.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Kracht | -316,78 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Kracht | -283,66 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Kracht | -1877,79 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Kracht | 65,07 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Kracht | 32,89 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Kracht | 164,67 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Kracht | -258,69 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Kracht | -224,42 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Kracht | 1556,92 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Kracht | 136,53 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Kracht | -42,35 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Kracht | -581,35 |
| high max Wnd ;315°_1Y_X1 | 1Y1 | high max Wnd ;315° | GCS | X | Kracht | 136,53 |
| high max Wnd ;315°_1Y_Y1 | 1Y1 | high max Wnd ;315° | GCS | Y | Kracht | -42,35 |
| high max Wnd | 1Y1 | high max Wnd ;315° | GCS | Z | Kracht | -581,35 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1Y_Z1 | | | | | | |
| high max Wnd ;315°_1XY_X1 | 1XY1 | high max Wnd ;315° | GCS | X | Kracht | -258,69 |
| high max Wnd ;315°_1XY_Y1 | 1XY1 | high max Wnd ;315° | GCS | Y | Kracht | -224,42 |
| high max Wnd ;315°_1XY_Z1 | 1XY1 | high max Wnd ;315° | GCS | Z | Kracht | 1556,92 |
| high max Wnd ;315°_1P_X1 | 1P1 | high max Wnd ;315° | GCS | X | Kracht | -316,78 |
| high max Wnd ;315°_1P_Y1 | 1P1 | high max Wnd ;315° | GCS | Y | Kracht | -283,66 |
| high max Wnd ;315°_1P_Z1 | 1P1 | high max Wnd ;315° | GCS | Z | Kracht | -1877,79 |
| high max Wnd ;315°_1X_X1 | 1X1 | high max Wnd ;315° | GCS | X | Kracht | 65,07 |
| high max Wnd ;315°_1X_Y1 | 1X1 | high max Wnd ;315° | GCS | Y | Kracht | 32,89 |
| high max Wnd ;315°_1X_Z1 | 1X1 | high max Wnd ;315° | GCS | Z | Kracht | 164,67 |

### 6.1.5. Belastingsgevallen - high max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| high max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

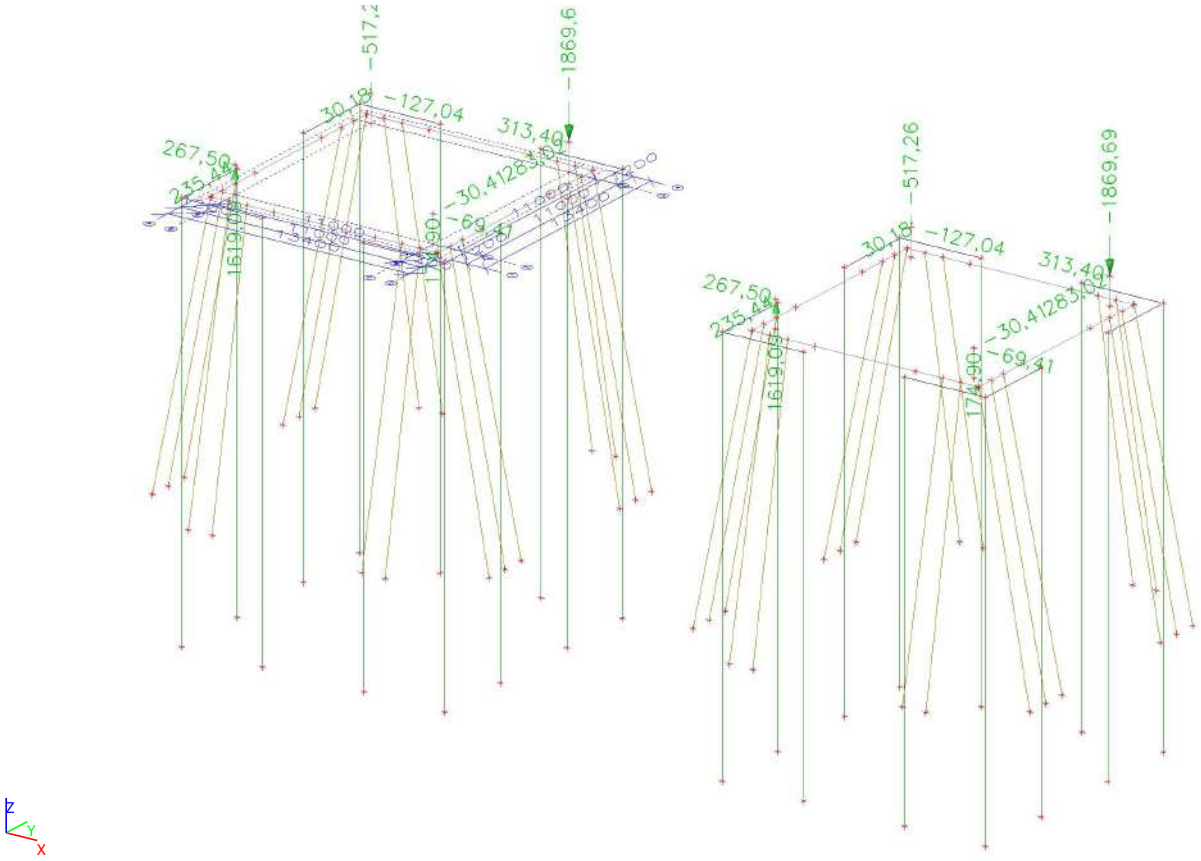


#### *6.1.5.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Kracht | 65,32 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Kracht | -32,63 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Kracht | 166,37 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Kracht | -316,94 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Kracht | 283,77 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Kracht | -1878,70 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Kracht | 136,86 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Kracht | 42,54 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Kracht | -583,09 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Kracht | -258,95 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Kracht | 224,46 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Kracht | 1557,89 |
| high max Wnd ;45°_1Y_X1 | 1Y1 | high max Wnd ;45° | GCS | X | Kracht | -258,95 |
| high max Wnd ;45°_1Y_Y1 | 1Y1 | high max Wnd ;45° | GCS | Y | Kracht | 224,46 |
| high max Wnd ;45°_1Y_Z1 | 1Y1 | high max Wnd ;45° | GCS | Z | Kracht | 1557,89 |
| high max Wnd ;45°_1XY_X1 | 1XY1 | high max Wnd ;45° | GCS | X | Kracht | 136,86 |
| high max Wnd ;45°_1XY_Y1 | 1XY1 | high max Wnd ;45° | GCS | Y | Kracht | 42,54 |
| high max Wnd ;45°_1XY_Z1 | 1XY1 | high max Wnd ;45° | GCS | Z | Kracht | -583,09 |
| high max Wnd ;45°_1P_X1 | 1P1 | high max Wnd ;45° | GCS | X | Kracht | 65,32 |
| high max Wnd ;45°_1P_Y1 | 1P1 | high max Wnd ;45° | GCS | Y | Kracht | -32,63 |
| high max Wnd ;45°_1P_Z1 | 1P1 | high max Wnd ;45° | GCS | Z | Kracht | 166,37 |
| high max Wnd ;45°_1X_X1 | 1X1 | high max Wnd ;45° | GCS | X | Kracht | -316,94 |
| high max Wnd ;45°_1X_Y1 | 1X1 | high max Wnd ;45° | GCS | Y | Kracht | 283,77 |
| high max Wnd ;45°_1X_Z1 | 1X1 | high max Wnd ;45° | GCS | Z | Kracht | -1878,70 |

### 6.1.6. Belastingsgevallen - low max Wnd ;135°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;135° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



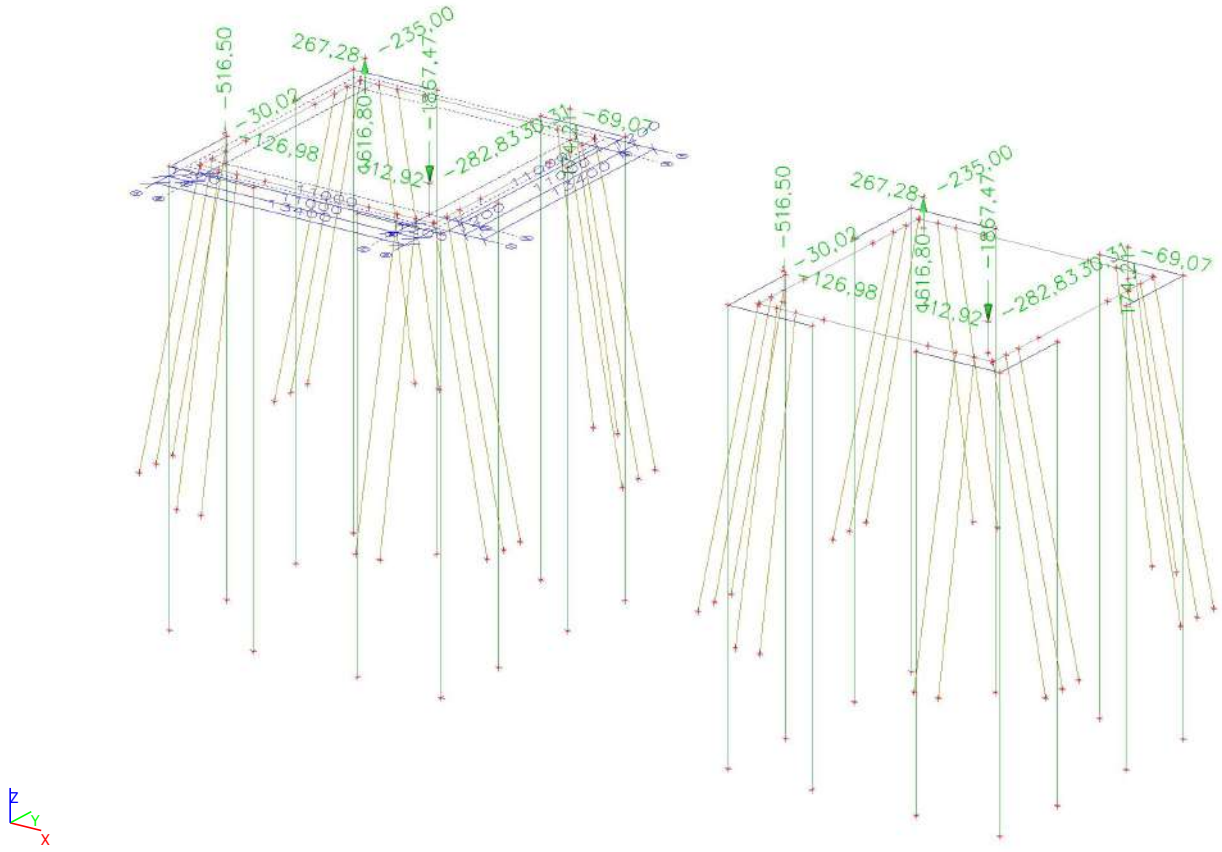

### *6.1.6.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Kracht | 267,50 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Kracht | 235,44 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Kracht | 1619,09 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Kracht | -127,04 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Kracht | 30,18 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Kracht | -517,26 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Kracht | 313,40 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Kracht | 283,02 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Kracht | -1869,69 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Kracht | -69,41 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Kracht | -30,41 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Kracht | 174,90 |
| low max Wnd ;135°_1Y_X1 | 1Y1 | low max Wnd ;135° | GCS | X | Kracht | -69,41 |
| low max Wnd ;135°_1Y_Y1 | 1Y1 | low max Wnd ;135° | GCS | Y | Kracht | -30,41 |
| low max Wnd | 1Y1 | low max Wnd ;135° | GCS | Z | Kracht | 174,90 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| low max Wnd ;135°_1XY_X1 | 1XY1 | low max Wnd ;135° | GCS | X | Kracht | 313,40 |
| low max Wnd ;135°_1XY_Y1 | 1XY1 | low max Wnd ;135° | GCS | Y | Kracht | 283,02 |
| low max Wnd ;135°_1XY_Z1 | 1XY1 | low max Wnd ;135° | GCS | Z | Kracht | -1869,69 |
| low max Wnd ;135°_1P_X1 | 1P1 | low max Wnd ;135° | GCS | X | Kracht | 267,50 |
| low max Wnd ;135°_1P_Y1 | 1P1 | low max Wnd ;135° | GCS | Y | Kracht | 235,44 |
| low max Wnd ;135°_1P_Z1 | 1P1 | low max Wnd ;135° | GCS | Z | Kracht | 1619,09 |
| low max Wnd ;135°_1X_X1 | 1X1 | low max Wnd ;135° | GCS | X | Kracht | -127,04 |
| low max Wnd ;135°_1X_Y1 | 1X1 | low max Wnd ;135° | GCS | Y | Kracht | 30,18 |
| low max Wnd ;135°_1X_Z1 | 1X1 | low max Wnd ;135° | GCS | Z | Kracht | -517,26 |

### 6.1.7. Belastingsgevallen - low max Wnd ;225°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;225° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |

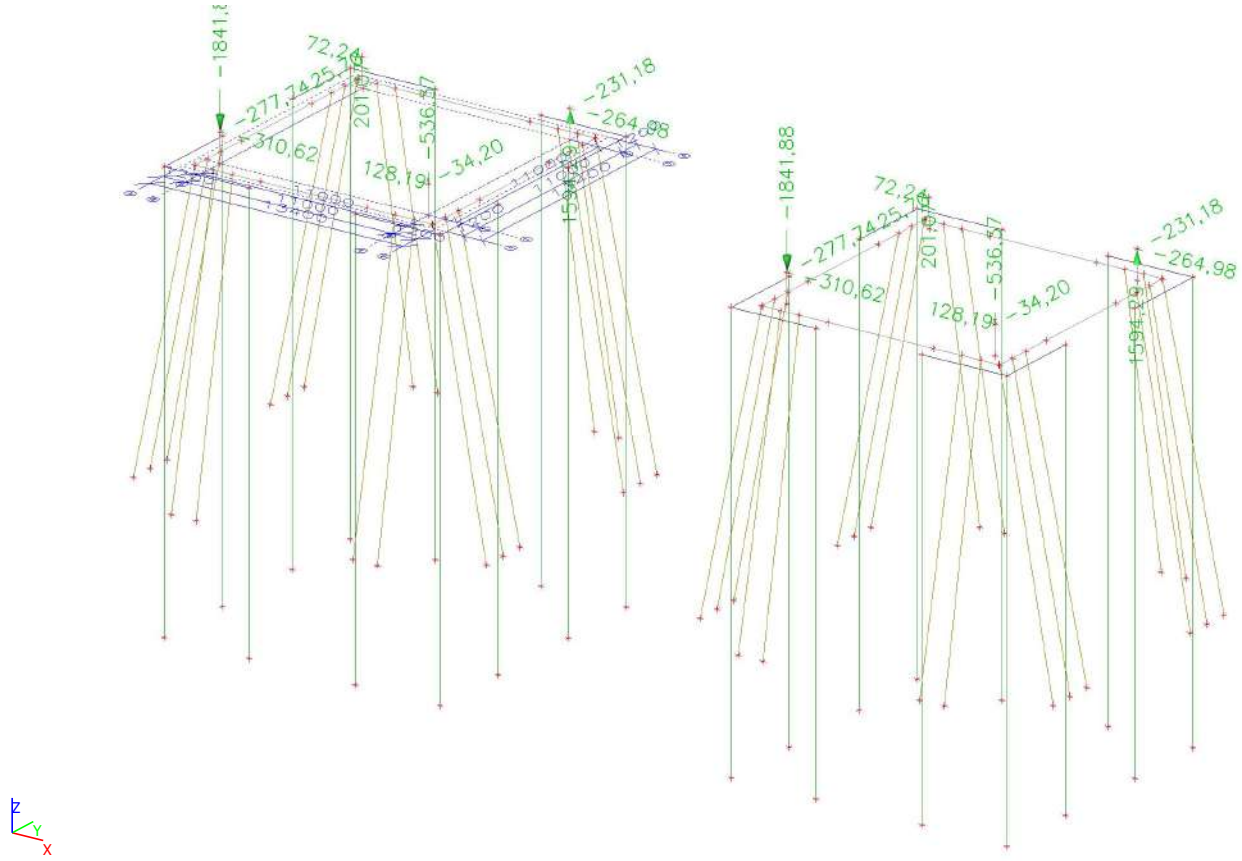


#### *6.1.7.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Kracht | -126,98 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Kracht | -30,02 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Kracht | -516,50 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Kracht | 267,28 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Kracht | -235,00 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Kracht | 1616,80 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Kracht | -69,07 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Kracht | 30,31 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Kracht | 174,21 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Kracht | 312,92 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Kracht | -282,83 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Kracht | -1867,47 |
| low max Wnd ;225°_1Y_X1 | 1Y1 | low max Wnd ;225° | GCS | X | Kracht | 312,92 |
| low max Wnd ;225°_1Y_Y1 | 1Y1 | low max Wnd ;225° | GCS | Y | Kracht | -282,83 |
| low max Wnd ;225°_1Y_Z1 | 1Y1 | low max Wnd ;225° | GCS | Z | Kracht | -1867,47 |
| low max Wnd ;225°_1XY_X1 | 1XY1 | low max Wnd ;225° | GCS | X | Kracht | -69,07 |
| low max Wnd ;225°_1XY_Y1 | 1XY1 | low max Wnd ;225° | GCS | Y | Kracht | 30,31 |
| low max Wnd ;225°_1XY_Z1 | 1XY1 | low max Wnd ;225° | GCS | Z | Kracht | 174,21 |
| low max Wnd ;225°_1P_X1 | 1P1 | low max Wnd ;225° | GCS | X | Kracht | -126,98 |
| low max Wnd ;225°_1P_Y1 | 1P1 | low max Wnd ;225° | GCS | Y | Kracht | -30,02 |
| low max Wnd ;225°_1P_Z1 | 1P1 | low max Wnd ;225° | GCS | Z | Kracht | -516,50 |
| low max Wnd ;225°_1X_X1 | 1X1 | low max Wnd ;225° | GCS | X | Kracht | 267,28 |
| low max Wnd ;225°_1X_Y1 | 1X1 | low max Wnd ;225° | GCS | Y | Kracht | -235,00 |
| low max Wnd ;225°_1X_Z1 | 1X1 | low max Wnd ;225° | GCS | Z | Kracht | 1616,80 |

### 6.1.8. Belastingsgevallen - low max Wnd ;315°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;315° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



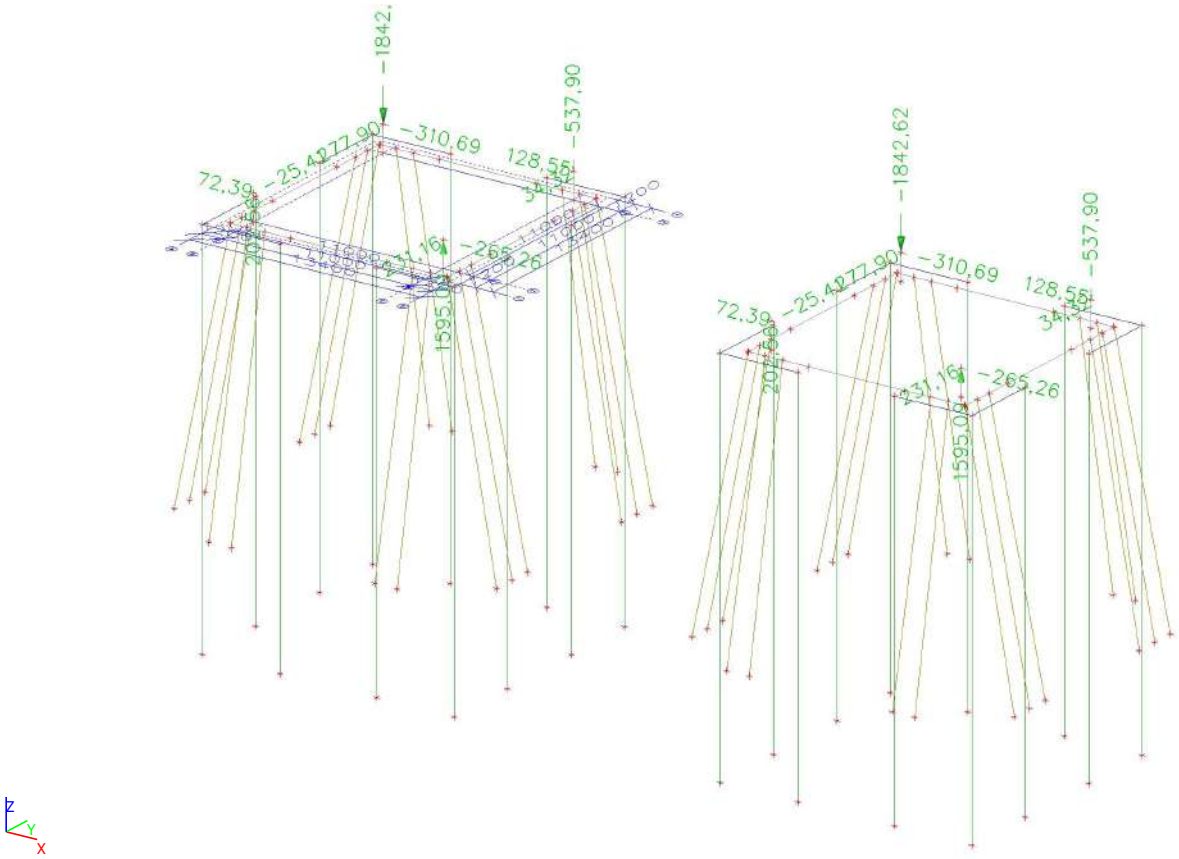

### *6.1.8.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Kracht | -310,62 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Kracht | -277,74 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Kracht | -1841,88 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Kracht | 72,24 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Kracht | 25,70 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Kracht | 201,07 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Kracht | -264,98 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Kracht | -231,18 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Kracht | 1594,29 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Kracht | 128,19 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Kracht | -34,20 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Kracht | -536,37 |
| low max Wnd ;315°_1Y_X1 | 1Y1 | low max Wnd ;315° | GCS | X | Kracht | 128,19 |
| low max Wnd ;315°_1Y_Y1 | 1Y1 | low max Wnd ;315° | GCS | Y | Kracht | -34,20 |
| low max Wnd | 1Y1 | low max Wnd ;315° | GCS | Z | Kracht | -536,37 |

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1Y_Z1 | | | | | | |
| low max Wnd ;315°_1XY_X1 | 1XY1 | low max Wnd ;315° | GCS | X | Kracht | -264,98 |
| low max Wnd ;315°_1XY_Y1 | 1XY1 | low max Wnd ;315° | GCS | Y | Kracht | -231,18 |
| low max Wnd ;315°_1XY_Z1 | 1XY1 | low max Wnd ;315° | GCS | Z | Kracht | 1594,29 |
| low max Wnd ;315°_1P_X1 | 1P1 | low max Wnd ;315° | GCS | X | Kracht | -310,62 |
| low max Wnd ;315°_1P_Y1 | 1P1 | low max Wnd ;315° | GCS | Y | Kracht | -277,74 |
| low max Wnd ;315°_1P_Z1 | 1P1 | low max Wnd ;315° | GCS | Z | Kracht | -1841,88 |
| low max Wnd ;315°_1X_X1 | 1X1 | low max Wnd ;315° | GCS | X | Kracht | 72,24 |
| low max Wnd ;315°_1X_Y1 | 1X1 | low max Wnd ;315° | GCS | Y | Kracht | 25,70 |
| low max Wnd ;315°_1X_Z1 | 1X1 | low max Wnd ;315° | GCS | Z | Kracht | 201,07 |

### 6.1.9. Belastingsgevallen - low max Wnd ;45°

| Naam | Omschrijving | Actie type | Lastgroep | Duur | 'Master' belastingsgeval |
|---|---|---|---|---|---|
| | Spec | Belastingtype | | | |
| low max Wnd ;45° | | Variabel | LG4 | Kort | Geen |
| | Standaard | Statisch | | | |



#### *6.1.9.1. Puntlast op knoop*

| Naam | Knoop | Belastingsgeval | Systeem | Rich | Type | Waarde - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Kracht | 72,39 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Kracht | -25,41 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Kracht | 202,56 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Kracht | -310,69 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Kracht | 277,90 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Kracht | -1842,62 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Kracht | 128,55 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Kracht | 34,32 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Kracht | -537,90 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Kracht | -265,26 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Kracht | 231,16 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Kracht | 1595,09 |
| low max Wnd ;45°_1Y_X1 | 1Y1 | low max Wnd ;45° | GCS | X | Kracht | -265,26 |
| low max Wnd ;45°_1Y_Y1 | 1Y1 | low max Wnd ;45° | GCS | Y | Kracht | 231,16 |
| low max Wnd ;45°_1Y_Z1 | 1Y1 | low max Wnd ;45° | GCS | Z | Kracht | 1595,09 |
| low max Wnd ;45°_1XY_X1 | 1XY1 | low max Wnd ;45° | GCS | X | Kracht | 128,55 |
| low max Wnd ;45°_1XY_Y1 | 1XY1 | low max Wnd ;45° | GCS | Y | Kracht | 34,32 |
| low max Wnd ;45°_1XY_Z1 | 1XY1 | low max Wnd ;45° | GCS | Z | Kracht | -537,90 |
| low max Wnd ;45°_1P_X1 | 1P1 | low max Wnd ;45° | GCS | X | Kracht | 72,39 |
| low max Wnd ;45°_1P_Y1 | 1P1 | low max Wnd ;45° | GCS | Y | Kracht | -25,41 |
| low max Wnd ;45°_1P_Z1 | 1P1 | low max Wnd ;45° | GCS | Z | Kracht | 202,56 |
| low max Wnd ;45°_1X_X1 | 1X1 | low max Wnd ;45° | GCS | X | Kracht | -310,69 |
| low max Wnd ;45°_1X_Y1 | 1X1 | low max Wnd ;45° | GCS | Y | Kracht | 277,90 |
| low max Wnd ;45°_1X_Z1 | 1X1 | low max Wnd ;45° | GCS | Z | Kracht | -1842,62 |

## 6.2. Niet-lineaire combinaties

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| high max + Wnd ;45° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;45° | 1,00 |
| high max + Wnd ;135° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;135° | 1,00 |
| high max + Wnd ;225° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;225° | 1,00 |
| high max + Wnd ;315° | Uiterste Grenstoestand | E.G. | 1,20 |
| | | high max Wnd ;315° | 1,00 |
| low max + Wnd ;45° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;45° | 1,00 |
| low max + Wnd ;135° | Uiterste Grenstoestand | E.G. | 0,90 |

| Naam | Type | Belastingsgevallen | Coëff. [-] |
|---|---|---|---|
| | | low max Wnd ;135° | 1,00 |
| low max + Wnd ;225° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;225° | 1,00 |
| low max + Wnd ;315° | Uiterste Grenstoestand | E.G. | 0,90 |
| | | low max Wnd ;315° | 1,00 |

## 6.3. Resultaatklassen

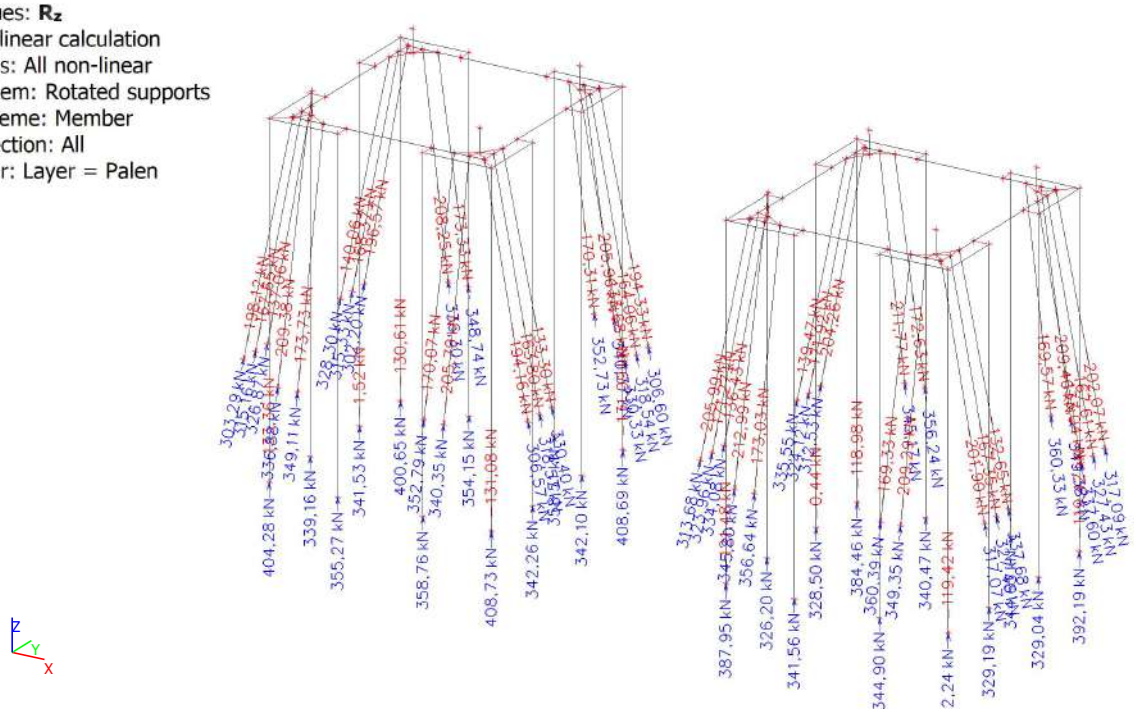
| Naam | Lijst |
|---|---|
| All non-linear | high max + Wnd ;45° |
| | high max + Wnd ;135° |
| | high max + Wnd ;225° |
| | high max + Wnd ;315° |
| | low max + Wnd ;45° |
| | low max + Wnd ;135° |
| | low max + Wnd ;225° |
| | low max + Wnd ;315° |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen



### 7.1.2. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (400; 400)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn32/N10 | low max + Wnd ;135° | **0,00** | 0,00 | 283,85 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;315° | **0,00** | 0,00 | 297,58 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn64/N209 | low max + Wnd ;135° | 0,00 | **0,00** | 329,69 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn62/N207 | high max + Wnd ;135° | 0,00 | **0,00** | 337,60 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn53/N198 | low max + Wnd ;135° | 0,00 | 0,00 | **-212,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn59/N204 | high max + Wnd ;225° | 0,00 | 0,00 | **360,39** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)
**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn79/N250 | low max + Wnd ;135° | 0,00 | 0,00 | **-133,36** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N249 | high max + Wnd ;225° | **0,00** | **0,00** | **408,73** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reacties

Niet-lineaire berekening
Klasse: All non-linear
Systeem: Schuine steunpunten
Extreem: Element
Selectie: Alle
Filter: Laag = Palen

**Knoopreacties**

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | high max + Wnd ;225° | **0,00** | 0,00 | 120,98 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn21/N44 | high max + Wnd ;315° | 0,00 | **0,00** | **303,29** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | low max + Wnd ;135° | **0,00** | **0,00** | **-198,12** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max + Wnd ;315° | **0,00** | **0,00** | 289,27 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max + Wnd ;135° | 0,00 | 0,00 | **-167,65** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn22/N45 | high max + Wnd ;315° | 0,00 | 0,00 | **315,16** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn22/N45 | low max + Wnd ;225° | **0,00** | 0,00 | 106,69 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;315° | **0,00** | **0,00** | 297,58 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | high max + Wnd ;315° | 0,00 | 0,00 | **326,87** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;135° | **0,00** | **0,00** | **-137,06** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | high max + Wnd ;315° | **0,00** | **0,00** | **336,88** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | low max + Wnd ;135° | **0,00** | **0,00** | **-209,38** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | high max + Wnd ;225° | 0,00 | **0,00** | 203,05 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn26/N48 | low max + Wnd ;225° | 0,00 | **0,00** | 172,45 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | low max + Wnd ;135° | **0,00** | 0,00 | **-173,73** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn26/N48 | high max + Wnd ;315° | **0,00** | 0,00 | **349,11** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | low max + Wnd ;315° | **0,00** | 0,00 | 100,06 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | low max + Wnd ;45° | 0,00 | **0,00** | **-194,16** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | high max + Wnd ;225° | 0,00 | **0,00** | **306,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | low max + Wnd ;225° | **0,00** | 0,00 | 283,73 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max + Wnd ;45° | 0,00 | 0,00 | **-163,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn28/N50 | high max + Wnd ;225° | **0,00** | **0,00** | **318,57** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max + Wnd ;315° | **0,00** | 0,00 | 109,05 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max + Wnd ;315° | **0,00** | 0,00 | 147,67 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max + | 0,00 | **0,00** | **330,40** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;225° | | | | | | | | |
| Sn29/N51 | low max + Wnd ;45° | 0,00 | **0,00** | **-133,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn29/N51 | low max + Wnd ;225° | **0,00** | 0,00 | 300,71 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | high max + Wnd ;45° | **0,00** | **0,00** | -173,42 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn30/N52 | low max + Wnd ;315° | 0,00 | **0,00** | 164,47 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | low max + Wnd ;45° | 0,00 | 0,00 | **-205,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn30/N52 | high max + Wnd ;225° | **0,00** | 0,00 | **340,35** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | low max + Wnd ;225° | **0,00** | **0,00** | 323,01 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | high max + Wnd ;225° | 0,00 | 0,00 | **352,79** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | low max + Wnd ;45° | **0,00** | **0,00** | **-170,07** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | low max + Wnd ;315° | 0,00 | **0,00** | **-194,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn32/N10 | high max + Wnd ;135° | **0,00** | 0,00 | **306,60** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | low max + Wnd ;135° | **0,00** | **0,00** | 283,85 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | high max + Wnd ;315° | **0,00** | **0,00** | -131,65 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | low max + Wnd ;315° | 0,00 | 0,00 | **-164,06** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn33/N11 | high max + Wnd ;135° | **0,00** | 0,00 | **318,54** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | high max + Wnd ;45° | **0,00** | 0,00 | 147,61 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | low max + Wnd ;315° | 0,00 | **0,00** | **-133,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn34/N12 | high max + Wnd ;135° | 0,00 | **0,00** | **330,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn34/N12 | low max + Wnd ;135° | **0,00** | 0,00 | 300,76 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | high max + Wnd ;45° | 0,00 | **0,00** | 192,02 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn35/N13 | low max + Wnd ;135° | 0,00 | **0,00** | 314,07 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | low max + Wnd ;315° | **0,00** | 0,00 | **-205,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn35/N13 | high max + Wnd ;135° | **0,00** | 0,00 | **340,37** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max + Wnd ;315° | 0,00 | **0,00** | -132,33 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn36/N14 | high max + Wnd ;135° | **0,00** | 0,00 | **352,73** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | low max + Wnd ;315° | **0,00** | **0,00** | **-170,31** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | low max + Wnd ;45° | **0,00** | 0,00 | 310,37 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | high max + Wnd ;135° | 0,00 | **0,00** | 189,07 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | high max + Wnd ;225° | 0,00 | **0,00** | -176,40 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | high max + Wnd ;45° | 0,00 | 0,00 | **336,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | low max + Wnd ;225° | **0,00** | 0,00 | **-208,25** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | high max + Wnd ;225° | **0,00** | 0,00 | -135,88 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | low max + | 0,00 | **0,00** | 172,40 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn38/N2 | high max + Wnd ;135° | 0,00 | **0,00** | 202,90 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn38/N2 | low max + Wnd ;225° | 0,00 | 0,00 | **-173,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn38/N2 | high max + Wnd ;45° | **0,00** | 0,00 | **348,74** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | high max + Wnd ;225° | **0,00** | 0,00 | -170,04 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | high max + Wnd ;45° | 0,00 | **0,00** | **302,20** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | low max + Wnd ;225° | 0,00 | **0,00** | **-196,57** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | low max + Wnd ;45° | **0,00** | 0,00 | 279,78 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | low max + Wnd ;225° | 0,00 | 0,00 | **-168,37** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn40/N4 | high max + Wnd ;45° | **0,00** | **0,00** | **315,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | low max + Wnd ;45° | **0,00** | 0,00 | 289,48 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | high max + Wnd ;225° | **0,00** | 0,00 | -102,58 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | high max + Wnd ;45° | 0,00 | **0,00** | **328,30** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn41/N54 | low max + Wnd ;225° | **0,00** | **0,00** | **-140,06** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn42/N60 | low max + Wnd ;315° | 0,00 | 0,00 | **7,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn42/N60 | high max + Wnd ;135° | **0,00** | **0,00** | **358,51** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn43/N61 | low max + Wnd ;315° | 0,00 | 0,00 | **1,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn43/N61 | high max + Wnd ;135° | **0,00** | **0,00** | **342,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn44/N70 | low max + Wnd ;225° | **0,00** | **0,00** | **6,55** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn44/N70 | high max + Wnd ;45° | 0,00 | 0,00 | **354,15** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn45/N72 | low max + Wnd ;225° | **0,00** | **0,00** | **-1,52** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn45/N72 | high max + Wnd ;45° | 0,00 | 0,00 | **341,53** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn49/N81 | low max + Wnd ;45° | 0,00 | 0,00 | **1,77** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn49/N81 | high max + Wnd ;225° | **0,00** | **0,00** | **342,26** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn48/N80 | low max + Wnd ;45° | 0,00 | 0,00 | **7,88** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn48/N80 | high max + Wnd ;225° | **0,00** | **0,00** | **358,76** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn46/N75 | low max + Wnd ;135° | 0,00 | 0,00 | **6,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn46/N75 | high max + Wnd ;315° | **0,00** | **0,00** | **355,27** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn47/N77 | low max + Wnd ;135° | 0,00 | 0,00 | **0,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn47/N77 | high max + Wnd ;315° | **0,00** | **0,00** | **339,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn50/N195 | low max + Wnd ;225° | **0,00** | 0,00 | 102,38 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn50/N195 | low max + Wnd ;135° | 0,00 | **0,00** | **-205,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn50/N195 | high max + Wnd ;315° | 0,00 | **0,00** | **313,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn50/N195 | high max + | **0,00** | 0,00 | -178,34 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn51/N196 | low max + Wnd ;315° | **0,00** | **0,00** | 297,22 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn51/N196 | low max + Wnd ;135° | 0,00 | 0,00 | **-171,27** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn51/N196 | high max + Wnd ;315° | 0,00 | 0,00 | **323,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn51/N196 | high max + Wnd ;135° | **0,00** | 0,00 | -138,30 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn52/N197 | high max + Wnd ;45° | **0,00** | 0,00 | 105,96 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn52/N197 | high max + Wnd ;315° | 0,00 | **0,00** | **334,08** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn52/N197 | low max + Wnd ;135° | **0,00** | **0,00** | **-136,43** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn53/N198 | high max + Wnd ;225° | 0,00 | **0,00** | 193,89 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn53/N198 | low max + Wnd ;225° | 0,00 | **0,00** | 165,62 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn53/N198 | low max + Wnd ;135° | 0,00 | 0,00 | **-212,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn53/N198 | high max + Wnd ;315° | **0,00** | 0,00 | **345,80** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn53/N198 | high max + Wnd ;135° | **0,00** | 0,00 | -180,05 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn54/N199 | low max + Wnd ;315° | 0,00 | **0,00** | 326,28 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn54/N199 | low max + Wnd ;135° | **0,00** | 0,00 | **-173,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn54/N199 | high max + Wnd ;315° | **0,00** | **0,00** | **356,64** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn55/N200 | low max + Wnd ;225° | 0,00 | **0,00** | 293,35 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn55/N200 | low max + Wnd ;45° | **0,00** | **0,00** | **-201,90** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn55/N200 | high max + Wnd ;225° | 0,00 | 0,00 | **317,07** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn55/N200 | low max + Wnd ;315° | **0,00** | 0,00 | 104,70 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn56/N201 | low max + Wnd ;135° | **0,00** | **0,00** | 64,07 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn56/N201 | low max + Wnd ;45° | 0,00 | 0,00 | **-167,35** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn56/N201 | high max + Wnd ;225° | 0,00 | 0,00 | **327,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn56/N201 | low max + Wnd ;225° | **0,00** | 0,00 | 300,32 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn57/N202 | low max + Wnd ;225° | **0,00** | 0,00 | 307,13 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn57/N202 | high max + Wnd ;225° | 0,00 | **0,00** | **337,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn57/N202 | high max + Wnd ;45° | 0,00 | **0,00** | -93,87 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn57/N202 | low max + Wnd ;45° | 0,00 | 0,00 | **-132,65** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn57/N202 | high max + Wnd ;315° | **0,00** | 0,00 | 152,47 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn58/N203 | high max + Wnd ;315° | 0,00 | **0,00** | 196,82 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn58/N203 | low max + Wnd ;45° | **0,00** | 0,00 | **-209,29** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn58/N203 | high max + Wnd ;225° | 0,00 | 0,00 | **349,35** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn58/N203 | low max + Wnd ;225° | **0,00** | **0,00** | 322,14 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn59/N204 | low max + | 0,00 | **0,00** | 178,70 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn59/N204 | high max + Wnd ;225° | **0,00** | 0,00 | **360,39** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn59/N204 | low max + Wnd ;45° | **0,00** | **0,00** | **-169,33** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn60/N205 | low max + Wnd ;135° | **0,00** | 0,00 | 293,46 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn60/N205 | low max + Wnd ;315° | 0,00 | **0,00** | **-202,07** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn60/N205 | high max + Wnd ;135° | **0,00** | **0,00** | **317,09** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn61/N206 | high max + Wnd ;315° | **0,00** | **0,00** | -134,26 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn61/N206 | low max + Wnd ;315° | 0,00 | 0,00 | **-167,61** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn61/N206 | high max + Wnd ;135° | **0,00** | 0,00 | **327,43** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn62/N207 | low max + Wnd ;135° | **0,00** | 0,00 | 307,18 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn62/N207 | low max + Wnd ;315° | 0,00 | **0,00** | **-133,04** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn62/N207 | high max + Wnd ;135° | 0,00 | **0,00** | **337,60** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn62/N207 | high max + Wnd ;45° | **0,00** | 0,00 | 152,41 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn63/N208 | high max + Wnd ;315° | **0,00** | 0,00 | -176,10 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn63/N208 | low max + Wnd ;315° | 0,00 | **0,00** | **-209,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn63/N208 | high max + Wnd ;135° | **0,00** | **0,00** | **349,38** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn64/N209 | low max + Wnd ;135° | 0,00 | **0,00** | 329,69 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn64/N209 | high max + Wnd ;135° | **0,00** | 0,00 | **360,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn64/N209 | low max + Wnd ;315° | **0,00** | **0,00** | **-169,57** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn65/N210 | high max + Wnd ;135° | 0,00 | **0,00** | 193,67 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn65/N210 | low max + Wnd ;45° | 0,00 | **0,00** | 318,36 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn65/N210 | low max + Wnd ;225° | 0,00 | 0,00 | **-211,77** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn65/N210 | high max + Wnd ;45° | **0,00** | 0,00 | **345,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn65/N210 | high max + Wnd ;225° | **0,00** | 0,00 | -178,96 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn66/N211 | low max + Wnd ;225° | **0,00** | **0,00** | **-172,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn66/N211 | high max + Wnd ;45° | **0,00** | **0,00** | **356,24** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn67/N212 | high max + Wnd ;45° | **0,00** | **0,00** | **312,53** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn67/N212 | high max + Wnd ;225° | 0,00 | **0,00** | -176,68 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn67/N212 | low max + Wnd ;225° | 0,00 | 0,00 | **-204,26** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn67/N212 | low max + Wnd ;135° | **0,00** | 0,00 | 101,85 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn68/N213 | high max + Wnd ;135° | **0,00** | **0,00** | 137,92 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn68/N213 | low max + Wnd ;225° | 0,00 | 0,00 | **-171,92** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn68/N213 | high max + Wnd ;45° | 0,00 | 0,00 | **324,12** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn68/N213 | high max + | **0,00** | 0,00 | 87,55 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

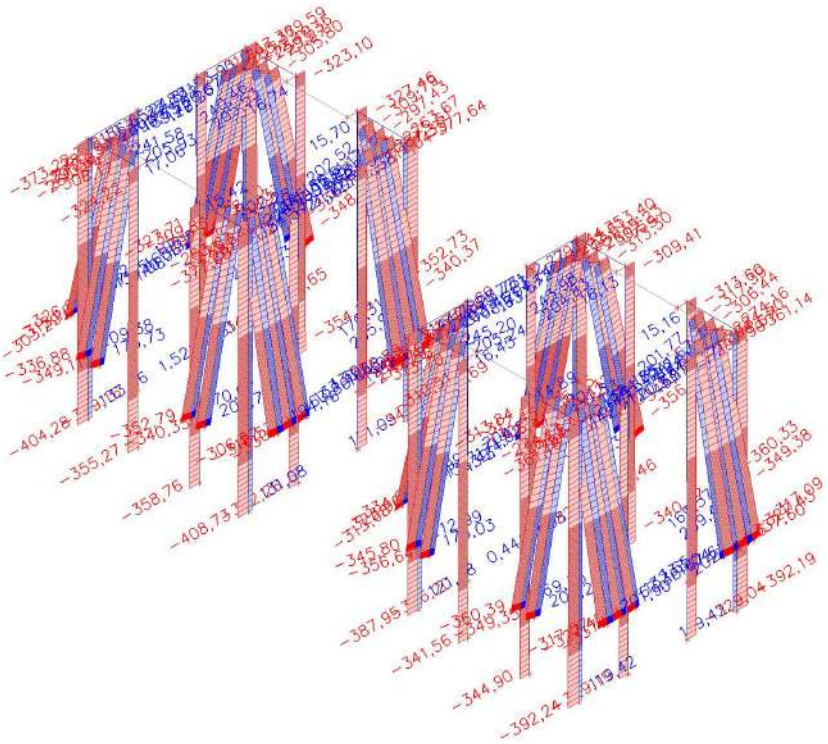
| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn69/N214 | low max + Wnd ;135° | **0,00** | 0,00 | 119,77 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn69/N214 | low max + Wnd ;225° | 0,00 | **0,00** | **-139,47** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn69/N214 | high max + Wnd ;45° | 0,00 | **0,00** | **335,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn69/N214 | high max + Wnd ;315° | **0,00** | 0,00 | 105,26 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn70/N220 | low max + Wnd ;315° | 0,00 | 0,00 | **8,13** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn70/N220 | high max + Wnd ;135° | **0,00** | **0,00** | **344,65** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn71/N221 | low max + Wnd ;315° | 0,00 | 0,00 | **2,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn71/N221 | high max + Wnd ;135° | **0,00** | **0,00** | **329,04** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn72/N226 | low max + Wnd ;225° | **0,00** | **0,00** | **7,16** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn72/N226 | high max + Wnd ;45° | 0,00 | 0,00 | **340,47** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn73/N228 | low max + Wnd ;225° | **0,00** | **0,00** | **-0,44** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn73/N228 | high max + Wnd ;45° | 0,00 | 0,00 | **328,50** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn77/N237 | low max + Wnd ;45° | 0,00 | 0,00 | **2,76** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn77/N237 | high max + Wnd ;225° | **0,00** | **0,00** | **329,19** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn76/N236 | low max + Wnd ;45° | 0,00 | 0,00 | **8,41** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn76/N236 | high max + Wnd ;225° | **0,00** | **0,00** | **344,90** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn74/N231 | low max + Wnd ;135° | 0,00 | 0,00 | **6,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn74/N231 | high max + Wnd ;315° | **0,00** | **0,00** | **341,56** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn75/N233 | low max + Wnd ;135° | 0,00 | 0,00 | **1,53** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn75/N233 | high max + Wnd ;315° | **0,00** | **0,00** | **326,20** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N249 | low max + Wnd ;45° | 0,00 | 0,00 | **-131,08** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N249 | high max + Wnd ;225° | **0,00** | **0,00** | **408,73** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn79/N250 | low max + Wnd ;135° | 0,00 | 0,00 | **-133,36** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn79/N250 | high max + Wnd ;315° | **0,00** | **0,00** | **404,28** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn80/N251 | low max + Wnd ;135° | 0,00 | 0,00 | **-121,48** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn80/N251 | high max + Wnd ;315° | **0,00** | **0,00** | **387,95** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn81/N252 | low max + Wnd ;45° | 0,00 | 0,00 | **-119,42** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn81/N252 | high max + Wnd ;225° | **0,00** | **0,00** | **392,24** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn82/N253 | low max + Wnd ;225° | **0,00** | **0,00** | **-130,61** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn82/N253 | high max + Wnd ;45° | 0,00 | 0,00 | **400,65** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn83/N254 | low max + Wnd ;315° | 0,00 | 0,00 | **-131,09** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn83/N254 | high max + Wnd ;135° | **0,00** | **0,00** | **408,69** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn84/N255 | low max + | **0,00** | **0,00** | **-118,98** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

| Naam | Belasting | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;225° | | | | | | | | |
| Sn84/N255 | high max + Wnd ;45° | 0,00 | 0,00 | **384,46** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn85/N256 | low max + Wnd ;315° | 0,00 | 0,00 | **-119,42** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn85/N256 | high max + Wnd ;135° | **0,00** | **0,00** | **392,19** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

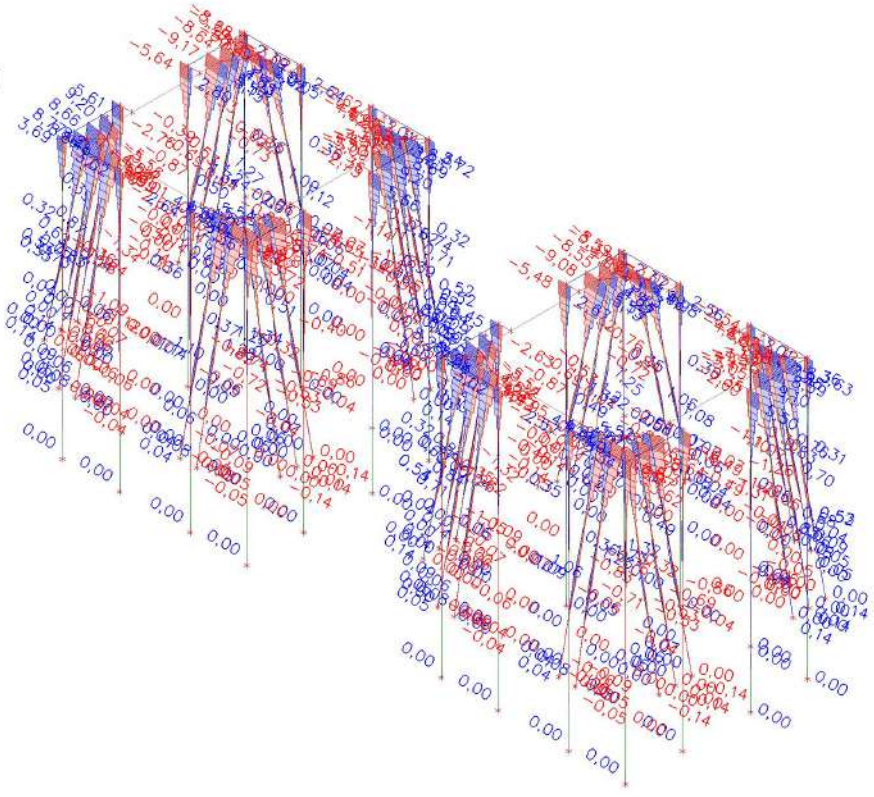
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



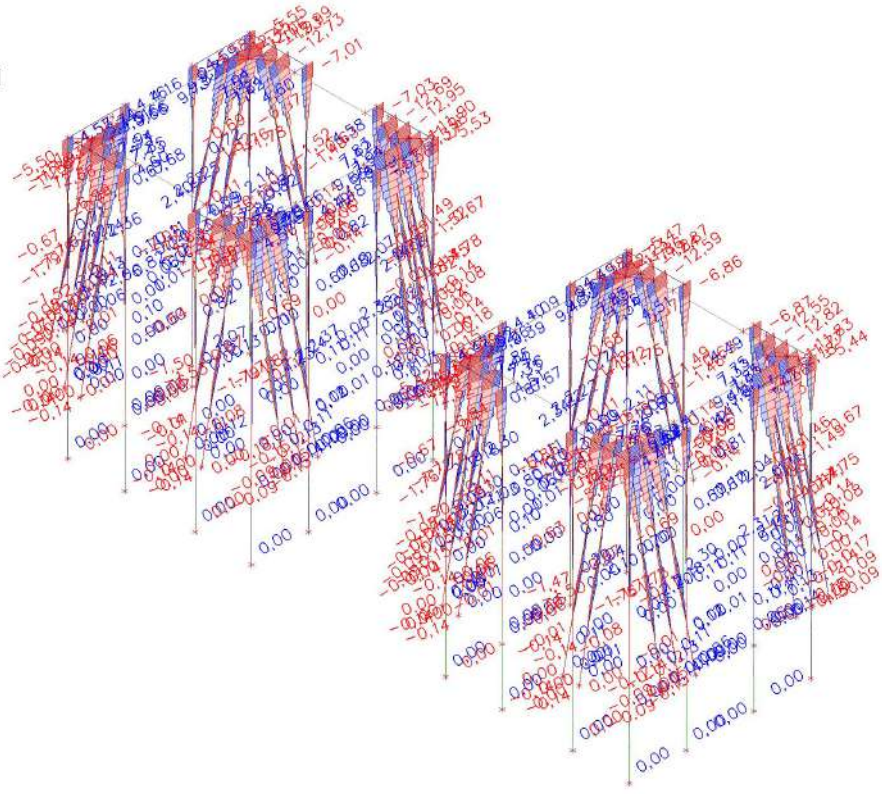
### 7.2.2. Interne 1D- krachten; V_y

Values: $V_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



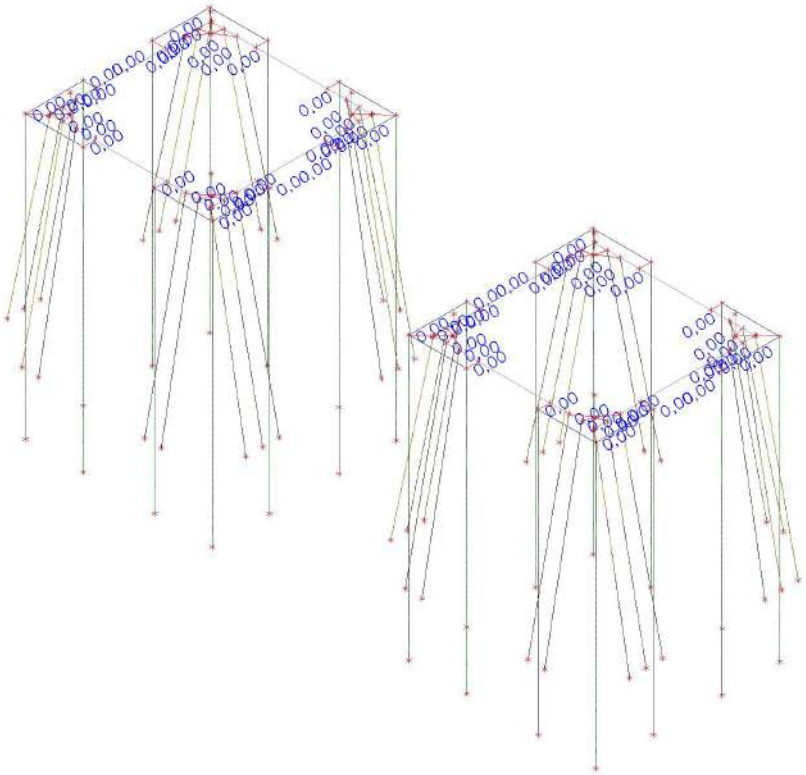
### 7.2.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



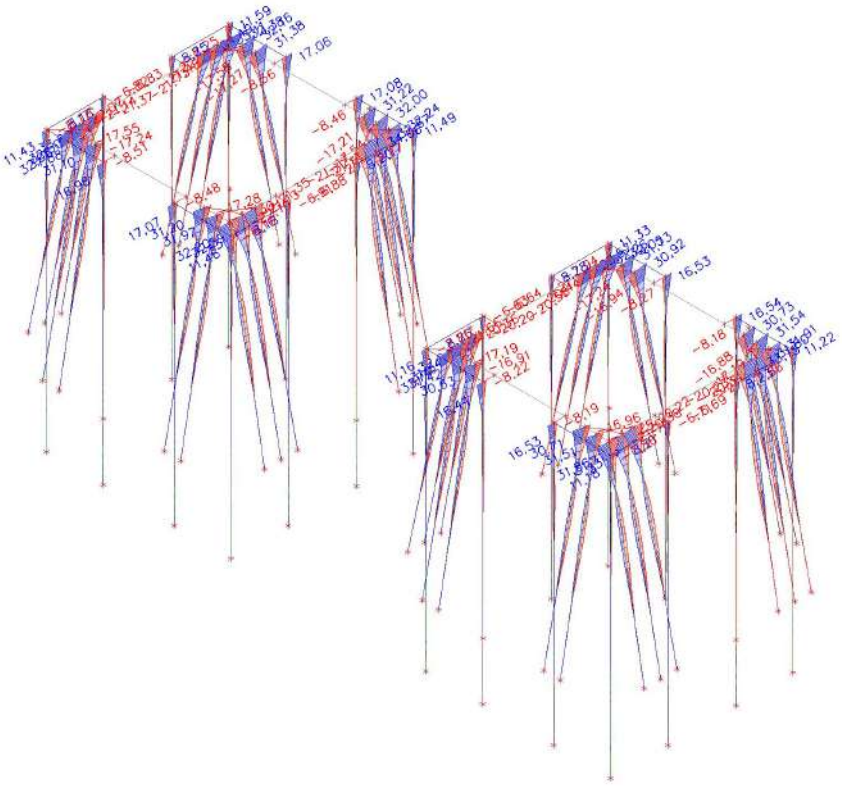
### 7.2.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



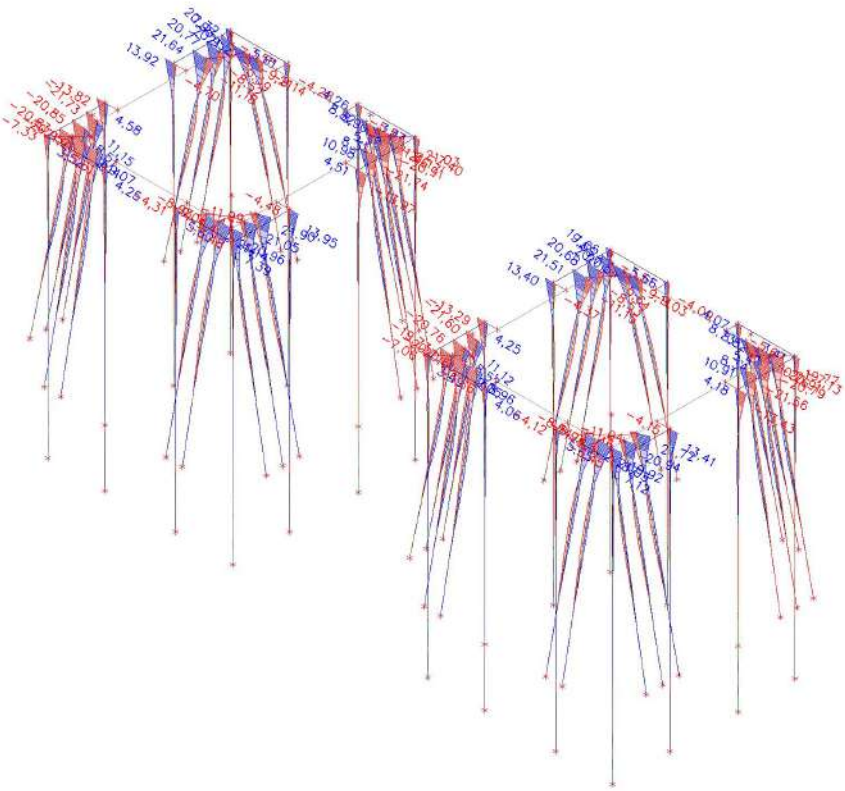
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Funderingspaal - Rectangle (400; 400)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_39 | 15,500 | high max + Wnd ;225° | Funderingspaal - Rectangle (400; 400) | **-360,39** | -0,08 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_33 | 0,000 | low max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | **245,20** | -3,45 | 6,88 | **0,00** | -15,30 | 3,96 |
| Paal_P_9 | 0,000 | high max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -64,20 | **-9,26** | 8,70 | 0,00 | -18,01 | **21,90** |
| Paal_P_17 | 0,000 | high max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -146,13 | 4,64 | **-12,99** | 0,00 | 32,16 | -7,74 |
| Paal_P_7 | 0,700 | low max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -17,50 | -6,89 | **9,75** | 0,00 | -15,28 | 12,68 |
| Paal_P_19 | 0,000 | low max + Wnd ;315° | Funderingspaal - Rectangle (400; 400) | -12,72 | -7,09 | 9,74 | 0,00 | **-22,11** | 17,34 |
| Paal_P_21 | 0,000 | high max + Wnd ;45° | Funderingspaal - Rectangle (400; 400) | -285,37 | -5,21 | -12,45 | 0,00 | **34,49** | 12,51 |
| Paal_P_14 | 0,000 | high max + Wnd ;225° | Funderingspaal - Rectangle (400; 400) | -63,68 | **9,20** | 8,67 | 0,00 | -17,96 | **-21,74** |

### 7.2.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = LEKA Paal - type e (CHS219.1/10.0)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_58 | 22,040 | high max + Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | **-408,73** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_59 | 0,000 | low max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | **156,65** | -2,02 | 4,57 | **0,00** | -8,17 | 2,78 |
| Paal_P_26 | 0,000 | high max + Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | -311,21 | **-5,65** | -3,89 | 0,00 | 5,82 | **13,95** |
| Paal_P_22 | 0,000 | high max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -327,46 | 1,81 | **-7,03** | **0,00** | **17,08** | -1,82 |
| Paal_P_24 | 0,000 | low max + Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | 16,74 | 1,12 | **4,60** | 0,00 | **-8,56** | -0,39 |
| Paal_P_23 | 0,000 | high max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -311,04 | **5,66** | -3,91 | 0,00 | 5,86 | **-13,97** |

## 7.3. Krachten van de Poeren

### 7.3.1. Interne 1D-krachten

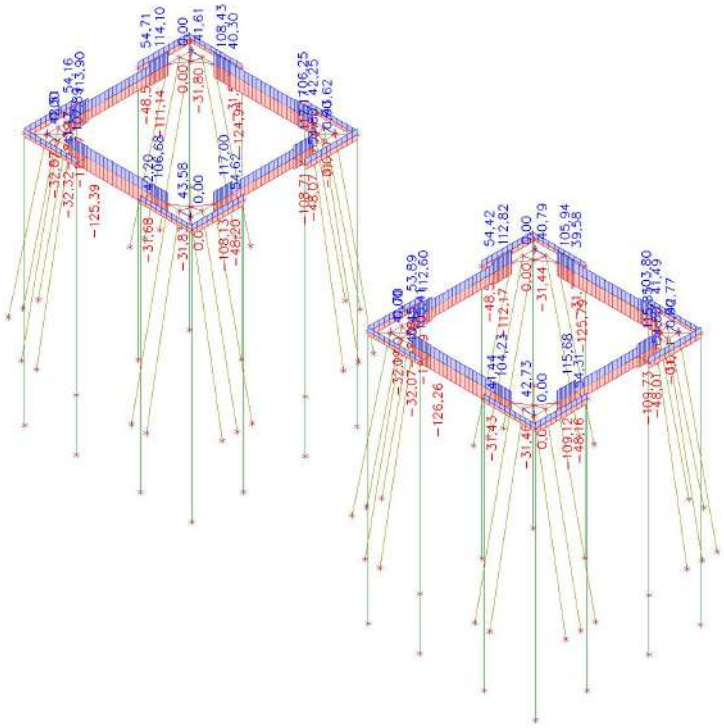
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Laag = Poeren

| Naam | dx [m] | Belasting | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer 5 | 0,000 | high max + Wnd ;225° | **-1934,15** | 430,36 | 21,34 | 2,30 | -31,48 | -427,72 |
| Poer 7 | 1,475 | low max + Wnd ;135° | **1619,09** | 355,63 | -22,67 | 0,27 | 0,00 | 19,43 |
| Poer 7 | 0,000 | high max + Wnd ;315° | -1905,70 | **-424,58** | 23,42 | -2,53 | -34,54 | **422,26** |
| Poer 8 | 0,000 | high max + Wnd ;135° | -584,72 | -118,67 | **-72,48** | **7,82** | **106,78** | 113,59 |
| Poer 5 | 0,000 | high max + Wnd ;135° | 107,59 | -16,82 | -70,80 | **-7,65** | 104,43 | 11,37 |
| Poer 6 | 0,000 | high max + Wnd ;225° | 109,82 | -16,62 | **70,56** | 7,62 | **-104,08** | 11,09 |
| Poer 6 | 0,000 | high max + Wnd ;135° | -1933,38 | **430,85** | -21,48 | -2,32 | 31,69 | **-428,28** |

## 7.4. Krachten van de Funderingsbalken

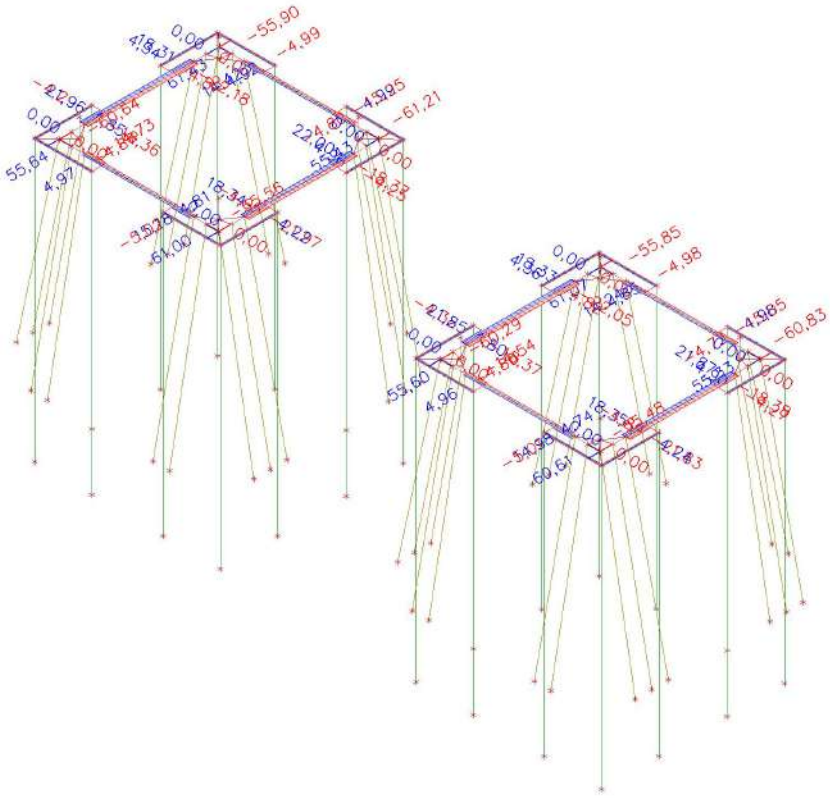
### 7.4.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



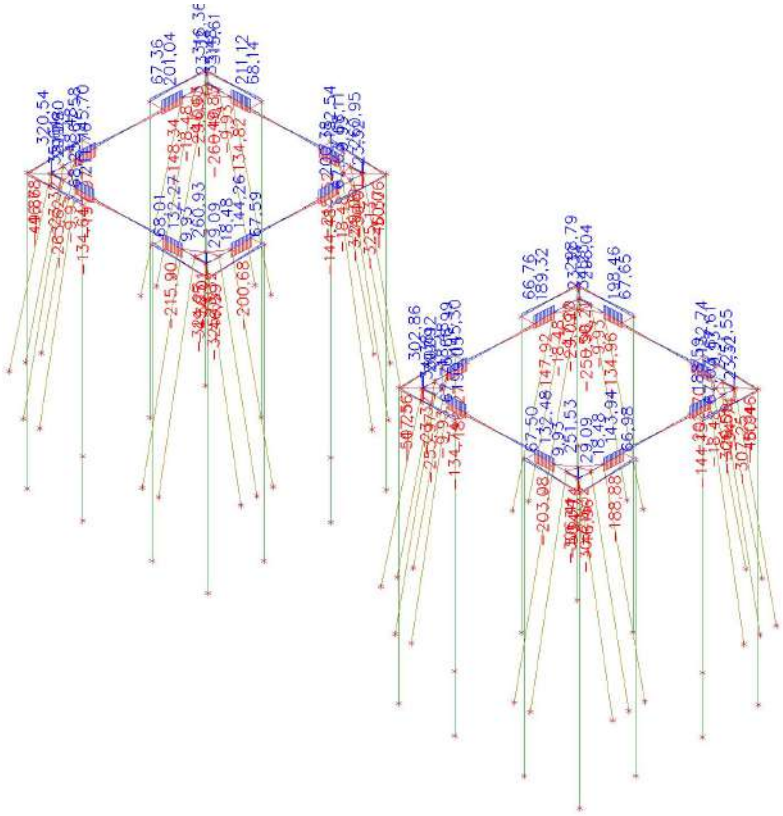
### 7.4.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



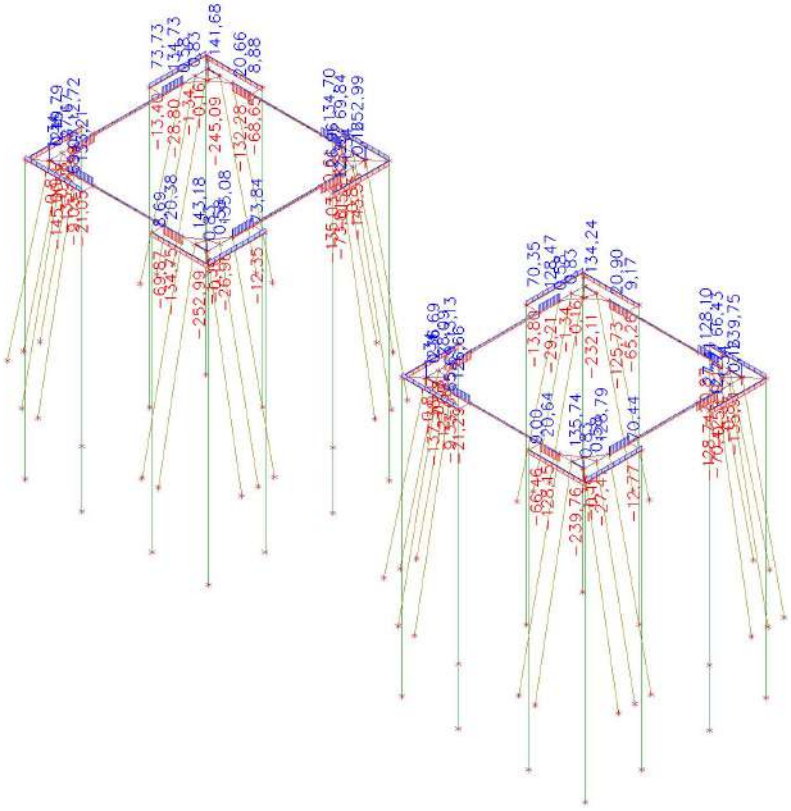
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



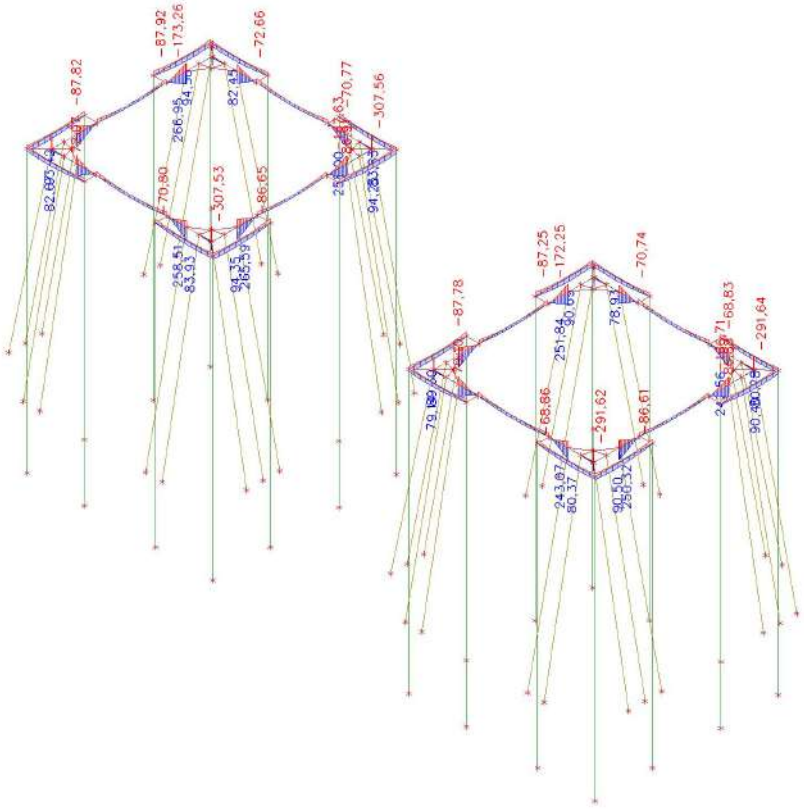
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



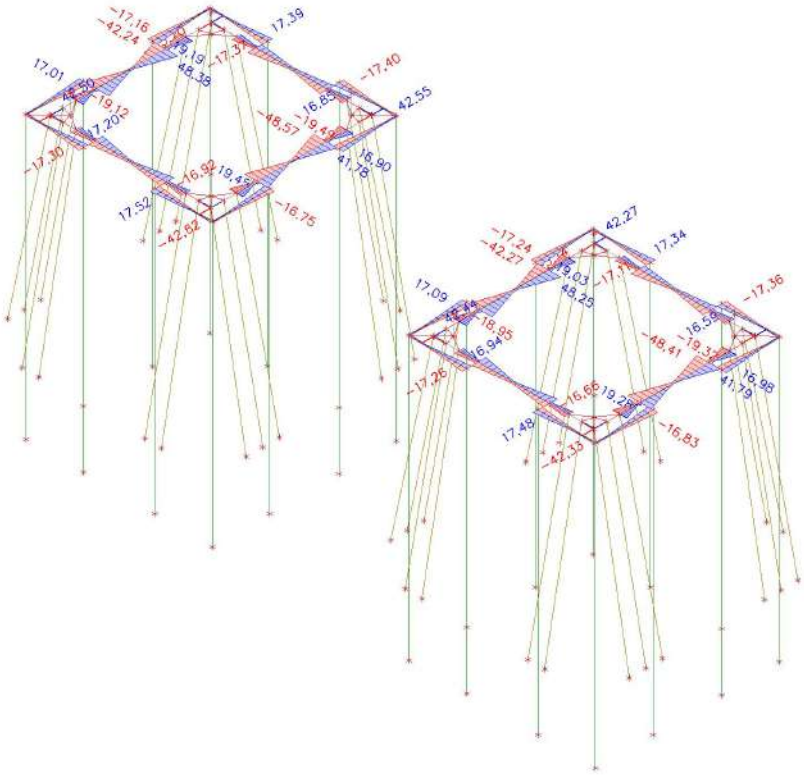
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.7. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Balk - Rectangle (750; 900)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Balk 11 | 3,500+ | high max + Wnd ;45° | Balk - Rectangle (750; 900) | **-126,26** | -5,86 | 59,27 | -11,40 | -27,91 | 10,87 |
| Balk 5 | 9,000+ | low max + Wnd ;225° | Balk - Rectangle (750; 900) | **117,17** | -18,37 | -20,97 | -28,33 | 2,41 | 0,85 |
| Balk 4 | 12,550+ | low max + Wnd ;45° | Balk - Rectangle (750; 900) | 41,61 | **61,43** | 316,36 | -239,19 | -293,65 | -23,07 |
| Balk 4 | 0,050- | low max + Wnd ;135° | Balk - Rectangle (750; 900) | 43,62 | **-61,21** | **-325,13** | 246,68 | -300,21 | -21,46 |
| Balk 7 | 12,550+ | low max + Wnd ;315° | Balk - Rectangle (750; 900) | 42,51 | -60,64 | **320,54** | 243,74 | -296,16 | 21,76 |
| Balk 7 | 0,000 | high max + Wnd ;225° | Balk - Rectangle (750; 900) | 41,23 | 58,99 | -321,87 | **-252,99** | -291,41 | 18,38 |
| Balk 4 | 0,050- | high max + Wnd ;135° | Balk - Rectangle (750; 900) | 41,29 | -59,24 | -322,91 | **252,99** | **-307,56** | -21,47 |
| Balk 6 | 10,600- | high max + Wnd ;45° | Balk - Rectangle (750; 900) | 32,60 | -21,60 | 169,23 | 134,73 | **266,95** | -23,08 |
| Balk 5 | 9,000- | low max + Wnd ;225° | Balk - Rectangle (750; 900) | 87,24 | -16,69 | -47,59 | -25,69 | -65,50 | **-48,57** |
| Balk 6 | 9,000- | low max + Wnd ;315° | Balk - Rectangle (750; 900) | 83,93 | 16,64 | -47,67 | 25,74 | -65,17 | **48,38** |

### 7.4.8. Interne 1D-krachten

Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Ringbalk - Rectangle (750; 1000)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| S223 | 0,000 | low max + Wnd ;135° | Ringbalk - Rectangle (750; 1000) | **54,80** | 0,08 | 49,84 | -67,11 | 12,04 | 3,01 |
| S230 | 0,000 | high max + Wnd ;135° | Ringbalk - Rectangle (750; 1000) | 3,34 | **-5,02** | 49,37 | -18,94 | -23,95 | 17,52 |
| S222 | 0,000 | high max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 3,17 | **4,99** | 49,26 | 18,66 | -23,76 | -17,40 |
| S234 | 4,500 | high max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 2,78 | 4,98 | **-50,46** | 17,46 | -27,46 | 5,06 |
| S232 | 0,000 | high max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | -10,30 | -4,67 | **68,25** | 38,79 | -68,36 | 16,24 |
| S223 | 0,000 | high max + | Ringbalk - | 52,59 | 0,14 | 64,46 | **-73,81** | 0,66 | 2,67 |

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;135° | Rectangle (750; 1000) | | | | | | |
| S231 | 0,000 | high max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | 52,37 | -0,16 | 64,41 | **73,84** | 0,89 | -2,60 |
| S229 | 0,000 | high max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | **-48,52** | -0,09 | 55,70 | -9,34 | **-87,92** | 2,48 |
| S229 | 2,700- | high max + Wnd ;45° | Ringbalk - Rectangle (750; 1000) | 52,47 | 0,00 | 4,22 | 73,73 | **94,50** | -3,14 |
| S223 | 0,000 | low max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | -34,12 | 4,96 | 52,84 | -17,07 | -74,81 | **-19,49** |
| S231 | 0,000 | low max + Wnd ;135° | Ringbalk - Rectangle (750; 1000) | -33,97 | -4,95 | 52,81 | 17,09 | -74,62 | **19,45** |

# 1. Table of contents

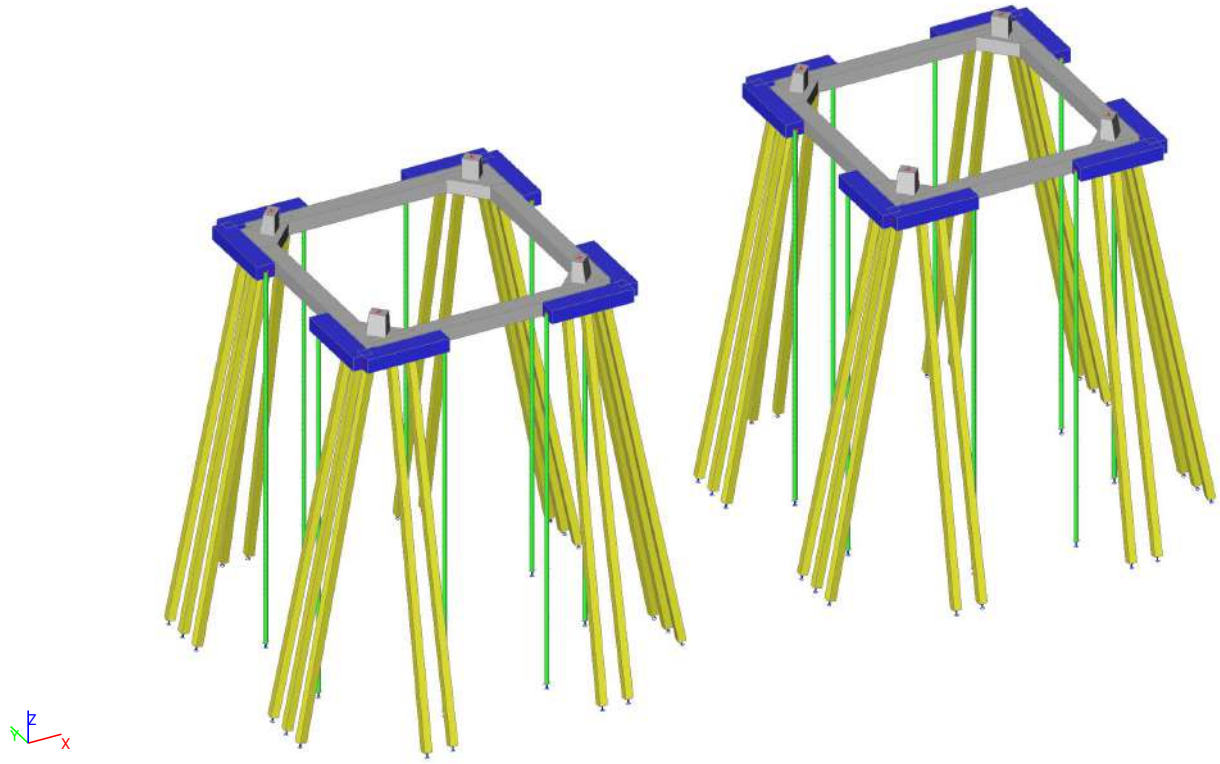
1. Table of contents 1
2. Project 3
3. Analyse model 3
4. Modeleigenschappen 4
4.1. Materials 4
4.2. Cross-sections 4
4.3. Analyse model met doorsneden 6
4.4. Analyse model met doorsneden 6
4.5. Mesh setup 7
5. Geometrie 7
5.1. Nodes 7
5.2. Analyse model met knopen 8
5.3. Members 8
5.4. Analyse model met Staven 10
5.5. Nodal supports 10
5.6. Analyse model met Knoopondersteuningen 12
5.7. Line supports on member 12
5.8. Analyse model met Lijnondersteuningen 32
5.9. Analyse model met Lijnondersteuningen 33
5.10. Nonlinear functions 34
6. Belastingen 49
6.1. Load cases 49
6.1.1. Load cases - E.G. 49
6.1.2. Load cases - high max Wnd ;135° 49
6.1.2.1. Point force in node 50
6.1.3. Load cases - high max Wnd ;225° 51
6.1.3.1. Point force in node 52
6.1.4. Load cases - high max Wnd ;315° 52
6.1.4.1. Point force in node 53
6.1.5. Load cases - high max Wnd ;45° 54
6.1.5.1. Point force in node 55
6.1.6. Load cases - low max Wnd ;135° 55
6.1.6.1. Point force in node 56
6.1.7. Load cases - low max Wnd ;225° 57
6.1.7.1. Point force in node 58
6.1.8. Load cases - low max Wnd ;315° 58
6.1.8.1. Point force in node 59
6.1.9. Load cases - low max Wnd ;45° 60
6.1.9.1. Point force in node 61
6.2. Nonlinear combinations 61
6.3. Result classes 62
7. Resultaten 63
7.1. Reacties van de palen 63
7.1.1. Reactions; R_z 63
7.1.2. Reactions 63
7.1.3. Reactions 63
7.1.4. Reactions 64
7.2. Krachten van de Funderingspalen 70
7.2.1. Interne 1D- krachten; N 70
7.2.2. Interne 1D- krachten; V_y 70
7.2.3. Interne 1D- krachten; V_z 71
7.2.4. Interne 1D- krachten; M_x 71
7.2.5. Interne 1D- krachten; M_y 72
7.2.6. Interne 1D- krachten; M_z 72
7.2.7. 1D internal forces 73
7.2.8. 1D internal forces 73
7.3. Krachten van de Poeren 74
7.3.1. 1D internal forces 74
7.4. Krachten van de Funderingsbalken 75
7.4.1. Interne 1D- krachten; N 75
7.4.2. Interne 1D- krachten; V_y 75
7.4.3. Interne 1D- krachten; V_z 76
7.4.4. Interne 1D- krachten; M_x 76
7.4.5. Interne 1D- krachten; M_y 77
7.4.6. Interne 1D- krachten; M_z 77

7.4.7. 1D internal forces 78
7.4.8. 1D internal forces 78

## 2. Project

| | |
|---|---|
| Licence user | [redacted] |
| Project | Opwaardering KIJ-DIM 380kV |
| Part | Balkrooster 5xBeton40x40 mast 158 |
| Author | [redacted] |
| Date | 28-01-2026 |
| Structure | General XYZ |
| No. of nodes : | 168 |
| No. of beams : | 88 |
| No. of slabs : | 0 |
| No. of solids : | 0 |
| No. of used profiles : | 5 |
| No. of load cases : | 9 |
| No. of used materials : | 7 |
| Acceleration of gravity [m/s$^2$] | 9,810 |
| National code | EC - EN |

## 3. Analyse model



# 4. Modeleigenschappen

## 4.1. Materials

Steel EC3

| Name | ρ [kg/m³] | $E_{mod}$ [MPa] | μ | Onderlimiet [mm] | Bovenlimiet [mm] | $F_y$ [MPa] | $F_u$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| | | $G_{mod}$ [MPa] | α [m/mK] | | | | | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |
| S 235 | 6850,0 | 2,1000e+05 | 0.3 | 0 | 40 | 235,0 | 360,0 | |
| | | 8,0769e+04 | 0,00 | 40 | 80 | 215,0 | 360,0 | |

| Name | Type | ρ [kg/m³] | Density in fresh state [kg/m³] | $E_{mod}$ [MPa] | μ | α [m/mK] | $f_{c.k.28}$ [MPa] | Colour |
|---|---|---|---|---|---|---|---|---|
| C20/25 Ongescheurd | Concrete | 1500,0 | 2600,0 | 2,4000e+04 | 0.2 | 0,00 | 20,00 | |
| C20/25 Gescheurd | Concrete | 2500,0 | 2600,0 | 8,0000e+03 | 0.2 | 0,00 | 20,00 | |
| C30/37 Gescheurd | Concrete | 2500,0 | 2600,0 | 1,1000e+04 | 0.2 | 0,00 | 30,00 | |
| C30/37 | Concrete | 2400,0 | 2600,0 | 3,2800e+04 | 0.2 | 0,00 | 30,00 | |

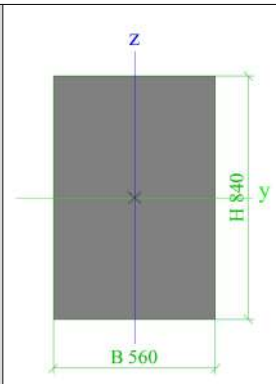
| Explanations of symbols | |
|---|---|
| Density in fresh state | The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account. |

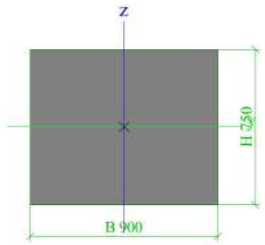
Reinforcement EC2

| Name | Type | ρ [kg/m³] | $E_{mod}$ [MPa] | $G_{mod}$ [MPa] | α [m/mK] | $f_{y.k}$ [MPa] |
|---|---|---|---|---|---|---|
| B 500B | Reinforcement steel | 7850,0 | 2,0000e+05 | 8,3333e+04 | 0,00 | 500,0 |

