## A.9 Bestemmingsplantoets Bergen op Zoom

**Bestemmingsplantoets kaarten mastenboek en werkterreinen**

**Projectnaam: Zuid-West 380 kV Oost**

Gemeente: Bergen op Zoom

Datum: 16 september 2022

| Kaart | Bestemmingsplan | Enkelbestemming | Dubbelbestemming/Aanwijzingsgebieden | Artikel in bestemmingplan | Strijdig | Omgevingsverg W&W |
|---|---|---|---|---|---|---|
| Mastenboek kaart 1 | Buitengebied Zuid | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 8.1 Bestemmingsomschrijving<br>8.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, aanbrengen van oppervlakteverhardingen |
| | | | Leiding - Hoogspanningsverbinding | 13.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, bij egaliseren |
| | | | Leiding - Leidingstrook | 14.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanleggen of verharden van wegen,rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Geomorfologie | 20.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, voor het ophogen, egaliseren en ontginnen van gronden |
| Mastenboek kaart 2 | Buitengebied Zuid | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 8.1 Bestemmingsomschrijving<br>8.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, aanbrengen van oppervlakteverhardingen |
| | | Water | | 9.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | Nvt |
| | | | Leiding - Leidingstrook | 14.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanleggen of verharden van wegen,rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Geomorfologie | 20.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, voor het bodem verlagen of afgraven van gronden; het ophogen, egaliseren en ontginnen van gronden dan wel het wijzigen van het profiel van de wallen; |
| Mastenboek kaart 3 | Buitengebied Zuid | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 8.1 Bestemmingsomschrijving<br>8.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, aanbrengen van oppervlakteverhardingen |
| | | | Leiding - Leidingstrook | 14.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanleggen of verharden van wegen,rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| Mastenboek kaart 4 | Buitengebied Zuid | Agrarisch met waarden - Cultuurhistorie en landschap | | 3.1 Bestemmingsomschrijving<br>3.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | | Geomorfologie | 20.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, voor het bodem verlagen of afgraven van gronden; het ophogen, egaliseren en ontginnen van gronden dan wel het wijzigen van het profiel van de wallen; |
| | | | Archeologie | 18.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, aanbrengen van oppervlakteverhardingen |
| | | | Cultuurhistorie | 19.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| Mastenboek kaart 5 | Buitengebied Zuid | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 8.1 Bestemmingsomschrijving<br>8.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, aanbrengen van oppervlakteverhardingen |

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| | | | Leiding - Leidingstrook | 14.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanleggen of verharden van wegen,rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 14.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Cultuurhistorie | 27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanbrengen van oppervlakteverhardingen; |
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| Mastenboek kaart 6 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 14.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Cultuurhistorie | 27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>het aanbrengen van oppervlakteverhardingen; |
| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| | | | Archeologie 1 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 50m2/dieper dan 50cm |
| Mastenboek kaart 7 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Water | | 15.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Cultuurhistorie | 27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>het aanbrengen van oppervlakteverhardingen; |

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| | | | Archeologie 2 | **25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| | | | Archeologie 1 | **25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 50m2/dieper dan 50cm |
| Mastenboek kaart 8 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | **4.1 Bestemmingsomschrijving**<br><br>**4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem;<br>aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Natuur | | **11.1 Bestemmingsomschrijving**<br><br>**11.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; |
| | | | Leiding - Buisleidingenstraat | **18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Cultuurhistorie | **27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het bodemverlagen of afgraven van gronden;<br><br>het aanbrengen van oppervlakteverhardingen; |
| | | | Attentiezone waterhuishouding | **26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| Mastenboek kaart 9 | Buitengebied Oost 2020 | Natuur | | **11.1 Bestemmingsomschrijving**<br><br>**11.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; |
| | | | Leiding - Buisleidingenstraat | **18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Attentiezone waterhuishouding | **26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden** | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |

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| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| Mastenboek kaart 10 | Buitengebied Oost 2020 | Natuur | | 11.1 Bestemmingsomschrijving<br><br>11.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Attentiezone waterhuishouding | 26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| Mastenboek kaart 11 | Buitengebied Oost 2020 | Natuur | | 11.1 Bestemmingsomschrijving<br><br>11.4 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; |
| | | Verkeer | | 14.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem;<br>aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | | Attentiezone waterhuishouding | 26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| Mastenboek kaart 12 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem;<br>aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |

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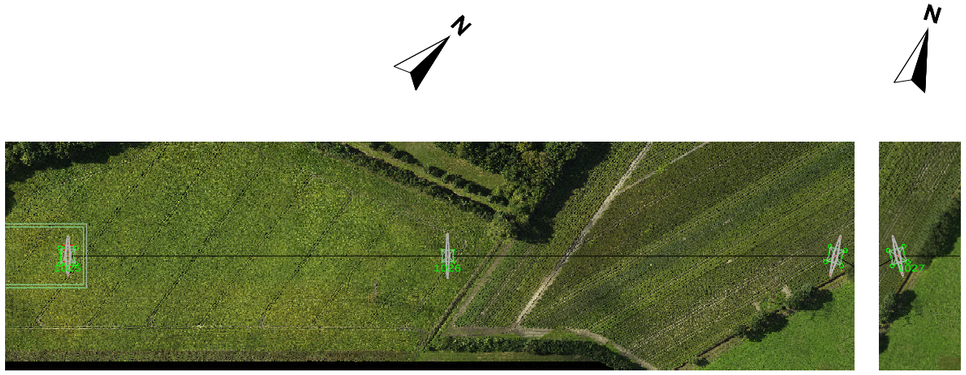
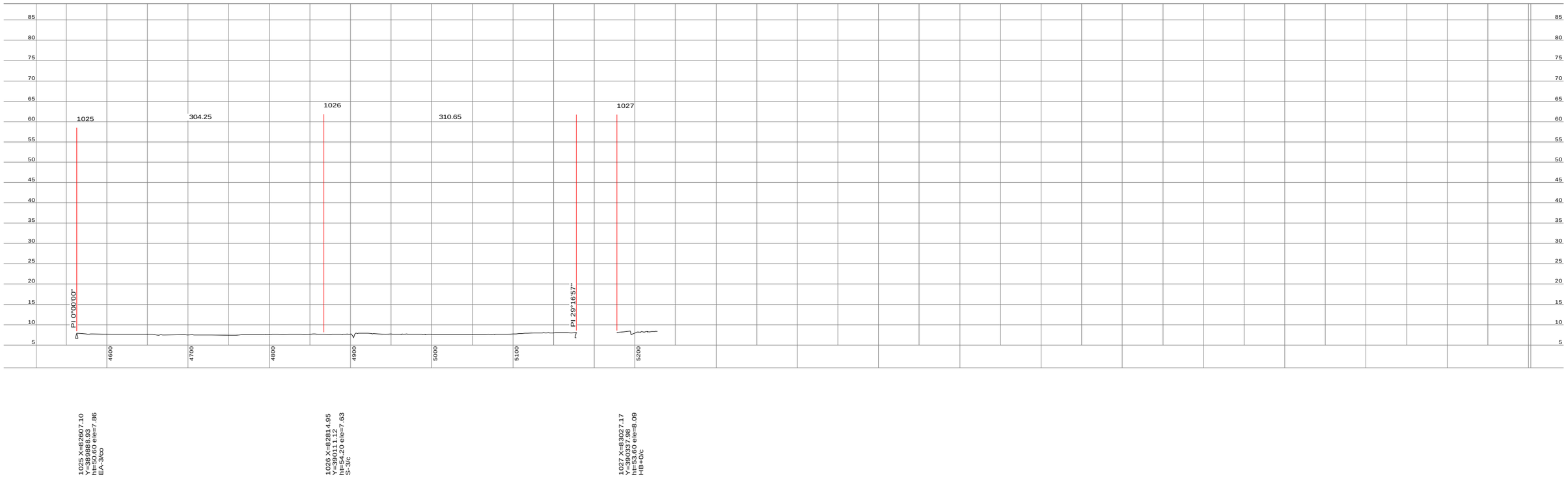
| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| Mastenboek kaart 13 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Verkeer | | 14.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| Mastenboek kaart 14 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| Mastenboek kaart 15 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Water | | 15.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Archeologie 2 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br><br>Ja, het aanleggen of verharden van wegen, (rijwiel)paden, banen of parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; over meer dan 100m2/dieper dan 50cm |
| Mastenboek kaart 16 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| Mastenboek kaart 17 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem; aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Water | | 15.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Attentiezone waterhuishouding | 26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| | | | Archeologie 1 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, aanbrengen van andere oppervlakteverhardingen van meer dan 100m2 |
| | | | Cultuurhistorie | 27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| Mastenboek kaart 18 | Buitengebied Oost 2020 | Agrarisch met waarden - Natuur en landschap | | 4.1 Bestemmingsomschrijving<br><br>4.6 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | Ja, werkterreinen passen niet binnen deze bestemming | Ja, het afgraven, vergraven, ophogen en egaliseren van de bodem;<br>aanleggen van oppervlakteverhardingen groter dan 2000 m² |
| | | Water | | 15.1 Bestemmingsomschrijving | Ja, werkterreinen passen niet binnen deze bestemming | nvt |
| | | | Leiding - Buisleidingenstraat | 18.5 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ontgronden, vergraven, afgraven, egaliseren, diepploegen, woelen en mengen en ophogen van gronden;<br>het aanleggen of verharden van wegen, rijwielpaden, banen, parkeergelegenheden en het aanbrengen van andere oppervlakteverhardingen; |
| | | | Attentiezone waterhuishouding | 26.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het ophogen, egaliseren en ontginnen van gronden;<br>het bodem verlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |
| | | | Archeologie 1 | 25.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het aanbrengen van oppervlakteverhardingen; |
| | | | Cultuurhistorie | 27.3 Omgevingsvergunning voor het uitvoeren van werk, geen bouwwerk zijnde, of van werkzaamheden | | Ja, het bodemverlagen of afgraven van gronden;<br>het aanbrengen van oppervlakteverhardingen; |

## B.1 Lengteprofielen masten








50.0 m Horiz. Scale

10.0 m Vert. Scale

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Naam: 380-kV verbindingen Rilland-Tilburg; Geertruidenberg-Rilland; Geertruidenberg-Tilburg | | | | | Tekeningstatus: Definitief | | | |
| Relatie | Rev. | Dat. Rev. | Omschrijving revisie | Getekend: | Dat. AB | Schaal | Formaat | Object ID: VKA 2.0.1 |
| | | | | TenneT | 26-04-2022 | Zie tek. | A3 | |
| | | | | Thema: Lijnen | | | | Omschrijving: Lengteprofiel Gemeente Bergen op Zoom |
| | | | | Categorie: Lijn | | | | Documentnummer: 1016716 blad 1 |
| Oud tekeningnummer: | | | | Documentcode: Lengteprofiel | | | | |

TenneT Taking power further

## B.2 Fundatierapport hoekmast

ZUID-WEST 380 KV OOST VERBINDINGEN

# Definitief ontwerp fundaties hoekmasten hoogspanningslijn RLL-TLB

**TenneT TSO B.V.**

**Rapport nr.:** 21-1250, Rev. 3
**Meridian doc.nr.:** 002.678.00 0950632
**Datum:** 2022-07-07

| | |
|---|---|
| DATUM: | 13-07-2022 |
| STATUS TENNET: | DEFINITIEF |
| REVISIE TENNET: | 1.0 |

| | | |
|---|---|---|
| Projectnaam: | Zuid-West 380 kV Oost Verbindingen | Energy Systems |
| Rapport titel: | Definitief ontwerp fundaties hoekmasten hoogspanningslijn RLL-TLB | DNV Netherlands B.V.<br>Utrechtseweg 310-B50 |
| Klant: | TenneT TSO B.V. | 6812 AR Arnhem |
| Contactpersoon klant: | [redacted] | |
| Datum uitgave: | 2022-07-07 | |
| Project nr.: | 10124719 | Tel: 026 356 9111 |
| Organisatie unit: | TDT | Handelsregister Arnhem 09006404 |
| Meridian doc.nr..: | 002.678.00 0950632 | |
| Rapport nr.: | 21-1250, Rev. 3 | |

[redacted]

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☐ Vertrouwelijk

☐ Geheim

*Specificatie distributie: --

Trefwoorden:

-

| Rev. | Datum | Reden van uitgave | Auteur | Beoordelaar | Goedkeuder |
|---|---|---|---|---|---|
| 0 | 2021-10-15 | Eerste uitgave | [redacted] | | |
| 1 | 2021-11-12 | RFA-commentaar verwerkt | | | |
| 2 | 2021-12-17 | Maaiveldhoogtes aangepast | | | |
| 3 | 2022-07-07 | Mastenlijst VKA 2.0.1 verwerkt | | | |

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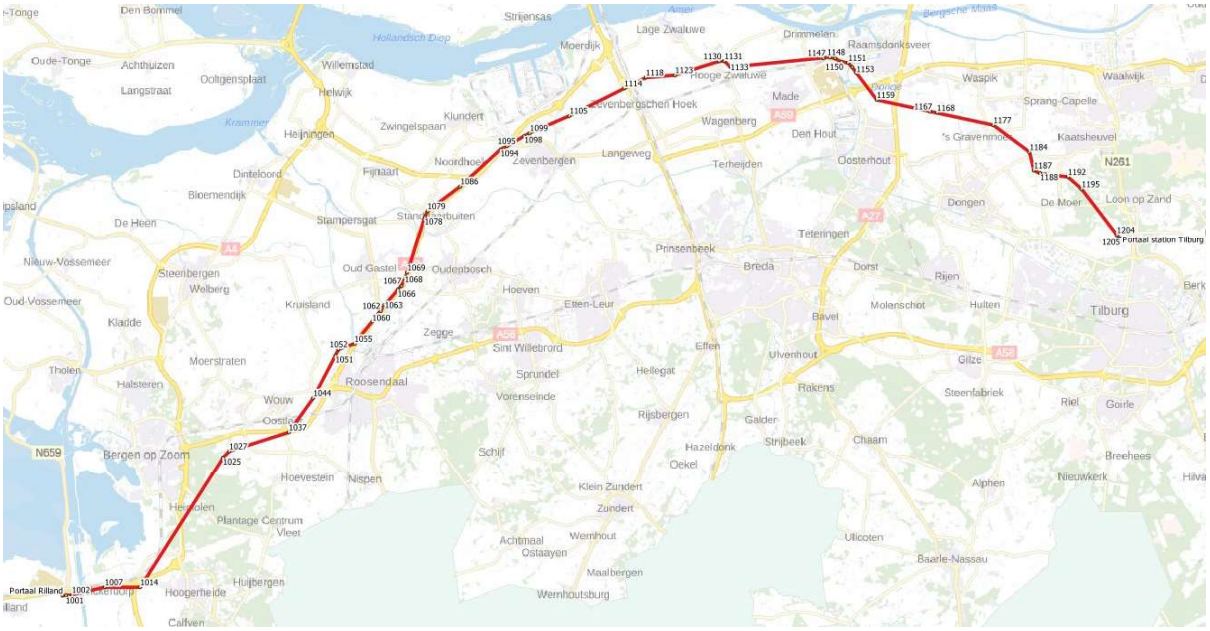
# 1 INLEIDING

In het basisontwerp van de verbinding RLL-TLB380 in het project Zuid-West 380 kV-Oost zijn voor het vaststellen van de haalbaarheid constructieve berekeningen uitgevoerd aan de masten en fundaties. In de Definitief Ontwerpfase, moeten berekeningen verder worden uitgewerkt om te kunnen dienen voor de benodigde vergunningsdocumentatie, voor de aanbesteding en als voorbereiding voor de uitvoeringsfase. Het DO omvat het ontwerp van de mastconstructies, de fundaties en de opstijgpunten in de verbinding.




**Figuur 1 Globale ligging tracé met hoekmastnummers**

Het definitieve tracé van de hoogspanningslijn is nog niet vastgesteld. Daardoor zijn sonderingen op de precieze mastlocaties nog niet in uitvoering. Dit heeft tot gevolg dat voor het ontwerp van de fundaties nog geen sonderingen beschikbaar zijn. Om toch een ontwerp op te kunnen stellen is door TenneT een geotechnisch lengteprofiel opgesteld uitgaande van sonderingen in de nabijheid van het tracé. Dit lengteprofiel vormt het uitgangspunt voor de berekeningen.

De uitvoeringsfase van de fundaties zal in de vorm van een UAV GC contractvorm plaatsvinden. Dat houdt in dat in de uitvoeringsfase de sonderingen door de opdrachtnemer worden uitgevoerd. Vervolgens kan de opdrachtnemer het definitieve fundatieontwerp opstellen. De voorliggende rapportage is bedoeld om richting te geven aan het ontwerp op basis van de nu beschikbare gegevens. Het is een indicatie wat verwacht wordt in de uitvoeringsfase.

In het project worden voor mastfundaties enkelpaalsfunderingen en meerpaalsfunderingen toegepast afhankelijk van de bodemgesteldheid, het masttype en de belasting.

Deze rapportage bevat de beschrijving van het constructieve ontwerp van de fundaties voor de hoekmasten (hier vallen ook wisselmasten, eindmasten en speciale masten met een stijgpunt onder) en de toetsing aan de eisen uit de geotechnische normen en TenneT-specificaties. De toetsing richt zich op de 4-paalsfundering voor het zwaarste type hoekmast in het project, HC+0/c. Het aardingsontwerp wordt in een aparte rapportage behandeld.

In hoofdstuk 2 zijn de uitgangspunten en randvoorwaarden vanuit de van toepassing zijnde normen en TenneT-specificaties opgenomen. Hoofdstuk 3 beschrijft het ontwerp van de fundatie. De gevolgde aanpak van de berekening is hoofdstuk 4 opgenomen. Hoofdstuk 5 bevat de toetsing.

# 2 UITGANGSPUNTEN EN RANDVOORWAARDEN

## 2.1 Normen

Er is gebruik gemaakt van de normen volgens Tabel 1.

**Tabel 1 Gebruikgemaakte normen, voorschriften en richtlijnen**

| Norm | Titel |
|---|---|
| NEN-EN 50341-1:2013 | “Overhead electrical lines exceeding AC 1 kV - Part 1: General requirements – Common” |
| NEN-EN 50341-2-15:2019 | “Overhead electrical lines exceeding AC 1 kV Part 2 National Normative Aspects (NNA) for THE NETHERLANDS” |
| NEN-EN 1990+A1+A1/C2:2019/NB:2019nl | “Grondslagen van het ontwerp” |
| NEN-EN 1991-1-4+A1+C2:2011/NB:2019+C1:2020 | “Deel 1-4: Windbelasting op constructies” |
| NEN-EN 1992-1-1+C2:2011/NB:2016+A1:2020 | “Eurocode 2: Ontwerp en berekening van betonconstructies, deel 1-1: algemene regels en regels voor gebouwen” |
| NEN-EN 1993-1-1+C2+A1:2016 nl | “Eurocode 3: Ontwerp en berekening van staalconstructies, deel 1-1: algemene regels en regels voor gebouwen” |
| NEN-EN 1993-1-8+C2:2011/NB:2011 nl | “Ontwerp en berekening van staalconstructies, deel 1-8: ontwerp en berekening van verbindingen” |
| NEN-EN 1997-1+C1+A1:2016/NB:2019 | “Geotechnisch – Algemeen” |
| CUR 2001-4 | “Ontwerpregels voor trekpalen” |

## 2.2 TenneT-specificaties

In Tabel 2 zijn de documenten opgenomen die relevant zijn voor de berekeningen en toetsingen die binnen dit project in de mastrapportage uitgevoerd zullen worden.

**Tabel 2 Relevante documenten t.b.v. mechanische rapportages**

| Nummer | Onderwerp |
|---|---|
| PVE.05.000 v3.2 | PvE Lijnen |
| sPVE.05.001 | sPvE Lijnen |
| SPE 04.009 | paalfunderingen |

## 2.3 Relaties

In Tabel 3 is de lijst opgenomen met documenten die gerelateerd zijn aan deze ontwerprapportage van de fundaties. De belastingen in deze rapportage zijn ontleend aan de berekeningen van de mastconstructie zoals beschreven in de volgende rapportages. Daarbij zijn de reacties op de fundatie zoals berekend met PLS-TOWER gebruikt.

**Tabel 3 Gerelateerde documenten**

| Titel | DNV-nummer | Meridiannummer |
|---|---|---|
| Uitgangspunten definitief ontwerp Moldaumast | 21-0036 | 002.678.00 0876917 |
| Verificatierapport DO Moldau | 21-1246 | 002.678.00 0950632 |
| Mastrapportage HA/s | 21-0788 | 002.678.00 0930038 |
| Mastrapportage HA/c | 21-0773 | 002.678.00 0928551 |
| Mastrapportage HB/c | 21-0816 | 002.678.00 0928552 |
| Mastrapportage HC+0/c | 21-0817 | 002.678.00 0928553 |
| Mastrapportage HB/s | 21-0818 | 002.678.00 0928554 |
| Mastrapportage HC+0/s | 21-0819 | 002.678.00 0928555 |
| Mastrapportage WA+0/s | 21-0820 | 002.678.00 0928556 |

| | | |
|---|---|---|
| Mastrapportage WA/c | 21-0821 | 002.678.00 0928557 |
| Mastrapportage WB+0/c | 21-0822 | 002.678.00 0928559 |
| Mastrapportage EA-3/co | 21-0823 | 002.678.00 0928560 |
| Mastrapportage HA+0/ci | 21-0824 | 002.678.00 0928561 |
| Mastrapportage EA-3/so | 21-0825 | 002.678.00 0928562 |
| Mastrapportage EB/s | 21-0826 | 002.678.00 0928563 |
| Mastrapportage HA+3/ca | 21-0827 | 002.678.00 0928564 |

## 2.4 Materialen

Voor het ontwerp van de mastconstructies en fundaties wordt uitgegaan van de eigenschappen volgens Tabel 4.

**Tabel 4 Materialen aangepaste constructie**

| | |
|---|---|
| Staalsoort | S355J0 (t≤16 mm)<br>S355J2 (16<t≤40 mm) |
| Boutkwaliteit | 8.8 gerolde draad |
| Betonkwaliteit | C30/37 |
| Wapeningsstaal | B500 |

## 2.5 Software

De gebruikte software wordt benoemd in Tabel 5.

**Tabel 5 Toegepaste software**

| Software | | Versie |
|---|---|---|
| Mastontwerp | PLS-CADD | 16.65 |
| Mastberekeningen | PLS-TOWER | 16.65 |
| Paalberekening | Technosoft Paalfunderingen | V6 |
| Constructieve analyse | AxisVM | X6 1I |

Het ontwerp van de fundaties is gebaseerd op de uitgangspunten volgens Tabel 6.

**Tabel 6 Algemene uitgangspunten**

| | |
|---|---|
| Gevolgklasse | CC2 |
| Geotechnische categorie[1] | GC2 |
| Ontwerplevensduur fundaties[2] | 100 jaar |
| Milieuklasse[3] | XC4/XF3 |
| Uitvoeringsklasse betonconstructies | klasse 3 conform NEN-EN 13670 |

## 2.6 Sonderingen

Bij het opstellen van deze rapportage zijn nog geen sonderingen beschikbaar aangezien de mastlocaties nog niet definitief zijn vastgesteld. Om te komen tot een ontwerp is door TenneT een geotechnisch lengteprofiel samengesteld. In dit profiel zijn over de lengte van het tracé de hoogtegegevens van het maaiveld weergegeven vanuit de Algemene Hoogtekaart Nederland 3. De vanuit openbare bron (Dino-loket) beschikbare sonderingen in de nabijheid van het tracé zijn weergegeven. Dit betreft elektrische sonderingen in digitaal formaat. Van de mechanische sonderingen die

[1] In AM-Req 3260 van TenneT wordt GC3 voorgeschreven, vanwege de bouw van de hoogspanningslijn in een gebied zonder risico voor aardbevingen en het ontbreken van specifieke aanvullende eisen in GC3 aan mastfundaties wordt uitgegaan van GC2.

[2] Belastingen vanuit de mastconstructie zijn gebaseerd op referentieperiode 50 jaar.

[3] Dit is een minimum milieuklasse, bij bijzondere omstandigheden zoals verontreinigde grond kan een zwaardere milieuklasse van toepassing zijn.

beschikbaar zijn uit de asset-gegevens vanuit de hoogspanningslijnen in de nabijheid van het nieuwe tracé is geen gebruik gemaakt.

De sonderingen bevinden zich doorgaans in de directe nabijheid van het tracé (< 500 m afstand). Voor het verkrijgen van een indicatie is dit voldoende nauwkeurig. Lokaal kunnen echter grote verschillen optreden.

Indien uit nog uit te voeren veld- en bodemonderzoeken naar voren komt dat de sonderingen te veel verschillen (30%) dan is de CUR 114 (toezicht op realisatie van paalfunderingen) van toepassing door opdrachtnemer.

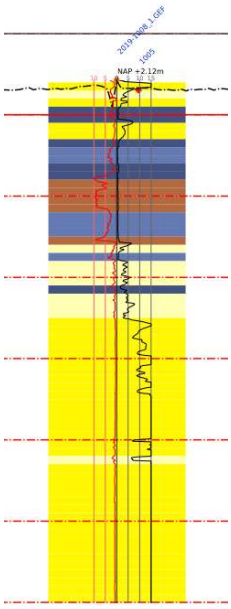
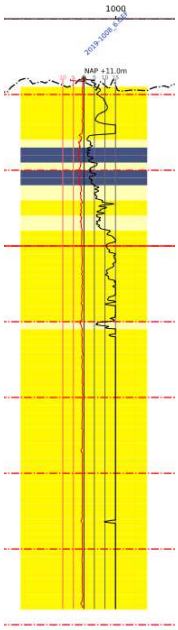
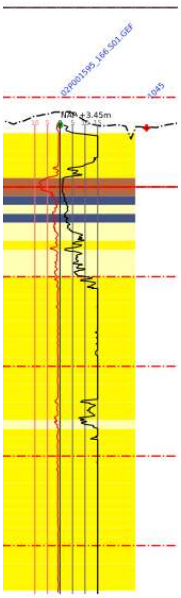
## 2.7 Beschrijving grondopbouw

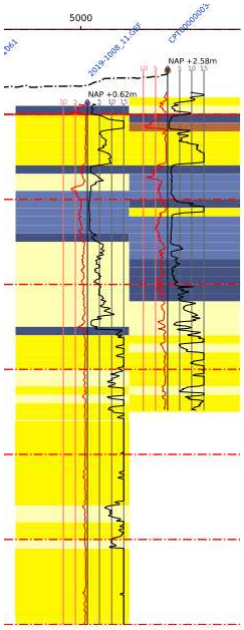
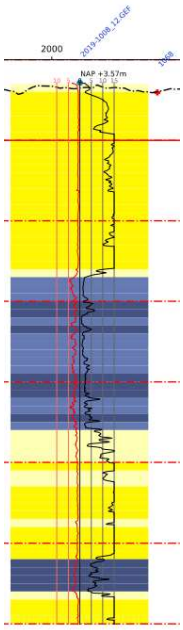
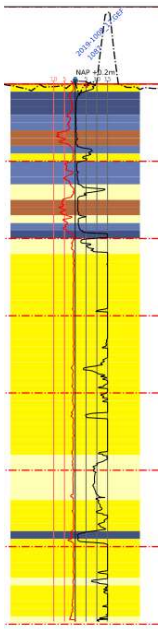
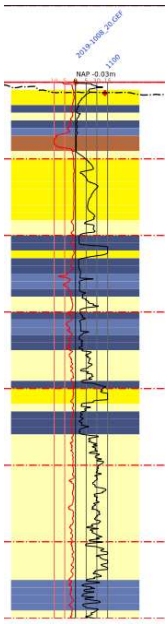
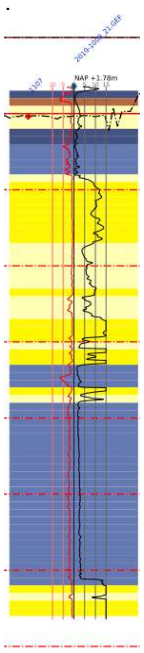
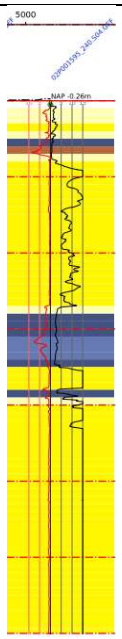
In onderstaande voorbeelden (zie Tabel 3) is de bodemopbouw opgenomen. Voor het beschrijven van de grondopbouw maken we gebruik van de sonderingen die beschikbaar zijn gesteld.

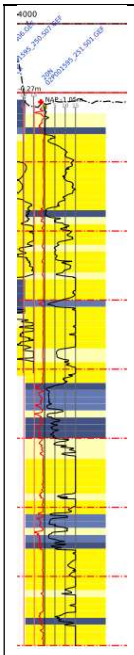
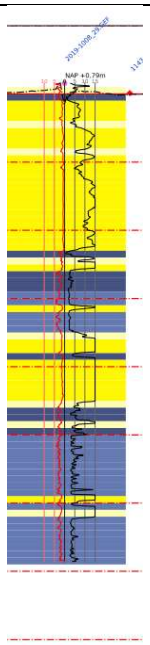
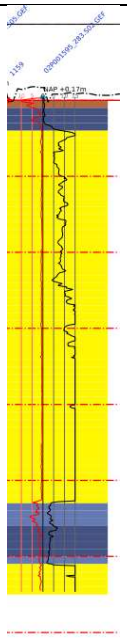
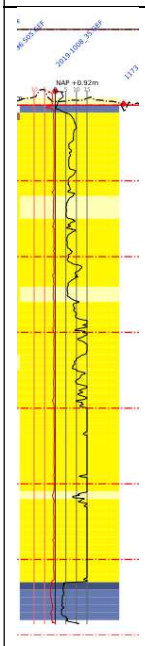
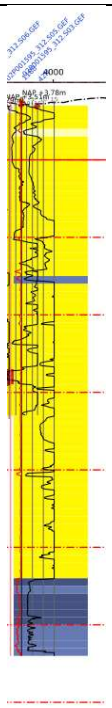
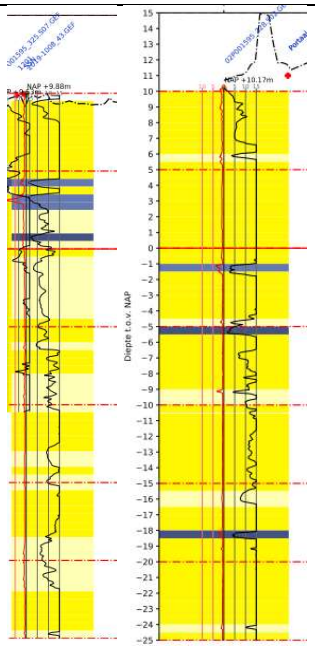
De sonderingen laten over de lengte verschillen zien in ondergrond. Westelijk van Geertruidenberg en dat betekent over circa twee derde van de lengte van het tracé is er een wisselend beeld van zandlagen en cohesieve lagen. Noemenswaardig is hierbij dat de slappere lagen ook op vrij grote diepte voorkomen met een dikte van meerdere meters. De pakking van de zandlagen is over het algemeen tussen los en matig. Maar er zijn ook locaties met dicht gepakte lagen. Ondiep gelegen slappere lagen komen vooral voor tussen Standdaarbuiten en Moerdijk. Voor afdracht van de horizontale belastingen is dat ongunstig.

Globaal bevindt zich oostelijk van Geertruidenberg over de gehele diepte van de sondering een draagkrachtig zandpakket. Aandachtspunt zijn hier de dieper gelegen kleilagen, die voor de weerstand van de paalpunt op druk nadelige invloed hebben.