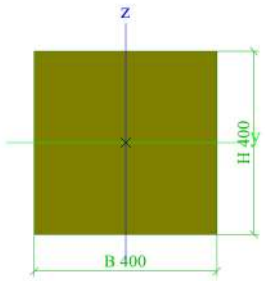
## 4.2. Cross-sections

| Poer.Opstort | | |
|---|---|---|
| Type | Rectangle | |
| Detailed | 840; 560 | |
| Shape type | Thick-walled | |
| Item material | C20/25 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [m²] | 4,7040e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 3,9200e-01 | 3,9200e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 2,8000e+00 | 2,8000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 280 | 420 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,7660e-02 | 1,2293e-02 |
| $i_y$ [mm], $i_z$ [mm] | 242 | 162 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 6,5856e-02 | 4,3904e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 2,8888e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| Picture | | |
|---|---|---|
| |   | |
| **Balk** | | |
| Type | Rectangle | |
| Detailed | 750; 900 | |
| Shape type | Thick-walled | |
| Item material | C20/25 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [m²] | 6,7500e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 5,6250e-01 | 5,6250e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,3000e+00 | 3,3000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 450 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,1641e-02 | 4,5563e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 260 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 8,4375e-02 | 1,0125e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |

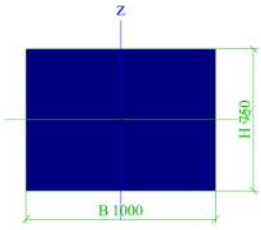
| | | |
|---|---|---|
| $I_t$ [m⁴], $I_w$ [m⁶] | 6,3112e-02 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Picture |  | |



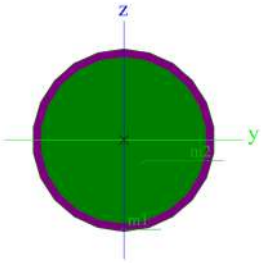
| **Funderingspaal** | | |
|---|---|---|
| Type | Rectangle | |
| Detailed | 400; 400 | |
| Shape type | Thick-walled | |
| Item material | C20/25 Ongescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [m²] | 1,6000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 1,3333e-01 | 1,3333e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 1,6000e+00 | 1,6000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 200 | 200 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 2,1333e-03 | 2,1333e-03 |
| $i_y$ [mm], $i_z$ [mm] | 115 | 115 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 1,0667e-02 | 1,0667e-02 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 3,6027e-03 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Picture |  | |



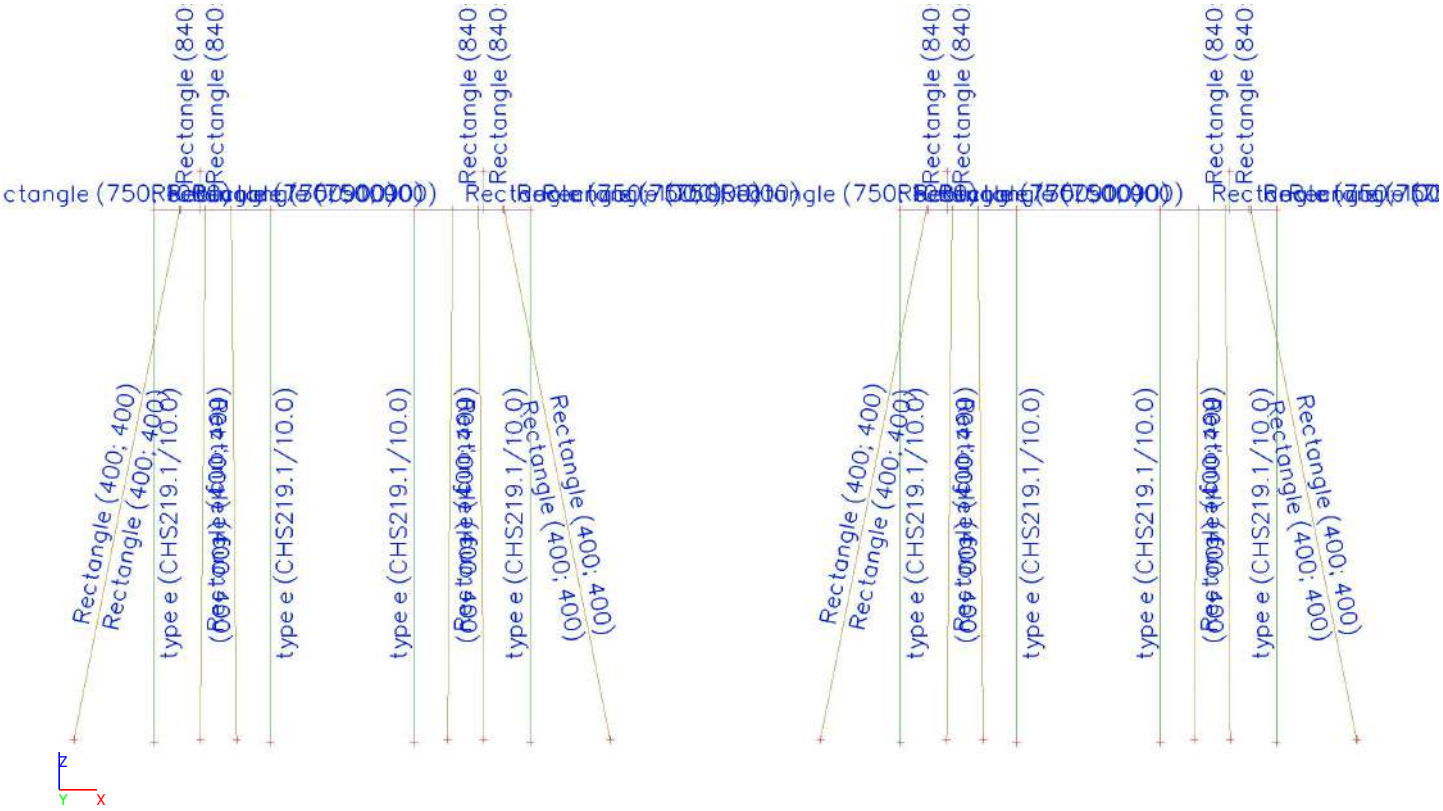
| **Ringbalk** | | |
|---|---|---|
| Type | Rectangle | |
| Detailed | 750; 1000 | |
| Shape type | Thick-walled | |
| Item material | C30/37 Gescheurd | |
| Fabrication | concrete | |
| Colour | | |
| A [m²] | 7,5000e-01 | |
| $A_y$ [m²], $A_z$ [m²] | 6,2517e-01 | 6,2531e-01 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 3,5000e+00 | 3,5000e+00 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 500 | 375 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 3,5156e-02 | 6,2500e-02 |
| $i_y$ [mm], $i_z$ [mm] | 217 | 289 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 9,3750e-02 | 1,2500e-01 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 0,0000e+00 | 0,0000e+00 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 0,00e+00 | 0,00e+00 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 7,6159e-02 | 2,7801e-04 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |

| Picture |  | |
|---|---|---|

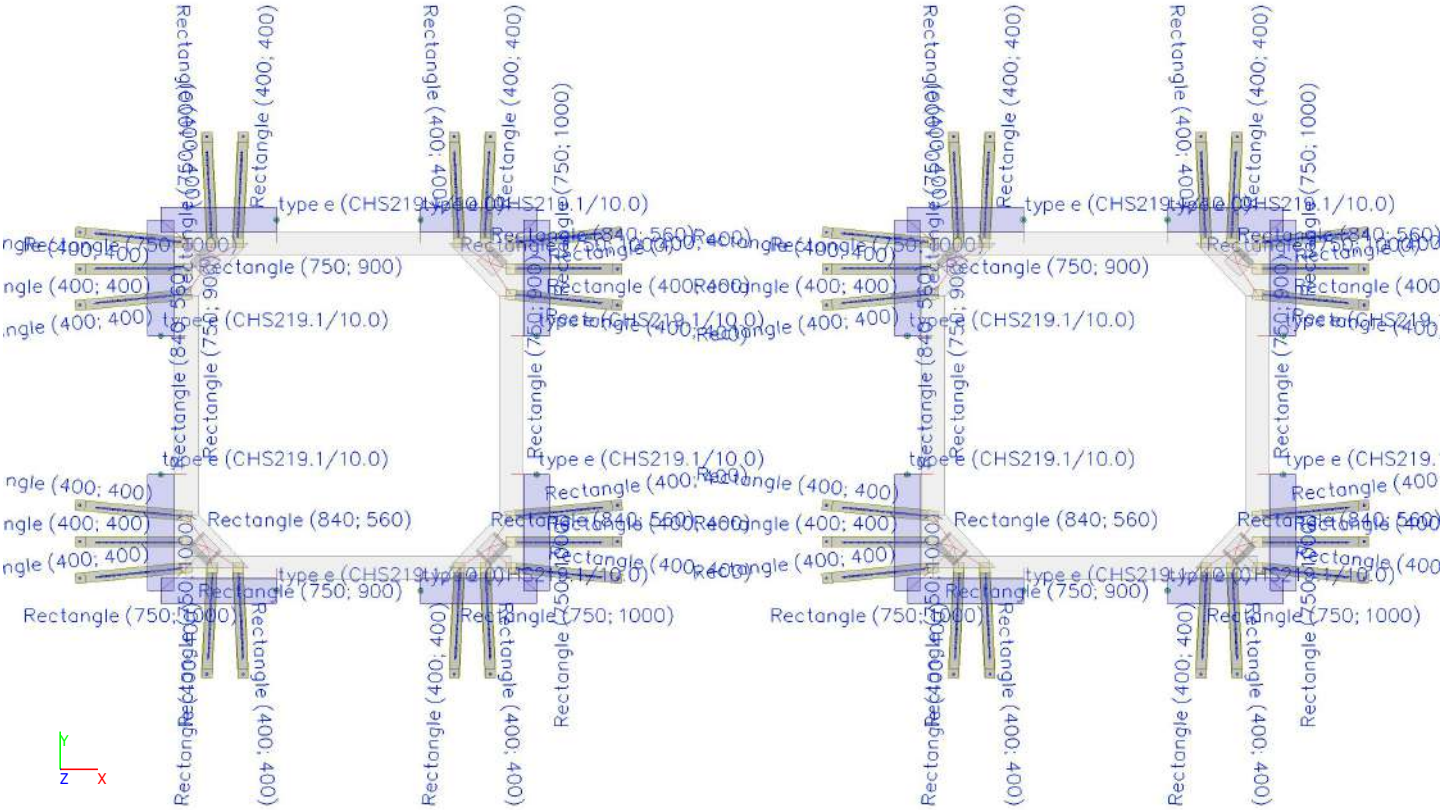


| **LEKA Paal** | | |
|---|---|---|
| Type | type e | |
| Detailed | CHS219.1/10.0 | |
| Shape type | Thick-walled | |
| Item material | S 235 | |
| | C30/37 | |
| Fabrication | concrete | |
| Flexural buckling y-y, Flexural buckling z-z | a | a |
| A [m²] | 1,1430e-02 | |
| $A_y$ [m²], $A_z$ [m²] | 8,7249e-03 | 8,7249e-03 |
| $A_L$ [m²/m], $A_D$ [m²/m] | 6,8829e-01 | 6,8829e-01 |
| $c_{Y.UCS}$ [mm], $c_{Z.UCS}$ [mm] | 110 | 110 |
| α [deg] | 0,00 | |
| $I_y$ [m⁴], $I_z$ [m⁴] | 4,8013e-05 | 4,8013e-05 |
| $i_y$ [mm], $i_z$ [mm] | 65 | 65 |
| $W_{el.y}$ [m³], $W_{el.z}$ [m³] | 4,3827e-04 | 4,3827e-04 |
| $W_{pl.y}$ [m³], $W_{pl.z}$ [m³] | 4,9123e-04 | 4,9123e-04 |
| $M_{pl.y.+}$ [Nm], $M_{pl.y.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $M_{pl.z.+}$ [Nm], $M_{pl.z.-}$ [Nm] | 1,15e+05 | 1,15e+05 |
| $d_y$ [mm], $d_z$ [mm] | 0 | 0 |
| $I_t$ [m⁴], $I_w$ [m⁶] | 9,8040e-05 | 0,0000e+00 |
| $\beta_y$ [mm], $\beta_z$ [mm] | 0 | 0 |
| Picture |  | |

## 4.3. Analyse model met doorsneden




## 4.4. Analyse model met doorsneden



### 4.5. Mesh setup

| | |
|---|---|
| Name | NetInstelling1 |
| Generation of variable eccentricities on members instead of constant ones | × |
| Generation of nodes in connections of beam elements | × |
| Elastic mesh | ✓ |
| Use automatic mesh refinement | × |
| Connect members/nodes | ✓ |
| Division on haunches and arbitrary members | 5 |
| Division for integration strip and 2D-1D upgrade | 50 |
| Average number of 1D mesh elements on straight 1D members | 5 |
| Average size of 2D mesh element [m] | 0,250 |
| Average size of 1D mesh element on curved 1D members [m] | 0,250 |
| Minimal length of beam element [m] | 0,100 |
| Maximal length of beam element [m] | 1000,000 |
| Average size of tendons, elements on subsoil, nonlinear soil spring [m] | 1,000 |
| Maximal out of plane angle of a quadrilateral [mrad] | 30,0 |
| Minimal distance between definition point and line [m] | 0,001 |
| Average size of panel element [m] | 1,000 |
| Mesh refinement following the beam type | None |
| Definition of mesh element size for panels | Manual |

## 5. Geometrie

### 5.1. Nodes

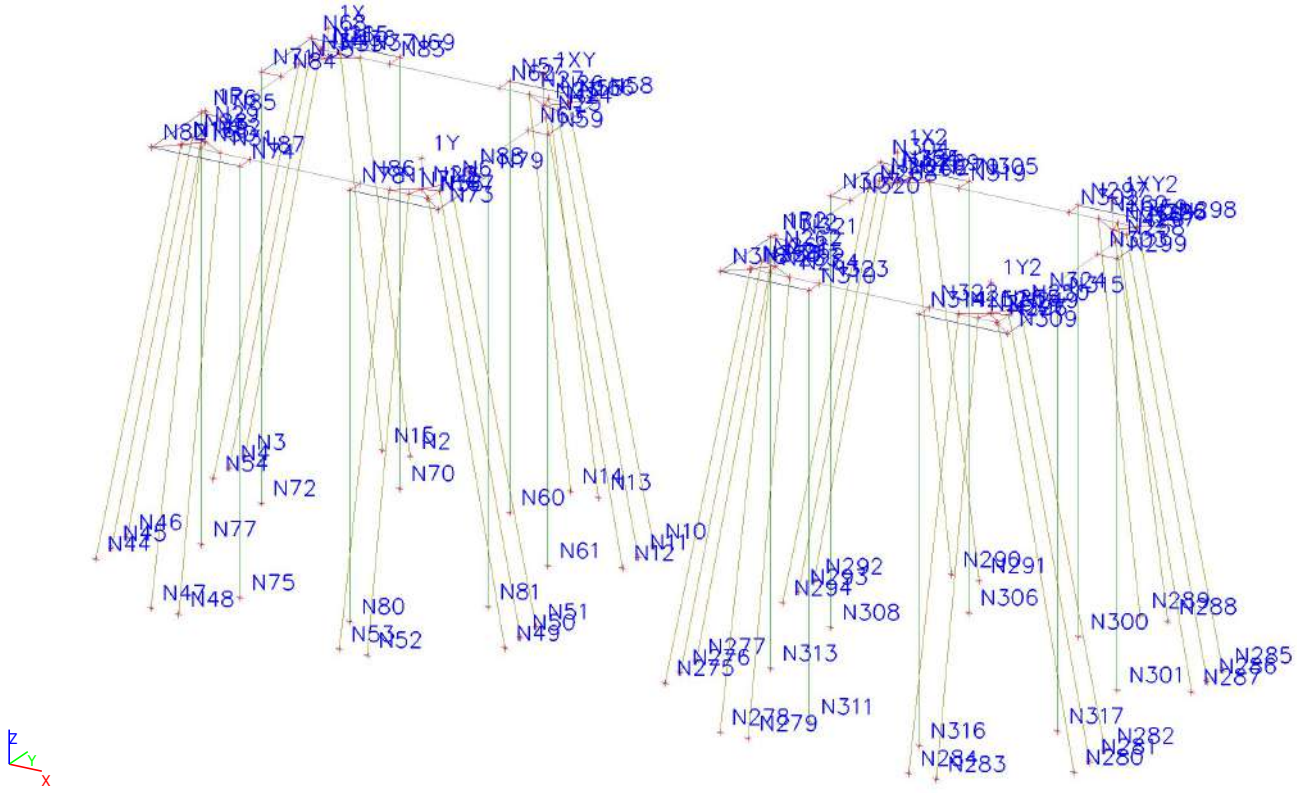
| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N5 | 13,000 | 1,400 | 0,000 |
| N6 | 13,000 | 2,400 | 0,000 |
| N7 | 12,000 | 0,400 | 0,000 |
| N1 | 11,000 | 0,400 | 0,000 |
| N17 | 0,400 | 0,400 | 0,000 |
| N21 | 0,400 | 13,000 | 0,000 |
| 1Y | 12,200 | 1,200 | 1,475 |
| N22 | 12,200 | 1,200 | 0,000 |
| N23 | 12,200 | 12,200 | 0,000 |
| 1XY | 12,200 | 12,200 | 1,475 |
| N24 | 13,000 | 12,000 | 0,000 |
| N25 | 13,000 | 11,000 | 0,000 |
| N26 | 12,000 | 13,000 | 0,000 |
| N27 | 11,000 | 13,000 | 0,000 |
| N28 | 0,400 | 1,400 | 0,000 |
| N29 | 0,400 | 2,400 | 0,000 |
| N30 | 1,400 | 0,400 | 0,000 |
| N31 | 2,400 | 0,400 | 0,000 |
| 1P | 1,200 | 1,200 | 1,475 |
| N32 | 1,200 | 1,200 | 0,000 |
| N33 | 1,200 | 12,200 | 0,000 |
| 1X | 1,200 | 12,187 | 1,475 |
| N34 | 0,400 | 12,000 | 0,000 |
| N35 | 0,400 | 11,000 | 0,000 |
| N36 | 1,400 | 13,000 | 0,000 |
| N37 | 2,400 | 13,000 | 0,000 |
| N38 | 12,200 | 1,200 | 0,000 |
| N39 | 1,200 | 1,200 | 0,000 |
| N40 | 12,200 | 12,200 | 0,000 |
| N41 | 1,200 | 12,200 | 0,000 |
| N44 | -3,718 | -0,012 | -20,588 |
| N45 | -3,718 | 1,400 | -20,588 |
| N46 | -3,718 | 2,812 | -20,588 |
| N47 | 1,194 | -3,718 | -20,591 |
| N48 | 2,606 | -3,718 | -20,591 |
| N49 | 17,118 | -0,012 | -20,591 |
| N50 | 17,118 | 1,400 | -20,588 |
| N51 | 17,118 | 2,812 | -20,588 |
| N52 | 12,206 | -3,718 | -20,591 |
| N53 | 10,794 | -3,718 | -20,591 |
| N10 | 17,118 | 13,412 | -20,588 |
| N11 | 17,118 | 12,000 | -20,588 |
| N12 | 17,118 | 10,588 | -20,588 |
| N13 | 12,206 | 17,118 | -20,591 |
| N14 | 10,794 | 17,118 | -20,591 |
| N15 | 1,194 | 17,118 | -20,591 |
| N2 | 2,606 | 17,118 | -20,591 |
| N3 | -3,718 | 13,412 | -20,588 |
| N4 | -3,718 | 12,000 | -20,588 |
| N54 | -3,718 | 10,588 | -20,588 |
| N55 | 13,000 | 13,000 | 0,000 |
| N56 | 13,000 | 0,400 | 0,000 |
| N57 | 9,500 | 13,900 | 0,000 |
| N58 | 14,000 | 13,900 | 0,000 |
| N59 | 14,000 | 9,400 | 0,000 |
| N60 | 9,500 | 13,900 | -20,701 |
| N61 | 14,000 | 9,400 | -20,701 |
| N62 | 9,500 | 13,000 | 0,000 |
| N63 | 13,000 | 9,400 | 0,000 |
| N68 | -0,600 | 13,900 | 0,000 |
| N69 | 3,900 | 13,900 | 0,000 |
| N70 | 3,900 | 13,900 | -20,701 |
| N71 | -0,600 | 9,400 | 0,000 |
| N72 | -0,600 | 9,400 | -20,701 |
| N73 | 14,000 | -0,500 | 0,000 |
| N74 | 3,900 | -0,500 | 0,000 |
| N75 | 3,900 | -0,500 | -20,701 |
| N76 | -0,600 | 4,000 | 0,000 |
| N77 | -0,600 | 4,000 | -20,701 |
| N78 | 9,500 | -0,500 | 0,000 |
| N79 | 14,000 | 4,000 | 0,000 |
| N80 | 9,500 | -0,500 | -20,701 |
| N81 | 14,000 | 4,000 | -20,701 |
| N82 | -0,600 | -0,500 | 0,000 |
| N83 | 3,900 | 13,000 | 0,000 |
| N84 | 0,400 | 9,400 | 0,000 |
| N85 | 0,400 | 4,000 | 0,000 |
| N86 | 9,500 | 0,400 | 0,000 |
| N87 | 3,900 | 0,400 | 0,000 |
| N88 | 13,000 | 4,000 | 0,000 |
| N165 | 0,450 | 13,000 | 0,000 |
| N166 | 12,950 | 13,000 | 0,000 |
| N167 | 12,950 | 0,400 | 0,000 |
| N168 | 0,450 | 0,400 | 0,000 |
| N249 | 42,000 | 1,400 | 0,000 |
| N250 | 42,000 | 2,400 | 0,000 |
| N251 | 41,000 | 0,400 | 0,000 |
| N252 | 40,000 | 0,400 | 0,000 |
| N253 | 29,400 | 0,400 | 0,000 |
| N254 | 29,400 | 13,000 | 0,000 |
| 1Y2 | 41,200 | 1,200 | 1,475 |
| N255 | 41,200 | 1,200 | 0,000 |
| N256 | 41,200 | 12,200 | 0,000 |
| 1XY2 | 41,200 | 12,200 | 1,475 |
| N257 | 42,000 | 12,000 | 0,000 |
| N258 | 42,000 | 11,000 | 0,000 |
| N259 | 41,000 | 13,000 | 0,000 |
| N260 | 40,000 | 13,000 | 0,000 |
| N261 | 29,400 | 1,400 | 0,000 |
| N262 | 29,400 | 2,400 | 0,000 |
| N263 | 30,400 | 0,400 | 0,000 |
| N264 | 31,400 | 0,400 | 0,000 |
| 1P2 | 30,200 | 1,200 | 1,475 |
| N265 | 30,200 | 1,200 | 0,000 |
| N266 | 30,200 | 12,200 | 0,000 |
| 1X2 | 30,200 | 12,187 | 1,475 |
| N267 | 29,400 | 12,000 | 0,000 |
| N268 | 29,400 | 11,000 | 0,000 |
| N269 | 30,400 | 13,000 | 0,000 |
| N270 | 31,400 | 13,000 | 0,000 |
| N271 | 41,200 | 1,200 | 0,000 |
| N272 | 30,200 | 1,200 | 0,000 |
| N273 | 41,200 | 12,200 | 0,000 |
| N274 | 30,200 | 12,200 | 0,000 |
| N275 | 25,282 | -0,012 | -20,588 |
| N276 | 25,282 | 1,400 | -20,588 |
| N277 | 25,282 | 2,812 | -20,588 |
| N278 | 30,194 | -3,718 | -20,591 |
| N279 | 31,606 | -3,718 | -20,591 |
| N280 | 46,118 | -0,012 | -20,591 |

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N281 | 46,118 | 1,400 | -20,588 |
| N282 | 46,118 | 2,812 | -20,588 |
| N283 | 41,206 | -3,718 | -20,591 |
| N284 | 39,794 | -3,718 | -20,591 |
| N285 | 46,118 | 13,412 | -20,588 |
| N286 | 46,118 | 12,000 | -20,588 |
| N287 | 46,118 | 10,588 | -20,588 |
| N288 | 41,206 | 17,118 | -20,591 |
| N289 | 39,794 | 17,118 | -20,591 |
| N290 | 30,194 | 17,118 | -20,591 |
| N291 | 31,606 | 17,118 | -20,591 |
| N292 | 25,282 | 13,412 | -20,588 |
| N293 | 25,282 | 12,000 | -20,588 |
| N294 | 25,282 | 10,588 | -20,588 |
| N295 | 42,000 | 13,000 | 0,000 |
| N296 | 42,000 | 0,400 | 0,000 |

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N297 | 38,500 | 13,900 | 0,000 |
| N298 | 43,000 | 13,900 | 0,000 |
| N299 | 43,000 | 9,400 | 0,000 |
| N300 | 38,500 | 13,900 | -20,701 |
| N301 | 43,000 | 9,400 | -20,701 |
| N302 | 38,500 | 13,000 | 0,000 |
| N303 | 42,000 | 9,400 | 0,000 |
| N304 | 28,400 | 13,900 | 0,000 |
| N305 | 32,900 | 13,900 | 0,000 |
| N306 | 32,900 | 13,900 | -20,701 |
| N307 | 28,400 | 9,400 | 0,000 |
| N308 | 28,400 | 9,400 | -20,701 |
| N309 | 43,000 | -0,500 | 0,000 |
| N310 | 32,900 | -0,500 | 0,000 |
| N311 | 32,900 | -0,500 | -20,701 |
| N312 | 28,400 | 4,000 | 0,000 |

| Name | Coord X [m] | Coord Y [m] | Coord Z [m] |
|---|---|---|---|
| N313 | 28,400 | 4,000 | -20,701 |
| N314 | 38,500 | -0,500 | 0,000 |
| N315 | 43,000 | 4,000 | 0,000 |
| N316 | 38,500 | -0,500 | -20,701 |
| N317 | 43,000 | 4,000 | -20,701 |
| N318 | 28,400 | -0,500 | 0,000 |
| N319 | 32,900 | 13,000 | 0,000 |
| N320 | 29,400 | 9,400 | 0,000 |
| N321 | 29,400 | 4,000 | 0,000 |
| N322 | 38,500 | 0,400 | 0,000 |
| N323 | 32,900 | 0,400 | 0,000 |
| N324 | 42,000 | 4,000 | 0,000 |
| N325 | 29,450 | 13,000 | 0,000 |
| N326 | 41,950 | 13,000 | 0,000 |
| N327 | 41,950 | 0,400 | 0,000 |
| N328 | 29,450 | 0,400 | 0,000 |

## 5.2. Analyse model met knopen



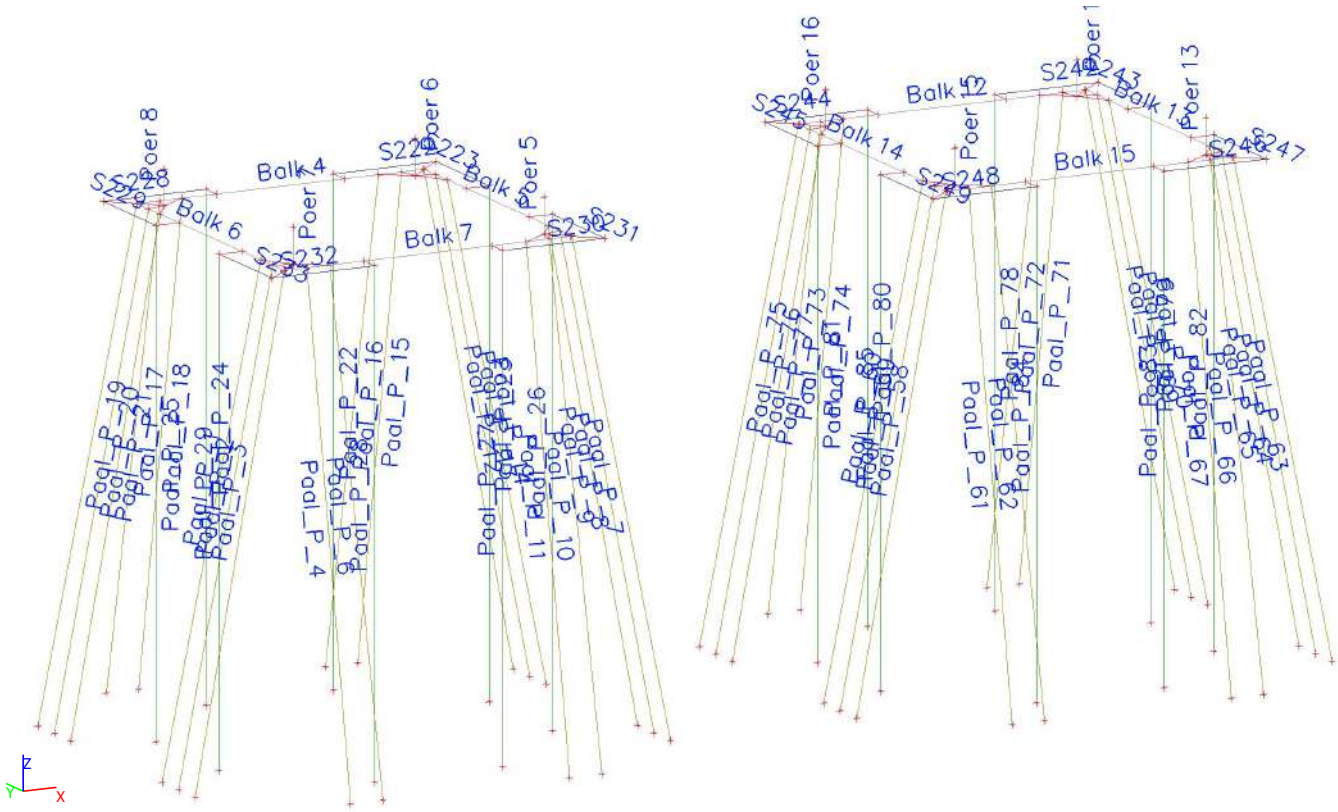

## 5.3. Members

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Balk 4 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N55 | N21 | beam (80) |
| Balk 5 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N55 | beam (80) |
| Balk 6 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N17 | N21 | beam (80) |
| Balk 7 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N56 | N17 | beam (80) |
| Balk 12 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N295 | N254 | beam (80) |
| Balk 13 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N296 | N295 | beam (80) |
| Balk 14 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N253 | N254 | beam (80) |
| Balk 15 | Balk - Rectangle (750; 900) | C20/25 Gescheurd | 12,600 | N296 | N253 | beam (80) |
| S222 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N57 | N58 | beam (80) |
| S223 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N59 | N58 | beam (80) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| S228 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N69 | N68 | beam (80) |
| S229 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N71 | N68 | beam (80) |
| S230 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N78 | N73 | beam (80) |
| S231 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N79 | N73 | beam (80) |
| S232 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N74 | N82 | beam (80) |
| S233 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N76 | N82 | beam (80) |
| S242 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N297 | N298 | beam (80) |
| S243 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N299 | N298 | beam (80) |
| S244 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N305 | N304 | beam (80) |
| S245 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N307 | N304 | beam (80) |
| S246 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N314 | N309 | beam (80) |
| S247 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N315 | N309 | beam (80) |
| S248 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N310 | N318 | beam (80) |
| S249 | Ringbalk - Rectangle (750; 1000) | C30/37 Gescheurd | 4,500 | N312 | N318 | beam (80) |
| Poer 6 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N23 | 1XY | column (100) |
| Poer 15 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N265 | 1P2 | column (100) |
| Poer 16 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N266 | 1X2 | column (100) |
| Paal_P_3 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N17 | N44 | column (100) |
| Paal_P_4 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N30 | N47 | column (100) |
| Paal_P_6 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N31 | N48 | column (100) |
| Paal_P_14 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N25 | N12 | column (100) |
| Paal_P_17 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N36 | N15 | column (100) |
| Paal_P_18 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N37 | N2 | column (100) |
| Paal_P_19 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N21 | N3 | column (100) |
| Paal_P_20 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N34 | N4 | column (100) |
| Paal_P_22 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N57 | N60 | column (100) |
| Paal_P_26 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N79 | N81 | column (100) |
| Paal_P_58 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N253 | N275 | column (100) |
| Paal_P_59 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N261 | N276 | column (100) |
| Paal_P_60 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N262 | N277 | column (100) |
| Paal_P_62 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N264 | N279 | column (100) |
| Paal_P_63 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,003 | N296 | N280 | column (100) |
| Paal_P_64 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N249 | N281 | column (100) |
| Paal_P_66 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N251 | N283 | column (100) |
| Paal_P_67 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N252 | N284 | column (100) |
| Paal_P_68 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N295 | N285 | column (100) |
| Poer 5 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N22 | 1Y | column (100) |
| Poer 7 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N32 | 1P | column (100) |
| Poer 8 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N33 | 1X | column (100) |
| Poer 13 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N255 | 1Y2 | column (100) |
| Poer 14 | Poer.Opstort - Rectangle (840; 560) | C20/25 Gescheurd | 1,475 | N256 | 1XY2 | column (100) |
| Paal_P_1 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N29 | N46 | column (100) |
| Paal_P_2 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N28 | N45 | column (100) |
| Paal_P_7 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,003 | N56 | N49 | column (100) |
| Paal_P_61 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N263 | N278 | column (100) |
| Paal_P_21 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N35 | N54 | column (100) |
| Paal_P_8 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N5 | N50 | column (100) |
| Paal_P_9 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N6 | N51 | column (100) |
| Paal_P_65 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N250 | N282 | column (100) |
| Paal_P_10 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N7 | N52 | column (100) |
| Paal_P_11 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N1 | N53 | column (100) |
| Paal_P_12 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N55 | N10 | column (100) |
| Paal_P_13 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N24 | N11 | column (100) |
| Paal_P_15 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N26 | N13 | column (100) |
| Paal_P_16 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N27 | N14 | column (100) |
| Paal_P_23 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N59 | N61 | column (100) |
| Paal_P_24 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N69 | N70 | column (100) |
| Paal_P_25 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N71 | N72 | column (100) |
| Paal_P_27 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N78 | N80 | column (100) |
| Paal_P_28 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N74 | N75 | column (100) |
| Paal_P_29 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N76 | N77 | column (100) |
| Paal_P_69 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N257 | N286 | column (100) |
| Paal_P_70 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N258 | N287 | column (100) |
| Paal_P_71 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N259 | N288 | column (100) |
| Paal_P_72 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N260 | N289 | column (100) |
| Paal_P_73 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N269 | N290 | column (100) |

| Name | Cross-section | Material | Length [m] | Beg. node | End node | Type |
|---|---|---|---|---|---|---|
| Paal_P_74 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N270 | N291 | column (100) |
| Paal_P_75 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N254 | N292 | column (100) |
| Paal_P_76 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 20,996 | N267 | N293 | column (100) |
| Paal_P_77 | Funderingspaal - Rectangle (400; 400) | C20/25 Ongescheurd | 21,000 | N268 | N294 | column (100) |
| Paal_P_78 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N297 | N300 | column (100) |
| Paal_P_79 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N299 | N301 | column (100) |
| Paal_P_80 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N305 | N306 | column (100) |
| Paal_P_81 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N307 | N308 | column (100) |
| Paal_P_82 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N315 | N317 | column (100) |
| Paal_P_83 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N314 | N316 | column (100) |
| Paal_P_84 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N310 | N311 | column (100) |
| Paal_P_85 | LEKA Paal - type e (CHS219.1/10.0) | S 235 | 20,701 | N312 | N313 | column (100) |

## 5.4. Analyse model met Staven

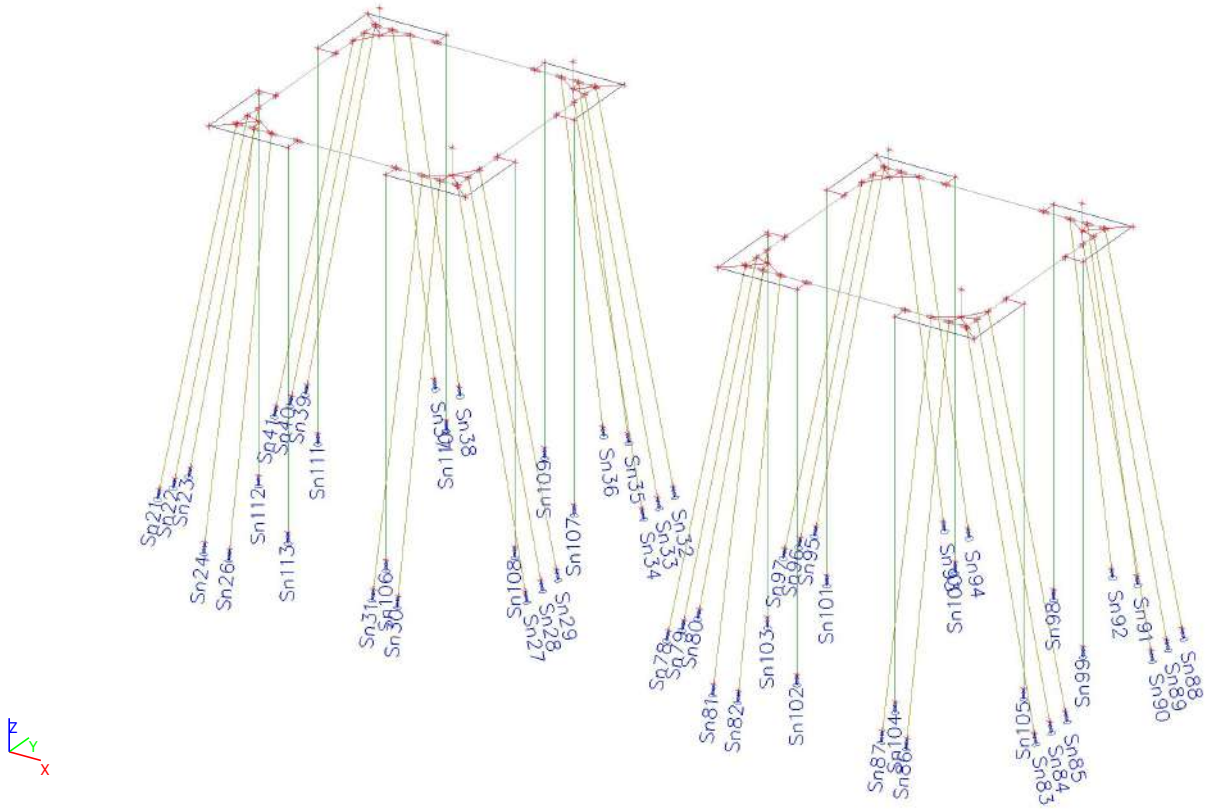



## 5.5. Nodal supports

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn21 | N44 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry11,31 |
| Sn22 | N45 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry11,31 |
| Sn23 | N46 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry11,31 |
| Sn24 | N47 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx-11,31 |
| Sn26 | N48 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx-11,31 |
| Sn27 | N49 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry-11,31 |
| Sn28 | N50 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-11,31 |
| Sn29 | N51 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry-11,31 |
| Sn30 | N52 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx-11,31 |
| Sn31 | N53 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx-11,31 |
| Sn32 | N10 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry-11,31 |
| Sn33 | N11 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-11,31 |
| Sn34 | N12 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry-11,31 |
| Sn35 | N13 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx11,31 |
| Sn36 | N14 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx11,31 |

| Name | Node | System | Type | X | Y | Z | Rx | Ry | Rz | Angle [deg] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sn37 | N15 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx11,31 |
| Sn38 | N2 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx11,31 |
| Sn39 | N3 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry11,31 |
| Sn40 | N4 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry11,31 |
| Sn41 | N54 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry11,31 |
| Sn78 | N275 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry11,31 |
| Sn79 | N276 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry11,31 |
| Sn80 | N277 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry11,31 |
| Sn81 | N278 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx-11,31 |
| Sn82 | N279 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx-11,31 |
| Sn83 | N280 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry-11,31 |
| Sn84 | N281 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-11,31 |
| Sn85 | N282 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry-11,31 |
| Sn86 | N283 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx-11,31 |
| Sn87 | N284 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx-11,31 |
| Sn88 | N285 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry-11,31 |
| Sn89 | N286 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-11,31 |
| Sn90 | N287 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry-11,31 |
| Sn91 | N288 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx11,31 |
| Sn92 | N289 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx11,31 |
| Sn93 | N290 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry0,56;Rx11,31 |
| Sn94 | N291 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry-0,56;Rx11,31 |
| Sn95 | N292 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx1,12;Ry11,31 |
| Sn96 | N293 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Ry11,31 |
| Sn97 | N294 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | Rx-1,12;Ry11,31 |
| Sn98 | N300 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn99 | N301 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn100 | N306 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn101 | N308 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn102 | N311 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn103 | N313 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn104 | N316 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn105 | N317 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn106 | N80 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn107 | N61 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn108 | N81 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn109 | N60 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn110 | N70 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn111 | N72 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn112 | N77 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |
| Sn113 | N75 | LCS of node | Standard | Free | Free | Nonlinear | Free | Free | Free | |

## 5.6. Analyse model met Knoopondersteuningen



## 5.7. Line supports on member

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Veen26 | Line | Paal_P_26<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen71 | Line | Paal_P_71<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen7 | Line | Paal_P_12<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen23 | Line | Paal_P_23<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen62 | Line | Paal_P_62<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen75 | Line | Paal_P_75<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen73 | Line | Paal_P_73<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen60 | Line | Paal_P_60<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen9 | Line | Paal_P_6<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen63 | Line | Paal_P_63<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen4 | Line | Paal_P_3<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen22 | Line | Paal_P_22<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen13 | Line | Paal_P_9<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen | Line | Paal_P_1 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | | | | | | | | |
| Veen80 | Line | Paal_P_80<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen65 | Line | Paal_P_65<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen8 | Line | Paal_P_7<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen11 | Line | Paal_P_18<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen76 | Line | Paal_P_76<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen18 | Line | Paal_P_4<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen81 | Line | Paal_P_81<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen66 | Line | Paal_P_66<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen70 | Line | Paal_P_70<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen12 | Line | Paal_P_21<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen25 | Line | Paal_P_25<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen27 | Line | Paal_P_27<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen78 | Line | Paal_P_78<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen10 | Line | Paal_P_10<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen58 | Line | Paal_P_58<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen67 | Line | Paal_P_67<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen19 | Line | Paal_P_17<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen79 | Line | Paal_P_79<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen6 | Line | Paal_P_14<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen59 | Line | Paal_P_59<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen74 | Line | Paal_P_74<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen64 | Line | Paal_P_64<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen61 | Line | Paal_P_61<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen16 | Line | Paal_P_8<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen85 | Line | Paal_P_85<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen5 | Line | Paal_P_11<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen84 | Line | Paal_P_84<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen20 | Line | Paal_P_16<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen68 | Line | Paal_P_68<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen17 | Line | Paal_P_19<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen83 | Line | Paal_P_83<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen69 | Line | Paal_P_69 | 1,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 8,000 | | | | | | | | |
| Veen77 | Line | Paal_P_77<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen15 | Line | Paal_P_20<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen14 | Line | Paal_P_15<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen3 | Line | Paal_P_2<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen72 | Line | Paal_P_72<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen28 | Line | Paal_P_28<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen21 | Line | Paal_P_13<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen | PY-curve-2_Veen |
| Veen29 | Line | Paal_P_29<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen82 | Line | Paal_P_82<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| Veen24 | Line | Paal_P_24<br>LCS | 1,000<br>8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_Veen.B | PY-curve-2_Veen.B |
| (PY-curve-2_V1)39 | Line | Paal_P_70<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)44 | Line | Paal_P_27<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)7 | Line | Paal_P_9<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)19 | Line | Paal_P_21<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)49 | Line | Paal_P_79<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)22 | Line | Paal_P_72<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)23 | Line | Paal_P_73<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)35 | Line | Paal_P_66<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)51 | Line | Paal_P_81<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)28 | Line | Paal_P_65<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)38 | Line | Paal_P_69<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)24 | Line | Paal_P_74<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)46 | Line | Paal_P_29<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)14 | Line | Paal_P_16<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)36 | Line | Paal_P_67<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)6 | Line | Paal_P_8<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)2 | Line | Paal_P_1<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)40 | Line | Paal_P_22<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)8 | Line | Paal_P_10<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)31 | Line | Paal_P_61<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)54 | Line | Paal_P_84<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)12 | Line | Paal_P_14 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-2_V1)47 | Line | Paal_P_23<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)25 | Line | Paal_P_75<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)27 | Line | Paal_P_77<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)13 | Line | Paal_P_15<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)30 | Line | Paal_P_60<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)17 | Line | Paal_P_19<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)29 | Line | Paal_P_59<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)48 | Line | Paal_P_78<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)37 | Line | Paal_P_68<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)34 | Line | Paal_P_64<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)3 | Line | Paal_P_4<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)43 | Line | Paal_P_26<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)18 | Line | Paal_P_20<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1) | Line | Paal_P_3<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)50 | Line | Paal_P_80<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)4 | Line | Paal_P_6<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)20 | Line | Paal_P_71<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)9 | Line | Paal_P_11<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)26 | Line | Paal_P_76<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)16 | Line | Paal_P_18<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)33 | Line | Paal_P_63<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)41 | Line | Paal_P_24<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)42 | Line | Paal_P_25<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)55 | Line | Paal_P_85<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)45 | Line | Paal_P_28<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)1 | Line | Paal_P_2<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)32 | Line | Paal_P_62<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)21 | Line | Paal_P_58<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)15 | Line | Paal_P_17<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)53 | Line | Paal_P_83<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V1)11 | Line | Paal_P_13<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)10 | Line | Paal_P_12 | 8,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 9,000 | | | | | | | | |
| (PY-curve-2_V1)5 | Line | Paal_P_7<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1 | PY-curve-2_V1 |
| (PY-curve-2_V1)52 | Line | Paal_P_82<br>LCS | 8,000<br>9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V1.B | PY-curve-2_V1.B |
| (PY-curve-2_V2)22 | Line | Paal_P_72<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)44 | Line | Paal_P_27<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)6 | Line | Paal_P_8<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)49 | Line | Paal_P_79<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)52 | Line | Paal_P_82<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)23 | Line | Paal_P_73<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)30 | Line | Paal_P_60<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)45 | Line | Paal_P_28<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)36 | Line | Paal_P_67<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)26 | Line | Paal_P_76<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)24 | Line | Paal_P_74<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)19 | Line | Paal_P_21<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)3 | Line | Paal_P_4<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)37 | Line | Paal_P_68<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)41 | Line | Paal_P_24<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)50 | Line | Paal_P_80<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)42 | Line | Paal_P_25<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)5 | Line | Paal_P_7<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)39 | Line | Paal_P_70<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)38 | Line | Paal_P_69<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)10 | Line | Paal_P_12<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)8 | Line | Paal_P_10<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)40 | Line | Paal_P_22<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)25 | Line | Paal_P_75<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)51 | Line | Paal_P_81<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)11 | Line | Paal_P_13<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)33 | Line | Paal_P_63<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)35 | Line | Paal_P_66<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)9 | Line | Paal_P_11<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)18 | Line | Paal_P_20 | 9,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 10,000 | | | | | | | | |
| (PY-curve-2_V2)46 | Line | Paal_P_29<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)17 | Line | Paal_P_19<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)13 | Line | Paal_P_15<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)4 | Line | Paal_P_6<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)14 | Line | Paal_P_16<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)34 | Line | Paal_P_64<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)47 | Line | Paal_P_23<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)2 | Line | Paal_P_1<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)16 | Line | Paal_P_18<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)43 | Line | Paal_P_26<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)21 | Line | Paal_P_58<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)31 | Line | Paal_P_61<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)20 | Line | Paal_P_71<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)29 | Line | Paal_P_59<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)7 | Line | Paal_P_9<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)55 | Line | Paal_P_85<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)48 | Line | Paal_P_78<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)53 | Line | Paal_P_83<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V2)12 | Line | Paal_P_14<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)15 | Line | Paal_P_17<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2) | Line | Paal_P_3<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)32 | Line | Paal_P_62<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)1 | Line | Paal_P_2<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)27 | Line | Paal_P_77<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)28 | Line | Paal_P_65<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2 | PY-curve-2_V2 |
| (PY-curve-2_V2)54 | Line | Paal_P_84<br>LCS | 9,000<br>10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V2.B | PY-curve-2_V2.B |
| (PY-curve-2_V3)49 | Line | Paal_P_79<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)15 | Line | Paal_P_17<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)46 | Line | Paal_P_29<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)48 | Line | Paal_P_78<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)51 | Line | Paal_P_81<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)50 | Line | Paal_P_80 | 10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,000 | | | | | | | | |
| (PY-curve-2_V3)6 | Line | Paal_P_8<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)53 | Line | Paal_P_83<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)44 | Line | Paal_P_27<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)29 | Line | Paal_P_59<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)12 | Line | Paal_P_14<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)27 | Line | Paal_P_77<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)43 | Line | Paal_P_26<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)26 | Line | Paal_P_76<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)42 | Line | Paal_P_25<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)11 | Line | Paal_P_13<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)13 | Line | Paal_P_15<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)23 | Line | Paal_P_73<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)41 | Line | Paal_P_24<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)45 | Line | Paal_P_28<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)22 | Line | Paal_P_72<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)2 | Line | Paal_P_1<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)24 | Line | Paal_P_74<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)5 | Line | Paal_P_7<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)47 | Line | Paal_P_23<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)10 | Line | Paal_P_12<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)38 | Line | Paal_P_69<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)40 | Line | Paal_P_22<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)37 | Line | Paal_P_68<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)1 | Line | Paal_P_2<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)36 | Line | Paal_P_67<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)19 | Line | Paal_P_21<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)35 | Line | Paal_P_66<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)9 | Line | Paal_P_11<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)28 | Line | Paal_P_65<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)18 | Line | Paal_P_20<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)39 | Line | Paal_P_70<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)34 | Line | Paal_P_64 | 10,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 11,000 | | | | | | | | |
| (PY-curve-2_V3)25 | Line | Paal_P_75<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3) | Line | Paal_P_3<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)4 | Line | Paal_P_6<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)33 | Line | Paal_P_63<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)17 | Line | Paal_P_19<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)32 | Line | Paal_P_62<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)52 | Line | Paal_P_82<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)8 | Line | Paal_P_10<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)31 | Line | Paal_P_61<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)16 | Line | Paal_P_18<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)30 | Line | Paal_P_60<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)3 | Line | Paal_P_4<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)55 | Line | Paal_P_85<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V3)7 | Line | Paal_P_9<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)21 | Line | Paal_P_58<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)20 | Line | Paal_P_71<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)14 | Line | Paal_P_16<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3 | PY-curve-2_V3 |
| (PY-curve-2_V3)54 | Line | Paal_P_84<br>LCS | 10,000<br>11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V3.B | PY-curve-2_V3.B |
| (PY-curve-2_V4)52 | Line | Paal_P_82<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)13 | Line | Paal_P_15<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)29 | Line | Paal_P_59<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)45 | Line | Paal_P_28<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)50 | Line | Paal_P_80<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)44 | Line | Paal_P_27<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)1 | Line | Paal_P_2<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)12 | Line | Paal_P_14<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)48 | Line | Paal_P_78<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)43 | Line | Paal_P_26<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)38 | Line | Paal_P_69<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)26 | Line | Paal_P_76<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)42 | Line | Paal_P_25<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)11 | Line | Paal_P_13 | 11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | | | | | | | | |
| (PY-curve-2_V4)23 | Line | Paal_P_73<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)24 | Line | Paal_P_74<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)41 | Line | Paal_P_24<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)5 | Line | Paal_P_7<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)22 | Line | Paal_P_72<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)49 | Line | Paal_P_79<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)20 | Line | Paal_P_71<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)47 | Line | Paal_P_23<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4) | Line | Paal_P_3<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)10 | Line | Paal_P_12<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)39 | Line | Paal_P_70<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)40 | Line | Paal_P_22<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)51 | Line | Paal_P_81<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)37 | Line | Paal_P_68<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)36 | Line | Paal_P_67<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)19 | Line | Paal_P_21<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)2 | Line | Paal_P_1<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)9 | Line | Paal_P_11<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)35 | Line | Paal_P_66<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)28 | Line | Paal_P_65<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)18 | Line | Paal_P_20<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)4 | Line | Paal_P_6<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)34 | Line | Paal_P_64<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)53 | Line | Paal_P_83<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)33 | Line | Paal_P_63<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)17 | Line | Paal_P_19<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)46 | Line | Paal_P_29<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)8 | Line | Paal_P_10<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)32 | Line | Paal_P_62<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)30 | Line | Paal_P_60<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)25 | Line | Paal_P_75<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)16 | Line | Paal_P_18 | 11,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 12,000 | | | | | | | | |
| (PY-curve-2_V4)31 | Line | Paal_P_61<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)27 | Line | Paal_P_77<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)55 | Line | Paal_P_85<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)21 | Line | Paal_P_58<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)7 | Line | Paal_P_9<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)6 | Line | Paal_P_8<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)14 | Line | Paal_P_16<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)54 | Line | Paal_P_84<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4.B | PY-curve-2_V4.B |
| (PY-curve-2_V4)15 | Line | Paal_P_17<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V4)3 | Line | Paal_P_4<br>LCS | 11,000<br>12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V4 | PY-curve-2_V4 |
| (PY-curve-2_V5)53 | Line | Paal_P_83<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)13 | Line | Paal_P_15<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)51 | Line | Paal_P_81<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)29 | Line | Paal_P_59<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)45 | Line | Paal_P_28<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)44 | Line | Paal_P_27<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)12 | Line | Paal_P_14<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)48 | Line | Paal_P_78<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)27 | Line | Paal_P_77<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)41 | Line | Paal_P_24<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)25 | Line | Paal_P_75<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)11 | Line | Paal_P_13<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)24 | Line | Paal_P_74<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)5 | Line | Paal_P_7<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)50 | Line | Paal_P_80<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)23 | Line | Paal_P_73<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)22 | Line | Paal_P_72<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)47 | Line | Paal_P_23<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)20 | Line | Paal_P_71<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)10 | Line | Paal_P_12<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)39 | Line | Paal_P_70<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)42 | Line | Paal_P_25 | 12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 13,000 | | | | | | | | |
| (PY-curve-2_V5)40 | Line | Paal_P_22<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)38 | Line | Paal_P_69<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)37 | Line | Paal_P_68<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)6 | Line | Paal_P_8<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)49 | Line | Paal_P_79<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)19 | Line | Paal_P_21<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)36 | Line | Paal_P_67<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)9 | Line | Paal_P_11<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)35 | Line | Paal_P_66<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)4 | Line | Paal_P_6<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)26 | Line | Paal_P_76<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)18 | Line | Paal_P_20<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)28 | Line | Paal_P_65<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)34 | Line | Paal_P_64<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)17 | Line | Paal_P_19<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)33 | Line | Paal_P_63<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)8 | Line | Paal_P_10<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)32 | Line | Paal_P_62<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)52 | Line | Paal_P_82<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)31 | Line | Paal_P_61<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)16 | Line | Paal_P_18<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)15 | Line | Paal_P_17<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)46 | Line | Paal_P_29<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)30 | Line | Paal_P_60<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)2 | Line | Paal_P_1<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)1 | Line | Paal_P_2<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)7 | Line | Paal_P_9<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)21 | Line | Paal_P_58<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)55 | Line | Paal_P_85<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V5)3 | Line | Paal_P_4<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)14 | Line | Paal_P_16<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)43 | Line | Paal_P_26 | 12,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 13,000 | | | | | | | | |
| (PY-curve-2_V5) | Line | Paal_P_3<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5 | PY-curve-2_V5 |
| (PY-curve-2_V5)54 | Line | Paal_P_84<br>LCS | 12,000<br>13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V5.B | PY-curve-2_V5.B |
| (PY-curve-2_V6)53 | Line | Paal_P_83<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)46 | Line | Paal_P_29<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)13 | Line | Paal_P_15<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)52 | Line | Paal_P_82<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)6 | Line | Paal_P_8<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)51 | Line | Paal_P_81<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)45 | Line | Paal_P_28<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)50 | Line | Paal_P_80<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)44 | Line | Paal_P_27<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)12 | Line | Paal_P_14<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)48 | Line | Paal_P_78<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)43 | Line | Paal_P_26<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)27 | Line | Paal_P_77<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)49 | Line | Paal_P_79<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)26 | Line | Paal_P_76<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)25 | Line | Paal_P_75<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)11 | Line | Paal_P_13<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)5 | Line | Paal_P_7<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)24 | Line | Paal_P_74<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)41 | Line | Paal_P_24<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)23 | Line | Paal_P_73<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)22 | Line | Paal_P_72<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)47 | Line | Paal_P_23<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)20 | Line | Paal_P_71<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)10 | Line | Paal_P_12<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)39 | Line | Paal_P_70<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)40 | Line | Paal_P_22<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)38 | Line | Paal_P_69<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)42 | Line | Paal_P_25<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)37 | Line | Paal_P_68 | 13,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 14,000 | | | | | | | | |
| (PY-curve-2_V6)19 | Line | Paal_P_21<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)36 | Line | Paal_P_67<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)9 | Line | Paal_P_11<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)4 | Line | Paal_P_6<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)35 | Line | Paal_P_66<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)2 | Line | Paal_P_1<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)18 | Line | Paal_P_20<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)28 | Line | Paal_P_65<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)34 | Line | Paal_P_64<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)1 | Line | Paal_P_2<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)17 | Line | Paal_P_19<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)33 | Line | Paal_P_63<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)8 | Line | Paal_P_10<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)32 | Line | Paal_P_62<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6) | Line | Paal_P_3<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)31 | Line | Paal_P_61<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)30 | Line | Paal_P_60<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)16 | Line | Paal_P_18<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)15 | Line | Paal_P_17<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)14 | Line | Paal_P_16<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)7 | Line | Paal_P_9<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)3 | Line | Paal_P_4<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)21 | Line | Paal_P_58<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V6)55 | Line | Paal_P_85<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)54 | Line | Paal_P_84<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6.B | PY-curve-2_V6.B |
| (PY-curve-2_V6)29 | Line | Paal_P_59<br>LCS | 13,000<br>14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V6 | PY-curve-2_V6 |
| (PY-curve-2_V7)53 | Line | Paal_P_83<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)6 | Line | Paal_P_8<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)13 | Line | Paal_P_15<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)52 | Line | Paal_P_82<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)51 | Line | Paal_P_81<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)45 | Line | Paal_P_28 | 14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | | | | | | | | |
| (PY-curve-2_V7)50 | Line | Paal_P_80<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)3 | Line | Paal_P_4<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)44 | Line | Paal_P_27<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)49 | Line | Paal_P_79<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)48 | Line | Paal_P_78<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)43 | Line | Paal_P_26<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)27 | Line | Paal_P_77<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)12 | Line | Paal_P_14<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)26 | Line | Paal_P_76<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)11 | Line | Paal_P_13<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)42 | Line | Paal_P_25<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)5 | Line | Paal_P_7<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)25 | Line | Paal_P_75<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)24 | Line | Paal_P_74<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)41 | Line | Paal_P_24<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)23 | Line | Paal_P_73<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)22 | Line | Paal_P_72<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)10 | Line | Paal_P_12<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)47 | Line | Paal_P_23<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)20 | Line | Paal_P_71<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)2 | Line | Paal_P_1<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)39 | Line | Paal_P_70<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)1 | Line | Paal_P_2<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)40 | Line | Paal_P_22<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)38 | Line | Paal_P_69<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)37 | Line | Paal_P_68<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)9 | Line | Paal_P_11<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)19 | Line | Paal_P_21<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7) | Line | Paal_P_3<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)4 | Line | Paal_P_6<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)36 | Line | Paal_P_67<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)35 | Line | Paal_P_66 | 14,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 15,000 | | | | | | | | |
| (PY-curve-2_V7)18 | Line | Paal_P_20<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)28 | Line | Paal_P_65<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)34 | Line | Paal_P_64<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)8 | Line | Paal_P_10<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)17 | Line | Paal_P_19<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)33 | Line | Paal_P_63<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)32 | Line | Paal_P_62<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)15 | Line | Paal_P_17<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)29 | Line | Paal_P_59<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)30 | Line | Paal_P_60<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)31 | Line | Paal_P_61<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)7 | Line | Paal_P_9<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)21 | Line | Paal_P_58<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)14 | Line | Paal_P_16<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V7)55 | Line | Paal_P_85<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)46 | Line | Paal_P_29<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)54 | Line | Paal_P_84<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7.B | PY-curve-2_V7.B |
| (PY-curve-2_V7)16 | Line | Paal_P_18<br>LCS | 14,000<br>15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V7 | PY-curve-2_V7 |
| (PY-curve-2_V8)13 | Line | Paal_P_15<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)6 | Line | Paal_P_8<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)46 | Line | Paal_P_29<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)52 | Line | Paal_P_82<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)51 | Line | Paal_P_81<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)45 | Line | Paal_P_28<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)50 | Line | Paal_P_80<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)12 | Line | Paal_P_14<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)44 | Line | Paal_P_27<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)49 | Line | Paal_P_79<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)48 | Line | Paal_P_78<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)43 | Line | Paal_P_26<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)27 | Line | Paal_P_77<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)26 | Line | Paal_P_76 | 15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 16,000 | | | | | | | | |
| (PY-curve-2_V8)2 | Line | Paal_P_1<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)5 | Line | Paal_P_7<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)11 | Line | Paal_P_13<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)42 | Line | Paal_P_25<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)25 | Line | Paal_P_75<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)1 | Line | Paal_P_2<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)24 | Line | Paal_P_74<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)41 | Line | Paal_P_24<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)23 | Line | Paal_P_73<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8) | Line | Paal_P_3<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)22 | Line | Paal_P_72<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)10 | Line | Paal_P_12<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)47 | Line | Paal_P_23<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)20 | Line | Paal_P_71<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)39 | Line | Paal_P_70<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)40 | Line | Paal_P_22<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)38 | Line | Paal_P_69<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)37 | Line | Paal_P_68<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)4 | Line | Paal_P_6<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)9 | Line | Paal_P_11<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)19 | Line | Paal_P_21<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)36 | Line | Paal_P_67<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)35 | Line | Paal_P_66<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)18 | Line | Paal_P_20<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)28 | Line | Paal_P_65<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)34 | Line | Paal_P_64<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)8 | Line | Paal_P_10<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)17 | Line | Paal_P_19<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)33 | Line | Paal_P_63<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)32 | Line | Paal_P_62<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)29 | Line | Paal_P_59<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)31 | Line | Paal_P_61 | 15,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |

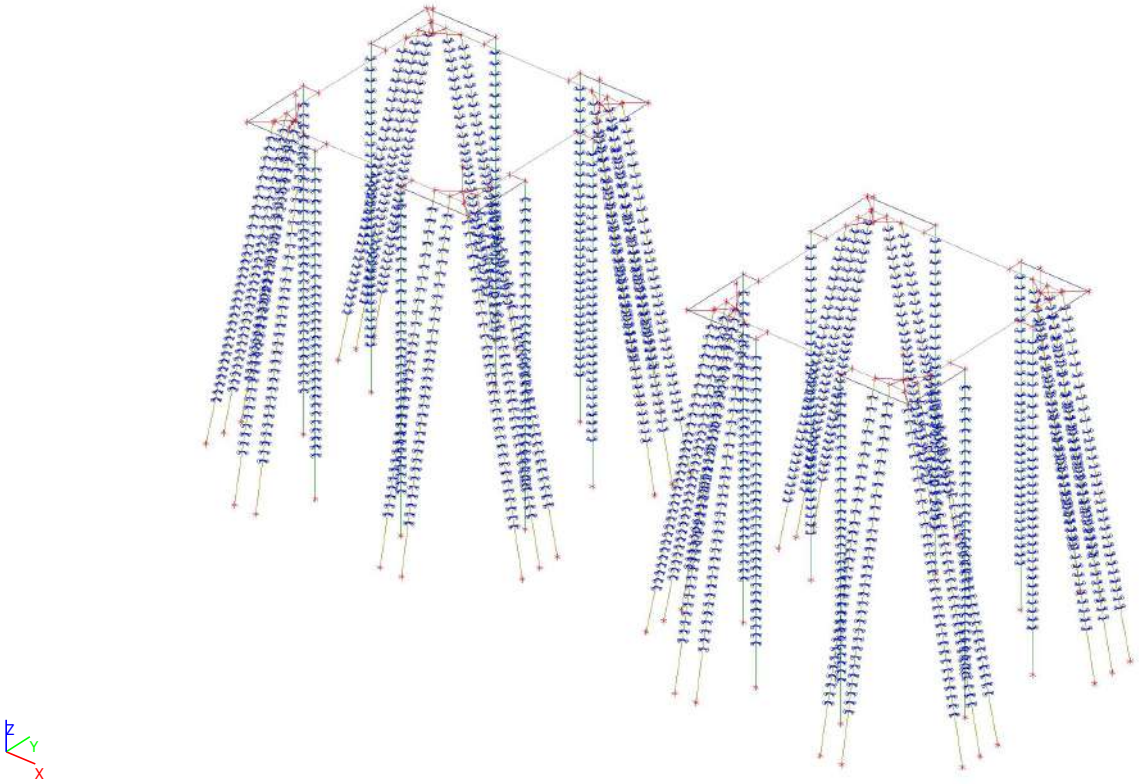
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 16,000 | | | | | | | | |
| (PY-curve-2_V8)30 | Line | Paal_P_60<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)3 | Line | Paal_P_4<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)7 | Line | Paal_P_9<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)15 | Line | Paal_P_17<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)14 | Line | Paal_P_16<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)21 | Line | Paal_P_58<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)16 | Line | Paal_P_18<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8 | PY-curve-2_V8 |
| (PY-curve-2_V8)55 | Line | Paal_P_85<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)54 | Line | Paal_P_84<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V8)53 | Line | Paal_P_83<br>LCS | 15,000<br>16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V8.B | PY-curve-2_V8.B |
| (PY-curve-2_V9)42 | Line | Paal_P_25<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)41 | Line | Paal_P_28<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)40 | Line | Paal_P_27<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)51 | Line | Paal_P_82<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)50 | Line | Paal_P_81<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)49 | Line | Paal_P_80<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)48 | Line | Paal_P_79<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)47 | Line | Paal_P_78<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)10 | Line | Paal_P_18<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)14 | Line | Paal_P_15<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)15 | Line | Paal_P_16<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)13 | Line | Paal_P_21<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)12 | Line | Paal_P_20<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)11 | Line | Paal_P_19<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)9 | Line | Paal_P_17<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)28 | Line | Paal_P_6<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)8 | Line | Paal_P_4<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)5 | Line | Paal_P_2<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)4 | Line | Paal_P_3<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)3 | Line | Paal_P_14<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)2 | Line | Paal_P_13<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)1 | Line | Paal_P_12 | 16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-2_V9) | Line | Paal_P_7<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)39 | Line | Paal_P_8<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)37 | Line | Paal_P_11<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)36 | Line | Paal_P_10<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)35 | Line | Paal_P_77<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)33 | Line | Paal_P_75<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)32 | Line | Paal_P_60<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)31 | Line | Paal_P_59<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)29 | Line | Paal_P_70<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)7 | Line | Paal_P_69<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)27 | Line | Paal_P_68<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)26 | Line | Paal_P_65<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)25 | Line | Paal_P_64<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)24 | Line | Paal_P_63<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)23 | Line | Paal_P_72<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)30 | Line | Paal_P_58<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)22 | Line | Paal_P_71<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)21 | Line | Paal_P_67<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)20 | Line | Paal_P_66<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)19 | Line | Paal_P_74<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)34 | Line | Paal_P_76<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)18 | Line | Paal_P_62<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)17 | Line | Paal_P_73<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)16 | Line | Paal_P_61<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)54 | Line | Paal_P_85<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)38 | Line | Paal_P_9<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)53 | Line | Paal_P_84<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)55 | Line | Paal_P_23<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)6 | Line | Paal_P_1<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9 | PY-curve-2_V9 |
| (PY-curve-2_V9)46 | Line | Paal_P_26<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)45 | Line | Paal_P_22<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)44 | Line | Paal_P_24 | 16,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |

| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 17,000 | | | | | | | | |
| (PY-curve-2_V9)43 | Line | Paal_P_29<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V9)52 | Line | Paal_P_83<br>LCS | 16,000<br>17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V9.B | PY-curve-2_V9.B |
| (PY-curve-2_V10)51 | Line | Paal_P_82<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)50 | Line | Paal_P_81<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)49 | Line | Paal_P_80<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)48 | Line | Paal_P_79<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)47 | Line | Paal_P_78<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)15 | Line | Paal_P_21<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)13 | Line | Paal_P_19<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)12 | Line | Paal_P_18<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)11 | Line | Paal_P_17<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)10 | Line | Paal_P_16<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)9 | Line | Paal_P_15<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)28 | Line | Paal_P_14<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)8 | Line | Paal_P_13<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)5 | Line | Paal_P_11<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)4 | Line | Paal_P_10<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)3 | Line | Paal_P_9<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)1 | Line | Paal_P_7<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10) | Line | Paal_P_6<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)39 | Line | Paal_P_4<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)37 | Line | Paal_P_2<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)36 | Line | Paal_P_3<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)35 | Line | Paal_P_77<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)34 | Line | Paal_P_76<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)33 | Line | Paal_P_75<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)32 | Line | Paal_P_74<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)31 | Line | Paal_P_73<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)30 | Line | Paal_P_72<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)29 | Line | Paal_P_71<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)7 | Line | Paal_P_70<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)27 | Line | Paal_P_69 | 17,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |

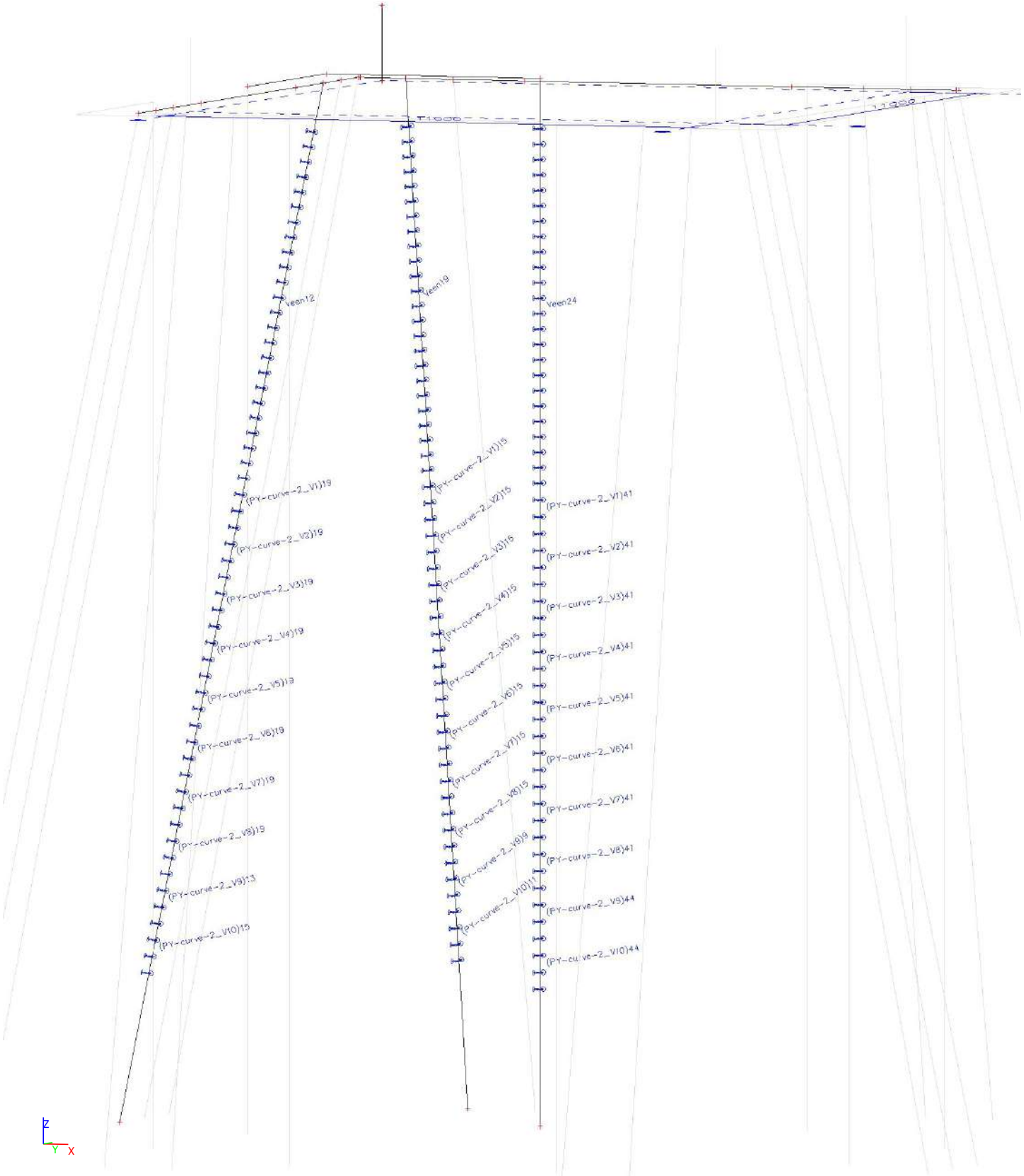
| Name | Type | Member<br>System | Pos $x_1$ [m]<br>Pos $x_2$ [m] | X | Y | Z | Rx | Ry | Rz | Function Y | Function Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LCS | 18,000 | | | | | | | | |
| (PY-curve-2_V10)38 | Line | Paal_P_1<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)26 | Line | Paal_P_68<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)25 | Line | Paal_P_67<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)24 | Line | Paal_P_66<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)23 | Line | Paal_P_65<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)2 | Line | Paal_P_8<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)6 | Line | Paal_P_12<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)22 | Line | Paal_P_64<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)21 | Line | Paal_P_63<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)20 | Line | Paal_P_62<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)19 | Line | Paal_P_61<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)18 | Line | Paal_P_60<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)17 | Line | Paal_P_59<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)16 | Line | Paal_P_58<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)55 | Line | Paal_P_28<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)54 | Line | Paal_P_85<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)14 | Line | Paal_P_20<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10 | PY-curve-2_V10 |
| (PY-curve-2_V10)46 | Line | Paal_P_29<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)45 | Line | Paal_P_25<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)44 | Line | Paal_P_24<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)43 | Line | Paal_P_27<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)42 | Line | Paal_P_22<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)41 | Line | Paal_P_26<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)53 | Line | Paal_P_84<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)40 | Line | Paal_P_23<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |
| (PY-curve-2_V10)52 | Line | Paal_P_83<br>LCS | 17,000<br>18,000 | Free | Nonlinear | Nonlinear | Free | Free | Free | PY-curve-2_V10.B | PY-curve-2_V10.B |

## 5.8. Analyse model met Lijnondersteuningen



### 5.9. Analyse model met Lijnondersteuningen

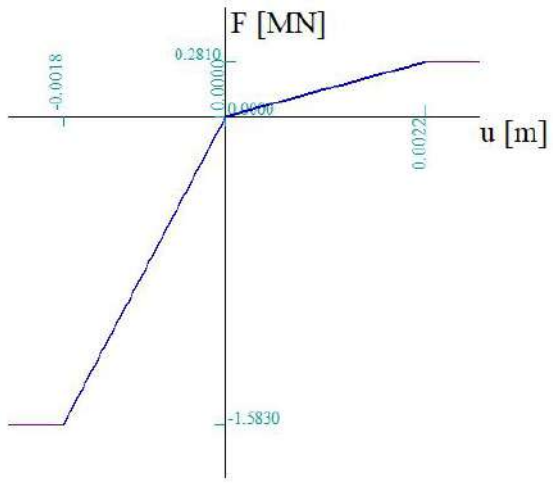
Om de leesbaarheid te optimaliseren, is per plan één paal getoond.