**Tabel 7 Overzicht voorbeeldsonderingen**

| | | |
|---|---|---|
|  |  |  |
| Mast 1005 (omgeving Völckerdorp) | Voor mast 1025, Bergen op Zoom | Mast 1045, knooppunt De Stok |

| | | |
|---|---|---|
|  |  |  |
| Mast 1061, Borchwerf | Tussen mast 1067 en 1068, Oud-Gastel | Mast 1087, Knooppunt Noordhoek |
|  |  |  |
| Mast 1100, Zevenbergen | Mast 1107, Moerdijk | Mast 1117, Zevenbergschen Hoek |

| | | |
|---|---|---|
|  |  |  |
| Mast 1128, Lage Zwaluwe | Mast 1143, Drimmelen | Mast 1159, Raamsdonksveer |
|  |  |  |
| Mast 1173, Raamsdonk | Mast 1188, ‘s Gravenmoer | Mast 1201 en 1205, Loon op Zand |

## 2.8 Uitgangspunten geotechniek

### 2.8.1 Paalklassefactoren paaltypes

In tabel 8 en Tabel 8 zijn de paalklassefactoren op basis van NEN-EN 1997-1 samengevat waarmee de berekeningen worden uitgevoerd.

**Tabel 8 Paalklassefactoren meerpaalsfunderingen geschroefde systemen**

| | SI Ø508/670 | SI Ø610/850 | FGI Ø540/660 |
|---|---|---|---|
| Paaltype | Schroefinjectiepaal | Schroefinjectiepaal | Schroefinjectiepaal met hulpbuis |
| Diameter stalen buis (m) | 0,508 | 0,61 | 0,54 |
| Diameter in berekening (m) [4] | 0,590 | 0,73 | 0,60 |
| Factor $\alpha_s$ | 0,009 | 0,009 | 0,009 |
| Factor $\alpha_t$ | 0,009 | 0,009 | 0,009 |
| Factor $\alpha_p$ | 0,63 | 0,63 | 0,63 |
| Factor $\beta$ | 1,0 | 1,0 | 1,0 |

**Tabel 9 Paalklassefactoren meerpaalsfunderingen geheide systemen**

| | Vibro Ø559/610 | MV Ø914/1074 | MV Ø1016/1176 |
|---|---|---|---|
| Paaltype | In grond gevormde betonpaal geheid met stalen hulpbuis | MV-paal | MV-paal |
| Diameter stalen buis (m) | 0,559 | 0,914 | 1,016 |
| Diameter in berekening (m) | 0,61 | 0,994 | 1,096 |
| Factor $\alpha_s$ | 0,012 | 0,014 | 0,014 |
| Factor $\alpha_t$ | 0,010 | 0,012 | 0,012 |
| Factor $\alpha_p$ | 0,7 | 0,7 | 0,7 |
| Factor $\beta$ | 1,0 | 1,0 | 1,0 |

### 2.8.2 Kleef cohesieve lagen

In de berekeningen wordt de weerstand van de cohesieve lagen boven de draagkrachtige zandlaag meegenomen. Volgens opmerking (b) van 7.6.3.3 (8) van NEN-EN 1997-1 is de schachtwrijving tot 50% gereduceerd. Negatieve kleef is gerekend over de hoogte van de cohesieve laag en de grondlagen daarboven.

### 2.8.3 Correlatiefactoren

De correlatiefactoren ksi3 en ksi4 worden toegepast bij de bepaling van de karakteristieke weerstand van een paal. De waarden zijn afhankelijk van de aard van de constructie en het aantal beschikbare sonderingen. De correlatiefactoren zijn ontleend aan NEN-EN 1997-1:2016, bijlage A, tabel 10.

Fundaties met één paal per hoekpunt vallen onder “niet-stijf” met factoren volgens Tabel 9. Het aantal sonderingen dat wordt gebruikt hangt af van het dekkingsbereik van de sonderingen voor een van de vier hoekpunten Voor het DO, waarin nog geen volledig grondonderzoek beschikbaar is, wordt uitgegaan van een dekkingsbereik per hoekpunt van één sondering: zowel 1,39 voor ksi 3 als ksi4.

**Tabel 10 Correlatiefactoren niet-stijf bouwwerk**

| Aantal sonderingen | 1 | 2 |
|---|---|---|
| ksi3 | 1,39 | 1,32 |
| ksi4 | 1,39 | 1,32 |

[4] uitgangspunt voor de palen met groutomhulling is in de berekening de halve dikte van de groutschil

Fundaties met meer dan twee palen per hoekpunt in een blokpoer worden als “stijf bouwwerk” beschouwd, met correlatiefactoren volgens Tabel 10. Ook hier wordt uitgegaan van één sondering, dus 1,26 voor zowel ksi3 als ksi4.

**Tabel 11 Correlatiefactoren stijf bouwwerk**

| Aantal sonderingen | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| ksi3 | 1,26 | 1,20 | 1,18 | 1,17 |
| ksi4 | 1,26 | 0,96 | 0,94 | 0,93 |

## 2.8.4 Materiaalfactor $\gamma_{m,var,qc}$

De parameter die de berekende draagkracht reduceert is de partiele factor $\gamma_{m,var,qc}$. volgens NEN-EN 1997-1 artikel 7.6.3.3 (8) opmerking (d). Voor een paal die een wisselende belasting ondergaat tussen trek- en druk treedt een vermindering op van de schuifweerstand. Afhankelijk van de verhouding tussen uiterste trek- en drukkracht in de SLS is de $\gamma_{m,var,qc}$ tussen de 1,0 en 1,5.

$$\gamma_{m;var;q_c} = 1 + 0{,}25 \cdot \frac{F_{t;max;rep} - F_{t;min;rep}}{F_{t;max;rep}} \text{ en } \gamma_{m;var;q_c} \leq 1{,}5$$

Voor hoekmasten is volgens het uitgangspuntenrapport een waarde van 1,25 van toepassing.

## 2.8.5 Staaldikte funderingspalen

Voor het dimensioneren van stalen palen dient volgens TenneT-specificatie 04.009 rekening te worden gehouden met afname van staaldikte op basis van NEN 1993-5. Dit komt overeen met de CUR-aanbeveling 166 voor damwanden. Op dit moment is nog geen milieukundig onderzoek beschikbaar waaruit de agressiviteit of zuurtegraad van het grondwater (pH-waarde) kan worden afgeleid. De invloed van het zoutgehalte in het grondwater is gering[5]. Er moet uitgegaan worden van 100 jaar ontwerplevensduur.

Tabel 9.2. Aantasting (mm) van damwanden in bodem en ophogingen met of zonder grondwater (per blootgestelde zijde) *).

| Beoogde levensduur (jaar) | 5 ***) | 25 ***) | 50 | 75 | 100 |
|---|---|---|---|---|---|
| Ongeroerde, schone bodem | 0,00 | 0,30 | 0,60 | 0,90 | 1,20 |
| Verontreinigde bodem, geroerde grond | 0,15 | 0,75 | 1,50 | 2,25 | 3,00 |
| Zure bodem (veen, moeras) | 0,20 | 1,00 | 1,75 | 2,50 | 3,25 |
| Onverdichte grond (klei, zand) **) | 0,18 | 0,70 | 1,20 | 1,70 | 2,20 |
| Onverdicht, agressief ophoogmateriaal (bodemas, slakken, sintels) | 0,50 | 2,00 | 3,25 | 4,50 | 5,75 |

**Figuur 2 Tabel 9.2 uit CUR 166**

Voor het DO wordt uitgegaan van zure grond en minimaal 12,5 mm dikte. Met de gereduceerde dikte van 12,5-3,25=9,25 mm is gerekend.

De aanwezigheid van zwerfstromen betekent een risico op snellere corrosie. In de nabijheid van stations is dit risico het grootst. Als mitigerende maatregel kan de buispaal geheel met gewapend beton worden gevuld zodat ook na corrosie van de stalen paal voldoende sterkte aanwezig blijft.

## 2.8.6 Horizontale bedding

De beddingwaardes worden gebaseerd op ontwerprichtlijn CUR228. Waarden in Tabel 11 zijn hieruit afgeleid en gelden als gemiddelde waarden. De breedte van de grond die wordt gemobiliseerd door een paal ten opzichte van de breedte van de paal wordt uitgedrukt in de schelpfactor. Empirische waarden voor de schelpfactor worden gebruikt volgens Tabel 11.

[5] Deltares, rapport 1209030, Corrosie van stalen damwandplanken in de grond;

**Tabel 12 Aan te houden waarden voor grondbeddingen en schelpfactoren**

| Grond | $k_h$ | schelpfactor | passieve druk |
|---|---|---|---|
| | [kN/m$^3$] | [-] | [-] |
| Klei | 3000 | 1,3 | 2 |
| Veen | 1500 | 1,2 | 2 |
| Zand | 15000 | 2,0 | 3 |

Volgens NEN-EN 50341-2-15:2019 art. 8.2. NL.4 moet het effect van variatie van bedding op de krachtsverdeling worden beschouwd. De berekeningen worden uitgevoerd voor een beddingwaarde die √2 lager is en √2 hoger is dan de tabelwaarde.

De reactie van de paalbedding is gelimiteerd tot de grenswaarde van de maximale passieve gronddruk die zich kan ontwikkelen afhankelijk van de diepte.

In Appendix E wordt verder ingegaan op de gehanteerde waarden in de berekening.

### 2.8.7 Verticale bedding

Bij de berekening van de meerpaalspoer heeft de verticale bedding van de paalpunt invloed op de krachtsverdeling. In de berekening is de invloed meegenomen van de verticale stijfheid. Er is gebruikt gemaakt van empirische waarde k = EA/l. Waarbij EA de rekstijfheid van de stalen buispaal is.

### 2.8.8 Paalgroepeffect

De trekcapaciteit van de palen in een groep wordt negatief beïnvloed door hun onderlinge afstand. De reductie met de factoren f1 en f2 via artikel 7.6.3.3 (e) en (f) van NEN-EN 1997-1 wordt toegepast. Voor de bepaling van de invloedsoppervlakte A wordt de rekenmethode van CUR 2001-4 in 3.2.2 gevolgd.

De controle op het kluitgewicht volgens art. 7.6.3.3 (g) van NEN-EN 1997-1 wordt toegepast. Hieruit volgt de minimale paallengte voor de te mobiliseren grondmassa.

## 2.9 Vermoeiing

De fundaties worden belast door vakwerkmasten. Deze zijn vanwege de aard van de constructie niet gevoelig voor vortex shedding of andere opslingeringen door wind. De wisselende belasting van wind is een quasi-statische belasting. Dit is op basis van art. 7.3.10 van NEN-EN 50341-1:2013. Toetsing op vermoeiing door galloping, voor zover al relevant voor fundaties, is voor bestaande constructies niet vereist op basis NEN 8701.

## 2.10 Omgeving

De fundaties hebben een raakvlak met de omgeving. Als eerste vereisen de betonpoeren ruimte buiten de huidige mastvoeten; deze ruimte moet beschikbaar zijn. Daarnaast kunnen er vanuit de omgeving omstandigheden zijn waardoor aanvullende eisen van toepassing zijn aan het ontwerp, bijvoorbeeld de mogelijkheid van hoog water of de nabijheid van een dijklichaam of talud.

Een gedetailleerde studie naar eventuele obstakels direct naast de fundatie valt buiten de scope van deze rapportage. Uit een analyse van TenneT is gebleken dat diverse masten in een zone staan waar hoogwater kan optreden of waarbij de mastvoet nabij een zandwinning staat. Uit een analyse van TenneT is gebleken dat het gaat om de volgende locaties:

| Mastnummer | Gemeente | Masttype | Omgeving | Oplossingsvoorstel |
|---|---|---|---|---|
| 1053 | Roosendaal | WA+0_s | Overloopgebied | Verhoogde fundatie |
| 1055 | Roosendaal | HB+0_s | Nabij waterkering | Nader te bepalen |
| 1159 | Raamsdonksveer | HC+0_c | Nabij waterkering | Nader te bepalen |
| 1187 | ’s Gravenmoer | HC+0_c | Zandwinning | Afstand houden tot eventueel talud |

Op het moment van schrijven is nog niet definitief bekend welke eisen er gelden. Het ontwerp van de fundatie voor deze locaties zal in een later stadium worden bepaald.

## 2.11 Aarding

Uitwerking van aardingsvoorzieningen vallen buiten de scope van deze rapportage. In de UO-fase dient de aarding in de betonpoeren te worden ontworpen op basis van de van toepassing zijnde TenneT-specificaties.

## 2.12 Sterkte-coördinatie

TenneT stelt in PVE-lijnen 05.000 eisen aan sterkte-coördinatie tussen mast en fundatie. Dit is gebaseerd op IEC 60826. De daarin opgenomen eisen zijn toegelicht in de CIGRE brochure 178 “Probabilistic design of overhead lines”. De ontwerpfilosofie moet zijn dat de fundering met voldoende zekerheid niet mag falen voordat de mastconstructie faalt. In de benadering met faalkansen wordt uitgegaan van gemiddelde sterktes en de 5% onderschrijdingskans. Voor fundaties geldt dat er een grote spreiding is in de sterkte als gevolg van het materiaal “grond”. Om voldoende betrouwbaarheid te verkrijgen zijn fundatie daarom voor een gegeven vereiste sterkte ruim gedimensioneerd. Daardoor zal de gemiddelde sterkte van een fundatie ruimschoots de gemiddelde sterkte van de mastconstructie overstijgen, die een veel kleinere “extra” sterkte heeft. Bij een calamiteit is de kans op bezwijken van de fundatie voordat de mast bezwijkt dus gering.

Voor dit DO wordt ervan uitgegaan dat om te voldoen aan de eisen ten aanzien van sterkte-coördinatie een normale dimensionering van de fundatie voldoet, dat wil zeggen zonder overdimensionering. Vanwege de onvolledig beschikbare geotechnische gegevens wordt in het DO een maximale unity-check van 0,9 aangehouden.

## 2.13 Bijzondere ontwerpsituatie door ontgronding

In de rapportage uit het BO, rapport 19-0507 Advies knelpunten VKA 1.0, Meridiannummer 002.678.00 0678995, is bij een aantal mastlocaties sprake van de mogelijkheid van het ontstaan van een krater door het barsten van een ondergrondse hogedrukleiding. De stabiliteit van de fundatie kan hierdoor worden aangetast en de grond kan ontspannen als gevolg van de afgenomen belasting van de bovenste grondlagen op de diepere lagen waaraan draagkracht wordt ontleend.

In de rapportage 21-0507 is beschreven dat behalve in het bijzondere geval van een exploderende gasleiding de invloed van de ontgronding op de capaciteit zodanig klein is dat dit valt binnen de normale ontwerpmarges. De ontgronding valt onder de bijzondere belastingen met partiële factoren gelijk aan één en er is geen gelijktijdigheid van extreme windbelasting en tegelijk ontgronding. De stabiliteit van de paal is gezien de verhouding tussen diameter (ca. 0,6 m) en diepte van de krater (circa 3 m) niet in het geding.

# 3 FUNDERINGSONTWERP

## 3.1 Inleiding

Het uitgangspunt van het DO is dat de hoekmasten worden gefundeerd op meerpaalsfunderingen. De fundatie is uitgevoerd als een ronde funderingspoer met drie of vier palen per hoekpunt, afhankelijk van belasting of grondgesteldheid. Voor het paaltype wordt in dit DO uitgegaan van de schroefinjectiepaal. Als alternatief kan ook de geheide MV-paal als enkelpaalsfundering worden toegepast. In het geval van de meerpaalspoer zijn ook andere paaltypes als de vibro-paal en de FGI (fundex)-paal mogelijk. Deze paaltypes moeten als mogelijkheid in de UO-fase worden onderzocht, waarbij ook het effect van heitrillingen en geluidsproductie op de omgeving moet worden meegenomen.

## 3.2 Paaltypes

### 3.2.1 Schroefinjectiepaal

De paal is grondverdringend en wordt schroevend op diepte gebracht. De ruimte tussen schroefpunt en stalen buis wordt tijdens het inbrengen opgevuld met grout. De buispaal is zowel geschikt voor een enkelpaalsfundering als voor het opnemen in een meerpaalsfundering. Vanwege de grote belasting is het paaltype niet toegepast als enkelpaalsfundering voor hoekmasten. Voor de maximale paallengte van de schroefinjectiepaal wordt op basis referentieprojecten uitgegaan van 25 meter. De buispaal wordt over het in de poer opgenomen deel voorzien van een betonvulling. Onder het beton komt een zandvulling. Ingeval van bijzondere gevallen of agressieve gronden dient de betonvulling tot de paalpunt door te lopen.

### 3.2.2 FGI-paal

De paal is vergelijkbaar met de schroefinjectiepaal, een stalen buis wordt grondverdringend en schroevend op diepte gebracht. De stalen buis wordt echter teruggewonnen, waarna een gewapend betonnen paal achterblijft. De paal kan worden opgenomen in de meerpaalsfundering.

### 3.2.3 Vibro-paal

De Vibropaal is een gewapend betonnen paal die met een stalen hulpbuis heiend wordt aangebracht. Na terugtrillen van de hulpbuis en het onder druk inbrengen van beton ontstaat een in de grond gevormde betonpaal. De wapening wordt in de hulpbuis ingebracht. Als het heien mogelijk is, kan dit paaltype worden toegepast in de meerpaalsfundering. Voor de maximale paallengte moet in het UO een heibaarheidsanalyse worden uitgevoerd.

### 3.2.4 MV-paal

De MV-paal is een geheide stalen buispaal met open punt. Met dit paaltype is een zeer hoog draagvermogen haalbaar, waardoor het paaltype ook bij hoekmasten toepasbaar is als enkelpaalsfundering. Voorwaarde is dat de bovenste lagen van de grond voldoende horizontale steun aan de paal kunnen leveren voor het geval van torsiebelasting vanuit de mastconstructie. De detaillering van de paalkop is gelijk aan dat van de schroefinjectiepaal. Gebaseerd op de studie in de BO-fase wordt voor de mogelijk toe te passen diameter uitgegaan van 914 mm en van 1016 mm. Beide diameters gaan uit van een groutschil van 80 mm. Voor de maximale paallengte moet in het UO een heibaarheidsanalyse worden uitgevoerd.

## 3.3 Poertypes

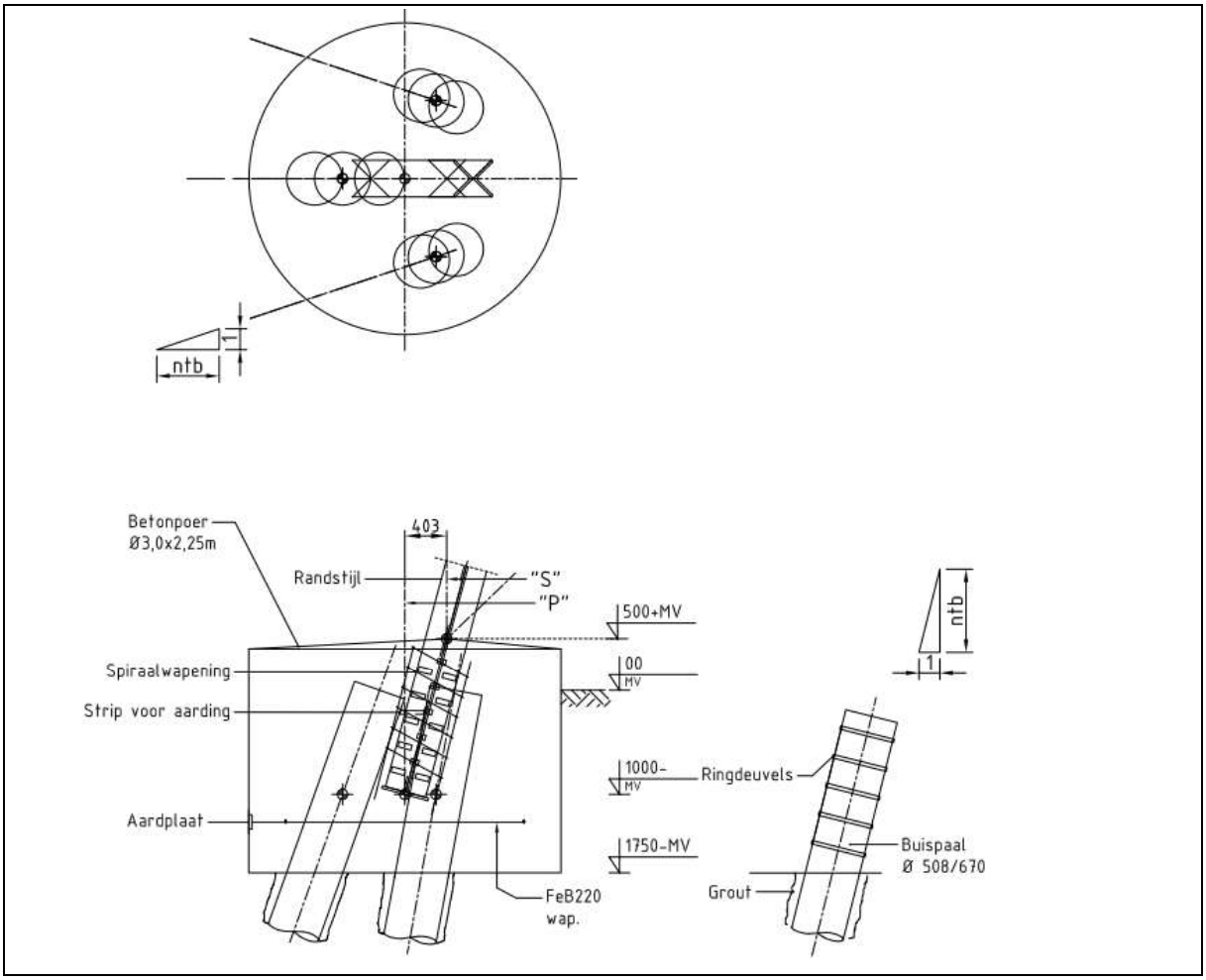
Bij de hoekmasten wordt uitgegaan van 3-paalspoeren en 4-paalspoeren. De masttypes EB/s, EA/so, EA/co, HA+0/ci, HA+3/ca worden standaard van een 4-paalspoer voorzien. Bij de overige types is als eerste onderzocht of een 3-paalspoer mogelijk is. Voor beide poertypes gelden onderstaande kenmerken:

- de poer heeft een cilindrische vorm en herbergt de funderingspalen of stekwapening en de randstijl

- de funderingspalen worden schoor geheid, hun oriëntatie in de plattegrond varieert t.b.v. spreiding in de grond
- diameter funderingspalen bedraagt in principe 508 mm, eventueel is 610 mm inpasbaar
- de bovenkant van de fundatie bevindt zich op 0,5 m+ maaiveld
- de buispaal wordt over de lengte dat deze in de betonpoer steekt, beginnend 150 mm vanaf onderzijde voorzien van gelaste blokdeuvels voor de krachtsoverdracht
- om de ingestorte randstijl wordt een spiraalwapening geplaatst tegen splijten
- de randstijl wordt voor de aarding galvanisch verbonden met de wand van de paal via aangelaste strippen.

### 3.3.1 3-paalspoer

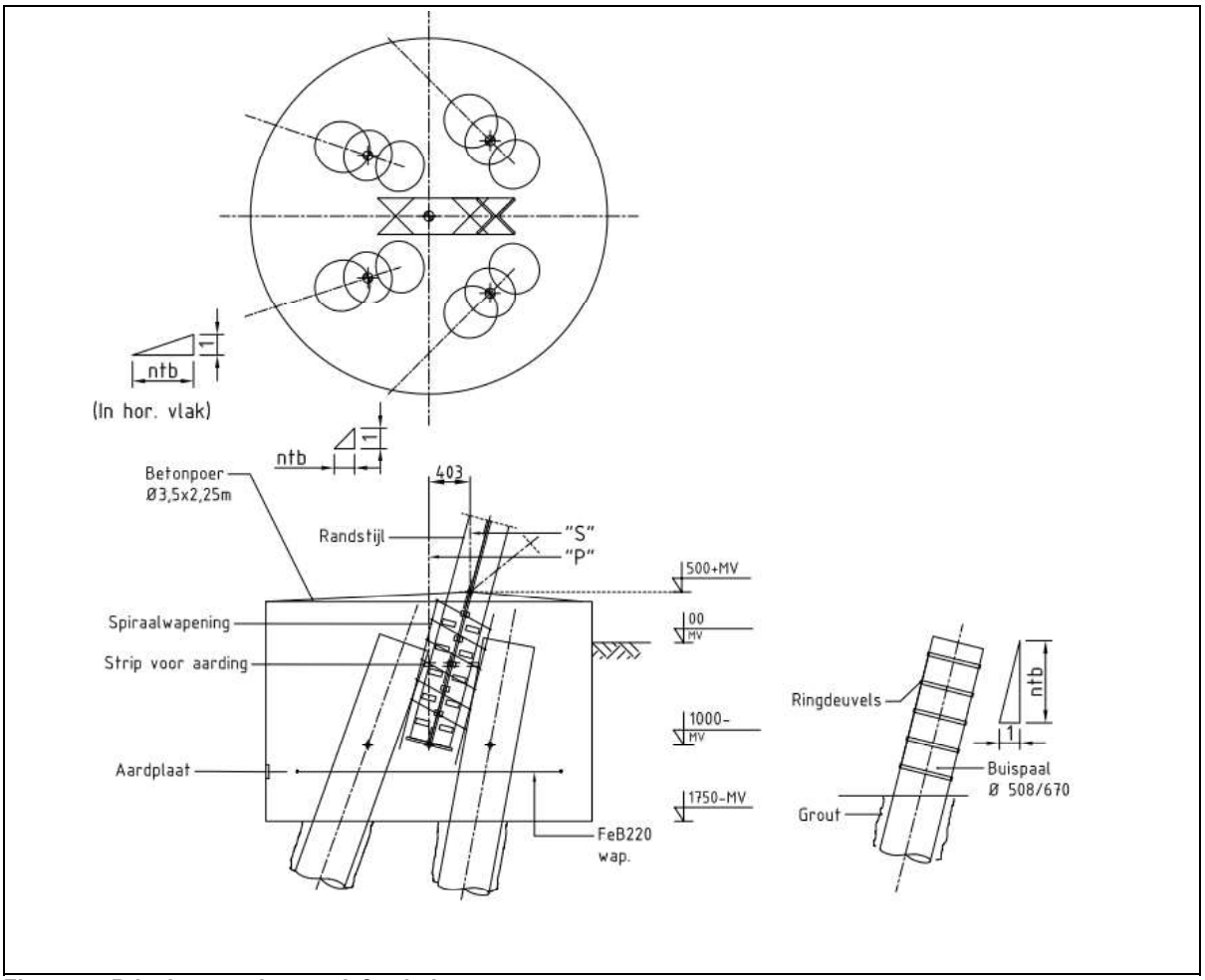
In Figuur 3 is het principe van de 3-paalspoer weergegeven. In de poer worden drie palen opgenomen, een centrale paal in de diagonale as van de mast, en twee palen aan weerszijden daarvan. De funderingspalen worden schoor geheid, hun oriëntatie in de plattegrond varieert t.b.v. spreiding in de grond en de opname van horizontale belastingen. In het hier gepresenteerde ontwerp, dat is afgeleid van de 4-paalspoer, is een schoorstand in het verticale vlak genomen van 1:3,33 en een spreiding van 1:3 en 1:1 in de plattegrond. De afmeting is bepaald op 3,0x3,0x2,25 m. Hierin is rekening gehouden met een paalmisstand van 0,1 m.




**Figuur 3 Principe van de 3-paalsfundering**

### 3.3.2 4-paalspoer

In Figuur 4 is het principe van de 4-paalspoer weergegeven. In de poer worden vier palen opgenomen, twee palen zijn in de hoofdrichtingen van de mast geplaatst, en twee palen met een minder diagonale richting. De funderingspalen worden schoor geheid, hun oriëntatie in de plattegrond varieert t.b.v. spreiding in de grond en de opname van horizontale belastingen. In het hier geanalyseerde ontwerp is een schoorstand in het verticale vlak genomen van 1:3,33 en een spreiding van 1:3 en 1:1 in de plattegrond. De afmeting is bepaald op 3,5x3,5x2,25 m. Hierin is rekening gehouden met een paalmisstand van 0,1 m.




**Figuur 4 Principe van de 4-paalsfundering**

# 4 AANPAK

## 4.1 Inleiding

Voor alle mastlocaties in het tracé zal uitgaande van de beschikbare sonderingsgegevens het poertype en de paallengte indicatief worden bepaald. De berekening wordt uitgevoerd met de software TS/paalfunderingen. De toetsing vindt plaats ten aanzien van trek- en drukbelasting.

Voor het DO zal de meest zware fundatie (4-paalspoer) van het meest zwaar belaste masttype nader worden uitgewerkt, masttype HC+0_c. Er zal worden uitgegaan van het slechtste bodemprofiel over de lengte van het tracé. De nadere uitwerking richt zich op de afdracht in horizontale richting. Uit de berekening volgt of de gekozen oriëntatie en schoorstand van de palen voldoet.

## 4.2 Belasting

De fundatiebelastingen van de mastconstructies zijn opgenomen in Appendix A. Deze zijn ontleend aan de uitvoer vanuit PLS-TOWER. Dit wijkt af van de uitvoer van de oplegreacties van de mastrapporten. Daarin is gebruik gemaakt van de uitvoer van het programma Geleiderbelastingen. Er is gekozen voor gebruik van de reacties vanuit het 3D-model van PLS-TOWER omdat hierin de werkelijke afdracht van horizontale belastingen gevonden wordt.

Voor de toetsing met TS/paalfunderingen wordt gebruik gemaakt van de belasting in de richting van de randstijl (lokale richting) voor trek- en drukbelasting.

De belastingcombinaties die in het DO voor de controle van de poerconstructie worden gehanteerd bestaat uit de volgende belastingen, alle voor de uiterste grenstoestand. De belastingen gelden voor één van de vier hoekpunten.

- maximale drukbelasting, in deze combinatie belast de randstijl de fundatie met een neerwaartse kracht en een horizontale kracht naar buiten
- maximale trekbelasting, in deze combinatie belast de randstijl de fundatie met een opwaarts gerichte kracht en een horizontale kracht naar binnen
- maximale torsiebelasting, hierbij wordt de fundatie haaks op de diagonale richting van het grondvlak belast. De positieve en negatieve horizontale richting wordt onderzocht. De verticale belasting kan van ondergeschikte grootte zijn
- maximale combinatie van trekbelasting en torsie. Bij een meerpaalspoer leidt de horizontale kracht door torsie tot een vergroting van de trekkracht. In combinatie met een eveneens significante trekkracht vanuit de mast kan dit maatgevend zijn voor een van de palen in de fundatie. Zie hiervoor de toelichting in Appendix E.

## 4.3 Draagvermogen

Vanuit het geotechnisch lengteprofiel is een representatieve selectie gemaakt waarmee berekeningen zijn uitgevoerd. Bovendien is zoveel mogelijk gebruik gemaakt van sonderingen met een diepte van meer dan 30 meter, omdat paallengtes tot 25 m oplopen. Het lengteprofiel is verdeeld in 15 deeltrajecten. Per deeltrajecten is één sondering gekozen. In tabel zijn de in de berekening gebruikte sonderingen gegeven. De berekeningen zijn voor alle paaltypes bij iedere sondering uitgevoerd.