## 5.10. Nonlinear functions

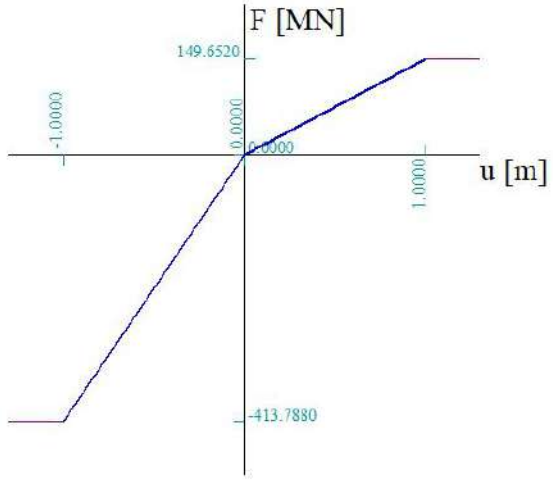
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-S+paalpunt mast 158 | Translation | -1,7900e-03[m] / -1,5830e+00[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 2,2100e-03[m] / 2,8100e-01[MN] | | |

Drawing



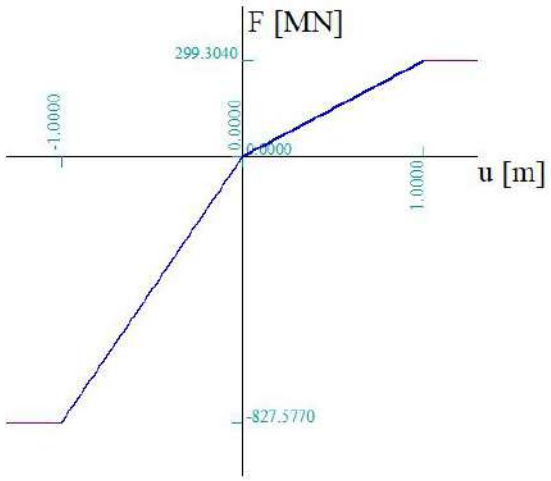

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt-LEKA.OG. | Translation | -1,0000e+00[m] / -4,1379e+02[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 1,4965e+02[MN] | | |

Drawing



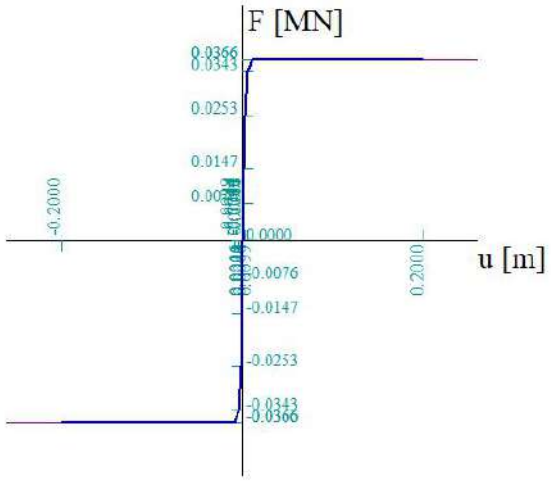

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| Trek-druk-paalpunt.LEKA.BG. | Translation | -1,0000e+00[m] / -8,2758e+02[MN] | Free | Free |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,0000e+00[m] / 2,9930e+02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V1 | Translation | -2,0000e-01[m] / -3,6624e-02[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,6624e-02[MN] | | |
| | | -4,4000e-03[m] / -3,4259e-02[MN] | | |
| | | -2,2000e-03[m] / -2,5265e-02[MN] | | |
| | | -1,1000e-03[m] / -1,4650e-02[MN] | | |
| | | -5,5000e-04[m] / -7,6435e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 7,6435e-03[MN] | | |
| | | 1,1000e-03[m] / 1,4650e-02[MN] | | |
| | | 2,2000e-03[m] / 2,5265e-02[MN] | | |
| | | 4,4000e-03[m] / 3,4259e-02[MN] | | |
| | | 9,9000e-03[m] / 3,6624e-02[MN] | | |
| | | 2,0000e-01[m] / 3,6624e-02[MN] | | |

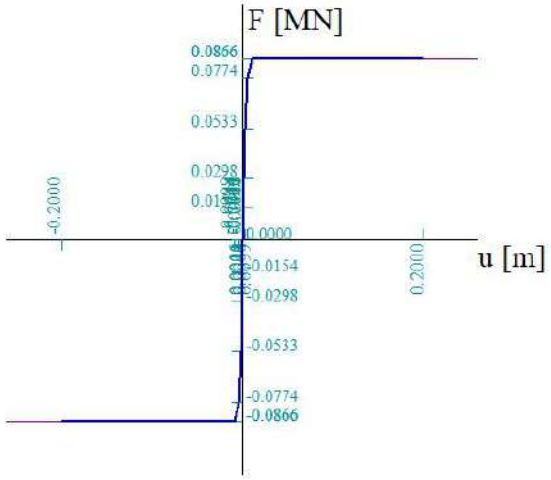
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V2 | Translation | -2,0000e-01[m] / -8,6571e-02[MN] | Free | Free |
| | | -9,9000e-03[m] / -8,6571e-02[MN] | | |
| | | -4,4000e-03[m] / -7,7425e-02[MN] | | |
| | | -2,2000e-03[m] / -5,3284e-02[MN] | | |
| | | -1,1000e-03[m] / -2,9773e-02[MN] | | |
| | | -5,5000e-04[m] / -1,5351e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,5351e-02[MN] | | |
| | | 1,1000e-03[m] / 2,9773e-02[MN] | | |
| | | 2,2000e-03[m] / 5,3284e-02[MN] | | |

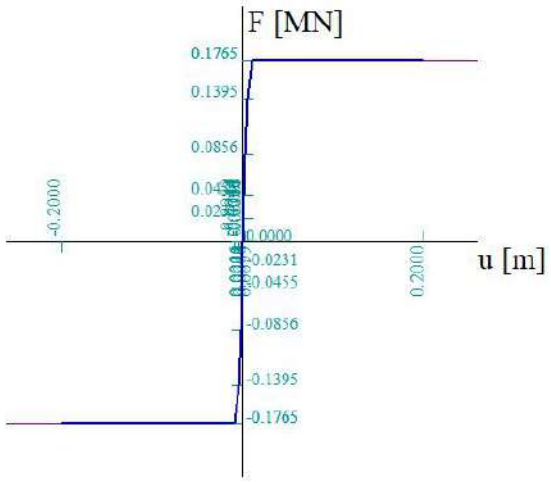
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 7,7425e-02[MN] | | |
| | | 9,9000e-03[m] / 8,6571e-02[MN] | | |
| | | 2,0000e-01[m] / 8,6571e-02[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V3 | Translation | -2,0000e-01[m] / -1,7645e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -1,7645e-01[MN] | | |
| | | -4,4000e-03[m] / -1,3955e-01[MN] | | |
| | | -2,2000e-03[m] / -8,5576e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5531e-02[MN] | | |
| | | -5,5000e-04[m] / -2,3143e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,3143e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5531e-02[MN] | | |
| | | 2,2000e-03[m] / 8,5576e-02[MN] | | |
| | | 4,4000e-03[m] / 1,3955e-01[MN] | | |
| | | 9,9000e-03[m] / 1,7645e-01[MN] | | |
| | | 2,0000e-01[m] / 1,7645e-01[MN] | | |

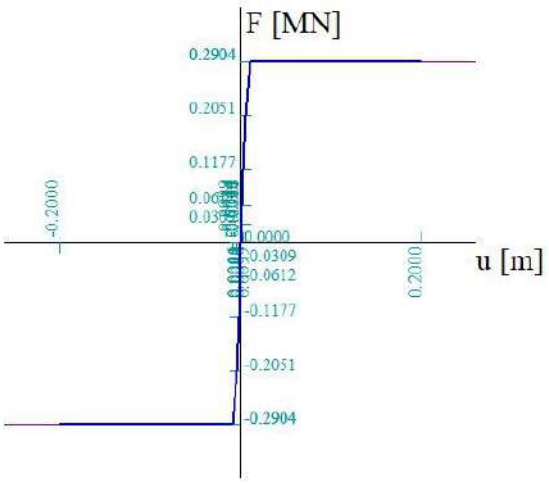
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V4 | Translation | -2,0000e-01[m] / -2,9038e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,9038e-01[MN] | | |
| | | -4,4000e-03[m] / -2,0506e-01[MN] | | |
| | | -2,2000e-03[m] / -1,1772e-01[MN] | | |

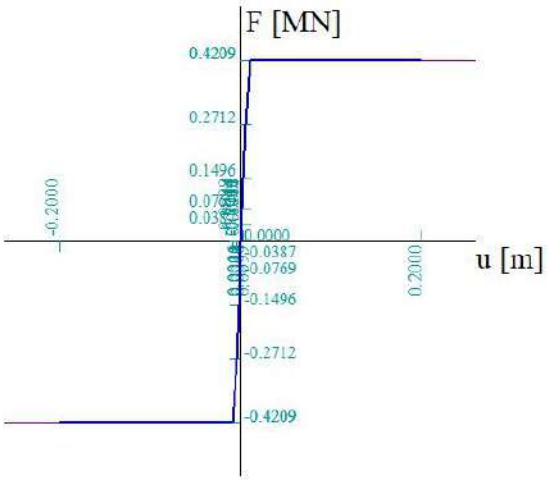
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -6,1220e-02[MN] | | |
| | | -5,5000e-04[m] / -3,0923e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,0923e-02[MN] | | |
| | | 1,1000e-03[m] / 6,1220e-02[MN] | | |
| | | 2,2000e-03[m] / 1,1772e-01[MN] | | |
| | | 4,4000e-03[m] / 2,0506e-01[MN] | | |
| | | 9,9000e-03[m] / 2,9038e-01[MN] | | |
| | | 2,0000e-01[m] / 2,9038e-01[MN] | | |

Drawing



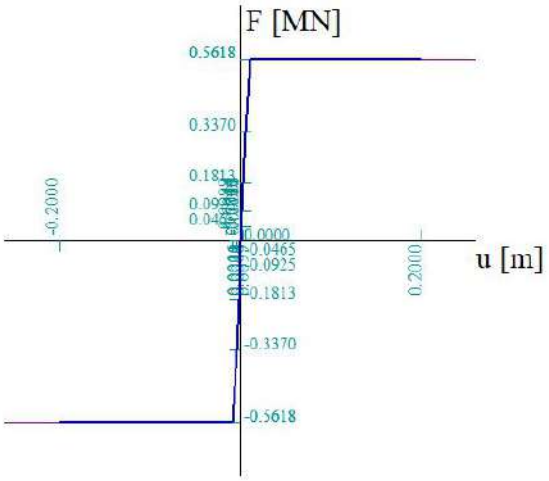

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V5 | Translation | -2,0000e-01[m] / -4,2094e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -4,2094e-01[MN] | | |
| | | -4,4000e-03[m] / -2,7117e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4963e-01[MN] | | |
| | | -1,1000e-03[m] / -7,6860e-02[MN] | | |
| | | -5,5000e-04[m] / -3,8696e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,8696e-02[MN] | | |
| | | 1,1000e-03[m] / 7,6860e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4963e-01[MN] | | |
| | | 4,4000e-03[m] / 2,7117e-01[MN] | | |
| | | 9,9000e-03[m] / 4,2094e-01[MN] | | |
| | | 2,0000e-01[m] / 4,2094e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V6 | Translation | -2,0000e-01[m] / -5,6184e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -5,6184e-01[MN] | | |
| | | -4,4000e-03[m] / -3,3701e-01[MN] | | |
| | | -2,2000e-03[m] / -1,8134e-01[MN] | | |
| | | -1,1000e-03[m] / -9,2468e-02[MN] | | |
| | | -5,5000e-04[m] / -4,6465e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,6465e-02[MN] | | |
| | | 1,1000e-03[m] / 9,2468e-02[MN] | | |
| | | 2,2000e-03[m] / 1,8134e-01[MN] | | |
| | | 4,4000e-03[m] / 3,3701e-01[MN] | | |
| | | 9,9000e-03[m] / 5,6184e-01[MN] | | |
| | | 2,0000e-01[m] / 5,6184e-01[MN] | | |

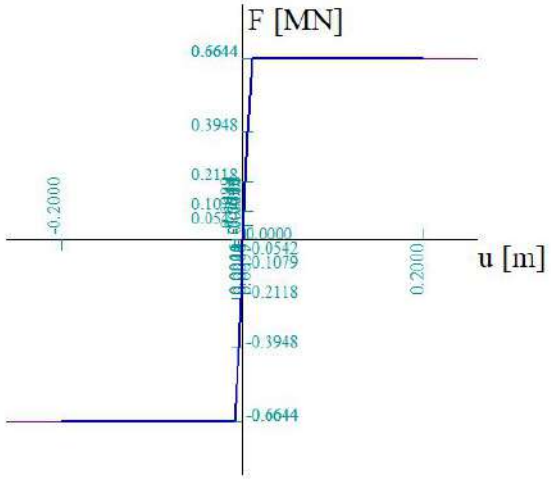
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V7 | Translation | -2,0000e-01[m] / -6,6436e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -6,6436e-01[MN] | | |
| | | -4,4000e-03[m] / -3,9481e-01[MN] | | |
| | | -2,2000e-03[m] / -2,1181e-01[MN] | | |
| | | -1,1000e-03[m] / -1,0791e-01[MN] | | |
| | | -5,5000e-04[m] / -5,4214e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 5,4214e-02[MN] | | |
| | | 1,1000e-03[m] / 1,0791e-01[MN] | | |
| | | 2,2000e-03[m] / 2,1181e-01[MN] | | |

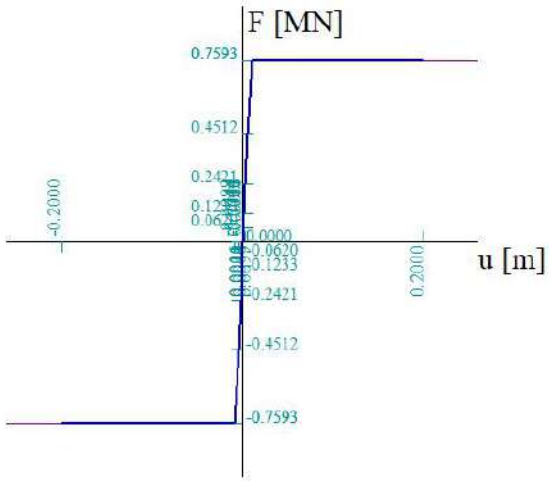
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 3,9481e-01[MN] | | |
| | | 9,9000e-03[m] / 6,6436e-01[MN] | | |
| | | 2,0000e-01[m] / 6,6436e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V8 | Translation | -2,0000e-01[m] / -7,5927e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -7,5927e-01[MN] | | |
| | | -4,4000e-03[m] / -4,5121e-01[MN] | | |
| | | -2,2000e-03[m] / -2,4207e-01[MN] | | |
| | | -1,1000e-03[m] / -1,2333e-01[MN] | | |
| | | -5,5000e-04[m] / -6,1959e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 6,1959e-02[MN] | | |
| | | 1,1000e-03[m] / 1,2333e-01[MN] | | |
| | | 2,2000e-03[m] / 2,4207e-01[MN] | | |
| | | 4,4000e-03[m] / 4,5121e-01[MN] | | |
| | | 9,9000e-03[m] / 7,5927e-01[MN] | | |
| | | 2,0000e-01[m] / 7,5927e-01[MN] | | |

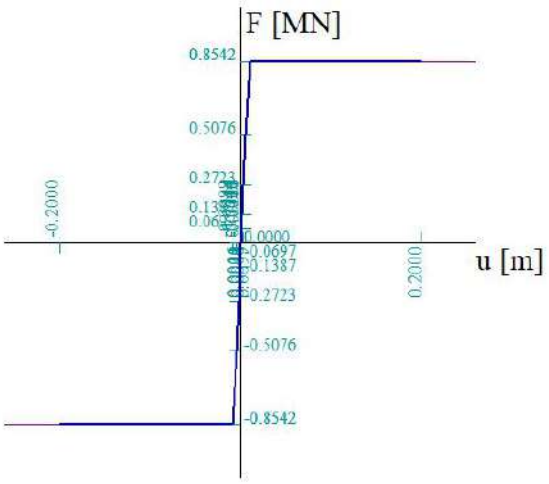
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9 | Translation | -2,0000e-01[m] / -8,5417e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -8,5417e-01[MN] | | |
| | | -4,4000e-03[m] / -5,0761e-01[MN] | | |
| | | -2,2000e-03[m] / -2,7233e-01[MN] | | |

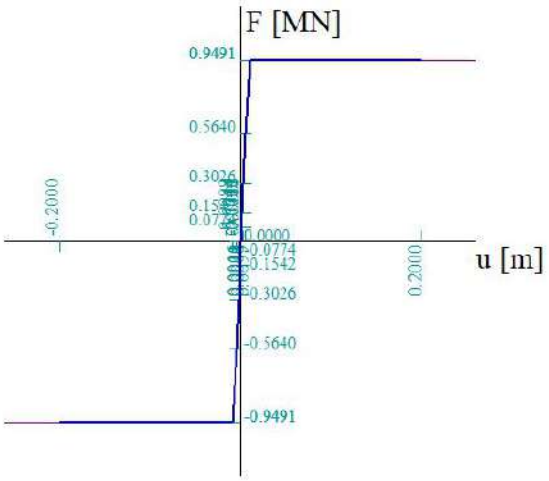
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -1,3874e-01[MN] | | |
| | | -5,5000e-04[m] / -6,9703e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 6,9703e-02[MN] | | |
| | | 1,1000e-03[m] / 1,3874e-01[MN] | | |
| | | 2,2000e-03[m] / 2,7233e-01[MN] | | |
| | | 4,4000e-03[m] / 5,0761e-01[MN] | | |
| | | 9,9000e-03[m] / 8,5417e-01[MN] | | |
| | | 2,0000e-01[m] / 8,5417e-01[MN] | | |

Drawing



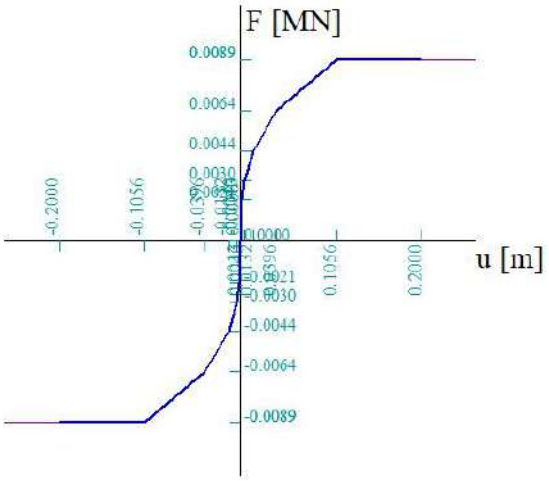

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10 | Translation | -2,0000e-01[m] / -9,4908e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -9,4908e-01[MN] | | |
| | | -4,4000e-03[m] / -5,6401e-01[MN] | | |
| | | -2,2000e-03[m] / -3,0259e-01[MN] | | |
| | | -1,1000e-03[m] / -1,5416e-01[MN] | | |
| | | -5,5000e-04[m] / -7,7448e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 7,7448e-02[MN] | | |
| | | 1,1000e-03[m] / 1,5416e-01[MN] | | |
| | | 2,2000e-03[m] / 3,0259e-01[MN] | | |
| | | 4,4000e-03[m] / 5,6401e-01[MN] | | |
| | | 9,9000e-03[m] / 9,4908e-01[MN] | | |
| | | 2,0000e-01[m] / 9,4908e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen | Translation | -2,0000e-01[m] / -8,8944e-03[MN] | Free | Free |
| | | -1,0560e-01[m] / -8,8944e-03[MN] | | |
| | | -3,9600e-02[m] / -6,4138e-03[MN] | | |
| | | -1,3200e-02[m] / -4,4477e-03[MN] | | |
| | | -3,9600e-03[m] / -2,9770e-03[MN] | | |
| | | -1,3200e-03[m] / -2,0640e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 2,0640e-03[MN] | | |
| | | 3,9600e-03[m] / 2,9770e-03[MN] | | |
| | | 1,3200e-02[m] / 4,4477e-03[MN] | | |
| | | 3,9600e-02[m] / 6,4138e-03[MN] | | |
| | | 1,0560e-01[m] / 8,8944e-03[MN] | | |
| | | 2,0000e-01[m] / 8,8944e-03[MN] | | |

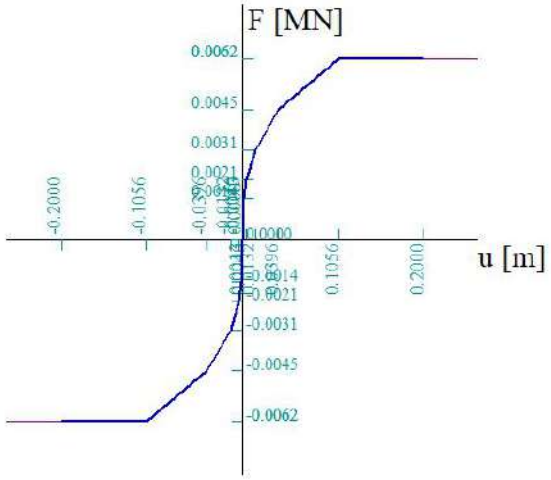
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_Veen.B | Translation | -2,0000e-01[m] / -6,2016e-03[MN] | Free | Free |
| | | -1,0560e-01[m] / -6,2016e-03[MN] | | |
| | | -3,9600e-02[m] / -4,4721e-03[MN] | | |
| | | -1,3200e-02[m] / -3,1008e-03[MN] | | |
| | | -3,9600e-03[m] / -2,0758e-03[MN] | | |
| | | -1,3200e-03[m] / -1,4393e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 1,3200e-03[m] / 1,4393e-03[MN] | | |
| | | 3,9600e-03[m] / 2,0758e-03[MN] | | |
| | | 1,3200e-02[m] / 3,1008e-03[MN] | | |

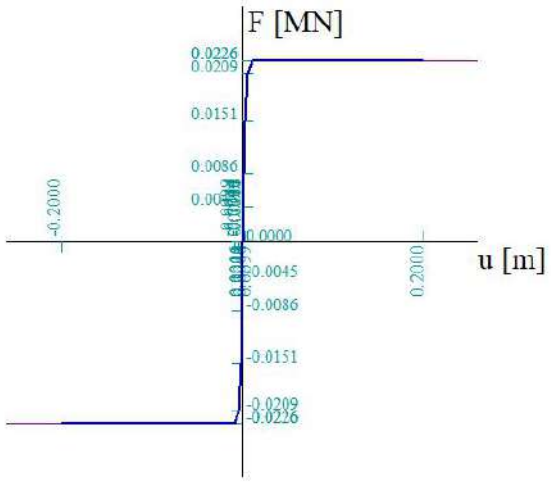
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 3,9600e-02[m] / 4,4721e-03[MN] | | |
| | | 1,0560e-01[m] / 6,2016e-03[MN] | | |
| | | 2,0000e-01[m] / 6,2016e-03[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V1.B | Translation | -2,0000e-01[m] / -2,2567e-02[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,2567e-02[MN] | | |
| | | -4,4000e-03[m] / -2,0854e-02[MN] | | |
| | | -2,2000e-03[m] / -1,5054e-02[MN] | | |
| | | -1,1000e-03[m] / -8,6224e-03[MN] | | |
| | | -5,5000e-04[m] / -4,4807e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,4807e-03[MN] | | |
| | | 1,1000e-03[m] / 8,6224e-03[MN] | | |
| | | 2,2000e-03[m] / 1,5054e-02[MN] | | |
| | | 4,4000e-03[m] / 2,0854e-02[MN] | | |
| | | 9,9000e-03[m] / 2,2567e-02[MN] | | |
| | | 2,0000e-01[m] / 2,2567e-02[MN] | | |

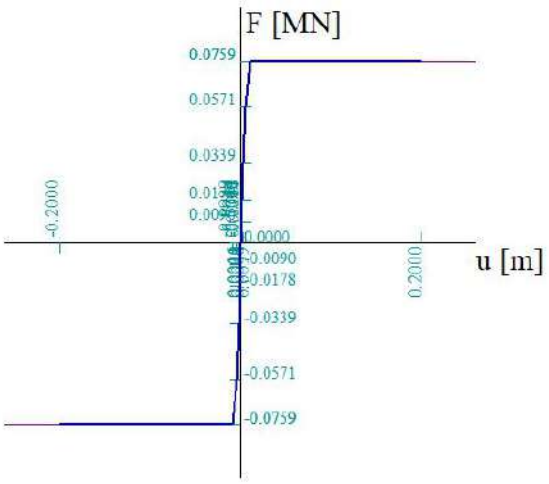
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V2.B | Translation | -2,0000e-01[m] / -7,5874e-02[MN] | Free | Free |
| | | -9,9000e-03[m] / -7,5874e-02[MN] | | |
| | | -4,4000e-03[m] / -5,7108e-02[MN] | | |
| | | -2,2000e-03[m] / -3,3923e-02[MN] | | |

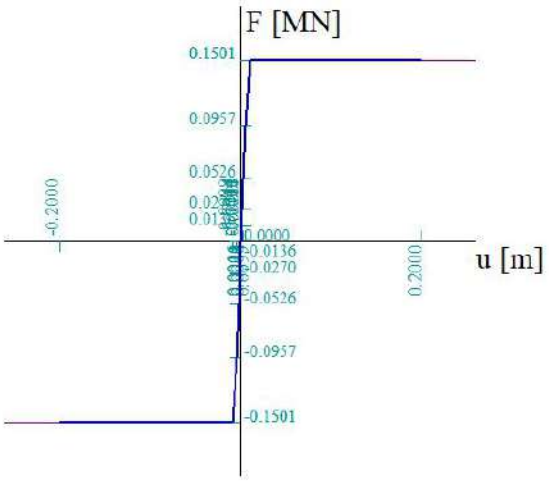
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -1,7844e-02[MN] | | |
| | | -5,5000e-04[m] / -9,0410e-03[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 9,0410e-03[MN] | | |
| | | 1,1000e-03[m] / 1,7844e-02[MN] | | |
| | | 2,2000e-03[m] / 3,3923e-02[MN] | | |
| | | 4,4000e-03[m] / 5,7108e-02[MN] | | |
| | | 9,9000e-03[m] / 7,5874e-02[MN] | | |
| | | 2,0000e-01[m] / 7,5874e-02[MN] | | |

Drawing



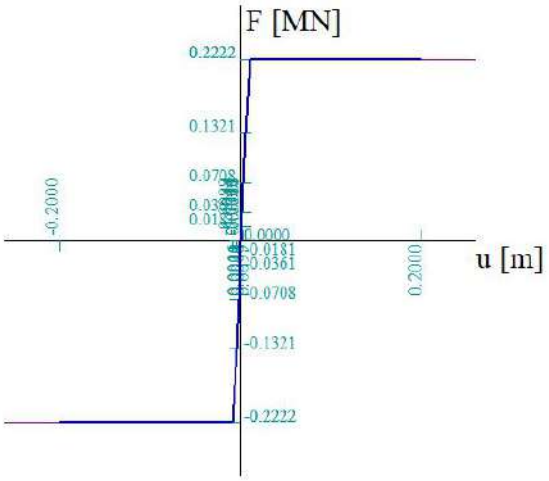

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V3.B | Translation | -2,0000e-01[m] / -1,5011e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -1,5011e-01[MN] | | |
| | | -4,4000e-03[m] / -9,5744e-02[MN] | | |
| | | -2,2000e-03[m] / -5,2633e-02[MN] | | |
| | | -1,1000e-03[m] / -2,7005e-02[MN] | | |
| | | -5,5000e-04[m] / -1,3592e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,3592e-02[MN] | | |
| | | 1,1000e-03[m] / 2,7005e-02[MN] | | |
| | | 2,2000e-03[m] / 5,2633e-02[MN] | | |
| | | 4,4000e-03[m] / 9,5744e-02[MN] | | |
| | | 9,9000e-03[m] / 1,5011e-01[MN] | | |
| | | 2,0000e-01[m] / 1,5011e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V4.B | Translation | -2,0000e-01[m] / -2,2222e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,2222e-01[MN] | | |
| | | -4,4000e-03[m] / -1,3206e-01[MN] | | |
| | | -2,2000e-03[m] / -7,0850e-02[MN] | | |
| | | -1,1000e-03[m] / -3,6096e-02[MN] | | |
| | | -5,5000e-04[m] / -1,8134e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 1,8134e-02[MN] | | |
| | | 1,1000e-03[m] / 3,6096e-02[MN] | | |
| | | 2,2000e-03[m] / 7,0850e-02[MN] | | |
| | | 4,4000e-03[m] / 1,3206e-01[MN] | | |
| | | 9,9000e-03[m] / 2,2222e-01[MN] | | |
| | | 2,0000e-01[m] / 2,2222e-01[MN] | | |

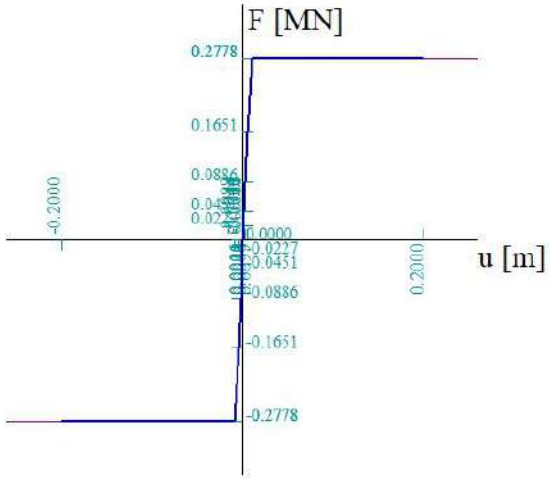
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V5.B | Translation | -2,0000e-01[m] / -2,7778e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -2,7778e-01[MN] | | |
| | | -4,4000e-03[m] / -1,6508e-01[MN] | | |
| | | -2,2000e-03[m] / -8,8562e-02[MN] | | |
| | | -1,1000e-03[m] / -4,5120e-02[MN] | | |
| | | -5,5000e-04[m] / -2,2668e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,2668e-02[MN] | | |
| | | 1,1000e-03[m] / 4,5120e-02[MN] | | |
| | | 2,2000e-03[m] / 8,8562e-02[MN] | | |

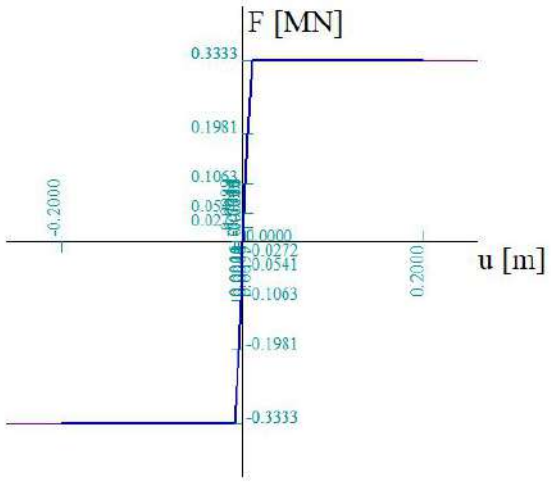
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 1,6508e-01[MN] | | |
| | | 9,9000e-03[m] / 2,7778e-01[MN] | | |
| | | 2,0000e-01[m] / 2,7778e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V6.B | Translation | -2,0000e-01[m] / -3,3334e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,3334e-01[MN] | | |
| | | -4,4000e-03[m] / -1,9809e-01[MN] | | |
| | | -2,2000e-03[m] / -1,0627e-01[MN] | | |
| | | -1,1000e-03[m] / -5,4144e-02[MN] | | |
| | | -5,5000e-04[m] / -2,7201e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 2,7201e-02[MN] | | |
| | | 1,1000e-03[m] / 5,4144e-02[MN] | | |
| | | 2,2000e-03[m] / 1,0627e-01[MN] | | |
| | | 4,4000e-03[m] / 1,9809e-01[MN] | | |
| | | 9,9000e-03[m] / 3,3334e-01[MN] | | |
| | | 2,0000e-01[m] / 3,3334e-01[MN] | | |

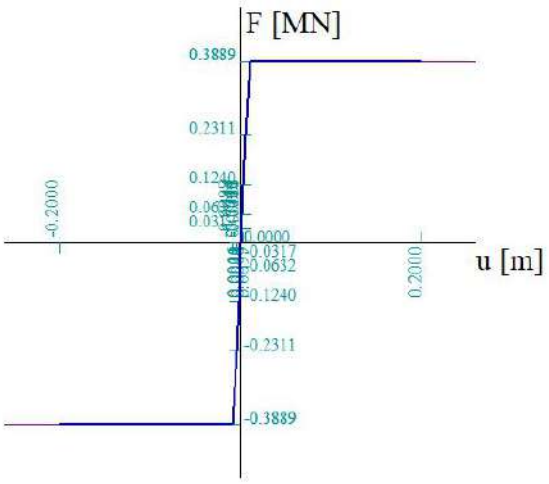
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V7.B | Translation | -2,0000e-01[m] / -3,8889e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -3,8889e-01[MN] | | |
| | | -4,4000e-03[m] / -2,3111e-01[MN] | | |
| | | -2,2000e-03[m] / -1,2399e-01[MN] | | |

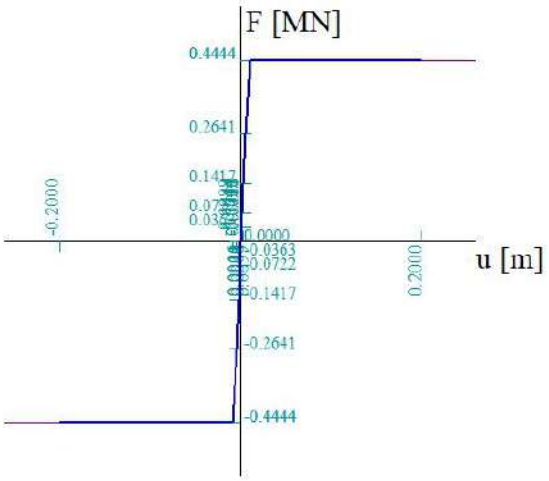
| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | -1,1000e-03[m] / -6,3168e-02[MN] | | |
| | | -5,5000e-04[m] / -3,1735e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,1735e-02[MN] | | |
| | | 1,1000e-03[m] / 6,3168e-02[MN] | | |
| | | 2,2000e-03[m] / 1,2399e-01[MN] | | |
| | | 4,4000e-03[m] / 2,3111e-01[MN] | | |
| | | 9,9000e-03[m] / 3,8889e-01[MN] | | |
| | | 2,0000e-01[m] / 3,8889e-01[MN] | | |

Drawing



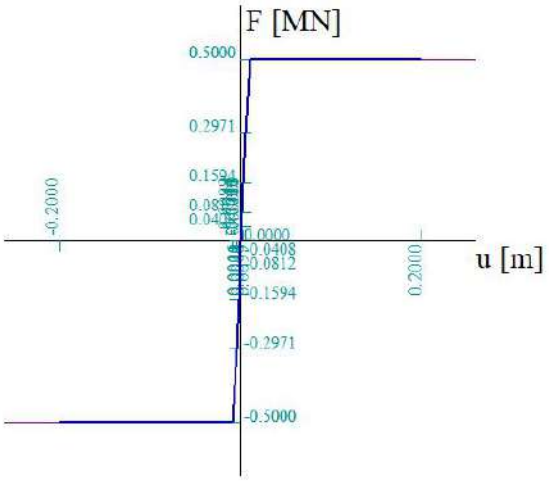

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V8.B | Translation | -2,0000e-01[m] / -4,4445e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -4,4445e-01[MN] | | |
| | | -4,4000e-03[m] / -2,6412e-01[MN] | | |
| | | -2,2000e-03[m] / -1,4170e-01[MN] | | |
| | | -1,1000e-03[m] / -7,2192e-02[MN] | | |
| | | -5,5000e-04[m] / -3,6268e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 3,6268e-02[MN] | | |
| | | 1,1000e-03[m] / 7,2192e-02[MN] | | |
| | | 2,2000e-03[m] / 1,4170e-01[MN] | | |
| | | 4,4000e-03[m] / 2,6412e-01[MN] | | |
| | | 9,9000e-03[m] / 4,4445e-01[MN] | | |
| | | 2,0000e-01[m] / 4,4445e-01[MN] | | |

Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V9.B | Translation | -2,0000e-01[m] / -5,0000e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -5,0000e-01[MN] | | |
| | | -4,4000e-03[m] / -2,9714e-01[MN] | | |
| | | -2,2000e-03[m] / -1,5941e-01[MN] | | |
| | | -1,1000e-03[m] / -8,1216e-02[MN] | | |
| | | -5,5000e-04[m] / -4,0802e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,0802e-02[MN] | | |
| | | 1,1000e-03[m] / 8,1216e-02[MN] | | |
| | | 2,2000e-03[m] / 1,5941e-01[MN] | | |
| | | 4,4000e-03[m] / 2,9714e-01[MN] | | |
| | | 9,9000e-03[m] / 5,0000e-01[MN] | | |
| | | 2,0000e-01[m] / 5,0000e-01[MN] | | |

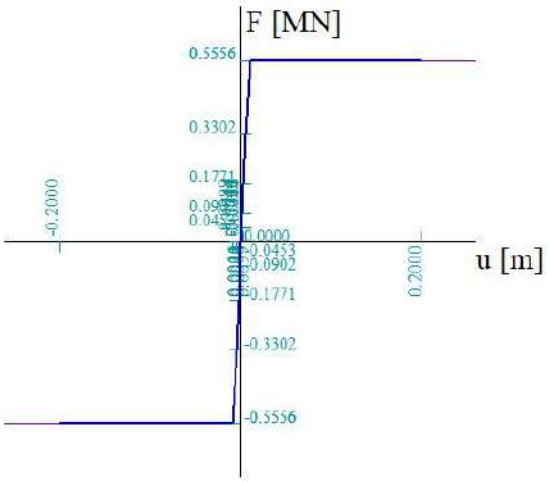
Drawing




| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| PY-curve-2_V10.B | Translation | -2,0000e-01[m] / -5,5556e-01[MN] | Free | Free |
| | | -9,9000e-03[m] / -5,5556e-01[MN] | | |
| | | -4,4000e-03[m] / -3,3015e-01[MN] | | |
| | | -2,2000e-03[m] / -1,7712e-01[MN] | | |
| | | -1,1000e-03[m] / -9,0240e-02[MN] | | |
| | | -5,5000e-04[m] / -4,5336e-02[MN] | | |
| | | 0,0000e+00[m] / 0,0000e+00[MN] | | |
| | | 5,5000e-04[m] / 4,5336e-02[MN] | | |
| | | 1,1000e-03[m] / 9,0240e-02[MN] | | |
| | | 2,2000e-03[m] / 1,7712e-01[MN] | | |

| Name | Type | u / F | Positive end | Negative end |
|---|---|---|---|---|
| | | 4,4000e-03[m] / 3,3015e-01[MN] | | |
| | | 9,9000e-03[m] / 5,5556e-01[MN] | | |
| | | 2,0000e-01[m] / 5,5556e-01[MN] | | |

Drawing

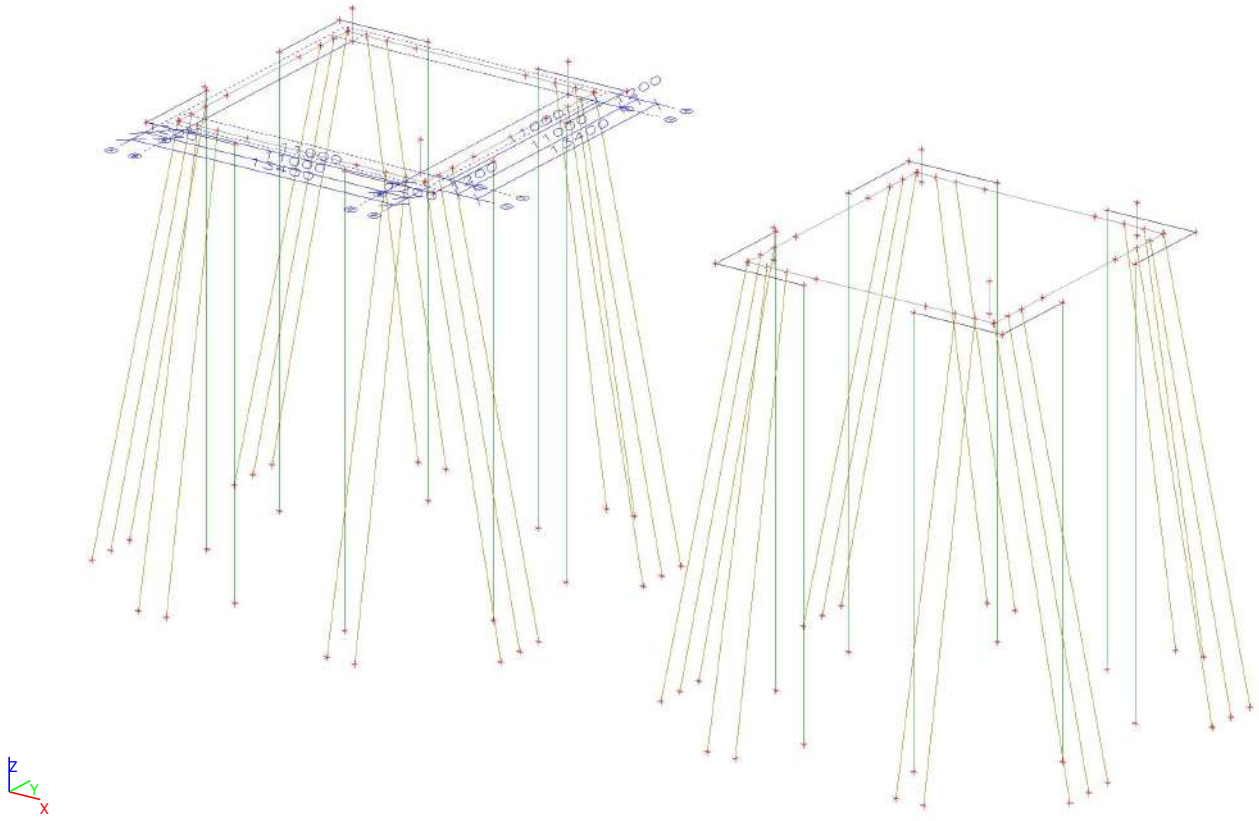


# 6. Belastingen

## 6.1. Load cases

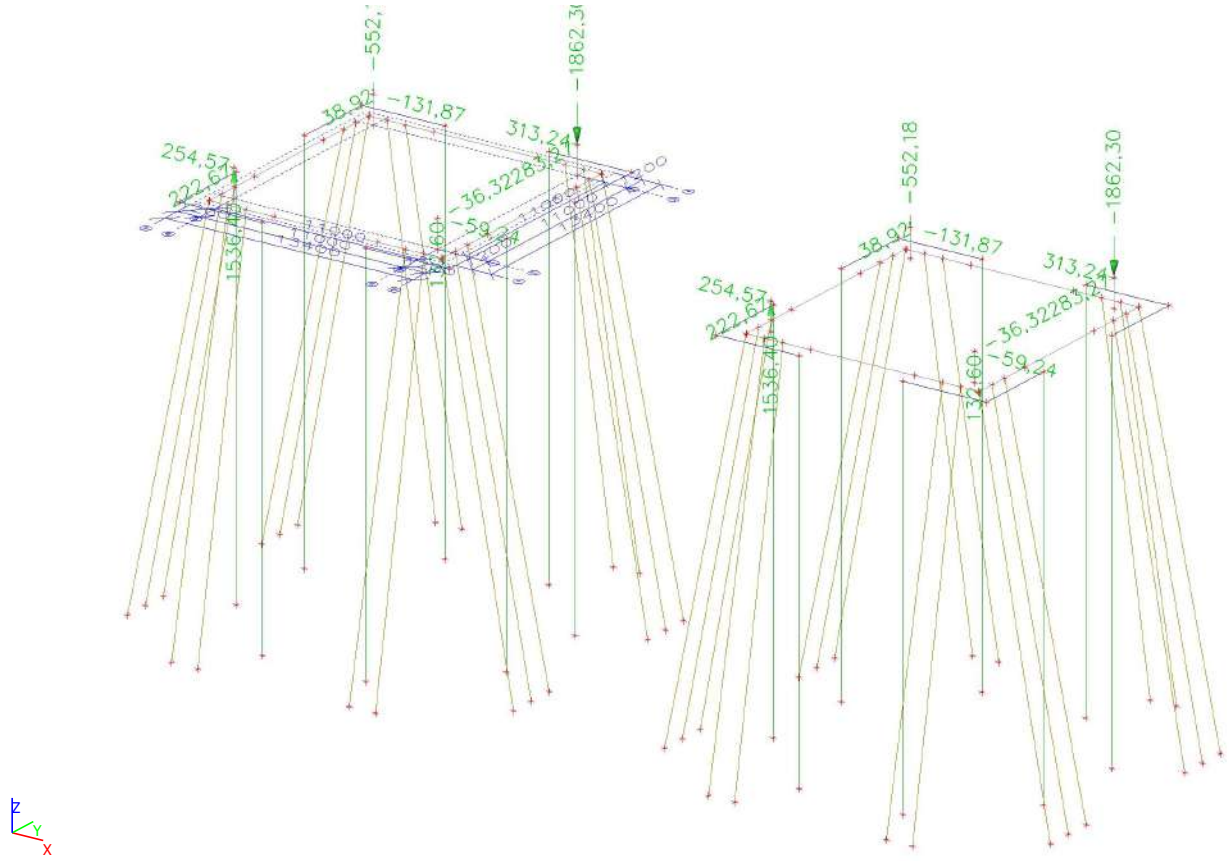
### 6.1.1. Load cases - E.G.

| Name | Description | Action type | Load group | Direction |
|---|---|---|---|---|
| | Spec | Load type | | |
| E.G. | | Permanent | LG1 | -Z |
| | | Self weight | | |



### 6.1.2. Load cases - high max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



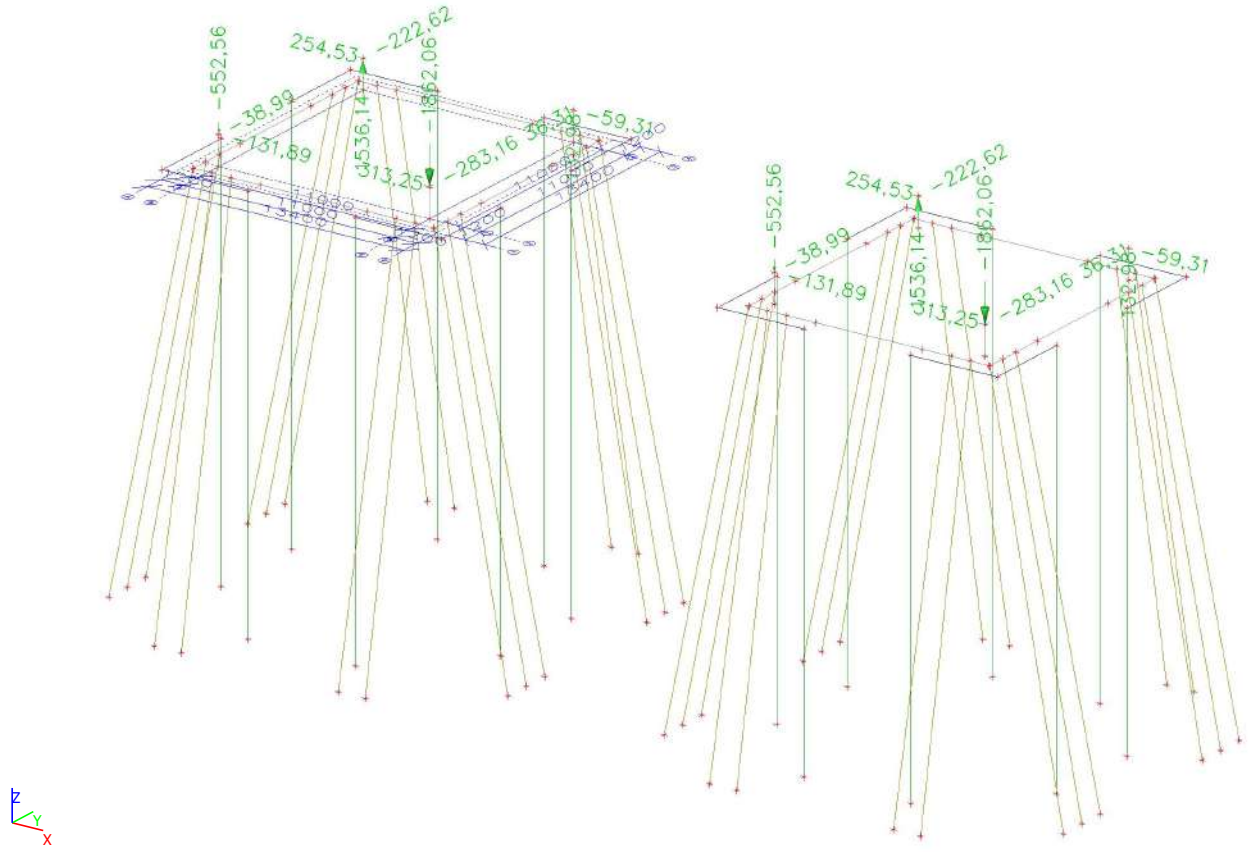

### *6.1.2.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;135°_1P_X | 1P | high max Wnd ;135° | GCS | X | Force | 254,57 |
| high max Wnd ;135°_1P_Y | 1P | high max Wnd ;135° | GCS | Y | Force | 222,67 |
| high max Wnd ;135°_1P_Z | 1P | high max Wnd ;135° | GCS | Z | Force | 1536,40 |
| high max Wnd ;135°_1X_X | 1X | high max Wnd ;135° | GCS | X | Force | -131,87 |
| high max Wnd ;135°_1X_Y | 1X | high max Wnd ;135° | GCS | Y | Force | 38,92 |
| high max Wnd ;135°_1X_Z | 1X | high max Wnd ;135° | GCS | Z | Force | -552,18 |
| high max Wnd ;135°_1XY_X | 1XY | high max Wnd ;135° | GCS | X | Force | 313,24 |
| high max Wnd ;135°_1XY_Y | 1XY | high max Wnd ;135° | GCS | Y | Force | 283,27 |
| high max Wnd ;135°_1XY_Z | 1XY | high max Wnd ;135° | GCS | Z | Force | -1862,30 |
| high max Wnd ;135°_1Y_X | 1Y | high max Wnd ;135° | GCS | X | Force | -59,24 |
| high max Wnd ;135°_1Y_Y | 1Y | high max Wnd ;135° | GCS | Y | Force | -36,32 |
| high max Wnd ;135°_1Y_Z | 1Y | high max Wnd ;135° | GCS | Z | Force | 132,60 |
| high max Wnd ;135°_1Y_X1 | 1Y2 | high max Wnd ;135° | GCS | X | Force | -59,24 |
| high max Wnd ;135°_1Y_Y1 | 1Y2 | high max Wnd ;135° | GCS | Y | Force | -36,32 |
| high max Wnd | 1Y2 | high max Wnd ;135° | GCS | Z | Force | 132,60 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| high max Wnd ;135°_1XY_X1 | 1XY2 | high max Wnd ;135° | GCS | X | Force | 313,24 |
| high max Wnd ;135°_1XY_Y1 | 1XY2 | high max Wnd ;135° | GCS | Y | Force | 283,27 |
| high max Wnd ;135°_1XY_Z1 | 1XY2 | high max Wnd ;135° | GCS | Z | Force | -1862,30 |
| high max Wnd ;135°_1P_X1 | 1P2 | high max Wnd ;135° | GCS | X | Force | 254,57 |
| high max Wnd ;135°_1P_Y1 | 1P2 | high max Wnd ;135° | GCS | Y | Force | 222,67 |
| high max Wnd ;135°_1P_Z1 | 1P2 | high max Wnd ;135° | GCS | Z | Force | 1536,40 |
| high max Wnd ;135°_1X_X1 | 1X2 | high max Wnd ;135° | GCS | X | Force | -131,87 |
| high max Wnd ;135°_1X_Y1 | 1X2 | high max Wnd ;135° | GCS | Y | Force | 38,92 |
| high max Wnd ;135°_1X_Z1 | 1X2 | high max Wnd ;135° | GCS | Z | Force | -552,18 |

### 6.1.3. Load cases - high max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;225° | Standard | Variable<br>Static | LG4 | Short | None |

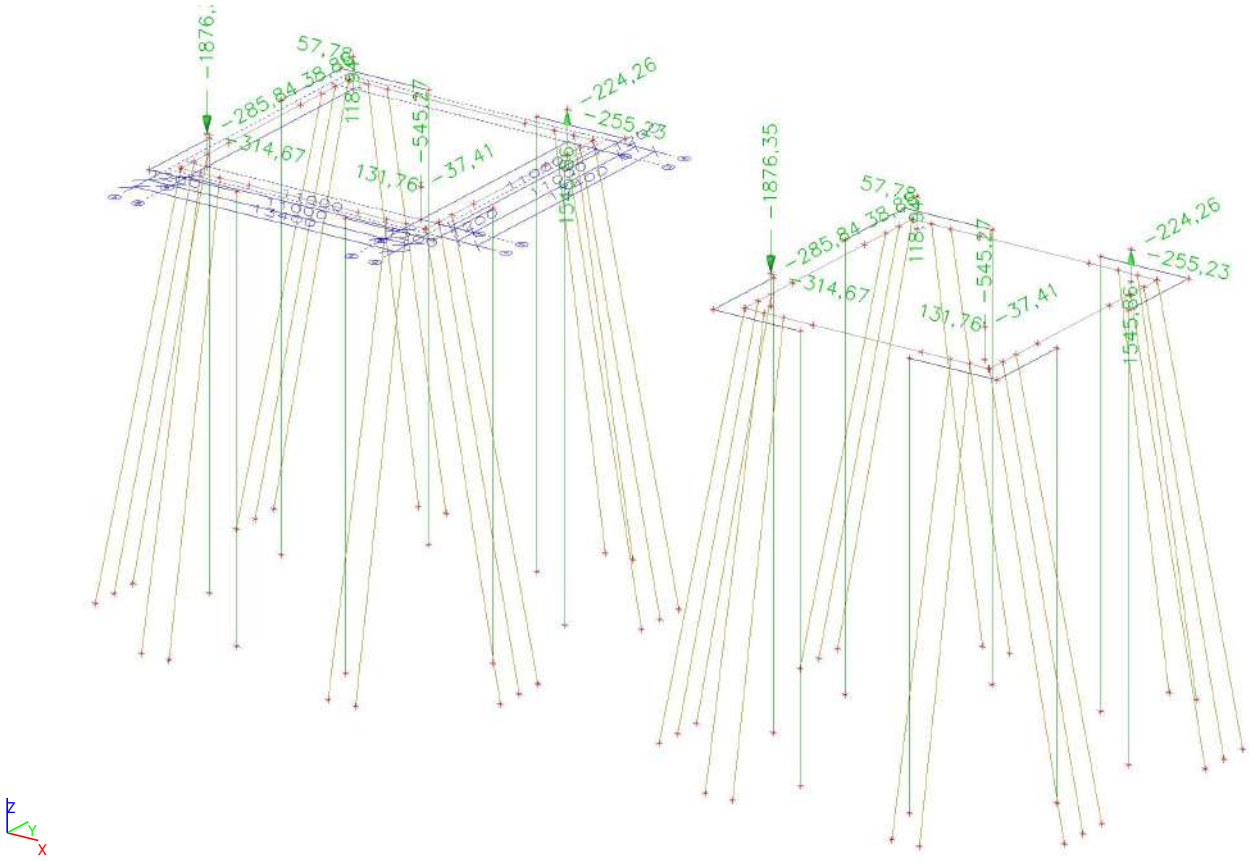


#### *6.1.3.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;225°_1P_X | 1P | high max Wnd ;225° | GCS | X | Force | -131,89 |
| high max Wnd ;225°_1P_Y | 1P | high max Wnd ;225° | GCS | Y | Force | -38,99 |
| high max Wnd ;225°_1P_Z | 1P | high max Wnd ;225° | GCS | Z | Force | -552,56 |
| high max Wnd ;225°_1X_X | 1X | high max Wnd ;225° | GCS | X | Force | 254,53 |
| high max Wnd ;225°_1X_Y | 1X | high max Wnd ;225° | GCS | Y | Force | -222,62 |
| high max Wnd ;225°_1X_Z | 1X | high max Wnd ;225° | GCS | Z | Force | 1536,14 |
| high max Wnd ;225°_1XY_X | 1XY | high max Wnd ;225° | GCS | X | Force | -59,31 |
| high max Wnd ;225°_1XY_Y | 1XY | high max Wnd ;225° | GCS | Y | Force | 36,31 |
| high max Wnd ;225°_1XY_Z | 1XY | high max Wnd ;225° | GCS | Z | Force | 132,98 |
| high max Wnd ;225°_1Y_X | 1Y | high max Wnd ;225° | GCS | X | Force | 313,25 |
| high max Wnd ;225°_1Y_Y | 1Y | high max Wnd ;225° | GCS | Y | Force | -283,16 |
| high max Wnd ;225°_1Y_Z | 1Y | high max Wnd ;225° | GCS | Z | Force | -1862,06 |
| high max Wnd ;225°_1Y_X1 | 1Y2 | high max Wnd ;225° | GCS | X | Force | 313,25 |
| high max Wnd ;225°_1Y_Y1 | 1Y2 | high max Wnd ;225° | GCS | Y | Force | -283,16 |
| high max Wnd ;225°_1Y_Z1 | 1Y2 | high max Wnd ;225° | GCS | Z | Force | -1862,06 |
| high max Wnd ;225°_1XY_X1 | 1XY2 | high max Wnd ;225° | GCS | X | Force | -59,31 |
| high max Wnd ;225°_1XY_Y1 | 1XY2 | high max Wnd ;225° | GCS | Y | Force | 36,31 |
| high max Wnd ;225°_1XY_Z1 | 1XY2 | high max Wnd ;225° | GCS | Z | Force | 132,98 |
| high max Wnd ;225°_1P_X1 | 1P2 | high max Wnd ;225° | GCS | X | Force | -131,89 |
| high max Wnd ;225°_1P_Y1 | 1P2 | high max Wnd ;225° | GCS | Y | Force | -38,99 |
| high max Wnd ;225°_1P_Z1 | 1P2 | high max Wnd ;225° | GCS | Z | Force | -552,56 |
| high max Wnd ;225°_1X_X1 | 1X2 | high max Wnd ;225° | GCS | X | Force | 254,53 |
| high max Wnd ;225°_1X_Y1 | 1X2 | high max Wnd ;225° | GCS | Y | Force | -222,62 |
| high max Wnd ;225°_1X_Z1 | 1X2 | high max Wnd ;225° | GCS | Z | Force | 1536,14 |

### 6.1.4. Load cases - high max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



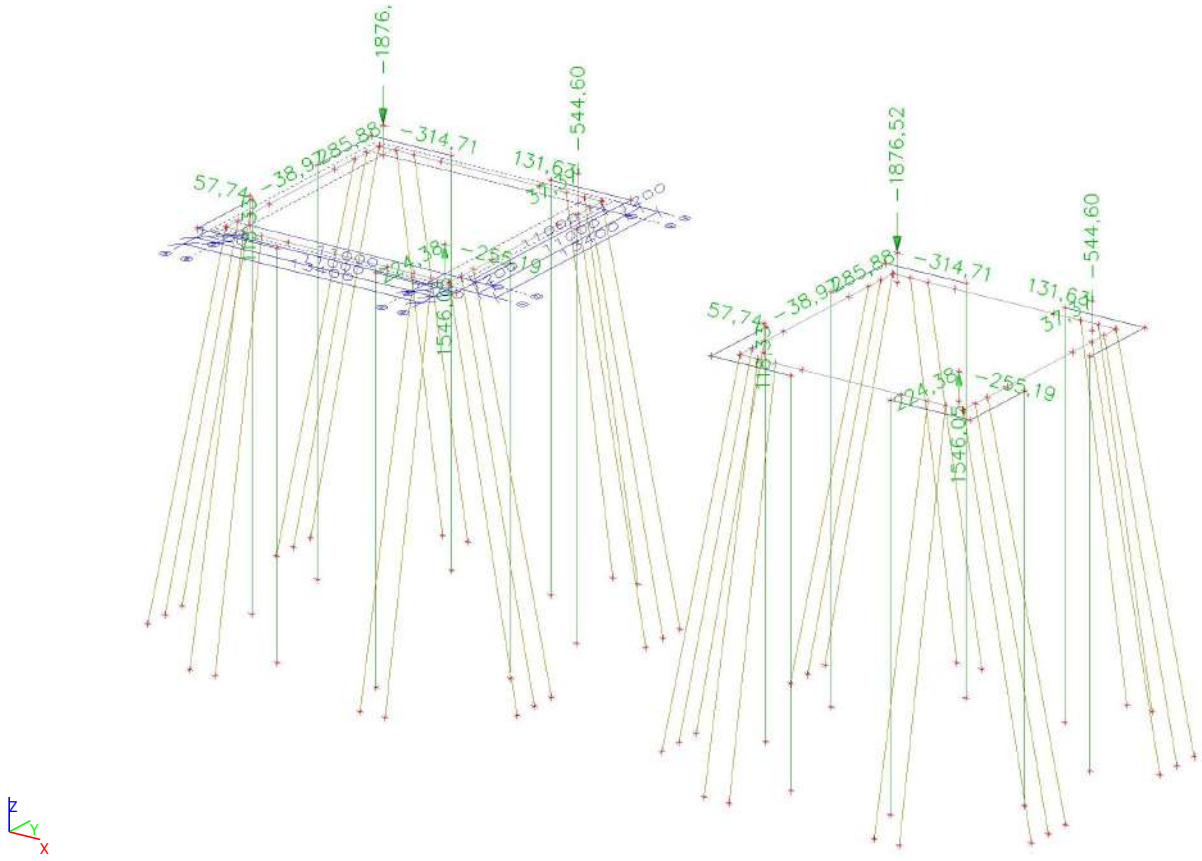

### *6.1.4.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;315°_1P_X | 1P | high max Wnd ;315° | GCS | X | Force | -314,67 |
| high max Wnd ;315°_1P_Y | 1P | high max Wnd ;315° | GCS | Y | Force | -285,84 |
| high max Wnd ;315°_1P_Z | 1P | high max Wnd ;315° | GCS | Z | Force | -1876,35 |
| high max Wnd ;315°_1X_X | 1X | high max Wnd ;315° | GCS | X | Force | 57,78 |
| high max Wnd ;315°_1X_Y | 1X | high max Wnd ;315° | GCS | Y | Force | 38,86 |
| high max Wnd ;315°_1X_Z | 1X | high max Wnd ;315° | GCS | Z | Force | 118,94 |
| high max Wnd ;315°_1XY_X | 1XY | high max Wnd ;315° | GCS | X | Force | -255,23 |
| high max Wnd ;315°_1XY_Y | 1XY | high max Wnd ;315° | GCS | Y | Force | -224,26 |
| high max Wnd ;315°_1XY_Z | 1XY | high max Wnd ;315° | GCS | Z | Force | 1545,86 |
| high max Wnd ;315°_1Y_X | 1Y | high max Wnd ;315° | GCS | X | Force | 131,76 |
| high max Wnd ;315°_1Y_Y | 1Y | high max Wnd ;315° | GCS | Y | Force | -37,41 |
| high max Wnd ;315°_1Y_Z | 1Y | high max Wnd ;315° | GCS | Z | Force | -545,27 |
| high max Wnd ;315°_1Y_X1 | 1Y2 | high max Wnd ;315° | GCS | X | Force | 131,76 |
| high max Wnd ;315°_1Y_Y1 | 1Y2 | high max Wnd ;315° | GCS | Y | Force | -37,41 |
| high max Wnd | 1Y2 | high max Wnd ;315° | GCS | Z | Force | -545,27 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1Y_Z1 | | | | | | |
| high max Wnd ;315°_1XY_X1 | 1XY2 | high max Wnd ;315° | GCS | X | Force | -255,23 |
| high max Wnd ;315°_1XY_Y1 | 1XY2 | high max Wnd ;315° | GCS | Y | Force | -224,26 |
| high max Wnd ;315°_1XY_Z1 | 1XY2 | high max Wnd ;315° | GCS | Z | Force | 1545,86 |
| high max Wnd ;315°_1P_X1 | 1P2 | high max Wnd ;315° | GCS | X | Force | -314,67 |
| high max Wnd ;315°_1P_Y1 | 1P2 | high max Wnd ;315° | GCS | Y | Force | -285,84 |
| high max Wnd ;315°_1P_Z1 | 1P2 | high max Wnd ;315° | GCS | Z | Force | -1876,35 |
| high max Wnd ;315°_1X_X1 | 1X2 | high max Wnd ;315° | GCS | X | Force | 57,78 |
| high max Wnd ;315°_1X_Y1 | 1X2 | high max Wnd ;315° | GCS | Y | Force | 38,86 |
| high max Wnd ;315°_1X_Z1 | 1X2 | high max Wnd ;315° | GCS | Z | Force | 118,94 |

### 6.1.5. Load cases - high max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| high max Wnd ;45° | Standard | Variable Static | LG4 | Short | None |

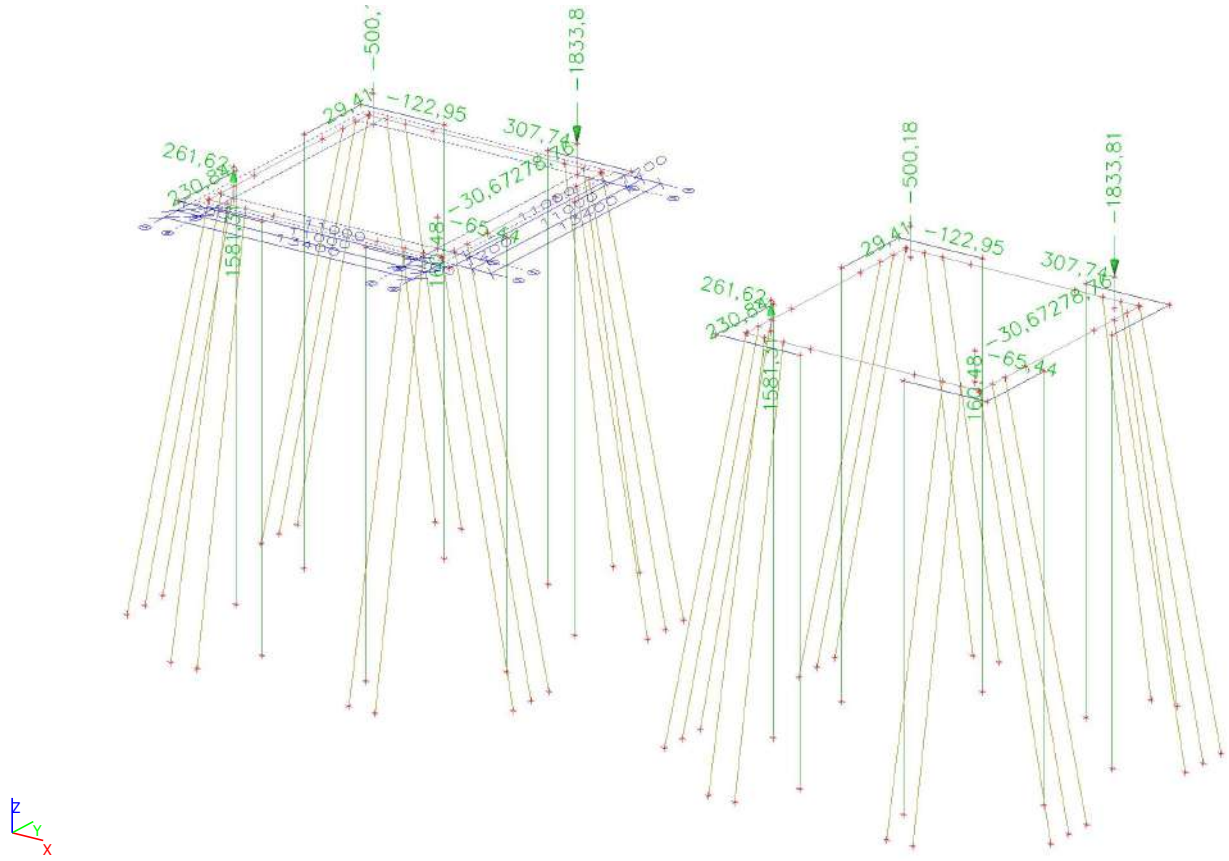


#### *6.1.5.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| high max Wnd ;45°_1P_X | 1P | high max Wnd ;45° | GCS | X | Force | 57,74 |
| high max Wnd ;45°_1P_Y | 1P | high max Wnd ;45° | GCS | Y | Force | -38,97 |
| high max Wnd ;45°_1P_Z | 1P | high max Wnd ;45° | GCS | Z | Force | 118,33 |
| high max Wnd ;45°_1X_X | 1X | high max Wnd ;45° | GCS | X | Force | -314,71 |
| high max Wnd ;45°_1X_Y | 1X | high max Wnd ;45° | GCS | Y | Force | 285,88 |
| high max Wnd ;45°_1X_Z | 1X | high max Wnd ;45° | GCS | Z | Force | -1876,52 |
| high max Wnd ;45°_1XY_X | 1XY | high max Wnd ;45° | GCS | X | Force | 131,63 |
| high max Wnd ;45°_1XY_Y | 1XY | high max Wnd ;45° | GCS | Y | Force | 37,37 |
| high max Wnd ;45°_1XY_Z | 1XY | high max Wnd ;45° | GCS | Z | Force | -544,60 |
| high max Wnd ;45°_1Y_X | 1Y | high max Wnd ;45° | GCS | X | Force | -255,19 |
| high max Wnd ;45°_1Y_Y | 1Y | high max Wnd ;45° | GCS | Y | Force | 224,38 |
| high max Wnd ;45°_1Y_Z | 1Y | high max Wnd ;45° | GCS | Z | Force | 1546,05 |
| high max Wnd ;45°_1Y_X1 | 1Y2 | high max Wnd ;45° | GCS | X | Force | -255,19 |
| high max Wnd ;45°_1Y_Y1 | 1Y2 | high max Wnd ;45° | GCS | Y | Force | 224,38 |
| high max Wnd ;45°_1Y_Z1 | 1Y2 | high max Wnd ;45° | GCS | Z | Force | 1546,05 |
| high max Wnd ;45°_1XY_X1 | 1XY2 | high max Wnd ;45° | GCS | X | Force | 131,63 |
| high max Wnd ;45°_1XY_Y1 | 1XY2 | high max Wnd ;45° | GCS | Y | Force | 37,37 |
| high max Wnd ;45°_1XY_Z1 | 1XY2 | high max Wnd ;45° | GCS | Z | Force | -544,60 |
| high max Wnd ;45°_1P_X1 | 1P2 | high max Wnd ;45° | GCS | X | Force | 57,74 |
| high max Wnd ;45°_1P_Y1 | 1P2 | high max Wnd ;45° | GCS | Y | Force | -38,97 |
| high max Wnd ;45°_1P_Z1 | 1P2 | high max Wnd ;45° | GCS | Z | Force | 118,33 |
| high max Wnd ;45°_1X_X1 | 1X2 | high max Wnd ;45° | GCS | X | Force | -314,71 |
| high max Wnd ;45°_1X_Y1 | 1X2 | high max Wnd ;45° | GCS | Y | Force | 285,88 |
| high max Wnd ;45°_1X_Z1 | 1X2 | high max Wnd ;45° | GCS | Z | Force | -1876,52 |

### 6.1.6. Load cases - low max Wnd ;135°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;135° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



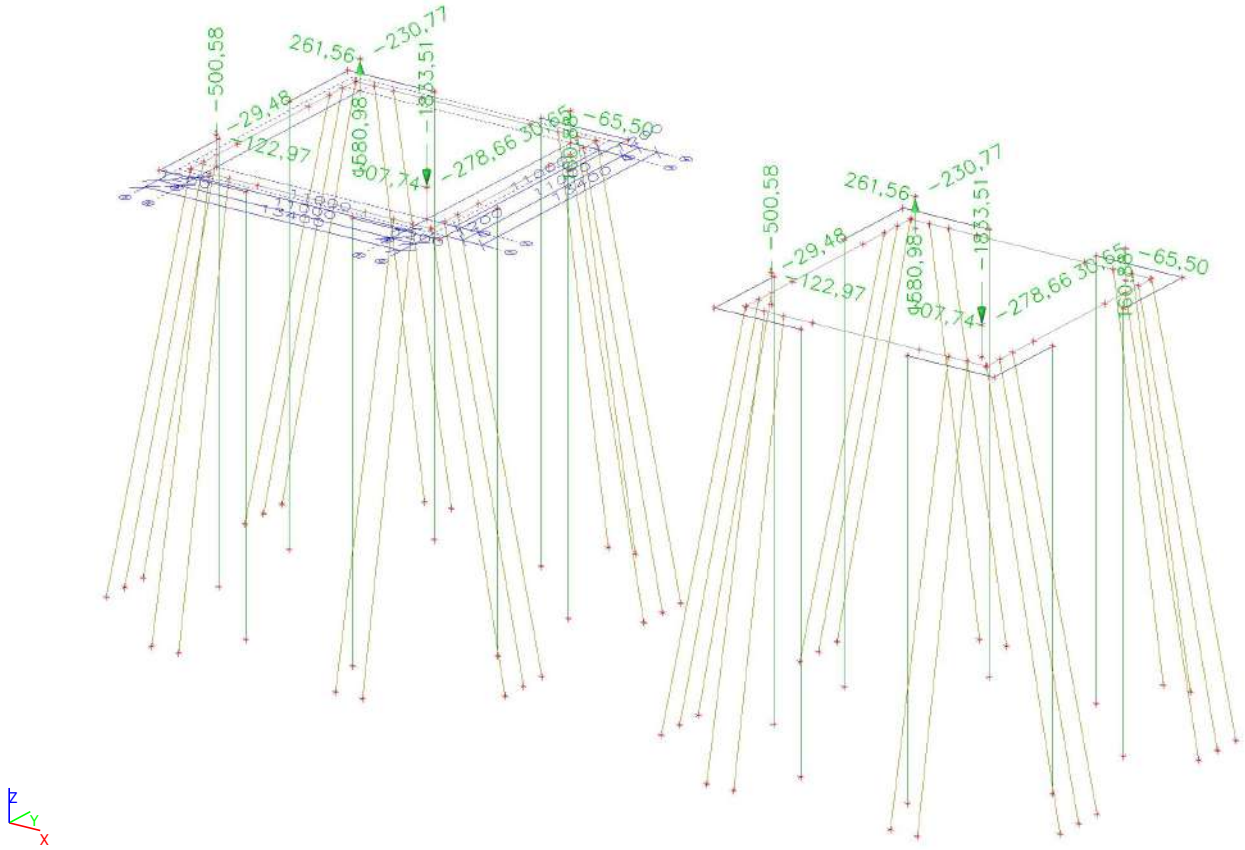

### *6.1.6.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;135°_1P_X | 1P | low max Wnd ;135° | GCS | X | Force | 261,62 |
| low max Wnd ;135°_1P_Y | 1P | low max Wnd ;135° | GCS | Y | Force | 230,84 |
| low max Wnd ;135°_1P_Z | 1P | low max Wnd ;135° | GCS | Z | Force | 1581,31 |
| low max Wnd ;135°_1X_X | 1X | low max Wnd ;135° | GCS | X | Force | -122,95 |
| low max Wnd ;135°_1X_Y | 1X | low max Wnd ;135° | GCS | Y | Force | 29,41 |
| low max Wnd ;135°_1X_Z | 1X | low max Wnd ;135° | GCS | Z | Force | -500,18 |
| low max Wnd ;135°_1XY_X | 1XY | low max Wnd ;135° | GCS | X | Force | 307,74 |
| low max Wnd ;135°_1XY_Y | 1XY | low max Wnd ;135° | GCS | Y | Force | 278,76 |
| low max Wnd ;135°_1XY_Z | 1XY | low max Wnd ;135° | GCS | Z | Force | -1833,81 |
| low max Wnd ;135°_1Y_X | 1Y | low max Wnd ;135° | GCS | X | Force | -65,44 |
| low max Wnd ;135°_1Y_Y | 1Y | low max Wnd ;135° | GCS | Y | Force | -30,67 |
| low max Wnd ;135°_1Y_Z | 1Y | low max Wnd ;135° | GCS | Z | Force | 160,48 |
| low max Wnd ;135°_1Y_X1 | 1Y2 | low max Wnd ;135° | GCS | X | Force | -65,44 |
| low max Wnd ;135°_1Y_Y1 | 1Y2 | low max Wnd ;135° | GCS | Y | Force | -30,67 |
| low max Wnd | 1Y2 | low max Wnd ;135° | GCS | Z | Force | 160,48 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;135°_1Y_Z1 | | | | | | |
| low max Wnd ;135°_1XY_X1 | 1XY2 | low max Wnd ;135° | GCS | X | Force | 307,74 |
| low max Wnd ;135°_1XY_Y1 | 1XY2 | low max Wnd ;135° | GCS | Y | Force | 278,76 |
| low max Wnd ;135°_1XY_Z1 | 1XY2 | low max Wnd ;135° | GCS | Z | Force | -1833,81 |
| low max Wnd ;135°_1P_X1 | 1P2 | low max Wnd ;135° | GCS | X | Force | 261,62 |
| low max Wnd ;135°_1P_Y1 | 1P2 | low max Wnd ;135° | GCS | Y | Force | 230,84 |
| low max Wnd ;135°_1P_Z1 | 1P2 | low max Wnd ;135° | GCS | Z | Force | 1581,31 |
| low max Wnd ;135°_1X_X1 | 1X2 | low max Wnd ;135° | GCS | X | Force | -122,95 |
| low max Wnd ;135°_1X_Y1 | 1X2 | low max Wnd ;135° | GCS | Y | Force | 29,41 |
| low max Wnd ;135°_1X_Z1 | 1X2 | low max Wnd ;135° | GCS | Z | Force | -500,18 |

### 6.1.7. Load cases - low max Wnd ;225°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;225° | Standard | Variable Static | LG4 | Short | None |

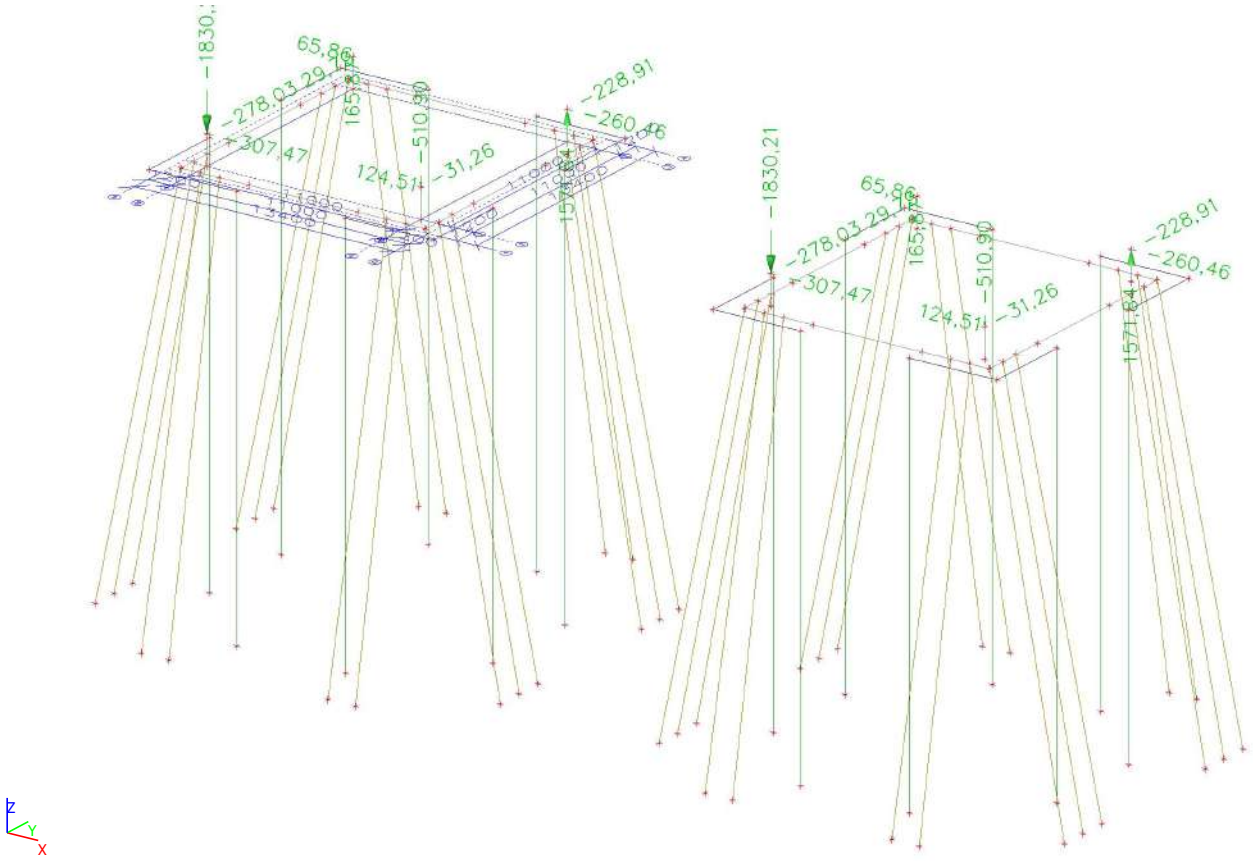


#### *6.1.7.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;225°_1P_X | 1P | low max Wnd ;225° | GCS | X | Force | -122,97 |
| low max Wnd ;225°_1P_Y | 1P | low max Wnd ;225° | GCS | Y | Force | -29,48 |
| low max Wnd ;225°_1P_Z | 1P | low max Wnd ;225° | GCS | Z | Force | -500,58 |
| low max Wnd ;225°_1X_X | 1X | low max Wnd ;225° | GCS | X | Force | 261,56 |
| low max Wnd ;225°_1X_Y | 1X | low max Wnd ;225° | GCS | Y | Force | -230,77 |
| low max Wnd ;225°_1X_Z | 1X | low max Wnd ;225° | GCS | Z | Force | 1580,98 |
| low max Wnd ;225°_1XY_X | 1XY | low max Wnd ;225° | GCS | X | Force | -65,50 |
| low max Wnd ;225°_1XY_Y | 1XY | low max Wnd ;225° | GCS | Y | Force | 30,65 |
| low max Wnd ;225°_1XY_Z | 1XY | low max Wnd ;225° | GCS | Z | Force | 160,88 |
| low max Wnd ;225°_1Y_X | 1Y | low max Wnd ;225° | GCS | X | Force | 307,74 |
| low max Wnd ;225°_1Y_Y | 1Y | low max Wnd ;225° | GCS | Y | Force | -278,66 |
| low max Wnd ;225°_1Y_Z | 1Y | low max Wnd ;225° | GCS | Z | Force | -1833,51 |
| low max Wnd ;225°_1Y_X1 | 1Y2 | low max Wnd ;225° | GCS | X | Force | 307,74 |
| low max Wnd ;225°_1Y_Y1 | 1Y2 | low max Wnd ;225° | GCS | Y | Force | -278,66 |
| low max Wnd ;225°_1Y_Z1 | 1Y2 | low max Wnd ;225° | GCS | Z | Force | -1833,51 |
| low max Wnd ;225°_1XY_X1 | 1XY2 | low max Wnd ;225° | GCS | X | Force | -65,50 |
| low max Wnd ;225°_1XY_Y1 | 1XY2 | low max Wnd ;225° | GCS | Y | Force | 30,65 |
| low max Wnd ;225°_1XY_Z1 | 1XY2 | low max Wnd ;225° | GCS | Z | Force | 160,88 |
| low max Wnd ;225°_1P_X1 | 1P2 | low max Wnd ;225° | GCS | X | Force | -122,97 |
| low max Wnd ;225°_1P_Y1 | 1P2 | low max Wnd ;225° | GCS | Y | Force | -29,48 |
| low max Wnd ;225°_1P_Z1 | 1P2 | low max Wnd ;225° | GCS | Z | Force | -500,58 |
| low max Wnd ;225°_1X_X1 | 1X2 | low max Wnd ;225° | GCS | X | Force | 261,56 |
| low max Wnd ;225°_1X_Y1 | 1X2 | low max Wnd ;225° | GCS | Y | Force | -230,77 |
| low max Wnd ;225°_1X_Z1 | 1X2 | low max Wnd ;225° | GCS | Z | Force | 1580,98 |

### 6.1.8. Load cases - low max Wnd ;315°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;315° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



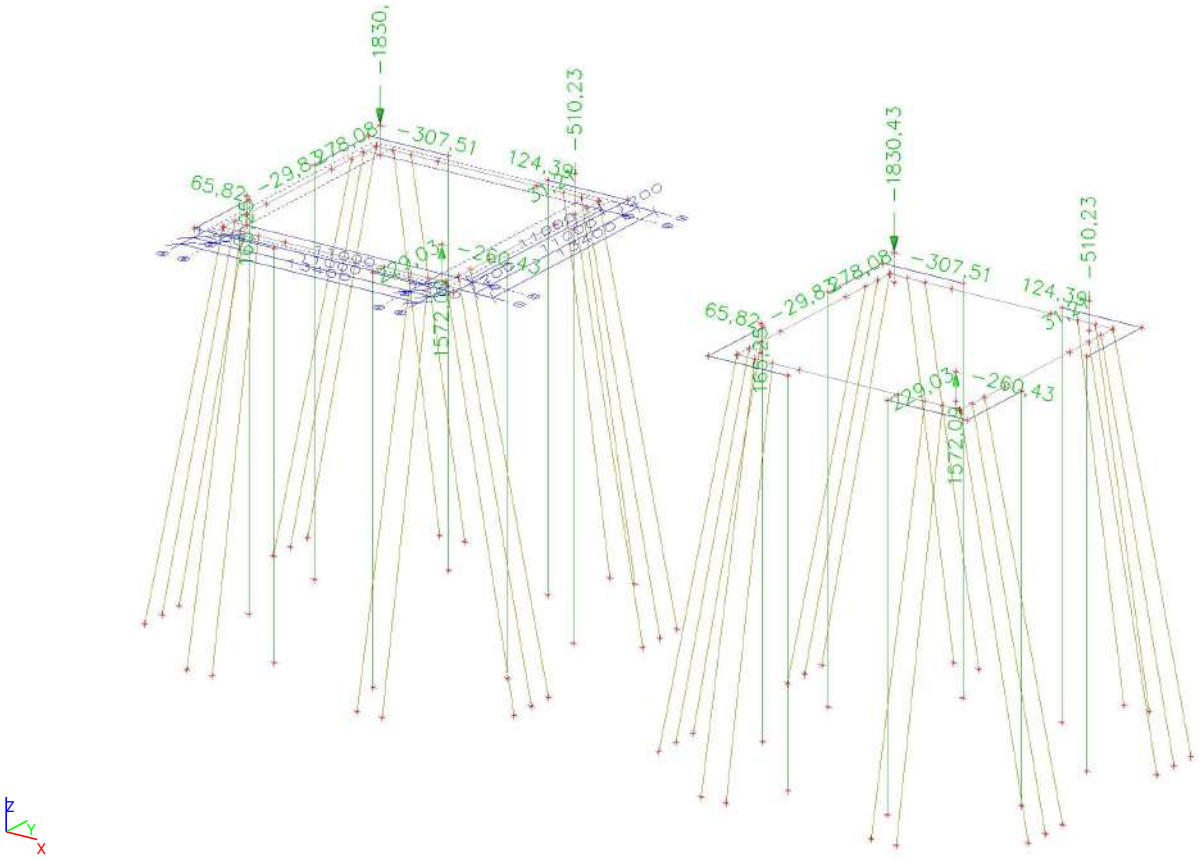

### *6.1.8.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;315°_1P_X | 1P | low max Wnd ;315° | GCS | X | Force | -307,47 |
| low max Wnd ;315°_1P_Y | 1P | low max Wnd ;315° | GCS | Y | Force | -278,03 |
| low max Wnd ;315°_1P_Z | 1P | low max Wnd ;315° | GCS | Z | Force | -1830,21 |
| low max Wnd ;315°_1X_X | 1X | low max Wnd ;315° | GCS | X | Force | 65,86 |
| low max Wnd ;315°_1X_Y | 1X | low max Wnd ;315° | GCS | Y | Force | 29,73 |
| low max Wnd ;315°_1X_Z | 1X | low max Wnd ;315° | GCS | Z | Force | 165,87 |
| low max Wnd ;315°_1XY_X | 1XY | low max Wnd ;315° | GCS | X | Force | -260,46 |
| low max Wnd ;315°_1XY_Y | 1XY | low max Wnd ;315° | GCS | Y | Force | -228,91 |
| low max Wnd ;315°_1XY_Z | 1XY | low max Wnd ;315° | GCS | Z | Force | 1571,84 |
| low max Wnd ;315°_1Y_X | 1Y | low max Wnd ;315° | GCS | X | Force | 124,51 |
| low max Wnd ;315°_1Y_Y | 1Y | low max Wnd ;315° | GCS | Y | Force | -31,26 |
| low max Wnd ;315°_1Y_Z | 1Y | low max Wnd ;315° | GCS | Z | Force | -510,90 |
| low max Wnd ;315°_1Y_X1 | 1Y2 | low max Wnd ;315° | GCS | X | Force | 124,51 |
| low max Wnd ;315°_1Y_Y1 | 1Y2 | low max Wnd ;315° | GCS | Y | Force | -31,26 |
| low max Wnd | 1Y2 | low max Wnd ;315° | GCS | Z | Force | -510,90 |

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| ;315°_1Y_Z1 | | | | | | |
| low max Wnd ;315°_1XY_X1 | 1XY2 | low max Wnd ;315° | GCS | X | Force | -260,46 |
| low max Wnd ;315°_1XY_Y1 | 1XY2 | low max Wnd ;315° | GCS | Y | Force | -228,91 |
| low max Wnd ;315°_1XY_Z1 | 1XY2 | low max Wnd ;315° | GCS | Z | Force | 1571,84 |
| low max Wnd ;315°_1P_X1 | 1P2 | low max Wnd ;315° | GCS | X | Force | -307,47 |
| low max Wnd ;315°_1P_Y1 | 1P2 | low max Wnd ;315° | GCS | Y | Force | -278,03 |
| low max Wnd ;315°_1P_Z1 | 1P2 | low max Wnd ;315° | GCS | Z | Force | -1830,21 |
| low max Wnd ;315°_1X_X1 | 1X2 | low max Wnd ;315° | GCS | X | Force | 65,86 |
| low max Wnd ;315°_1X_Y1 | 1X2 | low max Wnd ;315° | GCS | Y | Force | 29,73 |
| low max Wnd ;315°_1X_Z1 | 1X2 | low max Wnd ;315° | GCS | Z | Force | 165,87 |

### 6.1.9. Load cases - low max Wnd ;45°

| Name | Description | Action type | Load group | Duration | Master load case |
|---|---|---|---|---|---|
| | Spec | Load type | | | |
| low max Wnd ;45° | | Variable | LG4 | Short | None |
| | Standard | Static | | | |



#### *6.1.9.1. Point force in node*

| Name | Node | Load case | System | Dir | Type | Value - F [kN] |
|---|---|---|---|---|---|---|
| low max Wnd ;45°_1P_X | 1P | low max Wnd ;45° | GCS | X | Force | 65,82 |
| low max Wnd ;45°_1P_Y | 1P | low max Wnd ;45° | GCS | Y | Force | -29,83 |
| low max Wnd ;45°_1P_Z | 1P | low max Wnd ;45° | GCS | Z | Force | 165,25 |
| low max Wnd ;45°_1X_X | 1X | low max Wnd ;45° | GCS | X | Force | -307,51 |
| low max Wnd ;45°_1X_Y | 1X | low max Wnd ;45° | GCS | Y | Force | 278,08 |
| low max Wnd ;45°_1X_Z | 1X | low max Wnd ;45° | GCS | Z | Force | -1830,43 |
| low max Wnd ;45°_1XY_X | 1XY | low max Wnd ;45° | GCS | X | Force | 124,39 |
| low max Wnd ;45°_1XY_Y | 1XY | low max Wnd ;45° | GCS | Y | Force | 31,21 |
| low max Wnd ;45°_1XY_Z | 1XY | low max Wnd ;45° | GCS | Z | Force | -510,23 |
| low max Wnd ;45°_1Y_X | 1Y | low max Wnd ;45° | GCS | X | Force | -260,43 |
| low max Wnd ;45°_1Y_Y | 1Y | low max Wnd ;45° | GCS | Y | Force | 229,03 |
| low max Wnd ;45°_1Y_Z | 1Y | low max Wnd ;45° | GCS | Z | Force | 1572,09 |
| low max Wnd ;45°_1Y_X1 | 1Y2 | low max Wnd ;45° | GCS | X | Force | -260,43 |
| low max Wnd ;45°_1Y_Y1 | 1Y2 | low max Wnd ;45° | GCS | Y | Force | 229,03 |
| low max Wnd ;45°_1Y_Z1 | 1Y2 | low max Wnd ;45° | GCS | Z | Force | 1572,09 |
| low max Wnd ;45°_1XY_X1 | 1XY2 | low max Wnd ;45° | GCS | X | Force | 124,39 |
| low max Wnd ;45°_1XY_Y1 | 1XY2 | low max Wnd ;45° | GCS | Y | Force | 31,21 |
| low max Wnd ;45°_1XY_Z1 | 1XY2 | low max Wnd ;45° | GCS | Z | Force | -510,23 |
| low max Wnd ;45°_1P_X1 | 1P2 | low max Wnd ;45° | GCS | X | Force | 65,82 |
| low max Wnd ;45°_1P_Y1 | 1P2 | low max Wnd ;45° | GCS | Y | Force | -29,83 |
| low max Wnd ;45°_1P_Z1 | 1P2 | low max Wnd ;45° | GCS | Z | Force | 165,25 |
| low max Wnd ;45°_1X_X1 | 1X2 | low max Wnd ;45° | GCS | X | Force | -307,51 |
| low max Wnd ;45°_1X_Y1 | 1X2 | low max Wnd ;45° | GCS | Y | Force | 278,08 |
| low max Wnd ;45°_1X_Z1 | 1X2 | low max Wnd ;45° | GCS | Z | Force | -1830,43 |

## 6.2. Nonlinear combinations

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| high max + Wnd ;45° | Ultimate | E.G. | 1,20 |
| | | high max Wnd ;45° | 1,00 |
| high max + Wnd ;135° | Ultimate | E.G. | 1,20 |
| | | high max Wnd ;135° | 1,00 |
| high max + Wnd ;225° | Ultimate | E.G. | 1,20 |
| | | high max Wnd ;225° | 1,00 |
| high max + Wnd ;315° | Ultimate | E.G. | 1,20 |
| | | high max Wnd ;315° | 1,00 |
| low max + Wnd ;45° | Ultimate | E.G. | 0,90 |
| | | low max Wnd ;45° | 1,00 |
| low max + Wnd ;135° | Ultimate | E.G. | 0,90 |

| Name | Type | Load cases | Coeff. [-] |
|---|---|---|---|
| | | low max Wnd ;135° | 1,00 |
| low max + Wnd ;225° | Ultimate | E.G. | 0,90 |
| | | low max Wnd ;225° | 1,00 |
| low max + Wnd ;315° | Ultimate | E.G. | 0,90 |
| | | low max Wnd ;315° | 1,00 |

## 6.3. Result classes

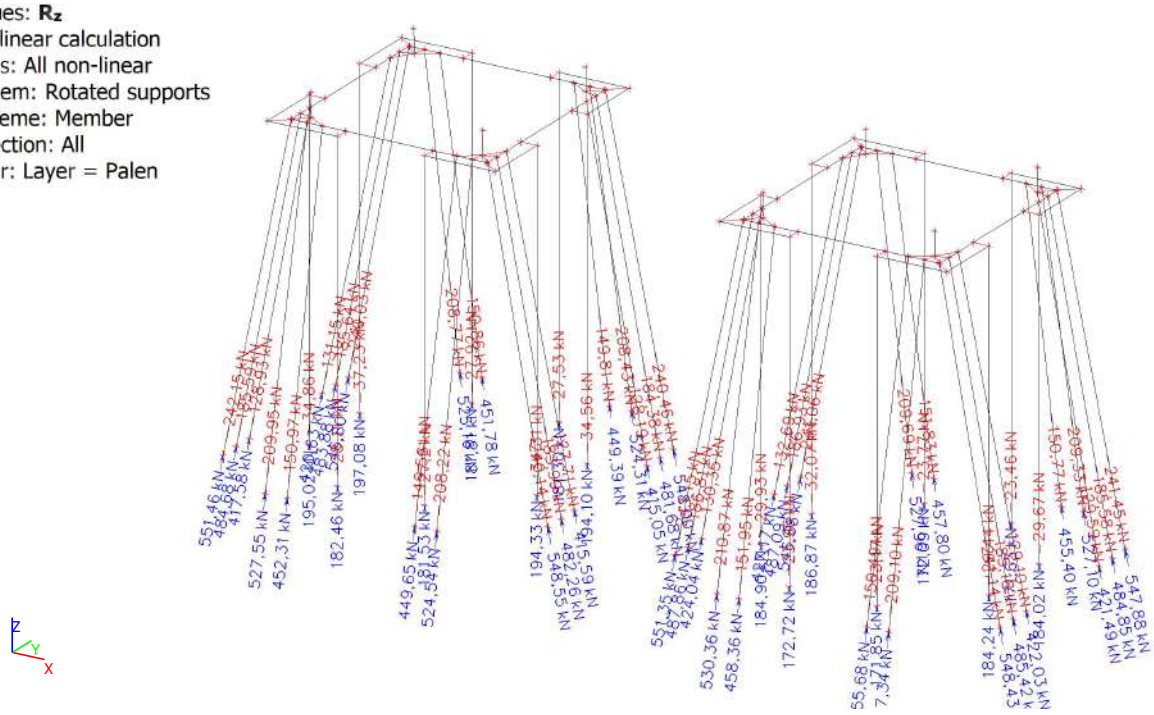
| Name | List |
|---|---|
| All non-linear | high max + Wnd ;45° |
| | high max + Wnd ;135° |
| | high max + Wnd ;225° |
| | high max + Wnd ;315° |
| | low max + Wnd ;45° |
| | low max + Wnd ;135° |
| | low max + Wnd ;225° |
| | low max + Wnd ;315° |

# 7. Resultaten

## 7.1. Reacties van de palen

### 7.1.1. Reactions; R_z

Values: $R_z$
Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen



### 7.1.2. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = Funderingspaal - Rectangle (400; 400)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn32/N10 | high max + Wnd ;135° | **0,00** | 0,00 | 548,00 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N275 | high max + Wnd ;315° | **0,00** | 0,00 | 551,35 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn93/N290 | high max + Wnd ;45° | 0,00 | **0,00** | 527,96 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn91/N288 | high max + Wnd ;135° | 0,00 | **0,00** | 527,10 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn78/N275 | low max + Wnd ;135° | 0,00 | 0,00 | **-243,15** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | high max + Wnd ;315° | 0,00 | 0,00 | **551,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

### 7.1.3. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)
**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn111/N72 | low max + Wnd ;225° | 0,00 | 0,00 | **-37,23** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn111/N72 | high max + Wnd ;45° | **0,00** | **0,00** | **197,08** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

### 7.1.4. Reactions

Nonlinear calculation
Class: All non-linear
System: Rotated supports
Extreme: Member
Selection: All
Filter: Layer = Palen