**Tabel 13 Sonderingen**

| CPT bestand | type | RD_x_sond | RD_y_sond | RD_m_sond | sondeerlengte | gemeente |
|---|---|---|---|---|---|---|
| 2019-1008_1.GEF | GEF | 75341,2 | 382565,9 | 2,12 | 34,824 | Reimerswaal |
| 2019-1008_6.GEF | GEF | 81608,3 | 388586,3 | 11 | 34,928 | Bergen op Zoom |
| 02P001595_166.S01.GEF | GEF | 87819,8 | 393422,8 | 3,45 | 26,107 | Roosendaal |
| 2019-1008_11.GEF | GEF | 90949,4 | 398218,9 | 0,62 | 34,898 | Halderberge |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2019-1008_12.GEF | GEF | 92691,7 | 399690,8 | 3,57 | 35,066 | Halderberge |
| 2019-1008_17.GEF | GEF | 96097,9 | 405288,6 | 0,2 | 34,998 | Moerdijk |
| 2019-1008_20.GEF | GEF | 99890,2 | 408354,7 | -0,03 | 35,203 | Moerdijk |
| 2019-1008_21.GEF | GEF | 102678,6 | 409201,9 | 1,78 | 34,974 | Moerdijk |
| 02P001595_251.S01.GEF | GEF | 109537,3 | 411798 | -1,05 | 39,831 | Drimmelen |
| 2019-1008_29.GEF | GEF | 114349,2 | 411937,4 | 0,79 | 35,076 | Drimmelen |
| 02P001595_283.S02.GEF | GEF | 119023,6 | 409980,1 | 0,17 | 32,463 | Geertruidenberg |
| 2019-1008_35.GEF | GEF | 123777,2 | 408715 | 0,92 | 35,167 | Dongen |
| 02P001595_312.S03.GEF | GEF | 127922,2 | 405557,3 | 3,78 | 35,751 | Loon op Zand |
| 2019-1008_43.GEF | GEF | 131482,8 | 403215,2 | 9,88 | 35,044 | Loon op Zand |
| 02P001595_328.S02.GEF | GEF | 132052,7 | 402297,2 | 10,171 | 39,063 | Tilburg |

De sonderingen zijn in digitaal formaat (gef-bestand) ingelezen in het programma Technosoft Paalfunderingen. Aan de hand van de sonderingen en de beschikbare boringen is een grondprofiel geconstrueerd. De gebieden waarin negatieve en positieve schachtwrijving optreedt worden ingesteld per sondering.

Bij de invoer in het programma is rekening gehouden met de situatie dat de berekeningen niet voor één locatie worden uitgevoerd, maar voor een geheel van locaties. Omdat er grote verschillen in maaiveldniveau zijn tussen de sonderingen zijn deze in drie groepen verdeeld; sonderingen waarbij de paalkop zich bevindt op 0.0+, 3.6+ en 10.5+ N.A.P. Met deze onderverdeling wordt bereikt dat de juiste positieve en negatieve kleef wordt berekend, in het programma wordt geen kleef toegekend aan het deel van de paal dat uitsteekt boven het (fictieve) maaiveld. Daarnaast is per mast de werkelijke maaiveldhoogte aldaar gebruikt om de limiet van 25 m paallengte zo veel mogelijk niet te overschrijden, hooguit op een paar decimeter na.

Aanvullend op de berekening in Technosoft is een controle op het kluitgewicht uitgevoerd volgens art. 7.6.3.3 (g) van NEN-EN 1997-1, waaruit de minimale lengte voor voldoende te mobiliseren grondmassa volgt.

Geotechnische berekeningen zijn opgenomen in Appendix D. In de uitvoer zijn van toepassing zijnde paalpuntniveau's omkaderd.

## 4.4 Horizontale krachtafdracht

### 4.4.1 Krachtsverdeling

Voor het funderingstype is met een staafwerkmodel in het programma AxisVM de horizontale krachtsafdracht berekend. De palen zijn als elastisch ondersteunde liggers ingevoerd. Er wordt geen steun uit de grond tussen maaiveld en 1 m onder maaiveld of tegen de poeren gerekend, alsof de fundaties grenzen aan een waterloop.

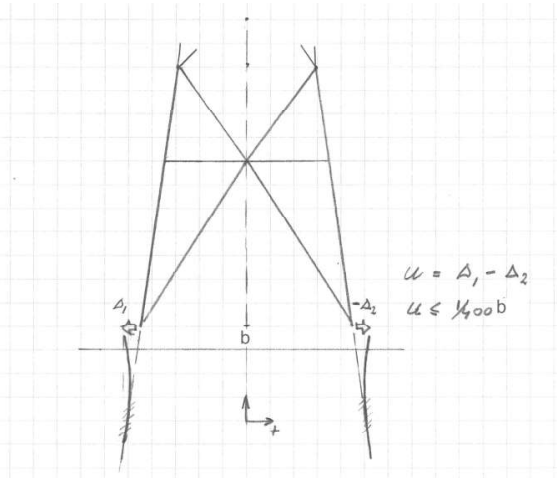
De berekening voor de horizontale krachtsafdracht is uitgevoerd uitgaande van het meest ongunstige bodemprofiel over de lengte van het tracé. Dat wil zeggen voor één van de sonderingen. Als maatgevend is het bodemprofiel van sondering 2019-1008-017 gehanteerd. Hierbij zijn vanaf maaiveld tot circa 10 m diepte kleilagen aanwezig die minder steun verlenen dan zandlagen.

Het doel van de berekening is om de verdeling van de belasting over de palen in de poer te bepalen. Binnen de poer zal onder een gegeven belasting uit de mastconstructie een van de palen relatief zwaarder worden belast dan op basis van een gelijkmatige spreiding. Dit is meegenomen in de controle van de palen op trek- en drukbelasting via de factor "efficiëntie", zie de tabel in Appendix C.

De berekening van de horizontale afdracht verschaft daarnaast informatie over de combinatie van axiale krachten en buiging in de paalschacht. De aldus gevonden spanningen worden gebruikt in de toetsing van de doorsnede van de buispaal. De berekening is opgenomen in Appendix E.

### 4.4.2 Horizontale verplaatsing

De TenneT-specificatie “Paalfunderingen” stelt eisen aan de maximale onderlinge verplaatsing van de fundatie bij de randstijl. Deze mag niet meer bedragen dan 1/400 b. Verplaatsingseisen worden gesteld voor de karakteristieke belastingen, zonder belastingfactoren. In Appendix E is verdere invulling gegeven aan deze eis.




**Figuur 5 Eis aan de horizontale verplaatsing**

## 4.5 Wapening

Het detailleren van de wapening van de poer valt buiten de scope van dit rapport. De benodigde wapening is in de UO-fase door opdrachtnemer te bepalen.

In de berekening van de poerwapening moet gebruik worden gemaakt van staafwerkmodellen vanwege de gedrongen constructie. In Appendix E is hiervoor een model opgenomen, waaruit de hoogte van de poer is bepaald.

# 5 RESULTATEN

## 5.1 Verticaal draagvermogen

De resultaten van de berekeningen zijn samengevat in Appendix D. Voor alle van toepassing zijnde locaties is de toetsing uitgedrukt in de Unity-Check. De toetsing voor trek en druk is opgenomen. Er is rekening gehouden met ongelijke spreiding van belasting over de palen in de fundatie. Alle Unity-checks op één na (die is 0,91) zijn kleiner dan 0,9, dus voldoen de fundaties aan het gestelde uitgangspunt. De paallengte is groter dan de minimale lengte benodigd voor het kluitgewicht.

In Tabel 13 is per sondering weergegeven met welke basis de lengte van de schroefinjectiepalen bepaald is. Bij sonderingen was met de paaldiameter van 508 mm de drie- of vierpaalsfundering haalbaar. Bij één sondering was de drukbelasting maatgevend.

**Tabel 14 Resultaat per sondering**

| CPT bestand | Gemeente | Bijzonderheden |
|---|---|---|
| 2019-1008_1.GEF | Reimerswaal | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_6.GEF | Bergen op Zoom | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 02P001595_166.S01.GEF | Roosendaal | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_11.GEF | Halderberge | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_12.GEF | Halderberge | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_17.GEF | Moerdijk | Trek maatgevend, driepaals poeren toegepast. |
| 2019-1008_20.GEF | Moerdijk | Trek maatgevend, vierpaals poeren toegepast. |
| 2019-1008_21.GEF | Moerdijk | Trek en druk maatgevend, vierpaals poeren toegepast. |
| 02P001595_251.S01.GEF | Drimmelen | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_29.GEF | Drimmelen | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 02P001595_283.S02.GEF | Geertruidenberg | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_35.GEF | Dongen | Trek maatgevend, vierpaals poeren toegepast. |
| 02P001595_312.S03.GEF | Loon op Zand | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 2019-1008_43.GEF | Loon op Zand | Trek maatgevend, driepaals en vierpaals poeren toegepast. |
| 02P001595_328.S02.GEF | Tilburg | Trek maatgevend, vierpaals poeren toegepast. |

## 5.2 Horizontale krachtsafdracht

In Appendix E is het resultaat beschreven van de horizontale krachtsafdracht. Uit Tabel 14 blijkt dat de toetsing voldoet.

**Tabel 15 Toetsing horizontale krachtsafdracht**

| | Berekend | Toelaatbaar | | Unity-check | |
|---|---|---|---|---|---|
| Spanningscheck buispaal | 154 | 355 | N/mm$^2$ | 0,43 | OK |
| Verplaatsing max. druk/trek | 14,4 | 19,8 | mm | 0,73 | OK |
| Verplaatsing bij torsie | 18,0 | 29,4 | mm | 0,61 | OK |

## 5.3 Hoeveelheden

In Tabel 15 is als samenvatting het aantal palen, de lengte en maximale lengte opgenomen. Dit is gebaseerd op de resultaten per locatie.

**Tabel 16 Hoeveelheden 3-paalspoer**

| Paaltype | Aantal locaties | Aantal palen | Gem. paallengte (m) | Max. paallengte (m) |
|---|---|---|---|---|
| SI Ø508/670 | 36 | 432 | 21,5 | 25 |
| SI Ø610/850 | 0 | nvt | nvt | nvt |

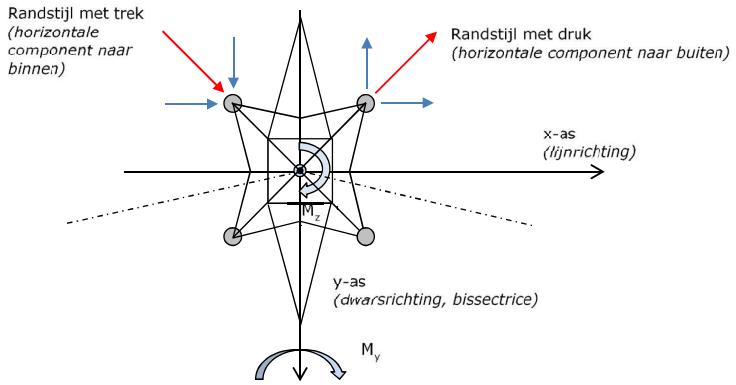
**Tabel 17 Hoeveelheden 4-paalspoer**

| Paaltype | Aantal locaties | Aantal palen | Gem. paallengte (m) | Max. paallengte (m) |
|---|---|---|---|---|
| SI Ø508/670 | 24 | 384 | 19,4 | 25,3 |
| SI Ø610/850 | 0 | nvt | nvt | nvt |

# APPENDIX A
# Fundatiebelastingen

De reacties van de mastconstructie op de fundering worden in deze appendix gepresenteerd. Het gaat om de maatgevende waarden per masttype van de druk-, trek- en horizontale reacties. Vanwege de oriëntatie van de funderingspaal, zijn de waarden beschreven in de X-, Y-, en Z-coördinaat van het globale assenstelsel en in het lokale assenstelsel van de randstijl ("leg direction"). De gegeven waarden zijn een samenvatting over alle berekende belastingcombinaties en zijn gebaseerd op de grootste waarden van elk van de vier fundatiepunten van de mast. De reacties zijn ontleend aan de berekening van PLS-TOWER, dit wijkt af van de mastrapportages waarin uitvoer vanuit het programma "geleiderbelastingen" is opgenomen.

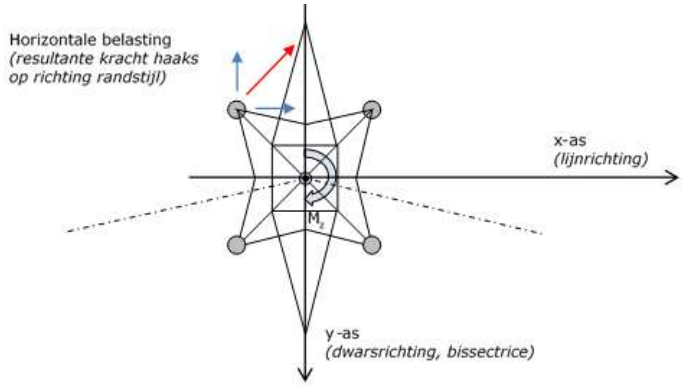
De twee belangrijkste waarden van de funderingsreacties worden gevormd door de trek- en de drukkracht vanuit de randstijl. In geval van een drukkracht zal gezien in het *globale* assenstelsel bij een hellende randstijl een naar buiten gerichte horizontale kracht werken, zie Figuur 6. In geval van een trekkracht in de randstijl is de horizontale component naar binnen gericht.




**Figuur 6 Belasting bij maximale trek- of drukbelasting vanuit de mast**

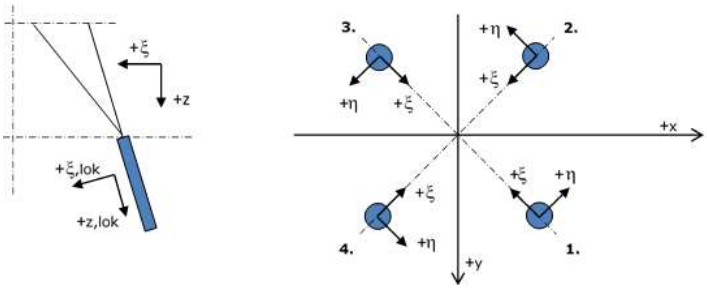
In het geval van torsiebelasting op de mast, bij steunmasten is dat onder de combinatie 5a (geleiderbreuk), bij hoekmasten door de afwezigheid van geleiders aan één zijde van de mast (special limit state), werkt er een significante horizontale kracht op de fundering *haaks* op de richting van de randstijl. Voor de berekening van de horizontale krachtsafdracht van de fundering moet met de belasting door torsie rekening worden gehouden.

In tegenstelling tot de horizontaalkracht bij maximale verticale druk- of trekkracht, is de horizontale belasting door torsie niet gerelateerd aan de trek- of drukkracht in de randstijl. Op de bladzijde "max. trekbelasting en torsie" zijn de combinaties opgezocht waarbij zowel een grote trekkracht optreedt als een horizontale kracht door torsie.




**Figuur 7 Belasting bij torsiebelasting vanuit de mast**

Belastingen op de fundatie in het lokale coördinatenstelsel zijn uitgedrukt in de radiale en tangentiële richting eta en xi, zie Figuur 8.




**Figuur 8 Lokaal assenstelsel**

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Trekbelasting**
Richting **Globale assenstelsel**

| Mastnummer | Masttype | Verticaal trek [kN] | X-richting [kN] | Y-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | 2722,0 | 422,7 | -497,6 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1063 | HA+3_s | 2503,7 | 390,3 | -452,2 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1055 | HB+6_s | 2675,5 | 437,5 | -476,0 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_140gr |
| 1150 | WA+0_s | 2577,1 | 399,5 | -466,4 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1151 | HB+19_s | 3014,6 | -612,9 | -478,7 | Nieuwbouw CC2 | ULS 1a_0,9_110_140gr |
| 1052 | HC+0_s | 3132,9 | 573,7 | -486,5 | Nieuwbouw CC2 | ULS 1a_0,9_60_120gr |
| 1001-gen | EB-3_s | 3398,4 | -594,3 | -594,0 | Nieuwbouw CC2 | ULS 1a_0,9_110 |
| 1205-gen. | EB+0_s | 3349,1 | 566,6 | -567,6 | Nieuwbouw CC2 | ULS 1a_0,9_70 |
| 1014 | EA-3_so | 3386,5 | -561,3 | -648,7 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1188 | HA+0_c | 3572,9 | 565,0 | -642,9 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1014 | EA-3_so | 3386,5 | -561,3 | -648,7 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1094 | HA+3_c | 3501,6 | 562,9 | -645,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1114 | HA+3_ca | 3529,2 | 557,8 | -632,9 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1044 | WA+0_c | 3649,6 | 574,4 | -659,4 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah All Cts |
| 1078 | WA+6_c | 3493,2 | 562,9 | -664,5 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1067 | HA+6_c | 3501,6 | 562,9 | -645,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1184 | HB+0_c | 3629,0 | 570,5 | -654,8 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts_160gr |
| 1079 | HB+6_c | 3825,0 | 635,7 | -682,3 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_140gr |
| 1192 | WB+0_c | 3974,8 | 649,8 | -693,7 | Nieuwbouw CC2 | SPLS 3_0.9_70 Ah All Cts_140gr |
| 1025 | EA-3_co | 4188,5 | 699,6 | -788,4 | Nieuwbouw CC2 | ULS 1a_0,9_105 |
| 1187 | HC+0_c | 4465,4 | 813,6 | -700,9 | Nieuwbouw CC2 | ULS 1a_0,9_60_120gr |
| 1150 | WA+0_s | 2577,1 | 399,5 | -466,4 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1078 | WA+6_c | 3493,2 | 562,9 | -664,5 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1192 | WB+0_c | 3974,8 | 649,8 | -693,7 | Nieuwbouw CC2 | SPLS 3_0.9_70 Ah All Cts_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Drukbelasting**
Richting **Globale assenstelsel**

| Mastnummer | Masttype | Verticaal druk [kN] | X-richting [kN] | Y-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | -3139,4 | 496,1 | -585,6 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1063 | HA+3_s | -2947,3 | 475,6 | -549,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1055 | HB+6_s | -3154,7 | 521,8 | -586,8 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1150 | WA+0_s | -3054,0 | 484,0 | -568,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1014 | EA-3_so | -3890,8 | -646,4 | -748,7 | Nieuwbouw CC2 | ULS 1a_90 |
| 1052 | HC+0_s | -3648,9 | 652,9 | -606,7 | Nieuwbouw CC2 | ULS 1a_60_120gr |
| 1001-gen | EB-3_s | -3858,7 | -657,7 | -705,6 | Nieuwbouw CC2 | ULS 1a_110 |
| 1205-gen. | EB+0_s | -3824,9 | 635,7 | -678,7 | Nieuwbouw CC2 | ULS 1a_70 |
| 1014 | EA-3_so | -3890,8 | -646,4 | -748,7 | Nieuwbouw CC2 | ULS 1a_90 |
| 1188 | HA+0_c | -4258,1 | 698,7 | -798,5 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1014 | EA-3_so | -3890,8 | -646,4 | -748,7 | Nieuwbouw CC2 | ULS 1a_90 |
| 1094 | HA+3_c | -4231,8 | 704,4 | -805,8 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1114 | HA+3_ca | -4316,8 | 706,3 | -811,5 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1044 | WA+0_c | -4326,7 | 691,5 | -807,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1078 | WA+6_c | -4255,5 | 709,1 | -837,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1067 | HA+6_c | -4231,8 | 704,4 | -805,8 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1184 | HB+0_c | -4289,1 | 686,8 | -796,0 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts_160gr |
| 1079 | HB+6_c | -4558,7 | 764,0 | -855,5 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1192 | WB+0_c | -4656,4 | 750,6 | -858,8 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1025 | EA-3_co | -4834,5 | 814,8 | -920,5 | Nieuwbouw CC2 | ULS 1a_105 |
| 1187 | HC+0_c | -5205,5 | 922,9 | -875,5 | Nieuwbouw CC2 | ULS 1a_60_120gr |
| 1150 | WA+0_s | -3054,0 | 484,0 | -568,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1078 | WA+6_c | -4255,5 | 709,1 | -837,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1192 | WB+0_c | 3150,5 | 730,6 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Trekbelasting**
Richting **Lokale assenstelsel**

| Mastnummer | Masttype | Verticaal trek [kN] | Xi-richting [kN] | Eta-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | 2797,6 | 80,6 | -53,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1063 | HA+3_s | 2572,6 | 77,0 | -43,7 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1055 | HB+6_s | 2751,5 | 73,0 | -27,2 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_140gr |
| 1150 | WA+0_s | 2648,0 | 68,2 | -47,3 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1052 | HC+0_s | 3220,1 | 92,1 | 61,7 | Nieuwbouw CC2 | ULS 1a_0,9_60_120gr |
| 1001-gen | EB-3_s | 3500,1 | 72,9 | -0,2 | Nieuwbouw CC2 | ULS 1a_0,9_110 |
| 1205-gen. | EB+0_s | 3442,4 | 98,0 | -0,7 | Nieuwbouw CC2 | ULS 1a_0,9_70 |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1188 | HA+0_c | 3672,2 | 105,9 | -55,1 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1094 | HA+3_c | 3603,3 | 86,8 | -58,1 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1114 | HA+3_ca | 3626,8 | 106,3 | -53,1 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1044 | WA+0_c | 3750,9 | 108,2 | -60,1 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah All Cts |
| 1078 | WA+6_c | 3598,8 | 70,7 | -71,8 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1067 | HA+6_c | 3603,3 | 86,8 | -58,1 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1184 | HB+0_c | 3729,5 | 108,7 | -59,6 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts_160gr |
| 1079 | HB+6_c | 3935,8 | 95,8 | -32,9 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_140gr |
| 1192 | WB+0_c | 4085,2 | 118,1 | -31,0 | Nieuwbouw CC2 | SPLS 3_0.9_70 Ah All Cts_140gr |
| 1025 | EA-3_co | 4318,0 | 73,3 | -62,8 | Nieuwbouw CC2 | ULS 1a_0,9_105 |
| 1187 | HC+0_c | 4590,4 | 129,0 | 79,6 | Nieuwbouw CC2 | ULS 1a_0,9_60_120gr |
| 1150 | WA+0_s | 2648,0 | 68,2 | -47,3 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1078 | WA+6_c | 3598,8 | 70,7 | -71,8 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah All Cts |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Drukbelasting**
Richting **Lokale assenstelsel**

| Mastnummer | Masttype | Verticaal druk [kN] | Xi-richting [kN] | Eta-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | -3230,3 | -78,7 | 63,3 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1063 | HA+3_s | -3034,4 | -67,0 | 52,4 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1055 | HB+6_s | -3250,1 | -63,8 | 45,9 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1150 | WA+0_s | -3142,8 | -62,2 | 59,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1014 | EA-3_so | -4013,5 | -59,0 | -72,3 | Nieuwbouw CC2 | ULS 1a_90 |
| 1052 | HC+0_s | -3755,0 | -89,8 | -32,7 | Nieuwbouw CC2 | ULS 1a_60_120gr |
| 1001-gen | EB-3_s | -3976,7 | -72,9 | -33,9 | Nieuwbouw CC2 | ULS 1a_110 |
| 1205-gen. | EB+0_s | -3935,1 | -98,3 | 30,4 | Nieuwbouw CC2 | ULS 1a_70 |
| 1014 | EA-3_so | -4013,5 | -59,0 | -72,3 | Nieuwbouw CC2 | ULS 1a_90 |
| 1188 | HA+0_c | -4387,0 | -85,5 | 70,6 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1014 | EA-3_so | -4013,5 | -59,0 | -72,3 | Nieuwbouw CC2 | ULS 1a_90 |
| 1094 | HA+3_c | -4364,0 | -69,2 | 71,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1114 | HA+3_ca | -4447,4 | -86,7 | 74,3 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1044 | WA+0_c | -4453,5 | -102,7 | 81,9 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1078 | WA+6_c | -4393,5 | -50,0 | 90,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1067 | HA+6_c | -4364,0 | -69,2 | 71,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1184 | HB+0_c | -4414,2 | -104,0 | 77,3 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts_160gr |
| 1079 | HB+6_c | -4699,7 | -79,7 | 64,7 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1192 | WB+0_c | -4792,2 | -113,2 | 76,5 | Nieuwbouw CC2 | SPLS 3_70 Ah All Cts_140gr |
| 1025 | EA-3_co | -4987,3 | -72,0 | 74,8 | Nieuwbouw CC2 | ULS 1a_105 |
| 1187 | HC+0_c | -5357,1 | -127,1 | -33,5 | Nieuwbouw CC2 | ULS 1a_60_120gr |
| 1150 | WA+0_s | -3142,8 | -62,2 | 59,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1078 | WA+6_c | -4393,5 | -50,0 | 90,7 | Nieuwbouw CC2 | SPLS 3_90 Ah All Cts |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Torsiebelasting positief**
Richting **Lokale assenstelsel**

| Mastnummer | Masttype | Verticaal [kN] | Xi-richting [kN] | Eta-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | 18,2 | 18,3 | 241,8 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1063 | HA+3_s | -3,4 | 21,6 | 206,2 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1055 | HB+6_s | -644,9 | 5,7 | 210,2 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_140gr |
| 1150 | WA+0_s | -35,4 | 15,6 | 254,4 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1014 | EA-3_so | -1225,5 | -19,1 | 219,6 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1052 | HC+0_s | -631,6 | -0,7 | 283,4 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_140gr |
| 1001-gen | EB-3_s | 64,2 | 8,0 | 222,3 | Nieuwbouw CC2 | SPLS 3_110 Ah Ct1 |
| 1205-gen. | EB+0_s | 349,8 | 29,4 | 230,3 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_bouwfase |
| 1014 | EA-3_so | -1225,5 | -19,1 | 219,6 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1188 | HA+0_c | -16,1 | 33,6 | 332,2 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1014 | EA-3_so | -1225,5 | -19,1 | 219,6 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1094 | HA+3_c | -50,2 | 30,6 | 311,8 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1114 | HA+3_ca | -71,5 | 34,0 | 363,5 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1044 | WA+0_c | -9,7 | 22,2 | 363,7 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1078 | WA+6_c | -89,1 | 22,5 | 316,7 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1067 | HA+6_c | -50,2 | 30,6 | 311,8 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1184 | HB+0_c | 29,8 | 25,5 | 375,0 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_160gr |
| 1079 | HB+6_c | -925,6 | 11,4 | 322,6 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_140gr |
| 1192 | WB+0_c | -914,2 | 1,5 | 377,5 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_140gr |
| 1025 | EA-3_co | -2055,2 | -22,9 | 348,1 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct2 |
| 1187 | HC+0_c | -868,2 | 0,9 | 392,2 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1_140gr |
| 1150 | WA+0_s | -35,4 | 15,6 | 254,4 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1078 | WA+6_c | -89,1 | 22,5 | 316,7 | Nieuwbouw CC2 | SPLS 3_90 Ah Ct1 |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Torsiebelasting negatief**
Richting **Lokale assenstelsel**

| Mastnummer | Masttype | Verticaal [kN] | Xi-richting [kN] | Eta-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | -34,5 | 16,9 | -242,9 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1063 | HA+3_s | -30,7 | 20,9 | -206,8 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1055 | HB+6_s | -657,4 | 5,5 | -210,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_140gr |
| 1150 | WA+0_s | -54,2 | 13,2 | -253,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1014 | EA-3_so | -1774,6 | -21,5 | -264,9 | Nieuwbouw CC2 | ULS 3_90_Bouwfase |
| 1052 | HC+0_s | -659,6 | -1,4 | -284,5 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_140gr |
| 1001-gen | EB-3_s | 339,6 | 26,3 | -235,9 | Nieuwbouw CC2 | SPLS 3_0,9_110 Ba All Cts_bouwfase |
| 1205-gen. | EB+0_s | 53,7 | 10,9 | -215,5 | Nieuwbouw CC2 | SPLS 3_70 Ba Ct1 |
| 1014 | EA-3_so | -1774,6 | -21,5 | -264,9 | Nieuwbouw CC2 | ULS 3_90_Bouwfase |
| 1188 | HA+0_c | -55,2 | 32,6 | -333,4 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1014 | EA-3_so | -1774,6 | -21,5 | -264,9 | Nieuwbouw CC2 | ULS 3_90_Bouwfase |
| 1094 | HA+3_c | -76,7 | 29,6 | -312,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1114 | HA+3_ca | -127,7 | 30,1 | -366,5 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1044 | WA+0_c | -61,1 | 21,0 | -363,0 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1078 | WA+6_c | -140,6 | 21,2 | -318,1 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1067 | HA+6_c | -76,7 | 29,6 | -312,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1184 | HB+0_c | -24,7 | 24,0 | -376,8 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_160gr |
| 1079 | HB+6_c | -944,0 | 11,0 | -323,1 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_140gr |
| 1192 | WB+0_c | -944,6 | 2,3 | -378,8 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_140gr |
| 1025 | EA-3_co | -1719,6 | -25,9 | -340,9 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1187 | HC+0_c | -908,3 | -0,2 | -393,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1_140gr |
| 1150 | WA+0_s | -54,2 | 13,2 | -253,6 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1078 | WA+6_c | -140,6 | 21,2 | -318,1 | Nieuwbouw CC2 | SPLS 3_90 Ba Ct1 |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

Project: **RLL-TLB**
Uitgangspunt: **Nieuwbouw**
Datum: **15-10-2021**

Betreft **Max. trekbelasting + torsie**
Richting **Lokale assenstelsel**

| Mastnummer | Masttype | Verticaal [kN] | Xi-richting [kN] | Eta-richting [kN] | Betrouwbaarheidsniveau | Bijbehorende loadcase |
|---|---|---|---|---|---|---|
| 1007 | HA+0_s | 1850,5 | 53,8 | -192,3 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1063 | HA+3_s | 1676,8 | 52,0 | -168,4 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1055 | HB+6_s | 2122,2 | 57,7 | 157,3 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct1_140gr |
| 1150 | WA+0_s | 1740,7 | 47,5 | -202,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1052 | HC+0_s | 2636,1 | 84,0 | 204,3 | Nieuwbouw CC2 | SPLS 3_0,9_60 Ah Ct1_120gr |
| 1001-gen | EB-3_s | 1328,0 | 29,0 | -182,9 | Nieuwbouw CC2 | SPLS 3_0,9_110 Ba All Cts_bouwfase |
| 1205-gen. | EB+0_s | 1336,0 | 40,5 | 167,4 | Nieuwbouw CC2 | SPLS 3_0,9_70 Ah All Cts_bouwfase |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1188 | HA+0_c | 2382,1 | 73,7 | -278,4 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1014 | EA-3_so | 3492,5 | 54,4 | 61,8 | Nieuwbouw CC2 | ULS 1a_0,9_75 |
| 1094 | HA+3_c | 2323,6 | 60,1 | -259,7 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1114 | HA+3_ca | 2334,5 | 73,9 | -307,4 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1044 | WA+0_c | 2440,2 | 74,1 | -301,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct2 |
| 1078 | WA+6_c | 2325,9 | 52,2 | -263,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1067 | HA+6_c | 2323,6 | 60,1 | -259,7 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1184 | HB+0_c | 2425,5 | 73,5 | -314,6 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2_160gr |
| 1079 | HB+6_c | 3014,0 | 76,0 | 249,5 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct1_140gr |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |
| 1025 | EA-3_co | 1484,1 | 44,9 | -337,6 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ba Ct1 |
| 1187 | HC+0_c | 3773,6 | 116,1 | 290,2 | Nieuwbouw CC2 | SPLS 3_0,9_60 Ah Ct1_120gr |
| 1150 | WA+0_s | 1740,7 | 47,5 | -202,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1078 | WA+6_c | 2325,9 | 52,2 | -263,0 | Nieuwbouw CC2 | SPLS 3_0,9_90 Ah Ct2 |
| 1192 | WB+0_c | 3150,5 | 93,2 | 296,7 | Nieuwbouw CC2 | SPLS 3_0.9_90 Ah Ct1_140gr |

# APPENDIX B
## Fundatiegegevens

**Paalgegevens**

| Mastnr. | Masttype | Aantal palen | Paaltype | Paallengte [m] | Paal boven maaiveld [m] | Paalpuntniveau t.o.v. MV [m] | Maaiveld t.o.v. NAP [m] | Bovenkant fundatie t.o.v. NAP [m] | Paal tov. bk. fundatie [m] | Paalpuntniveau t.o.v. NAP [m] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1001 gen** | EB-3_s | 4 | SI Ø508/670 | 20,84 | 0,00 | -20,84 | 0,84 | 1,34 | 0,50 | -20,00 |
| **1002** | HA+0_s | 3 | SI Ø508/670 | 22,23 | 0,00 | -22,23 | 1,23 | 1,73 | 0,50 | -21,00 |
| **1005** | HA+0_s | 3 | SI Ø508/670 | 22,87 | 0,00 | -22,87 | 1,87 | 2,37 | 0,50 | -21,00 |
| **1007** | HA+0_s | 3 | SI Ø610/850 | 22,53 | 0,00 | -22,53 | 1,53 | 2,03 | 0,50 | -21,00 |
| **1014** | EA-3_so | 4 | SI Ø508/670 | 21,46 | 0,00 | -21,46 | 1,46 | 1,96 | 0,50 | -20,00 |
| **1025** | EA-3_co | 4 | SI Ø508/670 | 16,36 | 0,00 | -16,36 | 7,86 | 8,36 | 0,50 | -8,50 |
| **1027** | HB+0_c | 3 | SI Ø508/670 | 19,59 | 0,00 | -19,59 | 8,09 | 8,59 | 0,50 | -11,50 |
| **1037** | HB+0_c | 3 | SI Ø508/670 | 24,50 | 0,00 | -24,50 | 7,00 | 7,50 | 0,50 | -17,50 |
| **1051** | HA+0_ci | 4 | SI Ø762/950 | 21,49 | 0,00 | -21,49 | 1,99 | 2,49 | 0,50 | -19,50 |
| **1052** | HC+0_s | 3 | SI Ø762/950 | 23,01 | 0,00 | -23,01 | 1,01 | 1,51 | 0,50 | -22,00 |
| **1055** | HB+6_s | 3 | SI Ø508/670 | 21,24 | 0,00 | -21,24 | 1,24 | 1,74 | 0,50 | -20,00 |
| **1060** | HA+0_s | 3 | SI Ø610/850 | 21,95 | 0,00 | -21,95 | 1,95 | 2,45 | 0,50 | -20,00 |
| **1062** | HA+3_s | 3 | SI Ø508/670 | 13,80 | 0,00 | -13,80 | 2,30 | 2,80 | 0,50 | -11,50 |
| **1063** | HA+3_s | 3 | SI Ø508/670 | 12,81 | 0,00 | -12,81 | 1,31 | 1,81 | 0,50 | -11,50 |
| **1066** | HA+0_ci | 4 | SI Ø508/670 | 15,61 | 0,00 | -15,61 | 4,11 | 4,61 | 0,50 | -11,50 |
| **1067** | HA+6_c | 3 | SI Ø508/670 | 22,99 | 0,00 | -22,99 | 2,99 | 3,49 | 0,50 | -20,00 |
| **1068** | HA+6_c | 3 | SI Ø508/670 | 22,93 | 0,00 | -22,93 | 2,93 | 3,43 | 0,50 | -20,00 |
| **1069** | HA+6_c | 3 | SI Ø508/670 | 22,40 | 0,00 | -22,40 | 2,40 | 2,90 | 0,50 | -20,00 |
| **1079** | HB+6_c | 3 | SI Ø508/670 | 24,99 | 0,00 | -24,99 | 0,29 | 0,79 | 0,50 | -24,70 |
| **1086** | HA+0_c | 3 | SI Ø610/850 | 23,31 | 0,00 | -23,31 | -0,19 | 0,31 | 0,50 | -23,50 |
| **1094** | HA+3_c | 4 | SI Ø508/670 | 22,40 | 0,00 | -22,40 | -0,60 | -0,10 | 0,50 | -23,00 |
| **1095** | HA+3_c | 4 | SI Ø508/670 | 22,90 | 0,00 | -22,90 | -0,10 | 0,40 | 0,50 | -23,00 |
| **1098** | HA+0_ci | 4 | SI Ø508/670 | 23,73 | 0,00 | -23,73 | 0,23 | 0,73 | 0,50 | -23,50 |
| **1099** | HA+0_ci | 4 | SI Ø508/670 | 25,28 | 0,00 | -25,28 | 2,28 | 2,78 | 0,50 | -23,00 |
| **1114** | HA+3_ca | 4 | SI Ø508/670 | 18,24 | 0,00 | -18,24 | -0,26 | 0,24 | 0,50 | -18,50 |
| **1123** | HA+0_c | 3 | SI Ø508/670 | 23,84 | 0,00 | -23,84 | -0,66 | -0,16 | 0,50 | -24,50 |
| **1130** | HA+0_c | 3 | SI Ø508/670 | 23,80 | 0,00 | -23,80 | -0,70 | -0,20 | 0,50 | -24,50 |
| **1131** | HC+0_c | 4 | SI Ø508/670 | 19,64 | 0,00 | -19,64 | -1,36 | -0,86 | 0,50 | -21,00 |
| **1133** | HC+0_c | 4 | SI Ø508/670 | 19,84 | 0,00 | -19,84 | -1,17 | -0,67 | 0,50 | -21,00 |
| **1147** | HA+0_ci | 4 | SI Ø508/670 | 16,43 | 0,00 | -16,43 | 0,43 | 0,93 | 0,50 | -16,00 |
| **1148** | HB+19_s | 3 | SI Ø508/670 | 19,63 | 0,00 | -19,63 | 0,13 | 0,63 | 0,50 | -19,50 |
| **1151** | HB+19_s | 3 | SI Ø508/670 | 19,95 | 0,00 | -19,95 | 0,45 | 0,95 | 0,50 | -19,50 |
| **1152** | HB+19_s | 3 | SI Ø508/670 | 20,01 | 0,00 | -20,01 | 0,51 | 1,01 | 0,50 | -19,50 |
| **1153** | HA+0_ci | 4 | SI Ø508/670 | 18,66 | 0,00 | -18,66 | 1,16 | 1,66 | 0,50 | -17,50 |
| **1159** | HC+0_c | 4 | SI Ø508/670 | 20,24 | 0,00 | -20,24 | 0,24 | 0,74 | 0,50 | -20,00 |
| **1167** | HA+0_ci | 4 | SI Ø508/670 | 18,02 | 0,00 | -18,02 | -0,48 | 0,02 | 0,50 | -18,50 |
| **1168** | HA+0_ci | 4 | SI Ø508/670 | 17,88 | 0,00 | -17,88 | -0,62 | -0,12 | 0,50 | -18,50 |
| **1184** | HB+0_c | 3 | SI Ø508/670 | 20,55 | 0,00 | -20,55 | 1,55 | 2,05 | 0,50 | -19,00 |
| **1187** | HC+0_c | 4 | SI Ø508/670 | 19,00 | 0,00 | -19,00 | 3,00 | 3,50 | 0,50 | -16,00 |
| **1188** | HB+0_c | 3 | SI Ø508/670 | 22,04 | 0,00 | -22,04 | 3,54 | 4,04 | 0,50 | -18,50 |
| **1194** | HA+6_c | 3 | SI Ø508/670 | 18,36 | 0,00 | -18,36 | 5,86 | 6,36 | 0,50 | -12,50 |
| **1196** | HA+0_c | 3 | SI Ø508/670 | 19,94 | 0,00 | -19,94 | 7,44 | 7,94 | 0,50 | -12,50 |
| **1199** | HA+0_c | 3 | SI Ø508/670 | 22,21 | 0,00 | -22,21 | 9,71 | 10,21 | 0,50 | -12,50 |
| **1204** | HA+0_ci | 4 | SI Ø508/670 | 17,68 | 0,00 | -17,68 | 10,68 | 11,18 | 0,50 | -7,00 |
| **1205** | EB+0_s | 4 | SI Ø508/670 | 13,50 | 0,00 | -13,50 | 11,00 | 11,50 | 0,50 | -2,50 |

**Poergegevens**

| Mastnr. | Masttype | Poertype | L [m] | b [m]2 | h [m] | Bovenkant poer tov. NAP [m] | Bovenkant poer tov MV [m] (1) | Onderkant poer tov. MV [m] | Volume. onder GWS [m] | Volume poer [m³] | $EG_{poer}$ [kN] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1001 gen** | EB-3_s | 4-paalspoer | 3,50 | 3,50 | 2,25 | 1,34 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1002** | HA+0_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 1,73 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1005** | HA+0_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,37 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1007** | HA+0_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,03 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1014** | EA-3_so | 4-paalspoer | 3,50 | 3,50 | 2,25 | 1,96 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1025** | EA-3_co | 4-paalspoer | 3,50 | 3,50 | 2,25 | 8,36 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1027** | HB+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 8,59 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1037** | HB+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 7,50 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1051** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 2,49 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1052** | HC+0_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 1,51 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1055** | HB+6_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 1,74 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1060** | HA+0_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,45 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1062** | HA+3_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,80 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1063** | HA+3_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 1,81 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1066** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 4,61 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1067** | HA+6_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 3,49 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1068** | HA+6_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 3,43 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1069** | HA+6_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,90 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1079** | HB+6_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 0,79 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1086** | HA+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 0,31 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1094** | HA+3_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | -0,10 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1095** | HA+3_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,40 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1098** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,73 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1099** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 2,78 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1114** | HA+3_ca | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,24 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1123** | HA+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | -0,16 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1130** | HA+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | -0,20 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1131** | HC+0_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | -0,86 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1133** | HC+0_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | -0,67 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1147** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,93 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1148** | HB+19_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 0,63 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1151** | HB+19_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 0,95 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1152** | HB+19_s | 3-paalspoer | 3,00 | 3,00 | 2,25 | 1,01 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1153** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 1,66 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1159** | HC+0_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,74 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1167** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 0,02 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1168** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | -0,12 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1184** | HB+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 2,05 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1187** | HC+0_c | 4-paalspoer | 3,50 | 3,50 | 2,25 | 3,50 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1188** | HB+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 4,04 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1194** | HA+6_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 6,36 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1196** | HA+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 7,94 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1199** | HA+0_c | 3-paalspoer | 3,00 | 3,00 | 2,25 | 10,21 | 0,50 | -1,75 | 12,37 | 15,90 | 398 |
| **1204** | HA+0_ci | 4-paalspoer | 3,50 | 3,50 | 2,25 | 11,18 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |
| **1205** | EB+0_s | 4-paalspoer | 3,50 | 3,50 | 2,25 | 11,50 | 0,50 | -1,75 | 16,84 | 21,65 | 541 |

# APPENDIX C
# Resultaten

Controle op trek en drukbelasting

**Toetsing funderingen op trekbelasting**

| Mast | Masttype | Sondering | Poertype | Paaltype | PP niveau [m-NAP] | $F_{Ed,mast}$ [kN] | Aantal palen per randstijl | Effectiviteit palen | $F_{poer,d}$ [kN] | $F_{Ed,paal}$ [kN] | $F_{R,d,trek}$ [kN] | U.C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1001 gen** | EB-3_s | 2019-1008_1.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | -3500 | 4 | 90% | 319 | 884 | 978 | 0,90 |
| **1002** | HA+0_s | 2019-1008_1.GEF | 3-paalspoer | SI Ø508/670 | -21,0 | -2798 | 3 | 85% | 234 | 1005 | 1136 | 0,88 |
| **1005** | HA+0_s | 2019-1008_1.GEF | 3-paalspoer | SI Ø508/670 | -21,0 | -2798 | 3 | 85% | 234 | 1005 | 1136 | 0,88 |
| **1007** | HA+0 s | 2019-1008 1.GEF | 3-paalspoer | SI Ø610/850 | -21,0 | -2798 | 3 | 85% | 234 | 1005 | 1136 | 0,88 |
| **1014** | EA-3_so | 2019-1008_1.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | -3493 | 4 | 90% | 319 | 882 | 978 | 0,90 |
| **1025** | EA-3 co | 2019-1008 6.GEF | 4-paalspoer | SI Ø508/670 | -8,5 | -4318 | 4 | 90% | 319 | 1111 | 1268 | 0,88 |
| **1027** | HB+0_c | 2019-1008_6.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | -3730 | 3 | 85% | 234 | 1371 | 1558 | 0,88 |
| **1037** | HB+0_c | 02P001595_166.S01.GEF | 3-paalspoer | SI Ø508/670 | -17,5 | -3730 | 3 | 85% | 234 | 1371 | 1542 | 0,89 |
| **1051** | HA+0_ci | 2019-1008_11.GEF | 4-paalspoer | SI Ø762/950 | -19,5 | -3656 | 4 | 90% | 319 | 927 | 1065 | 0,87 |
| **1052** | HC+0 s | 2019-1008 11.GEF | 3-paalspoer | SI Ø762/950 | -22,0 | -3220 | 3 | 85% | 234 | 1171 | 1314 | 0,89 |
| **1055** | HB+6_s | 2019-1008_11.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | -2751 | 3 | 85% | 234 | 987 | 1116 | 0,88 |
| **1060** | HA+0_s | 2019-1008_11.GEF | 3-paalspoer | SI Ø610/850 | -20,0 | -2798 | 3 | 85% | 234 | 1005 | 1116 | 0,90 |
| **1062** | HA+3_s | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | -2573 | 3 | 85% | 234 | 917 | 1029 | 0,89 |
| **1063** | HA+3_s | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | -2573 | 3 | 85% | 234 | 917 | 1029 | 0,89 |
| **1066** | HA+0_ci | 2019-1008_12.GEF | 4-paalspoer | SI Ø508/670 | -11,5 | -3656 | 4 | 90% | 319 | 927 | 1029 | 0,90 |
| **1067** | HA+6 c | 2019-1008 12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | -3603 | 3 | 85% | 234 | 1321 | 1469 | 0,90 |
| **1068** | HA+6_c | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | -3603 | 3 | 85% | 234 | 1321 | 1469 | 0,90 |
| **1069** | HA+6 c | 2019-1008 12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | -3603 | 3 | 85% | 234 | 1321 | 1469 | 0,90 |
| **1079** | HB+6_c | 2019-1008_17.GEF | 3-paalspoer | SI Ø508/670 | -24,7 | -3936 | 3 | 85% | 234 | 1452 | 1618 | 0,90 |
| **1086** | HA+0_c | 2019-1008_17.GEF | 3-paalspoer | SI Ø610/850 | -23,5 | -3672 | 3 | 85% | 234 | 1348 | 1524 | 0,88 |
| **1094** | HA+3_c | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | -3603 | 4 | 90% | 319 | 912 | 1015 | 0,90 |
| **1095** | HA+3 c | 2019-1008 20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | -3603 | 4 | 90% | 319 | 912 | 1015 | 0,90 |
| **1098** | HA+0_ci | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,5 | -3656 | 4 | 90% | 319 | 927 | 1044 | 0,89 |
| **1099** | HA+0 ci | 2019-1008 20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | -3656 | 4 | 90% | 319 | 927 | 1015 | 0,91 |
| **1114** | HA+3_ca | 2019-1008_21.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | -3627 | 4 | 0,9 | 319 | 919 | 1054 | 0,87 |
| **1123** | HA+0_c | 02P001595_251.S01.GEF | 3-paalspoer | SI Ø508/670 | -24,5 | -3672 | 3 | 85% | 234 | 1348 | 1551 | 0,87 |
| **1130** | HA+0_c | 02P001595_251.S01.GEF | 3-paalspoer | SI Ø508/670 | -24,5 | -3672 | 3 | 85% | 234 | 1348 | 1551 | 0,87 |
| **1131** | HC+0 c | 02P001595 251.S01.GEF | 4-paalspoer | SI Ø508/670 | -21,0 | -4590 | 4 | 0,9 | 319 | 1187 | 1386 | 0,86 |
| **1133** | HC+0_c | 02P001595_251.S01.GEF | 4-paalspoer | SI Ø508/670 | -21,0 | -4590 | 4 | 0,9 | 319 | 1187 | 1386 | 0,86 |
| **1147** | HA+0_ci | 2019-1008_29.GEF | 4-paalspoer | SI Ø508/670 | -16,0 | -3656 | 4 | 90% | 319 | 927 | 1026 | 0,90 |
| **1148** | HB+19_s | 2019-1008_29.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | -3112 | 3 | 85% | 234 | 1128 | 1262 | 0,89 |
| **1151** | HB+19_s | 02P001595_283.S02.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | -3112 | 3 | 85% | 234 | 1128 | 1268 | 0,89 |
| **1152** | HB+19_s | 02P001595_283.S02.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | -3112 | 3 | 85% | 234 | 1128 | 1268 | 0,89 |
| **1153** | HA+0_ci | 02P001595_283.S02.GEF | 4-paalspoer | SI Ø508/670 | -17,5 | -3656 | 4 | 90% | 319 | 927 | 1078 | 0,86 |
| **1159** | HC+0_c | 02P001595_283.S02.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | -4590 | 4 | 0,9 | 319 | 1187 | 1315 | 0,90 |
| **1167** | HA+0 ci | 2019-1008 35.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | -3656 | 4 | 90% | 319 | 927 | 1057 | 0,88 |
| **1168** | HA+0_ci | 2019-1008_35.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | -3656 | 4 | 90% | 319 | 927 | 1057 | 0,88 |
| **1184** | HB+0_c | 02P001595_312.S03.GEF | 3-paalspoer | SI Ø508/670 | -19,0 | -3730 | 3 | 85% | 234 | 1371 | 1552 | 0,88 |
| **1187** | HC+0_c | 02P001595_312.S03.GEF | 4-paalspoer | SI Ø508/670 | -16,0 | -4590 | 4 | 0,9 | 319 | 1187 | 1344 | 0,88 |
| **1188** | HB+0 c | 02P001595 312.S03.GEF | 3-paalspoer | SI Ø508/670 | -18,5 | -3730 | 3 | 85% | 234 | 1371 | 1513 | 0,91 |
| **1194** | HA+6_c | 2019-1008_43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | -3603 | 3 | 85% | 234 | 1321 | 1490 | 0,89 |
| **1196** | HA+0 c | 2019-1008 43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | -3672 | 3 | 85% | 234 | 1348 | 1490 | 0,90 |
| **1199** | HA+0_c | 2019-1008_43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | -3672 | 3 | 85% | 234 | 1348 | 1490 | 0,90 |
| **1204** | HA+0_ci | 2019-1008_43.GEF | 4-paalspoer | SI Ø508/670 | -7,0 | -3656 | 4 | 0,9 | 319 | 927 | 1030 | 0,90 |
| **1205** | EB+0_s | 02P001595_328.S02.GEF | 4-paalspoer | SI Ø508/670 | -2,5 | -3442 | 4 | 0,9 | 319 | 868 | 981 | 0,88 |

**Toetsing funderingen op drukbelasting**

| Mast | Masttype | Sondering | Poertype | Paaltype | PP niveau [m-NAP] | $F_{Ed,mast}$ [kN] | Aantal palen per randstijl | Effectiviteit palen | $F_{poer,d}$ [kN] | $F_{Ed,paal}$ [kN] | $F_{R,d,druk}$ [kN] | U.C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1001 gen** | EB-3_s | 2019-1008_1.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | 3977 | 4 | 90% | 649 | 1285 | 2306 | 0,56 |
| **1002** | HA+0_s | 2019-1008_1.GEF | 3-paalspoer | SI Ø508/670 | -21,0 | 3230 | 3 | 85% | 477 | 1454 | 2446 | 0,59 |
| **1005** | HA+0_s | 2019-1008_1.GEF | 3-paalspoer | SI Ø508/670 | -21,0 | 3230 | 3 | 85% | 477 | 1454 | 2446 | 0,59 |
| **1007** | HA+0_s | 2019-1008_1.GEF | 3-paalspoer | SI Ø610/850 | -21,0 | 3230 | 3 | 85% | 477 | 1454 | 2446 | 0,59 |
| **1014** | EA-3_so | 2019-1008_1.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | 4014 | 4 | 90% | 649 | 1295 | 2306 | 0,56 |
| **1025** | EA-3_co | 2019-1008_6.GEF | 4-paalspoer | SI Ø508/670 | -8,5 | 4987 | 4 | 90% | 649 | 1566 | 3850 | 0,41 |
| **1027** | HB+0_c | 2019-1008_6.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | 4414 | 3 | 85% | 477 | 1918 | 4752 | 0,40 |
| **1037** | HB+0_c | 02P001595_166.S01.GEF | 3-paalspoer | SI Ø508/670 | -17,5 | 4414 | 3 | 85% | 477 | 1918 | 3971 | 0,48 |
| **1051** | HA+0_ci | 2019-1008_11.GEF | 4-paalspoer | SI Ø762/950 | -19,5 | 4385 | 4 | 90% | 649 | 1399 | 2866 | 0,49 |
| **1052** | HC+0_s | 2019-1008_11.GEF | 3-paalspoer | SI Ø762/950 | -22,0 | 3755 | 3 | 85% | 477 | 1660 | 2648 | 0,63 |
| **1055** | HB+6_s | 2019-1008_11.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | 3250 | 3 | 85% | 477 | 1462 | 3124 | 0,47 |
| **1060** | HA+0_s | 2019-1008_11.GEF | 3-paalspoer | SI Ø610/850 | -20,0 | 3230 | 3 | 85% | 477 | 1454 | 3124 | 0,47 |
| **1062** | HA+3_s | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | 3034 | 3 | 85% | 477 | 1377 | 1813 | 0,76 |
| **1063** | HA+3_s | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -11,5 | 3034 | 3 | 85% | 477 | 1377 | 1813 | 0,76 |
| **1066** | HA+0_ci | 2019-1008_12.GEF | 4-paalspoer | SI Ø508/670 | -11,5 | 4385 | 4 | 90% | 649 | 1399 | 1813 | 0,77 |
| **1067** | HA+6_c | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | 4364 | 3 | 85% | 477 | 1898 | 3257 | 0,58 |
| **1068** | HA+6_c | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | 4364 | 3 | 85% | 477 | 1898 | 3257 | 0,58 |
| **1069** | HA+6_c | 2019-1008_12.GEF | 3-paalspoer | SI Ø508/670 | -20,0 | 4364 | 3 | 85% | 477 | 1898 | 3257 | 0,58 |
| **1079** | HB+6_c | 2019-1008_17.GEF | 3-paalspoer | SI Ø508/670 | -24,7 | 4700 | 3 | 85% | 477 | 2030 | 2879 | 0,71 |
| **1086** | HA+0_c | 2019-1008_17.GEF | 3-paalspoer | SI Ø610/850 | -23,5 | 4387 | 3 | 85% | 477 | 1907 | 2782 | 0,69 |
| **1094** | HA+3_c | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | 4364 | 4 | 90% | 649 | 1393 | 1799 | 0,77 |
| **1095** | HA+3_c | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | 4364 | 4 | 90% | 649 | 1393 | 1799 | 0,77 |
| **1098** | HA+0_ci | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,5 | 4385 | 4 | 90% | 649 | 1399 | 1930 | 0,72 |
| **1099** | HA+0_ci | 2019-1008_20.GEF | 4-paalspoer | SI Ø508/670 | -23,0 | 4385 | 4 | 90% | 649 | 1399 | 1799 | 0,78 |
| **1114** | HA+3_ca | 2019-1008_21.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | 4447 | 4 | 90% | 649 | 1416 | 1536 | 0,92 |
| **1123** | HA+0_c | 02P001595_251.S01.GEF | 3-paalspoer | SI Ø508/670 | -24,5 | 4387 | 3 | 85% | 477 | 1907 | 2617 | 0,73 |
| **1130** | HA+0_c | 02P001595_251.S01.GEF | 3-paalspoer | SI Ø508/670 | -24,5 | 4387 | 3 | 85% | 477 | 1907 | 2617 | 0,73 |
| **1131** | HC+0_c | 02P001595_251.S01.GEF | 4-paalspoer | SI Ø508/670 | -21,0 | 5357 | 4 | 90% | 649 | 1668 | 2257 | 0,74 |
| **1133** | HC+0_c | 02P001595_251.S01.GEF | 4-paalspoer | SI Ø508/670 | -21,0 | 5357 | 4 | 90% | 649 | 1668 | 2257 | 0,74 |
| **1147** | HA+0_ci | 2019-1008_29.GEF | 4-paalspoer | SI Ø508/670 | -16,0 | 4385 | 4 | 90% | 649 | 1399 | 1790 | 0,78 |
| **1148** | HB+19_s | 2019-1008_29.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | 3776 | 3 | 85% | 477 | 1668 | 3373 | 0,49 |
| **1151** | HB+19_s | 02P001595_283.S02.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | 3776 | 3 | 85% | 477 | 1668 | 3682 | 0,45 |
| **1152** | HB+19_s | 02P001595_283.S02.GEF | 3-paalspoer | SI Ø508/670 | -19,5 | 3776 | 3 | 85% | 477 | 1668 | 3682 | 0,45 |
| **1153** | HA+0_ci | 02P001595_283.S02.GEF | 4-paalspoer | SI Ø508/670 | -17,5 | 4385 | 4 | 90% | 649 | 1399 | 3370 | 0,41 |
| **1159** | HC+0_c | 02P001595_283.S02.GEF | 4-paalspoer | SI Ø508/670 | -20,0 | 5357 | 4 | 90% | 649 | 1668 | 3668 | 0,45 |
| **1167** | HA+0_ci | 2019-1008_35.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | 4385 | 4 | 90% | 649 | 1399 | 2786 | 0,50 |
| **1168** | HA+0_ci | 2019-1008_35.GEF | 4-paalspoer | SI Ø508/670 | -18,5 | 4385 | 4 | 90% | 649 | 1399 | 2786 | 0,50 |
| **1184** | HB+0_c | 02P001595_312.S03.GEF | 3-paalspoer | SI Ø508/670 | -19,0 | 4414 | 3 | 85% | 477 | 1918 | 3180 | 0,60 |
| **1187** | HC+0_c | 02P001595_312.S03.GEF | 4-paalspoer | SI Ø508/670 | -16,0 | 5357 | 4 | 90% | 649 | 1668 | 3278 | 0,51 |
| **1188** | HB+0_c | 02P001595_312.S03.GEF | 3-paalspoer | SI Ø508/670 | -18,5 | 4414 | 3 | 85% | 477 | 1918 | 3116 | 0,62 |
| **1194** | HA+6_c | 2019-1008_43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | 4364 | 3 | 85% | 477 | 1898 | 3498 | 0,54 |
| **1196** | HA+0_c | 2019-1008_43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | 4387 | 3 | 85% | 477 | 1907 | 3498 | 0,55 |
| **1199** | HA+0_c | 2019-1008_43.GEF | 3-paalspoer | SI Ø508/670 | -12,5 | 4387 | 3 | 85% | 477 | 1907 | 3498 | 0,55 |
| **1204** | HA+0_ci | 2019-1008_43.GEF | 4-paalspoer | SI Ø508/670 | -7,0 | 4385 | 4 | 90% | 649 | 1399 | 2539 | 0,55 |
| **1205** | EB+0_s | 02P001595_328.S02.GEF | 4-paalspoer | SI Ø508/670 | -2,5 | 3935 | 4 | 90% | 649 | 1273 | 2368 | 0,54 |

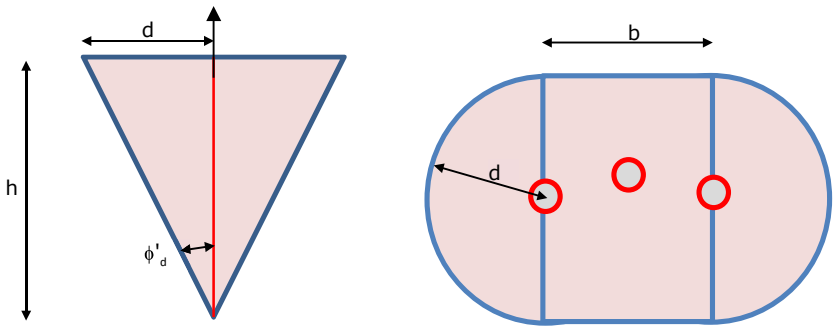
## Controle kluitgewicht

De minimaal benodigde lengte van de paal op basis van het kluitgewicht is onderzocht. Het kluitgewicht is het gewicht van de kluit grond die zich door wrijving verzet tegen het uittrekken van de paal met die kluit uit de grond. Zolang dit gewicht groter is dan de trekkracht zal de paal met de kluit grond niet uit de grond getrokken worden.

Kluitgewicht kan een issue zijn voor korte palen die op trek worden belast, waarvan de kleef de trekkracht wel kan weerstaan. Als voorbeeld betreft het zandgronden zonder veel slappe lagen.

De minimale paallengtes op basis van de sonderingen zijn 12,8 m respectievelijk 13,5 m voor de driepaalsfundering en de vierpaalsfundering. De bijbehorende belastingen zijn 2751 kN voor de driepaalsfundering en 3472 kN voor de vierpaalsfundering. Voor de driepaalsfundering is de bijbehorende belasting namelijk 3 x 917 = 2751 kN. Voor de vierpaalsfundering is de bijbehorende belasting namelijk 4 x 868 = 3472 kN.

In deze berekening wordt bepaald wat de minimaal benodigde paallengte is voor voldoende kluitgewicht voor de driepaalsfundering belast door 2751 kN en de vierpaalsfundering belast door 3472 kN. Indien de lengte onvoldoende is, dan zal de paal met kluit uit de grond getrokken worden. Zie hieronder.




Zijaanzicht (links) en bovenaanzicht (rechts) van de kluit grond

| Algemene gegevens | | | |
|---|---|---|---|
| Volumiek gewicht grond | | 18 | kN/m³ |
| Volumiek gewicht water | | 10 | kN/m³ |
| Veiligheidsfactor | $\gamma_g$ = | 0,9 | - |
| Hoek van inwendige wrijving | $\phi'$ | 27,5 | ° |
| Veiligheidsfactor | $\gamma_{\phi'}$ = | 1,25 | - |

| Berekening kluitgewicht voor 3 palen | | | |
|---|---|---|---|
| Diepte minimaal | h = | 10,537 | m |
| Tussenafstand paalpunten | b = | 5 | m |
| Radius kegel op mv. | d = L x (tan$\alpha$ / $\gamma$) = | 4,39 | m |
| Grondoppervlak kegel | $G_1 = \pi d^2$ = | 60,5 | m² |
| Tussenoppervlak wig | $G_2$ = b x 2d = | 43,9 | m² |
| Inhoud kegel | $I_{kluit} = 1/3G_1h+1/2G_2h$ | 443,7 | m³ |
| Gewicht grond | $F_{gr}$ = | 7986 | kN |
| Opwaartse kracht water | $F_w$ = | 4437 | kN |
| Rekenwaarde | $F_{r,d} = 0,9F_{gr} - F_w$ = | **2751** | kN |

Uit de berekening van het kluitgewicht bij de driepaalsfundering blijkt dat de lengte van de paal niet onder de 10,5 m mag komen bij de belasting van 2751 kN.

| Berekening kluitgewicht voor 4 palen | | | |
|---|---|---|---|
| Diepte minimaal | h = | 11,57 | m |

| | | | |
|---|---|---|---|
| Tussenafstand paalpunten | b = | 5 | m |
| Radius kegel op mv. | d = L x (tan$\alpha$ / $\gamma$) = | 4,82 | m |
| Grondoppervlak kegel | $G_1 = \pi d^2$ = | 72,9 | $m^2$ |
| Tussenoppervlak wig | $G_2$ = b x 2d = | 48,2 | $m^2$ |
| Inhoud kegel | $I_{kluit} = 1/3G_1h+1/2G_2h$ | 560,0 | $m^3$ |
| Gewicht grond | $F_{gr}$ = | 10081 | kN |
| Opwaartse kracht water | $F_w$ = | 5600 | kN |
| Rekenwaarde | $F_{r,d} = 0,9F_{gr} - F_w$ = | **3472** | kN |

Uit de berekening van het kluitgewicht bij de vierpaalsfundering blijkt dat de lengte van de paal niet onder de 11,6 m mag komen bij de belasting van 3472 kN. Hier is conservatief de vierpaalspoer als een driepaalspoer beschouwd, het grotere deel van het tussenoppervlak van de wig is verwaarloosd.