**Nodal reactions**

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| Sn21/N44 | low max + Wnd ;135° | 0,00 | **0,00** | **-242,15** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn21/N44 | high max + Wnd ;315° | **0,00** | 0,00 | **551,46** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn21/N44 | low max + Wnd ;315° | **0,00** | **0,00** | 511,28 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | low max + Wnd ;135° | 0,00 | 0,00 | **-185,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn22/N45 | high max + Wnd ;315° | **0,00** | **0,00** | **484,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn22/N45 | high max + Wnd ;135° | **0,00** | 0,00 | -146,70 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;225° | **0,00** | 0,00 | 158,69 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn23/N46 | high max + Wnd ;315° | 0,00 | **0,00** | **417,58** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;135° | 0,00 | **0,00** | **-128,93** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn23/N46 | low max + Wnd ;45° | **0,00** | 0,00 | 107,18 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | low max + Wnd ;315° | **0,00** | 0,00 | 486,30 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn24/N47 | low max + Wnd ;225° | 0,00 | **0,00** | 255,41 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn24/N47 | high max + Wnd ;225° | 0,00 | **0,00** | 297,13 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn24/N47 | high max + Wnd ;315° | 0,00 | 0,00 | **527,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn24/N47 | low max + Wnd ;135° | **0,00** | 0,00 | **-209,95** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | high max + Wnd ;225° | 0,00 | **0,00** | 264,86 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn26/N48 | low max + Wnd ;135° | **0,00** | **0,00** | **-150,97** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn26/N48 | high max + Wnd ;315° | **0,00** | 0,00 | **452,31** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | high max + Wnd ;45° | 0,00 | **0,00** | -203,16 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | low max + Wnd ;225° | 0,00 | **0,00** | 512,11 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn27/N49 | low max + Wnd ;45° | 0,00 | 0,00 | **-240,14** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | high max + Wnd ;225° | **0,00** | 0,00 | **548,55** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn27/N49 | high max + Wnd ;315° | **0,00** | 0,00 | 220,78 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | high max + Wnd ;315° | **0,00** | **0,00** | 211,51 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn28/N50 | low max + | 0,00 | 0,00 | **-183,99** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;45° | | | | | | | | |
| Sn28/N50 | high max + Wnd ;225° | 0,00 | 0,00 | **482,26** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn28/N50 | low max + Wnd ;225° | **0,00** | 0,00 | 444,06 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | high max + Wnd ;225° | 0,00 | **0,00** | **415,59** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn29/N51 | low max + Wnd ;45° | **0,00** | **0,00** | **-127,71** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn29/N51 | low max + Wnd ;135° | **0,00** | 0,00 | 107,50 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | low max + Wnd ;45° | **0,00** | **0,00** | **-208,22** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn30/N52 | high max + Wnd ;225° | **0,00** | **0,00** | **524,54** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | low max + Wnd ;225° | 0,00 | **0,00** | 410,03 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn31/N53 | high max + Wnd ;225° | **0,00** | **0,00** | **449,65** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn31/N53 | low max + Wnd ;45° | **0,00** | 0,00 | **-149,56** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | low max + Wnd ;135° | 0,00 | **0,00** | 511,70 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn32/N10 | low max + Wnd ;315° | **0,00** | **0,00** | **-240,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn32/N10 | high max + Wnd ;135° | **0,00** | 0,00 | **548,00** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | high max + Wnd ;315° | **0,00** | **0,00** | -148,79 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn33/N11 | low max + Wnd ;315° | 0,00 | 0,00 | **-184,38** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn33/N11 | high max + Wnd ;135° | 0,00 | 0,00 | **481,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn33/N11 | low max + Wnd ;135° | **0,00** | 0,00 | 443,64 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | high max + Wnd ;315° | **0,00** | 0,00 | -93,88 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn34/N12 | low max + Wnd ;315° | 0,00 | **0,00** | **-128,19** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn34/N12 | high max + Wnd ;135° | **0,00** | **0,00** | **415,05** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | low max + Wnd ;135° | 0,00 | **0,00** | 486,57 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn35/N13 | low max + Wnd ;315° | **0,00** | **0,00** | **-208,43** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn35/N13 | high max + Wnd ;135° | **0,00** | 0,00 | **524,31** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | high max + Wnd ;135° | **0,00** | **0,00** | **449,39** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn36/N14 | low max + Wnd ;225° | 0,00 | **0,00** | 47,18 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn36/N14 | low max + Wnd ;315° | **0,00** | 0,00 | **-149,81** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | low max + Wnd ;45° | 0,00 | **0,00** | 484,06 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | low max + Wnd ;315° | 0,00 | **0,00** | 9,34 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn37/N15 | high max + Wnd ;45° | **0,00** | 0,00 | **525,16** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn37/N15 | low max + Wnd ;225° | **0,00** | 0,00 | **-208,77** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | low max + Wnd ;135° | 0,00 | **0,00** | 221,90 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn38/N2 | low max + Wnd ;225° | **0,00** | 0,00 | **-150,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn38/N2 | high max + | **0,00** | **0,00** | **451,78** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;45° | | | | | | | | |
| Sn39/N3 | high max + Wnd ;45° | **0,00** | **0,00** | **546,80** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn39/N3 | low max + Wnd ;225° | 0,00 | **0,00** | **-240,03** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn39/N3 | low max + Wnd ;135° | **0,00** | 0,00 | 178,16 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | high max + Wnd ;135° | **0,00** | **0,00** | 211,90 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn40/N4 | high max + Wnd ;45° | 0,00 | 0,00 | **483,88** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn40/N4 | low max + Wnd ;225° | **0,00** | 0,00 | **-185,64** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | low max + Wnd ;135° | **0,00** | 0,00 | 159,61 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn41/N54 | high max + Wnd ;45° | 0,00 | **0,00** | **420,63** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn41/N54 | low max + Wnd ;225° | **0,00** | **0,00** | **-131,15** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn109/N60 | low max + Wnd ;315° | 0,00 | 0,00 | **-27,53** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn109/N60 | high max + Wnd ;135° | **0,00** | **0,00** | **181,30** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn107/N61 | low max + Wnd ;315° | 0,00 | 0,00 | **-34,56** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn107/N61 | high max + Wnd ;135° | **0,00** | **0,00** | **194,10** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn110/N70 | low max + Wnd ;225° | **0,00** | **0,00** | **-27,92** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn110/N70 | high max + Wnd ;45° | 0,00 | 0,00 | **181,81** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn111/N72 | low max + Wnd ;225° | **0,00** | **0,00** | **-37,23** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn111/N72 | high max + Wnd ;45° | 0,00 | 0,00 | **197,08** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn108/N81 | low max + Wnd ;45° | 0,00 | 0,00 | **-34,31** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn108/N81 | high max + Wnd ;225° | **0,00** | **0,00** | **194,33** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn106/N80 | low max + Wnd ;45° | 0,00 | 0,00 | **-27,21** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn106/N80 | high max + Wnd ;225° | **0,00** | **0,00** | **181,53** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn113/N75 | low max + Wnd ;135° | 0,00 | 0,00 | **-28,11** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn113/N75 | high max + Wnd ;315° | **0,00** | **0,00** | **182,46** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn112/N77 | low max + Wnd ;135° | 0,00 | 0,00 | **-34,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn112/N77 | high max + Wnd ;315° | **0,00** | **0,00** | **195,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N275 | high max + Wnd ;315° | **0,00** | **0,00** | **551,35** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn78/N275 | low max + Wnd ;135° | **0,00** | **0,00** | **-243,15** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn79/N276 | low max + Wnd ;225° | **0,00** | **0,00** | 171,83 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn79/N276 | low max + Wnd ;135° | 0,00 | 0,00 | **-186,81** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn79/N276 | high max + Wnd ;315° | 0,00 | 0,00 | **487,86** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn79/N276 | high max + Wnd ;135° | **0,00** | 0,00 | -146,72 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn80/N277 | high max + Wnd ;315° | **0,00** | **0,00** | **424,04** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn80/N277 | low max + | 0,00 | **0,00** | **-130,35** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;135° | | | | | | | | |
| Sn80/N277 | high max + Wnd ;45° | **0,00** | 0,00 | 151,71 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn81/N278 | high max + Wnd ;315° | **0,00** | **0,00** | **530,36** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn81/N278 | high max + Wnd ;225° | 0,00 | **0,00** | 298,32 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn81/N278 | low max + Wnd ;135° | **0,00** | 0,00 | **-210,87** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn82/N279 | high max + Wnd ;135° | **0,00** | 0,00 | -113,07 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn82/N279 | low max + Wnd ;225° | 0,00 | **0,00** | 224,29 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn82/N279 | high max + Wnd ;225° | 0,00 | **0,00** | 268,33 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn82/N279 | low max + Wnd ;135° | 0,00 | 0,00 | **-151,95** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn82/N279 | high max + Wnd ;315° | **0,00** | 0,00 | **458,36** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn83/N280 | low max + Wnd ;45° | **0,00** | **0,00** | **-241,14** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn83/N280 | high max + Wnd ;225° | 0,00 | 0,00 | **548,43** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn83/N280 | low max + Wnd ;225° | **0,00** | **0,00** | 512,11 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn84/N281 | high max + Wnd ;315° | **0,00** | **0,00** | 214,16 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn84/N281 | low max + Wnd ;45° | 0,00 | 0,00 | **-185,18** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn84/N281 | high max + Wnd ;225° | **0,00** | 0,00 | **485,42** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn85/N282 | low max + Wnd ;225° | **0,00** | 0,00 | 381,08 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn85/N282 | low max + Wnd ;45° | 0,00 | **0,00** | **-129,10** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn85/N282 | high max + Wnd ;225° | **0,00** | **0,00** | **422,03** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn86/N283 | low max + Wnd ;45° | **0,00** | **0,00** | **-209,10** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn86/N283 | high max + Wnd ;225° | 0,00 | **0,00** | **527,34** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn86/N283 | low max + Wnd ;225° | **0,00** | 0,00 | 488,99 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn87/N284 | low max + Wnd ;315° | 0,00 | **0,00** | 226,05 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn87/N284 | high max + Wnd ;225° | **0,00** | 0,00 | **455,68** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn87/N284 | low max + Wnd ;45° | **0,00** | **0,00** | **-150,49** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn88/N285 | high max + Wnd ;135° | 0,00 | **0,00** | **547,88** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn88/N285 | low max + Wnd ;315° | **0,00** | **0,00** | **-241,45** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn88/N285 | low max + Wnd ;135° | **0,00** | 0,00 | 511,71 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn89/N286 | high max + Wnd ;225° | **0,00** | **0,00** | 130,67 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn89/N286 | low max + Wnd ;315° | 0,00 | 0,00 | **-185,58** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn89/N286 | high max + Wnd ;135° | 0,00 | 0,00 | **484,85** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn89/N286 | low max + Wnd ;135° | **0,00** | 0,00 | 446,37 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn90/N287 | low max + Wnd ;225° | **0,00** | 0,00 | 108,26 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn90/N287 | low max + | 0,00 | **0,00** | **-129,59** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |

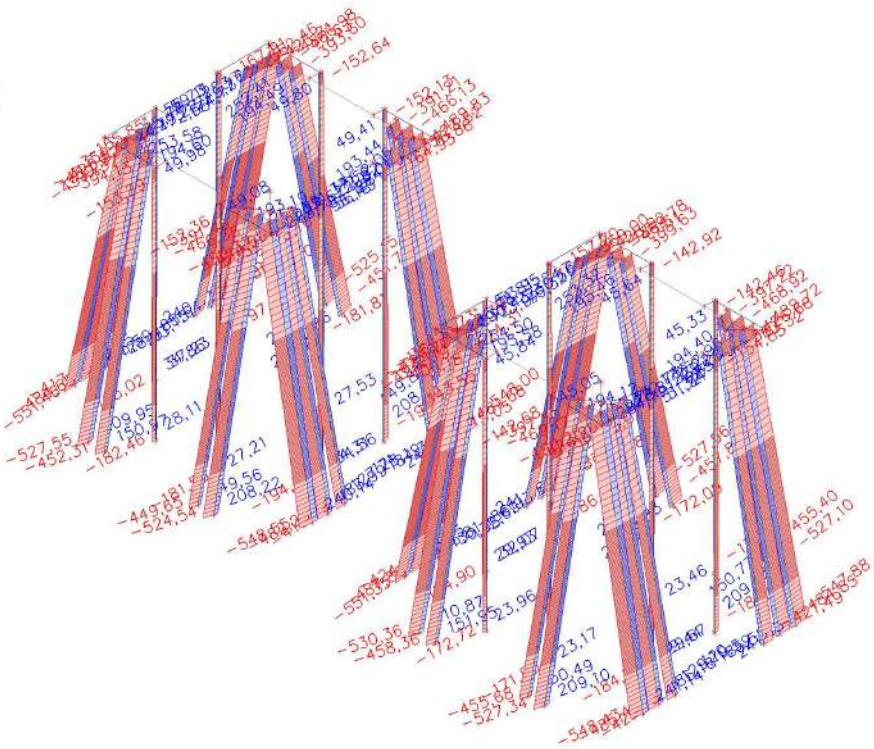
| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;315° | | | | | | | | |
| Sn90/N287 | high max + Wnd ;135° | **0,00** | **0,00** | **421,49** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn91/N288 | low max + Wnd ;135° | 0,00 | **0,00** | 488,84 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn91/N288 | low max + Wnd ;315° | **0,00** | 0,00 | **-209,33** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn91/N288 | high max + Wnd ;135° | **0,00** | **0,00** | **527,10** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn92/N289 | low max + Wnd ;225° | 0,00 | **0,00** | 51,03 | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn92/N289 | low max + Wnd ;315° | 0,00 | 0,00 | **-150,77** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn92/N289 | high max + Wnd ;135° | **0,00** | **0,00** | **455,40** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn92/N289 | high max + Wnd ;315° | **0,00** | 0,00 | -114,95 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn93/N290 | high max + Wnd ;45° | **0,00** | **0,00** | **527,96** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn93/N290 | low max + Wnd ;225° | 0,00 | 0,00 | **-209,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn93/N290 | high max + Wnd ;225° | **0,00** | **0,00** | -169,71 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn94/N291 | low max + Wnd ;225° | **0,00** | **0,00** | **-151,83** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn94/N291 | high max + Wnd ;45° | 0,00 | 0,00 | **457,80** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn94/N291 | low max + Wnd ;45° | **0,00** | **0,00** | 414,14 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn95/N292 | high max + Wnd ;45° | **0,00** | **0,00** | **546,68** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn95/N292 | low max + Wnd ;225° | 0,00 | **0,00** | **-241,06** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn95/N292 | high max + Wnd ;225° | **0,00** | 0,00 | -200,02 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn96/N293 | high max + Wnd ;135° | **0,00** | **0,00** | 214,57 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn96/N293 | low max + Wnd ;225° | 0,00 | 0,00 | **-186,93** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn96/N293 | high max + Wnd ;45° | 0,00 | 0,00 | **487,09** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn96/N293 | high max + Wnd ;225° | **0,00** | 0,00 | -146,94 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn97/N294 | low max + Wnd ;45° | **0,00** | 0,00 | 383,69 | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn97/N294 | low max + Wnd ;225° | 0,00 | **0,00** | **-132,69** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn97/N294 | high max + Wnd ;45° | 0,00 | **0,00** | **427,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn97/N294 | high max + Wnd ;315° | **0,00** | 0,00 | 150,19 | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn98/N300 | low max + Wnd ;315° | 0,00 | 0,00 | **-23,46** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn98/N300 | high max + Wnd ;135° | **0,00** | **0,00** | **171,63** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn99/N301 | low max + Wnd ;315° | 0,00 | 0,00 | **-29,67** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn99/N301 | high max + Wnd ;135° | **0,00** | **0,00** | **184,02** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn100/N306 | low max + Wnd ;225° | **0,00** | **0,00** | **-23,77** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn100/N306 | high max + Wnd ;45° | 0,00 | 0,00 | **172,09** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |
| Sn101/N308 | low max + Wnd ;225° | **0,00** | **0,00** | **-32,07** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn101/N308 | high max + | 0,00 | 0,00 | **186,87** | 0,00 | 0,00 | **0,00** | 0,0 | 0,0 |

| Name | Case | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] | $e_x$ [mm] | $e_y$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| | Wnd ;45° | | | | | | | | |
| Sn105/N317 | low max + Wnd ;45° | 0,00 | 0,00 | **-29,44** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn105/N317 | high max + Wnd ;225° | **0,00** | **0,00** | **184,24** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn104/N316 | low max + Wnd ;45° | 0,00 | 0,00 | **-23,17** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn104/N316 | high max + Wnd ;225° | **0,00** | **0,00** | **171,85** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn102/N311 | low max + Wnd ;135° | 0,00 | 0,00 | **-23,96** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn102/N311 | high max + Wnd ;315° | **0,00** | **0,00** | **172,72** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |
| Sn103/N313 | low max + Wnd ;135° | 0,00 | 0,00 | **-29,93** | 0,00 | 0,00 | 0,00 | 0,0 | 0,0 |
| Sn103/N313 | high max + Wnd ;315° | **0,00** | **0,00** | **184,90** | **0,00** | **0,00** | **0,00** | 0,0 | 0,0 |

## 7.2. Krachten van de Funderingspalen

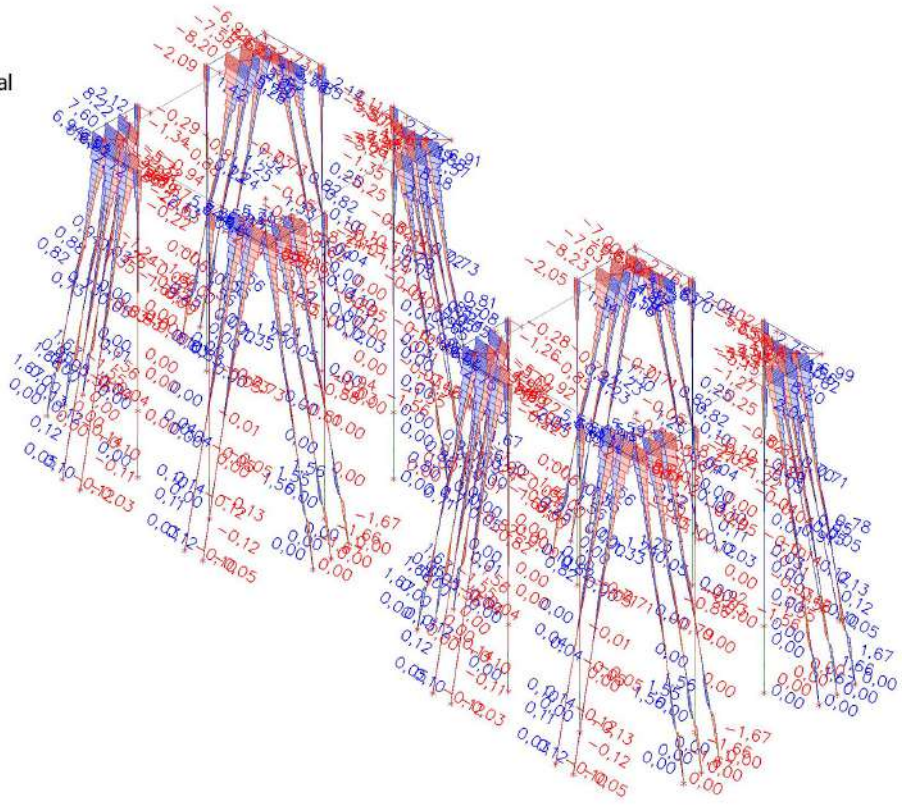
### 7.2.1. Interne 1D- krachten; N

Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



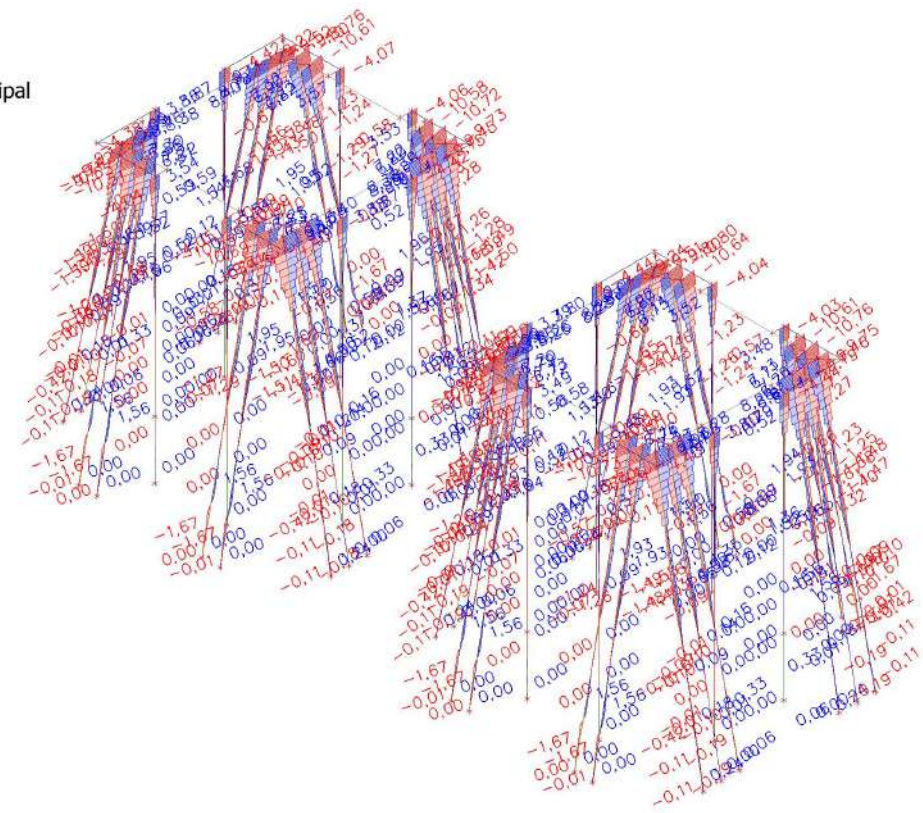
### 7.2.2. Interne 1D- krachten; V_y

Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen



### 7.2.3. Interne 1D- krachten; V_z

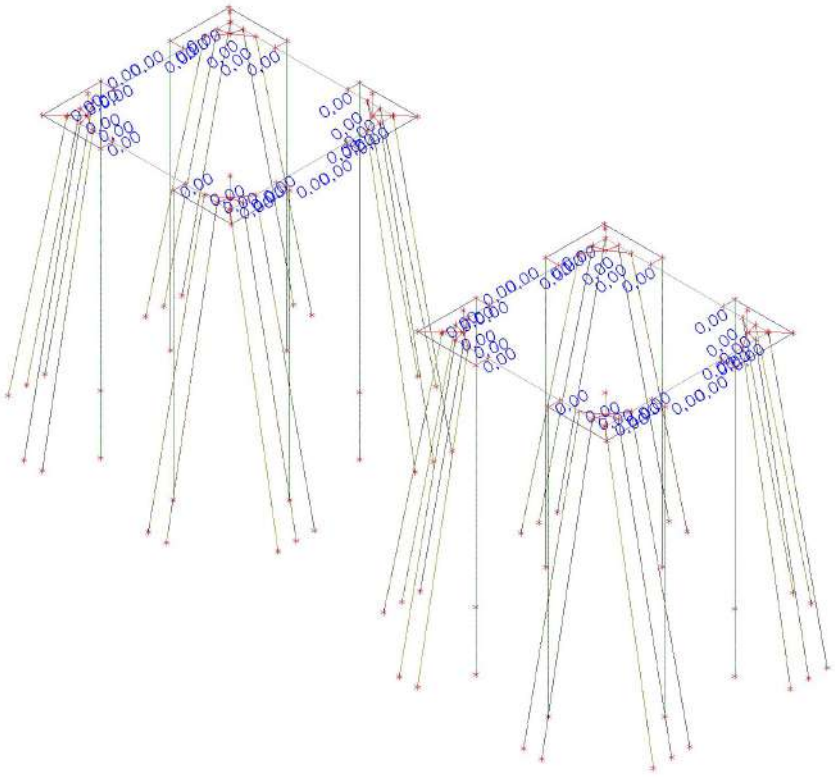
Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen






### 7.2.4. Interne 1D- krachten; M_x

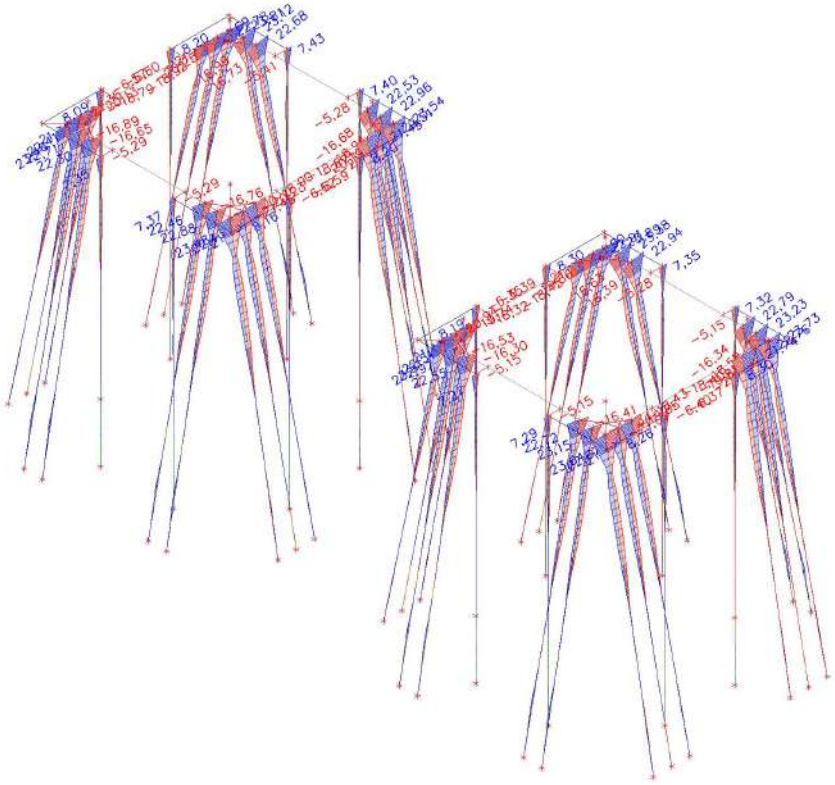
Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Palen





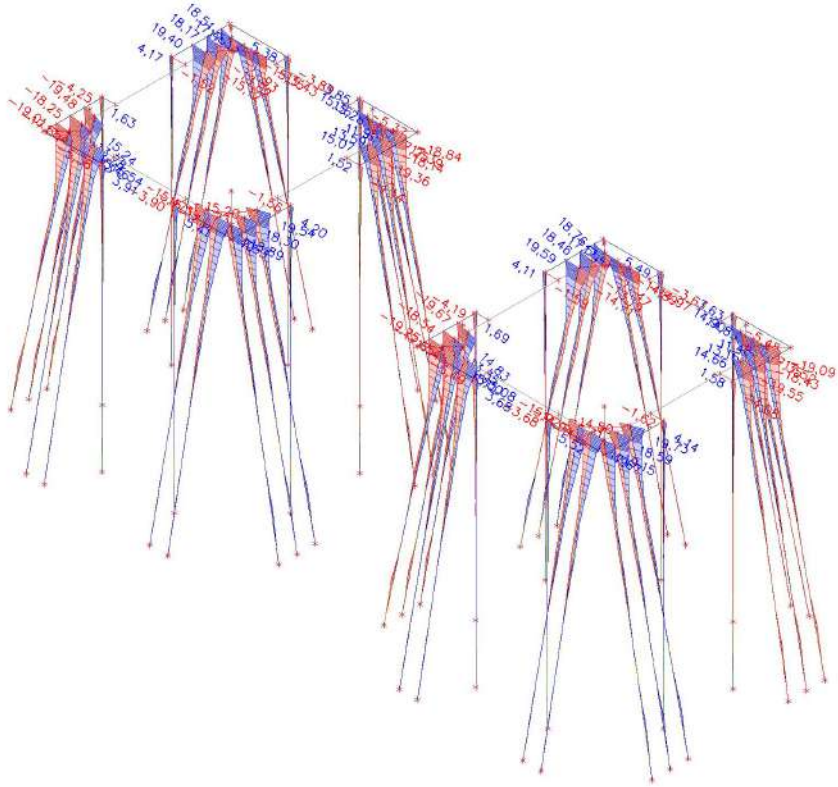
### 7.2.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Palen



### 7.2.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Funderingspaal - Rectangle (400; 400)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_3 | 21,000 | high max + Wnd ;315° | Funderingspaal - Rectangle (400; 400) | **-551,46** | 0,00 | 0,24 | 0,00 | 0,00 | 0,00 |
| Paal_P_58 | 0,000 | low max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | **286,78** | 4,69 | 5,75 | **0,00** | -6,16 | -19,25 |
| Paal_P_65 | 0,000 | high max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -90,91 | **-8,27** | 8,14 | 0,00 | -17,90 | **19,73** |
| Paal_P_73 | 0,000 | high max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -239,10 | 5,44 | **-10,80** | 0,00 | 23,38 | -14,40 |
| Paal_P_7 | 0,800- | low max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -36,32 | -6,36 | **9,11** | 0,00 | -14,15 | 11,38 |
| Paal_P_19 | 0,000 | low max + Wnd ;315° | Funderingspaal - Rectangle (400; 400) | -33,52 | -6,69 | 9,11 | 0,00 | **-21,46** | 16,56 |
| Paal_P_75 | 0,000 | high max + Wnd ;135° | Funderingspaal - Rectangle (400; 400) | -162,16 | 3,19 | -9,78 | 0,00 | **23,89** | -10,63 |
| Paal_P_60 | 0,000 | high max + Wnd ;45° | Funderingspaal - Rectangle (400; 400) | -93,54 | **8,24** | 8,15 | 0,00 | -17,90 | **-19,67** |

### 7.2.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = LEKA Paal - type e (CHS219.1/10.0)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Paal_P_25 | 20,701 | high max + Wnd ;45° | LEKA Paal - type e (CHS219.1/10.0) | **-197,08** | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Paal_P_25 | 0,000 | low max + Wnd ;225° | LEKA Paal - type e (CHS219.1/10.0) | **59,11** | 1,42 | 2,63 | **0,00** | -2,22 | -1,41 |
| Paal_P_83 | 0,000 | high max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -94,18 | **-2,77** | 3,21 | 0,00 | -4,86 | **5,52** |
| Paal_P_81 | 0,000 | high max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -113,69 | 0,92 | **-4,44** | 0,00 | **8,30** | -1,23 |
| Paal_P_26 | 0,000 | low max + Wnd ;135° | LEKA Paal - type e (CHS219.1/10.0) | -32,42 | -2,06 | **3,88** | 0,00 | **-6,62** | 4,01 |
| Paal_P_84 | 0,000 | high max + Wnd ;45° | LEKA Paal - type e (CHS219.1/10.0) | -95,10 | **2,75** | 3,20 | 0,00 | -4,84 | **-5,49** |

## 7.3. Krachten van de Poeren

### 7.3.1. 1D internal forces

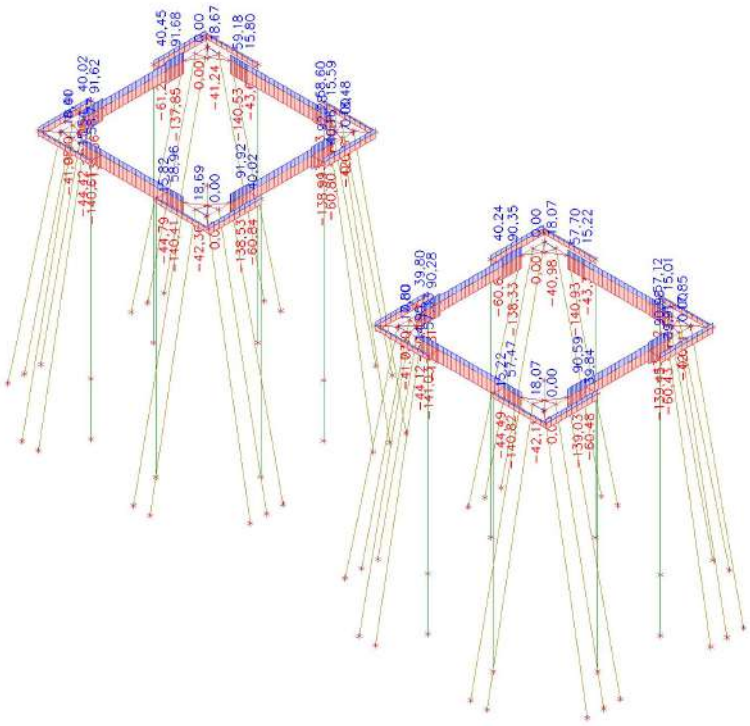
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Layer = Poeren

| Name | dx [m] | Case | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|
| Poer 8 | 1,475 | low max + Wnd ;225° | **1582,95** | 338,27 | 31,64 | -0,38 | 0,00 | 19,00 |
| Poer 7 | 0,000 | high max + Wnd ;315° | **-1904,26** | **-424,62** | 20,39 | -2,20 | -30,07 | **422,49** |
| Poer 8 | 0,000 | low max + Wnd ;135° | -519,02 | -104,50 | **-69,38** | **7,49** | **102,25** | 99,36 |
| Poer 8 | 1,475 | high max + Wnd ;315° | 118,59 | 12,64 | **69,08** | -0,83 | 0,00 | 1,42 |
| Poer 8 | 0,000 | high max + Wnd ;315° | 93,80 | 12,79 | 68,92 | **-7,45** | **-101,78** | -7,05 |
| Poer 6 | 0,000 | high max + Wnd ;135° | -1887,10 | **421,80** | -21,19 | -2,29 | 31,26 | **-419,92** |

## 7.4. Krachten van de Funderingsbalken

### 7.4.1. Interne 1D- krachten; N

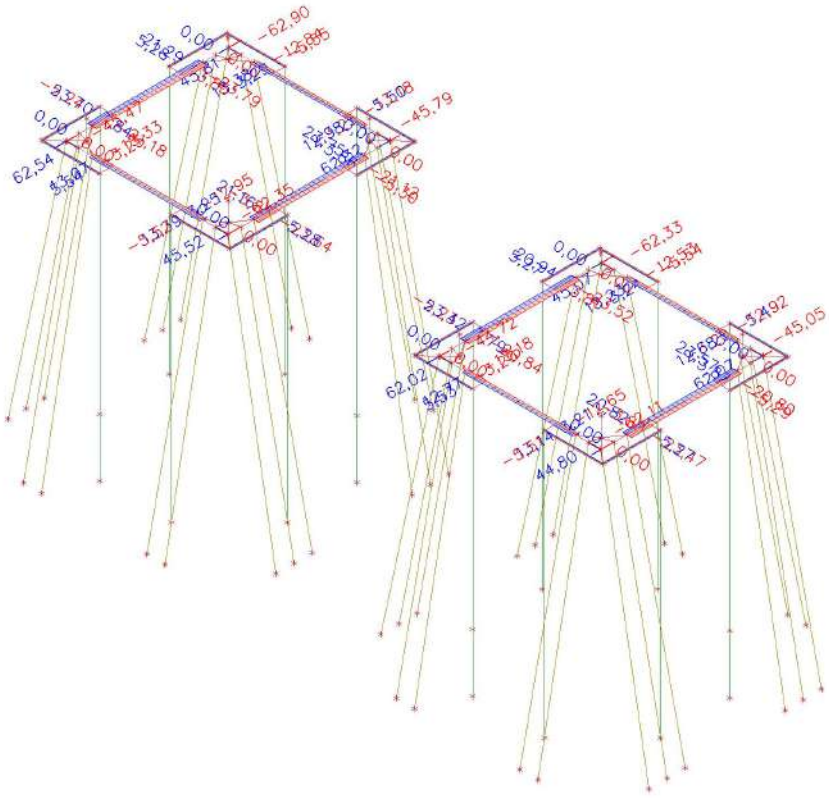
Values: **N**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken






### 7.4.2. Interne 1D- krachten; V_y

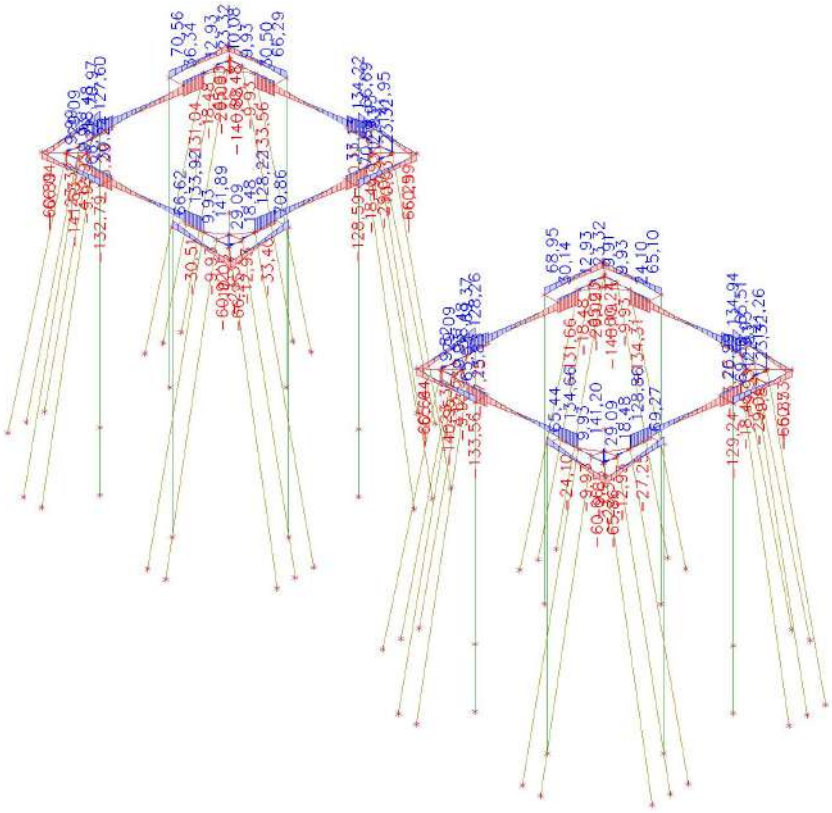
Values: **$V_y$**
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken





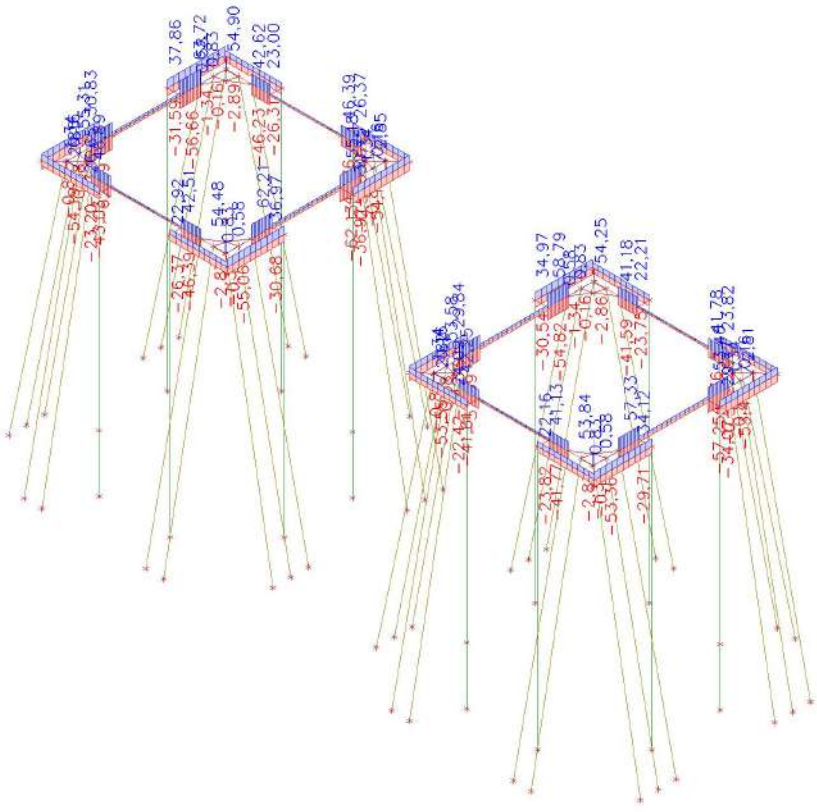
### 7.4.3. Interne 1D- krachten; V_z

Values: $V_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



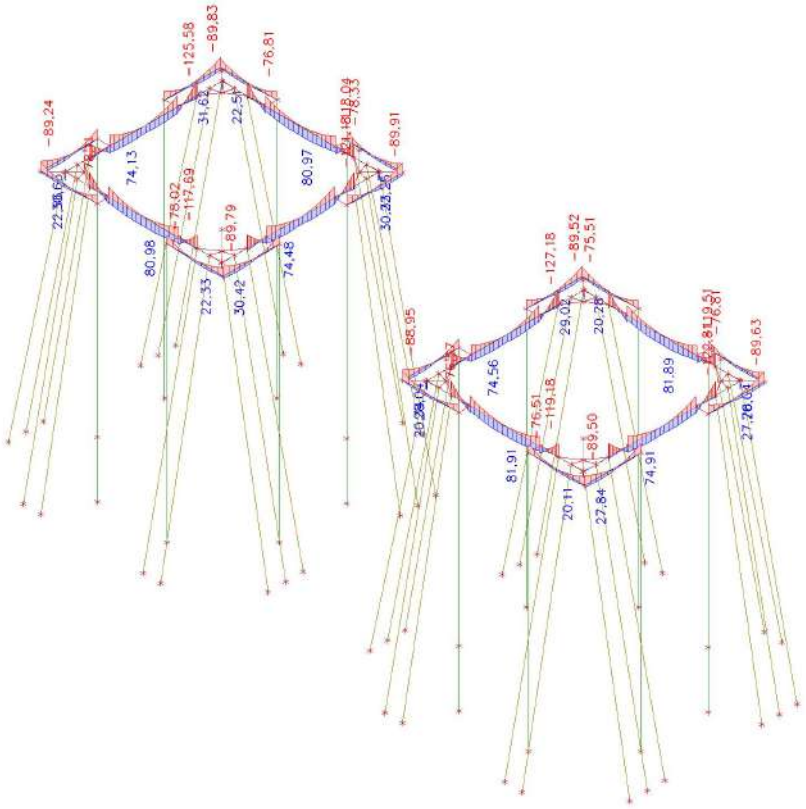
### 7.4.4. Interne 1D- krachten; M_x

Values: $M_x$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Local
Selection: All
Filter: Layer = Balken



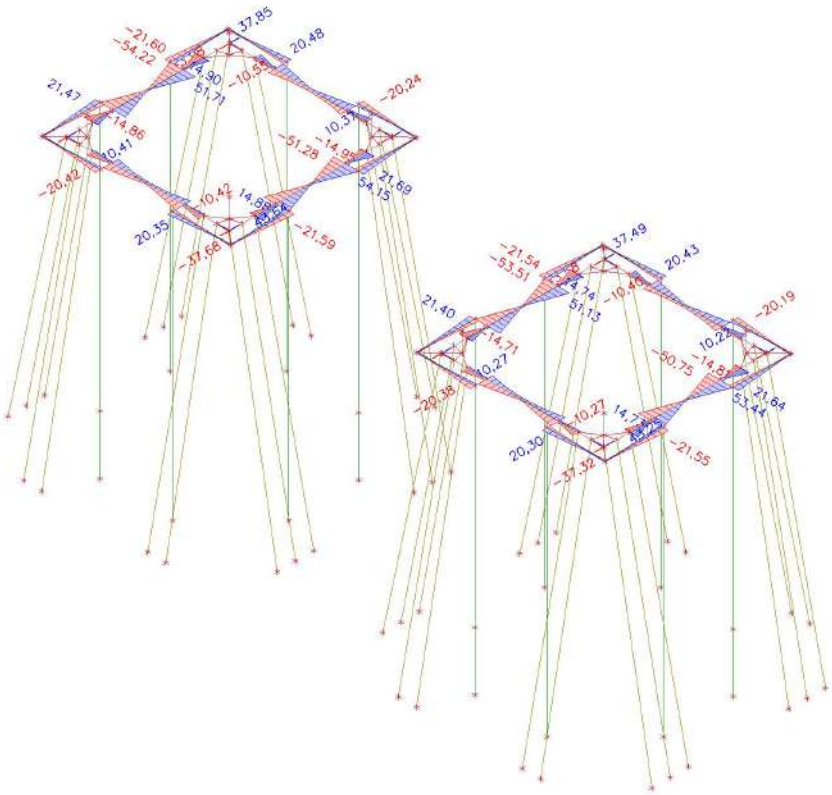
### 7.4.5. Interne 1D- krachten; M_y

Values: $M_y$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.6. Interne 1D- krachten; M_z

Values: $M_z$
Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Member
Selection: All
Filter: Layer = Balken



### 7.4.7. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Balk - Rectangle (750; 900)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| Balk 15 | 9,100+ | high max + Wnd ;45° | Balk - Rectangle (750; 900) | **-141,03** | -13,18 | -25,18 | 30,08 | 27,05 | -3,93 |
| Balk 5 | 9,000+ | low max + Wnd ;225° | Balk - Rectangle (750; 900) | **92,28** | -13,91 | -30,47 | 10,81 | 14,96 | 0,57 |
| Balk 4 | 12,550+ | low max + Wnd ;225° | Balk - Rectangle (750; 900) | -41,10 | **-62,90** | -116,78 | 30,91 | 65,36 | 24,42 |
| Balk 7 | 12,550+ | low max + Wnd ;135° | Balk - Rectangle (750; 900) | -41,87 | **62,54** | -117,58 | -32,35 | 65,06 | -23,57 |
| Balk 7 | 12,600 | high max + Wnd ;135° | Balk - Rectangle (750; 900) | -41,98 | 62,20 | **-141,63** | -41,25 | 68,76 | -20,00 |
| Balk 4 | 0,000 | high max + Wnd ;315° | Balk - Rectangle (750; 900) | -42,26 | 62,29 | **141,95** | -41,31 | 68,93 | 19,87 |
| Balk 6 | 2,050+ | high max + Wnd ;315° | Balk - Rectangle (750; 900) | 32,35 | 14,34 | 3,22 | **-62,59** | 10,00 | -14,61 |
| Balk 6 | 9,000+ | high max + Wnd ;45° | Balk - Rectangle (750; 900) | 31,86 | -14,55 | 30,65 | **63,72** | -8,76 | 7,66 |
| Balk 14 | 10,600- | high max + Wnd ;225° | Balk - Rectangle (750; 900) | -45,87 | 20,57 | -131,66 | -48,73 | **-127,18** | 22,54 |
| Balk 15 | 5,740- | high max + Wnd ;45° | Balk - Rectangle (750; 900) | -130,13 | -10,86 | 0,91 | 5,63 | **81,91** | 2,39 |
| Balk 6 | 9,000- | low max + Wnd ;135° | Balk - Rectangle (750; 900) | -101,12 | -19,55 | -60,09 | 10,72 | -49,60 | **-54,22** |
| Balk 5 | 9,000- | low max + Wnd ;45° | Balk - Rectangle (750; 900) | -99,99 | 19,52 | -60,19 | -10,81 | -50,40 | **54,15** |

### 7.4.8. 1D internal forces

Nonlinear calculation
Class: All non-linear
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = Ringbalk - Rectangle (750; 1000)

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| S229 | 0,000 | low max + Wnd ;225° | Ringbalk - Rectangle (750; 1000) | **-61,28** | -0,32 | 18,92 | -31,59 | -3,28 | 4,18 |
| S229 | 0,000 | low max + Wnd ;45° | Ringbalk - Rectangle (750; 1000) | **40,45** | 0,27 | 56,61 | 35,08 | -66,98 | -2,57 |
| S228 | 0,000 | high max + Wnd ;315° | Ringbalk - Rectangle (750; 1000) | 14,36 | **-5,55** | 55,54 | -18,71 | -50,93 | 20,48 |
| S232 | 0,000 | high max + Wnd ;45° | Ringbalk - Rectangle (750; 1000) | 14,10 | **5,54** | 55,49 | 18,82 | -50,59 | -20,42 |
| S231 | 4,500 | high max + Wnd ;45° | Ringbalk - Rectangle (750; 1000) | -60,76 | -0,20 | **-66,25** | -26,26 | -89,79 | 2,80 |
| S233 | 0,000 | high max + Wnd ;315° | Ringbalk - Rectangle (750; 1000) | 39,65 | -0,30 | **70,97** | **-37,19** | -83,43 | 2,70 |
| S223 | 4,500 | high max + Wnd ;315° | Ringbalk - Rectangle (750; 1000) | -60,70 | 0,20 | -66,25 | 26,35 | **-89,91** | -2,79 |
| S229 | 3,150 | high max + | Ringbalk - | 40,11 | 0,35 | 1,03 | **37,86** | **31,62** | -1,77 |

| Name | dx [m] | Case | Cross-section | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| | | Wnd ;45° | Rectangle (750; 1000) | | | | | | |
| S229 | 0,000 | low max + Wnd ;135° | Ringbalk - Rectangle (750; 1000) | 40,09 | 5,28 | 48,83 | 23,64 | -54,90 | **-21,60** |
| S223 | 0,000 | high max + Wnd ;45° | Ringbalk - Rectangle (750; 1000) | 39,33 | -5,30 | 63,17 | -25,98 | -70,89 | **21,69** |

**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Leka 219 | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 0,87 | OK | 1683 | kN |
| Max UC lassen | 0,74 | OK | 1990 | kN |
| Max UC staalciteria | 1,00 | OK | 1470 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *1469* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *1469* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

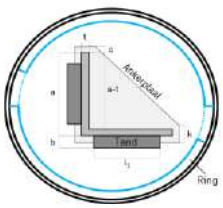
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | $N/mm^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=min[\sqrt{(A_{c2}/A_{f1})};2,5]$ | 1,76 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 52,81 | $N/mm^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 35,21 | $N/mm^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | $N/mm^2$ |
| Staalsoort 2: randstijl | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | $N/mm^2$ |
| Staalsoort 3: deuvels | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | $N/mm^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_r$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

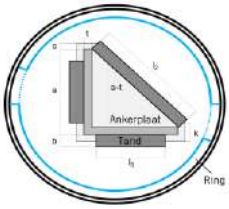
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | Buispaal | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 219,1 | mm |
| Wanddikte paal | $t_p$ | | 10,0 | mm |
| Roestreductie paalwand | $t_{p,red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 100,00% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 3 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 50 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | 199,1 | mm |
| Inwendige omtrek paal o.b.v. paaldiameter | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 625 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 625 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi rb_1;L_bb_1]$ | 15937 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 200 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{f1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | $mm^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{f1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | $mm^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 4 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_r$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | $mm^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{lp}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | $mm^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | $mm^2$ |

**Notities**

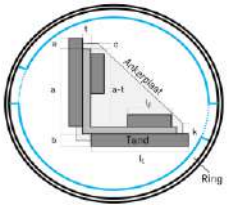
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



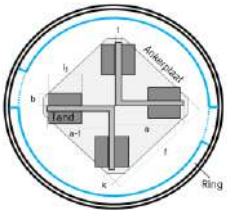

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



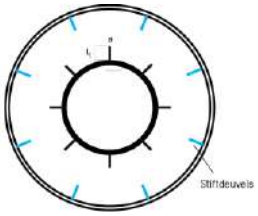

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat



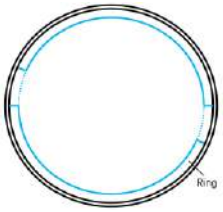

**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat

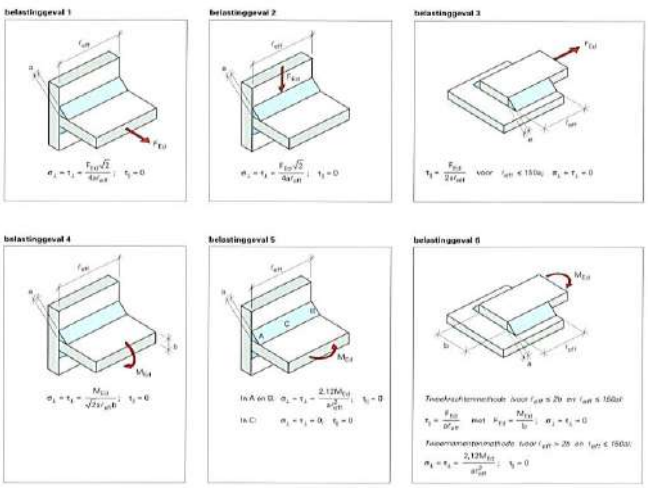



**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



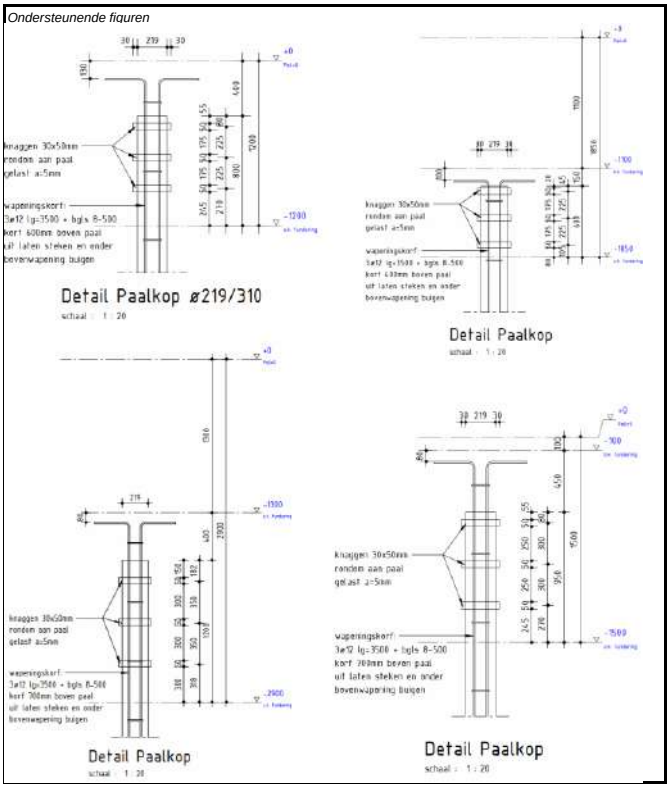
| **Toetsing capaciteit randstijldeuvels** | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{t1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{t1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 1683,3 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 30,7 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 0,87 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{vw1,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning buitendeuvels | $\sigma_{vw2,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning binnendeuvels | $\sigma_{vw3,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning paaldeuvels | $\sigma_{vw4,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | 221 | N/mm$^2$ |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,74 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 6255 | mm$^2$ |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 234,9 | N/mm$^2$ |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 1,00 | OK |

| **Lasspanningen NEN-EN 1993-1-8 p. 4.5.3** | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,7 | N/mm$^2$ |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,7 | N/mm$^2$ |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 69,2 | N/mm$^2$ |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 69,2 | N/mm$^2$ |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,5 | N/mm$^2$ |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,5 | N/mm$^2$ |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |




| **Achterliggende logica** | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 3200 | mm$^2$ |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*L_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 40 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2,out}$ | $=L_{out}+2s_2/5$ | 80 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 3200 | mm$^2$ |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2,in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm$^2$ |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,b}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2,p}$ | $=L_b+2s_1/5$ | 705 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 49384 | mm$^2$ |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm$^2$ |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm$^2$ |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm$^2$ |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{fp}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm$^3$ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_ph_1^2$ | 260621 | mm$^3$ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c,Ed,c}a_{fp}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,out,c}\sigma_{c,Ed,c}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,in,c}\sigma_{c,Ed,c}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,t}$ | $=A_t\sigma_{c,Ed,max}(b_1/2)/W_4$ | 28 | N/mm$^2$ |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c,Ed,t}a_f/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,out,c}\sigma_{c,Ed,t}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,in,c}\sigma_{c,Ed,t}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | $\alpha$ | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm$^2$ |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm$^2$ |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{ck}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,b}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

*Ondersteunende figuren*



**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | O | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Leka 273 | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 0,87 | OK | 2153 | kN |
| Max UC lassen | 0,74 | OK | 2529 | kN |
| Max UC staalciteria | 1,00 | OK | 1868 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *1867* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *1867* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

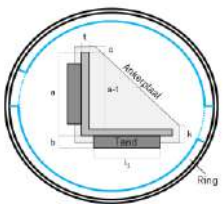
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | $N/mm^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=min[\sqrt{(A_{c2}/A_{f1})};2,5]$ | 1,71 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 51,21 | $N/mm^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 34,14 | $N/mm^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | $N/mm^2$ |
| Staalsoort 2: randstijl | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | $N/mm^2$ |
| Staalsoort 3: deuvels | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | $N/mm^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_r$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

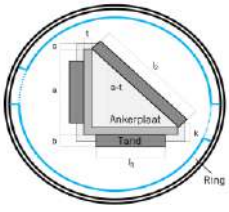
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | Buispaal | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 273,0 | mm |
| Wanddikte paal | $t_p$ | | 10,0 | mm |
| Roestreductie paalwand | $t_{p,red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 100,00% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 3 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 50 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | 253,0 | mm |
| Inwendige omtrek paal o.b.v. paaldiameter | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 795 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 795 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi rb_1;L_bb_1]$ | 21017 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 200 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{f1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | $mm^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{f1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | $mm^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 4 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_r$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | $mm^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{ip}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | $mm^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | $mm^2$ |

**Notities**

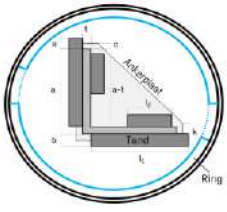
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



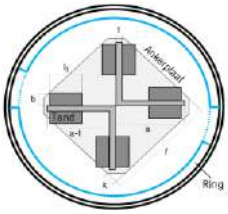

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



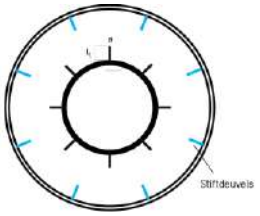

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat



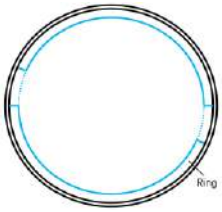

**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat

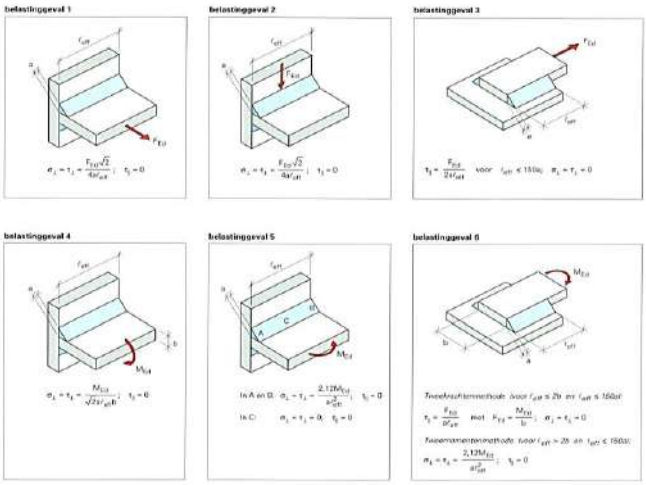



**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



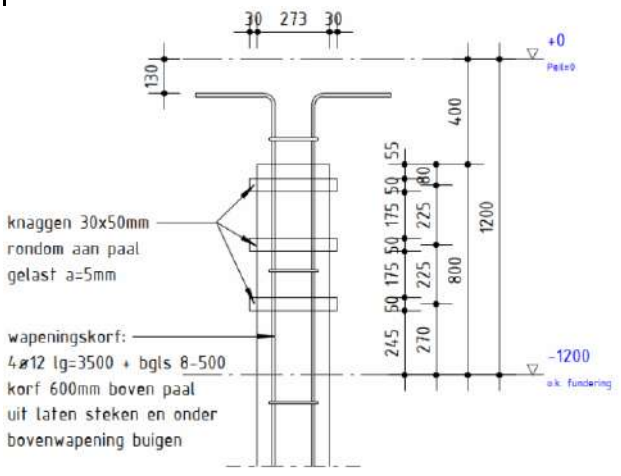
| **Toetsing capaciteit randstijldeuvels** | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{t1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{t1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 2152,5 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 29,6 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 0,87 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{vw1,Ed}$ | $=v(\sigma_z^2+3(\tau_T^2+\tau_{//}^2))$ | n.v.t. | N/mm$^2$ |
| Lasspanning buitendeuvels | $\sigma_{vw2,Ed}$ | $=v(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))$ | n.v.t. | N/mm$^2$ |
| Lasspanning binnendeuvels | $\sigma_{vw3,Ed}$ | $=v(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))$ | n.v.t. | N/mm$^2$ |
| Lasspanning paaldeuvels | $\sigma_{vw4,Ed}$ | $=v(\sigma_z^2+3(\tau_T^2+\tau_{//}^2))$ | 221 | N/mm$^2$ |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,74 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 7948 | mm$^2$ |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 234,9 | N/mm$^2$ |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 1,00 | OK |

| **Lasspanningen NEN-EN 1993-1-8 p. 4.5.3** | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,7 | N/mm$^2$ |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,7 | N/mm$^2$ |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 69,2 | N/mm$^2$ |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 69,2 | N/mm$^2$ |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,5 | N/mm$^2$ |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,5 | N/mm$^2$ |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |




| **Achterliggende logica** | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 3200 | mm$^2$ |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*L_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 40 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2\text{-}out}$ | $=L_{out}+2s_2/5$ | 80 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 3200 | mm$^2$ |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2\text{-}in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm$^2$ |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,b}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2\text{-}p}$ | $=L_b+2s_1/5$ | 875 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 61238 | mm$^2$ |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm$^2$ |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm$^2$ |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm$^2$ |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{ip}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm$^3$ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_ih_1^2$ | 331176 | mm$^3$ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c\text{-}Ed,c}a_{ip}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,t}$ | $=A_i\sigma_{c\text{-}Ed,max}(b_1/2)/W_4$ | 28 | N/mm$^2$ |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c\text{-}Ed,t}a_{ip}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | $\alpha$ | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm$^2$ |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm$^2$ |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{ck}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,b}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

*Ondersteunende figuren*



**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | O | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Leka 324 | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 0,86 | OK | 2594 | kN |
| Max UC lassen | 0,74 | OK | 3038 | kN |
| Max UC staalciteria | 1,00 | OK | 2244 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *2234* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *2234* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

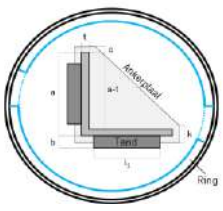
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | $N/mm^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=min[\sqrt{(A_{c2}/A_{f1})};2,5]$ | 1,68 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 50,25 | $N/mm^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 33,50 | $N/mm^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | $N/mm^2$ |
| Staalsoort 2: randstijl | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | $N/mm^2$ |
| Staalsoort 3: deuvels | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | $N/mm^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_r$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

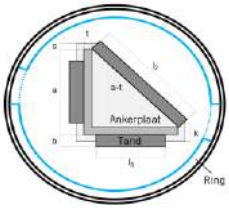
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | Buispaal | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 323,9 | mm |
| Wanddikte paal | $t_p$ | | 10,0 | mm |
| Roestreductie paalwand | $t_{p,red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 100,00% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 3 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 50 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | 303,9 | mm |
| Inwendige omtrek paal o.b.v. paaldiameter | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 955 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 955 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi rb_1;L_bb_1]$ | 25814 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 200 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{f1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | $mm^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{f1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | $mm^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 4 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_r$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | $mm^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{lp}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | $mm^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | $mm^2$ |

**Notities**

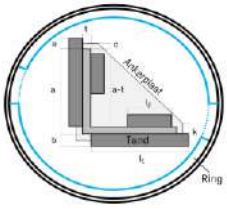
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



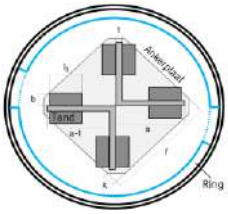

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



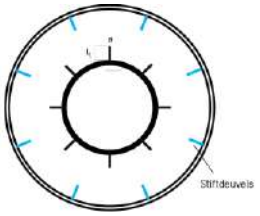

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat



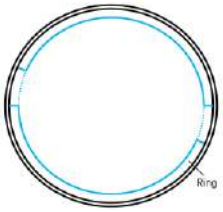

**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat

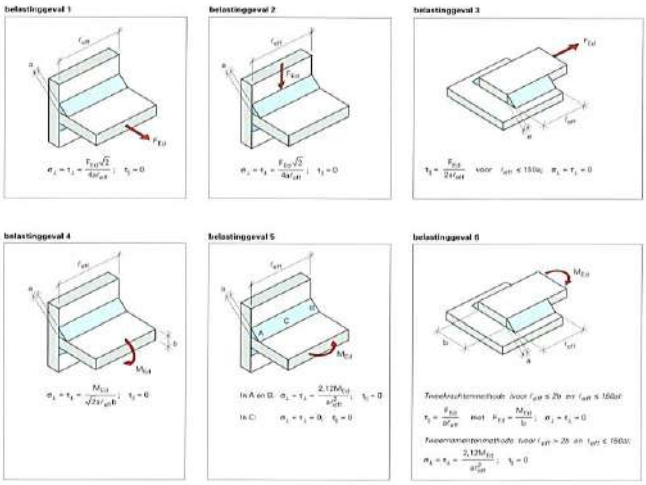



**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



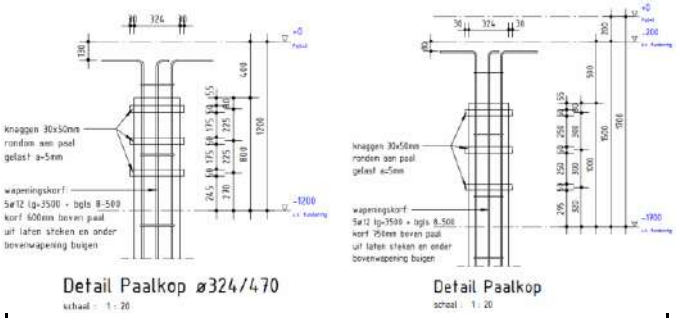
| **Toetsing capaciteit randstijldeuvels** | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{t1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{t1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 2594,5 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 28,8 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 0,86 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{vw1,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_\perp^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning buitendeuvels | $\sigma_{vw2,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning binnendeuvels | $\sigma_{vw3,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning paaldeuvels | $\sigma_{vw4,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | 221 | N/mm$^2$ |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,74 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 9547 | mm$^2$ |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 234,0 | N/mm$^2$ |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 1,00 | OK |

| **Lasspanningen NEN-EN 1993-1-8 p. 4.5.3** | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,3 | N/mm$^2$ |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 110,3 | N/mm$^2$ |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,9 | N/mm$^2$ |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,9 | N/mm$^2$ |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,4 | N/mm$^2$ |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,4 | N/mm$^2$ |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |




| **Achterliggende logica** | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 3200 | mm$^2$ |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*L_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 40 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2\text{-}out}$ | $=L_{out}+2s_2/5$ | 80 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 3200 | mm$^2$ |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2\text{-}in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm$^2$ |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,b}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2\text{-}p}$ | $=L_b+2s_1/5$ | 1035 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 72431 | mm$^2$ |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm$^2$ |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm$^2$ |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm$^2$ |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{fp}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\sum A*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\sum A*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm$^3$ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_1h_1^2$ | 397804 | mm$^3$ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c\text{-}Ed,c}a_{fp}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,t}$ | $=A_4\sigma_{c\text{-}Ed,max}(b_1/2)/W_4$ | 28 | N/mm$^2$ |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c\text{-}Ed,t}a_f/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | $\alpha$ | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm$^2$ |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm$^2$ |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{cd}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,b}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

*Ondersteunende figuren*



**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Buitenzijde LD1 (maximaal) | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 0,85 | OK | 3201 | kN |
| Max UC lassen | 0,78 | OK | 3499 | kN |
| Max UC staalciteria | 1,00 | OK | 2726 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *2720* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *2720* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

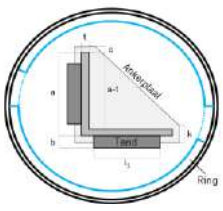
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | $N/mm^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=min[\sqrt{(A_{c2}/A_{f1})};2,5]$ | 1,62 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 48,52 | $N/mm^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 32,35 | $N/mm^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | $N/mm^2$ |
| Staalsoort 2: randstijl | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | $N/mm^2$ |
| Staalsoort 3: deuvels | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | $N/mm^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,3}/(w_r\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_r$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

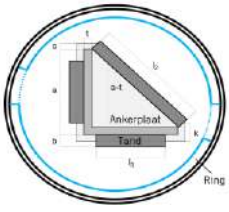
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | LD1 | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 0,0 | mm |
| Wanddikte paal | $t_p$ | | 8,0 | mm |
| Roestreductie paalwand | $t_{p,red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 45,50% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 5 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 30 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | n.v.t. | mm |
| Inwendige omtrek paal o.b.v. tabellen | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 1450 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 660 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi rb_1;L_bb_1]$ | 19793 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 332 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{f1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | $mm^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{f1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | $mm^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 5 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_r$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | $mm^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{lp}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | $mm^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | $mm^2$ |

**Notities**

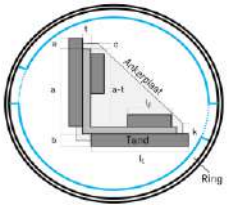
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



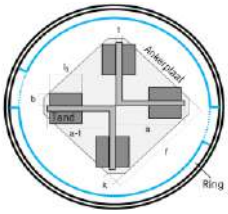

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



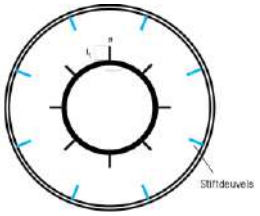

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat



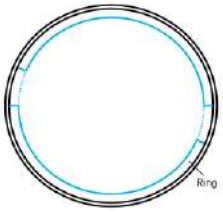

**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat



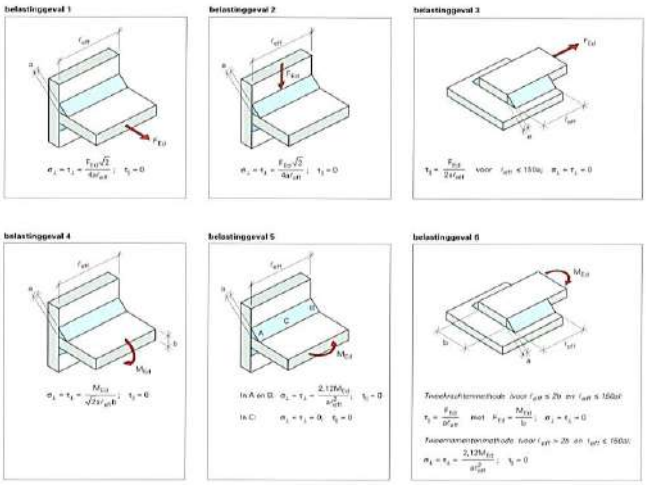

**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



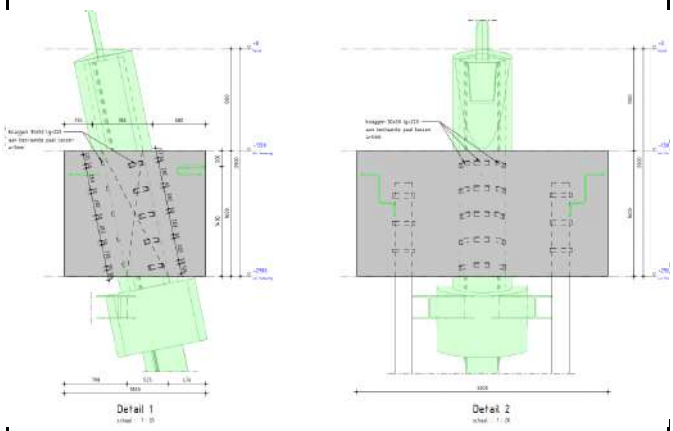
| Toetsing capaciteit randstijldeuvels | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{t1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{t1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{t,o/i})$ | 0,00 | N/mm² |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{t,o/i})$ | 0,00 | N/mm² |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm² |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm² |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 3201,4 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 27,5 | N/mm² |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm² |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 0,85 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{vw1,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm² |
| Lasspanning buitendeuvels | $\sigma_{vw2,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm² |
| Lasspanning binnendeuvels | $\sigma_{vw3,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm² |
| Lasspanning paaldeuvels | $\sigma_{vw4,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | 233 | N/mm² |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,78 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 11600 | mm² |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 234,5 | N/mm² |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 1,00 | OK |

| Achterliggende logica | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 8818 | mm² |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*t_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 66,4 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2,out}$ | $=L_{out}+2s_2/5$ | 132,8 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 8817,92 | mm² |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2,in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm² |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,b}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2,p}$ | $=L_b+2s_1/5$ | 740 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 51783 | mm² |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm² |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm² |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm² |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{tp}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\sum A_i*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm³ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm³ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm³ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_ph_1^2$ | 98963 | mm³ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c\text{-}Ed,c}a_{tp}/W_1$ | 0 | N/mm² |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_2$ | 0 | N/mm² |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,c}(b_2/2)/W_3$ | 0 | N/mm² |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,t}$ | $=A_t\sigma_{c\text{-}Ed,max}(b_1/2)/W_4$ | 82 | N/mm² |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c\text{-}Ed,t}a_t/W_1$ | 0 | N/mm² |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,out,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_2$ | 0 | N/mm² |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{t1,in,c}\sigma_{c\text{-}Ed,t}(b_2/2)/W_3$ | 0 | N/mm² |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | α | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm² |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm² |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{cd}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,b}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

| Lasspanningen NEN-EN 1993-1-8 p. 4.5.3 | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 116,6 | N/mm² |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 116,6 | N/mm² |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 58,3 | N/mm² |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 58,3 | N/mm² |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 58,3 | N/mm² |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 58,3 | N/mm² |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm² |




*Ondersteunende figuren*



**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Buitenzijde LD1 (minimaal) | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 1,00 | OK | 1921 | kN |
| Max UC lassen | 0,73 | OK | 2624 | kN |
| Max UC staalcriteria | 0,70 | OK | 2726 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *1920* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *1920* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

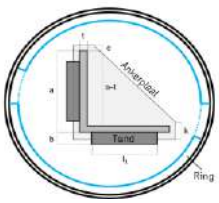
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | N/mm$^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=\min[\sqrt{(A_{t2}/A_{t1})};2,5]$ | 1,62 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 48,52 | N/mm$^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 32,35 | N/mm$^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | N/mm$^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | N/mm$^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | N/mm$^2$ |
| Staalsoort 2: randstijl | - | | S235 | N/mm$^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | N/mm$^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | N/mm$^2$ |
| Staalsoort 3: deuvels | - | | S235 | N/mm$^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | N/mm$^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | N/mm$^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,2}/(w_f\beta_w\gamma_s)$ | 300 | N/mm$^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,2}/(w_f\beta_w\gamma_s)$ | 300 | N/mm$^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_f$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

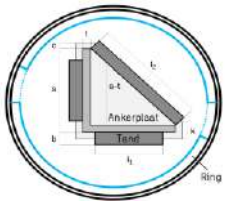
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | LD1 | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 0,0 | mm |
| Wanddikte paal | $t_p$ | | 8,0 | mm |
| Roestreductie paalwand | $t_{p,red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 45,50% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 3 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 50 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | n.v.t. | mm |
| Inwendige omtrek paal o.b.v. tabellen | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 1450 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 660 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi b_1;L_bb_1]$ | 19793 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 450 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{t1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | mm$^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{t1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | mm$^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 5 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_f$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | mm$^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{fp}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | mm$^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | mm$^2$ |

**Notities**

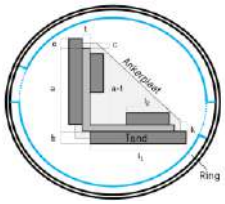
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



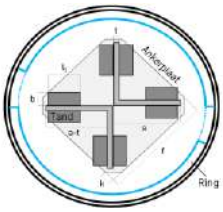

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



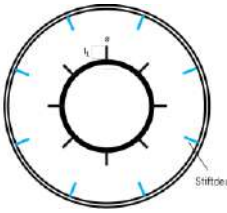

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat




**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat



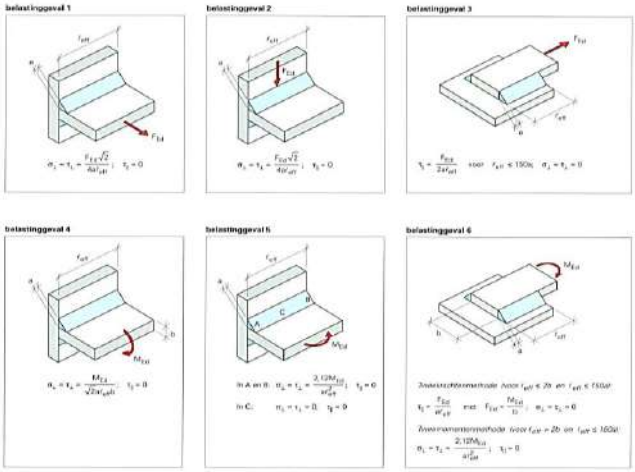

**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



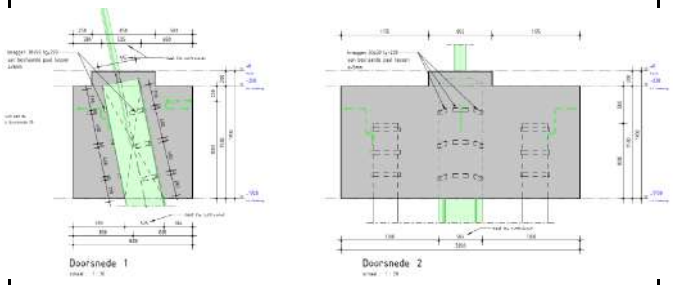
| **Toetsing capaciteit randstijldeuvels** | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{i1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{i1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{i,c,o/i})$ | 0,00 | N/mm$^2$ |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{i,t,o/i})$ | 0,00 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 1920,8 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 32,3 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 1,00 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{vw1,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning buitendeuvels | $\sigma_{vw2,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning binnendeuvels | $\sigma_{vw3,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning paaldeuvels | $\sigma_{vw4,Ed}$ | $=\sqrt{(\sigma_T^2+3(\tau_T^2+\tau_{//}^2))}$ | 220 | N/mm$^2$ |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,73 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 11600 | mm$^2$ |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 165,5 | N/mm$^2$ |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 0,70 | OK |

| **Achterliggende logica** | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 16200 | mm$^2$ |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*L_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 90 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2+out}$ | $=L_{out}+2s_2/5$ | 180 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 16200 | mm$^2$ |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2+in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm$^2$ |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,1}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2+p}$ | $=L_1+2s_1/5$ | 740 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 51783 | mm$^2$ |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm$^2$ |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm$^2$ |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm$^2$ |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{fp}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\Sigma A_i*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\Sigma A_i*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm$^3$ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_1h_1^2$ | 274896 | mm$^3$ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c:Ed,c}a_{fp}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{i1,out,c}\sigma_{c:Ed,c}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{i1,in,c}\sigma_{c:Ed,c}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,i}$ | $=A_i\sigma_{c:Ed,max}(b_1/2)/W_4$ | 35 | N/mm$^2$ |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c:Ed,t}a_i/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{i1,out,c}\sigma_{c:Ed,t}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{i1,in,c}\sigma_{c:Ed,t}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | $\alpha$ | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm$^2$ |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm$^2$ |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{ck}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,p}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

| **Lasspanningen NEN-EN 1993-1-8 p. 4.5.3** | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 109,8 | N/mm$^2$ |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 109,8 | N/mm$^2$ |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,6 | N/mm$^2$ |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,6 | N/mm$^2$ |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,2 | N/mm$^2$ |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,2 | N/mm$^2$ |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |




*Ondersteunende figuren*



**Toetsing inleiding krachten in fundering**

| | | | |
|---|---|---|---|
| **Projectnaam** | Opwaardering KIJ-BVW 380kV | **Rekensheet versie** | 3.1 |
| **Lijn** | KIJ-DIM Ronde Venen | **Datum** | 1-2-2026 |
| **Subtype deuvels aan randstijl** | | **Auteur** | [redacted] |
| **Subtype deuvels aan paal** | Buitenzijde LD1 (minimaal t.b.v. ballastversterkingen) | **Eerste interne controle** | Mauny Bahri (RO) |
| **Mastnummer(s)** | versterkingen | **Tweede interne controle** | [redacted] |

| **Samenvatting** | UC | Check | $F_{Rd}$ | |
|---|---|---|---|---|
| Maatgevende unity check | **1,00** | OK | | |
| Max UC randstijldeuvels beton | n.v.t. | OK | D:0 T:0 | kN |
| Max UC paaldeuvels beton | 1,00 | OK | 1921 | kN |
| Max UC lassen | 0,73 | OK | 2624 | kN |
| Max UC staalciteria | 0,70 | OK | 2726 | kN |
| Trekkracht uit randstijl | $F_{Ed,t}$ | | *1920* | kN |
| Drukkracht uit randstijl | $F_{Ed,c}$ | | *1920* | kN |
| Spanningsbegrenzing | | $=0,7f_{cd}$ | Nee | |
| Toetsing incl. buiging | | | Nee | |
| Toetsing incl. las reductie | | $=f_w/1,2$ | Ja | |

Zie voor de maximaal optredende paalkrachten het constructief rapport

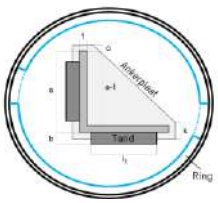
| **Materialen** | | | | |
|---|---|---|---|---|
| Betonkwaliteit | - | | C30/37 | |
| Beton omsloten | - | | Ja | |
| Karakteristieke druksterkte | $f_{ck}$ | | 30 | $N/mm^2$ |
| Verhogingsfactor druksterkte | $C_a$ | $=min[\sqrt{(A_{t2}/A_{t1})};2,5]$ | 1,62 | - |
| Verhoogde druksterkte | $f_{jk}$ | $=f_{ck}C_a$ | 48,52 | $N/mm^2$ |
| Betondruksterkte | $f_{cd}$ | $=f_{jk}/\gamma_c$ | 32,35 | $N/mm^2$ |
| Staalsoort 1: funderingspaal | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 1 | $f_{u,1}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 1 | $f_{y,1}$ | | 235 | $N/mm^2$ |
| Staalsoort 2: randstijl | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 2 | $f_{u,2}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 2 | $f_{y,2}$ | | 235 | $N/mm^2$ |
| Staalsoort 3: deuvels | - | | S235 | $N/mm^2$ |
| Treksterkte staalsoort 3 | $f_{u,3}$ | | 360 | $N/mm^2$ |
| Vloeispanning staalsoort 3 | $f_{y,3}$ | | 235 | $N/mm^2$ |
| Lassterkte deuvels paal | $f_{w,Rd}$ | $=f_{u1,2}/(w_i\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Lassterkte deuvels randstijl | $f_{w,Rd}$ | $=f_{u2,2}/(w_i\beta_w\gamma_s)$ | 300 | $N/mm^2$ |
| Partiële factor beton | $\gamma_c$ | | 1,50 | - |
| Partiële factor staal | $\gamma_s$ | | 1,25 | - |
| Corrolatiefactor lassen | $\beta_w$ | | 0,80 | - |
| Reductiefactor lassen | $w_r$ | | 1,2 | - |

| **Hoekprofiel randstijl** | | | 0x0x0 | |
|---|---|---|---|---|
| Zijde | $L_w$ | | 0 | mm |
| Dikte | $t_w$ | | 0 | mm |
| Lengte verankering | $L_e$ | | 800 | mm |

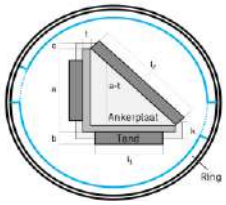
| **Geometrie** | | | | |
|---|---|---|---|---|
| Hoofdtype deuvels (zie figuren onderaan) | | | 6 | |
| Aantal palen per randstijl* | $n_p$ | | 1 | # |
| Type paal* | | | LD1 | |
| Diameter paal uitwendig (indien buispaal) | $ø_{p,out}$ | | 0,0 | mm |
| Wanddikte paal | $t_p$ | | 8,0 | mm |
| Roestreductie paalwand | $t_{p;red}$ | | 0 | mm |
| Lengte paaldeuvel als % van omtrek paal | $P_b$ | | 45,50% | % |
| Aantal lagen deuvels aan paal | $n_{b,p}$ | | 3 | # |
| Seperatie paaldeuvels | $s_1$ | | 200 | mm |
| Breedte deuvels/ lengte stift aan paal* | $b_1$ | | 30 | mm |
| Dikte deuvels aan fundatiepaal* | $h_1$ | | 50 | mm |
| Diameter paal inwendig (indien buispaal) | $ø_{p,in}$ | $=ø_{p,out}-2t_p$ | n.v.t. | mm |
| Inwendige omtrek paal o.b.v. tabellen | $P_{in}$ | $=[0;ø_{p,in}\pi]$ | 1450 | mm |
| Laslengte paaldeuvel | $L_b$ | $=P_{in}P_b$ | 660 | mm |
| Oppervlakte deuvels per laag aan paal** | $A_{b,1,i}$ | $=[P_b(ø_{p,in}-b_1)\pi b_1;L_bb_1]$ | 19793 | mm2 |
| Deuvels aan buitenzijde randstijl | $n_{out}$ | | 0 | # |
| Deuvels aan binnenzijde randstijl | $n_{in}$ | | 0 | # |
| Seperatie randstijldeuvels | $s_2$ | | 450 | mm |
| (las)Lengte deuvel buitenzijde* | $L_{out}$ | | 0 | mm |
| Uitkragende lengte deuvel buitenzijde | e | | 0 | mm |
| (las)Lengte deuvel binnenzijde* | $L_{in}$ | | 0 | mm |
| Breedte deuvels aan randstijl | $b_2$ | | 0 | mm |
| Dikte deuvels aan randstijl | $h_2$ | | 0 | mm |
| Diameter stiftdeuvel | $ø_b$ | | 0 | mm |
| Oppervlakte enkele deuvel buitenzijde | $A_{t1,out,i}$ | $=[L_{out}b;L_{out}ø_b]$ | 0 | $mm^2$ |
| Oppervlakte enkele deuvel binnenzijde | $A_{t1,in,i}$ | $=[L_{in}b;L_{in}ø_b]$ | 0 | $mm^2$ |
| Las ankerplaat\|randstijl | $a_1$ | | 0 | mm |
| Las deuvel\|paal | $a_2$ | | 5 | mm |
| Las deuvel\|buitenzijde randstijl | $a_3$ | | 0 | mm |
| Las deuvel\|binnenzijde randstijl | $a_4$ | | 0 | mm |
| Lengte rugplaat aan ankerplaat | $L_{rp}$ | | 0 | mm |
| Dikte ankerplaat/rugplaat | $t_f$ | | 0 | mm |
| n-zijden buitenrand ankerplaat | $n_c$ | | 2 | # |
| Breedte buitenrand ankerplaat | c | | 0 | mm |
| Rechte zijde ankerplaat | $k_{pl}$ | | 0 | mm |
| Aanvullende reductie omvang ankerplaat | $A_{p,red2}$ | | 0 | $mm^2$ |
| (Las)Lengte ankerplaat binnenzijde | $L_{fp}$ | $=[4;2](L_w-t_w-a_1\sqrt{2})$ | 0 | mm |
| Effectief oppervlakte ankerplaat druk | $A_{p,c}$ | $=A_{p,r}-A_{p,red1,2}$ | 0 | $mm^2$ |
| Effectief oppervlakte ankerplaat trek | $A_{p,t}$ | $=A_{p,r}-A_{p,red1,2}-A_s$ | 0 | $mm^2$ |

**Notities**

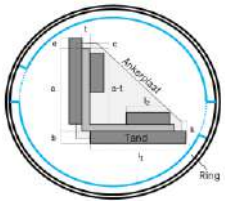
**Hoofdtype 1**
Tanddeuvels aan buitenzijde + ankerplaat



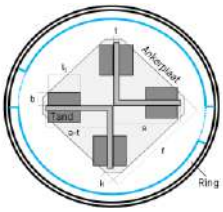

**Hoofdtype 2**
Tanddeuvels aan buitenzijde +
knag aan rand van de flensen + ankerplaat



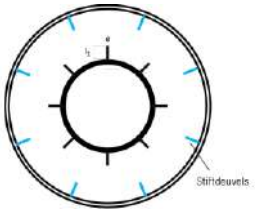

**Hoofdtype 3**
Tanddeuvels aan buitenzijde en binnenzijde
+ ankerplaat




**Hoofdtype 4**
Tanddeuvels dubbele randstaaf + ankerplaat




**Hoofdtype 5**
Stiftdeuvels aan ronde buisprofiel, geen ankerplaat



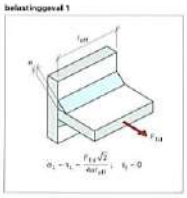

**Hoofdtype 6**
Enkel toetsing van knaggen aan
funderingspaal + doorsnede paal



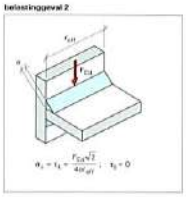
| **Toetsing capaciteit randstijldeuvels** | | | | |
|---|---|---|---|---|
| Capaciteit ankerplaat bij druk | $F_{Rd,c,p}$ | $=A_{p,c}f_{cd}$ | 0,0 | kN |
| Capaciteit ankerplaat bij trek | $F_{Rd,t,p}$ | $=A_{p,t}f_{cd}$ | 0,0 | kN |
| Capaciteit buitendeuvels | $F_{Rd,b,out}$ | $=A_{N1,out,i}f_{cd}n_{out}$ | 0,0 | kN |
| Capaciteit binnendeuvels | $F_{Rd,b,in}$ | $=A_{N1,in,i}f_{cd}n_{in}$ | 0,0 | kN |
| Capaciteit totaal bij druk | $F_{Rd,c}$ | $=F_{Rd,c,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Capaciteit totaal bij trek | $F_{Rd,t}$ | $=F_{Rd,t,p}+F_{Rd,b+o/i}$ | 0,0 | kN |
| Betondrukspanning deuvels bij druk | $\sigma_{c,Ed,c}$ | $=F_{ed,c}/(A_{p,c}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Betondrukspanning bij deuvels bij trek | $\sigma_{c,Ed,t}$ | $=F_{ed,t}/(A_{p,t}+A_{t,o/i})$ | 0,00 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,c}$ | | 0 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed,t}$ | | 0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | n.v.t. | OK |
| UC (betoncriterium) | | $=[F_{Ed,c}/F_{Rd,c};F_{Ed,t}/F_{Rd,t}]$ | n.v.t. | OK |
| **Toetsing capaciteit paaldeuvels** | | | | |
| Capaciteit deuvels enkele paal | $F_{Rd,b}$ | $=A_{b,i}*n_{b,p}*f_{cd}$ | 1920,8 | kN |
| Betondrukspanning bij deuvels | $\sigma_{c,Ed+max}$ | $=F_{Ed}/(A_{b,i}*n_b)$ | 32,3 | N/mm$^2$ |
| Max. buigspanning in staal | $\sigma_{s,Ed}$ | | 0,0 | N/mm$^2$ |
| UC (staalcriterium) | | $=\sigma_{s,Ed}/f_{y,3}$ | 0,00 | OK |
| UC (betoncriterium) | | $=F_{Ed}/(F_{Rd,b}+F_{Rd,b,c/st})$ | 1,00 | OK |
| **Toetsing lassen** | | | | |
| Type las randstijldeuvels | | | Dubbelzijdig | |
| Type las paaldeuvels | | | Dubbelzijdig | |
| Lasspanning ankerplaat | $\sigma_{w1,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_\perp^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning buitendeuvels | $\sigma_{w2,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_\perp^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning binnendeuvels | $\sigma_{w3,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_\perp^2+\tau_{//}^2))}$ | n.v.t. | N/mm$^2$ |
| Lasspanning paaldeuvels | $\sigma_{w4,Ed}$ | $=\sqrt{(\sigma_\perp^2+3(\tau_\perp^2+\tau_{//}^2))}$ | 220 | N/mm$^2$ |
| Maatgevende UC | | $=\sigma_{vw,Ed}/f_{w,Rd}$ | 0,73 | OK |
| **Toetsing paalcapaciteit** | | | | |
| Effectieve doorsnede paal | $A_{p,eff}$ | $=P_{in}(t_p-t_{p,red})$ | 11600 | mm$^2$ |
| Maximale spanning in paal | $\sigma_{s,Ed}$ | $=F_{Ed}/(A_{p,eff}n_p)$ | 165,5 | N/mm$^2$ |
| UC doorsnede paal | | $=\sigma_{s,Ed}/f_{y,1}$ | 0,70 | OK |

| **Lasspanningen NEN-EN 1993-1-8 p. 4.5.3** | | | | | | |
|---|---|---|---|---|---|---|
| Onderdeel | Ankerplaat | Buitendeuvels | Binnendeuvels (T3) | Binnendeuvels (T2) | Paaldeuvels | |
| Som $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 109,8 | N/mm$^2$ |
| Som $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 109,8 | N/mm$^2$ |
| Som $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 1 | Ja | Nee | Nee | Nee | Nee | |
| M1 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M1 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 2 | Nee | Ja | Ja | Nee | Ja | |
| M2 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,6 | N/mm$^2$ |
| M2 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 68,6 | N/mm$^2$ |
| M2 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 3 | Nee | Nee | Nee | Ja | Nee | |
| M3 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M3 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 4 | Nee | Ja | Ja | Nee | Ja | |
| M4 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,2 | N/mm$^2$ |
| M4 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 41,2 | N/mm$^2$ |
| M4 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 5 | Nee | Nee | Nee | Nee | Nee | |
| M5 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M5 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| Mechanisme 6 | Nee | Nee | Nee | Nee | Nee | |
| M6 $\sigma_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_T$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |
| M6 $\tau_{//}$ | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | N/mm$^2$ |

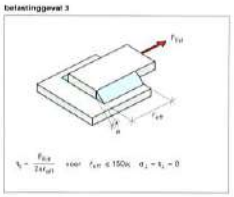
belastinggeval 1



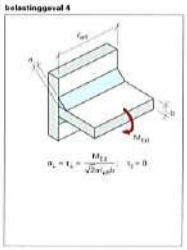
belastinggeval 2



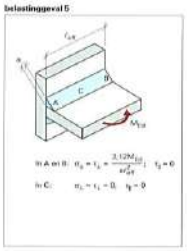
belastinggeval 3



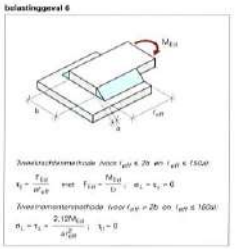
belastinggeval 4



belastinggeval 5

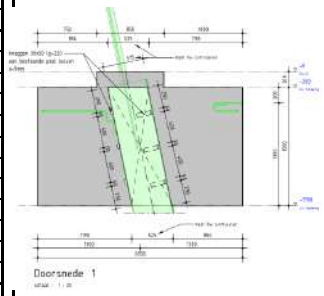


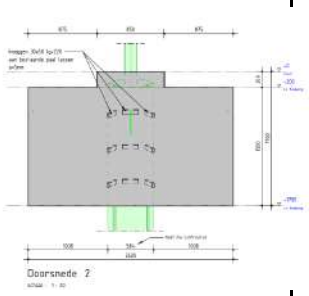
belastinggeval 6



| **Achterliggende logica** | | | | |
|---|---|---|---|---|
| **Afschuifprojectievlak NEN-EN1994-2 F1.1** | | | | |
| Oppervlakte projectie afschuifweerstand | $A_{f2}$ | $=A_{f2,out}+A_{f2,in}$ | 16200 | mm$^2$ |
| Minimale h.o.h. seperatie deuvels | $s_{min}$ | $=[250;2*L_w]$ | n.v.t. | mm |
| Breedte projectievlak buitendeuvels | $b_{f2,out}$ | $=b_2+s_2/5$ | 90 | mm |
| Lengte projectievlak buitendeuvels | $L_{f2,out}$ | $=L_{out}+2s_2/5$ | 180 | mm |
| Oppervlak projectie buitendeuvels | $A_{f2,out}$ | $=b_{f2,out}L_{f2,out}$ | 16200 | mm$^2$ |
| Breedte projectievlak binnendeuvels | $b_{f2,in}$ | $=b_2+s_2/5$ | 0 | mm |
| Lengte projectievlak binnendeuvels | $L_{f2,in}$ | $=L_{in}+2s_2/5$ | 0 | mm |
| Oppervlak projectie binnendeuvels | $A_{f2,in}$ | $=b_{f2,in}L_{f2,in}$ | 0 | mm$^2$ |
| Breedte projectievlak paaldeuvels | $b_{f2,p}$ | $=\min[b_1;b_{eff,1}]+s_1/5$ | 70 | mm |
| Lengte projectievlak paaldeuvels | $L_{f2,p}$ | $=L_1+2s_1/5$ | 740 | mm |
| Oppervlak projectie paaldeuvels | $A_{f2,p}$ | $=b_{f2,p}L_{f2,p}$ | 51783 | mm$^2$ |
| **Effectieve oppervlakte ankerplaat NEN-EN1993-1-8 p. 4.10** | | | | |
| Oppervlakte ankerplaat excl. reducties | $A_{p,i}$ | $=(L_w+cn_c)^2-0,5((w+cn_c-k)^2$ | 0 | mm$^2$ |
| Reductie ineffectief oppervlak ankerplaat | $A_{p,red1}$ | $=0,5b_{ineff}^2$ | 0 | mm$^2$ |
| Oppervlakte staalprofiel | $A_s$ | $=(2L_w-t_w)t_w$ | 0 | mm$^2$ |
| Effectieve breedte ankerplaat | $b_{eff}$ | $=t_w+2a_1\sqrt{2}+7kt_f$ | 0,0 | mm |
| Factor meewerkende breedte | k | $=\min[(t_f/t_w);1,0]$ | 0,00 | - |
| Ineffectieve breedte | $b_{ineff}$ | $=L_w+cn_c-(2c+t_w+b_{eff})+k_{pl}$ | 0,0 | mm |
| **Momentarm ankerplaat (voor toetsing incl. buiging)** | | | | |
| Momentarm ankerplaat | $a_{fp}$ | $=[\sqrt{(2(z_1-z_2)^2)};0]$ | 0,0 | mm |
| Zwaartepunt ankerplaat t.o.v. onderhoek | $z_1$ | $=\Sigma A_i*z_i/A_T$ | 0,0 | mm |
| Zwaartepunt randstijl t.o.v. onderhoek | $z_2$ | $=\Sigma A_i*z_i/A_T$ | 0,0 | mm |
| **Staalspanning (voor toetsing incl. buiging)** | | | | |
| Weerstandsmoment ankerplaat | $W_1$ | $=1/6*2(L_w-t_w)t_f^2$ | 0 | mm$^3$ |
| Weerstandsmoment buitendeuvels | $W_2$ | $=1/6(L_{out}-e)h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment binnendeuvels | $W_3$ | $=1/6L_{in}h_2^2$ | 0 | mm$^3$ |
| Weerstandsmoment paaldeuvels | $W_4$ | $=1/6L_1h_1^2$ | 274896 | mm$^3$ |
| Staalspanning ankerplaat (druk) | $\sigma_{s,Ed,c}$ | $=A_{p,c}\sigma_{c:Ed,c}a_{fp}/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{N1,out,c}\sigma_{c:Ed,c}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (druk) | $\sigma_{s,Ed,c}$ | $=A_{N1,in,c}\sigma_{c:Ed,c}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| Staalspanning paaldeuvels (max) | $\sigma_{s,Ed,c,i}$ | $=A_i\sigma_{c:Ed,max}(b_1/2)/W_4$ | 35 | N/mm$^2$ |
| Staalspanning ankerplaat (trek) | $\sigma_{s,Ed,t}$ | $=A_{p,t}\sigma_{c:Ed,t}a_t/W_1$ | 0 | N/mm$^2$ |
| Staalspanning buitendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{N1,out,c}\sigma_{c:Ed,t}(b_2/2)/W_2$ | 0 | N/mm$^2$ |
| Staalspanning binnendeuvels (trek) | $\sigma_{s,Ed,t}$ | $=A_{N1,in,c}\sigma_{c:Ed,t}(b_2/2)/W_3$ | 0 | N/mm$^2$ |
| **Optionele meewerkende betondoorsnede paal** | | | | |
| Enkel van toepassing als krachten uit randstijl via schachtwrijving naar de paalwand overbracht kunnen worden. | | | | |
| Meewerkende wapeningstaven | $n_{st}$ | | 0 | # |
| Staafdiameter | $ø_{st}$ | | 0 | mm |
| Materiaalkwaliteit staaf | - | | - | - |
| Factor effectiviteit betondoorsnede | $\alpha$ | | 0,00 | - |
| Vloeigrens | $f_{yd}$ | | 0 | N/mm$^2$ |
| Trekcapaciteit wapening | $F_{Rd,b,st}$ | $=0,25n_{st}ø_{st}^2\pi F_{yd}$ | 0 | kN |
| Betondoorsnede paal | $A_{c,p}$ | $=\alpha*0,25P_{in}^2/\pi$ | 0 | mm$^2$ |
| Druksterkte betondoorsnede | $F_{Rd,b,c}$ | $=A_{c,p}f_{ck}/\gamma_c$ | 0 | kN |
| **Gereduceerde breedte als knaggen geprofileerd zijn volgens NEN-EN1993-1-8 p. 4.10** | | | | |
| Flensdikte aangelast profiel | $t_{f,b}$ | | 0 | mm |
| Factor meewerkende breedte (k) | $k_b$ | $=\min[(t_{f,p}/t_{f,b});1,0]$ | 0,00 | - |
| Effectieve breedte knag | $b_{eff,b}$ | $=0,5(t_{f,b}+2a_2\sqrt{2}+7k_bt_{f,b})$ | 0 | mm |

*Ondersteunende figuren*



**BIJLAGE 24**
**Meridian kenmerk C1698890**

| Mast | Masttype | Masthoogte | Paaltype | Maximale drukkracht in één LEKA-paal [kN] / Ballast [kN] | Maximale trekkracht in één LEKA-paal [kN] | Capaciteit knag [kN/paal] | Capaciteit knag best. paal [kN/paal] | UC knag druk [kN/paal] | UC knag trek [kN/paal] | UC knag best. paal [kN/paal] | Locatie berekening knag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | S+0 | 48 | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| 5 | S+0 | 48 | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| 6 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 7 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 9 | HA+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 10 | S+0 | 48 | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| 13 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 14 | HA+0 | 45 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 16 | S+0 | 48 | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| 18 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 19 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 21 | S+0 | 48 | Rond 273/370 | 251,3 | 355,8 | 1867 | | 0,13 | 0,19 | | Bijlage 19 |
| 22 | HA+0 | 45 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 23 | S+0 | 48 | Rond 324/470 | 438,1 | 353,4 | 2234 | | 0,20 | 0,16 | | Bijlage 20 |
| 24 | S+0 | 48 | Rond 273/370 | 412,7 | 257,8 | 1867 | | 0,22 | 0,14 | | Bijlage 19 |
| 26 | S+0 | 48 | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| 27 | S+0 | 48 | Rond 219/310 | 251,3 | 355,8 | 1469 | | 0,17 | 0,24 | | Bijlage 18 |
| 28 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 29 | S+0 | 48 | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| 33 | S+3 | 51 | Rond 273/370 | 251,3 | 355,8 | 1867 | | 0,13 | 0,19 | | Bijlage 19 |
| 34 | HA+0 | 45 | Rond 324/470 | 251,3 | 355,8 | 2234 | | 0,11 | 0,16 | | Bijlage 20 |
| 37 | S+0 | 48 | Rond 219/310 | 180,7 | 54,3 | 1469 | | 0,12 | 0,04 | | Bijlage 18 |
| 50 | S+6 | 54 | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| 51 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 52 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 53 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 54 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 55 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 56 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 57 | WA | 46 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 58 | S+0 | 48 | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| 59 | S+0 | 48 | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| 64 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 65 | HA+0 | 45 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 66 | S+6 | 54 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 68 | S+9 | 57 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 69 | S+6 | 54 | Rond 219/310 | 400,0 | 233,7 | 1469 | | 0,27 | 0,16 | | Bijlage 18 |
| 71 | S+0 | 48 | Rond 219/310 | 139,7 | 272,2 | 1469 | | 0,10 | 0,19 | | Bijlage 18 |
| 73 | S+6 | 54 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 86 | S+0 | 48 | Rond 324/470 | 153,2 | 138,6 | 2234 | 1920 | 0,07 | 0,06 | 0,16 | Bijlage 20&22 |
| 90 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 111 | S+0 | 48 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 118 | S+6 | 54 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 121 | S+0 | 48 | Ballast | 294,8 | 0,0 | | 1920 | | | 0,15 | Bijlage 23 |
| 123 | S+6 | 54 | n.v.t. | n.v.t. | n.v.t. | | | | | | |
| 124 | HA+0 | 45 | Rond 219/310 | 278,9 | 138,8 | 1469 | | 0,19 | 0,09 | | Bijlage 18 |
| 126 | S+0 | 48 | Rond 324/470 | 189,5 | 99,3 | 2234 | 1920 | 0,08 | 0,04 | 0,20 | Bijlage 20&22 |
| ~~128~~ | ~~S+6~~ | ~~54~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~130~~ | ~~HA+0~~ | ~~45~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~131~~ | ~~S+0~~ | ~~48~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~133~~ | ~~S+0~~ | ~~48~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~134~~ | ~~HA+0~~ | ~~45~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~135~~ | ~~HA+0~~ | ~~45~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~136~~ | ~~S+0~~ | ~~48~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~141~~ | ~~S+6~~ | ~~54~~ | ~~Rond 324/470~~ | ~~210,4~~ | ~~63,4~~ | ~~2234~~ | ~~1920~~ | ~~0,09~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20&22~~ |
| ~~142~~ | ~~S+6~~ | ~~54~~ | ~~Rond 324/470~~ | ~~245,4~~ | ~~66,1~~ | ~~2234~~ | ~~1920~~ | ~~0,11~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20&22~~ |
| ~~143~~ | ~~S+9~~ | ~~57~~ | ~~Rond 324/470~~ | ~~210,4~~ | ~~63,4~~ | ~~2234~~ | ~~1920~~ | ~~0,09~~ | ~~0,03~~ | ~~0,07~~ | ~~Bijlage 20&22~~ |
| ~~144~~ | ~~S+9~~ | ~~57~~ | ~~Rond 219/310~~ | ~~850,1~~ | ~~289,1~~ | ~~1469~~ | ~~2720~~ | ~~0,58~~ | ~~0,20~~ | ~~0,63~~ | ~~Bijlage 18 & 21~~ |
| ~~145~~ | ~~S+9~~ | ~~57~~ | ~~Ballast~~ | ~~294,8~~ | ~~0,0~~ | | ~~1920~~ | | | ~~0,15~~ | ~~Bijlage 23~~ |
| ~~146~~ optie 1 | ~~S+12~~ | ~~60~~ | ~~Rond 219/310~~ | ~~413,5~~ | ~~0,0~~ | ~~1469~~ | | ~~0,28~~ | ~~0,00~~ | | ~~Bijlage 18~~ |
| ~~147~~ optie 1 | ~~HE+6~~ | ~~51~~ | ~~Rond 219/310~~ | ~~214,6~~ | ~~133,8~~ | ~~1469~~ | | ~~0,15~~ | ~~0,09~~ | | ~~Bijlage 18~~ |
| ~~148~~ | ~~S+9~~ | ~~57~~ | ~~Rond 219/310~~ | ~~464,0~~ | ~~257,2~~ | ~~1469~~ | | ~~0,32~~ | ~~0,18~~ | | ~~Bijlage 18~~ |
| 150 | S+0 | 48 | Rond 324/470 | 289,6 | 213,8 | 2234 | 1920 | 0,13 | 0,10 | 0,30 | Bijlage 20&22 |
| 151 | S+0 | 48 | Rond 324/470 | 289,6 | 213,8 | 2234 | 1920 | 0,13 | 0,10 | 0,30 | Bijlage 20&22 |
| 152 | S+0 | 48 | Ballast | 294,8 | 0,0 | | 1920 | | | 0,15 | Bijlage 23 |
| 153 | HA+12 | 57 | Rond 324/470 | 215,7 | 175,2 | 2234 | 1920 | 0,10 | 0,08 | 0,22 | Bijlage 20&22 |
| 157 | 0 | 0 | Rond 219/310 | 408,7 | 133,4 | 1469 | | 0,28 | 0,09 | | Bijlage 18 |
| 158 | 0 | 0 | Rond 219/310 | 197,1 | 37,2 | 1469 | | 0,13 | 0,03 | | Bijlage 18 |

**Bestaande balk:** Mast 23

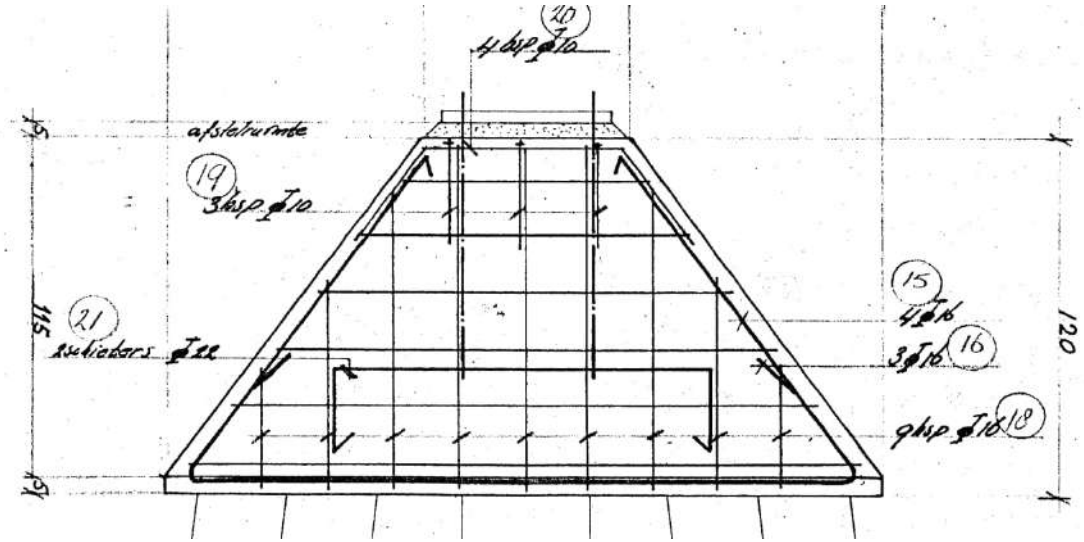
| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 1200 | 1060 | 7 | 16 | mm | 4 | 16 | mm | 6 | 10 | mm |
| | 420 | As: | 1407 | mm2 | | 804 | mm2 | | 471 | mm2 |
| | | Beugels | | | Feb: | | | C12/15 | 12 | N/mm2 |
| | | h.o.h. | Ø | | QR24 | QR40 | | α | 21,8 | graden |
| | | 200 | 16 | mm | 210 | 348 | | TAN α | 0,40 | |
| | | | 2011 | mm2/m1 | | | | VRcd: | 0,30 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -973,4 | kN | 1059 | mm2 | 2683 | mm2 | 0,39 |
| Nd:max | 772,62 | kN | 2220 | mm2 | 2683 | mm2 | 0,83 |
| | | | | | | | |
| Vd:min | -189,18 | kN | -293 | mm2 | 2011 | mm2 | -0,15 |
| Vd:max | 233,73 | kN | -211 | mm2 | 2011 | mm2 | -0,10 |
| | | | | | | | |
| Mxd:min | 0 | kN.m | 0 | mm2 | 873 | mm2 | 0,00 |
| Mxd:max | 0 | kN.m | 0 | mm2 | 873 | mm2 | 0,00 |
| | | | | | | | |
| Myd:min | -49,83 | kN.m | 138 | mm2 | 1407 | mm2 | 0,10 |
| Myd:max | 49,68 | kN.m | 138 | mm2 | 1407 | mm2 | 0,10 |
| | | | | | | | |
| Mzd:min | -280,47 | kN.m | 237 | mm2 | 402 | mm2 | 0,59 |
| Mzd:max | 227,02 | kN.m | 192 | mm2 | 402 | mm2 | 0,48 * |

* Aandeel opneembare torsie door beton niet mee genomen

$N_{d:max} / f_{yd}$
$N_{d:min} / f_{yd}$

**Zie pg. 5&6 voor berekening bestaande balk.**



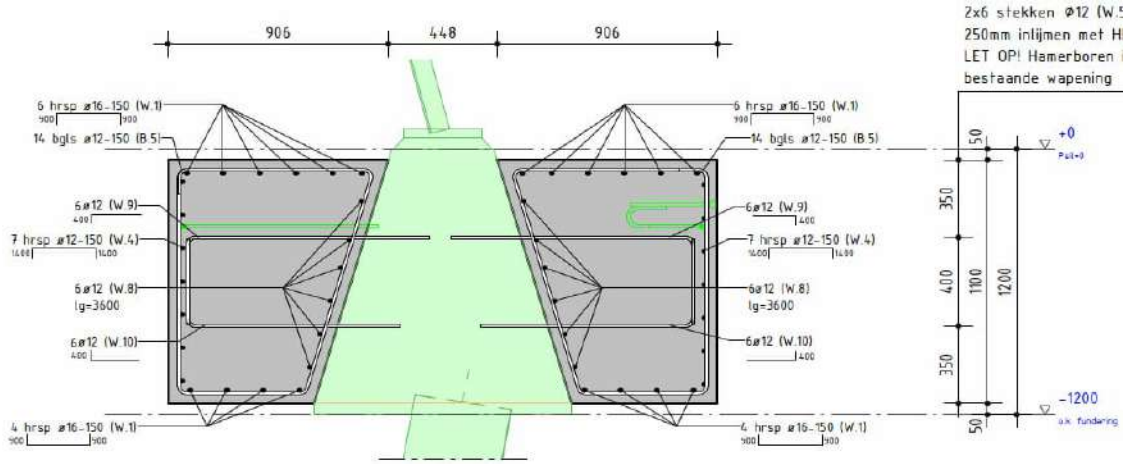
**Nieuwe balk:** Mast 23

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 1500 | 1600 | 12 | 16 | mm | 8 | 16 | mm | 7 | 12 | mm |
| | | As: | 2413 | mm2 | | 1608 | mm2 | | 792 | mm2 |
| | | Beugels | | | Feb: | | | C30/37 | 30 | N/mm2 |
| | | h.o.h. | Ø | | | | feb500 | α | 21 | graden |
| | | 150 | 12 | mm | | | 435 | TAN α | 0,38 | |
| | | | 1508 | mm2/m1 | | | | VRcd: | 0,47 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -14,7 | kN | 34 | mm2 | 4813 | mm2 | 0,01 |
| Nd:max | 14,14 | kN | 33 | mm2 | 4813 | mm2 | 0,01 |
| | | | | | | | |
| Vd:min | -475,99 | kN | 322 | mm2 | 1508 | mm2 | 0,21 |
| Vd:max | 522,94 | kN | 354 | mm2 | 1508 | mm2 | 0,23 |
| | | | | | | | |
| Mxd:min | -28,68 | kN.m | 47 | mm2 | 1194 | mm2 | 0,04 |
| Mxd:max | 28,7 | kN.m | 47 | mm2 | 1194 | mm2 | 0,04 |
| | | | | | | | |
| Myd:min | -638,52 | kN.m | 1125 | mm2 | 2413 | mm2 | 0,47 |
| Myd:max | 330,83 | kN.m | 583 | mm2 | 2413 | mm2 | 0,24 |
| | | | | | | | |
| Mzd:min | -40,4 | kN.m | 8 | mm2 | 226 | mm2 | 0,04 |
| Mzd:max | 40,53 | kN.m | 8 | mm2 | 226 | mm2 | 0,04 |

$N_{d:max} / f_{yd}$
$N_{d:min} / f_{yd}$

**Zie pg. 7&8 voor berekening nieuwe balk.**



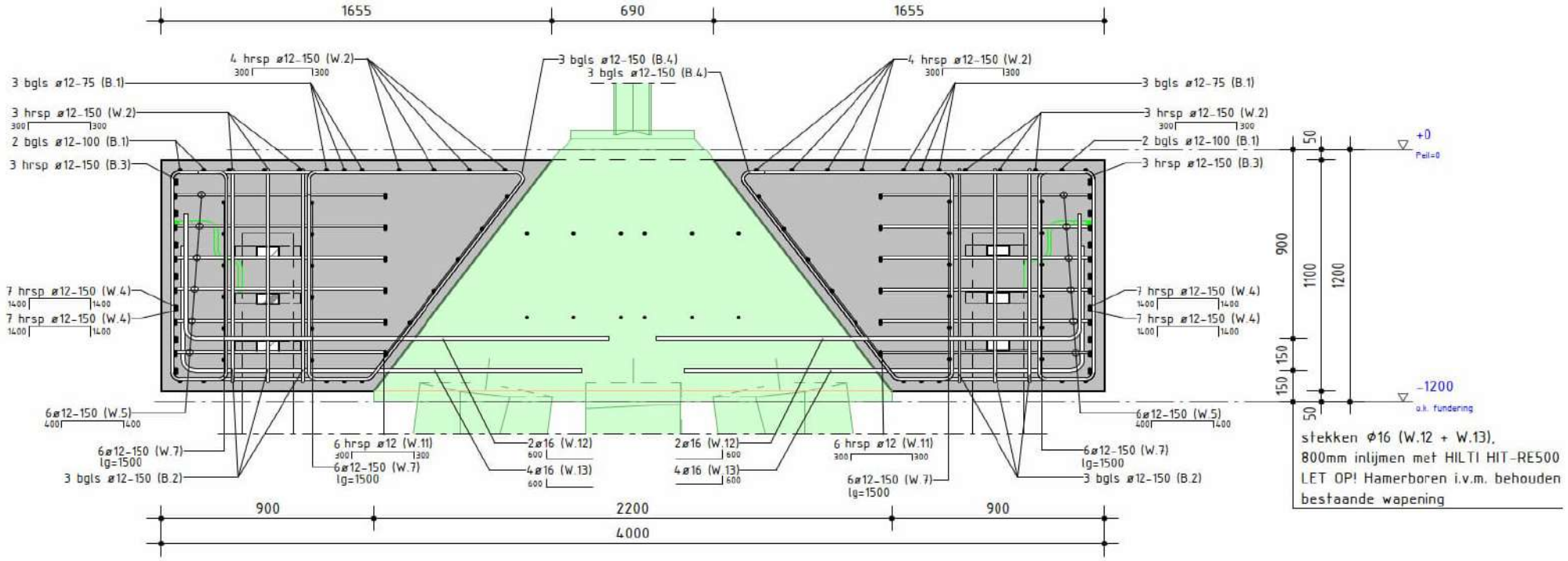
**Koppeling nieuw aan bestaande balk:** Mast 23

| hoogte | breedte | Stekken (1000mm) | | | Feb: | | |
|---|---|---|---|---|---|---|---|
| | | h.o.h. | Ø | | | | feb500 |
| 1100 | 1060 | 200 | 16 | mm | | | 435 |
| | 420 | | 1005 | mm2/m1 | | | |

Fd:paal druk -483,1 kN
trek 413,2 kN
Excentrisiteit paal 0,753 m

| | | As:ben | | As:aanw | | U.C. As | |
|---|---|---|---|---|---|---|---|
| Vd:druk | 0,6077 N/mm | 1111 | mm2 | 2011 | mm2 | 0,55 | exclusief aandeel beton |
| Vd:trek | 0,52 kN.m | 950 | mm2 | 2011 | mm2 | 0,47 | exclusief aandeel beton |

**Zie pg. 4 voor toets stortvlak capaciteit**



| | | |
|---|---|---|
| c | 0,4 | |
| $f_{ctd}$ | 1,333 | N/mm2 |
| μ | 0,7 | |
| $\sigma_n$ | 0,001 | N/mm2 |
| ρ | 0,001 | |
| $f_{yd}$ | 500 | N/mm2 |
| α | 90 | graden |
| v | 0,528 | |
| $f_{cd}$ | 20 | N/mm2 |
| 0,6 * $f_{cd}$ | 12 | N/mm2 |
| $V_{Rdi}$ | 0,534 | N/mm2 |
| 0,5 * v * $f_{cd}$ | 5,280 | N/mm2 |
| $\alpha_{ct}$ | 1 | |
| $f_{ctk:0,05}$ | 2 | N/mm2 |
| $\gamma_C$ | 1,5 | |

0 bij trek

normatief

$$f_{ctd} = \alpha_{ct}\, f_{ctk,0,05} / \gamma_C$$ 3.16

$$\sigma_n < 0{,}6\, f_{cd}$$

$$\nu = 0{,}6\left[1 - \frac{f_{ck}}{250}\right] \qquad (f_{ck} \text{ in MPa})$$ 6.6N

$$f_{cd} = \alpha_{cc}\, f_{ck} / \gamma_C$$ 3.15

$$v_{Rdi} = c\, f_{ctd} + \mu\, \sigma_n + \rho\, f_{yd}\,(\mu \sin\alpha + \cos\alpha) \le 0{,}5\, \nu\, f_{cd}$$ 6.25

| | | |
|---|---|---|
| $A_s$ | 1206 | mm2 |
| $A_i$ | 1166000 | mm2 |
| b = $b_i$ | 1060 | mm |
| h | 1100 | mm |
| $f_{ck}$ | 30 | N/mm2 |

# Afschuifweerstand 3B-poer

| | | |
|---|---|---|
| $\alpha_{cc}$ | 1 | |
| sin α | 1 | |
| cos α | 0,00 | |
| axiale druk | 1 | kN |

normatief

| | | |
|---|---|---|
| β | 1 | |
| $V_{Ed}$ | 483,1 | kN |
| z | 990 | mm |
| $V_{Edi}$ | 0,460 | N/mm2 |

$$z = 0{,}9\, d$$

$$v_{Edi} = \beta\, V_{Ed} / (z\, b_i)$$ 6.24

| | |
|---|---|
| U.C. | 0,86 |

$v_{Edi} \le v_{Rdi}$ 6.23

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets best. poer My + Vz

| | | |
|---|---|---|
| $A_s$ | 1407 | $mm^2$ |
| $f_{yd}$ | 400 | $N/mm^2$ |
| b \| $b_w$ | 740 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1200 | mm |
| Ø | 16 | mm |
| dekking | 30 | mm |
| d | 1162 | mm |

| | | |
|---|---|---|
| z | 638 | mm |
| 0,9 * d | 1045,8 | mm |
| 0,6 x l | 474 | mm |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ — 6.1 (10)

| | | |
|---|---|---|
| $F_{d\ druk}$ | 483 | kN |
| l | 0,79 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 49,8 | kN.m |
| $V_{Ed}$ | 233,73 | kN |

| | | |
|---|---|---|
| toets | 4540,2 | kN |

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ — 6.5

| | | | |
|---|---|---|---|
| k | 1,41 | | 2 |
| $\rho_l$ | 0,0016 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,323 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | | |
|---|---|---|
| 6.2.2(1) | | |
| 6.3N | | |
| 6.10.aN | | |
| 6.2.3(3) | | |
| 6.2.2(1) | | |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 248,12 | kN |
| | 277,42 | kN |

$$V_{Rd,c} = [C_{Rd,c} k (100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ — 6.2.a

$$V_{Rd,c} = (v_{min} + k_1 \sigma_{cp})\,b_w d$$ — 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 302 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ — 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,21 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 2832,72 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ — 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 205 | kN |
| Ø | 16 | mm |
| s | 220 | mm |
| snedes | 2 | stuks |
| opp | 1828 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ — 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,52 | beton |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets best. poer Mx + Vy

| | | |
|---|---|---|
| $A_s$ | 474 | $mm^2$ |
| $f_{yd}$ | 400 | $N/mm^2$ |
| b \| $b_w$ | 1200 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 740 | mm |
| Ø | 10 | mm |
| dekking | 30 | mm |
| d | 705 | mm |

| | | |
|---|---|---|
| z | 454 | mm |
| 0,9 * d | 634,5 | mm |
| 0,6 x l | 474 | mm |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ 6.1 (10)

| | | |
|---|---|---|
| $F_{d\ druk}$ | 483 | kN |
| l | 0,79 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 1,0 | kN.m |
| $V_{Ed}$ | 62,9 | kN |

| | | |
|---|---|---|
| toets | 4466,9 | kN |

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ 6.5

| | | | |
|---|---|---|---|
| k | 1,53 | | 2 |
| $\rho_l$ | 0,0006 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,364 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | |
|---|---|
| 6.2.2(1) | |
| 6.3N | |
| 6.10.aN | |
| 6.2.3(3) | |
| 6.2.2(1) | |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 185,00 | kN |
| | 307,72 | kN |

$$V_{Rd,c} = [C_{Rd,c}\,k(100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ 6.2.a

$$V_{Rd,c} = (v_{min} + k_1\sigma_{cp})\,b_w d$$ 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 6 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,01 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 3268,80 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 73 | kN |
| Ø | 16 | mm |
| s | 220 | mm |
| snedes | 1 | stuks |
| opp | 914 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,24 | beton |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk My + Vz

| | | |
|---|---|---|
| $A_s$ | 1608 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 1506 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1100 | mm |
| Ø | 16 | mm |
| dekking | 45 | mm |
| d | 1047 | mm |

| | | |
|---|---|---|
| z | 1060 | mm |
| 0,9 * d | 942,3 | mm |
| 0,6 x l | 1860 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 483 | kN |
| l | 3,1 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 638,5 | kN.m |
| $V_{Ed}$ | 522,94 | kN |

| | | |
|---|---|---|
| toets | 8325,4 | kN |

| | | | |
|---|---|---|---|
| k | 1,44 | | 2 |
| $\rho_l$ | 0,0010 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,330 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 394,74 | kN |
| | 520,73 | kN |

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 1558 | $mm^2$ |

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,97 |

| | | |
|---|---|---|
| $V_{Rd,max}$ | 8514,62 | kN |

| | | |
|---|---|---|
| $V_{Rd,s}$ | 1137 | kN |
| Ø | 12 | mm |
| s | 150 | mm |
| snedes | 4 | stuks |
| opp | 3016 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

| | |
|---|---|
| UC $V_{d,wap.}$ | 0,34 |

beton

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ — 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ — 6.5

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

| | |
|---|---|
| | 6.2.2(1) |
| $v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$ | 6.3N |
| | 6.10.aN |
| | 6.2.3(3) |
| | 6.2.2(1) |

$$V_{Rd,c} = [C_{Rd,c} k (100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ — 6.2.a

$$V_{Rd,c} = (v_{min} + k_1 \sigma_{cp})\,b_w d$$ — 6.2.b

$$M_{Rd} = z\,A_s\,f_s$$ — 6.1 (10)

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ — 6.9

$$V_{Rd,s} = \frac{A_{sw}}{s} z\,f_{ywd}\cot\theta$$ — 6.8

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk Mx + Vy

| | | |
|---|---|---|
| $A_s$ | 1193 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 1100 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1506 | mm |
| Ø | 12 | mm |
| dekking | 45 | mm |
| d | 1455 | mm |

| | | |
|---|---|---|
| z | 1302,4 | mm |
| 0,9 * d | 1309,5 | mm |
| 0,6 x l | 2100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 37 | kN |
| l | 3,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 28,7 | kN.m |
| $V_{Ed}$ | 62,9 | kN |

| | | |
|---|---|---|
| toets | 8450,6 | kN |

| | | | |
|---|---|---|---|
| k | 1,37 | | 2 |
| $\rho_l$ | 0,0007 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,308 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 344,27 | kN |
| | 492,41 | kN |

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 51 | $mm^2$ |

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,04 |

| | | |
|---|---|---|
| $V_{Rd,max}$ | 8595,84 | kN |

| | | |
|---|---|---|
| $V_{Rd,s}$ | 589 | kN |
| Ø | 12 | mm |
| s | 200 | mm |
| snedes | 2 | stuks |
| opp | 1131 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

| | |
|---|---|
| UC $V_{d,wap.}$ | 0,07 |

beton

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ — 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ — 6.5

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | |
|---|---|
| 6.2.2(1) | |
| 6.3N | |
| 6.10.aN | |
| 6.2.3(3) | |
| 6.2.2(1) | |

$$V_{Rd,c} = [C_{Rd,c}\,k(100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ — 6.2.a

$$V_{Rd,c} = (v_{min} + k_1\sigma_{cp})\,b_w d$$ — 6.2.b

$$M_{Rd} = z\,A_s\,f_s$$ — 6.1 (10)

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ — 6.9

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ — 6.8

**NEN-EN 1992-1-1+C2:2011**

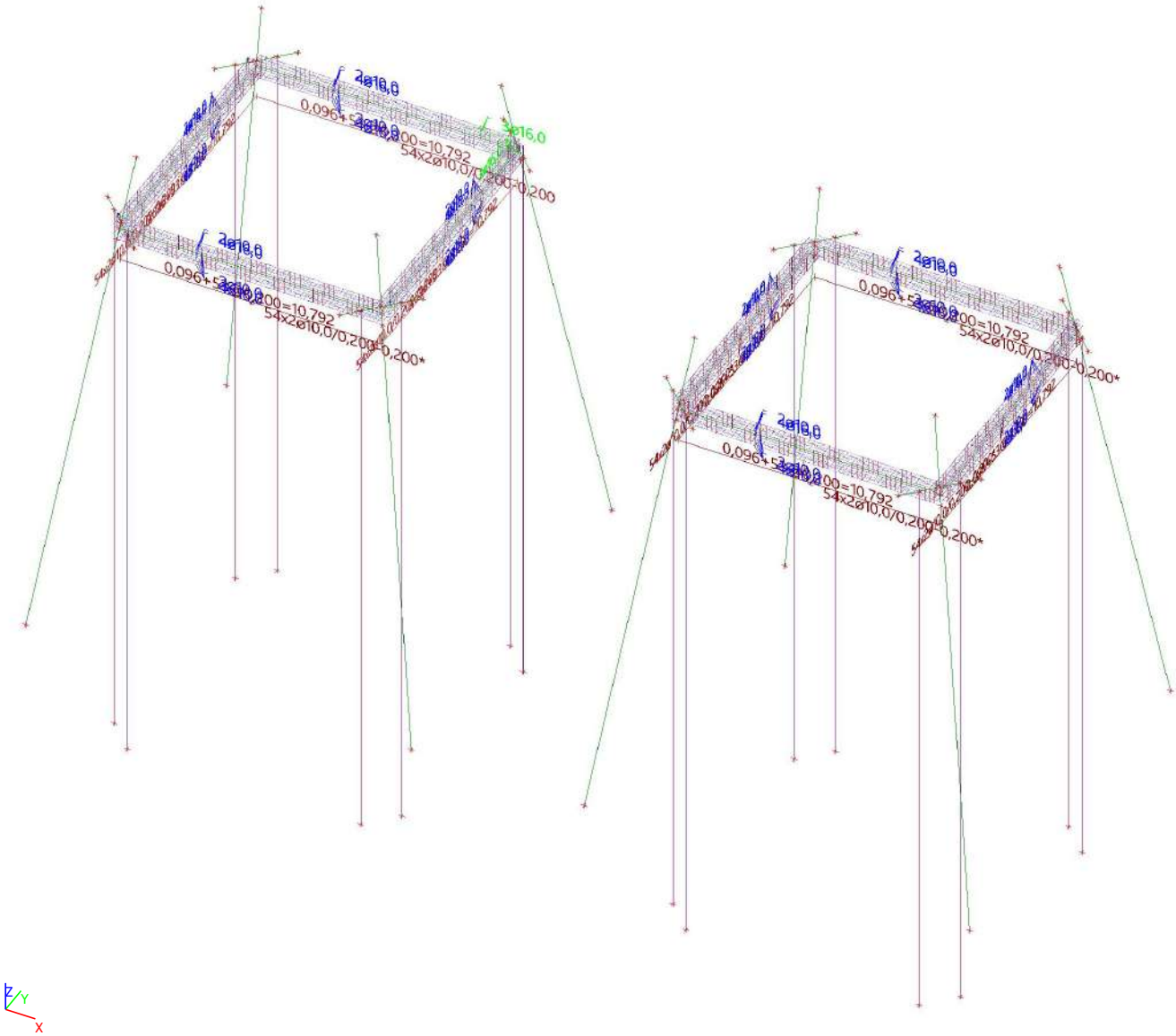
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Rekenmodel / Hoofdwapening / Beugels 2
4. Rekenmodel / Hoofdwapening / Beugels 3
5. Krachten van de Funderingsbalken 4
5.1. Interne 1D- krachten; N 4
5.2. Interne 1D- krachten; V_y 4
5.3. Interne 1D- krachten; V_z 5
5.4. Interne 1D- krachten; M_x 5
5.5. Interne 1D- krachten; M_y 6
5.6. Interne 1D- krachten; M_z 6
5.7. Interne 1D-krachten 7
6. Buigingstoets 8
6.1. Check capacity-interaction diagram; UC 8
6.2. Controle capaciteits-interactiediagram 8
6.3. Controle capaciteits-interactiediagram 9
7. Dwarskracht- en torsietoets 14
7.1. Controleer afschuiving+torsie (UGT); UC 14
7.2. Controleer afschuiving+torsie (UGT) 14
7.3. Controleer afschuiving+torsie (UGT) 16

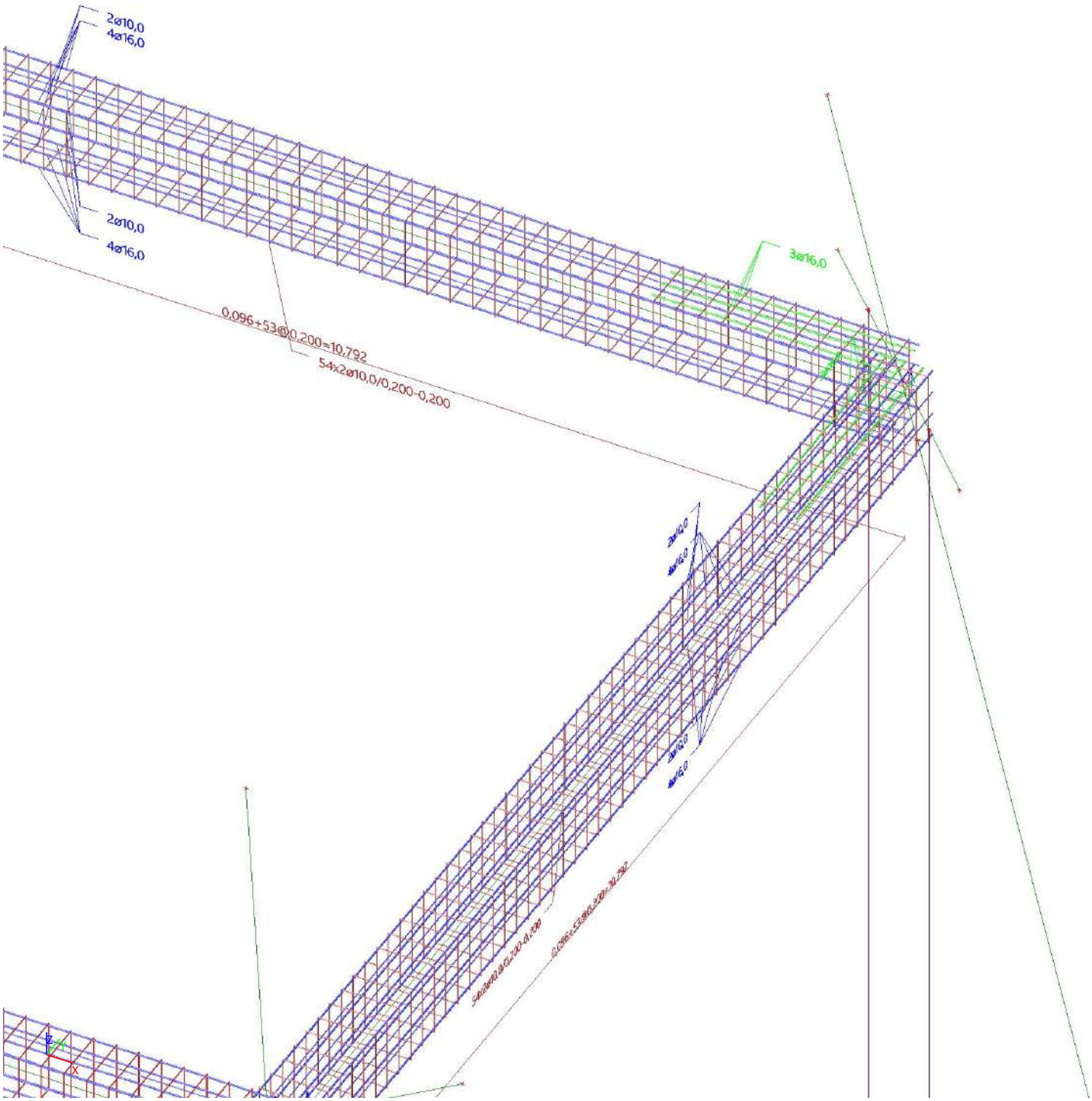
## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Koppelframe 1xLD1 F3- Wapeningtoetsing |
| Auteur | [redacted] |
| Datum | 05-02-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 92 |
| Aantal staven : | 64 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 6 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 9 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Rekenmodel / Hoofdwapening / Beugels



# 4. Rekenmodel / Hoofdwapening / Beugels



# 5. Krachten van de Funderingsbalken

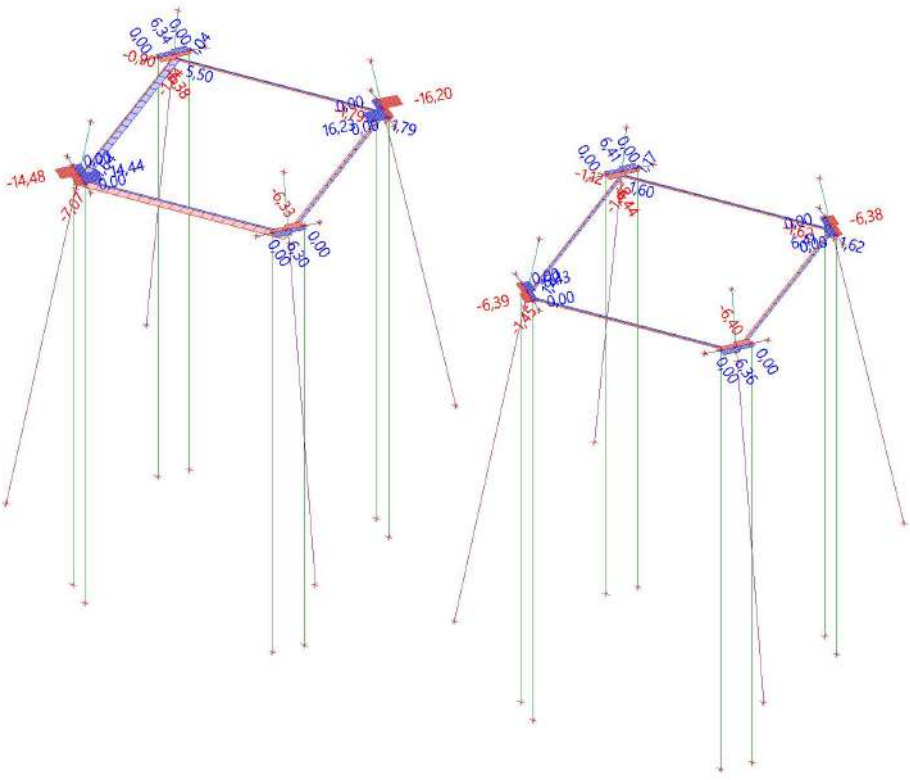
## 5.1. Interne 1D- krachten; N

Waarden: **N**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



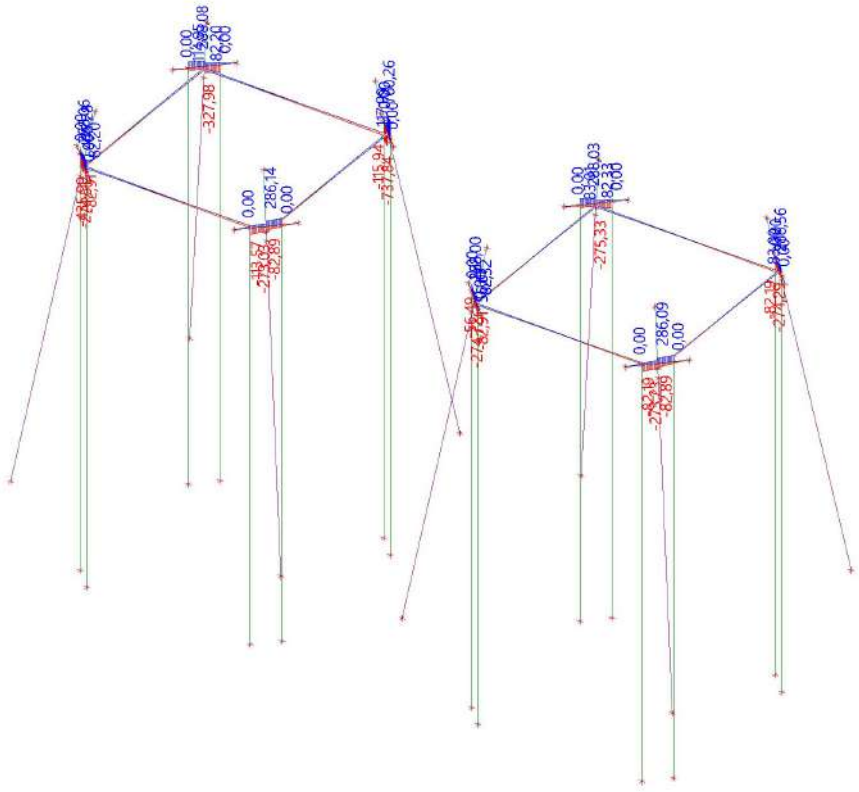
## 5.2. Interne 1D- krachten; V_y

Waarden: **$V_y$**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



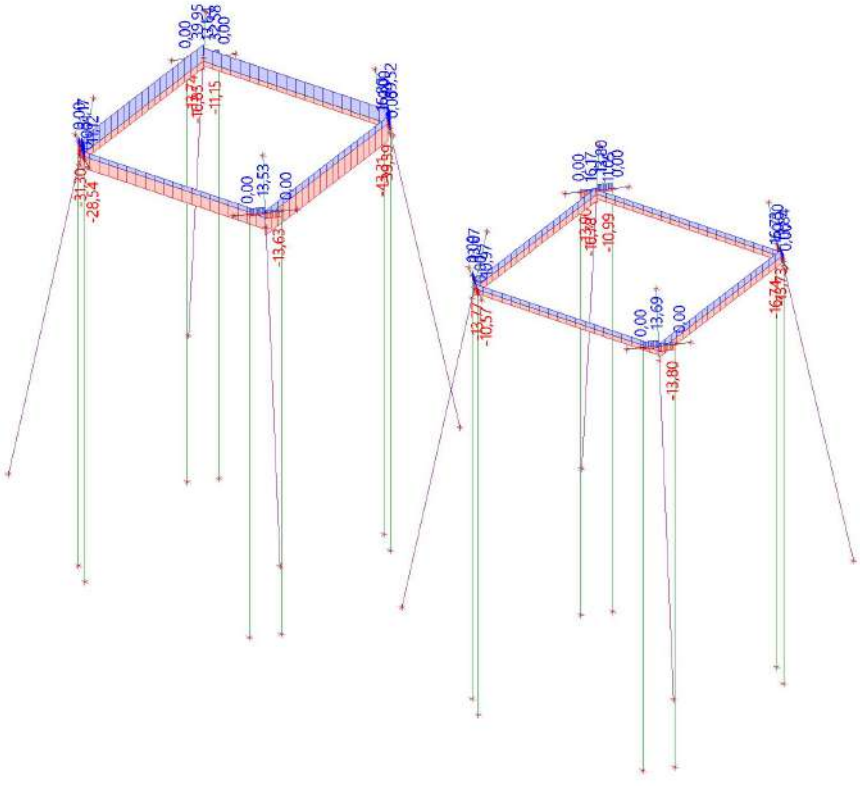
## 5.3. Interne 1D- krachten; V_z

Waarden: $V_z$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



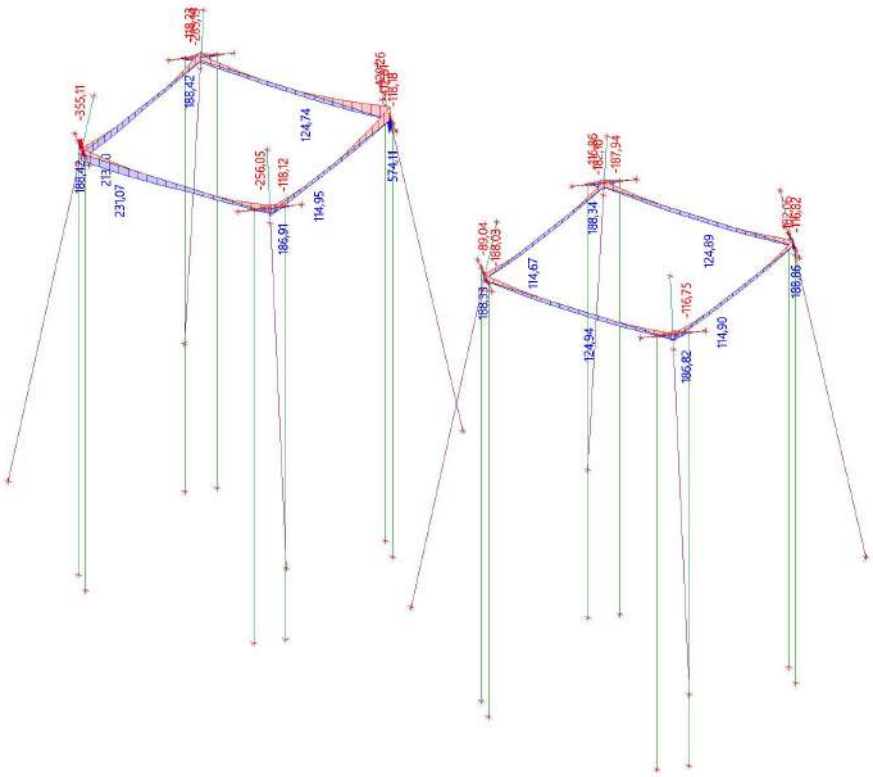
## 5.4. Interne 1D- krachten; M_x

Waarden: $M_x$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



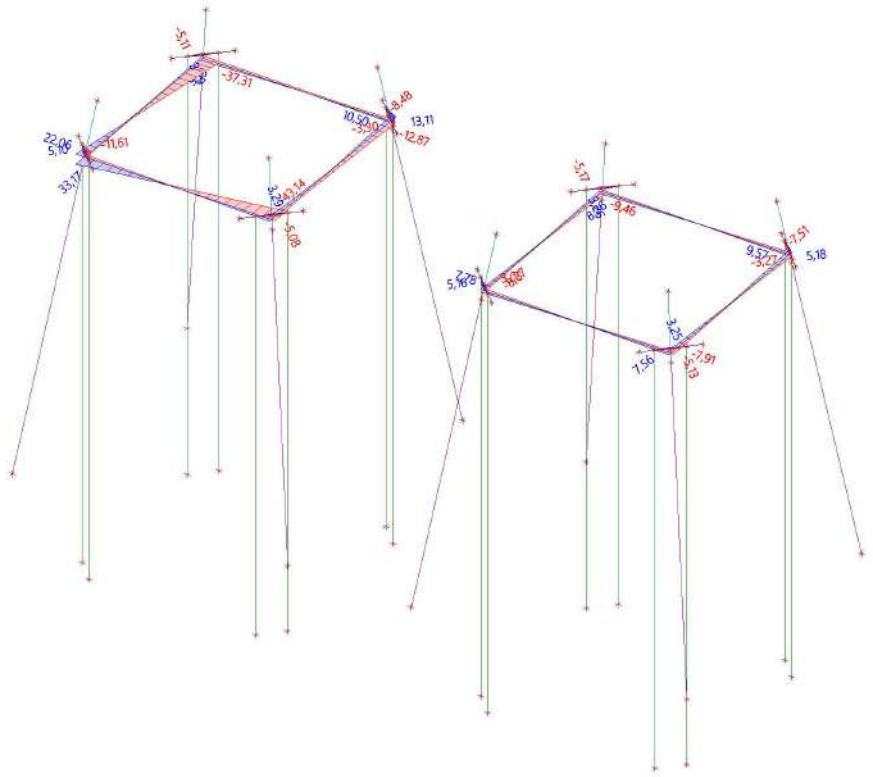
## 5.5. Interne 1D- krachten; M_y

Waarden: $M_y$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Element
Selectie: Alle
Filter: Laag = Balken



## 5.6. Interne 1D- krachten; M_z

Waarden: $M_z$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Element
Selectie: Alle
Filter: Laag = Balken



## 5.7. Interne 1D-krachten

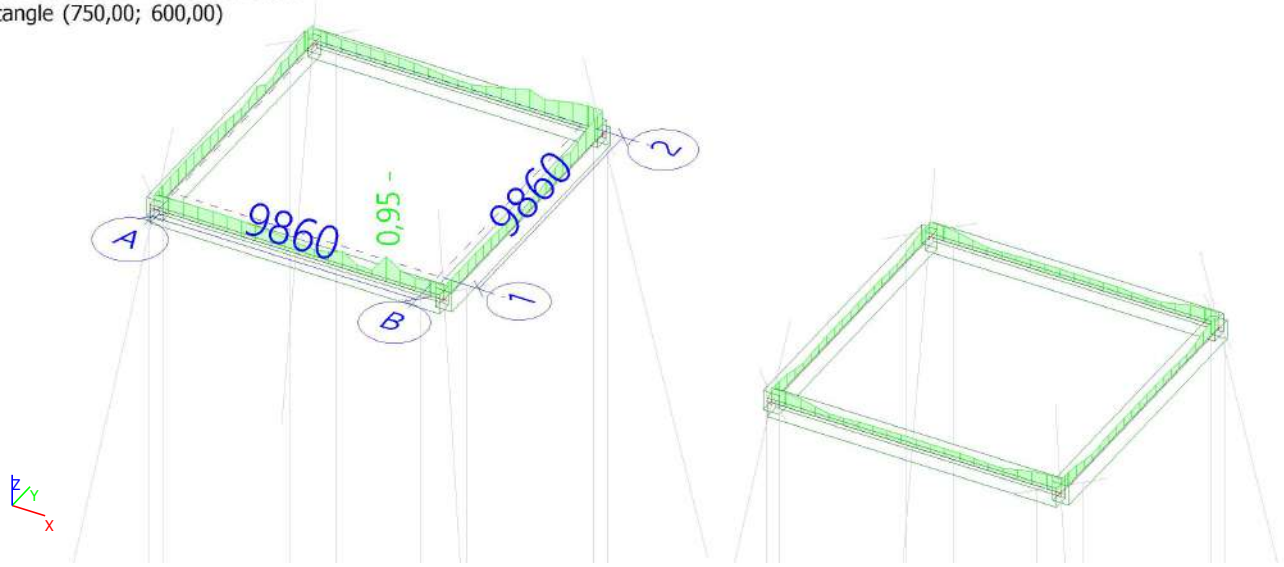
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | **-7,07** | 29,31 | -28,54 | 198,66 | **33,17** |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 118,21 | 1,01 | **117,99** | **-43,31** | -412,81 | -12,87 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -112,49 | **5,50** | 114,95 | **39,95** | -285,19 | -37,31 |
| (balk 600x750)1 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **181,93** | 0,52 | **-115,94** | 32,58 | **-420,26** | -2,39 |
| (balk 600x750)8 | 2,158 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-180,06** | -7,07 | 0,73 | -28,54 | **231,07** | 17,91 |
| (balk 600x750)8 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -7,07 | -113,57 | -28,54 | -256,05 | **-43,14** |

# 6. Buigingstoets

## 6.1. Check capacity-interaction diagram; UC

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)




## 6.2. Controle capaciteits-interactiediagram

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| Naam | dx [m] | Belasting | Doorsnede | $N_{Ed}$ [kN] | $M_{Edy}$ [kNm] $M_{Edz}$ [kNm] | Method | $N_{Rd+}$ [kN] $N_{Rd-}$ [kN] | $M_{Rdy+}$ [kNm] $M_{Rdy-}$ [kNm] | $M_{Rdz+}$ [kNm] $M_{Rdz-}$ [kNm] | UC [-] Check |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 0,300 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-180,06** | 214,82 **31,05** | NuMu | 192,21 -324,53 | 387,18 -229,32 | 55,97 -33,15 | 0,55 OK |
| (balk 600x750)1 | 10,252 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **181,93** | **-364,08** 0,00 | NuMu | 204,18 -176,40 | 353,01 -408,62 | 0,00 0,00 | 0,89 OK |
| (balk 600x750)8 | 2,158 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | **231,07** 19,96 | NuMu | 183,06 -297,98 | 382,41 -234,93 | 33,03 -20,29 | 0,60 OK |
| (balk 600x750)8 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -201,05 **-43,14** | NuMu | 200,55 -352,49 | 223,92 -393,58 | 48,05 -84,46 | 0,51 OK |
| (balk | 10,492 | high max Wnd | Betonnen | -97,50 | 22,09 | NuMu | **850,09** | 958,19 | 44,81 | 0,02 |

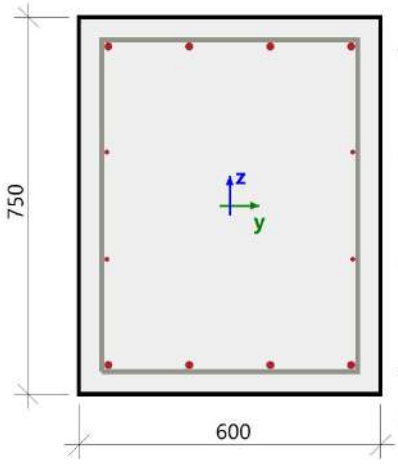
| Naam | dx [m] | Belasting | Doorsnede | $N_{Ed}$ [kN] | $M_{Edy}$ [kNm] $M_{Edz}$ [kNm] | Method | $N_{Rd+}$ [kN] $N_{Rd-}$ [kN] | $M_{Rdy+}$ [kNm] $M_{Rdy-}$ [kNm] | $M_{Rdz+}$ [kNm] $M_{Rdz-}$ [kNm] | UC [-] Check |
|---|---|---|---|---|---|---|---|---|---|---|
| 600x750)1 | | ;315° - EG_Ongunstig | Blalk - Rectangle (750,00; 600,00) | | -5,14 | | -4229,92 | -192,57 | -222,98 | OK |
| (balk 600x750)1 | 5,396- | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 181,93 | 27,40<br>-5,33 | NuMu | 614,00<br>**-5582,00** | 92,48<br>-840,74 | 163,66<br>-18,00 | 0,30<br>OK |
| (balk 600x750)1 | 8,634 | low max Wnd ;225° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -96,01 | 25,58<br>-4,06 | NuMu | 797,35<br>-3806,60 | **1014,07**<br>-212,41 | 33,75<br>-161,11 | 0,03<br>OK |
| (balk 600x750)3 | 0,000 | high max Wnd ;315° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -64,05 | -21,27<br>0,00 | NuMu | 455,41<br>-3300,24 | 151,24<br>**-1095,96** | 0,00<br>0,00 | 0,02<br>OK |
| (balk 600x750)3 | 0,000 | low max Wnd ;315° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -62,36 | 16,46<br>10,50 | NuMu | 686,95<br>-2434,09 | 642,37<br>-181,29 | **409,93**<br>-115,69 | 0,03<br>OK |
| (balk 600x750)8 | 8,094 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | 29,08<br>-26,11 | NuMu | 550,76<br>-3462,72 | 559,16<br>-88,94 | 79,87<br>**-502,14** | 0,05<br>OK |
| (balk 600x750)8 | 8,634 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -73,81<br>-29,93 | NuMu | 391,51<br>-1490,54 | 160,50<br>-611,03 | 65,07<br>-247,73 | **0,95**<br>OK |

## 6.3. Controle capaciteits-interactiediagram

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| **Balk (balk 600x750)8** | **Rectangle (750,00; 600,00)** |
|---|---|
| NEN EN 1992-1-1+C2/NB+A1:2020 | Doorsnede 19 [dx = 8.63 m] |

**Staaflengte:** L = 10.8 m
"Knik y-y⊥ $L_y$ = 13.3 m (zijdelings flexibel)
Knik z-z⊥ $L_z$ = 13.3 m (zijdelings flexibel)




**Beton: C30/37 Gescheurd**
Bilineair spanning-rekdiagram
Milieuklasse: XC4, XF4

**Langswapening: B 500A**
Bilineair met oplopende bovenvertakking
8ø16+4ø10 (1923 $mm^2$)
$\rho_l$ = 0,427 % (15.1 kg/m)

**Afschuifwapening: B 500A**
Bilineair met oplopende bovenvertakking
2ø10/200* (detaillering)

**Dekking (beugel)**
Bovenzijde: 40 mm
Onderzijde: 40 mm
Links: 40 mm
Rechts: 40 mm

## Materiaalkarakteristieken

Ontwerpbetondruksterkte

$$f_{cd} = \frac{\alpha_{cc} \cdot f_{ck}}{\gamma_C} = \frac{1 \cdot 30}{1.5} = 20 \text{ MPa}$$

Ontwerpvloeispanning van langswapening

$$f_{yd} = \frac{f_{yk}}{\gamma_S} = \frac{500}{1.15} = 435 \text{ MPa} \quad (3.15)$$

## Krachten

Van EEM analyse

N = -180 kN $M_y$ = -41.8 kNm $M_z$ = -27.9 kNm

Inhoud van de combinatie:

highmaxWnd;135°-EG_Ongunstig

## Drukstaaf

Beperk normaalkracht om rekening te houden met drukstaven:

$$N_{com} = -\text{Coeff}_{com} \cdot \left( f_{cd} \cdot A_c \right) = -0.1 \cdot \left( 20 \cdot 10^6 \cdot 0.45 \right) = -900 \text{ kN}$$

Controleer conditie:

$N_{Ed} \geq N_{com}$ = -180 kN ≥ -900 kN ... geen drukstaaf

Opm.: Het element moet niet worden beschouwd als een drukelement (normaalkracht is relatief klein of nul).

Herberekende buigende momenten:

Momentreductie boven steunpunt: Ja
Reductie van dwarskrachten boven steunpunt: Ja
Verschuivingsregel gebruiken: Ja
Dwarskrachten reduceren: Op het vlak

$N_{Ed}$ = -180 kN $M_{Edy}$ = -73.8 kNm $M_{Edz}$ = -29.9 kNm

## Invoergegevens voor het genereren van interactiediagrammen

| | |
|---|---|
| Methode van interactiediagram controle | $N_uM_u$ |
| Verdeling van verticale rekken | 250 |
| Aantal verticale snedes | 18 |
| Resultante waarde van buigend moment | $M_{res}$ = 79.7 kNm |
| Hoek van resultante van buigend moment is gerelateerd aan $M_y$ richting in horizontaal vlak $M_y$-$M_z$ | $\alpha_{MyMz}$ = -22.1 ° |
| Hoek van resultante van buigend moment is gerelateerd aan N richting in verticaal vlak N-$M_{res}$ | $\alpha_{NM}$ = -66.1 ° |

## Status van scheuren in buiging

$\sigma_{ct.max}$ = 1.58 MPa ≥ $f_{ctd}$ = 1.33 MPa => doorsnede gescheurd bij buiging

## Toetsing van beperkte hoogte van drukzone gebaseerd op 6.1(9) van NEN EN 1992-1-1

Grenswaarde van ontwerpnormaalkracht

$N_{lim} = 0.1 \cdot A_c \cdot f_{cd} = 0.1 \cdot 0.45 \cdot 20 = 900$ kN

Ontwerpwaarde van normaalkracht

$N_{Ed}$ = -180 kN

De waarde $x_u$ berekend op basis van de weerstanden uit het interactiediagram

$N_{Rd}$ = -1491 kN

$M_{Rdy}$ = -611 kN

$M_{Rdz}$ = -248 kN

Beperkte hoogte van drukzone

$$x_{u,lim} = \frac{500 \cdot 10^6 \cdot d}{500 \cdot 10^6 + f} = \frac{500 \cdot 10^6 \cdot 0.727}{500 \cdot 10^6 + 435 \cdot 10^6} = 0.389 \text{ m}$$

$x_u < x_{u,lim}$ => 370 mm < 389 mm

Controlewaarde gerelateerd aan de beperking van de drukzone

$$UC_{xu} = \frac{x_u}{x_{u,lim}} = \frac{0.37}{0.389} = 0.953$$

## Berekening van weerstanden

Weerstanden in positieve richting $N_{Rd+}$ = 392 kN $M_{Rdy+}$ = 160 kNm $M_{Rdz+}$ = 65 kNm

Weerstanden in negatieve richting $N_{Rd-}$ = -1491 kN $M_{Rdy-}$ = -611 kNm $M_{Rdz-}$ = -248 kNm

## Samenvatting controle

Krachten: $N_{Ed}$ = -180 kN $M_{Edy}$ = -73.8 kNm $M_{Edz}$ = -29.9 kNm

Weerstand: $N_{Rd}$ = -1491 kN $M_{Rdy}$ = -611 kNm $M_{Rdz}$ = -248 kNm

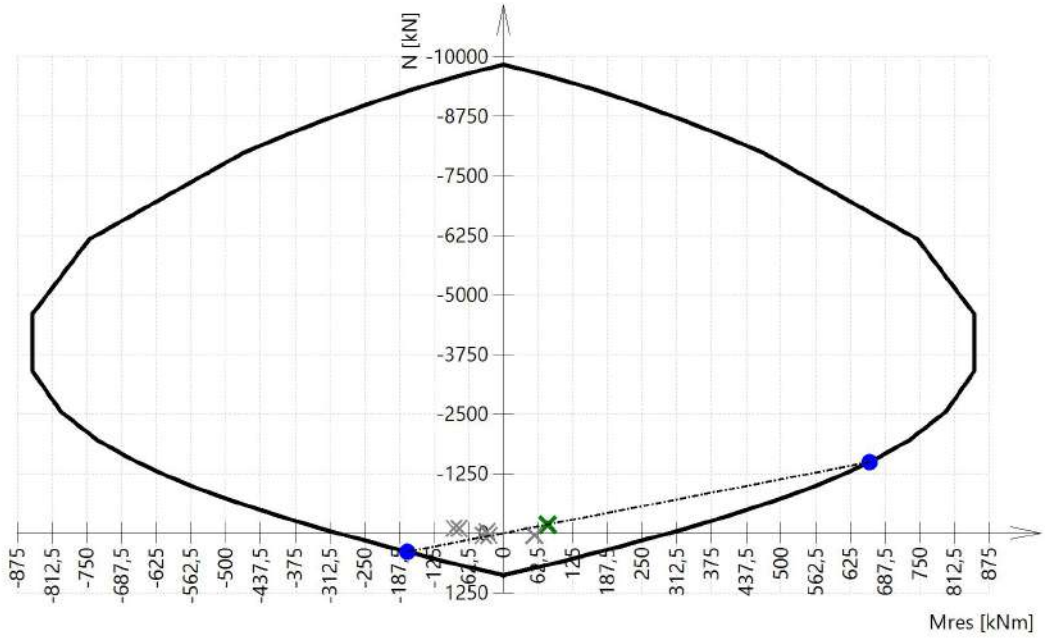
Berekenen van de eenheidscontrole:

$$UC = \frac{\sqrt{N_{Ed}^2 + M_{Edy}^2 + M_{Edz}^2}}{\sqrt{N_{Rd}^2 + M_{Rdy}^2 + M_{Rdz}^2}} = \frac{\sqrt{-180^2 + -73.8^2 + -29.9^2}}{\sqrt{-1491^2 + -611^2 + -248^2}} = 0.121$$

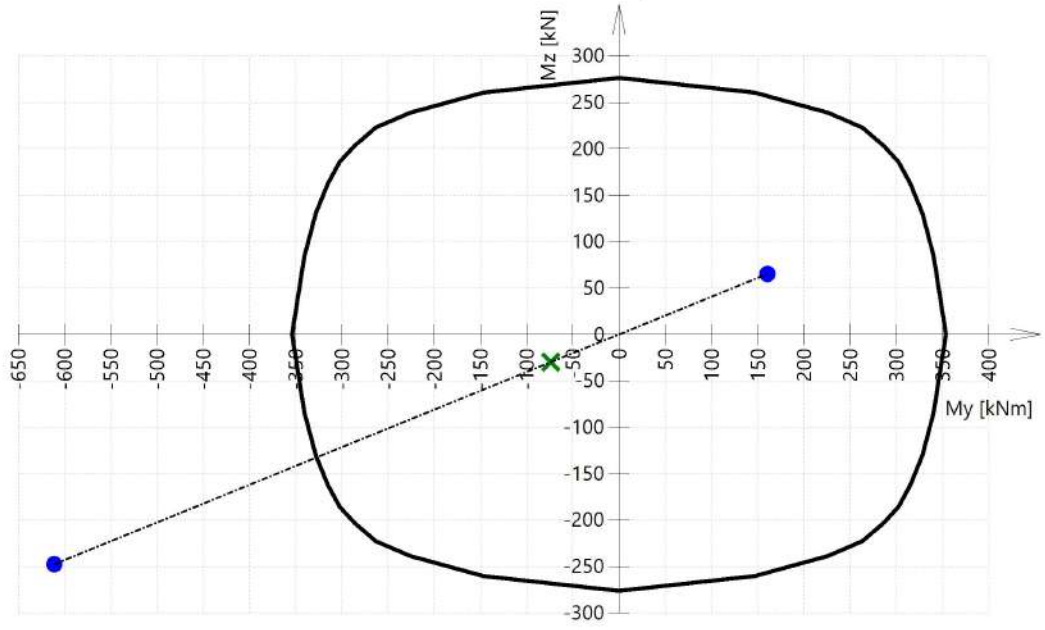
Eenheidscontrole gebaseerd op $x_{u,lim}$ volgens 6.1(9) van NEN EN 1992-1-1

$$UC_{xu} = \frac{x}{x_{u,lim}} = \frac{0.37}{0.389} = 0.953 \quad <= 1 \quad \textbf{OK}$$

## 3D-interactiediagram - Verticale doorsnede N-M $_{res}$




## 3D-interactiediagram - Horizontale doorsnede $M_y$-$M_z$

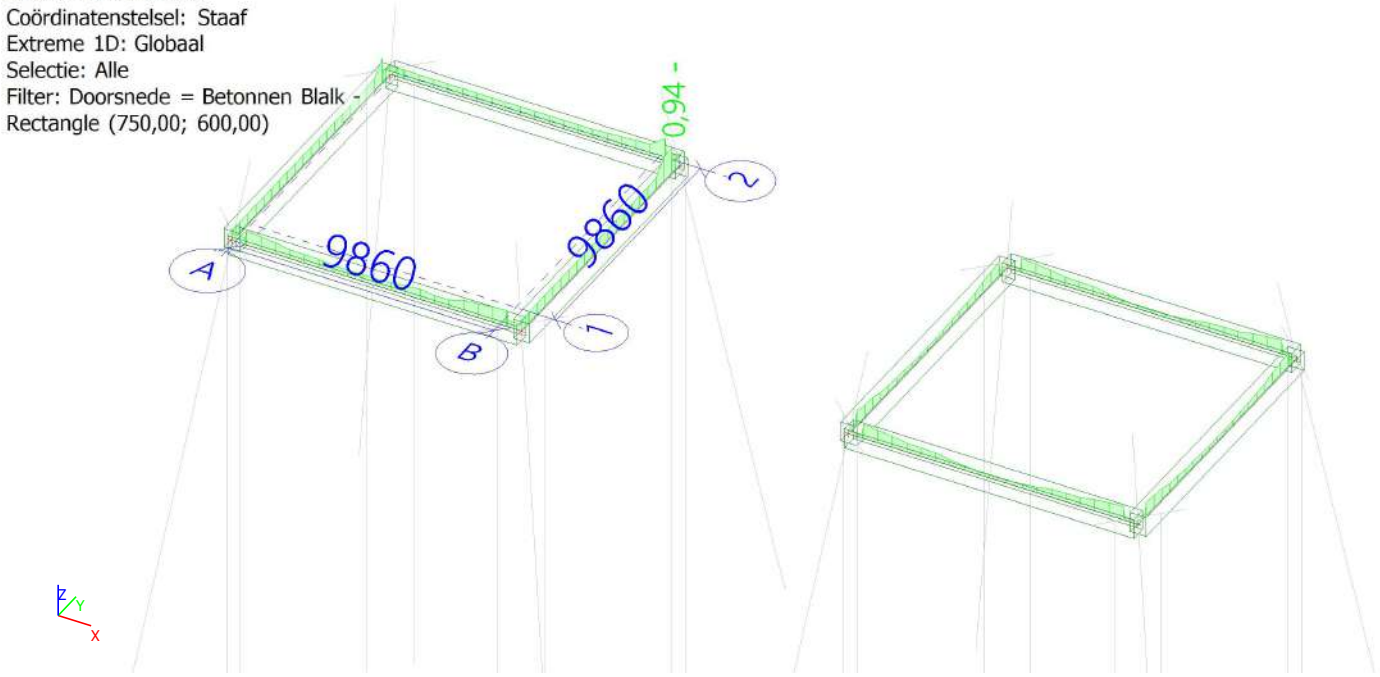


Lijst van fouten/waarschuwingen/opmerkingen: N2/1

# 7. Dwarskracht- en torsietoets

## 7.1. Controleer afschuiving+torsie (UGT); UC

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)




## 7.2. Controleer afschuiving+torsie (UGT)

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

**Dwarskrachtcontrole**

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] | d [mm] z [mm] | $A_{swm}$ [cm²/m] θ [deg] | $b_w$ [mm] $b_{w1}$ [mm] | $V_{Rdc}$ [kN] $V_{Rdmax}$ [kN] | $V_{Rds}$ [kN] | $UC_{shear}$ [-] |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)5 | 5,396- | low max Wnd ;135° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **0,01** | 6,5347e+02 5,9516e+02 | 0,00 40,00 | 604,21 604,21 | 222,29 1869,84 | 0,00 | 0,00 |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **111,38** | 6,7158e+02 6,1241e+02 | 7,90 40,00 | 600,00 600,00 | 159,04 2171,19 | 0,00 | 0,05 |
| (balk 600x750)8 | 10,792 | high max Wnd ;45° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 54,28 | 7,0062e+02 4,6969e+02 | 0,00 40,00 | 288,72 600,09 | **388,29** 1465,60 | 0,00 | 0,04 |
| (balk 600x750)1 | 5,396- | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 44,50 | 6,9827e+02 6,2844e+02 | 7,85 40,00 | 600,04 600,04 | 0,00 **2228,17** | **235,29** | 0,19 |

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] | d [mm] z [mm] | $A_{swm}$ [cm²/m] θ [deg] | $b_w$ [mm] $b_{w1}$ [mm] | $V_{Rdc}$ [kN] $V_{Rdmax}$ [kN] | $V_{Rds}$ [kN] | $UC_{shear}$ [-] |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 10,252 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 106,66 | 6,8061e+02<br>5,9591e+02 | 0,00<br>40,00 | 601,32<br>601,32 | 177,27<br>1863,25 | 0,00 | **0,60** |

**Torsiecontrole**

| Naam | dx [m] | Belasting | Doorsnede | $T_{Ed}$ [kNm] | $u_k$ [mm] $A_k$ [mm²] | $A_{swtm}$ [cm²/m] $t_{ef}$ [mm] | $T_{Rdc}$ [kNm] $T_{Rdmax}$ [kNm] | $T_{Rds}$ [kNm] $T_{Rd}$ [kNm] | $UC_{tor}$ [-] |
|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-43,31** | 2033,34<br>2,5278e+05 | 3,95<br>166,67 | 112,35<br>438,13 | **103,44**<br>103,44 | 0,42 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **39,95** | 2033,34<br>2,5278e+05 | 3,95<br>166,67 | **112,35**<br>**438,13** | 103,42<br>103,42 | 0,39 |
| (balk 600x750)8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -28,54 | 2033,34<br>2,5278e+05 | 0,00<br>166,67 | 112,35<br>438,13 | 0,00<br>**112,35** | 0,25 |
| (balk 600x750)3 | 0,500 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -43,31 | 2033,34<br>2,5278e+05 | 3,93<br>166,67 | 112,35<br>438,13 | 102,87<br>102,87 | **0,42** |

**Interactie tussen afschuiving en torsie**

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] $T_{Ed}$ [kNm] | Equation 6_29 [-] Equation 6_31 [-] | $UC_{int_con}$ [-] | $UC_{int_shear}$ [-] | $UC_{int}$ [-] |
|---|---|---|---|---|---|---|---|---|
| (balk 600x750)5 | 5,396- | low max Wnd ;135° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **0,01**<br>0,02 | 0,00<br>0,00 | 0,00 | 0,00 | 0,00 |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **111,38**<br>**-43,31** | 0,15<br>1,09 | **0,15** | 0,00 | 0,15 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 108,47<br>**39,95** | 0,14<br>1,01 | 0,14 | 0,00 | 0,14 |
| (balk 600x750)3 | 0,540 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 110,85<br>-43,31 | 0,15<br>1,08 | 0,15 | **0,94** | **0,94** |

**Globale tabel van dwars- en torsiecontrole**

| Naam | dx [m] | Belasting | Doorsnede | $UC_{shear}$ [-] | $UC_{tor}$ [-] | $UC_{int}$ [-] | UC [-] | Check |
|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 10,252 | high max Wnd ;135° - | Betonnen Blalk - | **0,60** | 0,25 | 0,12 | 0,60 | OK, maar... |

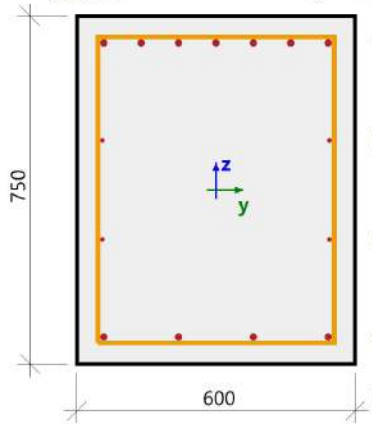
| Naam | dx [m] | Belasting | Doorsnede | $UC_{shear}$ [-] | $UC_{tor}$ [-] | $UC_{int}$ [-] | UC [-] | Check |
|---|---|---|---|---|---|---|---|---|
| | | EG_Ongunstig | Rectangle (750,00; 600,00) | | | | | |
| (balk 600x750)3 | 0,540 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 0,48 | **0,42** | **0,94** | **0,94** | **OK** |

## 7.3. Controleer afschuiving+torsie (UGT)

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

**Balk (balk 600x750)3** | **Rectangle (750,00; 600,00)**
NEN EN 1992-1-1+C2/NB+A1:2020 | Doorsnede 3 [dx = 0.54 m]

**Staaflengte:** L = 10.8 m
"Knik y-y" $L_y$ = 13.3 m (zijdelings flexibel)
Knik z-z" $L_z$ = 13.3 m (zijdelings flexibel)




**Beton: C30/37 Gescheurd**
Bilineair spanning-rekdiagram
Milieuklasse: XC4, XF4
**Langswapening: B 500A**
Bilineair met oplopende bovenvertakking
11ø16+4ø10 (2526 $mm^2$)
$\rho_l$ = 0,561 % (19.8 kg/m)
**Afschuifwapening: B 500A**
Bilineair met oplopende bovenvertakking
2ø10/200 (785 $mm^2$/m)
$\rho_w$ = 0,131 % (6.17 kg/m)
**Dekking (beugel)**
Bovenzijde: 40 mm
Onderzijde: 40 mm
Links: 40 mm
Rechts: 40 mm

### Instellingen

Methode voor berekening afschuifweerstanden: Standaard
Grenswaarde van de hoek tussen buigende momenten en resultante dwarskrachten voor het gebruik van de standaardmethode: $\alpha_{VM,lim}$ = 15 °
Equivalente dunwandige doorsnede: Automatisch
De hoek tussen de betondrukschoor en de staafas: Gebruikersinvoer: $\theta_{inp}$ = 40 ° => $\cot(\theta_{inp})$ = 1.19

### Krachten

Inhoud van de combinatie: highmaxWnd;135°-EG_Ongunstig
$N_{Ed}$ = 118 kN $M_{Edy}$ = -356 kNm $M_{Edz}$ = 0 kNm $V_{Edy}$ = 0 kN $V_{Edz}$ = 111 kN $T_{Ed}$ = -43.3 kNm

Hoek van gradiënt van rekvlak
$\alpha_M$ = 90 °

Hoek van resultante van afschuiving
$\alpha_V$ = 90 °

Resultante van dwarskracht

$$V_{Ed} = \sqrt{V_{Edy}^2 + V_{Edz}^2} = \sqrt{0^2 + 111^2} = 111 \text{ kN}$$

Verschil tussen hoeken $\alpha_M$ en $\alpha_V$

$$\alpha_{MV} = \text{abs}(\alpha_M - \alpha_V) = \text{abs}(90 - 90) = 0 °$$

## Materiaalkarakteristieken

Ontwerpbetondruksterkte

$$f_{cd} = \frac{\alpha_{cc} \cdot f_{ck}}{\gamma_C} = \frac{1 \cdot 30}{1.5} = 20 \text{ MPa}$$

Ontwerp betontreksterkte

$$f_{ctd} = \frac{\alpha_{ct} \cdot f_{ctk005}}{\gamma_C} = \frac{1 \cdot 2}{1.5} = 1.33 \text{ MPa} \quad (3.15, 3.16)$$

## Berekening van hoek tussen betondrukschoor en staafas

- minimale waarde:

$\theta_{min} = 21.8° \Rightarrow \cot(\theta_{min}) = 2.5$ (§6.2.3(2))

- maximale waarde:

$\theta_{max} = 45° \Rightarrow \cot(\theta_{max}) = 1$ (§6.2.3(2))

- invoer/berekende waarde:

$\theta = \theta_{inp} = 40°, \cot(\theta) = 1.19$

Opm.: Automatische berekening van hoek is uitgeschakeld, gebruikerswaarde wordt in rekening genomen

# Controleer afschuiving en bereken afschuifweerstand

## Doorsnedeparameters

Minimale breedte van doorsnede in trekzone

$y_{bw} = 0$ mm $z_{bw} = -197$ mm $b_w = 600$ mm

Opm.: Waarde $b_w$ is berekend als de kleinste breedte van de doorsnede in het trekoppervlak loodrecht op de resultante van de dwarskracht.