De minimale paallengtes op basis van de sonderingen zijn 12,8 m respectievelijk 13,5 m voor de driepaalsfundering en de vierpaalsfundering. Er is voldoende kluitgewicht. In het UO mag bij eventuele optimalisatie de lengte van de paal niet kleiner worden dan de hierboven berekende minimale paallengtes, tenzij de belasting kleiner is dan de aangehouden waarden van 2751 kN respectievelijk 3472 kN.

Onze maximale belasting voor driepaalsfundering is echter nooit meer dan 3 palen x 1510 = 4530 kN (met paallengte 20,6 m op basis van sondering en een daarbij gemobiliseerd gewicht 15322 kN > 4530). Deze lengte (bij die specifieke belasting) mag nooit korter worden dan 12,9 m want dan wordt de trekbelasting 4530 kN meer dan het kluitgewicht.

Onze maximale belasting voor vierpaalsfundering is echter nooit meer dan 4 palen x 1187 = 4748 kN (met paallengte 19 m op basis van sondering en een daarbij gemobiliseerd gewicht 12384 kN > 4748). Deze lengte (bij die specifieke belasting) mag nooit kleiner worden dan 13,1 m want dan wordt de trekbelasting 4748 kN meer dan het kluitgewicht.

Palen die een lage belasting hebben en dus een korte paaldiepte L1 hebben op basis van analyse sondering (en een nog lagere minimum paallengte L2 op basis van analyse kluitgewicht) hoeven we niet te verlengen tot minimale paaldiepte L4 (met L4 > L1) op basis van analyse kluitgewicht bij palen die een hoge belasting hebben (en een nog hogere paallengte L3 op basis van analyse sondering). In het uitvoeringsontwerp (UO) moet kluitgewicht worden gecontroleerd indien op basis van sonderingen wordt besloten de paallengte uit het definitief ontwerp (DO) te verlagen. Hierbij moet ook worden gelet op de minimale paallengte van 7 m of 13,5 m de middellijn volgens 7.6.3.3. van NEN-EN 1997-1.

# APPENDIX D
# Uitvoer TS paalfunderingen

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## ALGEMENE GEGEVENS

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380
Datum : 27-03-2021
Bestand : P:\EANL_Projects\10124719 - TenneT Engineering ZW380 kV Oost\2 Content\007 DO vakwerkmasten\TS Paalfunderingen\ZWO380 hoekmast DO.pvw
Berekeningstype : Verticaal belaste paal
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

## Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|---|---|---|---|
| Geotechniek | EN 1997-1:2004 | AC:2009 | |
| | NEN-EN 1997-1:2005 | C1+A1:2013 | NB:2016 |
| | NEN 9997-1:2016 | C2:2017 | |

## BODEMPROFIELGEGEVENS: 19-1008_1

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 2.12 Grondwaterstand [m] : 1.12

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 2.12 | 0.47 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 2 | 0.47 | -0.23 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 3 | -0.23 | -1.33 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 4 | -1.33 | -7.83 | Klei - Organisch - Matig | 1.0 | 50.0 | | |
| 5 | -7.83 | -12.63 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 6 | -12.63 | -17.12 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 7 | -17.12 | -19.80 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 8 | -19.80 | -21.20 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 9 | -21.20 | -32.70 | Zand - Schoon - Vast | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_6

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 11.00 Grondwaterstand [m] : 10.00

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 11.00 | 8.25 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 2 | 8.25 | 7.45 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 3 | 7.45 | 3.15 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 4 | 3.15 | 1.15 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 5 | 1.15 | -3.95 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 6 | -3.95 | -4.25 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 7 | -4.25 | -5.35 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 8 | -5.35 | -13.16 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 9 | -13.16 | -16.89 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 10 | -16.89 | -18.28 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 11 | -18.28 | -23.93 | Zand - Schoon - Vast | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 166.S01

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 3.45 Grondwaterstand [m] : 2.45

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 3.45 | 1.40 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 2 | 1.40 | 0.60 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 3 | 0.60 | -1.60 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 4 | -1.60 | -3.40 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 5 | -3.40 | -3.60 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 6 | -3.60 | -4.90 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 7 | -4.90 | -11.10 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 8 | -11.10 | -11.70 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 9 | -11.70 | -13.21 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 10 | -13.21 | -21.31 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 11 | -21.31 | -22.66 | Zand - Schoon - Vast | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_11

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 0.62 Grondwaterstand [m] : -0.38

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 0.62 | -0.83 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 2 | -0.83 | -2.83 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 3 | -2.83 | -4.13 | Klei - Schoon - Vast | 1.0 | 50.0 | | |
| 4 | -4.13 | -7.43 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 5 | -7.43 | -11.82 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 6 | -11.82 | -12.64 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 7 | -12.64 | -17.92 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 8 | -17.92 | -22.71 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 9 | -22.71 | -25.46 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 10 | -25.46 | -29.39 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 11 | -29.39 | -32.78 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 12 | -32.78 | -33.83 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 13 | -33.83 | -34.28 | Zand - Schoon - Los | 1.0 | 100.0 | | |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## BODEMPROFIELGEGEVENS: 19-1008_12

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 3.57 Grondwaterstand [m] : 2.57

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 3.57 | 1.12 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 2 | 1.12 | 0.72 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 3 | 0.72 | -3.28 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 4 | -3.28 | -3.68 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 5 | -3.68 | -6.38 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 6 | -6.38 | -7.58 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 7 | -7.58 | -8.48 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 8 | -8.48 | -19.19 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 9 | -19.19 | -25.26 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 10 | -25.26 | -27.97 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 11 | -27.97 | -30.88 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 12 | -30.88 | -31.50 | Zand - Schoon - Los | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_17

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 0.20 Grondwaterstand [m] : -0.80

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 0.20 | -0.85 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 2 | -0.85 | -2.95 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 3 | -2.95 | -4.05 | Klei - Schoon - Vast | 1.0 | 50.0 | | |
| 4 | -4.05 | -4.95 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 5 | -4.95 | -5.15 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 6 | -5.15 | -6.65 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 7 | -6.65 | -7.25 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 8 | -7.25 | -9.65 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 9 | -9.65 | -10.05 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 10 | -10.05 | -10.25 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 11 | -10.25 | -11.55 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 12 | -11.55 | -12.85 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 13 | -12.85 | -14.75 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 14 | -14.75 | -17.25 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 15 | -17.25 | -18.55 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 16 | -18.55 | -20.64 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 17 | -20.64 | -21.14 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 18 | -21.14 | -21.54 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 19 | -21.54 | -24.23 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 20 | -24.23 | -28.91 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 21 | -28.91 | -29.73 | Klei - Organisch - Matig | 1.0 | 50.0 | | |
| 22 | -29.73 | -30.67 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 23 | -30.67 | -34.80 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_20

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : -0.03 Grondwaterstand [m] : -1.03

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | -0.03 | -1.28 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 2 | -1.28 | -3.18 | Klei - Zwak zandig - Slap | 1.0 | 50.0 | | |
| 3 | -3.18 | -4.88 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 4 | -4.88 | -9.78 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 5 | -9.78 | -10.68 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 6 | -10.68 | -11.38 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 7 | -11.38 | -13.58 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 8 | -13.58 | -14.38 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 9 | -14.38 | -17.38 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 10 | -17.38 | -19.68 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 11 | -19.68 | -20.48 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 12 | -20.48 | -23.07 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 13 | -23.07 | -30.25 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 14 | -30.25 | -31.84 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 15 | -31.84 | -32.83 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 16 | -32.83 | -34.29 | Klei - Schoon - Vast | 1.0 | 50.0 | | |
| 17 | -34.29 | -35.23 | Klei - Schoon - Vast | 1.0 | 50.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_21

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 1.78 Grondwaterstand [m] : 0.78

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 1.78 | -1.17 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 2 | -1.17 | -4.17 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 3 | -4.17 | -8.26 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 4 | -8.26 | -12.28 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 5 | -12.28 | -12.98 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 6 | -12.98 | -14.68 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 7 | -14.68 | -16.58 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 8 | -16.58 | -17.88 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 9 | -17.88 | -18.88 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 10 | -18.88 | -30.48 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 11 | -30.48 | -33.19 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## BODEMPROFIELGEGEVENS: 251.S01

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : -1.05 Grondwaterstand [m] : -2.05

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | -1.05 | -3.60 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 2 | -3.60 | -7.80 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 3 | -7.80 | -9.10 | Klei - Organisch - Matig | 1.0 | 50.0 | | |
| 4 | -9.10 | -14.80 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 5 | -14.80 | -15.40 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 6 | -15.40 | -18.31 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 7 | -18.31 | -19.21 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 8 | -19.21 | -20.23 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 9 | -20.23 | -26.29 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 10 | -26.29 | -28.61 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 11 | -28.61 | -30.30 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 12 | -30.30 | -33.03 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 13 | -33.03 | -37.54 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 14 | -37.54 | -38.23 | Klei - Schoon - Vast | 1.0 | 50.0 | | |
| 15 | -38.23 | -40.24 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 16 | -40.24 | -40.88 | Zand - Schoon - Los | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_29

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 0.79 Grondwaterstand [m] : -0.21

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 0.79 | -2.26 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 2 | -2.26 | -11.15 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 3 | -11.15 | -12.15 | Klei - Organisch - Matig | 1.0 | 50.0 | | |
| 4 | -12.15 | -12.85 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 5 | -12.85 | -15.55 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 6 | -15.55 | -15.75 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 7 | -15.75 | -17.65 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 8 | -17.65 | -18.98 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 9 | -18.98 | -19.38 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 10 | -19.38 | -22.38 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 11 | -22.38 | -23.98 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 12 | -23.98 | -24.18 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 13 | -24.18 | -29.47 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 14 | -29.47 | -30.99 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 15 | -30.99 | -34.29 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |

## BODEMPROFIELGEGEVENS: 283.S02

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 0.17 Grondwaterstand [m] : -0.83

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 0.17 | -1.58 | Klei - Zwak zandig - Slap | 1.0 | 0.0 | | |
| 2 | -1.58 | -15.18 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 3 | -15.18 | -26.29 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 4 | -26.29 | -28.61 | Klei - Schoon - Vast | 1.0 | 50.0 | | |
| 5 | -28.61 | -30.60 | Klei - Schoon - Matig | 1.0 | 50.0 | | |
| 6 | -30.60 | -32.29 | Zand - Schoon - Matig | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 19-1008_35

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 0.92 Grondwaterstand [m] : -0.08

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 0.92 | -0.23 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 2 | -0.23 | -19.34 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 3 | -19.34 | -25.33 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 4 | -25.33 | -25.93 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 5 | -25.93 | -28.72 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 6 | -28.72 | -30.64 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 7 | -30.64 | -34.25 | Klei - Schoon - Matig | 1.0 | 50.0 | | |

## BODEMPROFIELGEGEVENS: 312.S03

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 3.78 Grondwaterstand [m] : 2.78

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 3.78 | -3.57 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 2 | -3.57 | -4.86 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 3 | -4.86 | -6.86 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 4 | -6.86 | -7.85 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 5 | -7.85 | -20.13 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 6 | -20.13 | -20.47 | Klei - Organisch - Slap | 1.0 | 50.0 | | |
| 7 | -20.47 | -27.08 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 8 | -27.08 | -31.92 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 9 | -31.92 | -31.97 | Zand - Schoon - Vast | 1.0 | 100.0 | | |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## BODEMPROFIELGEGEVENS: 19-1008_43

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 9.88 Grondwaterstand [m] : 8.88

| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 9.88 | 4.60 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 2 | 4.60 | 4.00 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 3 | 4.00 | 3.40 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 4 | 3.40 | 3.00 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 5 | 3.00 | -6.39 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 6 | -6.39 | -10.29 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 7 | -10.29 | -12.28 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 8 | -12.28 | -14.98 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 9 | -14.98 | -16.30 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 10 | -16.30 | -18.73 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 11 | -18.73 | -21.25 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 12 | -21.25 | -25.16 | Zand - Schoon - Matig | 1.0 | 100.0 | | |

## BODEMPROFIELGEGEVENS: 328.S02

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
d50-reductie is meegenomen overeenkomstig NEN-EN 9997 art. 7.6.2.3 (i)
Hoogte maaiveld [m] : 10.17 Grondwaterstand [m] : 9.17

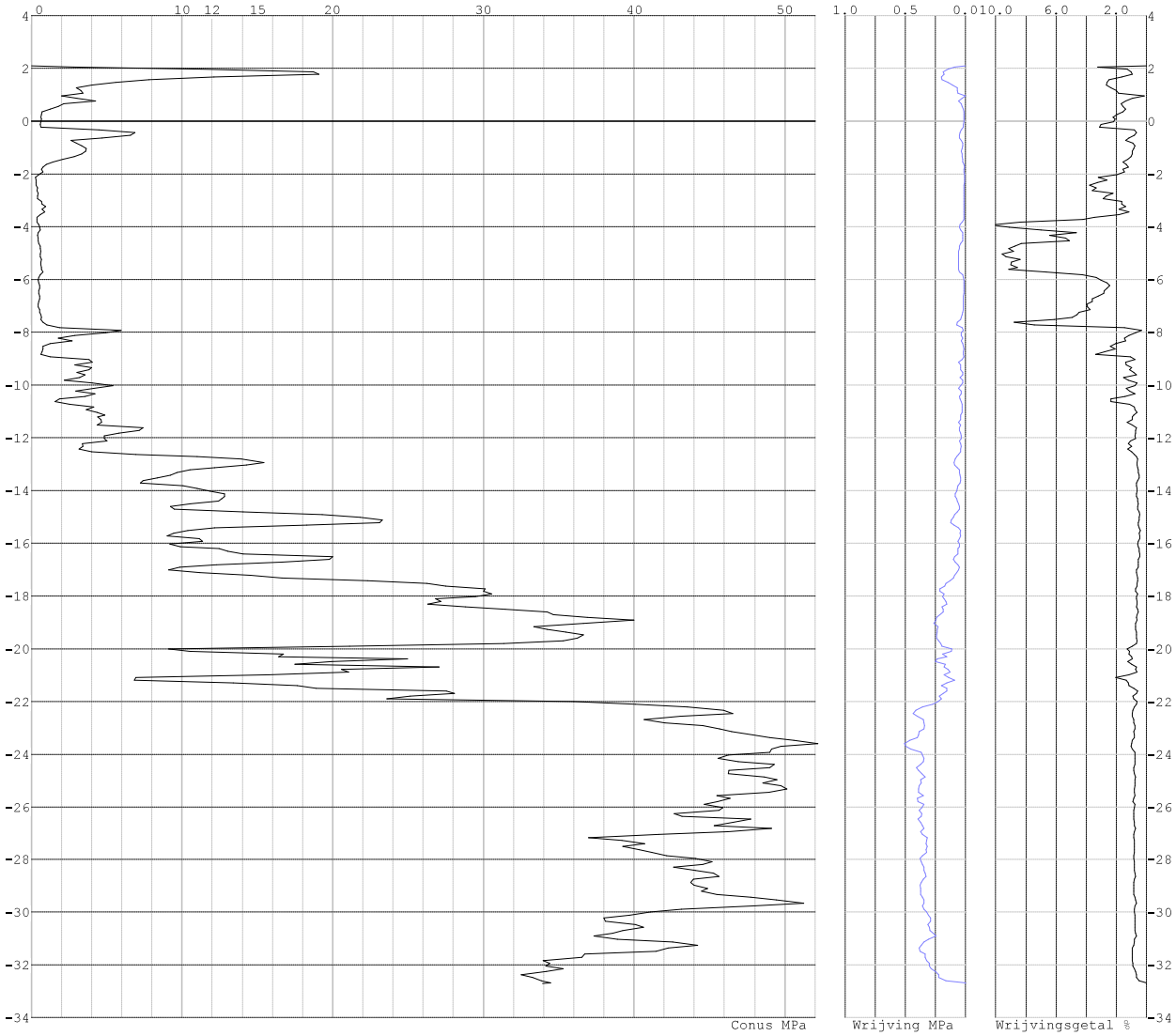
| Laag | Van [m] | Tot [m] | Omschrijving | OCR | Aandeel pos. kleef [%] | $\alpha_s$ | $d_{50}$ [mm] |
|---|---|---|---|---|---|---|---|
| 1 | 10.17 | 5.82 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 2 | 5.82 | -0.06 | Zand - Schoon - Vast | 1.0 | 100.0 | | |
| 3 | -0.06 | -1.16 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 4 | -1.16 | -1.56 | Klei - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 5 | -1.56 | -4.56 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 6 | -4.56 | -5.39 | Klei - Zwak zandig - Matig | 1.0 | 50.0 | | |
| 7 | -5.39 | -15.50 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |
| 8 | -15.50 | -16.08 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 9 | -16.08 | -17.81 | Zand - Schoon - Matig | 1.0 | 100.0 | | |
| 10 | -17.81 | -18.39 | Leem - Zwak zandig - Vast | 1.0 | 50.0 | | |
| 11 | -18.39 | -27.62 | Zand - Zwak siltig - Kleiig | 1.0 | 100.0 | | |
| 12 | -27.62 | -28.07 | Zand - Schoon - Los | 1.0 | 100.0 | | |
| 13 | -28.07 | -28.89 | Zand - Sterk siltig - Kleiig | 1.0 | 100.0 | | |

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_1

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 2.12 Bodemprofiel: 19-1008_1
Traject negatieve kleef : 2.12 tot -4.90 [m]
Traject positieve kleef : -7.30 tot -32.70 [m]

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

**SONDERINGSGEGEVENS GRAFIEK: 19-1008_1**

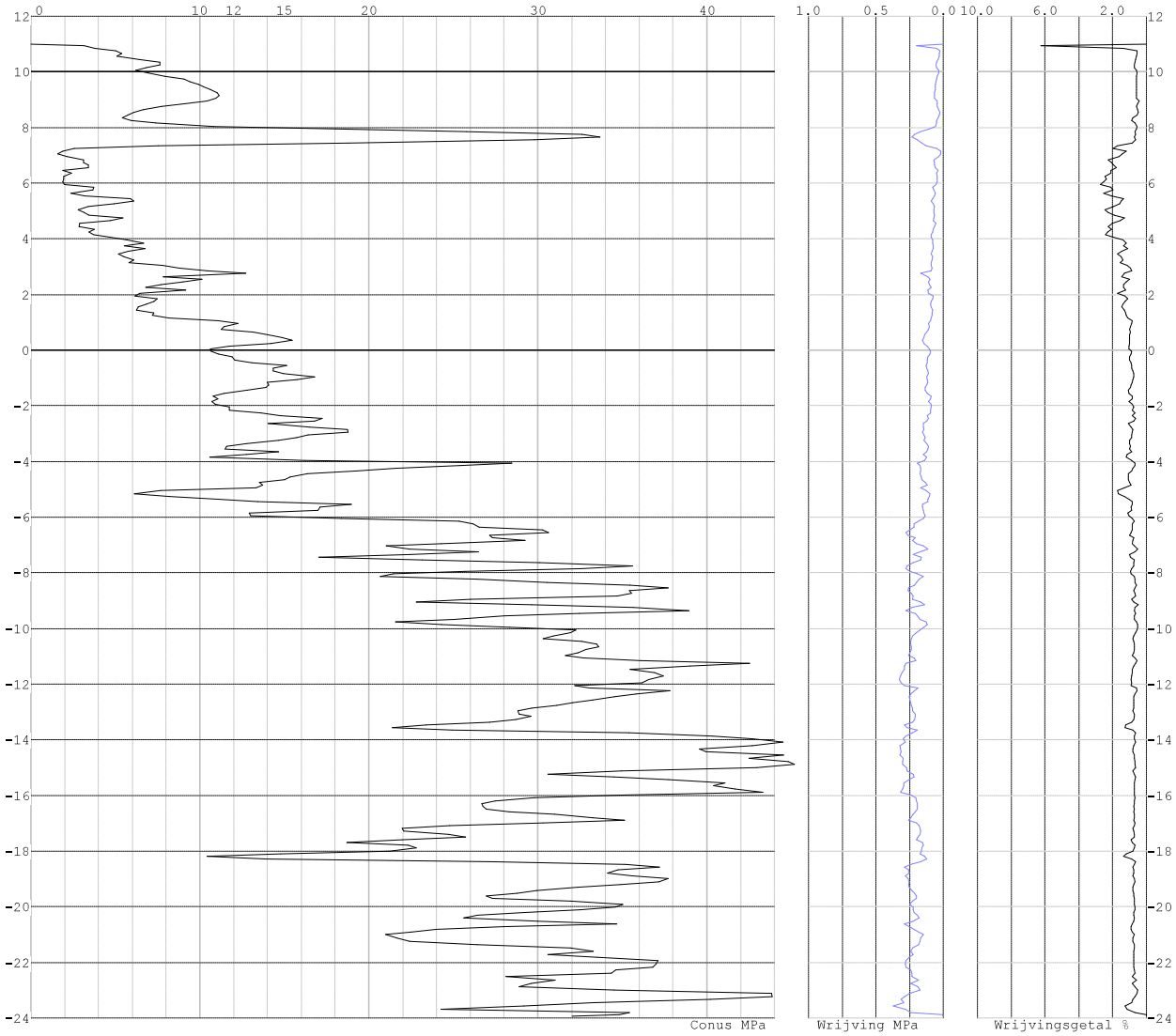


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_6

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 11.00 Bodemprofiel: 19-1008_6
Traject negatieve kleef : 11.00 tot 6.90 [m]
Traject positieve kleef : 4.20 tot -23.93 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_6

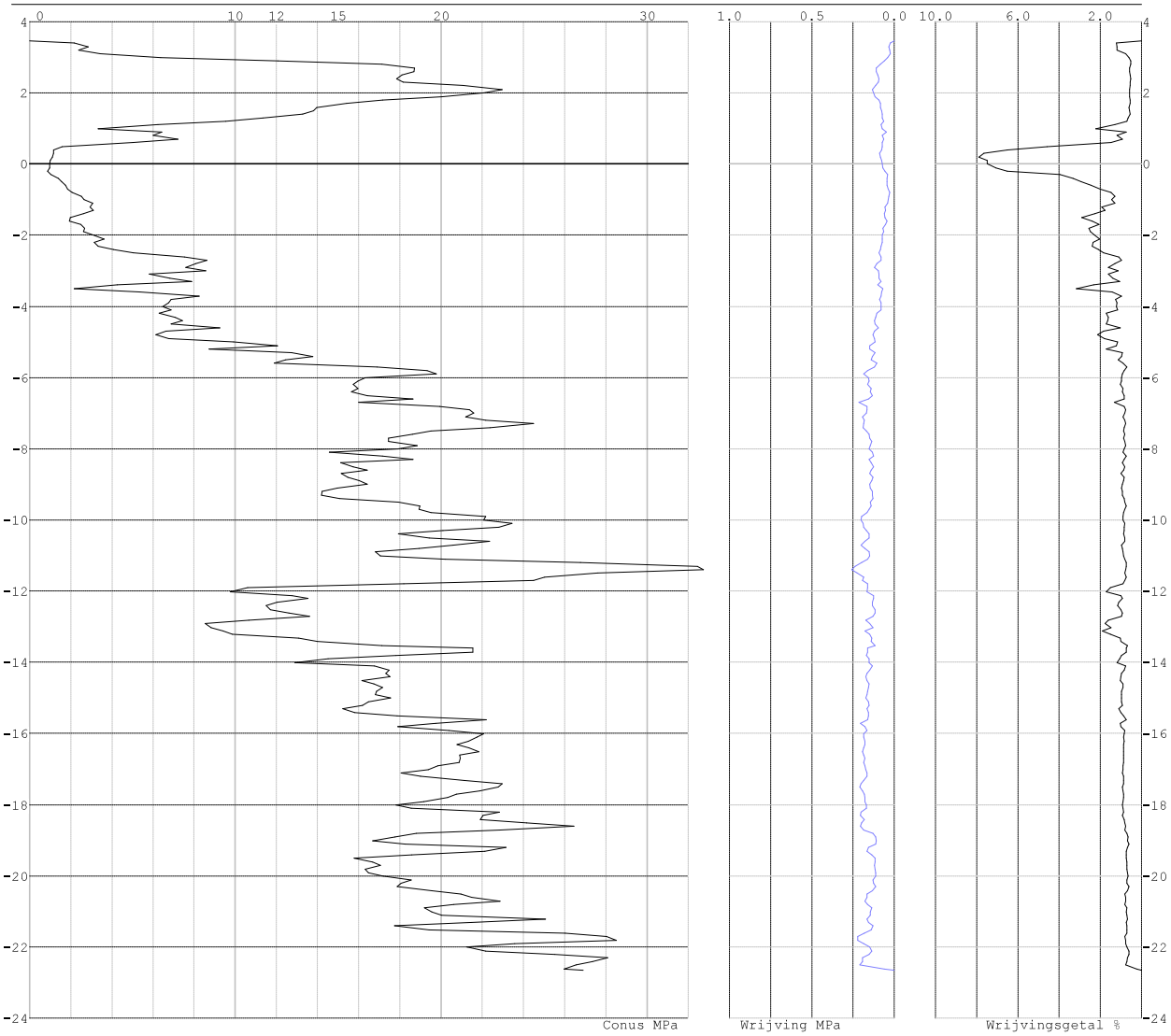


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 166.S01

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 3.45 Bodemprofiel: 166.S01
Traject negatieve kleef : 3.45 tot -0.30 [m]
Traject positieve kleef : -1.30 tot -22.66 [m]

## SONDERINGSGEGEVENS GRAFIEK: 166.S01

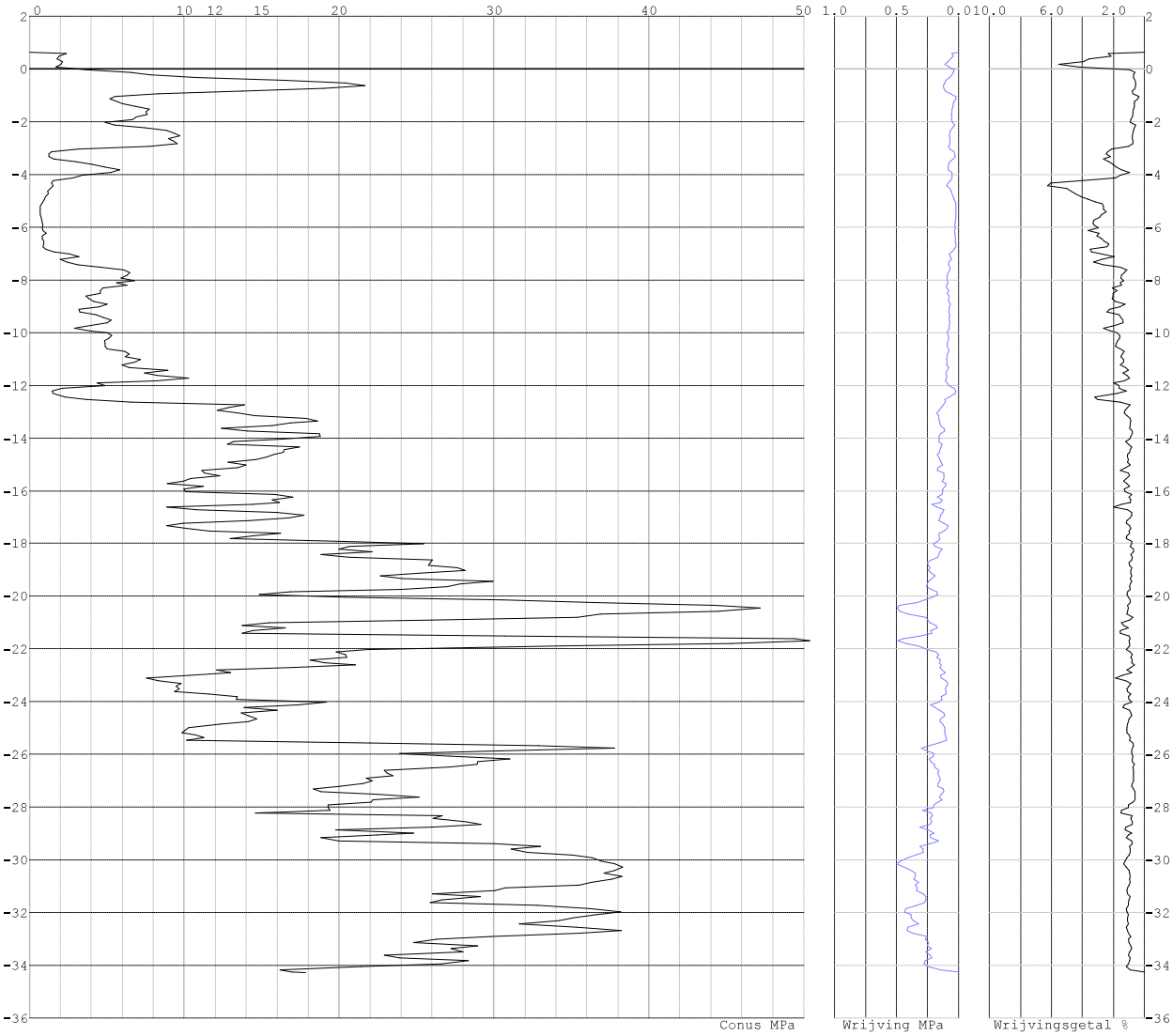


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_11

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 0.62 Bodemprofiel: 19-1008_11
Traject negatieve kleef : 0.62 tot -5.20 [m]
Traject positieve kleef : -6.80 tot -34.28 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_11