Minimale breedte van de doorsnede tussen trek- en drukschoor

$y_{bw1} = 0$ mm $z_{bw1} = 297$ mm $b_{w1} = 600$ mm

Opm.: Waarde $b_{w1}$ is berekend als de kleinste breedte van de doorsnede tussen het trek- en drukkoord loodrecht op de resultante van de dwarskracht.

Hoogte van doorsnede is herberekend in de richting van de resultante van de dwarskracht

$h = 750$ mm

Opm.: De waarde h wordt berekend als de breedte van de doorsnede op het zwaartepunt in de richting van de resultante van de dwarskracht.

Oppervlakte betondoorsnede

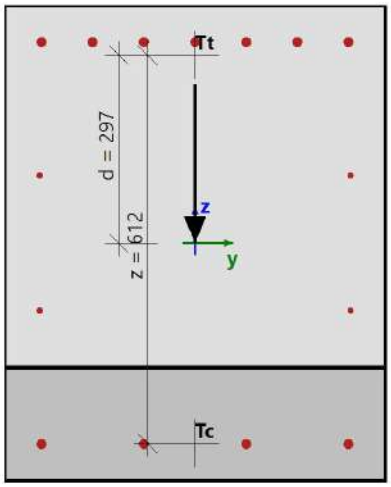
$A_c = 0.45$ m$^2$

Effectieve diepte omgerekend naar richting van resultante van dwarskracht

$d = 672$ mm

Hefboomsarm van interne krachten omgerekend naar richting van resultante van dwarskracht

$z = 612$ mm



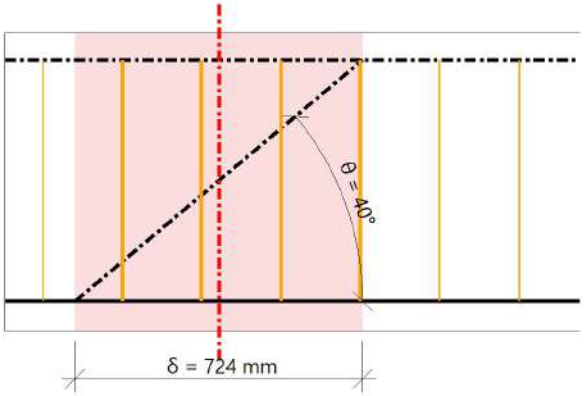
## Parameters van afschuifwapening

### Invoerparameters

Beugels over de lengte van scheurafschuifprojectie $\delta = z*\cot(\Theta) = 724$ mm, interval (-362; 362)

$z = \text{Coeff_d} \cdot \text{Coeff_z} \cdot h = 0.9 \cdot 0.9 \cdot 0.75 = 608$ mm $\quad \delta = z \cdot \text{cotg}(\theta) = 0.608 \cdot \text{cotg}(40) = 724$ mm

| ID | Zone | $x_s$ [mm] | $\varnothing_s$ [mm] | $s_s$ [mm] | $n_s$ [] | $\alpha_s$ [°] | $f_{ywk}$ [MPa] |
|---|---|---|---|---|---|---|---|
| 1 | 1 | -244 | 10 | 200 | 2 | 90 | 500 |
| 2 | 1 | -43.6 | 10 | 200 | 2 | 90 | 500 |
| 3 | 1 | 156 | 10 | 200 | 2 | 90 | 500 |
| 4 | 1 | 356 | 10 | 200 | 2 | 90 | 500 |
| Avg. | - | - | 10 | 200 | 2 | 90 | 500 |




Aantal snedes per beugel $n_s = 2$

Diameter van de wapening $\varnothing_s = 10$ mm

Hart - op - hartafstand van beugel in langsrichting $s_{inp} = 0.2$ m

Hoek van beugels van elementas $\alpha_s = 90°$

Karakteristieke vloeigrens $f_{ywk} = 500$ MPa

Doorsnedeoppervlakte van afschuifwapening

$$A_{sw} = n_s \cdot \pi \cdot \left(\frac{\varnothing_s}{2}\right)^2 = 2 \cdot 3.14 \cdot \left(\frac{10}{2}\right)^2 = 157 \text{ mm}^2$$

Maximale longitudinale tussenafstand van beugelwapening

$s_l = s_{inp} = 200$ mm

Doorsnedeoppervlak per meter

$$A_{swm} = \frac{A_{sw}}{s_l} = \frac{157 \cdot 10^{-6}}{0.2} = 785 \text{ mm}^2/\text{m}$$

## Parameters van langswapening

Het oppervlak van de trekwapening

$A_{sl} = 1722$ mm$^2$

## Berekening van afschuifweerstanden

### Ontwerpafschuifweerstand van de staaf zonder afschuifwapening

$\sigma_{ct,max} = 6.58\ MPa \geq f_{ctd} = 1.33\ MPa \Rightarrow$ doorsnede gescheurd bij buiging

Berekening ontwerp afschuifweerstand van de staaf zonder afschuifwapening volgens artikel 6.2.2(1).

Coëfficiënt voor hoogte van de doorsnede

$$k = \min\left(1 + \left(\frac{200}{d}\right)^{\frac{1}{2}}; 2\right) = \min\left(1 + \left(\frac{200}{672}\right)^{\frac{1}{2}}; 2\right) = 1.55 \qquad (\S 6.2.2(1))$$

Geometrische wapeningsverhouding

$$\rho_1 = \min\left(\frac{A_{sl}}{b_w \cdot d}; 0.02\right) = \min\left(\frac{1.72 \cdot 10^{-3}}{0.6 \cdot 0.672}; 0.02\right) = 4.27 \cdot 10^{-3} \qquad (\S 6.2.2(1))$$

Axiale spanning in de doorsnede

$$\sigma_{cp} = \min\left(\frac{-N_{Ed}}{A_c}; 0.2 \cdot f_{cd}\right) = \min\left(\frac{-118}{0.45}; 0.2 \cdot 20\right) = -0.263\ MPa \qquad (\S 6.2.2(1))$$

Andere coëfficiënten

$C_{Rdc} = 0.12 \quad v_{min} = 0.368\ MPa \quad k_1 = 0.15$

Berekening van de rekenwaarde afschuifweerstand

$$V_{Rdc} = 10^6 \cdot \left(C_{Rdc} \cdot k \cdot \left(100 \cdot \rho_1 \cdot f_{ck}\right)^{\frac{1}{3}} + k_1 \cdot \sigma_{cp}\right) \cdot b_w \cdot d \qquad (6.2.a)$$

$$= 10^6 \cdot \left(0.12 \cdot 1.55 \cdot \left(100 \cdot 4.27 \cdot 10^{-3} \cdot 30\right)^{\frac{1}{3}} + 0.15 \cdot -0.263\right) \cdot 0.6 \cdot 0.672 = 159\ kN$$

$$V_{Rdcmin} = 10^6 \cdot \left(v_{min} + k_1 \cdot \sigma_{cp}\right) \cdot b_w \cdot d \qquad (6.2.b)$$

$$= 10^6 \cdot \left(0.368 + 0.15 \cdot -0.263\right) \cdot 0.6 \cdot 0.672 = 133\ kN$$

$$V_{Rdc} = \max\left(V_{Rdc}; V_{Rdcmin}; 0\right) = \max\left(159037; 132569; 0\right) = 159\ kN$$

Opm.: Ontwerpweerstand afschuiving van het element zonder de afschuifwapening is berekend volgens artikel 6.2.2(1), omdat de doorsnede is gescheurd in buiging in UGT of de doorsnede is niet belast door normaalkracht en buigende momenten.

## Rekenwaarde van de max. dwarskracht welke kan worden verdragen door het element

Sterktereductiefactor voor beton gescheurd in afschuiving - waarde v

$$\nu = 0.6 \cdot \left(1 - \frac{f_{ck}}{250}\right) = 0.6 \cdot \left(1 - \frac{30}{250}\right) = 0.528 \qquad (6.6N)$$

## Sterktereductiefactor voor beton gescheurd in afschuiving - waarde $\nu_1$

$$\sigma_{cp} = \min\left(\frac{-N_{Ed}}{A_c}; 0.2 \cdot f_{cd}\right) = \min\left(\frac{-118}{0.45}; 0.2 \cdot 20\right) = -0.263 \text{ MPa}$$

$$\nu_1 = 0.6 \qquad (6.10.aN)$$

Coëfficiënt voor de bepaling van de spanning in de drukdiagonaal

$\alpha_{cw} = 1$ (voor niet-voorgespannen element) (§6.2.3(3)N3)

Rekenwaarde van de max. dwarskracht welke kan worden verdragen door het element

$$V_{Rdmax} = \frac{\alpha_{cw} \cdot b_{w1} \cdot z \cdot \nu_1 \cdot f_{cd}}{\left(\cot g(\theta) + tg(\theta)\right)} = \frac{1 \cdot 0.6 \cdot 0.612 \cdot 0.6 \cdot 20 \cdot 10^6}{\left(\cot g(40) + tg(40)\right)} = 2171 \text{ kN} \qquad (6.9)$$

## Ontwerpafschuifweerstand van de staaf met afschuifwapening

Ontwerpspanning van afschuifwapening

$$A_{sw} = n_s \cdot \pi \cdot \left(\frac{\varnothing_s}{2}\right)^2 = 2 \cdot 3.14 \cdot \left(\frac{10}{2}\right)^2 = 157 \text{ mm}^2$$

$$\sigma_{swd} = \frac{\frac{V_{Ed}}{z} \cdot s_l}{A_{sw} \cdot \left(\cot g(\theta) + \cot g(\alpha_s) \cdot \sin(\alpha_s)\right)} = \frac{\frac{110850}{0.612} \cdot 0.2}{157 \cdot 10^{-6} \cdot \left(\cot g(40) + \cot g(90) \cdot \sin(90)\right)} = 193 \text{ MPa}$$

Ontwerpvloeispanning van afschuifwapening

$f_{ywd} = 0.8 \cdot f_{ywk} = 0.8 \cdot 500 = 400$ MPa , omdat $\sigma_{swd} < 0.8 \cdot f_{ywk}$)

Opm.: Ontwerp vloeisterkte van de afschuifwapening is gereduceerd to 0.8 x $f_{ywk}$ (EN 1992-1-1, Artikel 6.2.3(3)), omdat de ontwerpspanning van de afschuifwapening onder de 80% van de karakteristieke vloeispanning $f_{yk}$ is.

Limiet van maximaal toelaatbare afschuifwapening

$$A_{sw,max} = \frac{\alpha_{cw} \cdot \nu_1 \cdot f_{cd} \cdot b_{w1} \cdot s_l}{f_{ywd} \cdot \left(1 + \cot g(\theta)^2\right) \cdot \sin(\alpha_s)} = \frac{1 \cdot 0.6 \cdot 20 \cdot 600 \cdot 200}{400 \cdot \left(1 + \cot g(40)^2\right) \cdot \sin(90)} = 1487 \text{ mm}^2 \qquad (6.12)$$

$$A_{sw} = \min\left(A_{sw}; A_{sw,max}\right) = \min\left(157; 1487\right) = 157 \text{ mm}^2$$

Ontwerpafschuifweerstand van de staaf met afschuifwapening

$$V_{Rds} = \frac{A_{sw}}{s_l} \cdot z \cdot f_{ywd} \cdot \cot g(\theta) = \frac{157 \cdot 10^{-6}}{0.2} \cdot 0.612 \cdot 400 \cdot 10^6 \cdot \cot g(40) = 229 \text{ kN} \qquad (6.8)$$

## Maximale dwarskracht bij het steunpunt (zonder gebruik van factor β)

$$V_{Edmax} = 0.5 \cdot b_{w1} \cdot d \cdot \nu \cdot f_{cd} = 0.5 \cdot 0.6 \cdot 0.672 \cdot 0.528 \cdot 20 \cdot 10^6 = 2128 \text{ kN} \qquad (6.5)$$

## Afschuifweerstand van de staaf

$$V_{Rd} = \min\left(V_{Rds} + V_{ccd} + V_{td}; V_{Rdmax} + V_{ccd} + V_{td}; V_{Edmax} + V_{ccd} + V_{td}\right) = \min\left(229 + 0 + 0; 2171 + 0 + 0; 2128 + 0 + 0\right) = 229 \text{ kN}$$

### Dwarskrachtcontrole

Controle $V_{Rdmax}$

$V_{Ed} = 111\ kN \leq V_{Rdmax} + V_{ccd} + V_{td} = 2171\ kN$

Opm.: De controle voldoet voor het verbrijzelen van de drukschoor ($V_{Ed} \leq V_{Rd,max} + V_{td} + V_{ccd}$).

Controle $V_{Edmax}$

$V_{Ed} = 111\ kN \leq V_{Edmax} + V_{ccd} + V_{td} = 2128\ kN$

Opm.: De controle voldoet voor dwarskracht nabij het steunpunt ($V_{Ed} \leq V_{Ed,max} + V_{td} + V_{ccd}$).

Controle $V_{Rdc}$ en $V_{Rds}$

$V_{Ed} = 111kN < V_{Rds} + V_{ccd} + V_{td} = 229\ kN$

Opm.: De controle voldoet voor afschuifwapening ($V_{Ed} < V_{Rds} + V_{ccd} + V_{td}$).

### Eenh. Controle

$$UC = \frac{V_{Ed}}{V_{Rd}} = \frac{111\ kN}{229\ kN} = 0.483$$

## Controleer torsie en bereken torsieweerstand

Totale oppervlakte van doorsnede

$A_c = 450000\ mm^2$

Buitenomtrek van de doorsnede

$u_c$ = ConcreteCssCharacteristics.Perimeter = 2.7 = 2700 mm

De oppervlakte van langswapening voor torsie

$A_{sl} = 2526\ mm^2$

De minimum afstand tussen wapeningsstaven binnen beugel voor torsie en rand van doorsnede

$a_{sl} = 55\ mm$

Effectieve wanddikte

$$t_{ef} = \max\left(\frac{A_c}{u_c}; 2 \cdot a_{sl}\right) = \max\left(\frac{450000}{2700}; 2 \cdot 55\right) = 167\ mm \qquad (§6.3.2(1))$$

Omtrek en oppervlakte van de zone binnen de centrale lijn van de effectieve doorsnede

$u_k = 2033\ mm$

$A_k = 252778\ mm^2$

Opm.: Torsieparameters [waarden van $A_k$ en $u_k$] zijn berekend volgens de automatisch ingestelde methode [Methode = Van torsiebeugel].

## Parameters voor afschuif/torsie wapening

Beugels over de lengte van scheurafschuifprojectie $\delta = z^*\cot(\Theta) = 724$ mm, interval (-362; 362)

$z = \text{Coeff_d} \cdot \text{Coeff_z} \cdot h = 0.9 \cdot 0.9 \cdot 0.75 = 608$ mm $\quad \delta = z \cdot \text{cotg}(\theta) = 0.608 \cdot \text{cotg}(40) = 724$ mm

| ID | Zone | $x_s$ [mm] | $\varnothing_s$ [mm] | $s_s$ [mm] | $n_s$ [] | $\alpha_s$ [°] | $f_{ywk}$ [MPa] |
|---|---|---|---|---|---|---|---|
| 1 | 1 | -244 | 10 | 200 | 2 | 90 | 500 |
| 2 | 1 | -43.6 | 10 | 200 | 2 | 90 | 500 |
| 3 | 1 | 156 | 10 | 200 | 2 | 90 | 500 |
| 4 | 1 | 356 | 10 | 200 | 2 | 90 | 500 |
| Avg. | - | - | 10 | 200 | 2 | 90 | 500 |

### Invoerparameters

Diameter $\varnothing_{st} = 10$ mm

Hoek van beugels van elementas $\alpha_{st} = 90$ °

Karakteristieke vloeigrens $f_{ywtk} = 500$ MPa

Doorsnedeoppervlakte van afschuifwapening

$$A_{swt} = \pi \cdot \left(\frac{\varnothing_{st}}{2}\right)^2 = 3.14 \cdot \left(\frac{10}{2}\right)^2 = 78.5 \text{ mm}^2$$

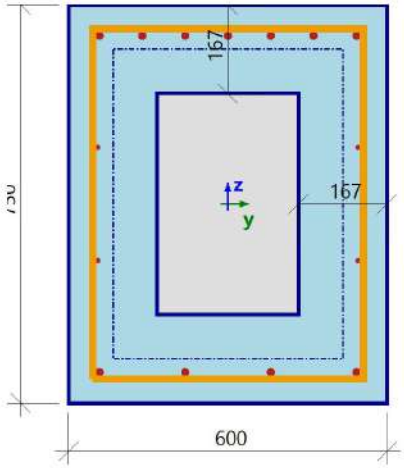
Maximale longitudinale tussenafstand van beugelwapening $s_{lt} = 200$ mm

Doorsnedeoppervlakte van afschuifwapening per meter

$$A_{swtm} = \frac{A_{swt}}{s_{lt}} = \frac{78.5}{200} = 393 \text{ mm}^2/\text{m}$$

Ontwerpvloeispanning van afschuifwapening

$$f_{ywd} = \frac{f_{ywtk}}{\gamma_S} = \frac{500}{1.15} = 435 \text{ MPa}$$




## Berekening van torsie weerstanden

### Ontwerp torsie scheurmoment

$T_{Rdc} = 2 \cdot f_{ctd} \cdot t_{ef} \cdot A_k = 2 \cdot 1.33 \cdot 167 \cdot 252778 = 112$ kNm

### Ontwerp weerstandbiedend torsiemoment van torsiewapening

$$T_{Rds} = 2 \cdot A_k \cdot \frac{A_{swt}}{s_{lt}} \cdot f_{ywd} \cdot \text{cotg}(\theta) = 2 \cdot 252778 \cdot \frac{78.5}{200} \cdot 435 \cdot \text{cotg}(40) = 103 \text{ kNm}$$

### Maximaal ontwerptorsieweerstandsmoment

Sterktereductiefactor voor beton gescheurd in afschuiving - waarde v

$$\nu = 0.6 \cdot \left(1 - \frac{f_{ck}}{250}\right) = 0.6 \cdot \left(1 - \frac{30}{250}\right) = 0.528 \qquad \text{(6.6N)}$$

$\nu_1 = 0.6$ (6.10.aN)

Coëfficiënt voor de bepaling van de spanning in de drukdiagonaal

$\alpha_{cw} = 1$ (voor niet-voorgespannen element) (§6.2.3(3)N3)

Maximaal ontwerptorsieweerstandsmoment

$$T_{Rdmax} = 2 \cdot \nu \cdot \alpha_{cw} \cdot f_{cd} \cdot A_k \cdot t_{ef} \cdot \cos(\theta) \cdot \sin(\theta)$$
$$= 2 \cdot 0.528 \cdot 1 \cdot 20 \cdot 252778 \cdot 167 \cdot \cos(40) \cdot \sin(40) = 438 \text{ kNm}$$

Torsie weerstandsmoment van de staaf

$$T_{Rd} = \min(T_{Rds};T_{Rdmax}) = \min(103;438) = 103 \text{ kNm}$$

Additionele torsiekracht

Ontwerp additionele spanning

$$\sigma_{sd} = \frac{\text{abs}(T_{Ed}) \cdot u_k \cdot \text{cotg}(\theta)}{2 \cdot A_k \cdot A_{sl}} = \frac{\text{abs}(-43.3) \cdot 2033 \cdot \text{cotg}(40)}{2 \cdot 252778 \cdot 2526} = 82.2 \text{ MPa} \quad (6.28)$$

Ontwerp vloeigrens

$$f_{yd} = \frac{f_{yk}}{\gamma_s} = \frac{500}{1.15} = 435 \text{ MPa}$$

Ontwerp additionele trekkrachten

$$F_{sd} = \sigma_{sd} \cdot A_{sl} = 82.2 \cdot 2526 = 208 \text{ kN}$$

Maximale ontwerpkacht

$$F_{sdmax} = f_{yd} \cdot A_{sl} = 435 \cdot 2526 = 1098 \text{ kN}$$

**Torsie controle**

Controle $T_{Rdmax}$

$$T_{Ed} = 43.3 \text{ kNm} \leq T_{Rdmax} = 438 \text{ kNm}$$

Opm.: De controle voldoet voor het bezwijken van de drukschoor ($T_{Ed} < T_{Rd,max}$).

Controle $T_{Rdc}$ en $T_{Rds}$

$$T_{Ed} = 43.3 \text{ kNm} < T_{Rds} = 103 \text{ kNm}$$

Opm.: De controle voldoet voor afschuifwapening ($T_{Ed} < T_{Rds}$).

Controleer $F_{sdmax}$

$$F_{sd} = 208 \text{ kN} \leq F_{sdmax} = 1098 \text{ kN}$$

Opm.: De controle van additionele trekkracht in langswapening is geslaagd.

**Eenh. Controle**

$$UC = \max\left(\frac{\text{abs}(T_{Ed})}{T_{Rd}}; \frac{F_{sd}}{F_{sdmax}}\right) = \max\left(\frac{\text{abs}(-43.3 \text{ kNm})}{103 \text{ kNm}}; \frac{208 \text{ kN}}{1098 \text{ kN}}\right) = 0.421$$

# Interactie controle Vy+Vz+T

## Interactiecontrole Vy+Vz+T (beton)

Controleer vergelijking $(T_{Ed}/T_{Rdmax})+(V_{Ed}/V_{Rdmax})$

$$\left(\frac{\text{abs}(T_{Ed})}{T_{Rdmax}}\right) + \left(\frac{\text{abs}(V_{Ed})}{V_{Rdmax}}\right) = \left(\frac{\text{abs}(-43.3)}{438}\right) + \left(\frac{\text{abs}(111)}{2171}\right) = 0.15 \leq 1 \quad (6.29)$$

Opm.: Interactie controle $V_y + V_z + T$ for het bezwijken van de drukschoor voldoet.

Controleer vergelijking $(T_{Ed}/T_{Rdc})+(V_{Ed}/V_{Rdc})$

$$\left(\frac{\text{abs}(T_{Ed})}{T_{Rdc}}\right)+\left(\frac{\text{abs}(V_{Ed})}{V_{Rdc}}\right)=\left(\frac{\text{abs}(-43.3)}{112}\right)+\left(\frac{\text{abs}(111)}{159}\right)=1.08 > 1 \text{ and } A_{sw} > 0 \quad (6.31)$$

Opm.: Dwarskrachten en het torsiemoment kunnen niet worden gedragen door het beton, afschuifwapening is benodigd.

Eenh. Controle

$UC_{int.con} = 0.15$

## Interactiecontrole Vy+Vz+T (afschuifwapening)

Ontwerpspanning

$$\sigma_{swd}=\left(\frac{\text{abs}(T_{Ed})}{2\cdot A_k}+\frac{V_{Ed}}{n_s\cdot z}\right)\cdot\left(\frac{s_{lt}}{A_{swt}\cdot\text{cotg}(\theta)}\right)=\left(\frac{\text{abs}(-43.3)}{2\cdot 252778}+\frac{111}{2\cdot 612}\right)\cdot\left(\frac{200}{78.5\cdot\text{cotg}(40)}\right)=376 \text{ MPa}$$

Ontwerp vloeigrens

$f_{ywd} = 0.8\cdot f_{ywk} = 0.8\cdot 500 = 400$ MPa , (omdat $\sigma_{swd} < 0.8\cdot f_{ywk}$)

Opm.: Ontwerp vloeigrens van de afschuifwapening is gereduceerd naar 0.8 x $f_{ywk}$ (EN 1992-1-1, Artikel 6.2.3(3)) omdat de ontwerpspanning van de afschuifwapening is onder 80% van de karakteristieke vloeispanning $f_{yk}$.

$\sigma_{swd} = 376$ MPa $< f_{ywd} = 400$ MPa

Opm.: Interactie controle $V_y + V_z + T$ voor afschuifwapening voldoet.

Eenh. Controle

$$UC_{int.shear}=\frac{\sigma_{swd}}{f_{ywd}}=\frac{376}{400}=0.941$$

## Totale eenheidscontrole van de interactie

$$UC_{int} = \max(UC_{int.con};UC_{int.shear}) = \max(0.15;0.941) = 0.941$$

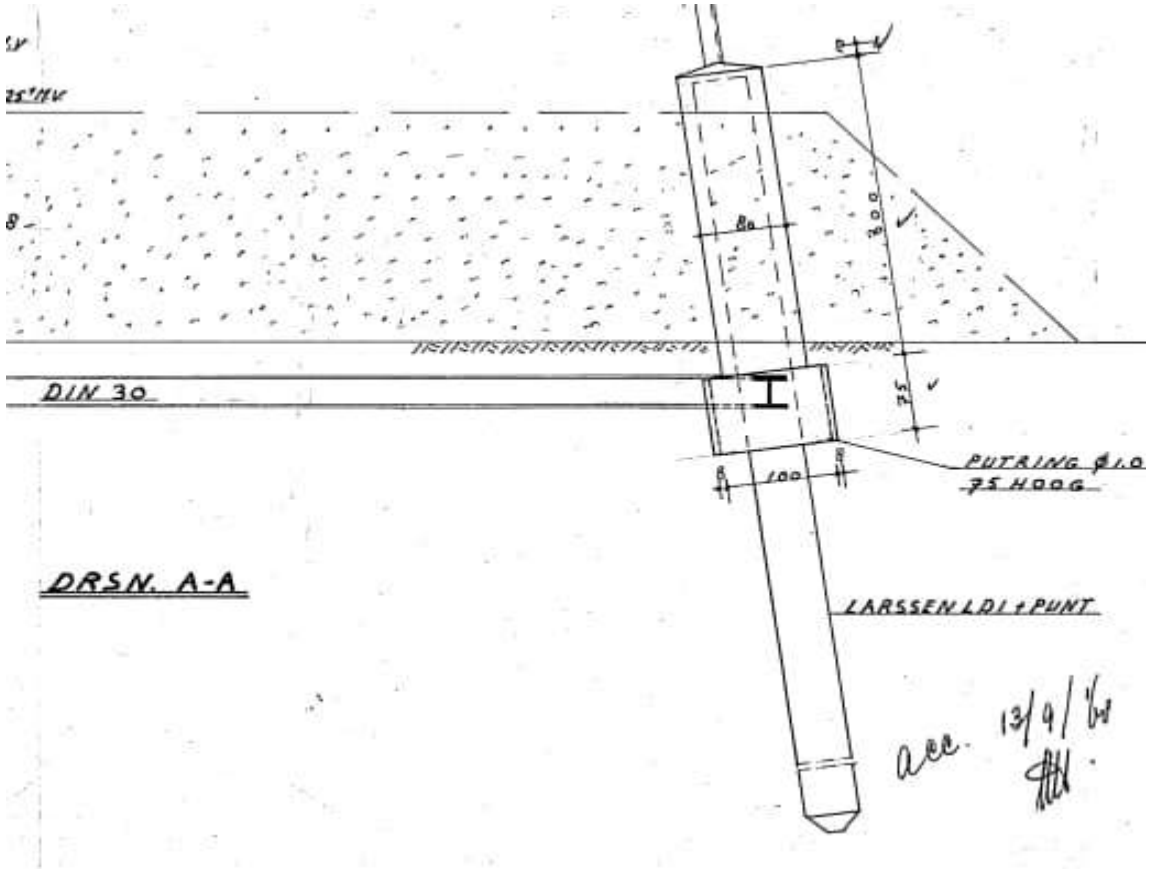
## Totale waarde van eenheidscontrole

$$UC = \max(UC_{shear};UC_{tor};UC_{int.con};UC_{int.shear}) = \max(0.483;0.421;0.15;0.941) = 0.941$$

**Bestaande balk:** Mast 144

| profiel | DIN30 | Oppervlak | | | Wel.y | | | Wel.z | | |
|---|---|---|---|---|---|---|---|---|---|---|
| hoogte | breedte | | | | | | | | | |
| 300 | 300 | A = | 15403 | mm2 | Wel.y = | 1717800 | mm3 | Wel.z = | 600460 | mm3 |
| 20 | 12 | | | | | | | | | |
| | | It | | | Fy | | | | | |
| | | | | | | S235 | | | | |
| | | It = | 1772800 | mm4 | | 235 | | | | |
| | | | | | | | | | | |

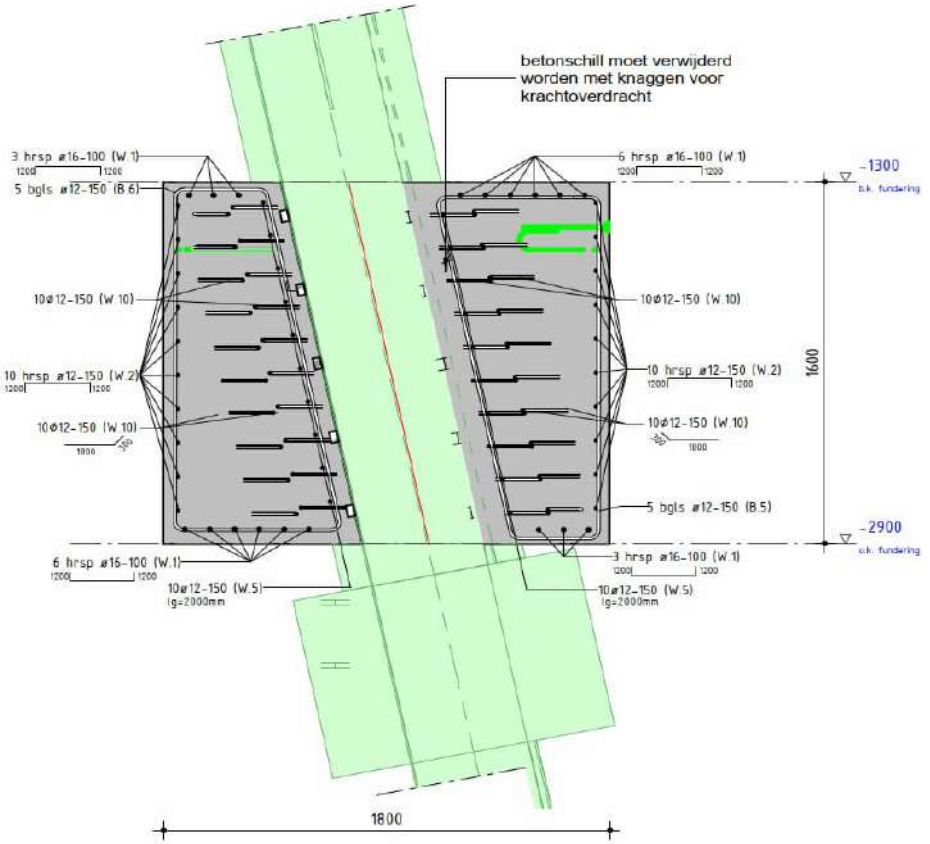
| | | | δd | | Max. δd | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -181,65 | kN | 12 | N/mm2 | 235 | N/mm2 | 0,05 |
| Nd:max | 212,92 | kN | 14 | N/mm2 | 235 | N/mm2 | 0,06 |
| | | | | | | | |
| Vd:min | -30,51 | kN | 20 | N/mm2 | 235 | N/mm2 | 0,08 |
| Vd:max | 31,77 | kN | 20 | N/mm2 | 235 | N/mm2 | 0,09 |
| | | | | | | | |
| Mxd:min | -0,26 | kN.m | 0 | N/mm2 | 235 | N/mm2 | 0,00 |
| Mxd:max | 0,25 | kN.m | 0 | N/mm2 | 235 | N/mm2 | 0,00 |
| | | | | | | | |
| Myd:min | -174,51 | kN.m | 102 | N/mm2 | 235 | N/mm2 | 0,43 |
| Myd:max | 134,16 | kN.m | 78 | N/mm2 | 235 | N/mm2 | 0,33 |
| | | | | | | | |
| Mzd:min | -27,66 | kN.m | 16 | N/mm2 | 235 | N/mm2 | 0,07 |
| Mzd:max | 17,08 | kN.m | 10 | N/mm2 | 235 | N/mm2 | 0,04 |



**Nieuwe balk:** Mast 144

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 1600 | 1800 | 9 | 16 | mm | 9 | 16 | mm | 10 | 12 | mm |
| | | As: | 1810 | mm2 | | 1810 | mm2 | | 1131 | mm2 |
| | | Beugels | | | Feb: | | | C30/37 | 30 | N/mm2 |
| | | h.o.h. | Ø | | | | feb500 | α | 21 | graden |
| | | 150 | 12 | mm | | | 435 | TAN α | 0,38 | |
| | | | 1508 | mm2/m1 | | | | VRcd: | 0,47 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -22,09 | kN | 51 | mm2 | 4750 | mm2 | 0,01 |
| Nd:max | 22,09 | kN | 51 | mm2 | 4750 | mm2 | 0,01 |
| | | | | | | | |
| Vd:min | -647,69 | kN | 410 | mm2 | 1508 | mm2 | 0,27 |
| Vd:max | 671,79 | kN | 425 | mm2 | 1508 | mm2 | 0,28 |
| | | | | | | | |
| Mxd:min | -31,5 | kN.m | 46 | mm2 | 1533 | mm2 | 0,03 |
| Mxd:max | 31,77 | kN.m | 46 | mm2 | 1533 | mm2 | 0,03 |
| | | | | | | | |
| Myd:min | -390,94 | kN.m | 644 | mm2 | 1810 | mm2 | 0,36 |
| Myd:max | 503,05 | kN.m | 829 | mm2 | 1810 | mm2 | 0,46 |
| | | | | | | | |
| Mzd:min | -12,98 | kN.m | 2 | mm2 | 226 | mm2 | 0,01 |
| Mzd:max | 12,52 | kN.m | 2 | mm2 | 226 | mm2 | 0,01 |

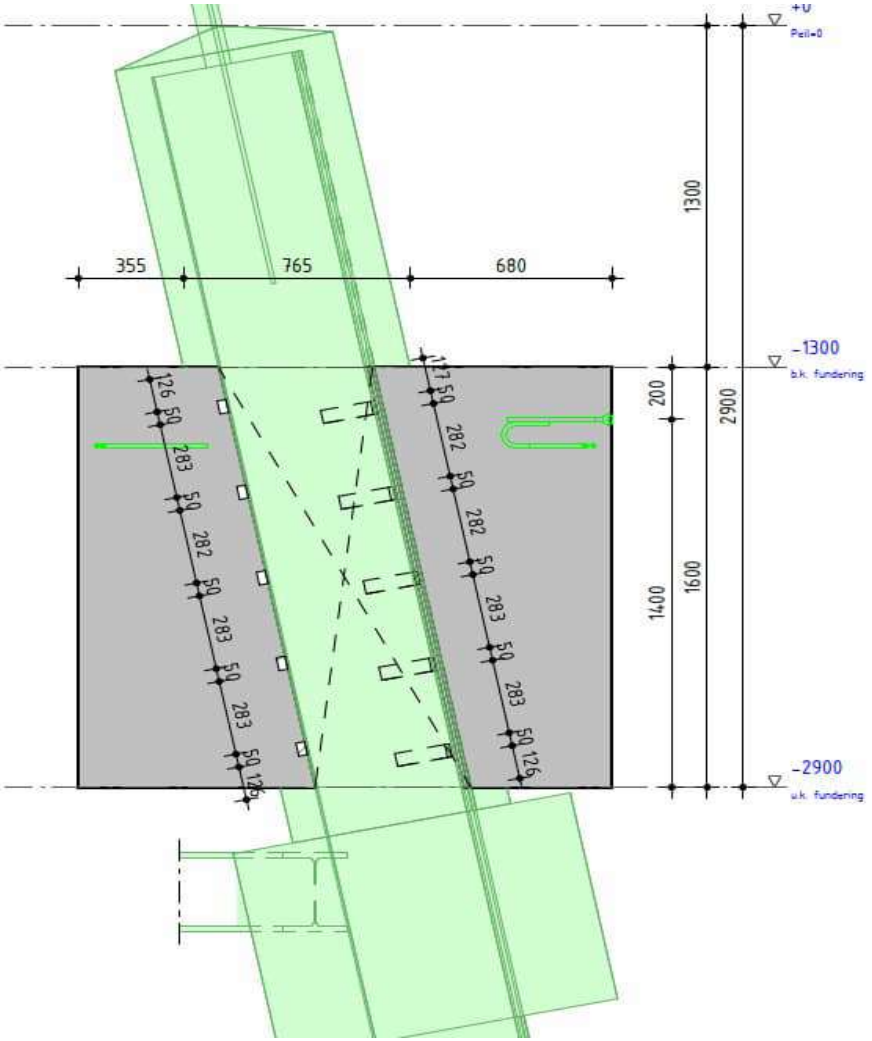


**Koppeling nieuw aan bestaande balk:** Mast 144 => Zie berekening Knaggen

| hoogte | breedte | Stekken (1000mm) | | | Feb: | | |
|---|---|---|---|---|---|---|---|
| | | h.o.h. | Ø | | | | feb500 |
| 1600 | 1800 | 100 | 16 | mm | | | 435 |
| | | | 2011 | mm2/m1 | | | |

Fd:paal druk 0 kN
trek 0 kN
Excentrisiteit paal 0,75 m

| | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|
| Md:druk | 0 kN.m | 0 | mm2 | 2011 | mm2 | 0,00 |
| Md:trek | 0 kN.m | 0 | mm2 | 2011 | mm2 | 0,00 |



## Stap 1: Formule voor dwarskrachtcapaciteit

Voor een I-profiel zonder verzwakkingen geldt:

$$V_{Rd} = \frac{A_w \cdot f_y}{\sqrt{3} \cdot \gamma_{M0}}$$

waar:

- $A_w = h_w \cdot t_w$ = weboppervlak (hoogte van het lijf × dikte van het lijf)
- $f_y$ = vloeigrens (S235 → 235 MPa)
- $\gamma_{M0} = 1,0$ (veiligheidsfactor)
- $h_w$ = hoogte van het lijf (afstand tussen flenzen)
- $t_w$ = dikte van het lijf

De torsieweerstand van een H-profiel wordt meestal uitgedrukt via het **torsiemoment van weerstand** en hangt af van de **warping** en **Saint-Venant torsie**. Voor een H-profiel (IPE, HEA, HEB) zijn er twee belangrijke grootheden:

1. **Torsiestijfheid (G·It)**
   - $G$ = schuifmodulus (voor staal ≈ 81.000 N/mm²)
   - $I_t$ = torsieconstante (afhankelijk van profielvorm)
2. **Torsiemoment van weerstand (W_t)**
   - Wordt gebruikt om de spanning bij torsie te berekenen:
     $\tau = \frac{M_t}{W_t}$
     waarbij $M_t$ het torsiemoment is.

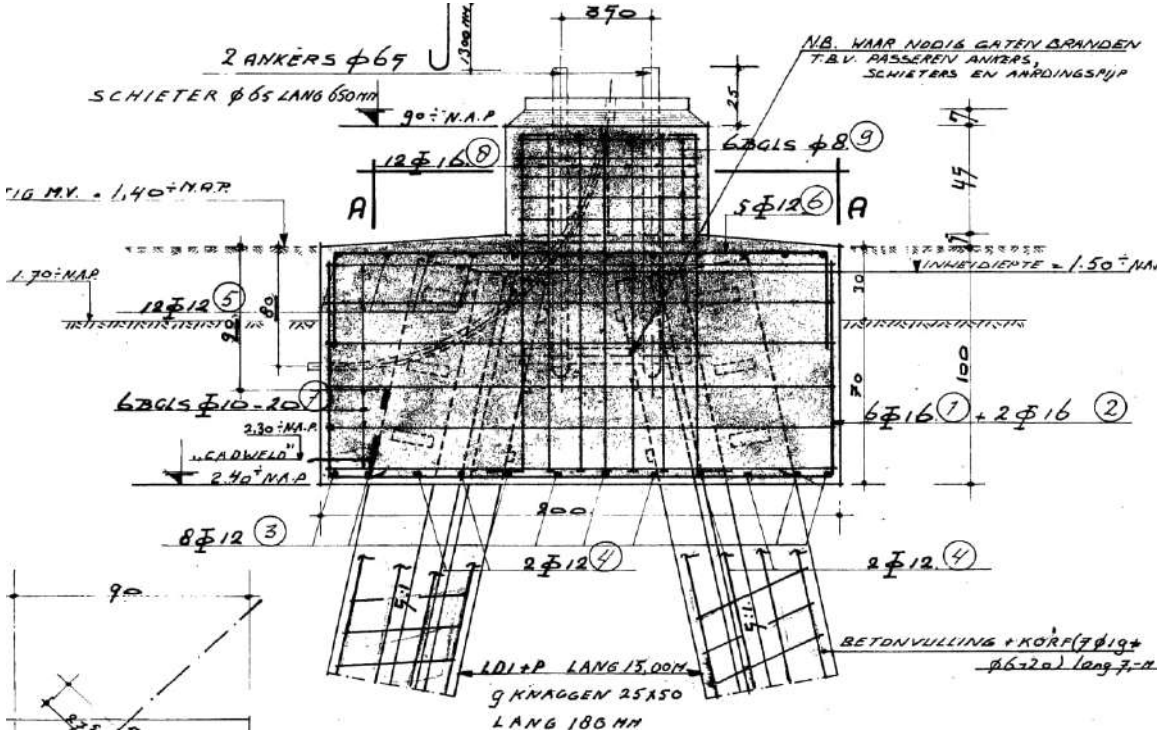
## Hoe bereken je $I_t$ voor een H-profiel?

Voor een open profiel zoals een H-balk is $I_t$ veel kleiner dan bij gesloten profielen. Formule (benadering):
$I_t \approx \frac{1}{3} \sum (b \cdot t^3)$
waarbij je voor elke flens en het lijf de breedte $b$ en dikte $t$ neemt.

**Bestaande poer:** Mast 148

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 1000 | 900 | 5 | 12 | mm | 6 | 16 | mm | 6 | 10 | mm |
| | | As: | 565 | mm2 | | 1206 | mm2 | | 471 | mm2 |
| | | Beugels | | | Feb: | | | C12/15 | 12 | N/mm2 |
| | | h.o.h. | Ø | | QR24 | QR40 | | α | 21,8 | graden |
| | | 175 | 8 | mm | 210 | 348 | | TAN α | 0,40 | |
| | | | 574 | mm2/m1 | | | | VRcd: | 0,30 | N/mm2 |

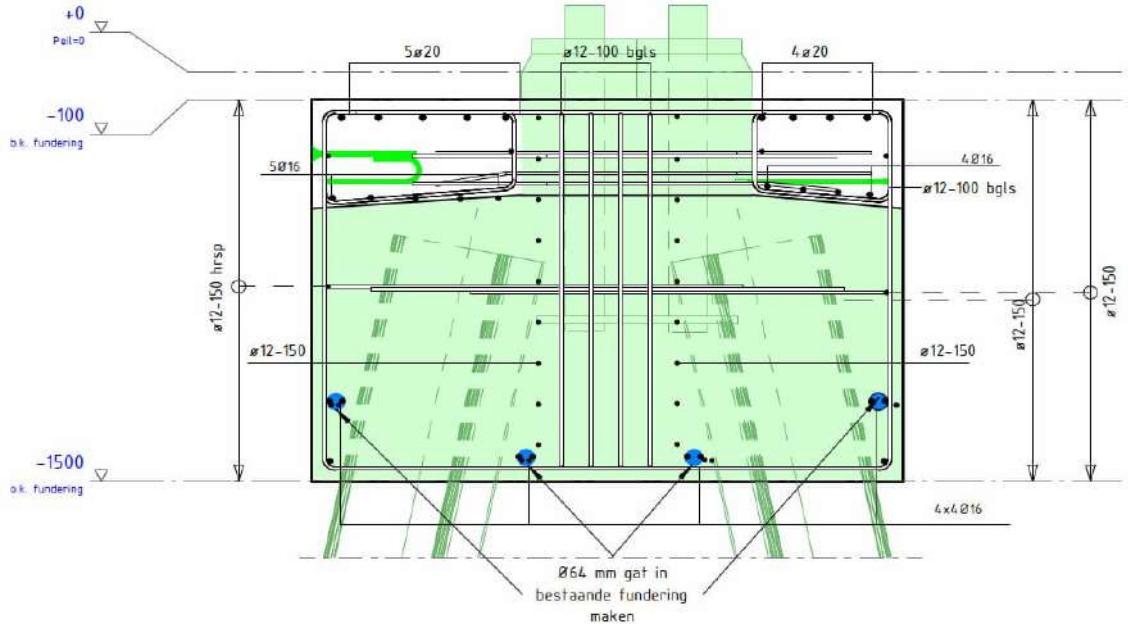
| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -179,29 | kN | 205 | mm2 | 2243 | mm2 | 0,09 |
| Nd:max | 77,72 | kN | 223 | mm2 | 2243 | mm2 | 0,10 |
| | | | | | | | |
| Vd:min | -14,02 | kN | 31 | mm2 | 574 | mm2 | 0,05 |
| Vd:max | 14,03 | kN | 31 | mm2 | 574 | mm2 | 0,05 |
| | | | | | | | |
| Mxd:min | -33,37 | kN.m | 125 | mm2 | 785 | mm2 | 0,16 |
| Mxd:max | 33,4 | kN.m | 125 | mm2 | 785 | mm2 | 0,16 |
| | | | | | | | |
| Myd:min | -207,47 | kN.m | 697 | mm2 | 723 | mm2 | 0,97 |
| Myd:max | 296,95 | kN.m | 998 | mm2 | 1206 | mm2 | 0,83 |
| | | | | | | | |
| Mzd:min | -12,23 | kN.m | 15 | mm2 | 101 | mm2 | 0,15 |
| Mzd:max | 12,21 | kN.m | 15 | mm2 | 101 | mm2 | 0,15 |



**Nieuwe balk:** Mast 148

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 1400 | 2000 | 10 | 20 | mm | 8 | 16 | mm | 2 | 16 | mm |
| | | As: | 3142 | mm2 | | 1608 | mm2 | | 402 | mm2 |
| | | Beugels | | | Feb: | | | C30/37 | 30 | N/mm2 |
| | | h.o.h. | Ø | | | | feb500 | α | 21 | graden |
| | | 100 | 12 | mm | | | 435 | TAN α | 0,38 | |
| | | | 2262 | mm2/m1 | | | | VRcd: | 0,47 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -5,2 | kN | 12 | mm2 | 5152 | mm2 | 0,00 |
| Nd:max | 5,21 | kN | 12 | mm2 | 5152 | mm2 | 0,00 |
| | | | | | | | |
| Vd:min | -386,19 | kN | 280 | mm2 | 2262 | mm2 | 0,12 |
| Vd:max | 384,96 | kN | 280 | mm2 | 2262 | mm2 | 0,12 |
| | | | | | | | |
| Mxd:min | -20,93 | kN.m | 27 | mm2 | 917 | mm2 | 0,03 |
| Mxd:max | 20,93 | kN.m | 27 | mm2 | 917 | mm2 | 0,03 |
| | | | | | | | |
| Myd:min | -376,87 | kN.m | 713 | mm2 | 3142 | mm2 | 0,23 |
| Myd:max | 335,28 | kN.m | 683 | mm2 | 1608 | mm2 | 0,42 |
| | | | | | | | |
| Mzd:min | -12,92 | kN.m | 2 | mm2 | 226 | mm2 | 0,01 |
| Mzd:max | 12,91 | kN.m | 2 | mm2 | 226 | mm2 | 0,01 |

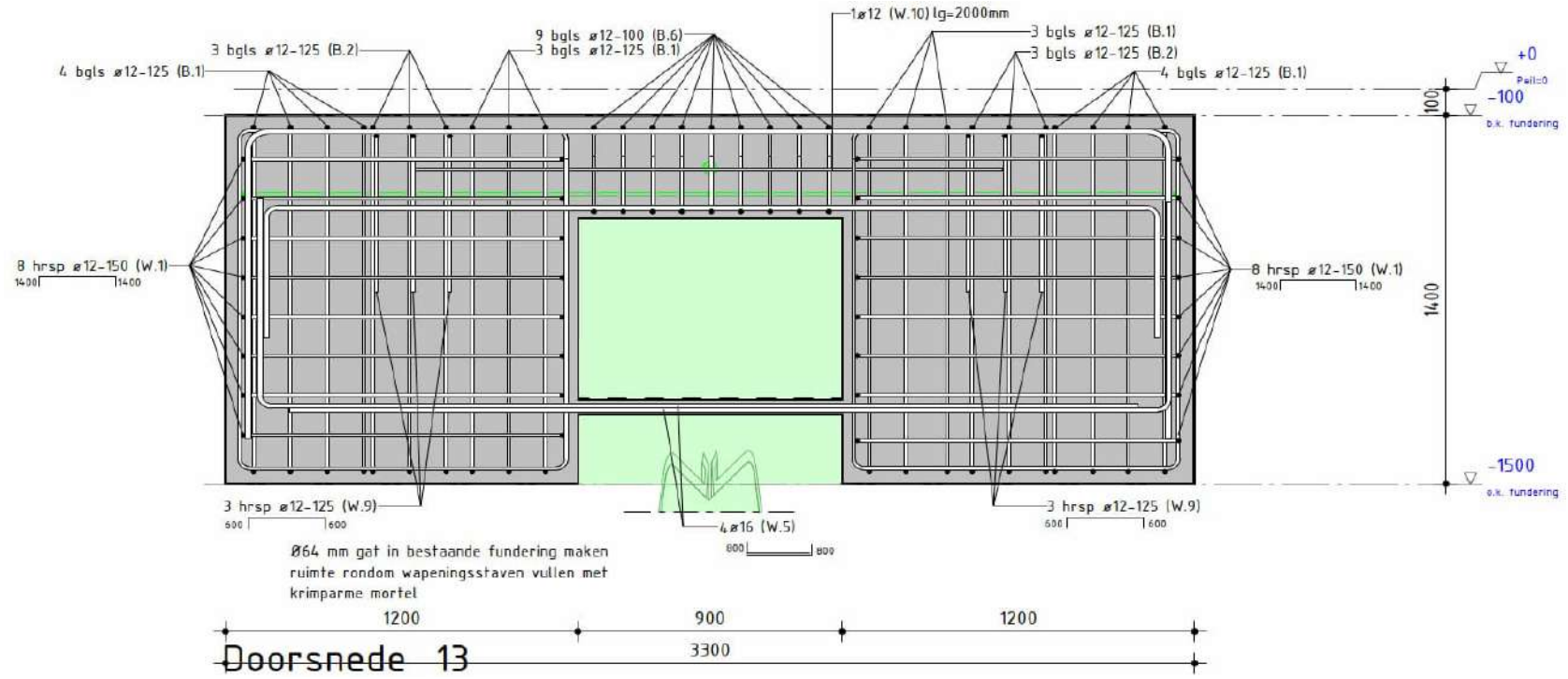


**Koppeling nieuw aan bestaande poer:** Mast 148

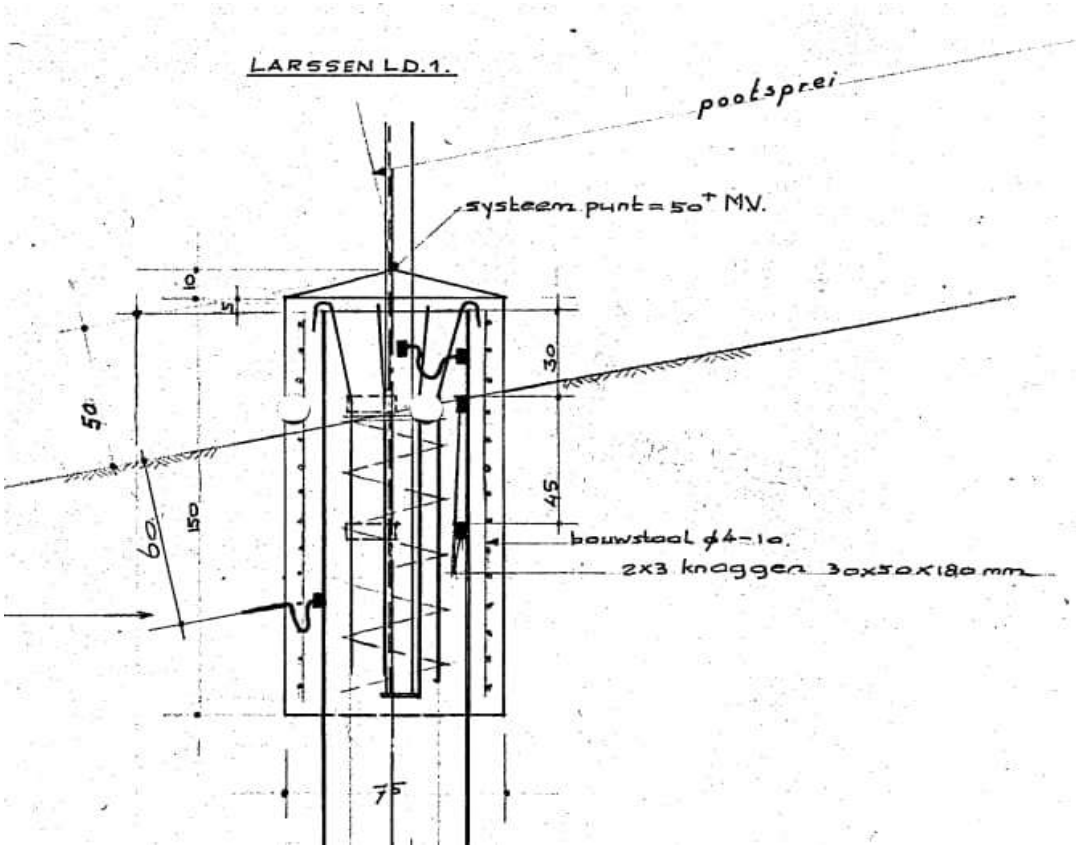
| hoogte | breedte | Stekken (1000mm) | | | Feb: | | |
|---|---|---|---|---|---|---|---|
| | | h.o.h. | Ø | | | | feb500 |
| 1000 | 2000 | 125 | 16 | mm | | | 435 |
| | 0 | | 1608 | mm2/m1 | | | |

| | | | |
|---|---|---|---|
| Fd:paal | druk | -464 | kN |
| | trek | 277 | kN |
| Excentrisiteit paal | | 0,64 | m |

| | | | As:ben | | As:aanw | | U.C. As | |
|---|---|---|---|---|---|---|---|---|
| Vd:druk | 0,3569 | N/mm | 1067 | mm2 | 3142 | mm2 | 0,34 | exclusief aandeel beton |
| Vd:trek | 0,21 | kN.m | 637 | mm2 | 1608 | mm2 | 0,40 | exclusief aandeel beton |



**Bestaande balk:** Masten 86 / 126 / 150 / 151 / 153 Cilinderpoeren hebben geen bestaande balk

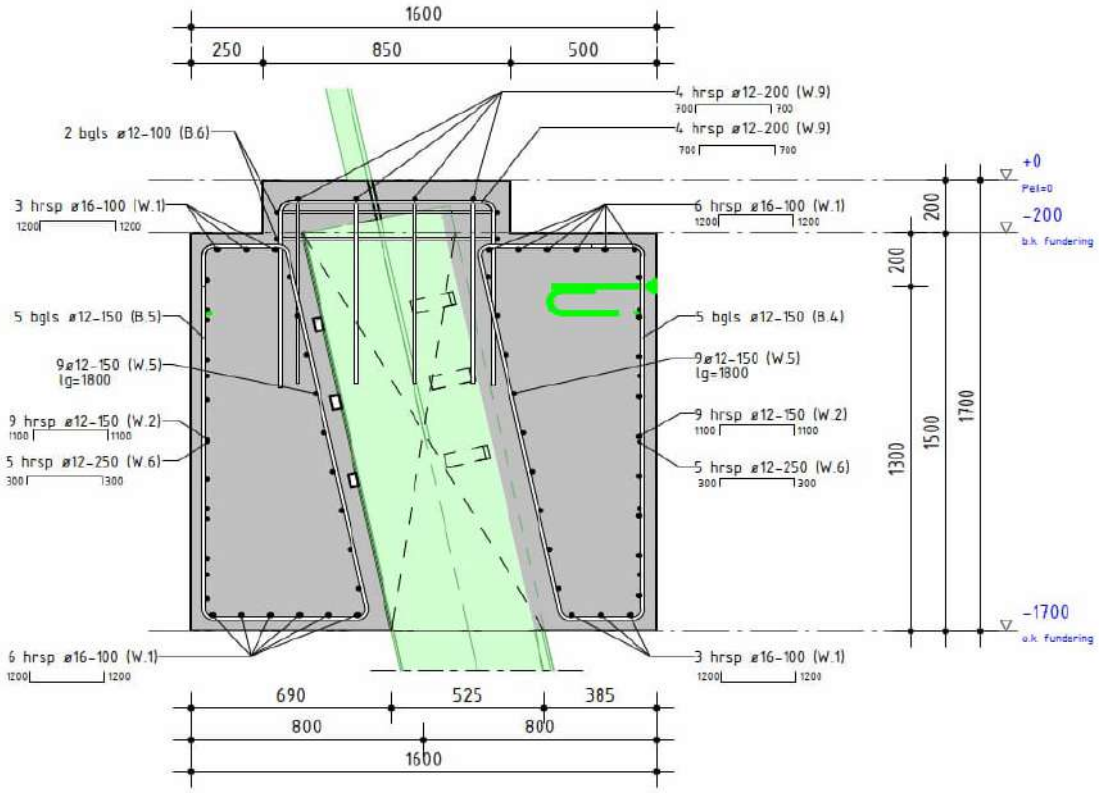


**Nieuwe balk:** Masten 86 / 126 / 150 / 151 / 153

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 750 | 1000 | 9 | 16 | mm | 9 | 16 | mm | 9 | 12 | mm |
| | | As: | 1810 | mm2 | | 1810 | mm2 | | 1018 | mm2 |
| | | Beugels | | | Feb: | | | C30/37 | 30 | N/mm2 |
| | | h.o.h. | Ø | | | | feb500 | α | 21 | graden |
| | | 200 | 12 | mm | | | 435 | TAN α | 0,38 | |
| | | | 1131 | mm2/m1 | | | | VRcd: | 0,47 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -22,31 | kN | 51 | mm2 | 4637 | mm2 | 0,01 |
| Nd:max | 18,56 | kN | 43 | mm2 | 4637 | mm2 | 0,01 |
| | | | | | | | |
| Vd:min | -315,32 | kN | 442 | mm2 | 1131 | mm2 | 0,39 |
| Vd:max | 313,4 | kN | 439 | mm2 | 1131 | mm2 | 0,39 |
| | | | | | | | |
| Mxd:min | -56,85 | kN.m | 153 | mm2 | 1420 | mm2 | 0,11 |
| Mxd:max | 56,67 | kN.m | 152 | mm2 | 1420 | mm2 | 0,11 |
| | | | | | | | |
| Myd:min | -430,83 | kN.m | 1572 | mm2 | 1810 | mm2 | 0,87 |
| Myd:max | 427,68 | kN.m | 1561 | mm2 | 1810 | mm2 | 0,86 |
| | | | | | | | |
| Mzd:min | -62,56 | kN.m | 45 | mm2 | 226 | mm2 | 0,20 |
| Mzd:max | 102,62 | kN.m | 73 | mm2 | 226 | mm2 | 0,32 |

**Zie pg. 5&6 voor berekening nieuwe balk.**



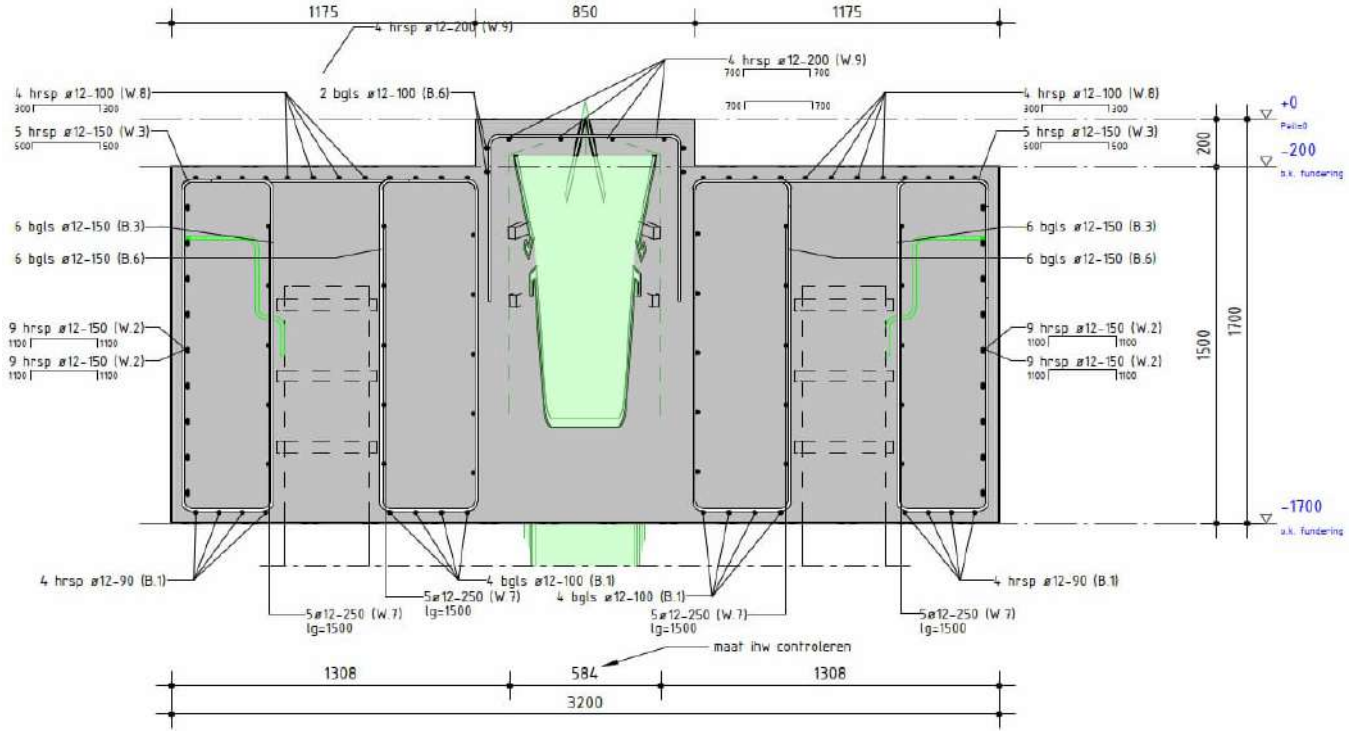
**Koppeling nieuw aan bestaande balk:** Masten 86 / 126 / 150 / 151 / 153

| hoogte | breedte | Stekken (1000mm) | | | Feb: | | |
|---|---|---|---|---|---|---|---|
| | | h.o.h. | Ø | | | | feb500 |
| 750 | 1000 | 150 | 16 | mm | | | 435 |
| | | | 1340 | mm2/m1 | | | |

Fd:paal druk -289,6 kN
trek 213,8 kN
Excentrisiteit paal 0,8 m

| | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|
| Md:druk | -231,71 kN.m | 947 | mm2 | 1340 | mm2 | 0,71 |
| Md:trek | 171,06 kN.m | 699 | mm2 | 1340 | mm2 | 0,52 |

**Zie pg. 4 voor toets stortvlak capaciteit**



| | | | |
|---|---|---|---|
| c | 0,4 | | |
| fctd | 1,333 | N/mm2 | 0 bij trek |
| μ | 0,7 | | |
| σn | 0,001 | N/mm2 | |
| ρ | 0,002 | | |
| fyd | 500 | N/mm2 | |
| α | 90 | graden | |
| v | 0,528 | | |
| fcd | 20 | N/mm2 | |
| 0,6 * fcd | 12 | N/mm2 | |

$f_{ctd} = \alpha_{ct}\, f_{ctk,0,05} / \gamma_C$ — 3.16

$\sigma_n < 0{,}6\, f_{cd}$

$v = 0{,}6\left[1 - \frac{f_{ck}}{250}\right]$ ($f_{ck}$ in MPa) — 6.6N

$f_{cd} = \alpha_{cc}\, f_{ck} / \gamma_C$ — 3.15

| | | |
|---|---|---|
| vRdi | 0,534 | N/mm2 |
| 0,5 * v * fcd | 5,280 | N/mm2 |

$v_{Rdi} = c\, f_{ctd} + \mu\, \sigma_n + \rho\, f_{yd}\, (\mu \sin \alpha + \cos \alpha) \leq 0{,}5\, \nu\, f_{cd}$ — 6.25

| | | |
|---|---|---|
| αct | 1 | normatief |
| fctk:0,05 | 2 | N/mm2 |
| γC | 1,5 | |

| | | |
|---|---|---|
| As | 1809 | mm2 |
| Ai | 787500 | mm2 |
| b | 525 | mm |
| h | 1500 | mm |

# Weerstand stortvlak cylinder 75

| | | |
|---|---|---|
| fck | 30 | N/mm2 |

| | | |
|---|---|---|
| αcc | 1 | normatief |
| Sin α | 1 | |
| Cos α | 0,00 | |

| | | |
|---|---|---|
| axiale druk | 1 | kN |

| | | |
|---|---|---|
| β | 1 | |
| vEd | 315,32 | kN |
| z | 1350 | mm |
| vEdi | 0,445 | N/mm2 |

$z = 0{,}9\, d$

$v_{Edi} = \beta\, V_{Ed} / (z\, b_i)$ — 6.24

| | |
|---|---|
| U.C. | 0,83 |

$v_{Edi} \leq v_{Rdi}$ — 6.23

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk My + Vz

| | | |
|---|---|---|
| $A_s$ | 1809 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 1075 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1500 | mm |
| Ø | 16 | mm |
| dekking | 45 | mm |
| d | 1447 | mm |

| | | |
|---|---|---|
| z | 1000 | mm |
| 0,9 * d | 1302,3 | mm |
| 0,6 x l | 1200 | mm |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ — 6.1 (10)

| | | |
|---|---|---|
| $F_{d\ druk}$ | 289,57 | kN |
| l | 2 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 430,8 | kN.m |
| $V_{Ed}$ | 315,32 | kN |

| | | |
|---|---|---|
| toets | 8213,172 | kN |

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ — 6.5

| | | | |
|---|---|---|---|
| k | 1,37 | | 2 |
| $\rho_l$ | 0,0012 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,308 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,00 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \text{fyd x z(min)} \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | |
|---|---|
| 6.2.2(1) | |
| 6.3N | |
| 6.10.aN | |
| 6.2.3(3) | |
| 6.2.2(1) | |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 388,36 | kN |
| | 479,10 | kN |

$$V_{Rd,c} = [C_{Rd,c}k(100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ — 6.2.a

$$V_{Rd,c} = (v_{min} + k_1\sigma_{cp})\,b_w d$$ — 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 990 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ — 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,55 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 6450,00 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ — 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 905 | kN |
| Ø | 12 | mm |
| s | 200 | mm |
| snedes | 4 | stuks |
| opp | 2262 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ — 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,24 | beton |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk My + Vz

| | | |
|---|---|---|
| $A_s$ | 1018 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 1500 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1075 | mm |
| Ø | 12 | mm |
| dekking | 45 | mm |
| d | 1024 | mm |

| | | |
|---|---|---|
| z | 1130 | mm |
| 0,9 * d | 921,6 | mm |
| 0,6 x l | 2100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 414 | kN |
| l | 3,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 102,6 | kN.m |
| $V_{Ed}$ | 62,29 | kN |

| | | |
|---|---|---|
| toets | 8110,08 | kN |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ — 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ — 6.5

| | | | |
|---|---|---|---|
| k | 1,44 | | 2 |
| $\rho_l$ | 0,0007 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,332 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,00 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | | |
|---|---|---|
| 6.2.2(1) | | |
| 6.3N | | |
| 6.10.aN | | |
| 6.2.3(3) | | |
| 6.2.2(1) | | |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 334,21 | kN |
| | 509,85 | kN |

$$V_{Rd,c} = [C_{Rd,c} k (100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ — 6.2.a

$$V_{Rd,c} = (v_{min} + k_1 \sigma_{cp})\,b_w d$$ — 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 256 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ — 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,25 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 8294,40 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ — 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 834 | kN |
| Ø | 12 | mm |
| s | 100 | mm |
| snedes | 2 | stuks |
| opp | 2262 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ — 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,05 | beton |

**NEN-EN 1992-1-1+C2:2011**

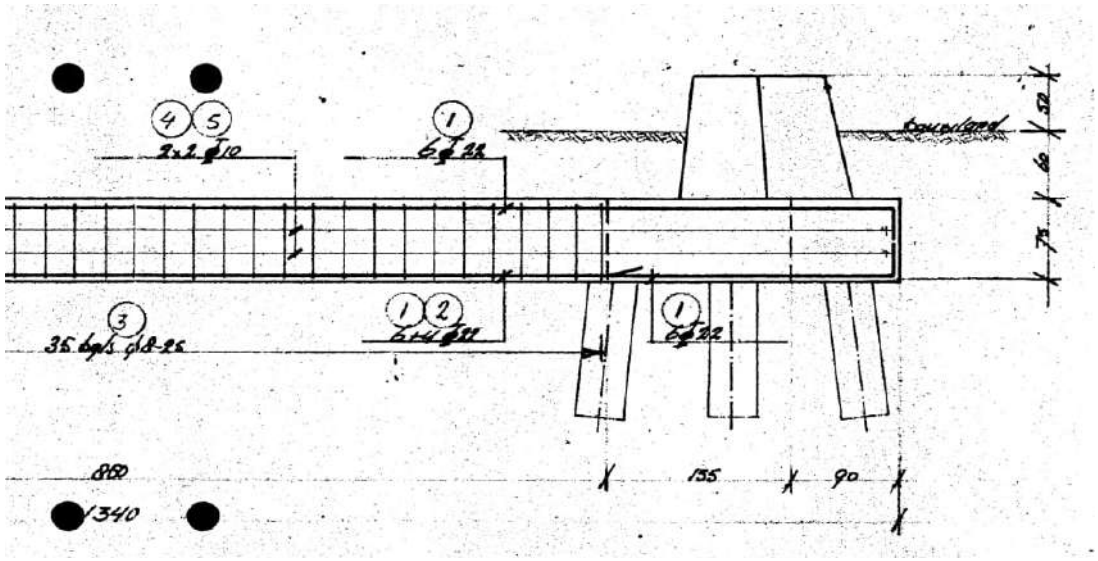
**Bestaande balk:** Mast 146

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 750 | 900 | 6 | 22 | mm | 6 | 22 | mm | 2 | 10 | mm |
| | | As: | 2281 | mm2 | | 2281 | mm2 | | 157 | mm2 |
| | | Beugels | | | fyd: | | | C12/15 | 12 | N/mm2 |
| | | h.o.h. | Ø | | QR24 | QR40 | | θ | 21,8 | graden |
| | | 250 | 8 | mm | 210 | 348 | | TAN θ | 0,40 | |
| | | | 402 | mm2/m1 | | | | VRcd: | 0,30 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -229,71 | kN | 660 | mm2 | 4719 | mm2 | 0,14 |
| Nd:max | 146,77 | kN | 422 | mm2 | 4719 | mm2 | 0,09 |
| | | | | | | | |
| Vd:min | -62,9 | kN | 190 | mm2 | 402 | mm2 | 0,47 |
| Vd:max | 62,54 | kN | 189 | mm2 | 402 | mm2 | 0,47 |
| | | | | | | | |
| Mxd:min | -353,92 | kN.m | 1329 | mm2 | 1678 | mm2 | 0,79 |
| Mxd:max | 352,61 | kN.m | 1325 | mm2 | 1678 | mm2 | 0,79 |
| | | | | | | | |
| Myd:min | -353,58 | kN.m | 1613 | mm2 | 2281 | mm2 | 0,71 |
| Myd:max | 463,72 | kN.m | 2115 | mm2 | 2281 | mm2 | 0,93 |
| | | | | | | | |
| Mzd:min | -140,71 | kN.m | 47 | mm2 | 101 | mm2 | 0,47 |
| Mzd:max | 144,68 | kN.m | 48 | mm2 | 101 | mm2 | 0,48 |

$N_{d:max} / f_{yd}$
$N_{d:min} / f_{yd}$

**Zie pg. 6&7 voor berekening bestaande balk.**



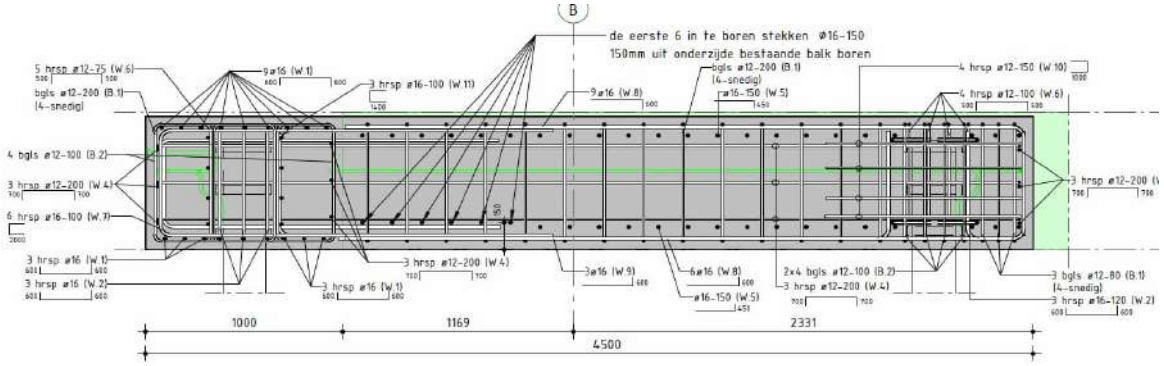
**Nieuwe balk:** Mast 146

| hoogte | breedte | Boven wapening | | | Onder wapening | | | Flank wapening | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | aantal | Ø | | aantal | Ø | | aantal | Ø | |
| 750 | 1000 | 9 | 16 | mm | 9 | 16 | mm | 3 | 12 | mm |
| | | As: | 1810 | mm2 | | 1810 | mm2 | | 339 | mm2 |
| | | Beugels | | | fyd: | | | C30/37 | 30 | N/mm2 |
| | | h.o.h. | Ø | | | | fyd500 | θ | 21,8 | graden |
| | | 200 | 12 | mm | | | 435 | TAN θ | 0,40 | |
| | | | 1131 | mm2/m1 | | | | VRcd: | 0,47 | N/mm2 |

| | | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|---|
| Nd:min | -138,38 | kN | 318 | mm2 | 3958 | mm2 | 0,08 |
| Nd:max | 108,38 | kN | 249 | mm2 | 3958 | mm2 | 0,06 |
| | | | | | | | |
| Vd:min | -104,35 | kN | 152 | mm2 | 1131 | mm2 | 0,13 |
| Vd:max | 77,96 | kN | 114 | mm2 | 1131 | mm2 | 0,10 |
| | | | | | | | |
| Mxd:min | -79,78 | kN.m | 215 | mm2 | 741 | mm2 | 0,29 |
| Mxd:max | 79,77 | kN.m | 214 | mm2 | 741 | mm2 | 0,29 |
| | | | | | | | |
| Myd:min | -154,32 | kN.m | 563 | mm2 | 1810 | mm2 | 0,31 |
| Myd:max | 270,82 | kN.m | 988 | mm2 | 1810 | mm2 | 0,55 |
| | | | | | | | |
| Mzd:min | -49,05 | kN.m | 37 | mm2 | 226 | mm2 | 0,16 |
| Mzd:max | 49,36 | kN.m | 37 | mm2 | 226 | mm2 | 0,16 |

$N_{d:max} / f_{yd}$
$N_{d:min} / f_{yd}$

**Zie pg. 8&9 voor berekening nieuwe balk.**



**Koppeling nieuw aan bestaande balk:** Mast 146

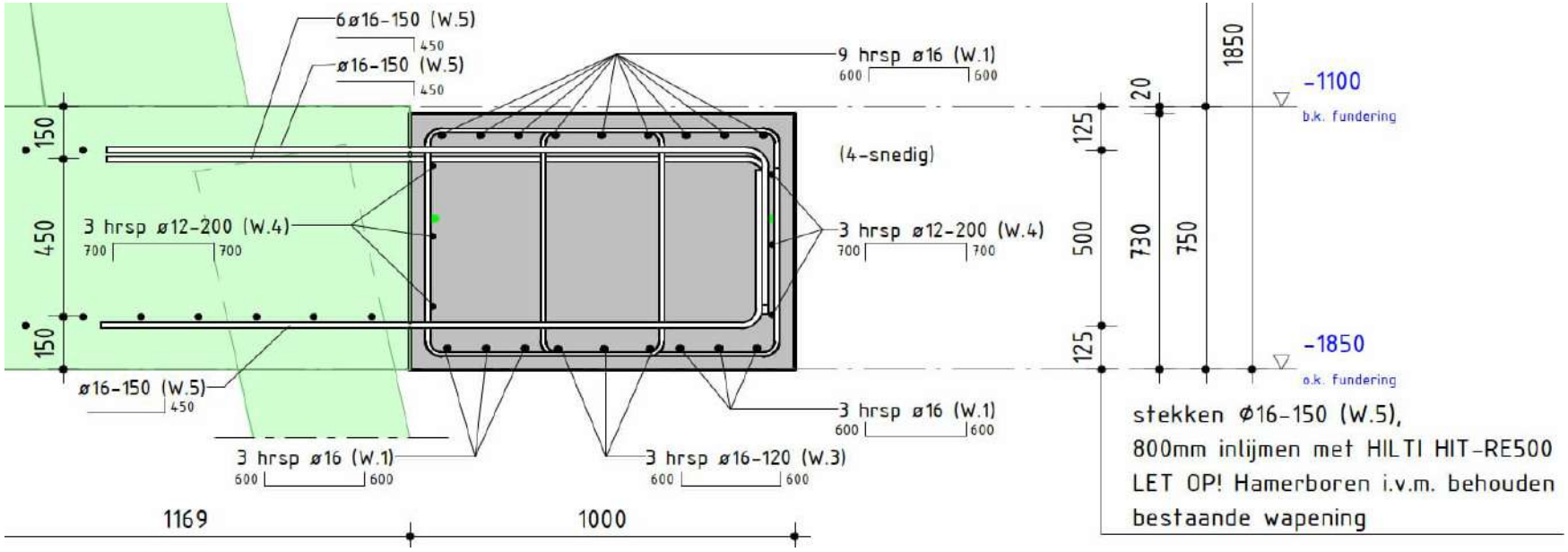
| hoogte | breedte | Stekken (1000mm) | | | Feb: | | |
|---|---|---|---|---|---|---|---|
| | | h.o.h. | Ø | | | | feb500 |
| 750 | 1000 | 150 | 16 | mm | | | 435 |
| | | | 1676 | mm2/m1 | | | |

Fd:paal druk -413,5 kN
trek 156,7 kN
Excentrisiteit paal 0,875 m

| | | As:ben | | As:aanw | | U.C. As |
|---|---|---|---|---|---|---|
| Md:druk | -361,83 kN.m | 1479 | mm2 | 1676 | mm2 | 0,88 |
| Md:trek | 137,07 kN.m | 560 | mm2 | 1676 | mm2 | 0,33 |

**Zie pg. 5 voor toets stortvlak capaciteit**

Eff breedte 1,25 m



## Gegevens

- Balk: **900 × 750 mm**
- Beton: **C12/15**, $T_{Rd,c} = 130\,\text{kN}\backslash\text{cdotpm}$
- Wapening:
  - **Langswapening**: 6×Ø22 boven + 6×Ø22 onder (voor buiging, niet direct voor torsie)
  - **Flankwapening**: 2×2×Ø10
  - **Beugels**: Ø8 @ 250 mm (QR24)

### Stap 1: Ontwerp treksterkte beton

$$f_{ctd} = \frac{\alpha_{ct} \cdot f_{ctk,0.05}}{\gamma_c} = \frac{1.0 \cdot 1.2}{1.5} = 0.8\,\text{N/mm}^2$$

### Stap 2: Effectieve wanddikte

$$t_{ef} = \frac{\min(b,h)}{3} = \frac{750}{3} = 250\,\text{mm}$$

### Stap 3: Oppervlak $A_k$

$$A_k = (b - t_{ef}) \cdot (h - t_{ef}) = (900 - 250) \cdot (750 - 250) = 650 \cdot 500 = 325{,}000\,\text{mm}^2$$

### Stap 4: Betonbijdrage torsie

$$T_{Rd,c} = 2 \cdot f_{ctd} \cdot t_{ef} \cdot A_k$$

$$T_{Rd,c} = 2 \cdot 0.8 \cdot 250 \cdot 325{,}000 = 130{,}000{,}000\,\text{N}\backslash\text{cdotpmm} = 130\,\text{kN}\backslash\text{cdotpm}$$

### Vergelijking

$$T_{Ed} = 140.71\,\text{kN}\backslash\text{cdotpm} > T_{Rd,c} = 130\,\text{kN}\backslash\text{cdotpm}$$

## Berekening wapeningbijdrage

Formule volgens Eurocode:

$$T_{Rd,s} = 2 \cdot A_k \cdot \frac{A_{sw}}{s} \cdot f_{ywd} \cdot \cot\theta$$

- $A_k = 325{,}000\,\text{mm}^2$
- $A_{sw}/s = 0.80\,\text{mm}^2/\text{mm}$ (beugels Ø8-250 mm)
- $f_{ywd} = 500\,\text{N/mm}^2$
- $\cot\theta = 1$ (bij $\theta = 45°$)

$$T_{Rd,s} \approx 261.4\,\text{kN}\backslash\text{cdotpm}$$

Met de aangepaste waarde $f_{ywd} = 240\,\text{N/mm}^2$ voor QR24-beugels is de berekening:

$$T_{Rd,s} = 124.8\,\text{kN}\backslash\text{cdotpm}$$

Met de flankwapening toegevoegd aan $A_{sw}/s$ is het resultaat:

- **Beugels (Ø8 @ 250 mm, fywd = 240):**
  $A_{sw}/s = 0.402\,\text{mm}^2/\text{mm}$, term $= 96.5$
- **Flankwapening (4×Ø10, fywd = 400):**
  $A_{sw}/s = 0.419\,\text{mm}^2/\text{mm}$, term $= 167.6$

## Totale wapeningbijdrage

$$T_{Rd,s} = 171.6\,\text{kN}\backslash\text{cdotpm}$$

## Totale torsieweerstand

$$T_{Rd,tot} = T_{Rd,c} + T_{Rd,s} = 130 + 171.6 = 301.6\,\text{kN}\backslash\text{cdotpm}$$

| | | | |
|---|---|---|---|
| c | 0,4 | | |
| $f_{ctd}$ | 1,333 | N/mm2 | 0 bij trek |
| μ | 0,7 | | |
| $\sigma_n$ | 0,001 | N/mm2 | |
| ρ | 0,002 | | |
| $f_{yd}$ | 500 | N/mm2 | |
| α | 90 | graden | |
| v | 0,528 | | |
| $f_{cd}$ | 20 | N/mm2 | |
| 0,6 * $f_{cd}$ | 12 | N/mm2 | |
| $V_{Rdi}$ | 1,177 | N/mm2 | |
| 0,5 * v * $f_{cd}$ | 5,280 | N/mm2 | |
| $\alpha_{ct}$ | 1 | | normatief |
| $f_{ctk:0,05}$ | 2 | N/mm2 | |
| $\gamma_C$ | 1,5 | | |

$$f_{ctd} = \alpha_{ct}\, f_{ctk,0,05} / \gamma_C$$ 3.16

$$\sigma_n < 0,6\, f_{cd}$$

$$\nu = 0,6\left[1 - \frac{f_{ck}}{250}\right] \quad (f_{ck} \text{ in MPa})$$ 6.6N

$$f_{cd} = \alpha_{cc}\, f_{ck} / \gamma_C$$ 3.15

$$v_{Rdi} = c\, f_{ctd} + \mu\, \sigma_n + \rho\, f_{yd}\,(\mu \sin\alpha + \cos\alpha) \le 0,5\, \nu\, f_{cd}$$ 6.25