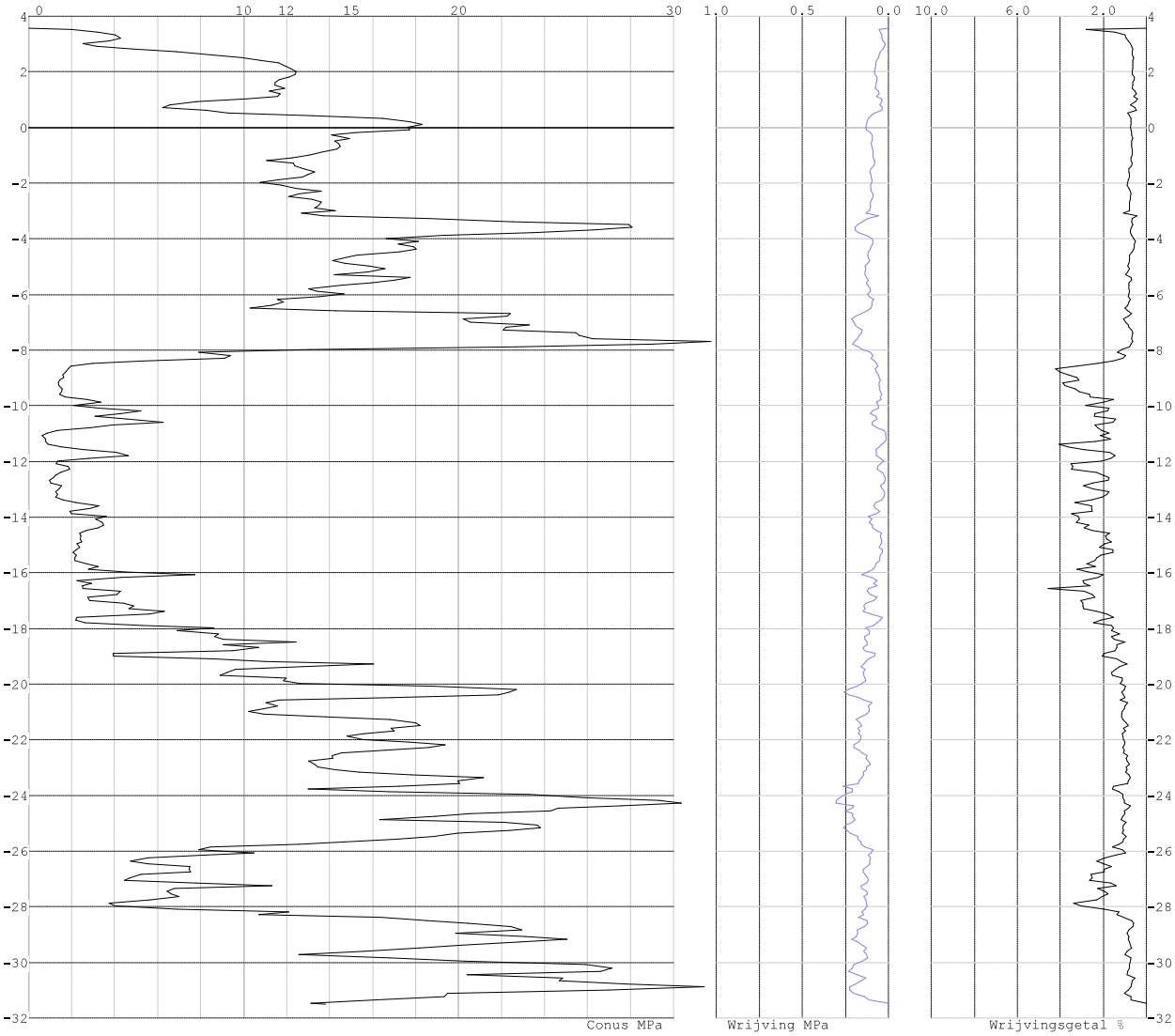


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_12

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 3.57 Bodemprofiel: 19-1008_12
Traject negatieve kleef : 3.57 tot 3.00 [m]
Traject positieve kleef : 2.80 tot -31.50 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_12

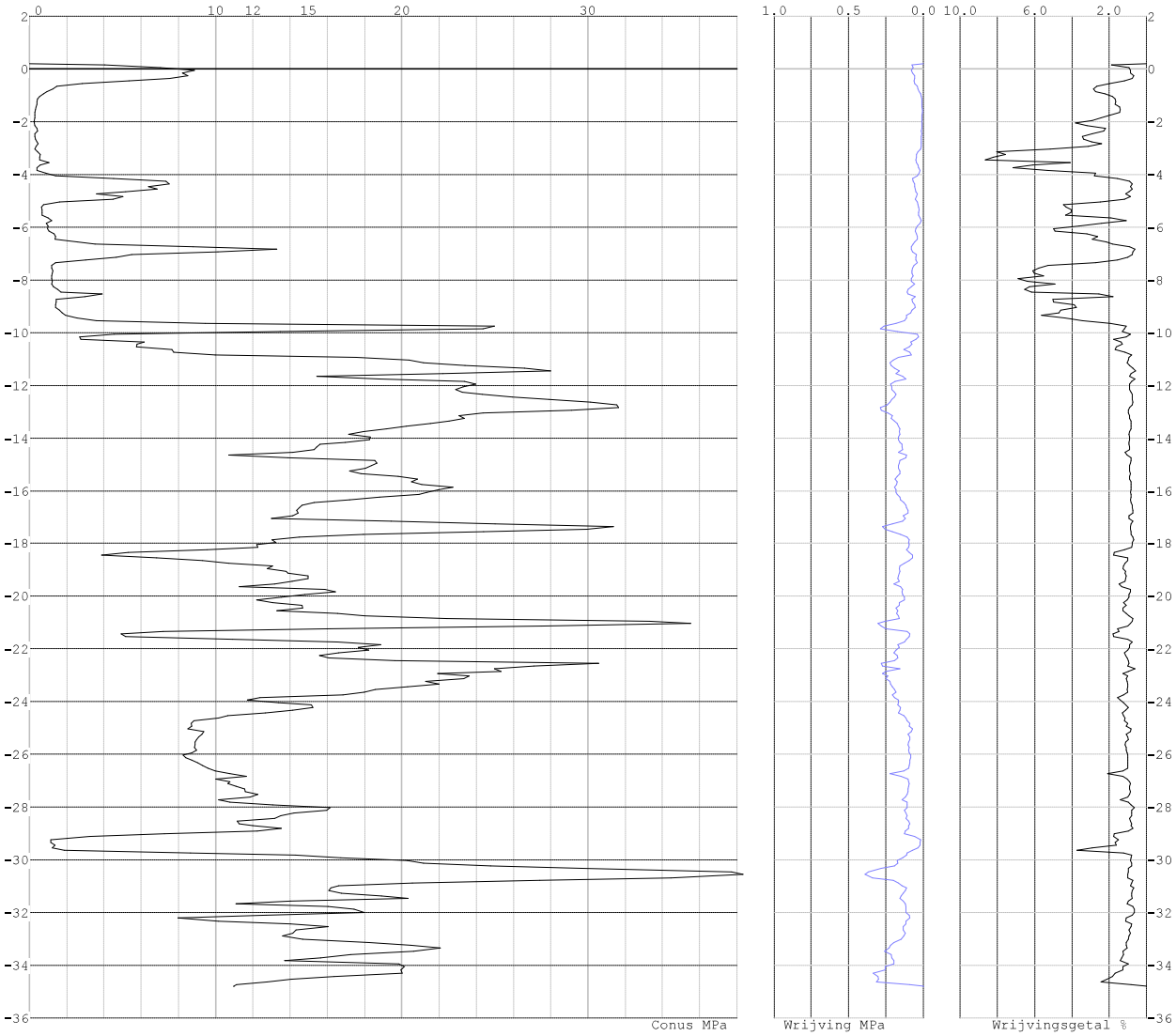


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_17

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 0.20 Bodemprofiel: 19-1008_17
Traject negatieve kleef : 0.20 tot -7.50 [m]
Traject positieve kleef : -10.30 tot -34.80 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_17

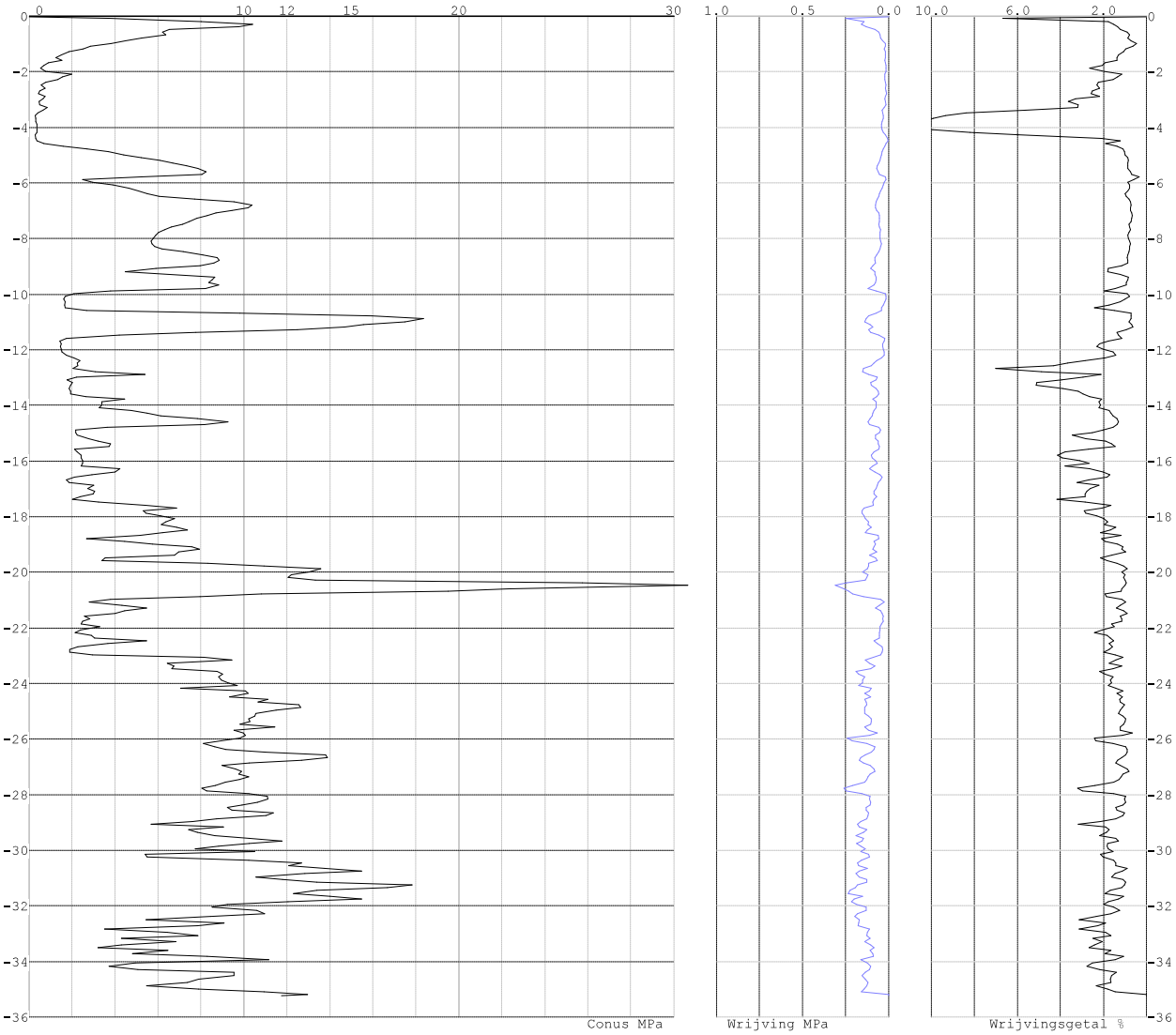


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_20

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : -0.03 Bodemprofiel: 19-1008_20
Traject negatieve kleef : -0.03 tot -3.20 [m]
Traject positieve kleef : -4.50 tot -35.23 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_20

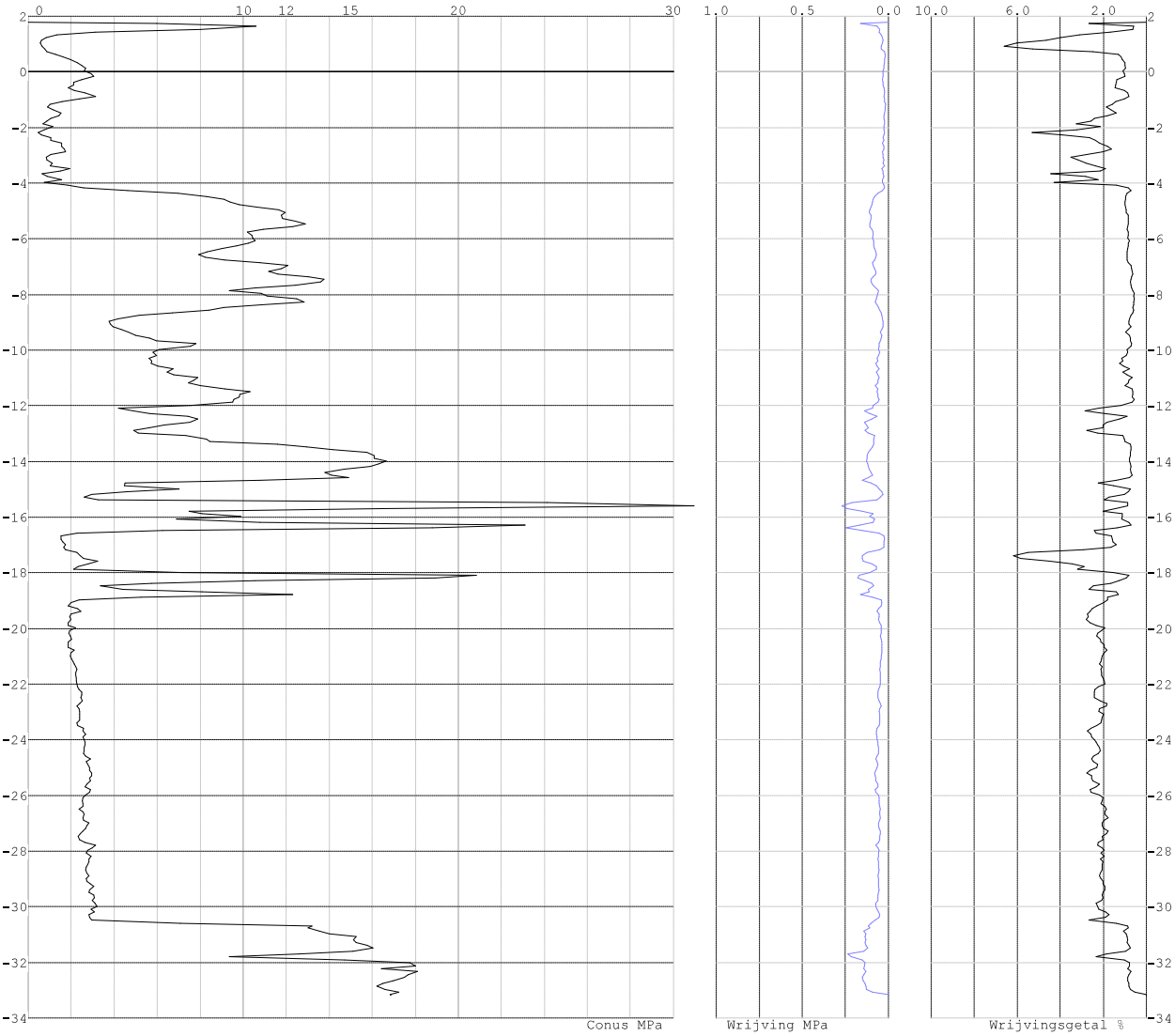


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_21

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 1.78 Bodemprofiel: 19-1008_21
Traject negatieve kleef : 1.78 tot -4.10 [m]
Traject positieve kleef : -4.50 tot -33.19 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_21

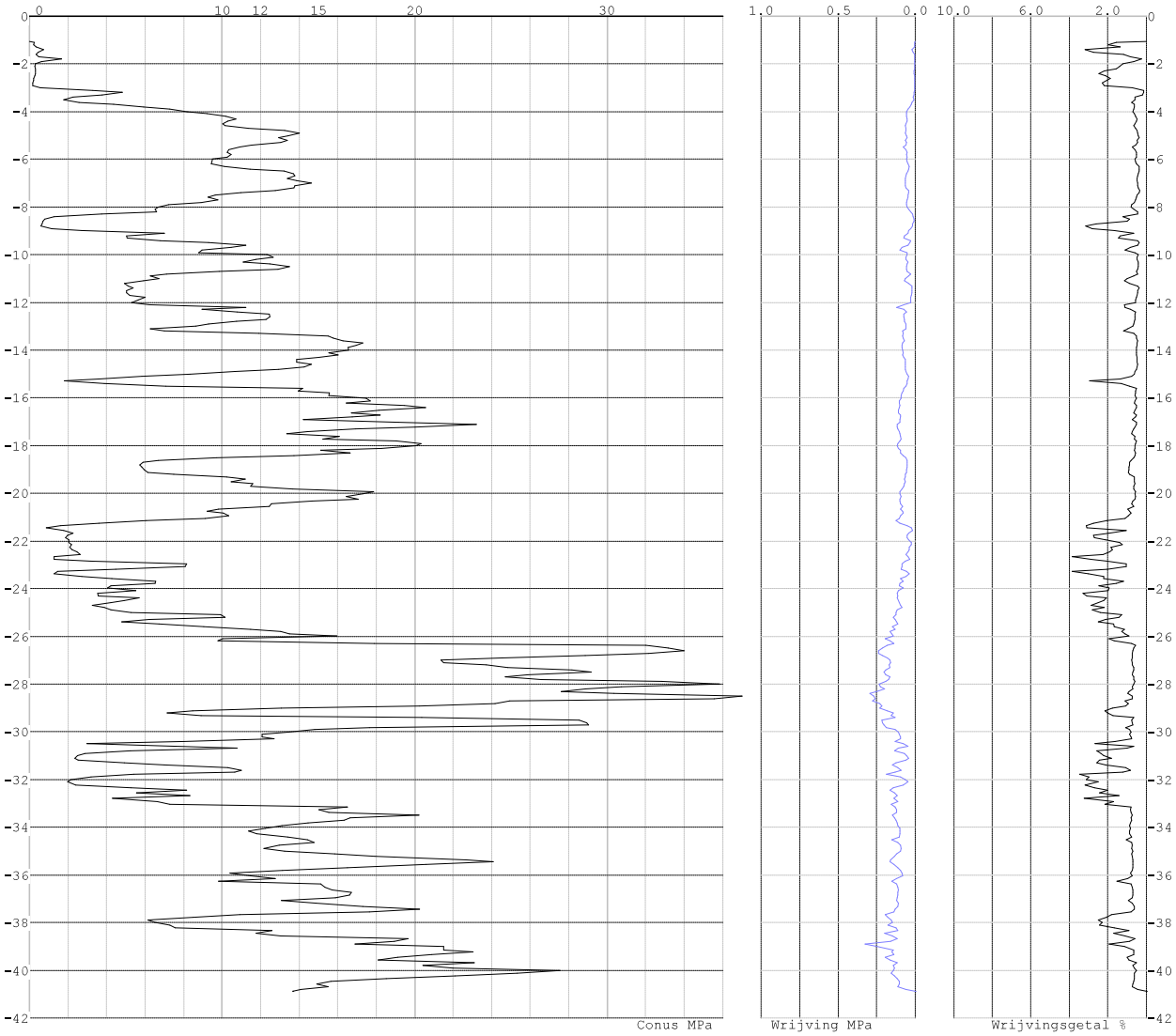


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 251.S01

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : -1.05 Bodemprofiel: 251.S01
Traject negatieve kleef : -1.05 tot -2.80 [m]
Traject positieve kleef : -3.30 tot -40.88 [m]

## SONDERINGSGEGEVENS GRAFIEK: 251.S01

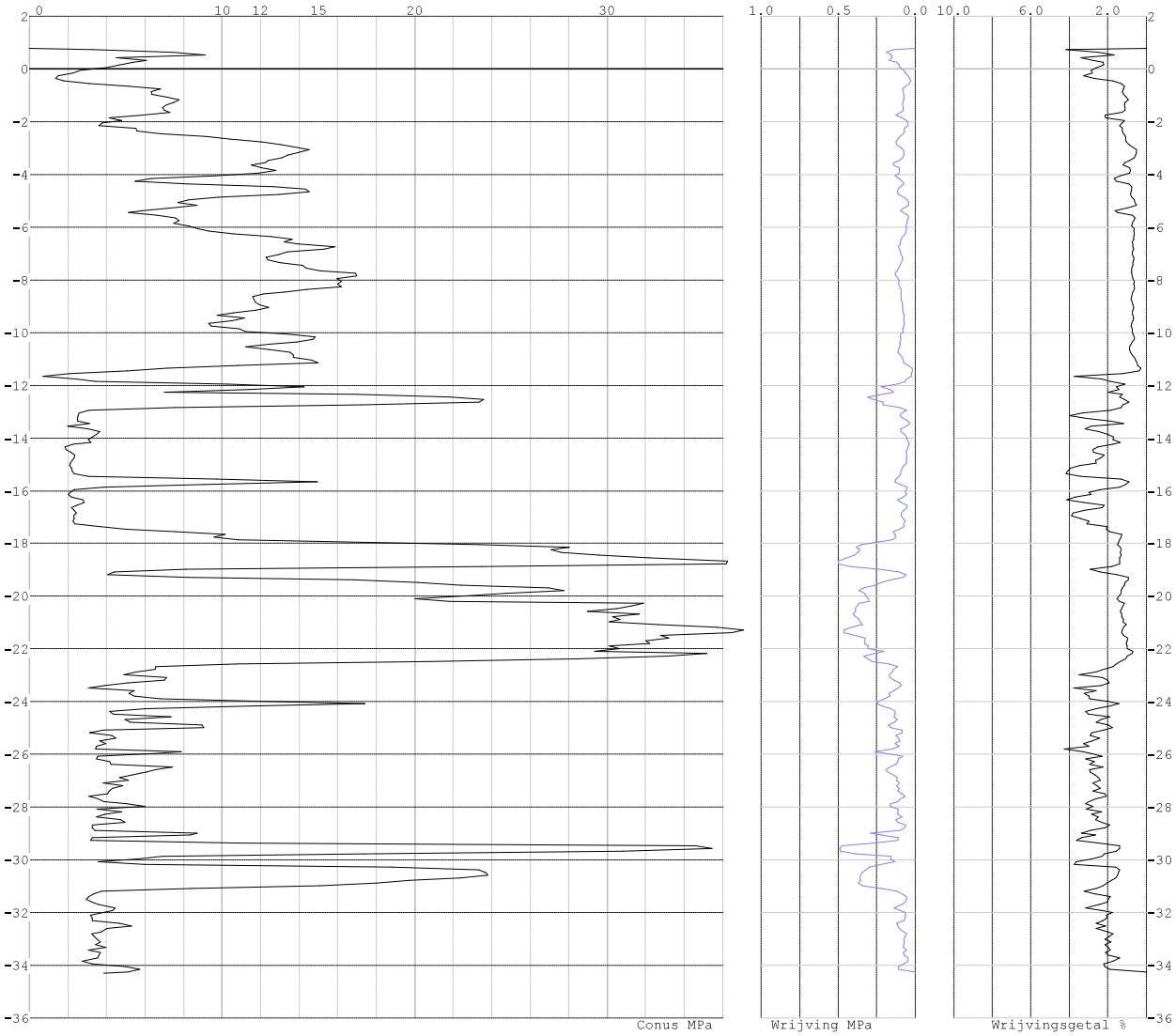


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_29

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 0.79 Bodemprofiel: 19-1008_29
Traject negatieve kleef : 0.79 tot -0.50 [m]
Traject positieve kleef : -0.70 tot -34.29 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_29

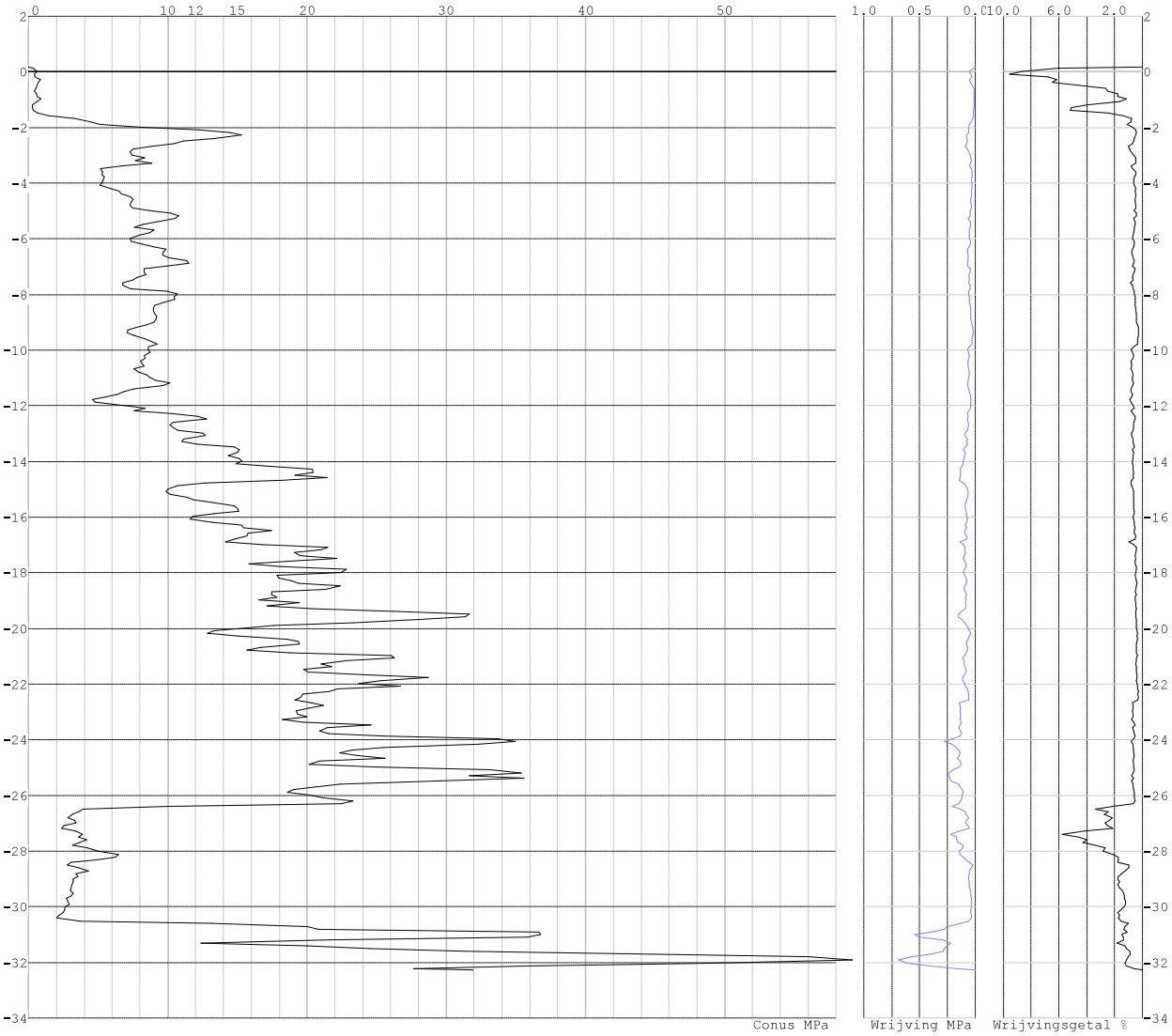


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 283.S02

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 0.17 Bodemprofiel: 283.S02
Traject negatieve kleef : 0.17 tot -1.60 [m]
Traject positieve kleef : -1.70 tot -32.29 [m]

## SONDERINGSGEGEVENS GRAFIEK: 283.S02

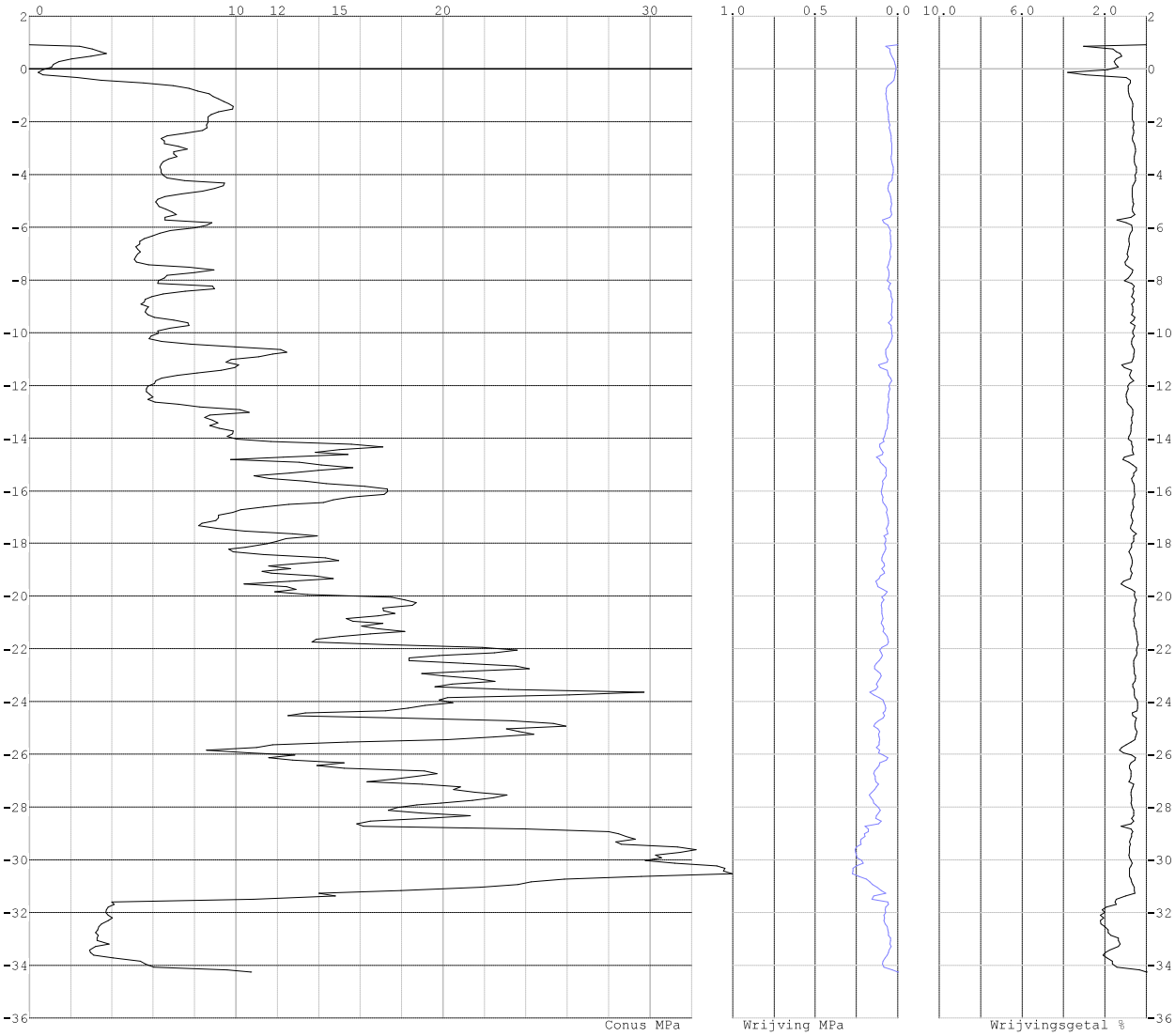


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_35

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 0.92 Bodemprofiel: 19-1008_35
Traject negatieve kleef : 0.92 tot -0.60 [m]
Traject positieve kleef : -0.80 tot -34.25 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_35

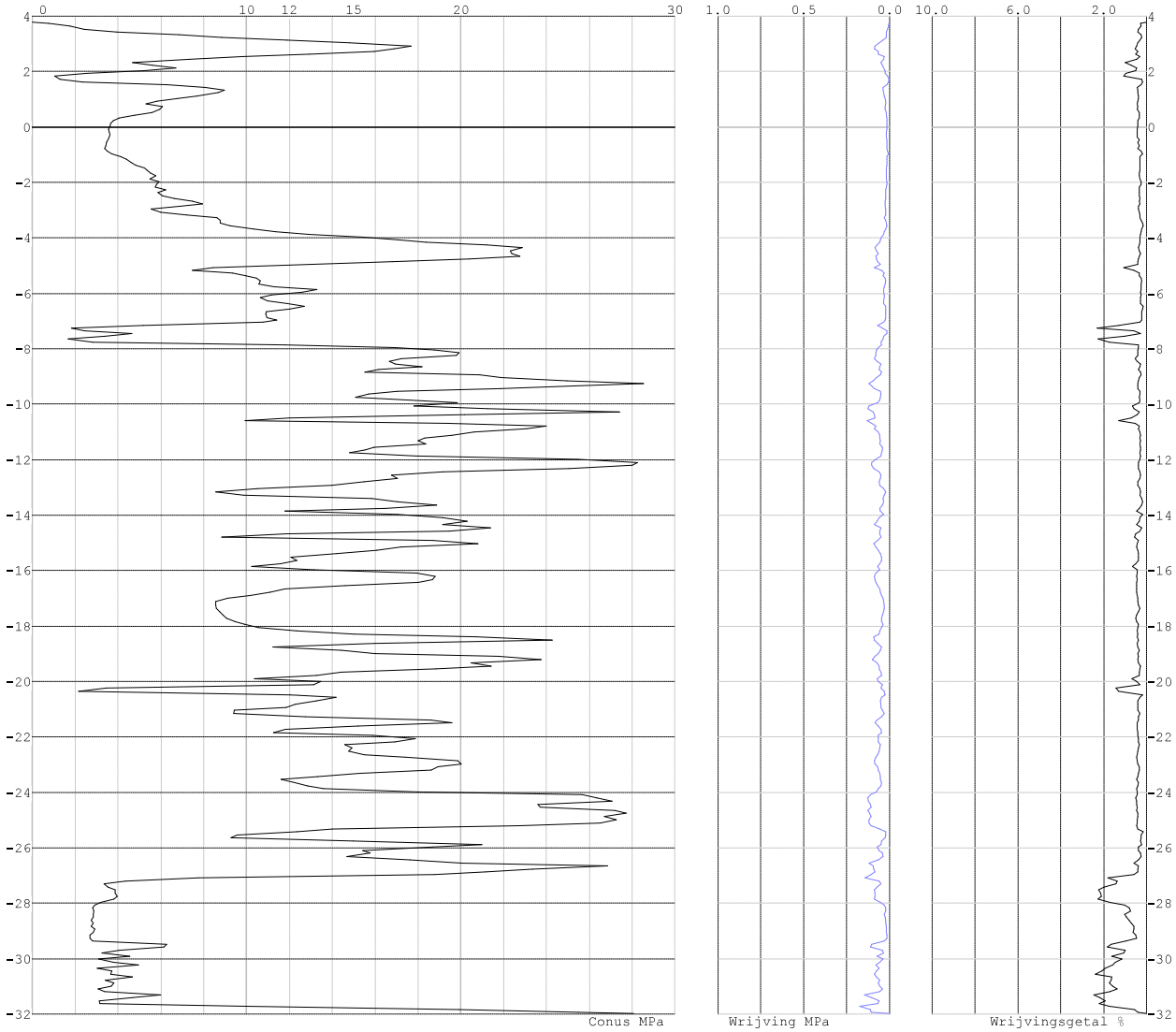


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 312.S03

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 3.78 Bodemprofiel: 312.S03
Traject negatieve kleef : 3.78 tot 3.30 [m]
Traject positieve kleef : 3.10 tot -31.97 [m]

## SONDERINGSGEGEVENS GRAFIEK: 312.S03

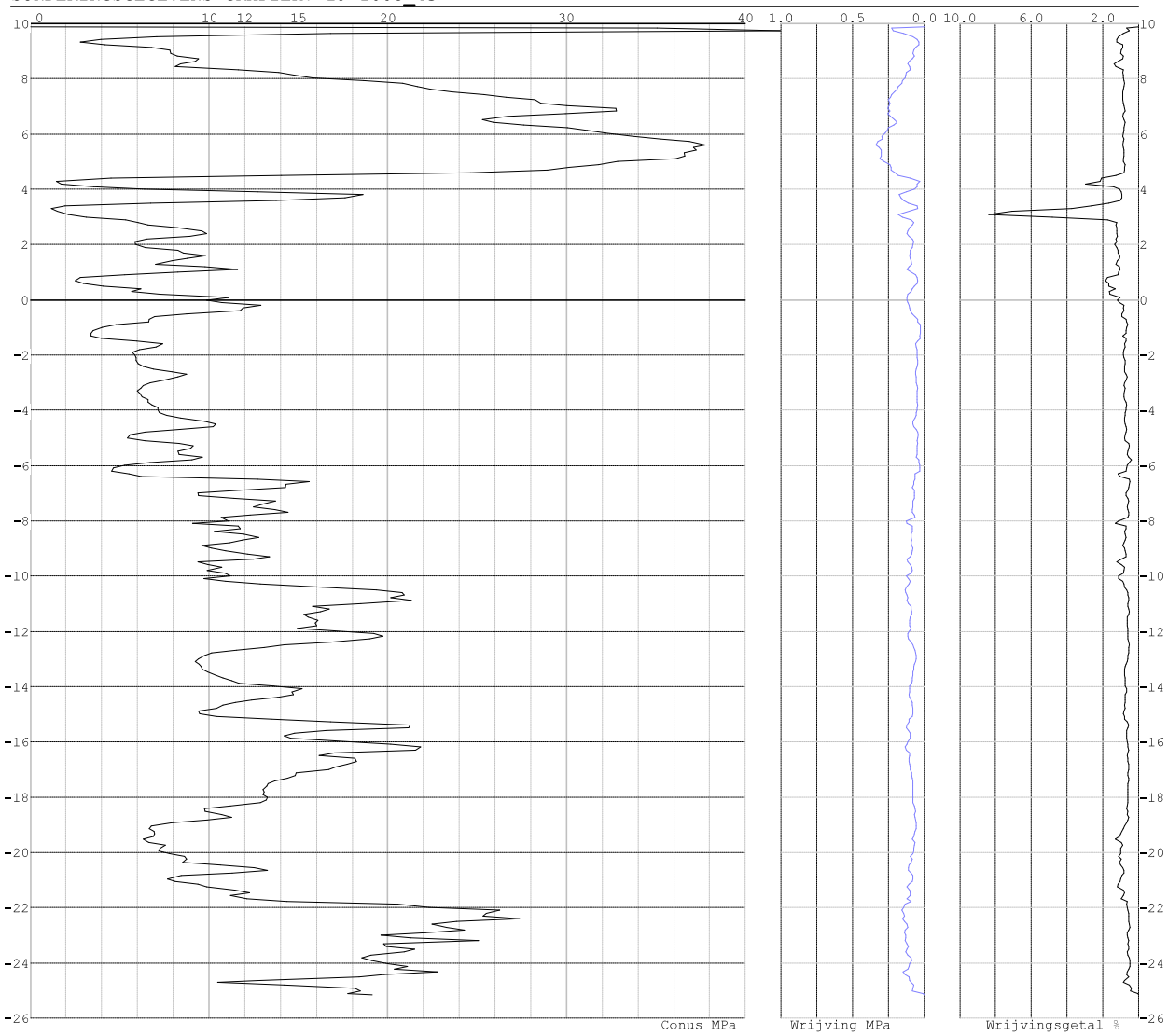


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 19-1008_43

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 9.88 Bodemprofiel: 19-1008_43
Traject negatieve kleef : 9.88 tot 9.40 [m]
Traject positieve kleef : 9.20 tot -25.16 [m]

## SONDERINGSGEGEVENS GRAFIEK: 19-1008_43

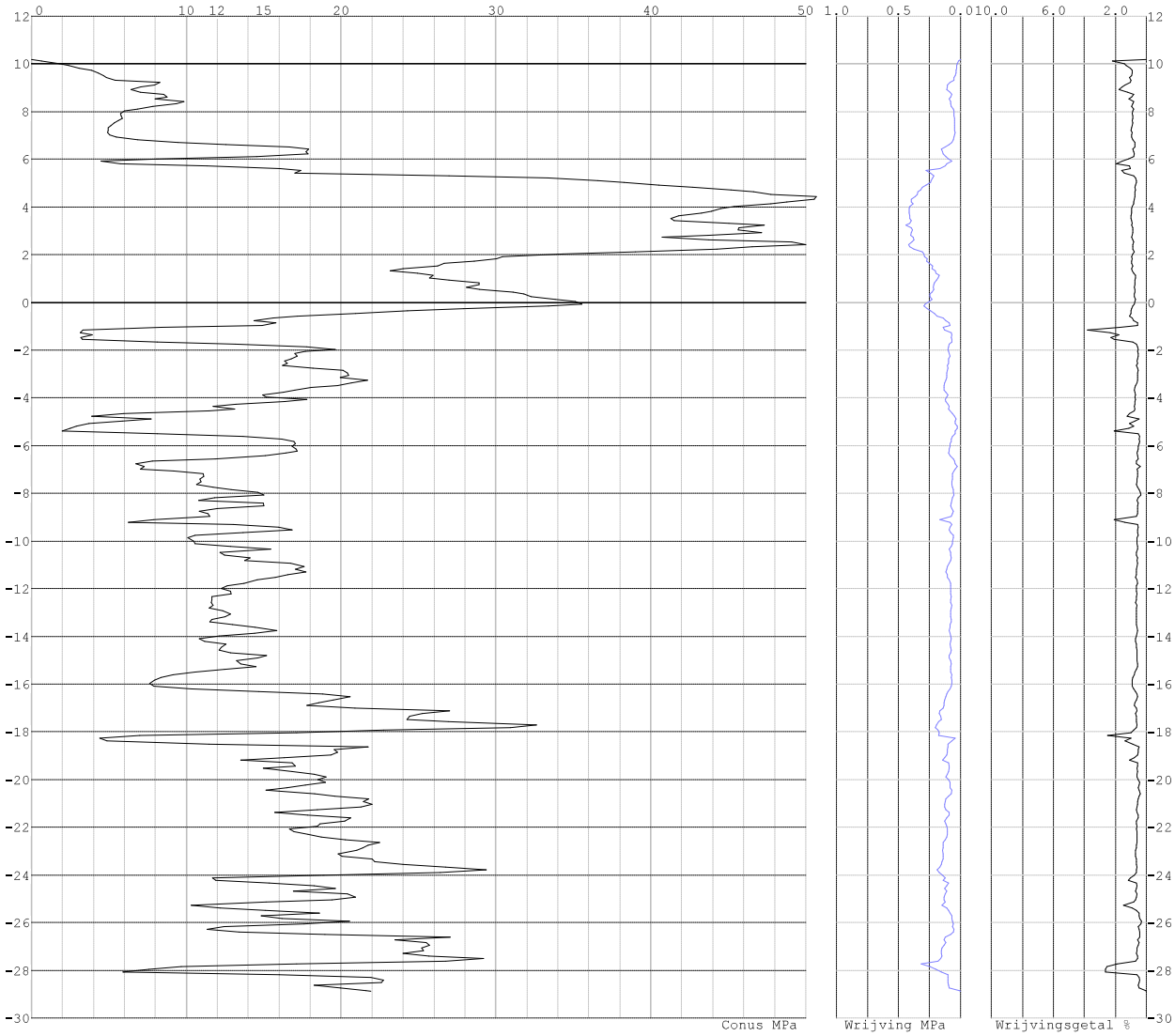


Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SONDERINGSGEGEVENS ALGEMEEN: 328.S02

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.
Hoogte maaiveld [m] : 10.17 Bodemprofiel: 328.S02
Traject negatieve kleef : 10.17 tot 9.90 [m]
Traject positieve kleef : 9.80 tot -28.89 [m]

## SONDERINGSGEGEVENS GRAFIEK: 328.S02




## REKENGEGEVENS SI Ø508/670 druk

Berekening : Ontwerpend
Rekenmethode : Drukpalen volgens NEN-EN 1997-1, art. 7.6.2
Sondering(en) : 19-1008_1, 19-1008_6, 166.S01, 19-1008_11, 19-1008_12
: 19-1008_17, 19-1008_20, 19-1008_21, 251.S01, 19-1008_29
: 283.S02, 19-1008_35, 312.S03, 19-1008_43, 328.S02

Stijf bouwwerk : JA
Paalgroep : NEE
Aantal sonderingen : 15
Factor $\xi_{3\ (n=1)}$ : 1.26 (handmatig)
Factor $\xi_{3\ (gem)}$ : 1.26 (handmatig)
Factor $\xi_{4\ (min)}$ : 1.26 (handmatig)
Weerstandsfactor $\gamma_R$ : 1.20
$\gamma_{f;nk}$ : 1.0
$R_{s;cal;max;i}$ begrenzen op 0.75 * $R_{b;cal;max;i}$ : NEE
UGT draagvermogen zonder negatieve kleef : NEE

Paal : SI Ø508/670
Niveau paalkop [m] : N.A.P. 0.00
Bovenbel. [kN/m²] : 0.00

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## PAALPUNTNIVEAUS SI Ø508/670

Alle niveaus/hoogtes/peilmaten zijn t.o.v. : N.A.P.

| Nr | Beginniveau [m] | Eindniveau [m] | Stapgrootte [m] |
|---|---|---|---|
| 1 | -6.00 | -30.00 | 0.50 |

## RESULTATEN SI Ø508/670 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_1 | 19-1008_6 | 166.S01 | 19-1008_11 | 19-1008_12 | 19-1008_17 |
|---|---|---|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -6.00 | -66 | **2443** | 1585 | -45 | 1939 | -33 |
| -6.50 | -65 | **2584** | 1788 | -38 | 1566 | 15 |
| -7.00 | -60 | **2661** | 1900 | 49 | 1519 | -38 |
| -7.50 | -15 | **3053** | 2020 | 165 | 1475 | -78 |
| -8.00 | -1 | **3305** | 2157 | 203 | 1425 | -66 |
| -8.50 | -6 | **3540** | 2290 | 237 | 1416 | -36 |
| -9.00 | 106 | **3663** | 2407 | 273 | 1393 | -32 |
| -9.50 | 144 | **3736** | 2695 | 311 | 1413 | 264 |
| -10.00 | 180 | **4204** | 2477 | 311 | 1428 | 118 |
| -10.50 | 231 | **4287** | 2467 | 340 | 1446 | 390 |
| -11.00 | 347 | **4370** | 2395 | 377 | 1435 | 1117 |
| -11.50 | 407 | **4442** | 2396 | 396 | 1480 | 1296 |
| -12.00 | 451 | **4513** | 2404 | 368 | 1494 | 1450 |
| -12.50 | 791 | **4546** | 2455 | 811 | 1502 | 1344 |
| -13.00 | 883 | **4578** | 2579 | 1129 | 1524 | 1419 |
| -13.50 | 973 | **4784** | 2918 | 1137 | 1588 | 1504 |
| -14.00 | 1177 | **4866** | 3040 | 1236 | 1626 | 1598 |
| -14.50 | 1357 | **4949** | 3162 | 1326 | 1656 | 1790 |
| -15.00 | 1468 | **5032** | 3275 | 1409 | 1683 | 2007 |
| -15.50 | 1455 | **4849** | 3585 | 1498 | 1738 | 2128 |
| -16.00 | 1646 | **4089** | 3741 | 1680 | 1796 | 1618 |
| -16.50 | 1770 | **4153** | 3873 | 1770 | 1839 | 1571 |
| -17.00 | 2000 | **4162** | 3968 | 1855 | 1889 | 1668 |
| -17.50 | 2894 | **4172** | 4032 | 2144 | 1929 | 1641 |
| -18.00 | 2559 | **4309** | 4147 | 2550 | 2156 | 1636 |
| -18.50 | 2620 | **5082** | 4240 | 2688 | 2242 | 1900 |
| -19.00 | 2304 | **5091** | 4303 | 2793 | 2526 | 2077 |
| -19.50 | 2307 | **5204** | 4346 | 2866 | 2674 | 2094 |
| -20.00 | 2307 | **5325** | 4532 | 3124 | 2924 | 2194 |
| -20.50 | 2423 | **5435** | 0 | 3046 | 2925 | 2338 |
| -21.00 | 2446 | **5580** | 0 | 2697 | 3237 | 2315 |
| -21.50 | 3334 | **6064** | 0 | 2719 | 3376 | 2541 |
| -22.00 | 4321 | 0 | 0 | 2649 | 3519 | 2812 |
| -22.50 | 4404 | 0 | 0 | 2662 | 3613 | 2748 |
| -23.00 | 4487 | 0 | 0 | 2654 | 3849 | 2753 |
| -23.50 | 4569 | 0 | 0 | 2860 | 3771 | 2782 |
| -24.00 | 4652 | 0 | 0 | 2949 | 3481 | 2823 |
| -24.50 | 4735 | 0 | 0 | 2999 | 3441 | 2880 |
| -25.00 | 4818 | 0 | 0 | 3044 | 3423 | 2947 |
| -25.50 | 4900 | 0 | 0 | 3780 | 3368 | 3013 |
| -26.00 | **4983** | 0 | 0 | 3730 | 3440 | 3092 |
| -26.50 | **5066** | 0 | 0 | 3808 | 3505 | 3242 |
| -27.00 | **5148** | 0 | 0 | 3913 | 3561 | 2651 |
| -27.50 | **5231** | 0 | 0 | 4046 | 3605 | 2677 |
| -28.00 | **5314** | 0 | 0 | 4266 | 3995 | 2721 |
| -28.50 | **5397** | 0 | 0 | 4500 | 4432 | 2725 |
| -29.00 | **5479** | 0 | 0 | 4666 | 4554 | 2669 |
| -29.50 | **5562** | 0 | 0 | 5278 | 0 | 3022 |
| -30.00 | **5645** | 0 | 0 | 5456 | 0 | 3484 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø508/670 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_20 | 19-1008_21 | 251.S01 | 19-1008_29 | 283.S02 | 19-1008_35 |
|---|---|---|---|---|---|---|
| Niveau | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ |
| [m] | [kN] | [kN] | [kN] | [kN] | [kN] | [kN] |
| -6.00 | 364 | 750 | 710 | 1377 | 1117 | 1028 |
| -6.50 | 529 | 675 | 605 | 1625 | 1194 | 1051 |
| -7.00 | 557 | 693 | 638 | 1646 | 1229 | 1081 |
| -7.50 | 618 | 753 | 635 | 1708 | 1301 | 1164 |
| -8.00 | 507 | 807 | 640 | 1787 | 1383 | 1198 |
| -8.50 | 527 | 821 | 622 | 1859 | 1434 | 1223 |
| -9.00 | 557 | 846 | 894 | 1819 | 1474 | 1262 |
| -9.50 | 575 | 971 | 1041 | 1346 | 1327 | 1328 |
| -10.00 | 551 | 1005 | 1105 | 1391 | 1371 | 1367 |
| -10.50 | 682 | 1054 | 1160 | 1427 | 1408 | 1453 |
| -11.00 | 679 | 1088 | 1196 | 1443 | 1445 | 1490 |
| -11.50 | 664 | 1132 | 1261 | 1407 | 1443 | 1517 |
| -12.00 | 692 | 1162 | 1475 | 1584 | 1712 | 1545 |
| -12.50 | 723 | 1210 | 1573 | 1594 | 1864 | 1660 |
| -13.00 | 737 | 1247 | 1437 | 1583 | 2020 | 1810 |
| -13.50 | 808 | 1300 | 1507 | 1615 | 2183 | 1910 |
| -14.00 | 844 | 1332 | 1553 | 1645 | 2286 | 2119 |
| -14.50 | 856 | 1320 | 1560 | 1671 | 2348 | 2193 |
| -15.00 | 892 | 1311 | 1517 | 1701 | 2391 | 2198 |
| -15.50 | 918 | 1351 | 2163 | 1774 | 2598 | 2273 |
| -16.00 | 946 | 1371 | 2409 | 1790 | 2766 | 2336 |
| -16.50 | 965 | 1349 | 2189 | 1818 | 2952 | 2355 |
| -17.00 | 1000 | 1375 | 2244 | 1866 | 3253 | 2401 |
| -17.50 | 1137 | 1419 | 2329 | 2304 | 3370 | 2584 |
| -18.00 | 1190 | 1509 | 2354 | 2636 | 3371 | 2631 |
| -18.50 | 1221 | 1536 | 2342 | 2661 | 3481 | 2786 |
| -19.00 | 1325 | 1571 | 2244 | 2465 | 3591 | 2857 |
| -19.50 | 1448 | 1586 | 2198 | 3374 | 3683 | 2957 |
| -20.00 | 1449 | 1600 | 2201 | 3774 | 3669 | 3236 |
| -20.50 | 1412 | 1617 | 2207 | 3274 | 3896 | 3338 |
| -21.00 | 1436 | 1640 | 2257 | 3151 | 4172 | 3448 |
| -21.50 | 1465 | 1666 | 2281 | 2989 | 4281 | 3586 |
| -22.00 | 1492 | 1692 | 2296 | 2955 | 4369 | 3911 |
| -22.50 | 1512 | 1715 | 2337 | 2878 | 4461 | 3851 |
| -23.00 | 1799 | 1738 | 2406 | 2914 | 4579 | 3942 |
| -23.50 | 1931 | 1773 | 2510 | 3015 | **4891** | 3708 |
| -24.00 | 2058 | 1804 | 2565 | 3043 | 4651 | 3765 |
| -24.50 | 2173 | 1827 | 2618 | 3079 | 3674 | 3833 |
| -25.00 | 2259 | 1855 | 2812 | 3112 | 3599 | 3883 |
| -25.50 | 2346 | 1880 | 3156 | 3165 | 3510 | 3806 |
| -26.00 | 2427 | 1906 | 3626 | 3209 | 3508 | 4054 |
| -26.50 | 2542 | 1931 | 4307 | 3245 | 3476 | 4395 |
| -27.00 | 2457 | 1954 | 3881 | 3285 | 3518 | 4545 |
| -27.50 | 2532 | 1992 | 4001 | 3337 | 3563 | 4665 |
| -28.00 | 2557 | 2020 | 4029 | 3367 | 3555 | 4759 |
| -28.50 | 2608 | 2047 | 3673 | 3408 | 3579 | 5016 |
| -29.00 | 2654 | 2082 | 3587 | 3594 | 3606 | 5187 |
| -29.50 | 2708 | 2116 | 3600 | 3765 | 3631 | 4378 |
| -30.00 | 2772 | 2145 | 3509 | 3720 | 0 | 4290 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø508/670 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 312.S03 | 19-1008_43 | 328.S02 |
|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -6.00 | 930 | 1031 | 1529 |
| -6.50 | 950 | 1390 | 1490 |
| -7.00 | 944 | 1469 | 1631 |
| -7.50 | 1115 | 1550 | 1725 |
| -8.00 | 1848 | 1639 | 1811 |
| -8.50 | 1860 | 1725 | 1874 |
| -9.00 | 2008 | 1815 | 2013 |
| -9.50 | 2085 | 1893 | 2204 |
| -10.00 | 2242 | 2095 | 2383 |
| -10.50 | 2476 | 2265 | 2505 |
| -11.00 | 2399 | 2284 | 2598 |
| -11.50 | 2523 | 2347 | 2678 |
| -12.00 | 2646 | 2412 | 2749 |
| -12.50 | 2641 | 2428 | 2846 |
| -13.00 | 2681 | 2467 | 2949 |
| -13.50 | 2865 | 2598 | 2801 |
| -14.00 | 2942 | 2666 | 2829 |
| -14.50 | 2968 | 2679 | 2891 |
| -15.00 | 2963 | 3013 | 2933 |
| -15.50 | 3015 | 3103 | 2938 |
| -16.00 | 3055 | 3081 | 3050 |
| -16.50 | 3061 | 3060 | 3173 |
| -17.00 | 3081 | 2856 | 3284 |
| -17.50 | 3160 | 2862 | 3329 |
| -18.00 | 2828 | 2914 | 3059 |
| -18.50 | 2893 | 2947 | 3647 |
| -19.00 | 2957 | 2973 | 3746 |
| -19.50 | 2927 | 3048 | 3951 |
| -20.00 | 2894 | 3193 | 4099 |
| -20.50 | 3273 | 3303 | 4323 |
| -21.00 | 3474 | 3428 | 4469 |
| -21.50 | 3607 | 3766 | 4627 |
| -22.00 | 3812 | 4253 | **4565** |
| -22.50 | 3943 | 4039 | **4705** |
| -23.00 | 4047 | 0 | **4650** |
| -23.50 | 4144 | 0 | 4739 |
| -24.00 | 4364 | 0 | **4751** |
| -24.50 | 4465 | 0 | **4834** |
| -25.00 | 3953 | 0 | **4823** |
| -25.50 | 3940 | 0 | **4959** |
| -26.00 | 3894 | 0 | 4735 |
| -26.50 | 3889 | 0 | 4856 |
| -27.00 | 3845 | 0 | 0 |
| -27.50 | 3874 | 0 | 0 |
| -28.00 | 3902 | 0 | 0 |
| -28.50 | 3927 | 0 | 0 |
| -29.00 | 3957 | 0 | 0 |
| -29.50 | 4027 | 0 | 0 |
| -30.00 | 0 | 0 | 0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SAMENVATTINGSTABEL SI Ø508/670 druk (n=1)

**Uitgangspunten**
- paal : SI Ø508/670
- paaltype : In de grond gevormde geschroefde paal; groutinjectie
- schachtafmeting : 590 mm

Paalklassefactor $\alpha_p$ : 0.63
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Correlatiefactor $\xi_{3(n=1)}$ : 1.26