# Weerstand stortvlak balkrooster

| | | |
|---|---|---|
| $A_s$ | 1675 | mm2 |
| $A_i$ | 912500 | mm2 |
| b = $b_i$ | 1250 | mm |
| h | 730 | mm |
| $f_{ck}$ | 30 | N/mm2 |

| | | | |
|---|---|---|---|
| $\alpha_{cc}$ | 1 | | normatief |
| sin α | 1 | | |
| cos α | 0 | | |
| axiale druk | 1 | kN | |

| | | |
|---|---|---|
| β | 1 | |
| $V_{Ed}$ | 413,5 | kN |
| z | 657 | mm |
| $V_{Edi}$ | 0,504 | N/mm2 |

$$z = 0,9\, d$$

$$v_{Edi} = \beta\, V_{Ed} / (z\, b_i)$$ 6.24

| | | | |
|---|---|---|---|
| U.C. | 0,43 | $v_{Edi} \le v_{Rdi}$ | 6.23 |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets best. balk My + Vz

| | | |
|---|---|---|
| $A_s$ | 2281 | $mm^2$ |
| $f_{yd}$ | 400 | $N/mm^2$ |
| b \| $b_w$ | 900 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 750 | mm |
| Ø | 22 | mm |
| dekking | 30 | mm |
| d | 709 | mm |

| | | |
|---|---|---|
| z | 2000 | mm |
| 0,9 * d | 638,1 | mm |
| 0,6 x l | 5100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 414 | kN |
| l | 8,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 463,7 | kN.m |
| $V_{Ed}$ | 62,9 | kN |

| | | |
|---|---|---|
| toets | 3369,168 | kN |

| | | | |
|---|---|---|---|
| k | 1,53 | | 2 |
| $\rho_l$ | 0,0036 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,363 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 258,54 | kN |
| | 231,76 | kN |

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 2088 | $mm^2$ |

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,92 |

| | | |
|---|---|---|
| $V_{Rd,max}$ | 3445,74 | kN |

| | | |
|---|---|---|
| $V_{Rd,s}$ | 82 | kN |
| Ø | 8 | mm |
| s | 250 | mm |
| snedes | 2 | stuks |
| opp | 402 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

| | |
|---|---|
| UC $V_{d,wap.}$ | 0,18 |

beton

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ 6.5

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

6.2.2(1)

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$ 6.3N

6.10.aN

6.2.3(3)

6.2.2(1)

$$V_{Rd,c} = [C_{Rd,c} k (100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ 6.2.a

$$V_{Rd,c} = (v_{min} + k_1 \sigma_{cp})\,b_w d$$ 6.2.b

$$M_{Rd} = z\,A_s\,f_s$$ 6.1 (10)

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ 6.9

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ 6.8

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets best. balk Mx + Vy

| | | |
|---|---|---|
| $A_s$ | 1678 | $mm^2$ |
| $f_{yd}$ | 400 | $N/mm^2$ |
| b \| $b_w$ | 750 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 900 | mm |
| Ø | 22 | mm |
| dekking | 30 | mm |
| d | 859 | mm |

| | | |
|---|---|---|
| z | 2060 | mm |
| 0,9 * d | 773,1 | mm |
| 0,6 x l | 5100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 414 | kN |
| l | 8,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 353,9 | kN.m |
| $V_{Ed}$ | 62,9 | kN |

| | | |
|---|---|---|
| toets | 3401,64 | kN |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ 6.5

| | | | |
|---|---|---|---|
| k | 1,48 | | 2 |
| $\rho_l$ | 0,0026 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,346 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

6.2.2(1)

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$ 6.3N

6.10.aN

6.2.3(3)

6.2.2(1)

| | | |
|---|---|---|
| $V_{Rd,c}$ | 227,43 | kN |
| | 222,94 | kN |

$$V_{Rd,c} = [C_{Rd,c}\,k(100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ 6.2.a

$$V_{Rd,c} = (v_{min} + k_1\sigma_{cp})\,b_w d$$ 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 1315 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,78 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 3478,95 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 99 | kN |
| Ø | 8 | mm |
| s | 250 | mm |
| snedes | 2 | stuks |
| opp | 402 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,19 | beton |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk My + Vz

| | | |
|---|---|---|
| $A_s$ | 1809 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 1000 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 730 | mm |
| Ø | 16 | mm |
| dekking | 45 | mm |
| d | 677 | mm |

| | | |
|---|---|---|
| z | 992 | mm |
| 0,9 * d | 609,3 | mm |
| 0,6 x l | 2100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 414 | kN |
| l | 3,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 270,8 | kN.m |
| $V_{Ed}$ | 104,4 | kN |

| | | |
|---|---|---|
| toets | 3574,56 | kN |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ 6.5

| | | | |
|---|---|---|---|
| k | 1,54 | | 2 |
| $\rho_l$ | 0,0027 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,368 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$

| | |
|---|---|
| 6.2.2(1) | |
| 6.3N | |
| 6.10.aN | |
| 6.2.3(3) | |
| 6.2.2(1) | |

| | | |
|---|---|---|
| $V_{Rd,c}$ | 250,96 | kN |
| | 248,88 | kN |

$$V_{Rd,c} = [C_{Rd,c} k (100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ 6.2.a

$$V_{Rd,c} = (v_{min} + k_1 \sigma_{cp})\,b_w d$$ 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 1022 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,56 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 3655,80 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 551 | kN |
| Ø | 12 | mm |
| s | 200 | mm |
| snedes | 4 | stuks |
| opp | 2262 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\cot\theta$$ 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,13 | beton |

**NEN-EN 1992-1-1+C2:2011**

# Wap. toets nieuw balk Mx + Vy

| | | |
|---|---|---|
| $A_s$ | 741 | $mm^2$ |
| $f_{yd}$ | 500 | $N/mm^2$ |
| b \| $b_w$ | 730 | mm |
| $f_{cd}$ | 20 | $N/mm^2$ |
| h | 1000 | mm |
| Ø | 16 | mm |
| dekking | 45 | mm |
| d | 947 | mm |

| | | |
|---|---|---|
| z | 1100 | mm |
| 0,9 * d | 852,3 | mm |
| 0,6 x l | 2100 | mm |

| | | |
|---|---|---|
| $F_{d\ druk}$ | 551,46 | kN |
| l | 3,5 | m |

| | | |
|---|---|---|
| $M_{Ed}$ | 79,8 | kN.m |
| $V_{Ed}$ | 62,9 | kN |

| | | |
|---|---|---|
| toets | 3650,1168 | kN |

$$z = 0{,}2\,l + 0{,}4\,h \le 0{,}6\,l$$ 6.1 (10)

$$V_{Ed} \le 0{,}5\,b_w d\,\nu\,f_{cd}$$ 6.5

| | | | |
|---|---|---|---|
| k | 1,46 | | 2 |
| $\rho_l$ | 0,0011 | | 0,02 |
| $\sigma_{cp}$ | 0,0 | $N/mm^2$ | |
| $C_{Rd,c}$ | 0,12 | | N.B. |
| $v_{min}$ | 0,338 | | |
| $v_1$ | 0,600 | | |
| $\alpha_{cw}$ | 1,000 | | N.B. |
| $k_1$ | 0,15 | | normatief |

$$k = 1 + \sqrt{\frac{200}{d}} \le 2{,}0 \qquad \rho_l = \frac{A_{sl}}{b_w d} \le 0{,}02$$

6.2.2(1)

$$v_{min} = 0{,}035\,k^{3/2} \cdot f_{ck}^{1/2}$$ 6.3N

6.10.aN

6.2.3(3)

6.2.2(1)

| | | |
|---|---|---|
| $V_{Rd,c}$ | 178,72 | kN |
| | 233,69 | kN |

$$V_{Rd.c} = [C_{Rd.c}k(100\,\rho_l f_{ck})^{1/3} + k_1\,\sigma_{cp}]\,b_w d$$ 6.2.a

$$V_{Rd,c} = (v_{min} + k_1\sigma_{cp})\,b_w d$$ 6.2.b

| | | |
|---|---|---|
| $A_{s:Md:ben}$ | 215 | $mm^2$ |

$$M_{Rd} = z\,A_s\,f_s$$ 6.1 (10)

| | |
|---|---|
| UC $M_{d,wap.}$ | 0,29 |

$$A_{s:ben} = M_d / 0{,}87 * f_{yd} * z$$

| | | |
|---|---|---|
| $V_{Rd,max}$ | 3733,07 | kN |

$$V_{Rd,max} = \alpha_{cw}\,b_w\,z\,\nu_1\,f_{cd}/(\cot\theta + \tan\theta)$$ 6.9

| | | |
|---|---|---|
| $V_{Rd,s}$ | 386 | kN |
| Ø | 12 | mm |
| s | 200 | mm |
| snedes | 2 | stuks |
| opp | 1131 | $mm^2/m$ |
| θ | 45 | graden |
| cot θ | 1 | |
| tan θ | 1 | |

$$V_{Rd,s} = \frac{A_{sw}}{s}\,z\,f_{ywd}\,\cot\theta$$ 6.8

| | | |
|---|---|---|
| UC $V_{d,wap.}$ | 0,11 | beton |

**NEN-EN 1992-1-1+C2:2011**

| Mast | Mastmodel | Mast type | Masthoogte | Paalgegevens | | | GEO | GEO | bestaande palen | | LEKA palen | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Paaltype | Aantal palen per randstijl | Schoorstand palen ( ° ) | Drukcapaciteit enkele paal [kN] | Trekcapaciteit enkele paal [kN] | Maximale drukkracht in één fundatiepaal [kN] | Maximale trekkracht in één fundatiepaal [kN] | Maximale drukkracht in één fundatiepaal [kN] | Maximale trekkracht in één fundatiepaal [kN] | Versterking | Categorie | Poer- type | LEKA dia. | 2x druk via knag [kN] | 2x trek via knag [kN] |
| **4** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 753 | 198 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 502,6 | 711,6 |
| **5** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 793 | 170 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 502,6 | 711,6 |
| **6** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1340 | 242 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast zwaar | F1 | Blokpoer(220) (3*B) | | | |
| **7** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1400 | 263 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **9** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1577 | 266 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **10** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 669 | 170 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 502,6 | 711,6 |
| **13** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1011 | 224 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **14** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1289 | 268 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **16** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 888 | 171 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 324/470 | 502,6 | 711,6 |
| **18** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1169 | 250 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast zwaar | F1 | Blokpoer(220) (3*B) | | | |
| **19** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 979 | 234 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **21** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 873 | 190 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 273/370 | 502,6 | 711,6 |
| **22** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1270 | 237 | 12,0 | 1,0@0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **23** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 396 | 89 | 396,0 | 0,1 | 438,1 | 353,4 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 324/470 | 876,2 | 706,8 |
| **24** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 462 | 128 | 462,0 | 128,0 | 412,7 | 257,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 273/370 | 825,4 | 515,6 |
| **26** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 703 | 186 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 502,6 | 711,6 |
| **27** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 706 | 167 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 502,6 | 711,6 |
| **28** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1199 | 246 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast zwaar | F1 | Blokpoer(220) (3*B) | | | |
| **29** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 559 | 179 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 324/470 | 502,6 | 711,6 |
| **33** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 638 | 168 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 273/370 | 502,6 | 711,6 |
| **34** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 587 | 183 | 559,0 | 132,0 | 251,3 | 355,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 324/470 | 502,6 | 711,6 |
| **37** | Donaumast | HA+0 | 45 | 40*40 cm bet. | 5 | 5:1 | 664 | 100 | 459,7 | 100,0 | 180,7 | 8,6 | Aanstorting met 2 palen | F5 | Balkrooster (5*B) | Ø 219/310 | 361,4 | 17,2 |
| **50** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 812 | 175 | 462,0 | 128,0 | 278,9 | 138,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 557,8 | 277,6 |
| **51** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1063 | 228 | 12,0 | 1,0@0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **52** | Donaumast | S+6 | 54 | 40*40 cm bet. | 3 | 6:1 | 1478 | 269 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **53** | Donaumast | S+6 | 54 | 40*40 cm bet. | 3 | 6:1 | 1481 | 228 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **54** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1233 | 240 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **55** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1401 | 228 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **56** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1580 | 256 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **57** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1699 | 271 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **58** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1232 | 147 | 462,0 | 128,0 | 278,9 | 138,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 557,8 | 277,6 |
| **59** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 930 | 135 | 462,0 | 128,0 | 278,9 | 138,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 557,8 | 277,6 |
| **64** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1239 | 226 | 12,0 | | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **65** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1526 | 260 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **66** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1319 | 270 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| | | | | | | | | | | | | | | | | | | |
| **69** | Donaumast | S+6 | 54 | 40*40 cm bet. | 3 | 6:1 | 384 | 136 | 384,0 | 136,0 | 397,8 | 235,0 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 795,6 | 470 |
| **71** | Donaumast | S+9 | 57 | 40*40 cm bet. | 3 | 6:1 | 896 | 176 | 728,5 | 176,0 | 145,7 | 266,1 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 291,4 | 532,2 |
| **73** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1569 | 250 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast zwaar | F1 | Blokpoer(220) (3*B) | | | |
| **84** | Donaumast | HA+ 0 | 45 | 35*35 cm bet. | 5 | 5:1 | 2155 | 353 | | | n.v.t. | n.v.t. | 0 | 0 | Balkrooster (5*B) | | | |
| **86** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:4 | 909 | 178 | 800,0 | 178,0 | 153,2 | 138,6 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 306,4 | 277,2 |
| **90** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1324 | 263 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| ~~**104**~~ | ~~Donaumast~~ | ~~EA+ 3/K~~ | ~~48~~ | ~~Ø813~~ | ~~1~~ | ~~4,93:1~~ | ~~1741~~ | ~~354~~ | ~~1524,8~~ | ~~313,0~~ | ~~357,0~~ | ~~72,7~~ | ~~Lijnpoer met 2 extra trekpalen~~ | ~~F3~~ | 1xSI | | | |
| **111** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1376 | 257 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast licht | F1 | Blokpoer(220) (3*B) | | | |
| **118** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 1288 | 236 | | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **121** | Donaumast | S+6 | 54 | LD1+p | 1 | 4,9:1 | 1627 | 387 | 4,0 | 0,5 | n.v.t. | n.v.t. | Ballast (let op knagge | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **123** | Donaumast | S+6 | 54 | 40*40 cm bet. | 3 | 6:1 | 1180 | 222 | 12,0 | 0,5 | n.v.t. | n.v.t. | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | | | |
| **124** | Donaumast | S+0 | 48 | 40*40 cm bet. | 3 | 6:1 | 962 | 132 | 462,0 | 128,0 | 278,9 | 138,8 | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | Ø 219/310 | 557,8 | 277,6 |
| **126** | Donaumast | S+6 | 54 | LD1+p | 1 | 4,9:1 | 908 | 270 | 900,0 | 194,0 | 189,5 | 99,3 | Extra palen (2 stuks) (let op knag | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 379,0 | 189,6 |
| **128** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1319 | 322 | 4,0 | 1,5@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **130** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1454 | 348 | 4,0 | 1,0@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **131** | Donaumast | S+6 | 54 | LD1+p | 1 | 4,9:1 | 1245 | 409 | 4,0 | 2,5@1,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **133** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1223 | 413 | 4,0 | 1,5@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **134** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1505 | 428 | 4,0 | 1,5@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **135** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1457 | 317 | 4,0 | 1,5@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **136** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1271 | 319 | 4,0 | 2,5@0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **141** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 900 | 194 | 900,0 | 194,0 | 210,4 | 63,4 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 420,8 | 126,8 |
| **142** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 800 | 203 | 800,0 | 178,0 | 245,4 | 66,1 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 490,8 | 132,2 |
| **143** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 986 | 226 | 900,0 | 194,0 | 210,4 | 63,4 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 420,8 | 126,8 |
| **144** | Donaumast | S+6 | 54 | LD1+p | 1 | 4,9:1 | 868 | 234 | 868,0 | 234,0 | 761,6 | 333,6 | Extra palen (2 stuks) l | F3 | Koppelframe (Cilinderpoer 1*LD1) | Ø 219/310 | 1523,2 | 667,2 |
| **145** | Donaumast | S+6 | 54 | LD1+p | 1 | 4,9:1 | 1900 | 414 | 4,0 | 0,5 | n.v.t. | n.v.t. | Ballast | F1 | Cilinderpoer(75) (1*LD1) | | | |
| ~~**146 optie 2**~~ | ~~Donaumast~~ | ~~S+9~~ | ~~57~~ | ~~LD1+p~~ | ~~1~~ | ~~5:1~~ | ~~821~~ | ~~308~~ | | | | | ~~Aanstorting met 3 palen om fundament grotendeels over te nemen~~ | ~~F5 fundatievernieuwing~~ | Balkrooster (5*B) | | | |
| **146 optie 1** | Donaumast | S+9 | 57 | 32*32 cm bet. | 5 | 5:1 | 84 | 1 | 84,0 | 0,0 | 413,5 | 0,0 | Aanstorting met 3 palen om fundament grotendeels over te nemen | F5 fundatievernieuwing | Balkrooster (5*B) | Ø 219/310 | 827 | 0 |
| ~~**147 optie 2**~~ | ~~Donaumast~~ | ~~S+9~~ | ~~57~~ | ~~LD1+p~~ | ~~1~~ | ~~5:1~~ | ~~901~~ | ~~274~~ | | | | | ~~Aanstorting met 3 palen om fundament grotendeels over te nemen~~ | ~~F5 fundatievernieuwing~~ | Balkrooster (5*B) | | | |
| **147 optie 1** | Donaumast | S+9 | 57 | 32*32 cm bet. | 5 | 5:1 | 411 | 31 | 228,8 | 26,3 | 205,7 | 114,4 | Aanstorting met 3 palen om fundament grotendeels over te nemen | F5 fundatievernieuwing | Balkrooster (5*B) | Ø 219/310 | 411,4 | 228,8 |
| **148** | Donaumast | S+12 | 60 | 2 LD1+p | 2 | 5:1 | 859 | 190 | 859,0 | 190,0 | 463,4 | 251,5 | Blokpoer met 2 extra palen | F5 | Blokpoer(200) (2*LD1) | Ø 219/310 | 926,8 | 503 |
| **150** | Donaumast | S+9 | 57 | LD1+p | 1 | 4,9:1 | 1469 | 275 | 956,0 | 229,0 | 289,6 | 213,8 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 579,2 | 427,6 |
| **151** | Donaumast | S+9 | 57 | LD1+p | 1 | 4,9:1 | 956 | 229 | 956,0 | 229,0 | 289,6 | 213,8 | Extra palen (2 stuks) (let | F3 op knag | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 579,2 | 427,6 |
| **152** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 1572 | 436 | 4,0 | 0,5 | n.v.t. | n.v.t. | Ballast (let op knagge | F1 | Cilinderpoer(75) (1*LD1) | | | |
| **153** | Donaumast | S+0 | 48 | LD1+p | 1 | 4,9:1 | 839 | 239 | 839,0 | 239,0 | 215,7 | 175,2 | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | Ø 324/470 | 431,4 | 350,4 |
| **157** | Donaumast | S+24 | 75,5 | 40*40 cm bet. | 4 | 5:1 | 468 | 345 | 360,4 | 213,0 | 408,7 | 133,4 | Aanstorting met 3 palen | F5 | Balkrooster (4*B) | Ø 219/310 | 817,4 | 266,8 |
| **158** | Donaumast | S+24 | 75,5 | 40*40 cm bet. | 4 | 5:1 | 1583 | 281 | 551,5 | 243,2 | 197,1 | 37,2 | Aanstorting met 2 palen | F5 | Balkrooster (4*B) | Ø 219/310 | 394,2 | 74,4 |

| F4 3B-poer | F4-II | F4-III | Mast 23 | Mast 24 | Mast 69 | Mast 71 |
|---|---|---|---|---|---|---|
| Beton Rd druk | -559 | -462 | -396 | -462 | -384 | -735 |
| i8kmk | 168,22 | 164,22 | 61,64 | 188,39 | 168,04 | 212,22 |
| LEKA Rd druk | -251,25 | -278,93 | -438,13 | -412,7 | -399,79 | -139,67 |
| LEKA Rd trek | 376,51 | 159,47 | 413,23 | 302,38 | 255,48 | 293,34 |
| Poer Nd druk | -973,4 | -828,56 | -973,4 | -973,4 | -908,18 | -955,69 |
| Poer Nd trek | 772,62 | 620,72 | 772,62 | 772,62 | 680,9 | 717,22 |
| Poer Vy druk | -189,18 | -151,48 | -189,18 | -189,18 | -169,19 | -174,48 |
| Poer Vy trek | 233,73 | 197,85 | 233,73 | 233,73 | 224,94 | 229,4 |
| Poer Mx max | 0 | 0 | 0 | 0 | 0 | 0 |
| Poer Mx min | 0 | 0 | 0 | 0 | 0 | 0 |
| Poer My max | 37,81 | 31,51 | 37,81 | 37,81 | 49,68 | 35,16 |
| Poer My min | -37,71 | -31,47 | -37,71 | -37,71 | -49,83 | -35,14 |
| Poer Mz max | 227,02 | 181,77 | 227,02 | 227,02 | 203,03 | 209,37 |
| Poer Mz min | -280,47 | -237,42 | -280,47 | -280,47 | -269,93 | -275,28 |
| Balk Nd druk | -3,24 | -14,7 | -5,16 | -4,3 | -4,47 | -2,94 |
| Balk Nd trek | 3,57 | 14,14 | 5,32 | 4,53 | 4,91 | 3,27 |
| Balk Vz druk | -441,53 | -267,9 | -475,99 | -366,7 | -328,34 | -360,7 |
| Balk Vz trek | 486,22 | 269,18 | 522,94 | 412,1 | 365,19 | 403,05 |
| Balk Mx max | 9,36 | 20,21 | 28,7 | 4,15 | 20,74 | 4,78 |
| Balk Mx min | -9,3 | -20,21 | -28,68 | -4,1 | -20,67 | -4,78 |
| Balk My max | 141,59 | 172,48 | 312,76 | 308,16 | 330,83 | 5,36 |
| Balk My min | -595,47 | -328,34 | -638,52 | -497,26 | -437,88 | -487,34 |
| Balk Mz max | 22,45 | 34,95 | 40,53 | 31,32 | 31,27 | 14,52 |
| Balk Mz min | -22,35 | -34,95 | -40,4 | -31,2 | -31,21 | -14,52 |

| F3 Cilind 75 | 86 en 142 | 126, 141 en 143 | 150 en 151 | 153 |
|---|---|---|---|---|
| _D1 Rd druk | -800 | -876,76 | -956 | -839 |
| LD1 Rd trek | 178,0 | 194,00 | 229,0 | 239,0 |
| LEKA Rd druk | 153,16 | -189,52 | -289,57 | -215,67 |
| LEKA Rd trek | 138,6 | 99,24 | 213,77 | 175,18 |
| Poer Nd druk | -835,05 | -835,05 | -1147,67 | -977,1 |
| Poer Nd trek | 638,43 | 638,43 | 917,83 | 785,1 |
| Poer Vy druk | -28,5 | -28,5 | -39,21 | -34,85 |
| Poer Vy trek | 37,07 | 37,07 | 50,46 | 43,36 |
| Poer Mx max | 0 | 0 | 0 | 0 |
| Poer Mx min | 0 | 0 | 0 | 0 |
| Poer My max | 41,61 | 41,61 | 70,69 | 49,05 |
| Poer My min | -41,56 | -41,56 | -71,12 | -48,53 |
| Poer Mz max | 41,77 | 41,77 | 58,48 | 51,68 |
| Poer Mz min | -54,26 | -54,26 | -75,15 | -64,06 |
| Balk Nd druk | -8,39 | -8,24 | -22,31 | -17,7 |
| Balk Nd trek | 8,25 | 8 | 18,56 | 15,7 |
| Balk Vz druk | -209,11 | -202,07 | -315,32 | -244,04 |
| Balk Vz trek | 208,47 | 201,5 | 313,40 | 247,1 |
| Balk Mx max | 46,31 | 52,47 | 56,85 | 33,90 |
| Balk Mx min | -45,56 | -52,10 | -56,67 | -33,82 |
| Balk My max | 283,58 | 244,15 | 430,83 | 345,7 |
| Balk My min | -282,86 | -244,81 | -427,68 | -340,24 |
| Balk Mz max | 63,23 | 66,56 | 102,62 | 77,49 |
| Balk Mz min | -28,01 | -20,42 | -62,56 | -49,18 |

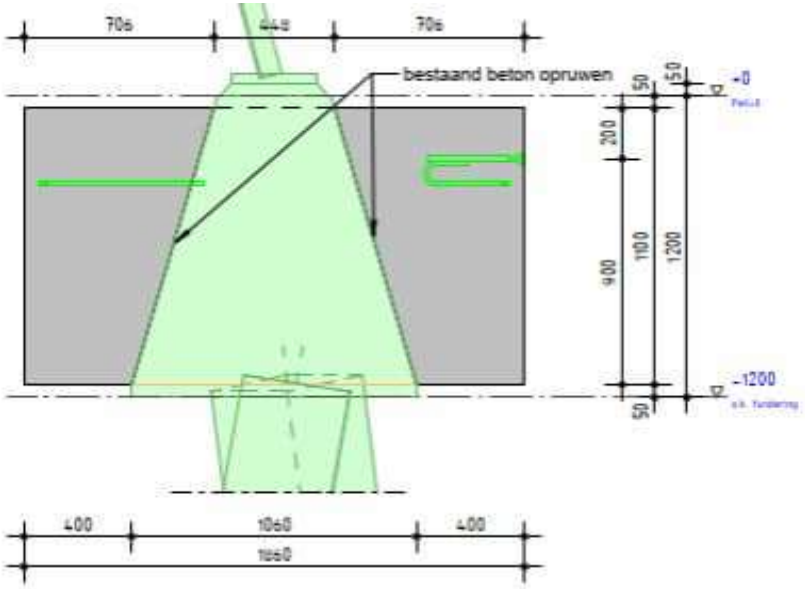
| F5 Ringbalk | Mast 372 | Mast 1463 | Mast 1473 | Mast 1573 | Mast 1583 |
|---|---|---|---|---|---|
| BP Rd druk | -459,74 | -84 | -218,47 | -360,39 | -551,46 |
| BP Rd trek | 149,86 | 15,95 | 29,53 | 245,2 | 286,78 |
| LEKA Rd druk | -180,68 | -413,52 | -214,61 | -408,73 | -197,08 |
| LEKA Rd trek | 35,9 | 22,26 | 149,45 | 156,65 | 59,11 |
| B.balk Nd druk | -151,02 | -229,71 | -105,35 | -126,26 | -141,03 |
| B.balk Nd trek | 96,65 | 146,77 | 46,28 | 117,17 | 92,28 |
| B.balk Vy druk | -50,22 | -62,08 | -26,7 | -61,21 | -62,9 |
| B.balk Vy trek | 48,33 | 61,47 | 26,68 | 61,43 | 62,54 |
| B.balk Mx max | 205,54 | 352,61 | 231,03 | 252,99 | 63,72 |
| B.balk Mx min | -206,16 | -353,92 | -231,85 | -252,99 | -62,59 |
| B.balk My max | 105,43 | 463,72 | 131,61 | 266,95 | 81,91 |
| B.balk My min | -112,16 | -353,58 | -168,97 | -307,56 | -127,18 |
| B.balk Mz max | 49,31 | 144,68 | 59,81 | 48,38 | 54,15 |
| B.balk Mz min | -50,89 | -140,71 | -58,66 | -48,57 | -54,22 |
| Balk Nd druk | -51,5 | -138,01 | -39,8 | -48,52 | -61,28 |
| Balk Nd trek | 30,05 | 108,38 | 25,49 | 54,8 | 40,45 |
| Balk Vz druk | -72,56 | -104,35 | -61,29 | -50,46 | -66,25 |
| Balk Vz trek | 72,43 | 77,96 | 60,44 | 68,25 | 70,97 |
| Balk Mx max | 34 | 79,77 | 32,38 | 73,84 | 37,86 |
| Balk Mx min | -34,31 | -79,78 | -32,02 | -73,81 | -37,19 |
| Balk My max | 24,21 | 270,82 | 54,14 | 94,5 | 31,62 |
| Balk My min | -96,96 | -154,32 | -76,38 | -87,92 | -89,91 |
| Balk Mz max | 19,41 | 49,36 | 17,57 | 19,45 | 21,69 |
| Balk Mz min | -19,14 | -49,05 | -17,57 | -19,49 | -21,6 |

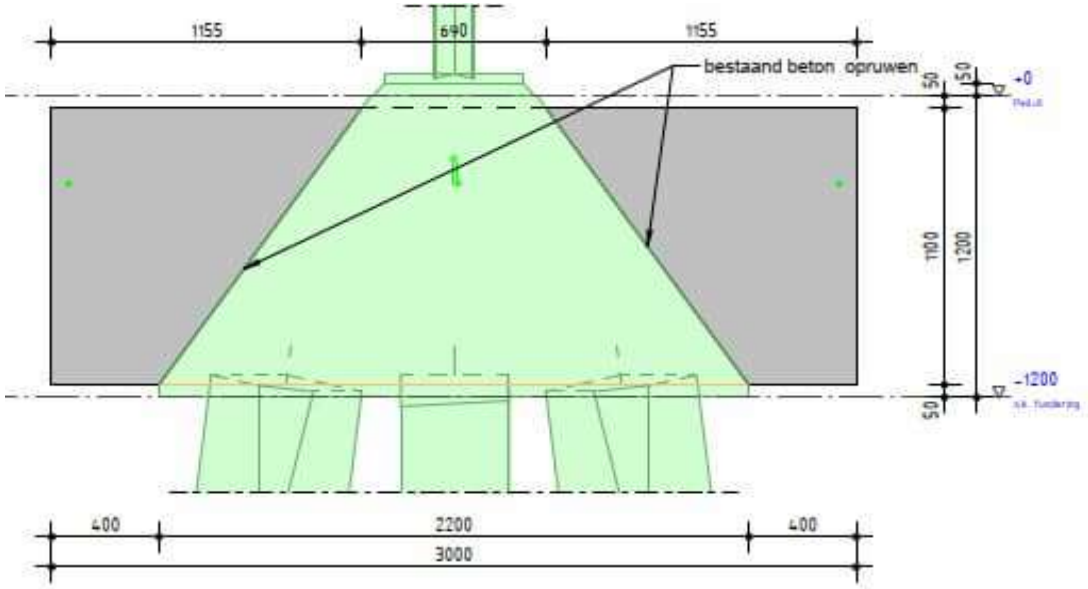
| F5 Poer 2 x LD1 | 148 |
|---|---|
| LD1 Rd druk | -859 |
| LD1 Rd trek | 351,94 |
| LEKA Rd druk | -464,02 |
| LEKA Rd trek | 276,97 |
| Poer Nd druk | -179,29 |
| Poer Nd trek | 77,72 |
| Poer Vy druk | -14,02 |
| Poer Vy trek | 14,03 |
| Poer Mx max | -33,37 |
| Poer Mx min | 33,4 |
| Poer My max | -207,47 |
| Poer My min | 296,95 |
| Poer Mz max | 12,21 |
| Poer Mz min | -12,23 |
| Balk Nd druk | -5,2 |
| Balk Nd trek | 5,21 |
| Balk Vz druk | -386,19 |
| Balk Vz trek | 384,96 |
| Balk Mx max | 20,93 |
| Balk Mx min | -20,93 |
| Balk My max | 335,28 |
| Balk My min | -376,87 |
| Balk Mz max | 12,91 |
| Balk Mz min | -12,92 |

| F3 kop.frame | 144 |
|---|---|
| LD1 Rd druk | -234 |
| LD1 Rd trek | 868 |
| LEKA Rd druk | -761,61 |
| LEKA Rd trek | 367,33 |
| Poer Nd druk | -181,65 |
| Poer Nd trek | 212,92 |
| Poer Vy druk | -30,51 |
| Poer Vy trek | 31,77 |
| Poer Mx max | -0,26 |
| Poer Mx min | 0,25 |
| Poer My max | -174,51 |
| Poer My min | 134,16 |
| Poer Mz max | -27,66 |
| Poer Mz min | 17,08 |
| Balk Nd druk | -22,09 |
| Balk Nd trek | 22,09 |
| Balk Vz druk | -647,69 |
| Balk Vz trek | 671,79 |
| Balk Mx max | 31,77 |
| Balk Mx min | -31,5 |
| Balk My max | 503,05 |
| Balk My min | -390,94 |
| Balk Mz max | 12,52 |
| Balk Mz min | -12,98 |

# Ballast Blokpoer 220 3xB lichte variant

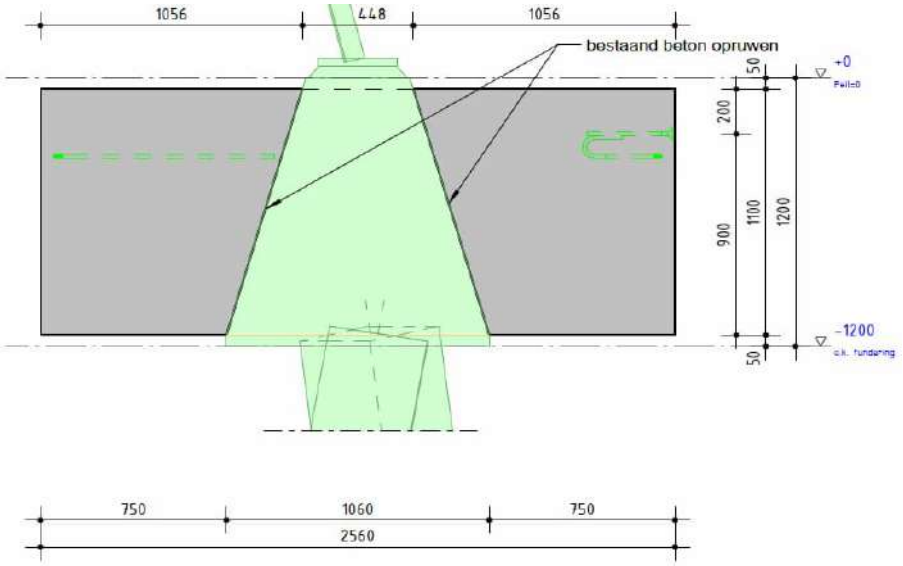
| **Bestaande poer:** | | | | **Nieuwe poer:** | | | | **Nieuwe balk:** | | | | **Extra Ballast:** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lboven | 690 | mm | | Lboven | 3000 | mm | | Lboven | 0 | mm | | Vol | 4,940 | m3 |
| Londer | 2200 | mm | | Londer | 3000 | mm | | Londer | 0 | mm | | Soortlijke M | 25 | kN/m3 |
| Bboven | 448 | mm | | Bboven | 1860 | mm | | Bboven | 0 | mm | | Aant. palen | 3 | stuks |
| Bonder | 1060 | mm | | Bonder | 1860 | mm | | Bonder | 0 | mm | | $F_{rep:ballast}$ | 123,49 | kN |
| Hoogte | 1100 | mm | | Hoogte | 1100 | mm | | Hoogte | 0 | mm | | $F_{d:ballast}$ | 148,19 | kN |
| | | | | | | | | | | | | $F_{d:ballast;\ min}$ | 66,68 | kN |
| Vol | 1,198 | m3 | | Vol | 6,138 | m3 | | Vol | 0,000 | m3 | | Per paal;max | 49,40 | kN |
| | | | | | | | | | | | | Per paal;min | 22,23 | kN |

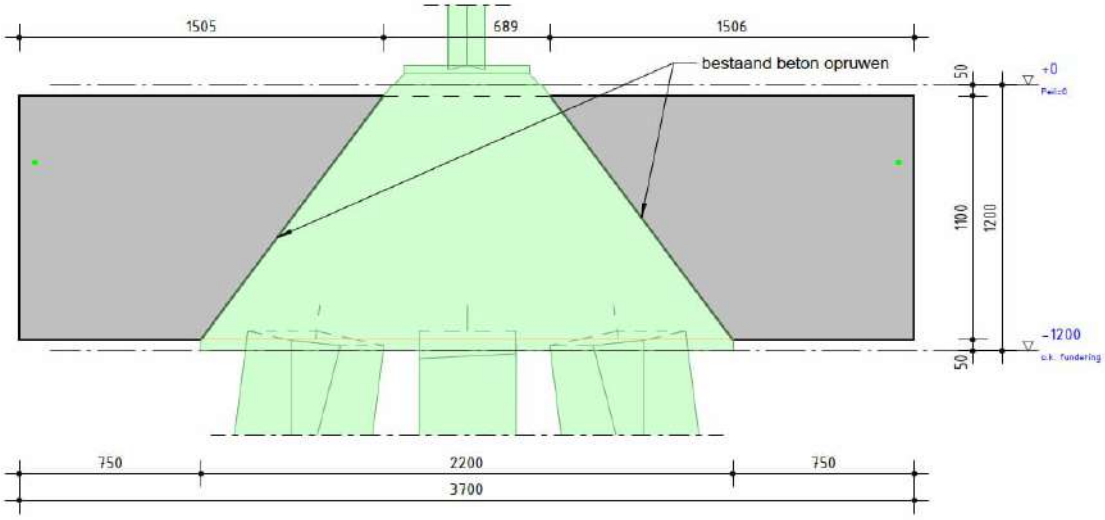


# Ballast Blokpoer 220 3xB zware variant

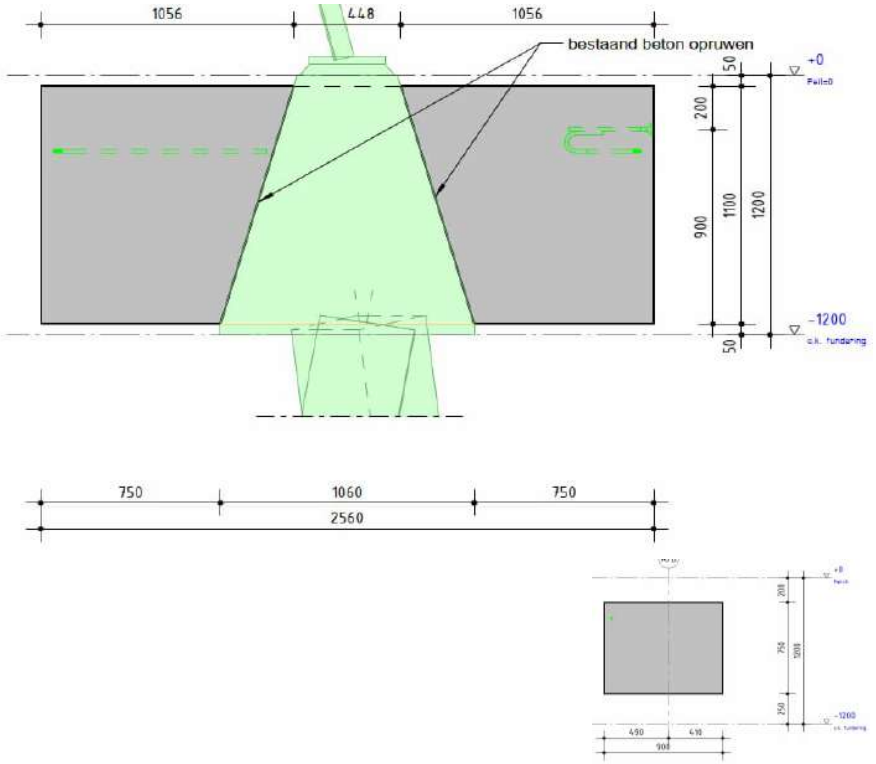
| Bestaande poer: | | | | Nieuwe poer: | | | | Nieuwe balk: | | | | Extra Ballast: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lboven | 689 | mm | | Lboven | 3700 | mm | | Lboven | 0 | mm | | Vol | 9,221 | m3 |
| Londer | 2200 | mm | | Londer | 3700 | mm | | Londer | 0 | mm | | Soortlijke M | 25 | kN/m3 |
| Bboven | 448 | mm | | Bboven | 2560 | mm | | Bboven | 0 | mm | | Aant. palen | 3 | stuks |
| Bonder | 1060 | mm | | Bonder | 2560 | mm | | Bonder | 0 | mm | | $F_{rep:ballast}$ | 230,53 | kN |
| Hoogte | 1100 | mm | | Hoogte | 1100 | mm | | Hoogte | 0 | mm | | $F_{d:ballast}$ | 276,63 | kN |
| | | | | | | | | | | | | $F_{d:ballast;\ min}$ | 124,49 | kN |
| Vol | 1,198 | m3 | | Vol | 10,419 | m3 | | Vol | 0,000 | m3 | | Per paal;max | 92,21 | kN |
| | | | | | | | | | | | | Per paal;min | 41,50 | kN |

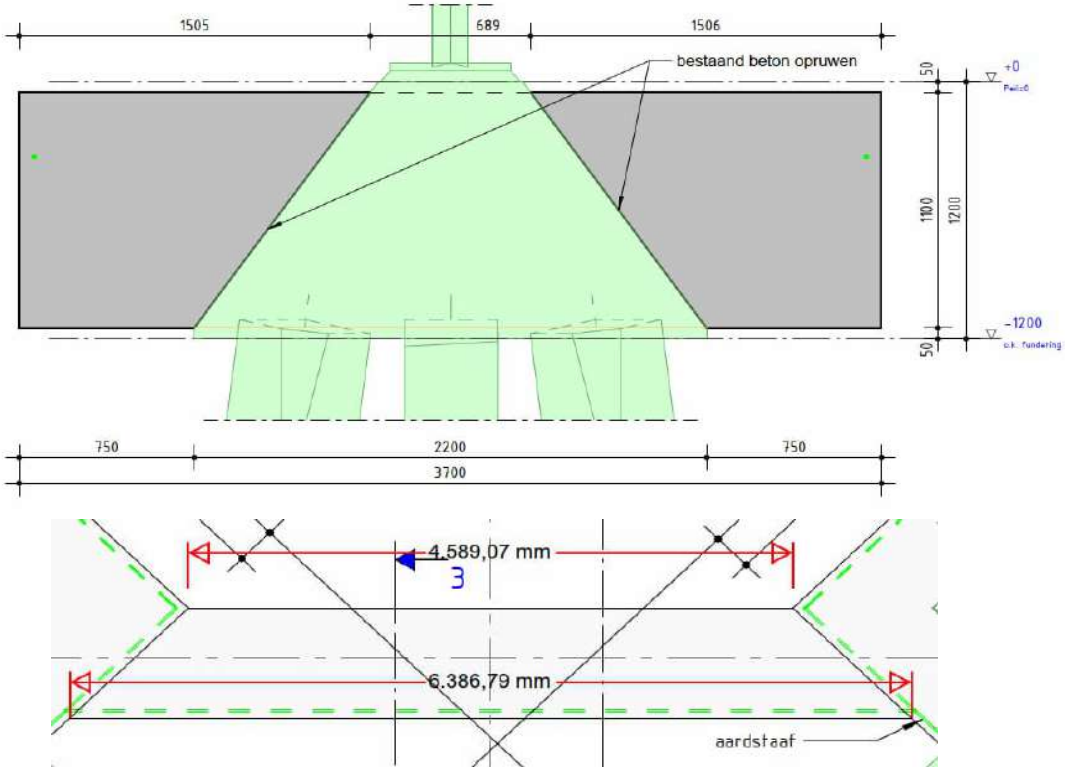


# Ballast Blokpoer 220 3xB zware variant + koppelbalk

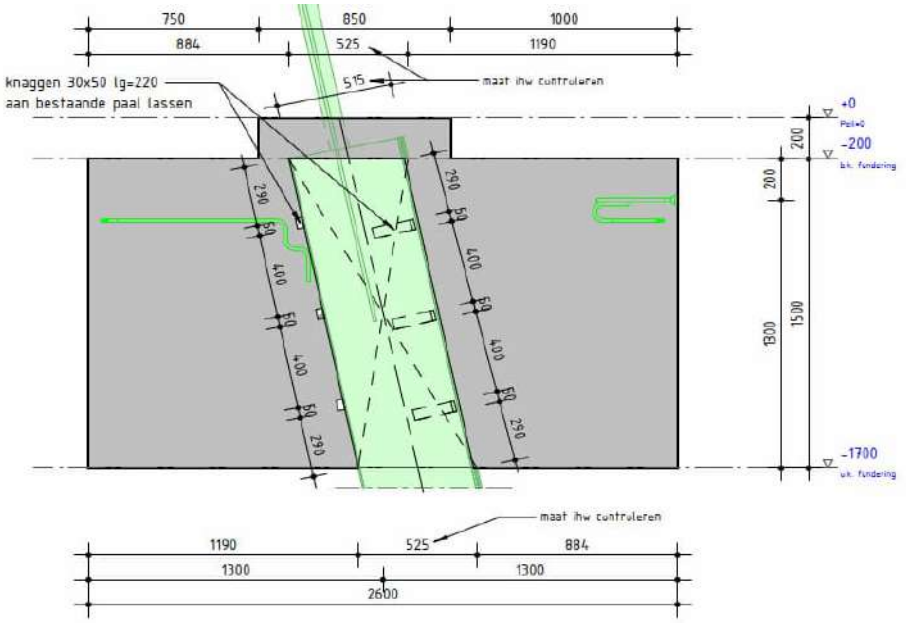
| Bestaande poer: | | | | Nieuwe poer: | | | | Nieuwe balk: | | | | Extra Ballast: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lboven | 689 | mm | | Lboven | 3700 | mm | | Lboven | 4589 | mm | | Vol | 12,926 | m3 |
| Londer | 2200 | mm | | Londer | 3700 | mm | | Londer | 6387 | mm | | Soortlijke M | 25 | kN/m3 |
| Bboven | 448 | mm | | Bboven | 2560 | mm | | Bboven | 900 | mm | | Aant. palen | 3 | stuks |
| Bonder | 1060 | mm | | Bonder | 2560 | mm | | Bonder | 900 | mm | | $F_{rep:ballast}$ | 323,14 | kN |
| Hoogte | 1100 | mm | | Hoogte | 1100 | mm | | Hoogte | 750 | mm | | $F_{d:ballast}$ | 387,77 | kN |
| | | | | | | | | | | | | $F_{d:ballast;\ min}$ | 174,49 | kN |
| Vol | 1,198 | m3 | | Vol | 10,419 | m3 | | Vol | 3,704 | m3 | | Per paal;max | 129,26 | kN |
| | | | | | | | | | | | | Per paal;min | 58,16 | kN |

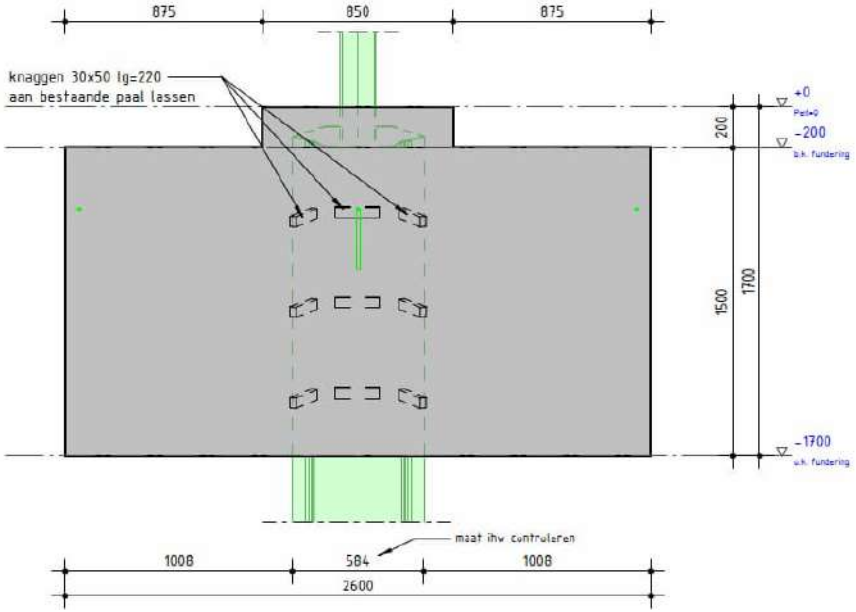


# Ballast Blokpoer 200 2xLD1

| Bestaande poer: | | | | Nieuwe poer: | | | | Nieuwe balk: | | | | Extra Ballast: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lboven | 525 | mm | | Lboven | 2600 | mm | | Lboven | 850 | mm | | Vol | 9,871 | m3 |
| Londer | 525 | mm | | Londer | 2600 | mm | | Londer | 850 | mm | | Soortlijke M | 25 | kN/m3 |
| Bboven | 525 | mm | | Bboven | 2600 | mm | | Bboven | 850 | mm | | Aant. palen | 1 | stuks |
| Bonder | 525 | mm | | Bonder | 2600 | mm | | Bonder | 850 | mm | | $F_{rep:ballast}$ | 246,78 | kN |
| Hoogte | 1500 | mm | | Hoogte | 1500 | mm | | Hoogte | 200 | mm | | $F_{d:ballast}$ | 296,13 | kN |
| | | | | | | | | | | | | $F_{d:ballast;\ min}$ | 133,26 | kN |
| Vol | 0,413 | m3 | | Vol | 10,140 | m3 | | Vol | 0,145 | m3 | | Per paal;max | 296,13 | kN |
| | | | | | | | | | | | | Per paal;min | 133,26 | kN |



# BIJLAGE 32
## Meridian kenmerk C1700004

| Mast | | GEO | GEO | Bestaande palen | | Ballast blokken | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Paaltype | Drukcapaciteit enkele paal [kN] | Trekcapaciteit enkele paal [kN] | Maximale drukkracht in één fundatiepaal [kN] | Maximale trekkracht in één fundatiepaal [kN] | Max. belasting door ballast | Min. Belasting door ballast | Versterking | Cat. | Poer- type | UC op druk in paal | UC op trek in paal |
| **4** | 40*40 cm bet. | 753 | 198 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **5** | 40*40 cm bet. | 793 | 170 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **6** | 40*40 cm bet. | 1340 | 242 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,47 | 0,96 |
| **7** | 40*40 cm bet. | 1400 | 263 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,42 | 0,96 |
| **9** | 40*40 cm bet. | 1577 | 266 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,37 | 0,95 |
| **10** | 40*40 cm bet. | 669 | 170 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **13** | 40*40 cm bet. | 1011 | 224 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,66 | 0,97 |
| **14** | 40*40 cm bet. | 1289 | 268 | 537,2 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,46 | 0,94 |
| **16** | 40*40 cm bet. | 888 | 171 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **18** | 40*40 cm bet. | 1169 | 250 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,54 | 0,93 |
| **19** | 40*40 cm bet. | 979 | 234 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,68 | 0,93 |
| **21** | 40*40 cm bet. | 873 | 190 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **22** | 40*40 cm bet. | 1270 | 237 | 537,2 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,52 | 0,91 |
| **23** | 40*40 cm bet. | 396 | 89 | 396,0 | 0,1 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **24** | 40*40 cm bet. | 462 | 128 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **26** | 40*40 cm bet. | 703 | 186 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **27** | 40*40 cm bet. | 706 | 167 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **28** | 40*40 cm bet. | 1199 | 246 | 537,2 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,52 | 0,95 |
| **29** | 40*40 cm bet. | 559 | 179 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **33** | 40*40 cm bet. | 638 | 168 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **34** | 40*40 cm bet. | 587 | 183 | 559,0 | 132,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **37** | 40*40 cm bet. | 664 | 100 | 459,7 | 100,0 | | | Aanstorting met 2 palen | F5 | Balkrooster (5*B) | | |
| **50** | 40*40 cm bet. | 812 | 175 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **51** | 40*40 cm bet. | 1063 | 228 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,58 | 0,95 |
| **52** | 40*40 cm bet. | 1478 | 269 | 423,0 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,32 | 0,94 |
| **53** | 40*40 cm bet. | 1481 | 228 | 423,0 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,37 | 0,95 |
| **54** | 40*40 cm bet. | 1233 | 240 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,50 | 0,90 |
| **55** | 40*40 cm bet. | 1401 | 228 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,44 | 0,95 |
| **56** | 40*40 cm bet. | 1580 | 256 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,34 | 0,99 |
| **57** | 40*40 cm bet. | 1699 | 271 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,32 | 0,93 |
| **58** | 40*40 cm bet. | 1232 | 147 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **59** | 40*40 cm bet. | 930 | 135 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **64** | 40*40 cm bet. | 1239 | 226 | 491,9 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,50 | 0,96 |
| **65** | 40*40 cm bet. | 1526 | 260 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,35 | 0,97 |
| **66** | 40*40 cm bet. | 1319 | 270 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,41 | 0,94 |
| | | | | | | | | | | | | |
| **69** | 40*40 cm bet. | 384 | 136 | 384,0 | 136,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **71** | 40*40 cm bet. | 896 | 176 | 735,0 | 176,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |
| **73** | 40*40 cm bet. | 1569 | 250 | 491,9 | 275,0 | 92,2 | 41,5 | Ballast zwaar | F1 | Blokpoer(220) (3*B) | 0,37 | 0,93 |
| **86** | LD1+p | 909 | 178 | 800,0 | 178,0 | | | Extra palen (2 stuks) | F3 | Cilinderpoer(75) (1*LD1) | | |
| **90** | 40*40 cm bet. | 1324 | 263 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,41 | 0,96 |
| **111** | 40*40 cm bet. | 1376 | 257 | 491,9 | 275,0 | 49,4 | 22,2 | Ballast licht | F1 | Blokpoer(220) (3*B) | 0,39 | 0,98 |
| **118** | 40*40 cm bet. | 1288 | 236 | | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,10 | 0,92 |
| **121** | LD1+p | 1627 | 387 | 756,9 | 479,8 | 296,1 | 133,3 | Ballast (let op kna | F1 | Cilinderpoer(75) (1*LD1) | 0,65 | 0,90 |
| **123** | 40*40 cm bet. | 1180 | 222 | 423,0 | 275,0 | 129,3 | 58,2 | Ballast+Koppelbalk | F2 | Blokpoer(220) (3*B) | 0,47 | 0,98 |
| **124** | 40*40 cm bet. | 962 | 132 | 462,0 | 128,0 | | | Lijnpoer met 2 extra palen | F4 | Blokpoer(220) (3*B) | | |

| Mast | | GEO | GEO | Bestaande palen | | Ballast blokken | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Paaltype | Drukcapaciteit enkele paal [kN] | Trekcapaciteit enkele paal [kN] | Maximale drukkracht in één fundatiepaal [kN] | Maximale trekkracht in één fundatiepaal [kN] | Max. belasting door ballast | Min. Belasting door ballast | Versterking | Cat. | Poer- type | UC op druk in paal | UC op trek in paal |
| **126** | LD1+p | 908 | 270 | 900,0 | 194,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **128** | LD1+p | 1319 | 322 | 678,4 | 434,7 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,74 | 0,94 |
| **130** | LD1+p | 1454 | 348 | 677,8 | 435,1 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,67 | 0,87 |
| **131** | LD1+p | 1245 | 409 | 754,9 | 481,3 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,84 | 0,85 |
| **133** | LD1+p | 1223 | 413 | 678,9 | 434,3 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,80 | 0,73 |
| **134** | LD1+p | 1505 | 428 | 677,8 | 435,1 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,65 | 0,71 |
| **135** | LD1+p | 1457 | 317 | 678,4 | 434,7 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,67 | 0,95 |
| **136** | LD1+p | 1271 | 319 | 676,8 | 435,9 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,77 | 0,95 |
| **141** | LD1+p | 900 | 194 | 900,0 | 194,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **142** | LD1+p | 800 | 203 | 800,0 | 178,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **143** | LD1+p | 986 | 226 | 900,0 | 194,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **144** | LD1+p | 868 | 234 | 868,0 | 234,0 | | | Extra palen (2 stu | F3 | Koppelframe (Cilinderpoer 1*LD1) | | |
| **145** | LD1+p | 1900 | 414 | 754,9 | 481,3 | 296,1 | 133,3 | Ballast | F1 | Cilinderpoer(75) (1*LD1) | 0,55 | 0,84 |
| **146 o** | 32*32 cm bet. | 84 | 1 | 84,0 | 0,0 | | | Aanstorting met 3 palen om fundament grotendeels over te nemen | F5 fundati evernie uwing | Balkrooster (5*B) | | |
| **147 o** | 32*32 cm bet. | 411 | 31 | 218,5 | 17,6 | | | Aanstorting met 3 palen om fundament grotendeels over te nemen | F5 fundati evernie uwing | Balkrooster (5*B) | | |
| **148** | 2 LD1+p | 859 | 190 | 859,0 | 190,0 | | | Blokpoer met 2 extra palen | F5 | Blokpoer(200) (2*LD1) | | |
| **150** | LD1+p | 1469 | 275 | 956,0 | 229,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **151** | LD1+p | 956 | 229 | 798,0 | 551,3 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **152** | LD1+p | 1572 | 436 | 798,0 | 551,0 | 296,1 | 133,3 | Ballast (let op kna | F1 | Cilinderpoer(75) (1*LD1) | 0,70 | 0,96 |
| **153** | LD1+p | 839 | 239 | 839,0 | 239,0 | | | Extra palen (2 stu | F3 | Cilinderpoer(75) (1*LD1) | | |
| **157** | 40*40 cm bet. | 468 | 345 | 360,4 | 213,0 | | | Aanstorting met 3 palen | F5 | Balkrooster (4*B) | | |
| **158** | 40*40 cm bet. | 1583 | 281 | 551,5 | 243,2 | | | Aanstorting met 2 palen | F5 | Balkrooster (4*B) | | |

BIJLAGE 33
Meridian kenmerk C1700005

# Samenvatting gegevens bestaande en nieuwe mastfundaties

**Paalgegevens bestaand / GEO / Paalgewicht één-paals-poeren**

| Mast | Mastmodel | Mast type | Mastfunctie | Masthoogte | Paaltype | Aantal palen per randstijl | Aantal palen totaal | Paal boven maaiveld [m] | Maaiveld t.o.v. NAP [m] | Syst. punt t.o.v. MV [cm] | Paalpuntniveau t.o.v. MV [m] | Paallengte [m] | Schoorstand palen (°) | GEO Drukcapaciteit enkele paal [kN] | GEO Trekcapaciteit enkele paal [kN] | Gewicht paal (kN/strekkende meter) | Gewicht paal [kN] | Toelichting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 20 | 20,5 | 6:1 | 753 | 198 | | | |
| 5 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18,5 | 19 | 6:1 | 793 | 170 | | | |
| 6 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18 | 18,5 | 6:1 | 1340 | 242 | | | |
| 7 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18 | 18,5 | 6:1 | 1400 | 263 | | | |
| 9 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15,5 | 16 | 6:1 | 1577 | 266 | | | |
| 10 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 20 | 20,5 | 6:1 | 669 | 170 | | | |
| 13 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18 | 18,5 | 6:1 | 1011 | 224 | | | |
| 14 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18 | 18,5 | 6:1 | 1289 | 268 | | | |
| 16 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15,5 | 16 | 6:1 | 888 | 171 | | | |
| 18 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 18 | 18,5 | 6:1 | 1169 | 250 | | | |
| 19 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 17 | 17,5 | 6:1 | 979 | 234 | | | |
| 21 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 16,5 | 17 | 6:1 | 873 | 190 | | | |
| 22 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 1,0@0,5 | 0 | 0 | 16,0@16,5 | 17 | 6:1 | 1270 | 237 | | | |
| 23 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 22 | 22,5 | 6:1 | 396 | 89 | | | |
| 24 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 21,5 | 22 | 6:1 | 462 | 128 | | | |
| 26 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 17,5 | 18 | 6:1 | 703 | 186 | | | |
| 27 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 16 | 16,5 | 6:1 | 706 | 167 | | | |
| 28 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15 | 15,5 | 6:1 | 1199 | 246 | | | |
| 29 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 17 | 17,5 | 6:1 | 559 | 179 | | | |
| 33 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15,5 | 16 | 6:1 | 638 | 168 | | | |
| 34 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 17 | 17,5 | 6:1 | 587 | 183 | | | |
| 37 | Donaumast | HA+0 | Hoekmast | 45 | 40*40 cm bet. | 5 | 20 | 0 | 0 | 0 | 18 | 18 | 5:1 | 664 | 100 | | | |
| 50 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 16 | 16,5 | 6:1 | 812 | 175 | | | |
| 51 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 1,0@0,5 | 0 | 0 | 16,0@16,5 | 17 | 6:1 | 1063 | 228 | | | |
| 52 | Donaumast | S+6 | Steunmast | 54 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 16 | 16,5 | 6:1 | 1478 | 269 | | | |
| 53 | Donaumast | S+6 | Steunmast | 54 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15,5 | 16 | 6:1 | 1481 | 228 | | | |
| 54 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15 | 15,5 | 6:1 | 1233 | 240 | | | |
| 55 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15 | 15,5 | 6:1 | 1401 | 228 | | | |
| 56 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 15,5 | 16 | 6:1 | 1580 | 256 | | | |
| 57 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 13,5 | 14 | 6:1 | 1699 | 271 | | | |
| 58 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12,5 | 13 | 6:1 | 1232 | 147 | | | |
| 59 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12,5 | 13 | 6:1 | 930 | 135 | | | |
| 64 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 1,0@0,5 | 0 | 0 | 14,5@15 | 15,5 | 6:1 | 1239 | 226 | | | |
| 65 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12,5 | 13 | 6:1 | 1526 | 260 | | | |
| 66 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 13 | 13,5 | 6:1 | 1319 | 270 | | | |
| 68 | Donaumast | HA+0 | Hoekmast | 45 | 40*40 cm bet. | 5 | 20 | 0 | 0 | 0 | 12,5 | 12,5 | 5:1 | 1463 | 176 | | | |
| 69 | Donaumast | S+6 | Steunmast | 54 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 11,5 | 12 | 6:1 | 384 | 136 | | | |
| 71 | Donaumast | S+9 | Steunmast | 57 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 13 | 13,5 | 6:1 | 896 | 176 | | | |
| 73 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12 | 12,5 | 6:1 | 1569 | 250 | | | |
| 86 | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 12,5@13,5 | 14 | 4,9:4 | 909 | 178 | 3,82 | 47,75 | |
| 90 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 14,5 | 15 | 6:1 | 1324 | 263 | | | |
| 111 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12,5 | 13 | 6:1 | 1376 | 257 | | | |
| 118 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 13 | 13,5 | 6:1 | 1288 | 236 | | | |
| 121 | Donaumast | S+6 | Steunmast | 54 | LD1+p | 1 | 4 | 0,5 | 0 | 0 | 16 | 16,5 | 4,9:1 | 1627 | 387 | 3,82 | 57,30 | |
| 123 | Donaumast | S+6 | Steunmast | 54 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 13,5 | 14 | 6:1 | 1180 | 222 | | | |
| 124 | Donaumast | S+0 | Steunmast | 48 | 40*40 cm bet. | 3 | 12 | 0,5 | 0 | 0 | 12,5 | 13 | 6:1 | 962 | 132 | | | |
| 126 | Donaumast | S+6 | Steunmast | 54 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 14,0@15,0 | 15,5 | 4,9:1 | 908 | 270 | 3,82 | 53,48 | |
| ~~128~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 12,5@13,5 | 14 | 4,9:1 | 1319 | 322 | 3,82 | 47,75 | |
| ~~130~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,0@0,5 | 0 | 0 | 12,5@13,0 | 13,5 | 4,9:1 | 1454 | 348 | 3,82 | 45,84 | |
| ~~131~~ | Donaumast | S+6 | Steunmast | 54 | LD1+p | 1 | 4 | 2,5@1,5 | 0 | 0 | 12,0@14,0 | 14,5 | 4,9:1 | 1245 | 409 | 3,82 | 49,66 | |
| ~~133~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 13,0@14,0 | 14,5 | 4,9:1 | 1223 | 413 | 3,82 | 49,66 | |
| ~~134~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 12,0@13,0 | 13,5 | 4,9:1 | 1505 | 428 | 3,82 | 45,84 | |
| ~~135~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 12,5@13,5 | 14 | 4,9:1 | 1457 | 317 | 3,82 | 47,75 | |
| ~~136~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 2,5@0,5 | 0 | 0 | 10,0@12,0 | 12,5 | 4,9:1 | 1271 | 319 | 3,82 | 42,02 | |
| ~~141~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 11,5@12,5 | 13 | 4,9:1 | 900 | 194 | 3,82 | 43,93 | |
| ~~142~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5@0,5 | 0 | 0 | 12,5@13,5 | 14 | 4,9:1 | 800 | 203 | 3,82 | 47,75 | |
| ~~143~~ | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1,5 | 0 | 0 | 13 | 14,5 | 4,9:1 | 986 | 226 | 3,82 | 49,66 | |
| ~~144~~ | Donaumast | S+6 | Steunmast | 54 | LD1+p | 1 | 4 | 3,5 | 0 | 275+ | 14 | 17,5 | 4,9:1 | 868 | 234 | | | |
| ~~145~~ | Donaumast | S+6 | Steunmast | 54 | LD1+p | 1 | 4 | 0,5 | 0 | 50+ | 14 | 14,5 | 4,9:1 | 1900 | 414 | 3,82 | 49,66 | |
| ~~146 optie 1~~ | Donaumast | S+9 | Steunmast | 57 | 32*32 cm bet. | 5 | 20 | 1,5@1,0 | 0 | 50+ | 7,5@8,0 | 9 | 5:1 | 84 | 1 | | | |
| ~~147 optie 1~~ | Donaumast | S+9 | Steunmast | 57 | 32*32 cm bet. | 5 | 20 | 1,5@1,0 | 0 | 80+ | 7,5@8,0 | 9 | 5:1 | 411 | 31 | | | |
| ~~148~~ | Donaumast | S+12 | Steunmast | 60 | 2-LD1+p | 2 | 8 | 1,5 | - | 80+ | 13,5 | 15 | 5:1 | 859 | 190 | 3,82 | 51,57 | |
| 150 | Donaumast | S+9 | Steunmast | 57 | LD1+p | 1 | 4 | 2 | 0 | 80+ | 14,5 | 16,5 | 4,9:1 | 1469 | 275 | 3,82 | 57,30 | |
| 151 | Donaumast | S+9 | Steunmast | 57 | LD1+p | 1 | 4 | 2,5 | 0 | 130+ | 13 | 15,5 | 4,9:1 | 956 | 229 | 3,82 | 53,48 | |
| 152 | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 0,5 | 0 | 145+ | 18 | 18,5 | 4,9:1 | 1572 | 436 | 3,82 | 64,94 | |
| 153 | Donaumast | S+0 | Steunmast | 48 | LD1+p | 1 | 4 | 1 | 0 | 135+ | 15,5 | 16,5 | 4,9:1 | 839 | 239 | 3,82 | 57,30 | |
| 157 | Donaumast | S+24 | Steunmast | 75,5 | 40*40 cm bet. | 4 | 16 | 0 | 0 | 50+ | 15,5 | 15,5 | 5:1 | 468 | 345 | | | |
| 158 | Donaumast | S+24 | Steunmast | 75,5 | 40*40 cm bet. | 4 | 16 | 0,0@0,5 | 0 | 50+ | 21,0@21,5 | 21 | 5:1 | 1583 | 281 | | | |

**Poergegevens bestaand / Verankering**

| Mast | Poer- type | b [m] | l [m] | h [m] | hoek [m] | b poer [m] | l poer [m] | h poer [m] | Volume poer [m³] | EG poer[kN] | Fd;eg poer / paal [kN] | Type Ringen of stiftdeuvels | Type Blokdeuvel | Type ankers/ voetplaat | Capaciteit drukkracht mast - fundatie [kN] | Capaciteit trekkracht mast - fundatie [kN] | Capaciteit drukkracht fundatie - paal [kN/paal] | Capaciteit trekkracht fundatie - paal [kN/paal] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 5 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 6 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 7 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 9 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 10 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 13 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 14 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 16 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 18 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 19 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 21 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 22 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 23 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 24 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 26 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 27 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 28 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 29 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 33 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 34 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 37 | Balkrooster (5*B) | 0,9 | 12,5 | 0,75 | 1,55 | 0,94 | 0,68 | 1,17 | 40,345206 | 968,28494 | 48,414247 | n.v.t. | n.v.t. | A: 6xM64-800.550.75 | 2100 | 1250 | 2080 | 370 |
| 50 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 51 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 52 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 53 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 54 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 55 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 56 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 57 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 58 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 59 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 64 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 65 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 66 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 68 | Balkrooster (5*B) | 0,9 | 12,5 | 0,75 | 1,55 | 0,94 | 0,68 | 1,17 | 40,35 | 968,28 | 48,41 | n.v.t. | n.v.t. | A: 6xM64-800.550.75 | 2100 | 1250 | 2080 | 370 |
| 69 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 71 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | ? | ? | C: 2xM64-450.450.45 | 950 | 708 | 2080 | 370 |
| 73 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 86 | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| 90 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 111 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 118 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 121 | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| 123 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,01 | 120,20 | 10,02 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 124 | Blokpoer(220) (3*B) | 0,74 | 1,41 | 1,2 | 0 | 0 | 0 | 0 | 5,00832 | 120,19968 | 10,01664 | n.v.t. | n.v.t. | B: 4xM36-520.320.38 | 800 | 594 | 2080 | 370 |
| 126 | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~128~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~130~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~131~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~133~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~134~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~135~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~136~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~141~~ | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~142~~ | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~143~~ | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~144~~ | Koppelframe (Cilinder | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~145~~ | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| ~~146 optie 1~~ | Balkrooster (5*B) | 0,9 | 12,5 | 0,75 | 1,55 | 0,94 | 0,68 | 1,17 | 40,345206 | 968,28494 | 48,414247 | ? | ? | C: 2xM64-450.450.45 | 1000 | 708 | 1331,2 | 90,5 |
| ~~147 optie 1~~ | Balkrooster (5*B) | 0,9 | 12,5 | 0,75 | 1,55 | 0,94 | 0,68 | 1,17 | 40,345206 | 968,28494 | 48,414247 | ? | ? | C: 2xM64-450.450.45 | 1000 | 708 | 1331,2 | 90,5 |
| ~~148~~ | Blokpoer(200) (2*LD1 | 0,9 | 2 | 1,05 | 0 | 0,55 | 0,55 | 0,5 | 0,165 | 396 | 24,5 | LN. P-oer | n.v.t. | C: 2xM64-450.450.45 | 1000 | 708 | 1363 | 1363 |
| 150 | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | N: 10x50.30.160 | n.v.t. | 1504 | 1504 | 916 | 916 |
| 151 | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | N: 10x50.30.160 | n.v.t. | 1504 | 1504 | 916 | 916 |
| 152 | Cilinderpoer(75) (1*LI | 0,66 | 0,66 | 1,56 | 0 | 0 | 0 | 0 | 2,76 | 66,16 | 16,54 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| 153 | Cilinderpoer(75) (1*LI | 0,66467 | 0,66467 | 1,56 | 0 | 0 | 0 | 0 | 2,7567459 | 66,161903 | 16,540476 | G: 6x30.50.180 | M: 12x50.30.100 | n.v.t. | 1205 | 1205 | 916 | 916 |
| 157 | Balkrooster (4*B) | 0,9 | 13,438 | 0,75 | 1,55 | 1 | 0,75 | 1,17 | 43,39635 | 1041,5124 | 65,094525 | n.v.t. | n.v.t. | D: 6xM65-700.500.55 | 2000 | 1250 | 2080 | 370 |
| 158 | Balkrooster (4*B) | 0,9 | 13,438 | 0,75 | 1,55 | 1 | 0,75 | 1,17 | 43,39635 | 1041,5124 | 65,094525 | n.v.t. | n.v.t. | D: 6xM65-700.500.55 | 2000 | 1250 | 2080 | 370 |

**Paalgegevens nieuw (LEKA palen) / Poergegevens nieuw**

| Mast | Aantal extra palen | Paaltype | Paal boven maaiveld [m NAP] | Maaiveld t.o.v. NAP [m] | PPN t.o.v. NAP [m] | PP niveau t.o.v. maaiveld [m] | Paallengte [m] | Schoorstand op 1 | Drukcapaciteit enkele paal [kN] | Trekcapaciteit enkele paal [kN] | Poer- verzwaringstype | b poer [m] | l poer [m] | h poer [m] | b balk [m] | l balk[m] | h balk/boek | Hoek l [m] | Afm. onder | Volume onder GWS [m^3] | Volumepoer | EG per nieuwe poer Max [kN] | EG per nieuwe poer Min [kN] | Waterdruk [kN] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 2 | Rond 219/310 | -1,85 | | -29 | | 27,15 | | 1031 | 371 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 5 | 2 | Rond 219/310 | -2,01 | | -27,5 | | 25,49 | | 1021 | 367 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 6 | | | | | | | | | | | F1 - Ballast zwaar | 2,56 | 3,70 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 10 | 220,0 | 123,8 | 0 |
| 7 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 9 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 10 | 2 | Rond 219/310 | -1,86 | | -30 | | 28,14 | | 935 | 368 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 13 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 14 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 16 | 2 | Rond 324/470 | -2,29 | | -23 | | 20,71 | | 1192 | 381 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 18 | | | | | | | | | | | F1 - Ballast zwaar | 2,56 | 3,70 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 10 | 220,0 | 123,8 | 0 |
| 19 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 21 | 2 | Rond 273/370 | -2,24 | | -24,5 | | 22,26 | | 1053 | 377 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 22 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 23 | 2 | Rond 324/470 | -1,95 | | -30 | | 28,05 | | 858 | 424 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 24 | 2 | Rond 273/370 | -2 | | -30,5 | | 28,5 | | 781 | 370 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 26 | 2 | Rond 219/310 | -1,95 | | -28 | | 26,05 | | 981 | 376 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 27 | 2 | Rond 219/310 | -1,82 | | -27 | | 25,18 | | 1068 | 384 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 28 | | | | | | | | | | | F1 - Ballast zwaar | 2,56 | 3,70 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 10 | 220,0 | 123,8 | 0 |
| 29 | 2 | Rond 324/470 | -1,86 | | -24,5 | | 22,64 | | 1184 | 387 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 33 | 2 | Rond 273/370 | -1,98 | | -24,5 | | 22,52 | | 1266 | 387 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 34 | 2 | Rond 324/470 | 2,05 | | -24,5 | | 26,55 | | 1078 | 385 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 37 | 2 | Rond 219/310 | -1,1 | | -20,5 | | 19,4 | | 377 | 93 | F5 - Aanstorting met 2 palen | 0 | 0 | 0 | 1 | 2 x 4,5 | 0,75 | | | | | | | |
| 50 | 2 | Rond 219/310 | -1,67 | | -23 | | 21,33 | | 802 | 272 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 51 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 52 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 53 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 54 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 55 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 56 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 57 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 58 | 2 | Rond 219/310 | -1,71 | | -21 | | 19,29 | | 897 | 291 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 59 | 2 | Rond 219/310 | -1,79 | | -21,5 | | 19,71 | | 1026 | 292 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 64 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 65 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 66 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 68 | | | | | | | | | | | - - - | 0,9 | 6,83 | 1,05 | 0 | 0 | 1,8 | 2,3 | 0,4 | 0,02 | 19 | 217,3 | 122,2 | 0,2 |
| 69 | 2 | Rond 219/310 | -0,85 | | -21,5 | | 20,65 | | 946 | 351 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 71 | 2 | Rond 219/310 | -0,48 | | -20,5 | | 20,02 | | 1072 | 344 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 73 | | | | | | | | | | | F1 - Ballast zwaar | 2,56 | 3,70 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 10 | 220,0 | 123,8 | 0 |
| 86 | 2 | Rond 324/470 | -0,4 | | -13 | | 12,6 | | 718 | 192 | F3 - Extra palen (2 stuks) | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| 90 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 111 | | | | | | | | | | | F1 - Ballast licht | 1,86 | 3,00 | 1,1 | 0 | 0 | 0 | 0,0 | 0 | 0 | 6 | 117,3 | 66,0 | 0 |
| 118 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 121 | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1,0 | 0 | 10 | 226,8 | 127,6 | 0 |
| 123 | | | | | | | | | | | F2 - Ballast + Koppelbalk | 2,56 | 3,70 | 1,1 | 0,75 | 4,9 | 0,9 | 1,0 | 0 | 0 | 14 | 310,2 | 174,5 | 0 |
| 124 | 2 | Rond 219/310 | -1,76 | | -22,5 | | 20,74 | | 1027 | 305 | palen | 2,26 | 4 | 1,1 | 0 | 0 | 0 | | | | | | | |
| 126 | 2 | Rond 324/470 | -0,5 | | -15,5 | | 15 | | 849 | 295 | F3 - Extra palen (2 stuks) | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| ~~128~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~130~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~131~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~133~~ | | | | | | | | | | | - - - | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~134~~ | | | | | | | | | | | - - - | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~135~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~136~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~141~~ | 2 | Rond 324/470 | -0,94 | | -12,5 | | 11,56 | | 716 | 207 | F3 - Extra palen (2 stuks) | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| ~~142~~ | 2 | Rond 324/470 | -0,9 | | -13,5 | | 12,6 | | 667 | 220 | F3 - Extra palen (2 stuks) | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| ~~143~~ | 2 | Rond 324/470 | -1,11 | | -14 | | 12,87 | | 806 | 234 | F3 - Extra palen (2 stuks) | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| ~~144~~ | 2 | Rond 219/310 | -1,44 | | -24,5 | | 23,06 | | 1343 | 453 | Koppelbalk | 1,6 | 5,2 | 1,5 | 0 | 0 | 0 | | | | | | | |
| ~~145~~ | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| ~~146 optie 1~~ | 3 | Rond 219/310 | -1,7 | | -17,5 | | 15,8 | | 568 | 175 | F5 - Aanstorting met 3 palen | 0 | 0 | 0 | 1 | 2 x 4,5 | 0,75 | | | | | | | |
| ~~147 optie 1~~ | 3 | Rond 219/310 | -1,73 | | -16,5 | | 14,77 | | 545 | 144 | F5 - Aanstorting met 3 palen | 0 | 0 | 0 | 1 | 2 x 4,5 | 0,75 | | | | | | | |
| ~~148~~ | 2 | Rond 219/310 | -1,78 | | -20,5 | | 18,72 | | 1256 | 336 | F5 - Blokpoer met 2 extra palen | 2 | 5,3 | 1,5 | 0 | 0 | 0 | | | | | | | |
| 150 | 2 | Rond 324/470 | -1,89 | | -15 | | 13,11 | 12,5/1 | 993 | 256 | F3 - Extra palen (2 stuks) - Schoorpalen | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| 151 | 2 | Rond 324/470 | -1,83 | | -15,5 | | 13,67 | 12,5/1 | 955 | 271 | F3 - Extra palen (2 stuks) - Schoorpalen | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| 152 | | | | | | | | | | | F1 - Ballast | 2,60 | 2,60 | 1,5 | 0 | 0 | 0 | 0,0 | 1 | 0 | 10 | 226,8 | 127,6 | 0 |
| 153 | 2 | Rond 324/470 | -2,11 | | -17,5 | | 15,39 | 12,5/1 | 799 | 237 | F3 - Extra palen (2 stuks) - Schoorpalen | 0 | 0 | 0 | 1,6 | 3,2 | 1,5 | | | | | | | |
| 157 | 2 | Rond 219/310 | -1,96 | | -24 | | 22,04 | | 973 | 233 | F5 - Aanstorting met 3 palen | 0 | 0 | 0 | 1 | 2 x 4,5 | 0,75 | | | | | | | |
| 158 | 2 | Rond 219/310 | -1,39 | | -22,5 | | 21,11 | | 654 | 177 | F5 - Aanstorting met 2 palen | 0 | 0 | 0 | 1 | 2 x 4,5 | 0,75 | | | | | | | |

**SCIA model fundering input**

| Mast | Naam SCIA-model funderingstype | Beschouwde belasting | Beschikbare rapportage vanuit Lijnen | Gehanteerde rapportage vanuit Lijnen | Toelichting | Windgebied | Maatgevende belasting | PY Curve 1 of 2 | Begrensde paalcapaciteit beschouwd | Opmerking |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 5 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 6 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 7 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 9 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 10 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 13 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 14 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 16 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 18 | | VB max S+0 wind II | 380 KIJ-DIM S+0 (18)_R | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 19 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 21 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 22 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 23 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 mast 23 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 396 druk en 89 trek | een mast model |
| 24 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 mast 24 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 462 druk en 128 trek | een mast model |
| 26 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 27 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 28 | | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | | 655 druk en 275 trek | |
| 29 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 33 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 34 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - II F4 | VB max S+0 wind II | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 2 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 37 | KIJ-DIM380-Balkrooster-5xBeton40x40 mast 37 | VB Mastor 37 | 380 KIJ-DIM HA+0 (37)_RW | 380 KIJ-DIM HA+0 (37)_RW | | 2 | | 1 | 664 druk en 100 trek | een mast model |
| 50 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - III F4 | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 51 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 52 | | VB S+6 max | 380 KIJ-DIM S+6 (52)_R | 380 KIJ-DIM S+6_R | | 3 | | | 423 druk en 275 trek | |
| 53 | | VB S+6 max | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | | 423 druk en 275 trek | |
| 54 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 55 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 56 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 57 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 58 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - III F4 | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 59 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - III F4 | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | 1 | 559 druk en 132 trek | meerdere masten model |
| 64 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 65 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 66 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 68 | | VB Mastor 68 | 380 KIJ-DIM HA+0_RW | 380 KIJ-DIM HA+0 (37)_RW | | 2 | | | | |
| 69 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-69 F4 | VB Mastor 69 | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | 2 (1 beschouwd) | 384 druk en 136 trek | een mast model |
| 71 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-71 F4 | VB Mastor 71 | 380 KIJ-DIM S+9_R | 380 KIJ-DIM S+9_R | | 3 | | 2 (1 beschouwd) | 893 druk en 176 trek | een mast model |
| 73 | | VB max S+0 wind III | 380 KIJ-DIM S+0 (73)_R | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 86 | KIJ-DIM380-F3 Cilinder 75 + palen S III | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | 2 | 800 druk en 178 trek | meerdere masten model |
| 90 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 111 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 118 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | | 994 druk en 275 trek | |
| 121 | | VB S+6 max | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | | | |
| 123 | | VB S+6 max | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | | 423 druk en 275 trek | |
| 124 | KIJ-DIM380-Blokpoer-3xBeton40x40-MAST-S+0 - III F4 | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | (Zie mastnr. 48) | | 3 | | 2 (1 beschouwd) | 559 druk en 132 trek | meerdere masten model |
| 126 | KIJ-DIM380-F3 Cilinder 75 + palen S III | VB max S+0 wind III | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | 2 | 900 druk en 194 trek | meerdere masten model |
| ~~128~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~130~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~131~~ | | VB S+6 max | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | | | |
| ~~133~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~134~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0 (134)_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~135~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~136~~ | | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | | | |
| ~~141~~ | KIJ-DIM380-F3 Cilinder 75 + palen S III | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | 2 | 900 druk en 194 trek | meerdere masten model |
| ~~142~~ | KIJ-DIM380-F3 Cilinder 75 + palen S III 86+142 | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | 2 | 900 druk en 178 trek | meerdere masten model |
| ~~143~~ | KIJ-DIM380-F3 Cilinder 75 + palen S III | VB max S+0 wind III | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R2 | | 3 | | 2 | 900 druk en 194 trek | meerdere masten model |
| ~~144~~ | KIJ-DIM380-Koppelframe-1xLD1 F3 | VB Mastor 144 | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | 2 | 868 druk en 234 trek | een mast model |
| ~~145~~ | | VB S+6 max | 380 KIJ-DIM S+6_R | 380 KIJ-DIM S+6_R | | 3 | | | | |
| ~~146 optie 1~~ | KIJ-DIM380-Balkrooster-5xBeton32x32 mast 146 | VB Mastor 146 | 380 KIJ-DIM S+9_R | 380 KIJ-DIM S+9_R | | 3 | | PY Curve 2 met een Reductiefactor van 90% | 84 druk en 1 trek | een mast model |
| ~~147 optie 1~~ | KIJ-DIM380-Balkrooster-5xBeton32x32 mast 147 | VB Mastor 147 | 380 KIJ-DIM S+9_R | 380 KIJ-DIM S+9_R | | 3 | | PY Curve 2 met een Reductiefactor van 90% | 441 druk en 31 trek | een mast model |
| ~~148~~ | KIJ-DIM380-Blokpoer-2xLD1 mast 148 | VB Mastor 148 | 380 KIJ-DIM S+12_R | 380 KIJ-DIM S+12_R | | 3 | | 2 | 859 druk en 190 trek | een mast model |
| 150 | KIJ-DIM380-F3 Cilinder 75 + palen - S+9 | VB max S+9 | 380 KIJ-DIM S+9_R | 380 KIJ-DIM S+9_R | | 2 | | 2 | 956 druk en 229 trek | meerdere masten model |
| 151 | KIJ-DIM380-F3 Cilinder 75 + palen - S+9 | VB max S+9 | 380 KIJ-DIM S+9_R | 380 KIJ-DIM S+9_R | | 2 | | 2 | 956 druk en 229 trek | meerdere masten model |
| 152 | | VB max S+0 wind III | 380 KIJ-DIM S+0_R1 (152) | 380 KIJ-DIM S+0_R1 (152) | | 2 | | | | |
| 153 | KIJ-DIM380-F3 Cilinder 75 + palen S II | VB Mastor 153 | 380 KIJ-DIM S+0_R2 | 380 KIJ-DIM S+0_R1 (152) | | 2 | | 2 | 839 druk en 239 trek | een mast model |
| 157 | KIJ-DIM380-Balkrooster-5xBeton40x40 mast 157 | VB Mastor 157 | 380 KIJ-DIM S+24_R | 380 KIJ-DIM S+24_R | | 2 | | Reductiefactor van | 468 druk en 345 trek | een mast model |
| 158 | KIJ-DIM380-Balkrooster-5xBeton40x40 mast 158 | VB Mastor 158 | 380 KIJ-DIM S+24_R | 380 KIJ-DIM S+24_R | | 2 | | Reductiefactor van | 1583 druk en 281 trek | een mast model |

(Schuiv in Input Lijnen tem l-paalpoort, EG_paal+poer toegevoegd)

**SCIA model resultaten / Belastingen op AK en VB niveau / Toetsingen**

| Mast | Bestaande Palen: Maximale drukkracht in één fundatiepaal [kN] | Bestaande Palen: Maximale trekkracht in één fundatiepaal [kN] | LEKA Palen: Maximale drukkracht in één fundatiepaal [kN] | LEKA Palen: Maximale trekkracht in één fundatiepaal [kN] | Input vanuit Lijnen (AK): Maximale drukkracht in één randstijl [kN] | Input vanuit Lijnen (AK): Maximale trekkracht in één randstijl [kN] | Input vanuit Lijnen (VB): Maximale drukkracht in één randstijl [kN] | Input vanuit Lijnen (VB): Maximale trekkracht in één randstijl [kN] | Verschil Lijnen input AK - VB: ΔF_druk per randstijl [kN] (Fd_VB - Fd_AK) | Verschil Lijnen input AK - VB: ΔF_trek per randstijl [kN] (Ft_VB - Ft_AK) | Bestaande Palen: Toetsing paalcapaciteit op maximale drukkracht | Bestaande Palen: Toetsing paalcapaciteit op maximale trekkracht | LEKA Palen: Toetsing paalcapaciteit op maximale drukkracht | LEKA Palen: Toetsing paalcapaciteit op maximale trekkracht | Overkoepelende toetsing | Opmerking | Versterking | Categorie |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,74 | 0,67 | 0,24 | 0,96 | 0,96 | | Lijnpoer met 2 extra palen | F4 |
| 5 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,70 | 0,78 | 0,25 | 0,97 | 0,97 | | Lijnpoer met 2 extra palen | F4 |
| 6 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,47 | 0,97 | n.v.t. | n.v.t. | 0,97 | | Ballast zwaar | F1 |
| 7 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,42 | 0,96 | n.v.t. | n.v.t. | 0,96 | | Ballast licht | F1 |
| 9 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,37 | 0,95 | n.v.t. | n.v.t. | 0,95 | | Ballast licht | F1 |
| 10 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,84 | 0,78 | 0,27 | 0,97 | 0,97 | | Lijnpoer met 2 extra palen | F4 |
| 13 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,65 | 0,97 | n.v.t. | n.v.t. | 0,97 | | Ballast + Koppelbalk | F2 |
| 14 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,45 | 0,94 | n.v.t. | n.v.t. | 0,94 | | Ballast licht | F1 |
| 16 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,63 | 0,77 | 0,21 | 0,93 | 0,93 | | Lijnpoer met 2 extra palen | F4 |
| 18 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,53 | 0,93 | n.v.t. | n.v.t. | 0,93 | | Ballast zwaar | F1 |
| 19 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,68 | 0,93 | n.v.t. | n.v.t. | 0,93 | | Ballast + Koppelbalk | F2 |
| 21 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,64 | 0,69 | 0,24 | 0,94 | 0,94 | | Lijnpoer met 2 extra palen | F4 |
| 22 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,52 | 0,91 | n.v.t. | n.v.t. | 0,91 | | Ballast + Koppelbalk | F2 |
| 23 | 396,0 | 0,1 | 438,1 | 353,4 | 749 | 588 | 963 | 796 | 214 | 208 | 1,00 | 0,00 | 0,51 | 0,83 | 1,00 | | Lijnpoer met 2 extra palen | F4 |
| 24 | 462,0 | 128,0 | 412,7 | 257,8 | 749 | 588 | 963 | 796 | 214 | 208 | 1,00 | 1,00 | 0,53 | 0,70 | 1,00 | | Lijnpoer met 2 extra palen | F4 |
| 26 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,80 | 0,71 | 0,26 | 0,95 | 0,95 | | Lijnpoer met 2 extra palen | F4 |
| 27 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,79 | 0,79 | 0,24 | 0,93 | 0,93 | | Lijnpoer met 2 extra palen | F4 |
| 28 | 537,3 | 275,0 | n.v.t. | n.v.t. | 749 | 588 | 963 | 796 | 214 | 208 | 0,52 | 0,95 | n.v.t. | n.v.t. | 0,95 | | Ballast zwaar | F1 |
| 29 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 1,00 | 0,74 | 0,21 | 0,92 | 1,00 | | Lijnpoer met 2 extra palen | F4 |
| 33 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,88 | 0,79 | 0,20 | 0,92 | 0,92 | | Lijnpoer met 2 extra palen | F4 |
| 34 | 559,0 | 132,0 | 251,3 | 355,8 | 749 | 588 | 963 | 796 | 214 | 208 | 0,95 | 0,72 | 0,23 | 0,92 | 0,95 | | Lijnpoer met 2 extra palen | F4 |
| 37 | 459,7 | 100,0 | 180,7 | 54,3 | 1353 | 1120 | 1443 | 1187 | 90 | 67 | 0,69 | 1,00 | 0,48 | 0,58 | 1,00 | | Aanstorting met 2 palen | F5 |
| 50 | 462,0 | 128,0 | 278,9 | 138,8 | 634 | 468 | 813 | 639 | 179 | 171 | 0,57 | 0,73 | 0,35 | 0,51 | 0,73 | | Lijnpoer met 2 extra palen | F4 |
| 51 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,58 | 0,93 | n.v.t. | n.v.t. | 0,93 | | Ballast + Koppelbalk | F2 |
| 52 | 423,0 | 275,0 | n.v.t. | n.v.t. | 719 | 536 | 906 | 707 | 187 | 171 | 0,32 | 0,94 | n.v.t. | n.v.t. | 0,94 | | Ballast licht | F1 |
| 53 | 423,0 | 275,0 | n.v.t. | n.v.t. | 710 | 515 | 906 | 707 | 196 | 192 | 0,37 | 0,95 | n.v.t. | n.v.t. | 0,95 | | Ballast + Koppelbalk | F2 |
| 54 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,50 | 0,88 | n.v.t. | n.v.t. | 0,88 | | Ballast + Koppelbalk | F2 |
| 55 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,44 | 0,93 | n.v.t. | n.v.t. | 0,93 | | Ballast + Koppelbalk | F2 |
| 56 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,34 | 0,97 | n.v.t. | n.v.t. | 0,97 | | Ballast licht | F1 |
| 57 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,32 | 0,91 | n.v.t. | n.v.t. | 0,91 | | Ballast licht | F1 |
| 58 | 462,0 | 128,0 | 278,9 | 138,8 | 634 | 468 | 813 | 639 | 179 | 171 | 0,38 | 0,87 | 0,31 | 0,48 | 0,87 | | Lijnpoer met 2 extra palen | F4 |
| 59 | 462,0 | 128,0 | 278,9 | 138,8 | 634 | 468 | 813 | 639 | 179 | 171 | 0,50 | 0,95 | 0,27 | 0,48 | 0,95 | | Lijnpoer met 2 extra palen | F4 |
| 64 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,50 | 0,93 | n.v.t. | n.v.t. | 0,93 | | Ballast + Koppelbalk | F2 |
| 65 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,35 | 0,95 | n.v.t. | n.v.t. | 0,95 | | Ballast licht | F1 |
| 66 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,41 | 0,92 | n.v.t. | n.v.t. | 0,92 | | Ballast licht | F1 |
| 68 | 377,1 | 176,0 | n.v.t. | n.v.t. | 1255 | 1030 | 1329 | 1075 | 74 | 45 | 0,29 | 0,86 | n.v.t. | n.v.t. | 0,86 | | - | - |
| 69 | 384,0 | 136,0 | 400,0 | 233,7 | 710 | 515 | 906 | 707 | 196 | 192 | 1,00 | 1,00 | 0,42 | 0,67 | 1,00 | | Lijnpoer met 2 extra palen | F4 |
| 71 | 735,0 | 176,0 | 139,7 | 272,2 | 879 | 685 | 1127 | 918 | 248 | 233 | 0,82 | 1,00 | 0,13 | 0,79 | 1,00 | | Lijnpoer met 2 extra palen | F4 |
| 73 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,37 | 0,91 | n.v.t. | n.v.t. | 0,91 | | Ballast zwaar | F1 |
| 86 | 800,0 | 178,0 | 153,2 | 138,6 | 634 | 468 | 813 | 639 | 179 | 171 | 0,88 | 1,00 | 0,21 | 0,72 | 1,00 | | Extra palen (2 stuks) | F3 |
| 90 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,41 | 0,94 | n.v.t. | n.v.t. | 0,94 | | Ballast licht | F1 |
| 111 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,39 | 0,96 | n.v.t. | n.v.t. | 0,96 | | Ballast licht | F1 |
| 118 | 491,9 | 269,2 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,48 | 0,89 | n.v.t. | n.v.t. | 0,89 | | Ballast + Koppelbalk | F2 |
| 121 | 798,6 | 448,5 | n.v.t. | n.v.t. | 710 | 515 | 906 | 707 | 196 | 192 | 0,66 | 0,83 | n.v.t. | n.v.t. | 0,83 | | Ballast | F1 |
| 123 | 423,0 | 275,0 | n.v.t. | n.v.t. | 710 | 515 | 906 | 707 | 196 | 192 | 0,46 | 0,98 | n.v.t. | n.v.t. | 0,98 | | Ballast + Koppelbalk | F2 |
| 124 | 462,0 | 128,0 | 278,9 | 138,8 | 634 | 468 | 813 | 639 | 179 | 171 | 0,48 | 0,97 | 0,27 | 0,46 | 0,97 | | Lijnpoer met 2 extra palen | F4 |
| 126 | 857,7 | 194,0 | 189,5 | 99,3 | 710 | 515 | 877 | 686 | 167 | 171 | 0,94 | 0,72 | 0,22 | 0,34 | 0,94 | | Extra palen (2 stuks) | F3 |
| ~~128~~ | 733,1 | 410,1 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,75 | 0,88 | n.v.t. | n.v.t. | 0,88 | | Ballast | F1 |
| ~~130~~ | 708,9 | 411,9 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,67 | 0,82 | n.v.t. | n.v.t. | 0,82 | | Ballast | F1 |
| ~~131~~ | 799,4 | 455,4 | n.v.t. | n.v.t. | 710 | 515 | 906 | 707 | 196 | 192 | 0,85 | 0,80 | n.v.t. | n.v.t. | 0,85 | | Ballast | F1 |
| ~~133~~ | 753,4 | 408,8 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,81 | 0,68 | n.v.t. | n.v.t. | 0,81 | | - | - |
| ~~134~~ | 708,9 | 411,9 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,65 | 0,66 | n.v.t. | n.v.t. | 0,66 | | - | - |
| ~~135~~ | 733,1 | 410,1 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,67 | 0,89 | n.v.t. | n.v.t. | 0,89 | | Ballast | F1 |
| ~~136~~ | 704,3 | 415,5 | n.v.t. | n.v.t. | 634 | 468 | 813 | 639 | 179 | 171 | 0,77 | 0,90 | n.v.t. | n.v.t. | 0,90 | | Ballast | F1 |
| ~~141~~ | 900,0 | 194,0 | 210,4 | 63,4 | 634 | 468 | 813 | 639 | 179 | 171 | 1,00 | 1,00 | 0,29 | 0,31 | 1,00 | | Extra palen (2 stuks) | F3 |
| ~~142~~ | 800,0 | 178,0 | 245,4 | 48,1 | 634 | 468 | 813 | 639 | 179 | 171 | 1,00 | 0,88 | 0,37 | 0,30 | 1,00 | | Extra palen (2 stuks) | F3 |
| ~~143~~ | 900,0 | 194,0 | 219,4 | 63,4 | 634 | 468 | 813 | 639 | 179 | 171 | 0,91 | 0,86 | 0,26 | 0,27 | 0,91 | | Extra palen (2 stuks) | F3 |
| ~~144~~ | 868,0 | 234,0 | 850,1 | 289,1 | 710 | 515 | 906 | 707 | 196 | 192 | 1,00 | 1,00 | 0,63 | 0,64 | 1,00 | | Extra palen (2 stuks) + Koppelbalk | F3 |
| ~~145~~ | 789,4 | 455,4 | n.v.t. | n.v.t. | 710 | 515 | 906 | 707 | 196 | 192 | 0,56 | 0,79 | n.v.t. | n.v.t. | 0,79 | | Ballast | F1 |
| ~~146 optie 1~~ | 84,0 | 0,0 | 413,5 | 0,0 | 879 | 685 | 1127 | 918 | 248 | 233 | 1,00 | 0,00 | 0,62 | 0,00 | 1,00 | Werkhypothese is uitwerking van optie 1 waarbij dit uitgangspunt in het werk wordt geverifieerd | Aanstorting met 3 palen | F5 |
| ~~147 optie 1~~ | 218,5 | 17,6 | 214,6 | 133,8 | 879 | 685 | 1127 | 918 | 248 | 233 | 0,53 | 0,57 | 0,39 | 0,93 | 0,93 | Werkhypothese is uitwerking van optie 1 waarbij dit uitgangspunt in het werk wordt geverifieerd | Aanstorting met 3 palen | F5 |
| ~~148~~ | 859,0 | 190,0 | 464,0 | 257,2 | 799 | 598 | 993 | 794 | 194 | 196 | 1,00 | 1,00 | 0,37 | 0,77 | 1,00 | | Blokpoer met 2 extra palen | F5 |
| 150 | 956,0 | 229,0 | 289,6 | 213,8 | 834 | 647 | 1127 | 918 | 293 | 271 | 0,65 | 0,83 | 0,29 | 0,84 | 0,84 | | Extra palen (2 stuks) - Schoorpalen | F3 |
| 151 | 956,0 | 229,0 | 289,6 | 213,8 | 848 | 656 | 1127 | 918 | 279 | 262 | 1,00 | 1,00 | 0,30 | 0,79 | 1,00 | | Extra palen (2 stuks) - Schoorpalen | F3 |
| 152 | 798,0 | 551,3 | n.v.t. | n.v.t. | 749 | 588 | 963 | 773 | 214 | 185 | 0,68 | 0,97 | n.v.t. | n.v.t. | 0,97 | | Ballast | F1 |
| 153 | 839,0 | 239,0 | 215,7 | 175,2 | 749 | 588 | 963 | 773 | 214 | 185 | 1,00 | 1,00 | 0,27 | 0,74 | 1,00 | | Extra palen (2 stuks) - Schoorpalen | F3 |
| 157 | 360,4 | 213,0 | 408,7 | 133,4 | 1519 | 1218 | NTB | NTB | NTB | NTB | 0,77 | 0,62 | 0,42 | 0,57 | 0,77 | | Aanstorting met 3 palen | F5 |
| 158 | 551,5 | 243,2 | 197,1 | 37,2 | 1492 | 1193 | NTB | NTB | NTB | NTB | 0,35 | 0,87 | 0,30 | 0,21 | 0,87 | | Aanstorting met 2 palen | F5 |

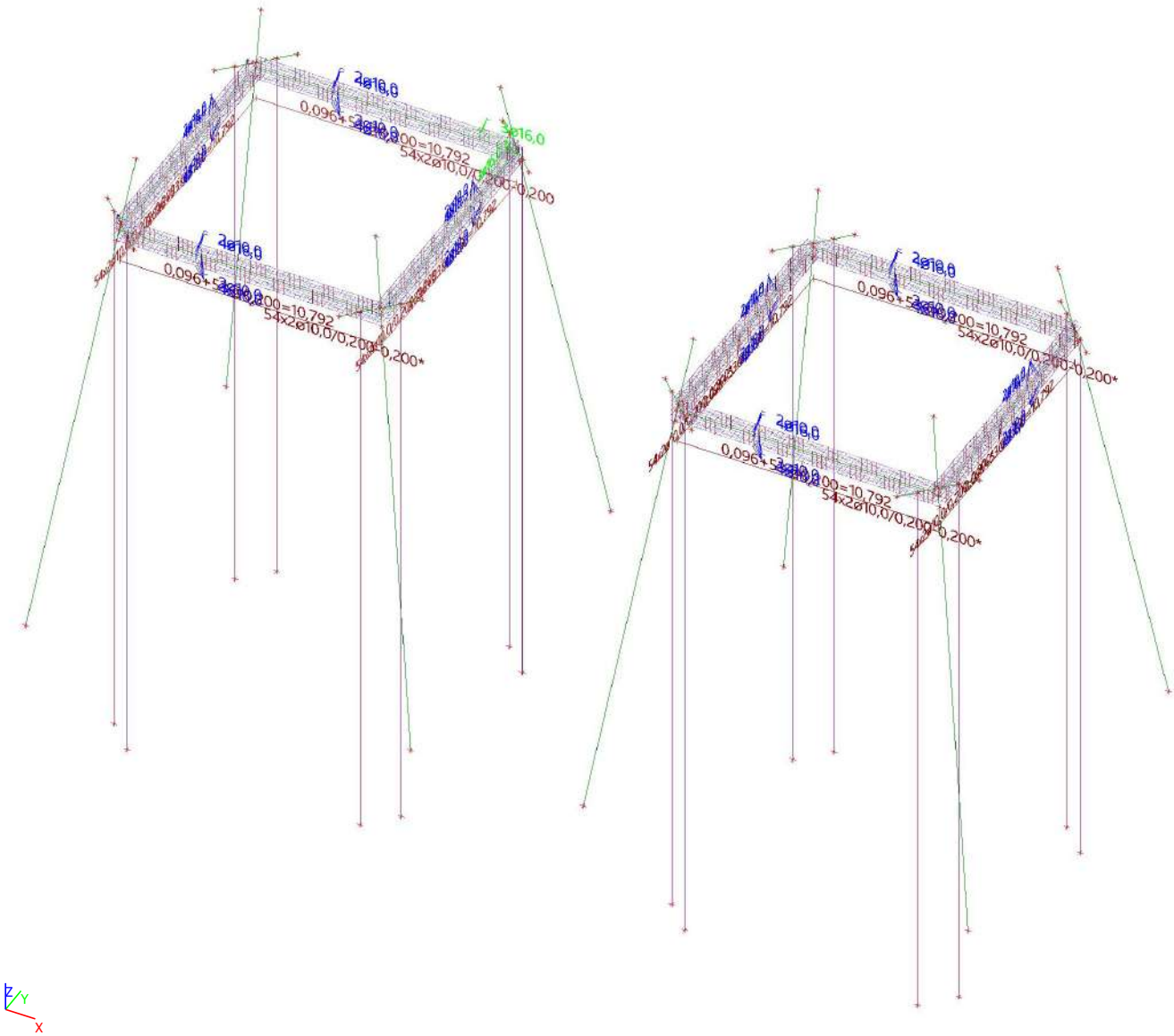
# 1. Inhoudsopgave

1. Inhoudsopgave 1
2. Project 2
3. Rekenmodel / Hoofdwapening / Beugels 2
4. Rekenmodel / Hoofdwapening / Beugels 3
5. Krachten van de Funderingsbalken 4
5.1. Interne 1D- krachten; N 4
5.2. Interne 1D- krachten; V_y 4
5.3. Interne 1D- krachten; V_z 5
5.4. Interne 1D- krachten; M_x 5
5.5. Interne 1D- krachten; M_y 6
5.6. Interne 1D- krachten; M_z 6
5.7. Interne 1D-krachten 7
6. Buigingstoets 8
6.1. Check capacity-interaction diagram; UC 8
6.2. Controle capaciteits-interactiediagram 8
6.3. Controle capaciteits-interactiediagram 9
7. Dwarskracht- en torsietoets 14
7.1. Controleer afschuiving+torsie (UGT); UC 14
7.2. Controleer afschuiving+torsie (UGT) 14
7.3. Controleer afschuiving+torsie (UGT) 16

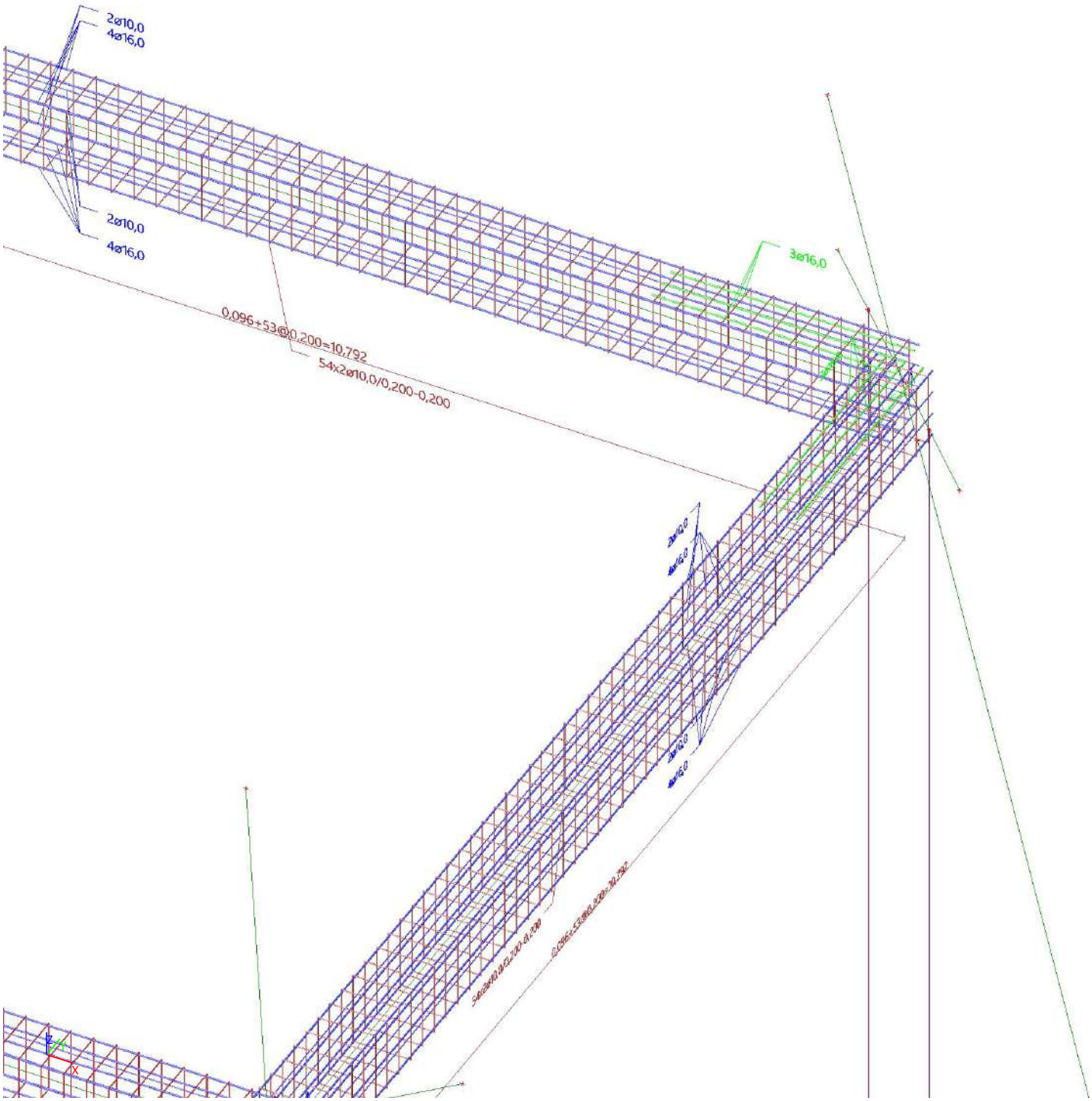
## 2. Project

| | |
|---|---|
| Gebruiker van licentie | [redacted] |
| Project | Opwaardering KIJ-BVW 380kV |
| Onderdeel | Koppelframe 1xLD1 F3- Wapeningtoetsing |
| Auteur | [redacted] |
| Datum | 05-02-2026 |
| Constructie | Algemeen XYZ |
| Aantal knopen : | 92 |
| Aantal staven : | 64 |
| Aantal platen : | 0 |
| Aantal vaste lichamen : | 0 |
| Aantal gebruikte doorsneden : | 6 |
| Aantal belastingsgevallen : | 9 |
| Aantal gebruikte materialen : | 9 |
| Gravitatieversnelling [m/s$^2$] | 9,807 |
| Nationale norm | EC - EN |

## 3. Rekenmodel / Hoofdwapening / Beugels



# 4. Rekenmodel / Hoofdwapening / Beugels



# 5. Krachten van de Funderingsbalken

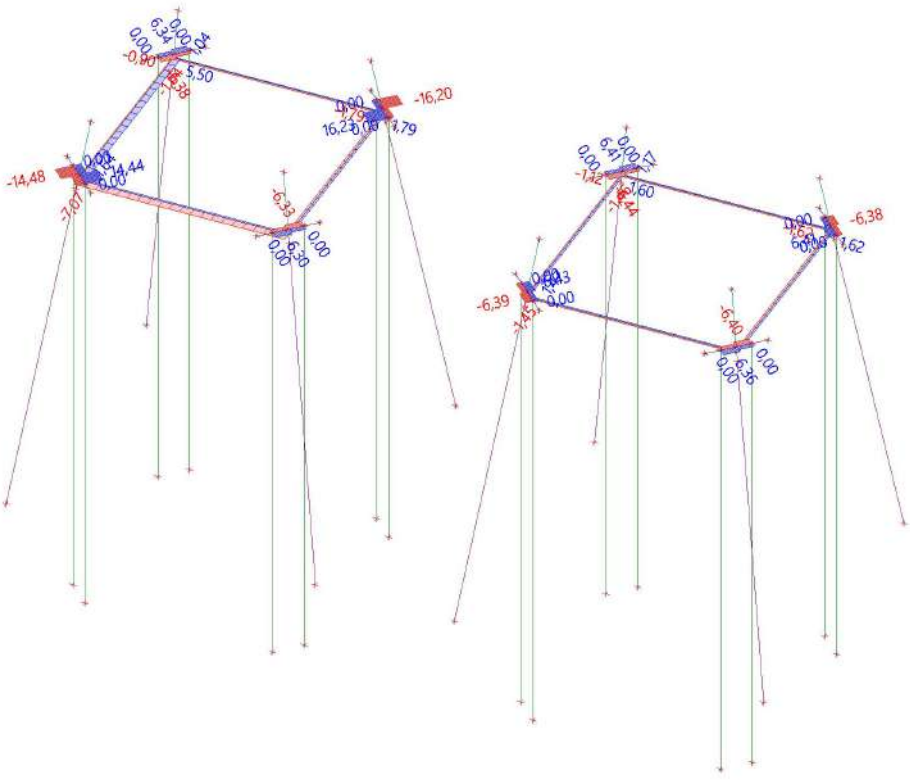
## 5.1. Interne 1D- krachten; N

Waarden: **N**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



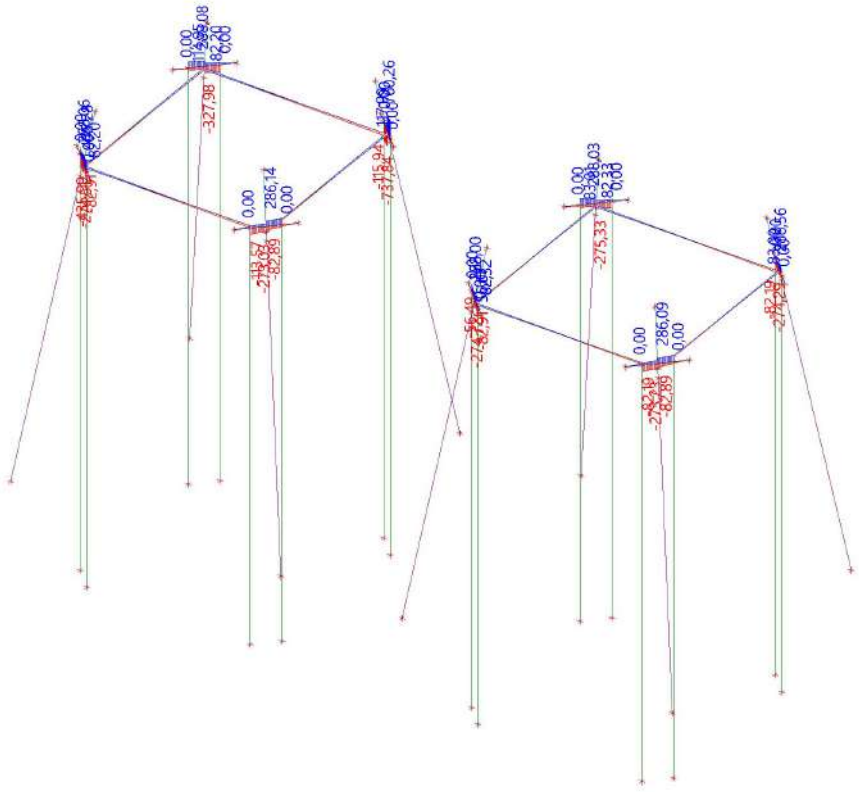
## 5.2. Interne 1D- krachten; V_y

Waarden: $V_y$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



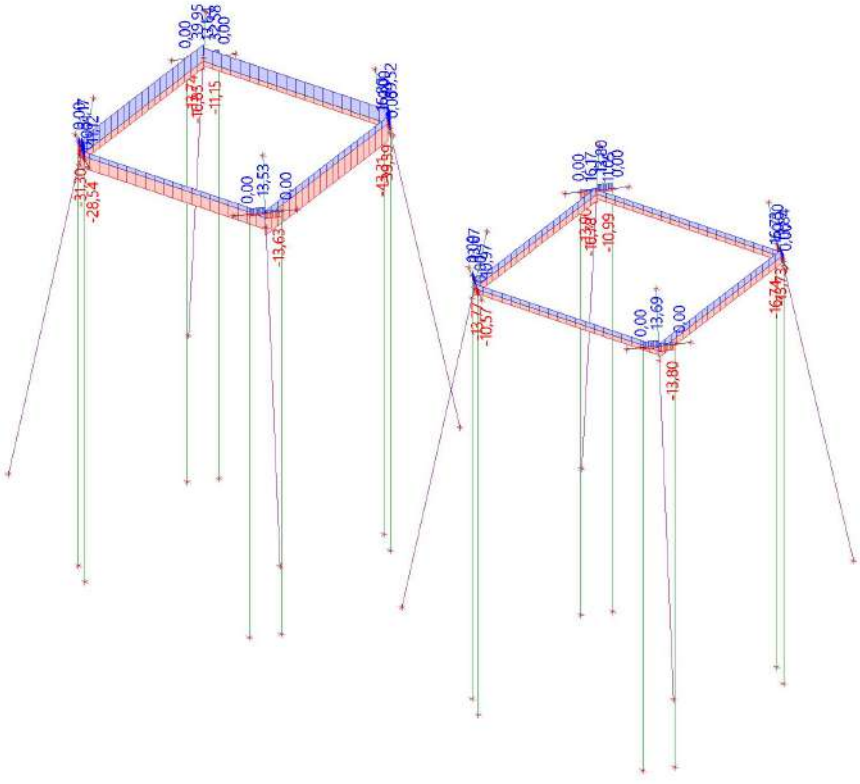
## 5.3. Interne 1D- krachten; V_z

Waarden: $V_z$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



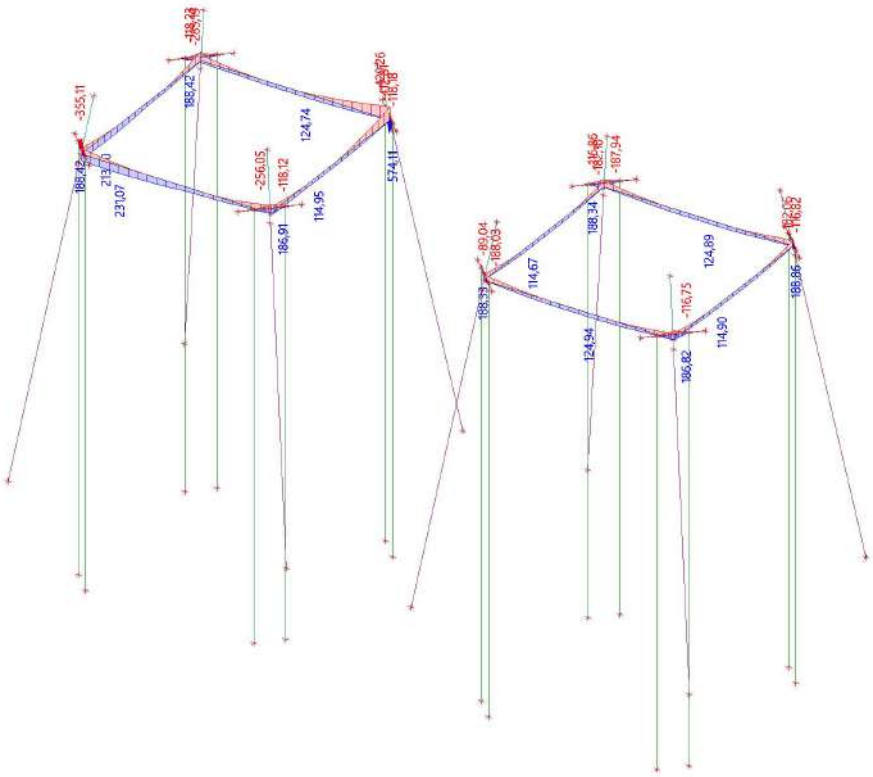
## 5.4. Interne 1D- krachten; M_x

Waarden: $M_x$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Lokaal
Selectie: Alle
Filter: Laag = Balken



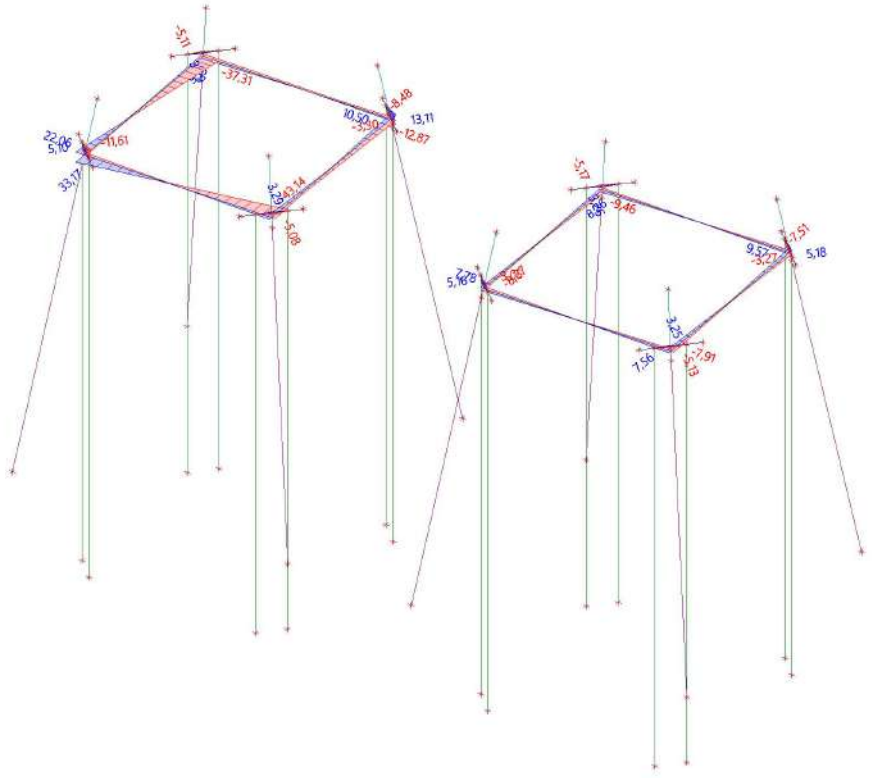
## 5.5. Interne 1D- krachten; M_y

Waarden: $M_y$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Element
Selectie: Alle
Filter: Laag = Balken



## 5.6. Interne 1D- krachten; M_z

Waarden: $M_z$
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Element
Selectie: Alle
Filter: Laag = Balken



## 5.7. Interne 1D-krachten

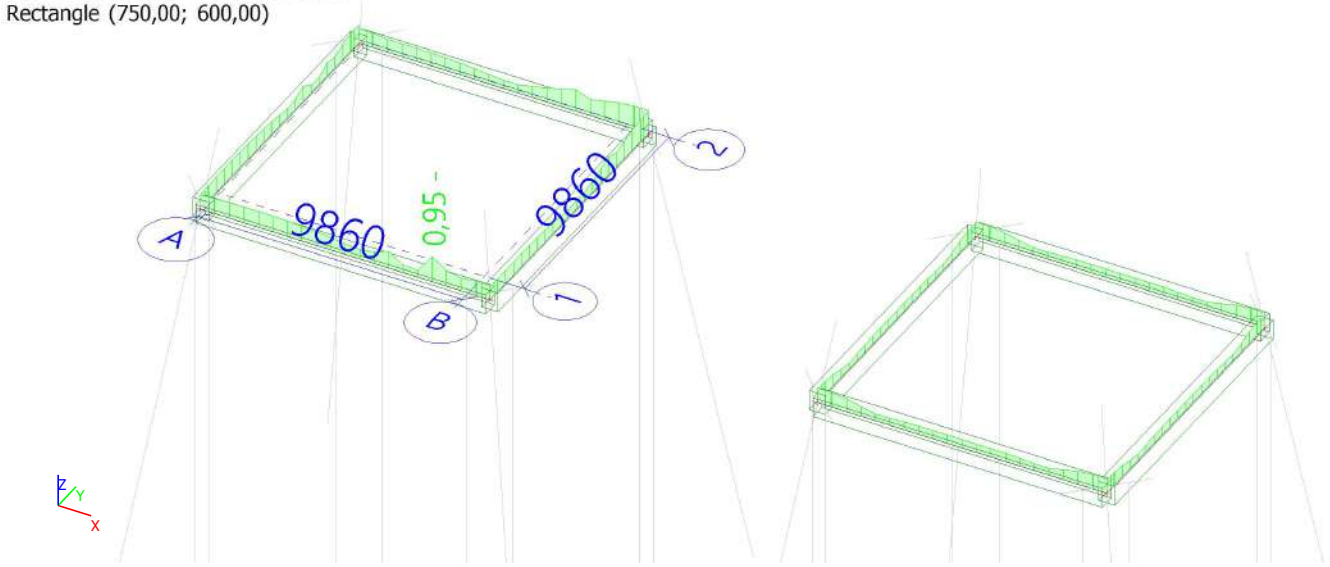
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Hoofd
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| Naam | dx [m] | Belasting | Doorsnede | N [kN] | $V_y$ [kN] | $V_z$ [kN] | $M_x$ [kNm] | $M_y$ [kNm] | $M_z$ [kNm] |
|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | **-7,07** | 29,31 | -28,54 | 198,66 | **33,17** |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 118,21 | 1,01 | **117,99** | **-43,31** | -412,81 | -12,87 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -112,49 | **5,50** | 114,95 | **39,95** | -285,19 | -37,31 |
| (balk 600x750)1 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **181,93** | 0,52 | **-115,94** | 32,58 | **-420,26** | -2,39 |
| (balk 600x750)8 | 2,158 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-180,06** | -7,07 | 0,73 | -28,54 | **231,07** | 17,91 |
| (balk 600x750)8 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -7,07 | -113,57 | -28,54 | -256,05 | **-43,14** |

# 6. Buigingstoets

## 6.1. Check capacity-interaction diagram; UC

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)




## 6.2. Controle capaciteits-interactiediagram

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| Naam | dx [m] | Belasting | Doorsnede | $N_{Ed}$ [kN] | $M_{Edy}$ [kNm] $M_{Edz}$ [kNm] | Method | $N_{Rd+}$ [kN] $N_{Rd-}$ [kN] | $M_{Rdy+}$ [kNm] $M_{Rdy-}$ [kNm] | $M_{Rdz+}$ [kNm] $M_{Rdz-}$ [kNm] | UC [-] Check |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 0,300 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-180,06** | 214,82 **31,05** | NuMu | 192,21 -324,53 | 387,18 -229,32 | 55,97 -33,15 | 0,55 OK |
| (balk 600x750)1 | 10,252 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **181,93** | **-364,08** 0,00 | NuMu | 204,18 -176,40 | 353,01 -408,62 | 0,00 0,00 | 0,89 OK |
| (balk 600x750)8 | 2,158 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | **231,07** 19,96 | NuMu | 183,06 -297,98 | 382,41 -234,93 | 33,03 -20,29 | 0,60 OK |
| (balk 600x750)8 | 10,792 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -201,05 **-43,14** | NuMu | 200,55 -352,49 | 223,92 -393,58 | 48,05 -84,46 | 0,51 OK |
| (balk | 10,492 | high max Wnd | Betonnen | -97,50 | 22,09 | NuMu | **850,09** | 958,19 | 44,81 | 0,02 |

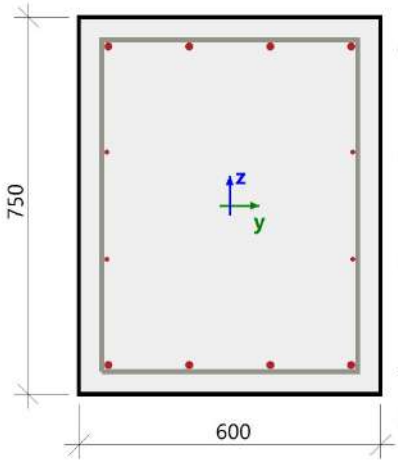
| Naam | dx [m] | Belasting | Doorsnede | $N_{Ed}$ [kN] | $M_{Edy}$ [kNm] $M_{Edz}$ [kNm] | Method | $N_{Rd+}$ [kN] $N_{Rd-}$ [kN] | $M_{Rdy+}$ [kNm] $M_{Rdy-}$ [kNm] | $M_{Rdz+}$ [kNm] $M_{Rdz-}$ [kNm] | UC [-] Check |
|---|---|---|---|---|---|---|---|---|---|---|
| 600x750)1 | | ;315° - EG_Ongunstig | Blalk - Rectangle (750,00; 600,00) | | -5,14 | | -4229,92 | -192,57 | -222,98 | OK |
| (balk 600x750)1 | 5,396- | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 181,93 | 27,40 -5,33 | NuMu | 614,00 **-5582,00** | 92,48 -840,74 | 163,66 -18,00 | 0,30 OK |
| (balk 600x750)1 | 8,634 | low max Wnd ;225° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -96,01 | 25,58 -4,06 | NuMu | 797,35 -3806,60 | **1014,07** -212,41 | 33,75 -161,11 | 0,03 OK |
| (balk 600x750)3 | 0,000 | high max Wnd ;315° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -64,05 | -21,27 0,00 | NuMu | 455,41 -3300,24 | 151,24 **-1095,96** | 0,00 0,00 | 0,02 OK |
| (balk 600x750)3 | 0,000 | low max Wnd ;315° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -62,36 | 16,46 10,50 | NuMu | 686,95 -2434,09 | 642,37 -181,29 | **409,93** -115,69 | 0,03 OK |
| (balk 600x750)8 | 8,094 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | 29,08 -26,11 | NuMu | 550,76 -3462,72 | 559,16 -88,94 | 79,87 **-502,14** | 0,05 OK |
| (balk 600x750)8 | 8,634 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -180,06 | -73,81 -29,93 | NuMu | 391,51 -1490,54 | 160,50 -611,03 | 65,07 -247,73 | **0,95** OK |

## 6.3. Controle capaciteits-interactiediagram

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

| **Balk (balk 600x750)8** | **Rectangle (750,00; 600,00)** |
|---|---|
| NEN EN 1992-1-1+C2/NB+A1:2020 | Doorsnede 19 [dx = 8.63 m] |

**Staaflengte:** L = 10.8 m
"Knik y-y⊥ $L_y$ = 13.3 m (zijdelings flexibel)
Knik z-z⊥ $L_z$ = 13.3 m (zijdelings flexibel)




**Beton: C30/37 Gescheurd**
Bilineair spanning-rekdiagram
Milieuklasse: XC4, XF4

**Langswapening: B 500A**
Bilineair met oplopende bovenvertakking
8ø16+4ø10 (1923 $mm^2$)
$\rho_l$ = 0,427 % (15.1 kg/m)

**Afschuifwapening: B 500A**
Bilineair met oplopende bovenvertakking
2ø10/200* (detaillering)

**Dekking (beugel)**
Bovenzijde: 40 mm
Onderzijde: 40 mm
Links: 40 mm
Rechts: 40 mm

## Materiaalkarakteristieken

Ontwerpbetondruksterkte

$$f_{cd} = \frac{\alpha_{cc} \cdot f_{ck}}{\gamma_C} = \frac{1 \cdot 30}{1.5} = 20 \text{ MPa}$$

Ontwerpvloeispanning van langswapening

$$f_{yd} = \frac{f_{yk}}{\gamma_S} = \frac{500}{1.15} = 435 \text{ MPa} \quad (3.15)$$

## Krachten

Van EEM analyse

N = -180 kN $M_y$ = -41.8 kNm $M_z$ = -27.9 kNm

Inhoud van de combinatie:

highmaxWnd;135°-EG_Ongunstig

## Drukstaaf

Beperk normaalkracht om rekening te houden met drukstaven:

$$N_{com} = -\text{Coeff}_{com} \cdot \left( f_{cd} \cdot A_c \right) = -0.1 \cdot \left( 20 \cdot 10^6 \cdot 0.45 \right) = -900 \text{ kN}$$

Controleer conditie:

$N_{Ed} \geq N_{com}$ = -180 kN ≥ -900 kN ... geen drukstaaf

Opm.: Het element moet niet worden beschouwd als een drukelement (normaalkracht is relatief klein of nul).

Herberekende buigende momenten:

Momentreductie boven steunpunt: Ja
Reductie van dwarskrachten boven steunpunt: Ja
Verschuivingsregel gebruiken: Ja
Dwarskrachten reduceren: Op het vlak

$N_{Ed}$ = -180 kN $M_{Edy}$ = -73.8 kNm $M_{Edz}$ = -29.9 kNm

## Invoergegevens voor het genereren van interactiediagrammen

| | |
|---|---|
| Methode van interactiediagram controle | $N_uM_u$ |
| Verdeling van verticale rekken | 250 |
| Aantal verticale snedes | 18 |
| Resultante waarde van buigend moment | $M_{res}$ = 79.7 kNm |
| Hoek van resultante van buigend moment is gerelateerd aan $M_y$ richting in horizontaal vlak $M_y$-$M_z$ | $\alpha_{MyMz}$ = -22.1 ° |
| Hoek van resultante van buigend moment is gerelateerd aan N richting in verticaal vlak N-$M_{res}$ | $\alpha_{NM}$ = -66.1 ° |

## Status van scheuren in buiging

$\sigma_{ct.max}$ = 1.58 MPa ≥ $f_{ctd}$ = 1.33 MPa => doorsnede gescheurd bij buiging

## Toetsing van beperkte hoogte van drukzone gebaseerd op 6.1(9) van NEN EN 1992-1-1

Grenswaarde van ontwerpnormaalkracht

$N_{lim} = 0.1 \cdot A_c \cdot f_{cd} = 0.1 \cdot 0.45 \cdot 20 = 900$ kN

Ontwerpwaarde van normaalkracht

$N_{Ed}$ = -180 kN

De waarde $x_u$ berekend op basis van de weerstanden uit het interactiediagram

$N_{Rd}$ = -1491 kN

$M_{Rdy}$ = -611 kN

$M_{Rdz}$ = -248 kN

Beperkte hoogte van drukzone

$$x_{u,lim} = \frac{500 \cdot 10^6 \cdot d}{500 \cdot 10^6 + f} = \frac{500 \cdot 10^6 \cdot 0.727}{500 \cdot 10^6 + 435 \cdot 10^6} = 0.389 \text{ m}$$

$x_u < x_{u,lim}$ => 370 mm < 389 mm

Controlewaarde gerelateerd aan de beperking van de drukzone

$$UC_{xu} = \frac{x_u}{x_{u,lim}} = \frac{0.37}{0.389} = 0.953$$

## Berekening van weerstanden

Weerstanden in positieve richting $N_{Rd+}$ = 392 kN $M_{Rdy+}$ = 160 kNm $M_{Rdz+}$ = 65 kNm

Weerstanden in negatieve richting $N_{Rd-}$ = -1491 kN $M_{Rdy-}$ = -611 kNm $M_{Rdz-}$ = -248 kNm

## Samenvatting controle

Krachten: $N_{Ed}$ = -180 kN $M_{Edy}$ = -73.8 kNm $M_{Edz}$ = -29.9 kNm

Weerstand: $N_{Rd}$ = -1491 kN $M_{Rdy}$ = -611 kNm $M_{Rdz}$ = -248 kNm

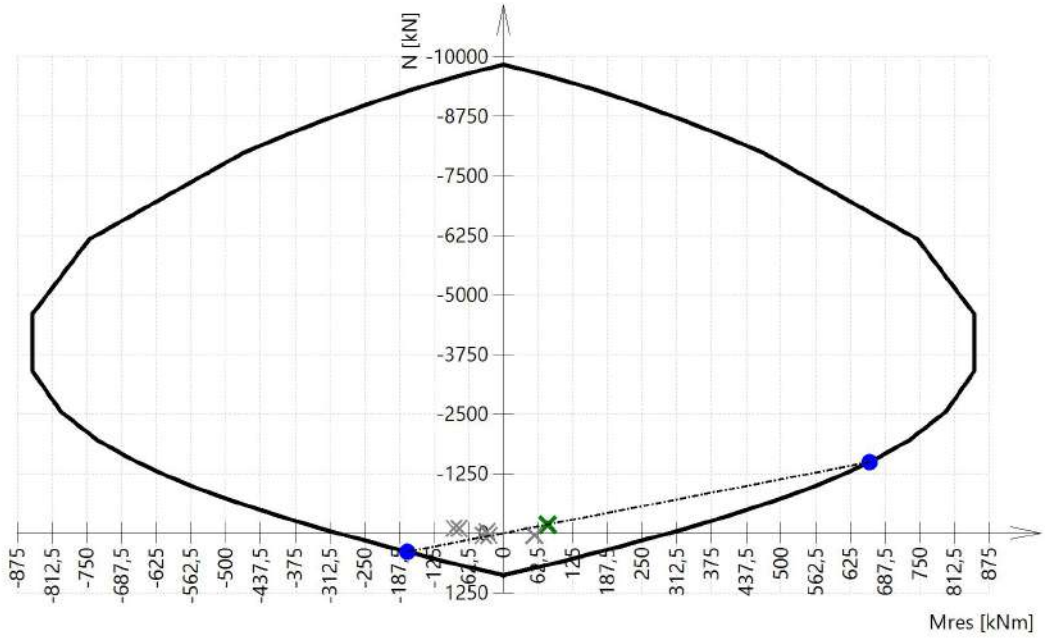
Berekenen van de eenheidscontrole:

$$UC = \frac{\sqrt{N_{Ed}^2 + M_{Edy}^2 + M_{Edz}^2}}{\sqrt{N_{Rd}^2 + M_{Rdy}^2 + M_{Rdz}^2}} = \frac{\sqrt{-180^2 + -73.8^2 + -29.9^2}}{\sqrt{-1491^2 + -611^2 + -248^2}} = 0.121$$

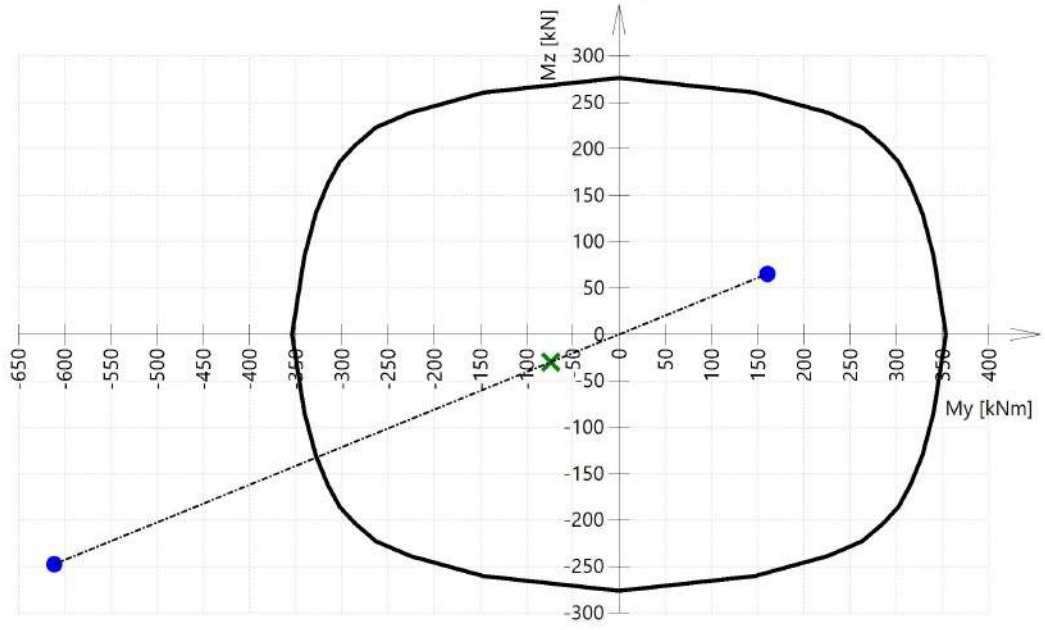
Eenheidscontrole gebaseerd op $x_{u,lim}$ volgens 6.1(9) van NEN EN 1992-1-1

$$UC_{xu} = \frac{x}{x_{u,lim}} = \frac{0.37}{0.389} = 0.953 \quad <= 1 \quad \textbf{OK}$$

## 3D-interactiediagram - Verticale doorsnede N-M $_{res}$




## 3D-interactiediagram - Horizontale doorsnede $M_y$-$M_z$

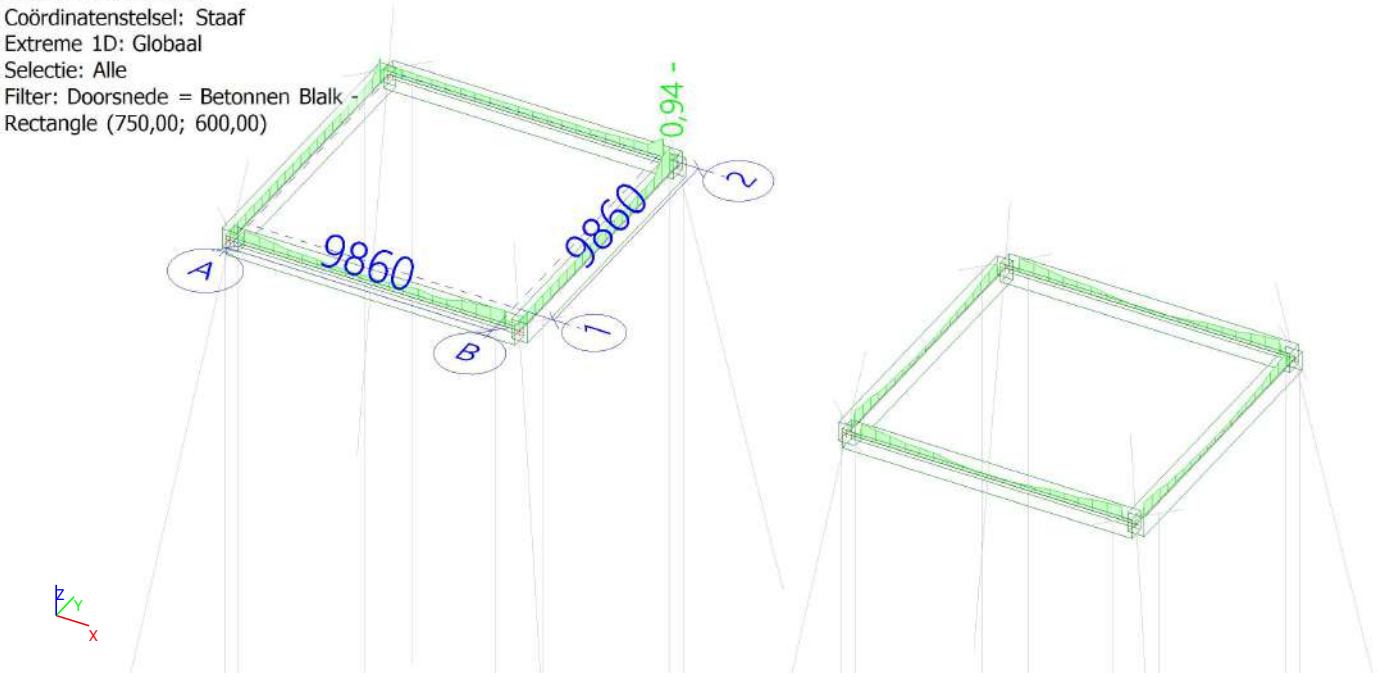


Lijst van fouten/waarschuwingen/opmerkingen: N2/1

# 7. Dwarskracht- en torsietoets

## 7.1. Controleer afschuiving+torsie (UGT); UC

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)




## 7.2. Controleer afschuiving+torsie (UGT)

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)
**Dwarskrachtcontrole**

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] | d [mm] z [mm] | $A_{swm}$ [cm²/m] θ [deg] | $b_w$ [mm] $b_{w1}$ [mm] | $V_{Rdc}$ [kN] $V_{Rdmax}$ [kN] | $V_{Rds}$ [kN] | $UC_{shear}$ [-] |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)5 | 5,396- | low max Wnd ;135° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **0,01** | 6,5347e+02 5,9516e+02 | 0,00 40,00 | 604,21 604,21 | 222,29 1869,84 | 0,00 | 0,00 |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **111,38** | 6,7158e+02 6,1241e+02 | 7,90 40,00 | 600,00 600,00 | 159,04 2171,19 | 0,00 | 0,05 |
| (balk 600x750)8 | 10,792 | high max Wnd ;45° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 54,28 | 7,0062e+02 4,6969e+02 | 0,00 40,00 | 288,72 600,09 | **388,29** 1465,60 | 0,00 | 0,04 |
| (balk 600x750)1 | 5,396- | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 44,50 | 6,9827e+02 6,2844e+02 | 7,85 40,00 | 600,04 600,04 | 0,00 **2228,17** | **235,29** | 0,19 |

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] | d [mm] z [mm] | $A_{swm}$ [cm²/m] θ [deg] | $b_w$ [mm] $b_{w1}$ [mm] | $V_{Rdc}$ [kN] $V_{Rdmax}$ [kN] | $V_{Rds}$ [kN] | $UC_{shear}$ [-] |
|---|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 10,252 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 106,66 | 6,8061e+02<br>5,9591e+02 | 0,00<br>40,00 | 601,32<br>601,32 | 177,27<br>1863,25 | 0,00 | **0,60** |

**Torsiecontrole**

| Naam | dx [m] | Belasting | Doorsnede | $T_{Ed}$ [kNm] | $u_k$ [mm] $A_k$ [mm²] | $A_{swtm}$ [cm²/m] $t_{ef}$ [mm] | $T_{Rdc}$ [kNm] $T_{Rdmax}$ [kNm] | $T_{Rds}$ [kNm] $T_{Rd}$ [kNm] | $UC_{tor}$ [-] |
|---|---|---|---|---|---|---|---|---|---|
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **-43,31** | 2033,34<br>2,5278e+05 | 3,95<br>166,67 | 112,35<br>438,13 | **103,44**<br>103,44 | 0,42 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **39,95** | 2033,34<br>2,5278e+05 | 3,95<br>166,67 | **112,35**<br>**438,13** | 103,42<br>103,42 | 0,39 |
| (balk 600x750)8 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -28,54 | 2033,34<br>2,5278e+05 | 0,00<br>166,67 | 112,35<br>438,13 | 0,00<br>**112,35** | 0,25 |
| (balk 600x750)3 | 0,500 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | -43,31 | 2033,34<br>2,5278e+05 | 3,93<br>166,67 | 112,35<br>438,13 | 102,87<br>102,87 | **0,42** |

**Interactie tussen afschuiving en torsie**

| Naam | dx [m] | Belasting | Doorsnede | $V_{Ed}$ [kN] $T_{Ed}$ [kNm] | Equation 6_29 [-] Equation 6_31 [-] | $UC_{int_con}$ [-] | $UC_{int_shear}$ [-] | $UC_{int}$ [-] |
|---|---|---|---|---|---|---|---|---|
| (balk 600x750)5 | 5,396- | low max Wnd ;135° - EG_Gunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **0,01**<br>0,02 | 0,00<br>0,00 | 0,00 | 0,00 | 0,00 |
| (balk 600x750)3 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | **111,38**<br>**-43,31** | 0,15<br>1,09 | **0,15** | 0,00 | 0,15 |
| (balk 600x750)2 | 0,000 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 108,47<br>**39,95** | 0,14<br>1,01 | 0,14 | 0,00 | 0,14 |
| (balk 600x750)3 | 0,540 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 110,85<br>-43,31 | 0,15<br>1,08 | 0,15 | **0,94** | **0,94** |

**Globale tabel van dwars- en torsiecontrole**

| Naam | dx [m] | Belasting | Doorsnede | $UC_{shear}$ [-] | $UC_{tor}$ [-] | $UC_{int}$ [-] | UC [-] | Check |
|---|---|---|---|---|---|---|---|---|
| (balk 600x750)8 | 10,252 | high max Wnd ;135° - | Betonnen Blalk - | **0,60** | 0,25 | 0,12 | 0,60 | OK, maar... |

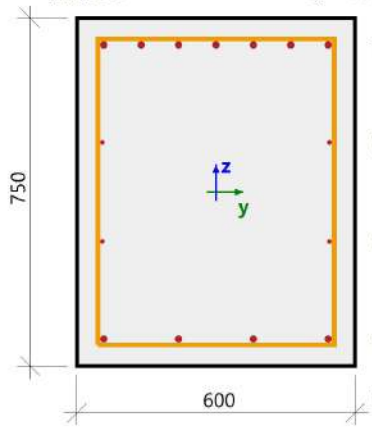
| Naam | dx [m] | Belasting | Doorsnede | $UC_{shear}$ [-] | $UC_{tor}$ [-] | $UC_{int}$ [-] | UC [-] | Check |
|---|---|---|---|---|---|---|---|---|
| | | EG_Ongunstig | Rectangle (750,00; 600,00) | | | | | |
| (balk 600x750)3 | 0,540 | high max Wnd ;135° - EG_Ongunstig | Betonnen Blalk - Rectangle (750,00; 600,00) | 0,48 | **0,42** | **0,94** | **0,94** | **OK** |

## 7.3. Controleer afschuiving+torsie (UGT)

Waarden: **UC**
Niet-lineaire berekening
Klasse: All non-linear
Coördinatenstelsel: Staaf
Extreme 1D: Globaal
Selectie: Alle
Filter: Doorsnede = Betonnen Blalk - Rectangle (750,00; 600,00)

**Balk (balk 600x750)3** | **Rectangle (750,00; 600,00)**
NEN EN 1992-1-1+C2/NB+A1:2020 | Doorsnede 3 [dx = 0.54 m]

**Staaflengte:** L = 10.8 m
"Knik y-y⊥ $L_y$ = 13.3 m (zijdelings flexibel)
Knik z-z⊥ $L_z$ = 13.3 m (zijdelings flexibel)




**Beton: C30/37 Gescheurd**
Bilineair spanning-rekdiagram
Milieuklasse: XC4, XF4
**Langswapening: B 500A**
Bilineair met oplopende bovenvertakking
11ø16+4ø10 (2526 $mm^2$)
$\rho_l$ = 0,561 % (19.8 kg/m)
**Afschuifwapening: B 500A**
Bilineair met oplopende bovenvertakking
2ø10/200 (785 $mm^2$/m)
$\rho_w$ = 0,131 % (6.17 kg/m)
**Dekking (beugel)**
Bovenzijde: 40 mm
Onderzijde: 40 mm
Links: 40 mm
Rechts: 40 mm

### Instellingen

Methode voor berekening afschuifweerstanden: Standaard
Grenswaarde van de hoek tussen buigende momenten en resultante dwarskrachten voor het gebruik van de standaardmethode: $\alpha_{VM,lim}$ = 15 °
Equivalente dunwandige doorsnede: Automatisch
De hoek tussen de betondrukschoor en de staafas: Gebruikersinvoer: $\theta_{inp}$ = 40 ° => $\cot(\theta_{inp})$ = 1.19

### Krachten

Inhoud van de combinatie: highmaxWnd;135°-EG_Ongunstig
$N_{Ed}$ = 118 kN $M_{Edy}$ = -356 kNm $M_{Edz}$ = 0 kNm $V_{Edy}$ = 0 kN $V_{Edz}$ = 111 kN $T_{Ed}$ = -43.3 kNm
Hoek van gradiënt van rekvlak
$\alpha_M$ = 90 °
Hoek van resultante van afschuiving
$\alpha_V$ = 90 °
Resultante van dwarskracht
$V_{Ed} = \sqrt{V_{Edy}^2 + V_{Edz}^2} = \sqrt{0^2 + 111^2}$ = 111 kN
Verschil tussen hoeken $\alpha_M$ en $\alpha_V$
$\alpha_{MV} = \text{abs}(\alpha_M - \alpha_V) = \text{abs}(90 - 90) = 0$ °

## Materiaalkarakteristieken

Ontwerpbetondruksterkte

$$f_{cd} = \frac{\alpha_{cc} \cdot f_{ck}}{\gamma_C} = \frac{1 \cdot 30}{1.5} = 20 \text{ MPa}$$

Ontwerp betontreksterkte

$$f_{ctd} = \frac{\alpha_{ct} \cdot f_{ctk005}}{\gamma_C} = \frac{1 \cdot 2}{1.5} = 1.33 \text{ MPa} \quad (3.15, 3.16)$$

## Berekening van hoek tussen betondrukschoor en staafas

- minimale waarde:

$\theta_{min} = 21.8° \Rightarrow \cot(\theta_{min}) = 2.5$ (§6.2.3(2))

- maximale waarde:

$\theta_{max} = 45° \Rightarrow \cot(\theta_{max}) = 1$ (§6.2.3(2))

- invoer/berekende waarde:

$\theta = \theta_{inp} = 40°, \cot(\theta) = 1.19$

Opm.: Automatische berekening van hoek is uitgeschakeld, gebruikerswaarde wordt in rekening genomen

# Controleer afschuiving en bereken afschuifweerstand

## Doorsnedeparameters

Minimale breedte van doorsnede in trekzone

$y_{bw}$ = 0 mm $z_{bw}$ = -197 mm $b_w$ = 600 mm

Opm.: Waarde $b_w$ is berekend als de kleinste breedte van de doorsnede in het trekoppervlak loodrecht op de resultante van de dwarskracht.

Minimale breedte van de doorsnede tussen trek- en drukschoor

$y_{bw1}$ = 0 mm $z_{bw1}$ = 297 mm $b_{w1}$ = 600 mm

Opm.: Waarde $b_{w1}$ is berekend als de kleinste breedte van de doorsnede tussen het trek- en drukkoord loodrecht op de resultante van de dwarskracht.

Hoogte van doorsnede is herberekend in de richting van de resultante van de dwarskracht

h = 750 mm

Opm.: De waarde h wordt berekend als de breedte van de doorsnede op het zwaartepunt in de richting van de resultante van de dwarskracht.

Oppervlakte betondoorsnede

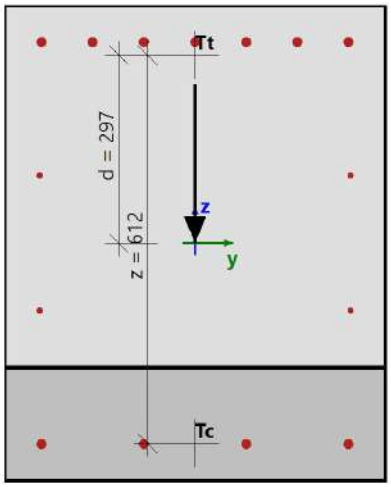
$A_c$ = 0.45 $m^2$

Effectieve diepte omgerekend naar richting van resultante van dwarskracht

d = 672 mm

Hefboomsarm van interne krachten omgerekend naar richting van resultante van dwarskracht

z = 612 mm



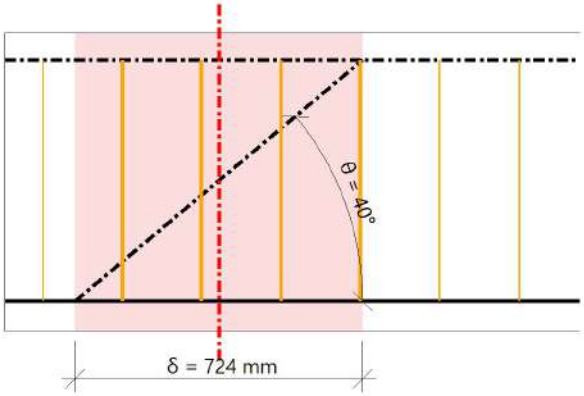
## Parameters van afschuifwapening

### Invoerparameters

Beugels over de lengte van scheurafschuifprojectie $\delta = z*\cot(\Theta) = 724$ mm, interval (-362; 362)

$z = \text{Coeff_d} \cdot \text{Coeff_z} \cdot h = 0.9 \cdot 0.9 \cdot 0.75 = 608$ mm $\quad \delta = z \cdot \text{cotg}(\theta) = 0.608 \cdot \text{cotg}(40) = 724$ mm

| ID | Zone | $x_s$ [mm] | $\varnothing_s$ [mm] | $s_s$ [mm] | $n_s$ [] | $\alpha_s$ [°] | $f_{ywk}$ [MPa] |
|---|---|---|---|---|---|---|---|
| 1 | 1 | -244 | 10 | 200 | 2 | 90 | 500 |
| 2 | 1 | -43.6 | 10 | 200 | 2 | 90 | 500 |
| 3 | 1 | 156 | 10 | 200 | 2 | 90 | 500 |
| 4 | 1 | 356 | 10 | 200 | 2 | 90 | 500 |
| Avg. | - | - | 10 | 200 | 2 | 90 | 500 |




Aantal snedes per beugel $n_s = 2$

Diameter van de wapening $\varnothing_s = 10$ mm

Hart - op - hartafstand van beugel in langsrichting $s_{inp} = 0.2$ m

Hoek van beugels van elementas $\alpha_s = 90°$

Karakteristieke vloeigrens $f_{ywk} = 500$ MPa

Doorsnedeoppervlakte van afschuifwapening

$$A_{sw} = n_s \cdot \pi \cdot \left(\frac{\varnothing_s}{2}\right)^2 = 2 \cdot 3.14 \cdot \left(\frac{10}{2}\right)^2 = 157 \text{ mm}^2$$

Maximale longitudinale tussenafstand van beugelwapening

$s_l = s_{inp} = 200$ mm

Doorsnedeoppervlak per meter

$$A_{swm} = \frac{A_{sw}}{s_l} = \frac{157 \cdot 10^{-6}}{0.2} = 785 \text{ mm}^2/\text{m}$$

## Parameters van langswapening

Het oppervlak van de trekwapening

$A_{sl} = 1722$ mm$^2$

## Berekening van afschuifweerstanden

### Ontwerpafschuifweerstand van de staaf zonder afschuifwapening

$\sigma_{ct,max} = 6.58\ MPa \geq f_{ctd} = 1.33\ MPa \Rightarrow$ doorsnede gescheurd bij buiging

Berekening ontwerp afschuifweerstand van de staaf zonder afschuifwapening volgens artikel 6.2.2(1).

Coëfficiënt voor hoogte van de doorsnede

$$k = \min\left(1 + \left(\frac{200}{d}\right)^{\frac{1}{2}}; 2\right) = \min\left(1 + \left(\frac{200}{672}\right)^{\frac{1}{2}}; 2\right) = 1.55 \qquad (\S 6.2.2(1))$$

Geometrische wapeningsverhouding

$$\rho_1 = \min\left(\frac{A_{sl}}{b_w \cdot d}; 0.02\right) = \min\left(\frac{1.72 \cdot 10^{-3}}{0.6 \cdot 0.672}; 0.02\right) = 4.27 \cdot 10^{-3} \qquad (\S 6.2.2(1))$$

Axiale spanning in de doorsnede

$$\sigma_{cp} = \min\left(\frac{-N_{Ed}}{A_c}; 0.2 \cdot f_{cd}\right) = \min\left(\frac{-118}{0.45}; 0.2 \cdot 20\right) = -0.263\ MPa \qquad (\S 6.2.2(1))$$

Andere coëfficiënten

$C_{Rdc} = 0.12 \quad v_{min} = 0.368\ MPa \quad k_1 = 0.15$

Berekening van de rekenwaarde afschuifweerstand

$$V_{Rdc} = 10^6 \cdot \left(C_{Rdc} \cdot k \cdot \left(100 \cdot \rho_1 \cdot f_{ck}\right)^{\frac{1}{3}} + k_1 \cdot \sigma_{cp}\right) \cdot b_w \cdot d \qquad (6.2.a)$$

$$= 10^6 \cdot \left(0.12 \cdot 1.55 \cdot \left(100 \cdot 4.27 \cdot 10^{-3} \cdot 30\right)^{\frac{1}{3}} + 0.15 \cdot -0.263\right) \cdot 0.6 \cdot 0.672 = 159\ kN$$

$$V_{Rdcmin} = 10^6 \cdot \left(v_{min} + k_1 \cdot \sigma_{cp}\right) \cdot b_w \cdot d \qquad (6.2.b)$$

$$= 10^6 \cdot \left(0.368 + 0.15 \cdot -0.263\right) \cdot 0.6 \cdot 0.672 = 133\ kN$$

$$V_{Rdc} = \max\left(V_{Rdc}; V_{Rdcmin}; 0\right) = \max\left(159037; 132569; 0\right) = 159\ kN$$

Opm.: Ontwerpweerstand afschuiving van het element zonder de afschuifwapening is berekend volgens artikel 6.2.2(1), omdat de doorsnede is gescheurd in buiging in UGT of de doorsnede is niet belast door normaalkracht en buigende momenten.

## Rekenwaarde van de max. dwarskracht welke kan worden verdragen door het element

Sterktereductiefactor voor beton gescheurd in afschuiving - waarde v

$$\nu = 0.6 \cdot \left(1 - \frac{f_{ck}}{250}\right) = 0.6 \cdot \left(1 - \frac{30}{250}\right) = 0.528 \qquad (6.6N)$$

## Sterktereductiefactor voor beton gescheurd in afschuiving - waarde $\nu_1$

$$\sigma_{cp} = \min\left(\frac{-N_{Ed}}{A_c}; 0.2 \cdot f_{cd}\right) = \min\left(\frac{-118}{0.45}; 0.2 \cdot 20\right) = -0.263 \text{ MPa}$$

$$\nu_1 = 0.6 \qquad (6.10.aN)$$

Coëfficiënt voor de bepaling van de spanning in de drukdiagonaal

$\alpha_{cw} = 1$ (voor niet-voorgespannen element) (§6.2.3(3)N3)

Rekenwaarde van de max. dwarskracht welke kan worden verdragen door het element

$$V_{Rdmax} = \frac{\alpha_{cw} \cdot b_{w1} \cdot z \cdot \nu_1 \cdot f_{cd}}{\left(\cot g(\theta) + tg(\theta)\right)} = \frac{1 \cdot 0.6 \cdot 0.612 \cdot 0.6 \cdot 20 \cdot 10^6}{\left(\cot g(40) + tg(40)\right)} = 2171 \text{ kN} \qquad (6.9)$$

## Ontwerpafschuifweerstand van de staaf met afschuifwapening

Ontwerpspanning van afschuifwapening

$$A_{sw} = n_s \cdot \pi \cdot \left(\frac{\varnothing_s}{2}\right)^2 = 2 \cdot 3.14 \cdot \left(\frac{10}{2}\right)^2 = 157 \text{ mm}^2$$

$$\sigma_{swd} = \frac{\frac{V_{Ed}}{z} \cdot s_l}{A_{sw} \cdot \left(\cot g(\theta) + \cot g(\alpha_s) \cdot \sin(\alpha_s)\right)} = \frac{\frac{110850}{0.612} \cdot 0.2}{157 \cdot 10^{-6} \cdot \left(\cot g(40) + \cot g(90) \cdot \sin(90)\right)} = 193 \text{ MPa}$$

Ontwerpvloeispanning van afschuifwapening

$f_{ywd} = 0.8 \cdot f_{ywk} = 0.8 \cdot 500 = 400$ MPa , omdat $\sigma_{swd} < 0.8 \cdot f_{ywk}$)

Opm.: Ontwerp vloeisterkte van de afschuifwapening is gereduceerd to 0.8 x $f_{ywk}$ (EN 1992-1-1, Artikel 6.2.3(3)), omdat de ontwerpspanning van de afschuifwapening onder de 80% van de karakteristieke vloeispanning $f_{yk}$ is.

Limiet van maximaal toelaatbare afschuifwapening

$$A_{sw,max} = \frac{\alpha_{cw} \cdot \nu_1 \cdot f_{cd} \cdot b_{w1} \cdot s_l}{f_{ywd} \cdot \left(1 + \cot g(\theta)^2\right) \cdot \sin(\alpha_s)} = \frac{1 \cdot 0.6 \cdot 20 \cdot 600 \cdot 200}{400 \cdot \left(1 + \cot g(40)^2\right) \cdot \sin(90)} = 1487 \text{ mm}^2 \qquad (6.12)$$

$$A_{sw} = \min\left(A_{sw}; A_{sw,max}\right) = \min\left(157; 1487\right) = 157 \text{ mm}^2$$

Ontwerpafschuifweerstand van de staaf met afschuifwapening

$$V_{Rds} = \frac{A_{sw}}{s_l} \cdot z \cdot f_{ywd} \cdot \cot g(\theta) = \frac{157 \cdot 10^{-6}}{0.2} \cdot 0.612 \cdot 400 \cdot 10^6 \cdot \cot g(40) = 229 \text{ kN} \qquad (6.8)$$

## Maximale dwarskracht bij het steunpunt (zonder gebruik van factor β)

$$V_{Edmax} = 0.5 \cdot b_{w1} \cdot d \cdot \nu \cdot f_{cd} = 0.5 \cdot 0.6 \cdot 0.672 \cdot 0.528 \cdot 20 \cdot 10^6 = 2128 \text{ kN} \qquad (6.5)$$

## Afschuifweerstand van de staaf

$$V_{Rd} = \min\left(V_{Rds} + V_{ccd} + V_{td}; V_{Rdmax} + V_{ccd} + V_{td}; V_{Edmax} + V_{ccd} + V_{td}\right) = \min\left(229 + 0 + 0; 2171 + 0 + 0; 2128 + 0 + 0\right) = 229 \text{ kN}$$

### Dwarskrachtcontrole

Controle $V_{Rdmax}$

$V_{Ed} = 111\ kN \leq V_{Rdmax} + V_{ccd} + V_{td} = 2171\ kN$

Opm.: De controle voldoet voor het verbrijzelen van de drukschoor ($V_{Ed} \leq V_{Rd,max} + V_{td} + V_{ccd}$).

Controle $V_{Edmax}$

$V_{Ed} = 111\ kN \leq V_{Edmax} + V_{ccd} + V_{td} = 2128\ kN$

Opm.: De controle voldoet voor dwarskracht nabij het steunpunt ($V_{Ed} \leq V_{Ed,max} + V_{td} + V_{ccd}$).

Controle $V_{Rdc}$ en $V_{Rds}$

$V_{Ed} = 111kN < V_{Rds} + V_{ccd} + V_{td} = 229\ kN$

Opm.: De controle voldoet voor afschuifwapening ($V_{Ed} < V_{Rds} + V_{ccd} + V_{td}$).

### Eenh. Controle

$$UC = \frac{V_{Ed}}{V_{Rd}} = \frac{111\ kN}{229\ kN} = 0.483$$

## Controleer torsie en bereken torsieweerstand

Totale oppervlakte van doorsnede

$A_c = 450000\ mm^2$

Buitenomtrek van de doorsnede

$u_c$ = ConcreteCssCharacteristics.Perimeter = 2.7 = 2700 mm

De oppervlakte van langswapening voor torsie

$A_{sl} = 2526\ mm^2$

De minimum afstand tussen wapeningsstaven binnen beugel voor torsie en rand van doorsnede

$a_{sl} = 55\ mm$

Effectieve wanddikte

$$t_{ef} = \max\left(\frac{A_c}{u_c}; 2 \cdot a_{sl}\right) = \max\left(\frac{450000}{2700}; 2 \cdot 55\right) = 167\ mm \qquad (§6.3.2(1))$$

Omtrek en oppervlakte van de zone binnen de centrale lijn van de effectieve doorsnede

$u_k = 2033\ mm$

$A_k = 252778\ mm^2$

Opm.: Torsieparameters [waarden van $A_k$ en $u_k$] zijn berekend volgens de automatisch ingestelde methode [Methode = Van torsiebeugel].

## Parameters voor afschuif/torsie wapening

Beugels over de lengte van scheurafschuifprojectie $\delta = z*\cot(\Theta) = 724$ mm, interval (-362; 362)

$z = \text{Coeff_d} \cdot \text{Coeff_z} \cdot h = 0.9 \cdot 0.9 \cdot 0.75 = 608$ mm  $\delta = z \cdot \text{cotg}(\theta) = 0.608 \cdot \text{cotg}(40) = 724$ mm

| ID | Zone | $x_s$ [mm] | $\varnothing_s$ [mm] | $s_s$ [mm] | $n_s$ [] | $\alpha_s$ [°] | $f_{ywk}$ [MPa] |
|---|---|---|---|---|---|---|---|
| 1 | 1 | -244 | 10 | 200 | 2 | 90 | 500 |
| 2 | 1 | -43.6 | 10 | 200 | 2 | 90 | 500 |
| 3 | 1 | 156 | 10 | 200 | 2 | 90 | 500 |
| 4 | 1 | 356 | 10 | 200 | 2 | 90 | 500 |
| Avg. | - | - | 10 | 200 | 2 | 90 | 500 |

### Invoerparameters

Diameter $\varnothing_{st} = 10$ mm

Hoek van beugels van elementas $\alpha_{st} = 90$ °

Karakteristieke vloeigrens $f_{ywtk} = 500$ MPa

Doorsnedeoppervlakte van afschuifwapening

$$A_{swt} = \pi \cdot \left(\frac{\varnothing_{st}}{2}\right)^2 = 3.14 \cdot \left(\frac{10}{2}\right)^2 = 78.5 \text{ mm}^2$$

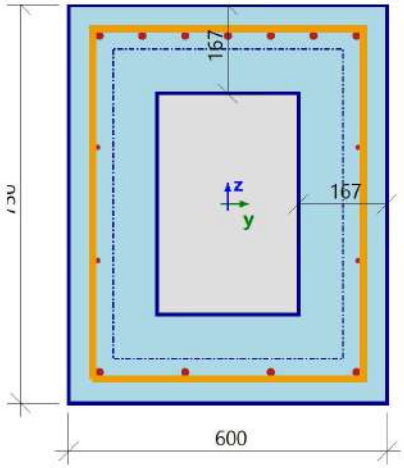
Maximale longitudinale tussenafstand van beugelwapening $s_{lt} = 200$ mm

Doorsnedeoppervlakte van afschuifwapening per meter

$$A_{swtm} = \frac{A_{swt}}{s_{lt}} = \frac{78.5}{200} = 393 \text{ mm}^2/\text{m}$$

Ontwerpvloeispanning van afschuifwapening

$$f_{ywd} = \frac{f_{ywtk}}{\gamma_S} = \frac{500}{1.15} = 435 \text{ MPa}$$




## Berekening van torsie weerstanden

### Ontwerp torsie scheurmoment

$T_{Rdc} = 2 \cdot f_{ctd} \cdot t_{ef} \cdot A_k = 2 \cdot 1.33 \cdot 167 \cdot 252778 = 112$ kNm

### Ontwerp weerstandbiedend torsiemoment van torsiewapening

$$T_{Rds} = 2 \cdot A_k \cdot \frac{A_{swt}}{s_{lt}} \cdot f_{ywd} \cdot \text{cotg}(\theta) = 2 \cdot 252778 \cdot \frac{78.5}{200} \cdot 435 \cdot \text{cotg}(40) = 103 \text{ kNm}$$

### Maximaal ontwerptorsieweerstandsmoment

Sterktereductiefactor voor beton gescheurd in afschuiving - waarde v

$$\nu = 0.6 \cdot \left(1 - \frac{f_{ck}}{250}\right) = 0.6 \cdot \left(1 - \frac{30}{250}\right) = 0.528 \quad \text{(6.6N)}$$

$\nu_1 = 0.6$ (6.10.aN)

Coëfficiënt voor de bepaling van de spanning in de drukdiagonaal

$\alpha_{cw} = 1$ (voor niet-voorgespannen element) (§6.2.3(3)N3)

Maximaal ontwerptorsieweerstandsmoment

$$T_{Rdmax} = 2 \cdot \nu \cdot \alpha_{cw} \cdot f_{cd} \cdot A_k \cdot t_{ef} \cdot \cos(\theta) \cdot \sin(\theta)$$
$$= 2 \cdot 0.528 \cdot 1 \cdot 20 \cdot 252778 \cdot 167 \cdot \cos(40) \cdot \sin(40) = 438 \text{ kNm}$$

Torsie weerstandsmoment van de staaf

$$T_{Rd} = \min(T_{Rds};T_{Rdmax}) = \min(103;438) = 103 \text{ kNm}$$

Additionele torsiekracht

Ontwerp additionele spanning

$$\sigma_{sd} = \frac{\text{abs}(T_{Ed}) \cdot u_k \cdot \text{cotg}(\theta)}{2 \cdot A_k \cdot A_{sl}} = \frac{\text{abs}(-43.3) \cdot 2033 \cdot \text{cotg}(40)}{2 \cdot 252778 \cdot 2526} = 82.2 \text{ MPa} \quad (6.28)$$

Ontwerp vloeigrens

$$f_{yd} = \frac{f_{yk}}{\gamma_s} = \frac{500}{1.15} = 435 \text{ MPa}$$

Ontwerp additionele trekkrachten

$$F_{sd} = \sigma_{sd} \cdot A_{sl} = 82.2 \cdot 2526 = 208 \text{ kN}$$

Maximale ontwerpkacht

$$F_{sdmax} = f_{yd} \cdot A_{sl} = 435 \cdot 2526 = 1098 \text{ kN}$$

### Torsie controle

Controle $T_{Rdmax}$

$$T_{Ed} = 43.3 \text{ kNm} \leq T_{Rdmax} = 438 \text{ kNm}$$

Opm.: De controle voldoet voor het bezwijken van de drukschoor ($T_{Ed} < T_{Rd,max}$).

Controle $T_{Rdc}$ en $T_{Rds}$

$$T_{Ed} = 43.3 \text{ kNm} < T_{Rds} = 103 \text{ kNm}$$

Opm.: De controle voldoet voor afschuifwapening ($T_{Ed} < T_{Rds}$).

Controleer $F_{sdmax}$

$$F_{sd} = 208 \text{ kN} \leq F_{sdmax} = 1098 \text{ kN}$$

Opm.: De controle van additionele trekkracht in langswapening is geslaagd.

### Eenh. Controle

$$UC = \max\left(\frac{\text{abs}(T_{Ed})}{T_{Rd}}; \frac{F_{sd}}{F_{sdmax}}\right) = \max\left(\frac{\text{abs}(-43.3 \text{ kNm})}{103 \text{ kNm}}; \frac{208 \text{ kN}}{1098 \text{ kN}}\right) = 0.421$$

## Interactie controle Vy+Vz+T

### Interactiecontrole Vy+Vz+T (beton)

Controleer vergelijking $(T_{Ed}/T_{Rdmax})+(V_{Ed}/V_{Rdmax})$

$$\left(\frac{\text{abs}(T_{Ed})}{T_{Rdmax}}\right) + \left(\frac{\text{abs}(V_{Ed})}{V_{Rdmax}}\right) = \left(\frac{\text{abs}(-43.3)}{438}\right) + \left(\frac{\text{abs}(111)}{2171}\right) = 0.15 \leq 1 \quad (6.29)$$

Opm.: Interactie controle $V_y + V_z + T$ for het bezwijken van de drukschoor voldoet.

Controleer vergelijking $(T_{Ed}/T_{Rdc})+(V_{Ed}/V_{Rdc})$

$$\left(\frac{abs(T_{Ed})}{T_{Rdc}}\right)+\left(\frac{abs(V_{Ed})}{V_{Rdc}}\right)=\left(\frac{abs(-43.3)}{112}\right)+\left(\frac{abs(111)}{159}\right)=1.08 > 1 \text{ and } A_{sw} > 0 \quad (6.31)$$

Opm.: Dwarskrachten en het torsiemoment kunnen niet worden gedragen door het beton, afschuifwapening is benodigd.

Eenh. Controle

$UC_{int.con} = 0.15$

## Interactiecontrole Vy+Vz+T (afschuifwapening)

Ontwerpspanning

$$\sigma_{swd}=\left(\frac{abs(T_{Ed})}{2\cdot A_k}+\frac{V_{Ed}}{n_s\cdot z}\right)\cdot\left(\frac{s_{lt}}{A_{swt}\cdot cotg(\theta)}\right)=\left(\frac{abs(-43.3)}{2\cdot 252778}+\frac{111}{2\cdot 612}\right)\cdot\left(\frac{200}{78.5\cdot cotg(40)}\right)=376 \text{ MPa}$$

Ontwerp vloeigrens

$f_{ywd} = 0.8\cdot f_{ywk} = 0.8\cdot 500 = 400$ MPa , (omdat $\sigma_{swd} < 0.8\cdot f_{ywk}$)

Opm.: Ontwerp vloeigrens van de afschuifwapening is gereduceerd naar 0.8 x $f_{ywk}$ (EN 1992-1-1, Artikel 6.2.3(3)) omdat de ontwerpspanning van de afschuifwapening is onder 80% van de karakteristieke vloeispanning $f_{yk}$.

$\sigma_{swd} = 376$ MPa $< f_{ywd} = 400$ MPa

Opm.: Interactie controle $V_y + V_z + T$ voor afschuifwapening voldoet.

Eenh. Controle

$$UC_{int.shear}=\frac{\sigma_{swd}}{f_{ywd}}=\frac{376}{400}=0.941$$

## Totale eenheidscontrole van de interactie

$$UC_{int} = \max(UC_{int.con};UC_{int.shear}) = \max(0.15;0.941) = 0.941$$

## Totale waarde van eenheidscontrole

$$UC = \max(UC_{shear};UC_{tor};UC_{int.con};UC_{int.shear}) = \max(0.483;0.421;0.15;0.941) = 0.941$$