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{b;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -6.00 | 74.1 | 0.0 | 74.1 | 49.0 | -115.4 | -66.3 |
| | | -6.50 | 75.9 | 0.0 | 75.9 | 50.2 | -115.4 | -65.2 |
| | | -7.00 | 83.0 | 0.0 | 83.0 | 54.9 | -115.4 | -60.4 |
| | | -7.50 | 148.9 | 2.4 | 151.2 | 100.0 | -115.4 | -15.3 |
| | | -8.00 | 142.3 | 30.1 | 172.3 | 114.0 | -115.4 | -1.4 |
| | | -8.50 | 103.4 | 61.3 | 164.7 | 108.9 | -115.4 | -6.4 |
| | | -9.00 | 263.4 | 70.8 | 334.1 | 221.0 | -115.4 | 105.6 |
| | | -9.50 | 270.2 | 122.6 | 392.8 | 259.8 | -115.4 | 144.4 |
| | | -10.00 | 277.8 | 168.6 | 446.4 | 295.3 | -115.4 | 179.9 |
| | | -10.50 | 301.0 | 222.6 | 523.6 | 346.3 | -115.4 | 230.9 |
| | | -11.00 | 440.3 | 259.3 | 699.5 | 462.7 | -115.4 | 347.3 |
| | | -11.50 | 467.1 | 322.9 | 790.0 | 522.5 | -115.4 | 407.1 |
| | | -12.00 | 451.3 | 404.9 | 856.2 | 566.3 | -115.4 | 450.9 |
| | | -12.50 | 911.7 | 459.3 | 1371.0 | 906.7 | -115.4 | 791.4 |
| | | -13.00 | 962.1 | 547.0 | 1509.0 | 998.0 | -115.4 | 882.7 |
| | | -13.50 | 1010.3 | 634.6 | 1644.9 | 1087.9 | -115.4 | 972.5 |
| | | -14.00 | 1243.4 | 710.1 | 1953.4 | 1291.9 | -115.4 | 1176.6 |
| | | -14.50 | 1417.3 | 809.6 | 2226.8 | 1472.8 | -115.4 | 1357.4 |
| | | -15.00 | 1494.3 | 900.2 | 2394.5 | 1583.6 | -115.4 | 1468.3 |
| | | -15.50 | 1374.5 | 999.5 | 2374.0 | 1570.1 | -115.4 | 1454.8 |
| | | -16.00 | 1578.4 | 1084.5 | 2663.0 | 1761.2 | -115.4 | 1645.9 |
| | | -16.50 | 1672.8 | 1178.2 | 2851.0 | 1885.6 | -115.4 | 1770.2 |
| | | -17.00 | 1925.2 | 1273.5 | 3198.7 | 2115.5 | -115.4 | 2000.2 |
| | | -17.50 | 3165.4 | 1384.9 | 4550.4 | 3009.5 | -115.4 | 2894.1 |
| | | -18.00 | 2533.5 | 1510.0 | 4043.5 | 2674.3 | -115.4 | 2558.9 |
| | | -18.50 | 2500.1 | 1635.1 | 4135.2 | 2734.9 | -115.4 | 2619.6 |
| | | -19.00 | 1897.8 | 1760.3 | 3658.1 | 2419.4 | -115.4 | 2304.0 |
| | | -19.50 | 1777.5 | 1885.4 | 3662.9 | 2422.5 | -115.4 | 2307.2 |
| | | -20.00 | 1622.6 | 2039.8 | 3662.4 | 2422.2 | -115.4 | 2306.9 |
| | | -20.50 | 1637.4 | 2200.1 | 3837.5 | 2538.0 | -115.4 | 2422.6 |
| | | -21.00 | 1506.1 | 2366.9 | 3873.0 | 2561.5 | -115.4 | 2446.1 |
| | | -21.50 | 2734.1 | 2481.7 | 5215.9 | 3449.6 | -115.4 | 3334.3 |
| | | -22.00 | 4101.0 | 2606.9 | 6707.8 | 4436.4 | -115.4 | 4321.0 |
| | | -22.50 | 4101.0 | 2732.0 | 6832.9 | 4519.1 | -115.4 | 4403.8 |
| | | -23.00 | 4101.0 | 2857.1 | 6958.0 | 4601.9 | -115.4 | 4486.5 |
| | | -23.50 | 4101.0 | 2982.2 | 7083.2 | 4684.6 | -115.4 | 4569.3 |
| | | -24.00 | 4101.0 | 3107.3 | 7208.3 | 4767.4 | -115.4 | 4652.0 |
| | | -24.50 | 4101.0 | 3232.4 | 7333.4 | 4850.1 | -115.4 | 4734.8 |
| | | -25.00 | 4101.0 | 3357.5 | 7458.5 | 4932.9 | -115.4 | 4817.5 |
| | | -25.50 | 4101.0 | 3482.7 | 7583.6 | 5015.6 | -115.4 | 4900.3 |
| | | -26.00 | 4101.0 | 3607.8 | 7708.7 | 5098.4 | -115.4 | 4983.0 |
| | | -26.50 | 4101.0 | 3732.9 | 7833.8 | 5181.1 | -115.4 | 5065.7 |
| | | -27.00 | 4101.0 | 3858.0 | 7959.0 | 5263.9 | -115.4 | 5148.5 |
| | | -27.50 | 4101.0 | 3983.1 | 8084.1 | 5346.6 | -115.4 | 5231.2 |
| | | -28.00 | 4101.0 | 4108.2 | 8209.2 | 5429.4 | -115.4 | 5314.0 |
| | | -28.50 | 4101.0 | 4233.3 | 8334.3 | 5512.1 | -115.4 | 5396.7 |
| | | -29.00 | 4101.0 | 4358.5 | 8459.4 | 5594.8 | -115.4 | 5479.5 |
| | | -29.50 | 4101.0 | 4483.6 | 8584.5 | 5677.6 | -115.4 | 5562.2 |
| | | -30.00 | 4101.0 | 4608.7 | 8709.6 | 5760.3 | -115.4 | 5645.0 |
| 19-1008_6 | 11.00 | -6.00 | 2439.0 | 1255.0 | 3694.0 | 2443.1 | 0.0 | 2443.1 |
| | | -6.50 | 2526.9 | 1380.1 | 3907.0 | 2584.0 | 0.0 | 2584.0 |
| | | -7.00 | 2518.9 | 1505.2 | 4024.1 | 2661.5 | 0.0 | 2661.5 |
| | | -7.50 | 2986.5 | 1630.3 | 4616.8 | 3053.4 | 0.0 | 3053.4 |
| | | -8.00 | 3241.8 | 1755.4 | 4997.3 | 3305.1 | 0.0 | 3305.1 |
| | | -8.50 | 3472.2 | 1880.6 | 5352.8 | 3540.2 | 0.0 | 3540.2 |
| | | -9.00 | 3533.5 | 2005.7 | 5539.2 | 3663.5 | 0.0 | 3663.5 |
| | | -9.50 | 3518.5 | 2130.8 | 5649.3 | 3736.3 | 0.0 | 3736.3 |
| | | -10.00 | 4101.0 | 2255.9 | 6356.9 | 4204.3 | 0.0 | 4204.3 |
| | | -10.50 | 4101.0 | 2381.0 | 6482.0 | 4287.0 | 0.0 | 4287.0 |
| | | -11.00 | 4101.0 | 2506.1 | 6607.1 | 4369.8 | 0.0 | 4369.8 |
| | | -11.50 | 4085.8 | 2631.2 | 6717.0 | 4442.5 | 0.0 | 4442.5 |
| | | -12.00 | 4067.7 | 2756.4 | 6824.0 | 4513.2 | 0.0 | 4513.2 |
| | | -12.50 | 3992.6 | 2881.5 | 6874.1 | 4546.4 | 0.0 | 4546.4 |
| | | -13.00 | 3914.8 | 3006.6 | 6921.4 | 4577.6 | 0.0 | 4577.6 |
| | | -13.50 | 4101.0 | 3131.7 | 7232.7 | 4783.5 | 0.0 | 4783.5 |
| | | -14.00 | 4101.0 | 3256.8 | 7357.8 | 4866.2 | 0.0 | 4866.2 |
| | | -14.50 | 4101.0 | 3381.9 | 7482.9 | 4949.0 | 0.0 | 4949.0 |
| | | -15.00 | 4101.0 | 3507.0 | 7608.0 | 5031.7 | 0.0 | 5031.7 |
| | | -15.50 | 3699.8 | 3632.2 | 7331.9 | 4849.2 | 0.0 | 4849.2 |
| | | -16.00 | 2425.7 | 3757.3 | 6183.0 | 4089.3 | 0.0 | 4089.3 |
| | | -16.50 | 2397.0 | 3882.4 | 6279.4 | 4153.0 | 0.0 | 4153.0 |
| | | -17.00 | 2285.4 | 4007.5 | 6292.9 | 4162.0 | 0.0 | 4162.0 |
| | | -17.50 | 2174.9 | 4132.6 | 6307.5 | 4171.6 | 0.0 | 4171.6 |
| | | -18.00 | 2256.8 | 4257.7 | 6514.5 | 4308.5 | 0.0 | 4308.5 |
| | | -18.50 | 3308.9 | 4374.5 | 7683.3 | 5081.6 | 0.0 | 5081.6 |
| | | -19.00 | 3198.2 | 4499.6 | 7697.8 | 5091.2 | 0.0 | 5091.2 |
| | | -19.50 | 3243.5 | 4624.7 | 7868.2 | 5203.8 | 0.0 | 5203.8 |
| | | -20.00 | 3301.1 | 4749.8 | 8050.9 | 5324.7 | 0.0 | 5324.7 |
| | | -20.50 | 3342.6 | 4874.9 | 8217.5 | 5434.9 | 0.0 | 5434.9 |
| | | -21.00 | 3436.2 | 5000.0 | 8436.3 | 5579.5 | 0.0 | 5579.5 |
| | | -21.50 | 4044.3 | 5125.1 | 9169.5 | 6064.5 | 0.0 | 6064.5 |
| 166.S01 | 3.45 | -6.00 | 1838.5 | 571.4 | 2410.0 | 1593.9 | -8.9 | 1585.0 |
| | | -6.50 | 2019.9 | 696.6 | 2716.4 | 1796.6 | -8.9 | 1787.7 |
| | | -7.00 | 2063.9 | 821.7 | 2885.6 | 1908.5 | -8.9 | 1899.6 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 166.S01 | 3.45 | -7.50 | 2120.6 | 946.8 | 3067.4 | 2028.7 | -8.9 | 2019.8 |
| | | -8.00 | 2202.7 | 1071.9 | 3274.6 | 2165.7 | -8.9 | 2156.9 |
| | | -8.50 | 2280.3 | 1196.1 | 3476.4 | 2299.2 | -8.9 | 2290.3 |
| | | -9.00 | 2333.3 | 1320.1 | 3653.3 | 2416.2 | -8.9 | 2407.4 |
| | | -9.50 | 2646.1 | 1442.3 | 4088.4 | 2704.0 | -8.9 | 2695.1 |
| | | -10.00 | 2191.9 | 1567.4 | 3759.4 | 2486.3 | -8.9 | 2477.5 |
| | | -10.50 | 2050.8 | 1692.5 | 3743.3 | 2475.8 | -8.9 | 2466.9 |
| | | -11.00 | 1817.1 | 1817.6 | 3634.8 | 2403.9 | -8.9 | 2395.1 |
| | | -11.50 | 1694.2 | 1942.8 | 3636.9 | 2405.4 | -8.9 | 2396.5 |
| | | -12.00 | 1591.2 | 2057.7 | 3648.9 | 2413.3 | -8.9 | 2404.4 |
| | | -12.50 | 1571.1 | 2154.9 | 3726.0 | 2464.3 | -8.9 | 2455.4 |
| | | -13.00 | 1666.9 | 2245.8 | 3912.7 | 2587.7 | -8.9 | 2578.9 |
| | | -13.50 | 2087.6 | 2338.1 | 4425.7 | 2927.0 | -8.9 | 2918.2 |
| | | -14.00 | 2163.8 | 2445.5 | 4609.3 | 3048.5 | -8.9 | 3039.6 |
| | | -14.50 | 2224.6 | 2569.3 | 4794.0 | 3170.6 | -8.9 | 3161.7 |
| | | -15.00 | 2271.1 | 2694.4 | 4965.5 | 3284.1 | -8.9 | 3275.2 |
| | | -15.50 | 2614.1 | 2819.5 | 5433.6 | 3593.7 | -8.9 | 3584.8 |
| | | -16.00 | 2725.3 | 2944.7 | 5670.0 | 3750.0 | -8.9 | 3741.1 |
| | | -16.50 | 2800.2 | 3069.8 | 5870.0 | 3882.3 | -8.9 | 3873.4 |
| | | -17.00 | 2818.7 | 3194.9 | 6013.6 | 3977.2 | -8.9 | 3968.4 |
| | | -17.50 | 2789.5 | 3320.0 | 6109.5 | 4040.7 | -8.9 | 4031.8 |
| | | -18.00 | 2838.7 | 3445.1 | 6283.9 | 4156.0 | -8.9 | 4147.1 |
| | | -18.50 | 2854.2 | 3570.2 | 6424.4 | 4249.0 | -8.9 | 4240.1 |
| | | -19.00 | 2824.6 | 3695.3 | 6519.9 | 4312.1 | -8.9 | 4303.2 |
| | | -19.50 | 2764.1 | 3820.5 | 6584.6 | 4354.9 | -8.9 | 4346.0 |
| | | -20.00 | 2920.5 | 3945.6 | 6866.1 | 4541.1 | -8.9 | 4532.2 |
| 19-1008_11 | 0.62 | -6.00 | 136.3 | 0.0 | 136.3 | 90.2 | -135.0 | -44.9 |
| | | -6.50 | 146.6 | 0.0 | 146.6 | 97.0 | -135.0 | -38.1 |
| | | -7.00 | 273.2 | 5.5 | 278.7 | 184.3 | -135.0 | 49.3 |
| | | -7.50 | 413.9 | 39.6 | 453.5 | 300.0 | -135.0 | 164.9 |
| | | -8.00 | 421.6 | 89.8 | 511.4 | 338.2 | -135.0 | 203.2 |
| | | -8.50 | 426.6 | 135.6 | 562.2 | 371.8 | -135.0 | 236.8 |
| | | -9.00 | 445.6 | 171.0 | 616.7 | 407.8 | -135.0 | 272.8 |
| | | -9.50 | 469.4 | 204.8 | 674.2 | 445.9 | -135.0 | 310.8 |
| | | -10.00 | 434.6 | 239.8 | 674.4 | 446.0 | -135.0 | 311.0 |
| | | -10.50 | 436.3 | 281.8 | 718.1 | 475.0 | -135.0 | 339.9 |
| | | -11.00 | 442.9 | 330.8 | 773.7 | 511.7 | -135.0 | 376.7 |
| | | -11.50 | 413.4 | 389.8 | 803.1 | 531.2 | -135.0 | 396.1 |
| | | -12.00 | 296.8 | 464.1 | 760.9 | 503.2 | -135.0 | 368.2 |
| | | -12.50 | 937.8 | 491.9 | 1429.7 | 945.6 | -135.0 | 810.5 |
| | | -13.00 | 1332.2 | 579.6 | 1911.8 | 1264.4 | -135.0 | 1129.4 |
| | | -13.50 | 1240.8 | 683.1 | 1923.9 | 1272.4 | -135.0 | 1137.4 |
| | | -14.00 | 1284.1 | 788.6 | 2072.7 | 1370.8 | -135.0 | 1235.8 |
| | | -14.50 | 1314.6 | 895.2 | 2209.8 | 1461.5 | -135.0 | 1326.5 |
| | | -15.00 | 1333.3 | 1001.8 | 2335.1 | 1544.4 | -135.0 | 1409.4 |
| | | -15.50 | 1367.1 | 1101.6 | 2468.7 | 1632.8 | -135.0 | 1497.7 |
| | | -16.00 | 1559.2 | 1185.9 | 2745.0 | 1815.5 | -135.0 | 1680.5 |
| | | -16.50 | 1596.3 | 1284.4 | 2880.7 | 1905.2 | -135.0 | 1770.2 |
| | | -17.00 | 1629.7 | 1379.2 | 3008.9 | 1990.0 | -135.0 | 1855.0 |
| | | -17.50 | 1977.8 | 1468.7 | 3446.5 | 2279.4 | -135.0 | 2144.4 |
| | | -18.00 | 2477.9 | 1581.5 | 4059.4 | 2684.8 | -135.0 | 2549.8 |
| | | -18.50 | 2562.5 | 1706.6 | 4269.1 | 2823.5 | -135.0 | 2688.4 |
| | | -19.00 | 2596.0 | 1831.7 | 4427.7 | 2928.4 | -135.0 | 2793.3 |
| | | -19.50 | 2580.8 | 1956.8 | 4537.6 | 3001.1 | -135.0 | 2866.0 |
| | | -20.00 | 2846.1 | 2081.9 | 4928.0 | 3259.3 | -135.0 | 3124.2 |
| | | -20.50 | 2603.4 | 2207.0 | 4810.4 | 3181.5 | -135.0 | 3046.5 |
| | | -21.00 | 1949.5 | 2332.2 | 4281.6 | 2831.8 | -135.0 | 2696.7 |
| | | -21.50 | 1865.2 | 2450.1 | 4315.3 | 2854.0 | -135.0 | 2719.0 |
| | | -22.00 | 1633.6 | 2575.2 | 4208.8 | 2783.6 | -135.0 | 2648.6 |
| | | -22.50 | 1528.9 | 2700.3 | 4229.2 | 2797.1 | -135.0 | 2662.0 |
| | | -23.00 | 1403.5 | 2813.7 | 4217.2 | 2789.1 | -135.0 | 2654.1 |
| | | -23.50 | 1638.9 | 2889.1 | 4528.0 | 2994.7 | -135.0 | 2859.7 |
| | | -24.00 | 1676.1 | 2986.2 | 4662.3 | 3083.6 | -135.0 | 2948.5 |
| | | -24.50 | 1642.1 | 3096.4 | 4738.5 | 3133.9 | -135.0 | 2998.9 |
| | | -25.00 | 1604.9 | 3201.2 | 4806.0 | 3178.6 | -135.0 | 3043.5 |
| | | -25.50 | 2630.1 | 3289.6 | 5919.7 | 3915.1 | -135.0 | 3780.1 |
| | | -26.00 | 2428.7 | 3414.7 | 5843.4 | 3864.7 | -135.0 | 3729.7 |
| | | -26.50 | 2422.6 | 3539.8 | 5962.4 | 3943.4 | -135.0 | 3808.4 |
| | | -27.00 | 2456.2 | 3664.9 | 6121.1 | 4048.4 | -135.0 | 3913.3 |
| | | -27.50 | 2531.2 | 3790.0 | 6321.3 | 4180.7 | -135.0 | 4045.7 |
| | | -28.00 | 2738.8 | 3915.2 | 6654.0 | 4400.8 | -135.0 | 4265.7 |
| | | -28.50 | 2967.6 | 4040.2 | 7007.8 | 4634.8 | -135.0 | 4499.8 |
| | | -29.00 | 3093.1 | 4165.3 | 7258.4 | 4800.6 | -135.0 | 4665.5 |
| | | -29.50 | 3894.2 | 4290.5 | 8184.6 | 5413.1 | -135.0 | 5278.1 |
| | | -30.00 | 4037.8 | 4415.6 | 8453.4 | 5590.9 | -135.0 | 5455.8 |
| 19-1008_12 | 3.57 | -6.00 | 1574.5 | 1357.6 | 2932.1 | 1939.2 | 0.0 | 1939.2 |
| | | -6.50 | 912.3 | 1456.0 | 2368.3 | 1566.3 | 0.0 | 1566.3 |
| | | -7.00 | 718.5 | 1578.0 | 2296.5 | 1518.8 | 0.0 | 1518.8 |
| | | -7.50 | 526.5 | 1703.1 | 2229.6 | 1474.6 | 0.0 | 1474.6 |
| | | -8.00 | 326.8 | 1827.0 | 2153.9 | 1424.5 | 0.0 | 1424.5 |
| | | -8.50 | 250.5 | 1890.8 | 2141.2 | 1416.2 | 0.0 | 1416.2 |
| | | -9.00 | 197.1 | 1909.4 | 2106.5 | 1393.2 | 0.0 | 1393.2 |
| | | -9.50 | 213.2 | 1923.0 | 2136.2 | 1412.8 | 0.0 | 1412.8 |
| | | -10.00 | 209.1 | 1950.1 | 2159.2 | 1428.1 | 0.0 | 1428.1 |
| | | -10.50 | 180.8 | 2005.2 | 2186.0 | 1445.8 | 0.0 | 1445.8 |
| | | -11.00 | 122.7 | 2047.7 | 2170.3 | 1435.4 | 0.0 | 1435.4 |
| | | -11.50 | 181.9 | 2056.0 | 2237.8 | 1480.0 | 0.0 | 1480.0 |
| | | -12.00 | 163.7 | 2095.7 | 2259.4 | 1494.3 | 0.0 | 1494.3 |
| | | -12.50 | 160.4 | 2110.1 | 2270.6 | 1501.7 | 0.0 | 1501.7 |
| | | -13.00 | 183.3 | 2121.4 | 2304.7 | 1524.2 | 0.0 | 1524.2 |
| | | -13.50 | 266.3 | 2135.4 | 2401.6 | 1588.4 | 0.0 | 1588.4 |
| | | -14.00 | 288.4 | 2169.8 | 2458.2 | 1625.8 | 0.0 | 1625.8 |
| | | -14.50 | 288.5 | 2214.7 | 2503.2 | 1655.5 | 0.0 | 1655.5 |
| | | -15.00 | 298.3 | 2246.2 | 2544.5 | 1682.9 | 0.0 | 1682.9 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_12 | 3.57 | -15.50 | 356.6 | 2271.0 | 2627.6 | 1737.8 | 0.0 | 1737.8 |
| | | -16.00 | 404.1 | 2311.7 | 2715.7 | 1796.1 | 0.0 | 1796.1 |
| | | -16.50 | 412.6 | 2367.3 | 2779.9 | 1838.6 | 0.0 | 1838.6 |
| | | -17.00 | 443.0 | 2413.4 | 2856.4 | 1889.2 | 0.0 | 1889.2 |
| | | -17.50 | 434.0 | 2482.3 | 2916.3 | 1928.8 | 0.0 | 1928.8 |
| | | -18.00 | 723.7 | 2535.5 | 3259.2 | 2155.6 | 0.0 | 2155.6 |
| | | -18.50 | 730.9 | 2658.7 | 3389.6 | 2241.8 | 0.0 | 2241.8 |
| | | -19.00 | 1048.0 | 2771.4 | 3819.3 | 2526.0 | 0.0 | 2526.0 |
| | | -19.50 | 1169.2 | 2874.4 | 4043.6 | 2674.4 | 0.0 | 2674.4 |
| | | -20.00 | 1457.3 | 2963.3 | 4420.5 | 2923.6 | 0.0 | 2923.6 |
| | | -20.50 | 1360.0 | 3063.3 | 4423.3 | 2925.5 | 0.0 | 2925.5 |
| | | -21.00 | 1736.6 | 3157.0 | 4893.7 | 3236.6 | 0.0 | 3236.6 |
| | | -21.50 | 1834.3 | 3270.7 | 5104.9 | 3376.3 | 0.0 | 3376.3 |
| | | -22.00 | 1926.9 | 3394.0 | 5320.9 | 3519.1 | 0.0 | 3519.1 |
| | | -22.50 | 1945.3 | 3517.2 | 5462.6 | 3612.8 | 0.0 | 3612.8 |
| | | -23.00 | 2189.4 | 3630.1 | 5819.5 | 3848.9 | 0.0 | 3848.9 |
| | | -23.50 | 1962.8 | 3738.8 | 5701.6 | 3770.9 | 0.0 | 3770.9 |
| | | -24.00 | 1409.7 | 3854.2 | 5263.9 | 3481.4 | 0.0 | 3481.4 |
| | | -24.50 | 1223.6 | 3979.3 | 5202.8 | 3441.0 | 0.0 | 3441.0 |
| | | -25.00 | 1071.3 | 4104.4 | 5175.7 | 3423.1 | 0.0 | 3423.1 |
| | | -25.50 | 822.7 | 4269.5 | 5092.2 | 3367.9 | 0.0 | 3367.9 |
| | | -26.00 | 765.4 | 4435.6 | 5200.9 | 3439.8 | 0.0 | 3439.8 |
| | | -26.50 | 767.9 | 4531.2 | 5299.1 | 3504.7 | 0.0 | 3504.7 |
| | | -27.00 | 763.3 | 4620.6 | 5383.8 | 3560.7 | 0.0 | 3560.7 |
| | | -27.50 | 727.5 | 4723.1 | 5450.6 | 3604.9 | 0.0 | 3604.9 |
| | | -28.00 | 1243.1 | 4797.1 | 6040.2 | 3994.8 | 0.0 | 3994.8 |
| | | -28.50 | 1808.9 | 4892.2 | 6701.1 | 4431.9 | 0.0 | 4431.9 |
| | | -29.00 | 1868.1 | 5017.3 | 6885.4 | 4553.8 | 0.0 | 4553.8 |
| 19-1008_17 | 0.20 | -6.00 | 143.4 | 0.0 | 143.4 | 94.8 | -127.5 | -32.6 |
| | | -6.50 | 241.3 | 0.0 | 241.3 | 159.6 | -144.6 | 15.0 |
| | | -7.00 | 194.5 | 0.0 | 194.5 | 128.6 | -166.5 | -37.9 |
| | | -7.50 | 167.9 | 0.0 | 167.9 | 111.0 | -188.6 | -77.5 |
| | | -8.00 | 185.8 | 0.0 | 185.8 | 122.9 | -188.6 | -65.7 |
| | | -8.50 | 230.2 | 0.0 | 230.2 | 152.3 | -188.6 | -36.3 |
| | | -9.00 | 236.1 | 0.0 | 236.1 | 156.2 | -188.6 | -32.4 |
| | | -9.50 | 684.9 | 0.0 | 684.9 | 453.0 | -188.6 | 264.4 |
| | | -10.00 | 463.1 | 0.0 | 463.1 | 306.3 | -188.6 | 117.7 |
| | | -10.50 | 856.2 | 19.2 | 875.4 | 579.0 | -188.6 | 390.4 |
| | | -11.00 | 1875.8 | 97.6 | 1973.5 | 1305.2 | -188.6 | 1116.6 |
| | | -11.50 | 2022.6 | 222.8 | 2245.3 | 1485.0 | -188.6 | 1296.4 |
| | | -12.00 | 2130.2 | 347.9 | 2478.1 | 1638.9 | -188.6 | 1450.4 |
| | | -12.50 | 1845.0 | 473.0 | 2317.9 | 1533.0 | -188.6 | 1344.5 |
| | | -13.00 | 1832.0 | 598.1 | 2430.1 | 1607.2 | -188.6 | 1418.6 |
| | | -13.50 | 1836.1 | 723.2 | 2559.3 | 1692.7 | -188.6 | 1504.1 |
| | | -14.00 | 1853.6 | 848.3 | 2701.9 | 1787.0 | -188.6 | 1598.4 |
| | | -14.50 | 2019.0 | 973.4 | 2992.3 | 1979.1 | -188.6 | 1790.5 |
| | | -15.00 | 2230.5 | 1089.0 | 3319.5 | 2195.4 | -188.6 | 2006.8 |
| | | -15.50 | 2288.0 | 1214.1 | 3502.1 | 2316.2 | -188.6 | 2127.6 |
| | | -16.00 | 1392.2 | 1339.2 | 2731.4 | 1806.5 | -188.6 | 1617.9 |
| | | -16.50 | 1196.2 | 1464.3 | 2660.5 | 1759.6 | -188.6 | 1571.0 |
| | | -17.00 | 1222.3 | 1584.3 | 2806.6 | 1856.2 | -188.6 | 1667.6 |
| | | -17.50 | 1051.8 | 1713.8 | 2765.6 | 1829.1 | -188.6 | 1640.6 |
| | | -18.00 | 894.3 | 1864.1 | 2758.4 | 1824.4 | -188.6 | 1635.8 |
| | | -18.50 | 1193.2 | 1964.6 | 3157.8 | 2088.5 | -188.6 | 1899.9 |
| | | -19.00 | 1374.9 | 2051.3 | 3426.2 | 2266.0 | -188.6 | 2077.4 |
| | | -19.50 | 1300.2 | 2151.4 | 3451.6 | 2282.8 | -188.6 | 2094.2 |
| | | -20.00 | 1350.8 | 2252.3 | 3603.1 | 2383.0 | -188.6 | 2194.5 |
| | | -20.50 | 1460.7 | 2359.5 | 3820.2 | 2526.6 | -188.6 | 2338.0 |
| | | -21.00 | 1315.9 | 2470.1 | 3786.0 | 2504.0 | -188.6 | 2315.4 |
| | | -21.50 | 1533.7 | 2594.0 | 4127.7 | 2730.0 | -188.6 | 2541.4 |
| | | -22.00 | 1836.4 | 2700.7 | 4537.0 | 3000.7 | -188.6 | 2812.1 |
| | | -22.50 | 1614.4 | 2825.8 | 4440.2 | 2936.7 | -188.6 | 2748.1 |
| | | -23.00 | 1496.0 | 2950.9 | 4446.9 | 2941.1 | -188.6 | 2752.5 |
| | | -23.50 | 1415.7 | 3076.0 | 4491.7 | 2970.7 | -188.6 | 2782.1 |
| | | -24.00 | 1362.8 | 3191.4 | 4554.2 | 3012.0 | -188.6 | 2823.5 |
| | | -24.50 | 1347.8 | 3291.2 | 4639.0 | 3068.1 | -188.6 | 2879.5 |
| | | -25.00 | 1371.3 | 3369.1 | 4740.4 | 3135.2 | -188.6 | 2946.6 |
| | | -25.50 | 1396.6 | 3444.6 | 4841.2 | 3201.8 | -188.6 | 3013.3 |
| | | -26.00 | 1441.9 | 3518.3 | 4960.2 | 3280.6 | -188.6 | 3092.0 |
| | | -26.50 | 1595.4 | 3591.8 | 5187.2 | 3430.7 | -188.6 | 3242.1 |
| | | -27.00 | 614.4 | 3679.1 | 4293.5 | 2839.6 | -188.6 | 2651.0 |
| | | -27.50 | 559.6 | 3772.6 | 4332.2 | 2865.2 | -188.6 | 2676.6 |
| | | -28.00 | 531.0 | 3867.9 | 4398.9 | 2909.3 | -188.6 | 2720.7 |
| | | -28.50 | 436.8 | 3967.9 | 4404.7 | 2913.2 | -188.6 | 2724.6 |
| | | -29.00 | 248.0 | 4072.8 | 4320.9 | 2857.7 | -188.6 | 2669.2 |
| | | -29.50 | 752.0 | 4102.5 | 4854.4 | 3210.6 | -188.6 | 3022.0 |
| | | -30.00 | 1370.2 | 4182.1 | 5552.3 | 3672.2 | -188.6 | 3483.6 |
| 19-1008_20 | -0.03 | -6.00 | 478.7 | 125.8 | 604.5 | 399.8 | -35.5 | 364.3 |
| | | -6.50 | 686.9 | 166.4 | 853.3 | 564.4 | -35.5 | 528.8 |
| | | -7.00 | 652.0 | 243.5 | 895.5 | 592.3 | -35.5 | 556.7 |
| | | -7.50 | 678.1 | 310.5 | 988.6 | 653.8 | -35.5 | 618.3 |
| | | -8.00 | 457.8 | 362.3 | 820.1 | 542.4 | -35.5 | 506.8 |
| | | -8.50 | 437.1 | 412.7 | 849.9 | 562.1 | -35.5 | 526.5 |
| | | -9.00 | 413.6 | 482.7 | 896.4 | 592.8 | -35.5 | 557.3 |
| | | -9.50 | 384.4 | 539.4 | 923.7 | 610.9 | -35.5 | 575.4 |
| | | -10.00 | 282.1 | 604.8 | 886.9 | 586.6 | -35.5 | 551.1 |
| | | -10.50 | 464.3 | 620.5 | 1084.8 | 717.4 | -35.5 | 681.9 |
| | | -11.00 | 374.9 | 705.4 | 1080.3 | 714.5 | -35.5 | 678.9 |
| | | -11.50 | 260.2 | 797.1 | 1057.3 | 699.2 | -35.5 | 663.7 |
| | | -12.00 | 285.6 | 814.9 | 1100.5 | 727.9 | -35.5 | 692.3 |
| | | -12.50 | 311.3 | 835.4 | 1146.7 | 758.4 | -35.5 | 722.9 |
| | | -13.00 | 293.0 | 874.9 | 1167.9 | 772.4 | -35.5 | 736.9 |
| | | -13.50 | 383.5 | 892.7 | 1276.1 | 844.0 | -35.5 | 808.5 |
| | | -14.00 | 402.7 | 927.5 | 1330.2 | 879.8 | -35.5 | 844.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_20 | -0.03 | -14.50 | 355.8 | 992.1 | 1347.9 | 891.4 | -35.5 | 855.9 |
| | | -15.00 | 336.3 | 1065.9 | 1402.2 | 927.4 | -35.5 | 891.8 |
| | | -15.50 | 334.7 | 1107.3 | 1442.1 | 953.7 | -35.5 | 918.2 |
| | | -16.00 | 346.3 | 1138.4 | 1484.7 | 981.9 | -35.5 | 946.4 |
| | | -16.50 | 331.0 | 1182.5 | 1513.6 | 1001.0 | -35.5 | 965.5 |
| | | -17.00 | 354.0 | 1211.0 | 1565.1 | 1035.1 | -35.5 | 999.6 |
| | | -17.50 | 526.9 | 1246.0 | 1772.9 | 1172.6 | -35.5 | 1137.0 |
| | | -18.00 | 542.0 | 1311.6 | 1853.7 | 1226.0 | -35.5 | 1190.4 |
| | | -18.50 | 511.6 | 1388.4 | 1900.0 | 1256.6 | -35.5 | 1221.1 |
| | | -19.00 | 611.3 | 1445.8 | 2057.1 | 1360.5 | -35.5 | 1325.0 |
| | | -19.50 | 720.2 | 1523.2 | 2243.4 | 1483.7 | -35.5 | 1448.2 |
| | | -20.00 | 642.1 | 1603.0 | 2245.1 | 1484.8 | -35.5 | 1449.3 |
| | | -20.50 | 483.7 | 1705.7 | 2189.4 | 1448.0 | -35.5 | 1412.5 |
| | | -21.00 | 380.9 | 1843.3 | 2224.3 | 1471.1 | -35.5 | 1435.5 |
| | | -21.50 | 367.4 | 1901.7 | 2269.1 | 1500.7 | -35.5 | 1465.2 |
| | | -22.00 | 369.7 | 1940.1 | 2309.8 | 1527.6 | -35.5 | 1492.1 |
| | | -22.50 | 358.2 | 1982.1 | 2340.3 | 1547.8 | -35.5 | 1512.3 |
| | | -23.00 | 758.0 | 2015.9 | 2773.9 | 1834.6 | -35.5 | 1799.1 |
| | | -23.50 | 891.0 | 2081.8 | 2972.8 | 1966.2 | -35.5 | 1930.6 |
| | | -24.00 | 1010.4 | 2155.6 | 3166.1 | 2094.0 | -35.5 | 2058.4 |
| | | -24.50 | 1106.5 | 2233.0 | 3339.5 | 2208.6 | -35.5 | 2173.1 |
| | | -25.00 | 1140.6 | 2328.1 | 3468.8 | 2294.2 | -35.5 | 2258.6 |
| | | -25.50 | 1186.4 | 2414.6 | 3601.1 | 2381.6 | -35.5 | 2346.1 |
| | | -26.00 | 1224.2 | 2499.2 | 3723.4 | 2462.6 | -35.5 | 2427.1 |
| | | -26.50 | 1321.2 | 2575.7 | 3896.9 | 2577.3 | -35.5 | 2541.7 |
| | | -27.00 | 1100.5 | 2668.9 | 3769.4 | 2493.0 | -35.5 | 2457.4 |
| | | -27.50 | 1132.0 | 2750.8 | 3882.8 | 2568.0 | -35.5 | 2532.5 |
| | | -28.00 | 1094.5 | 2824.9 | 3919.4 | 2592.2 | -35.5 | 2556.7 |
| | | -28.50 | 1085.8 | 2911.7 | 3997.6 | 2643.9 | -35.5 | 2608.4 |
| | | -29.00 | 1074.2 | 2992.2 | 4066.4 | 2689.4 | -35.5 | 2653.9 |
| | | -29.50 | 1090.8 | 3056.9 | 4147.7 | 2743.2 | -35.5 | 2707.7 |
| | | -30.00 | 1105.7 | 3138.6 | 4244.3 | 2807.1 | -35.5 | 2771.6 |
| 19-1008_21 | 1.78 | -6.00 | 1028.7 | 273.3 | 1302.1 | 861.1 | -110.9 | 750.2 |
| | | -6.50 | 835.6 | 353.4 | 1189.0 | 786.4 | -110.9 | 675.5 |
| | | -7.00 | 781.9 | 433.1 | 1214.9 | 803.5 | -110.9 | 692.6 |
| | | -7.50 | 775.3 | 531.1 | 1306.4 | 864.0 | -110.9 | 753.1 |
| | | -8.00 | 765.4 | 622.9 | 1388.4 | 918.2 | -110.9 | 807.3 |
| | | -8.50 | 692.8 | 715.6 | 1408.4 | 931.5 | -110.9 | 820.6 |
| | | -9.00 | 682.9 | 763.6 | 1446.5 | 956.7 | -110.9 | 845.8 |
| | | -9.50 | 836.9 | 799.7 | 1636.6 | 1082.4 | -110.9 | 971.5 |
| | | -10.00 | 831.9 | 854.7 | 1686.7 | 1115.5 | -110.9 | 1004.6 |
| | | -10.50 | 859.1 | 903.0 | 1762.1 | 1165.4 | -110.9 | 1054.5 |
| | | -11.00 | 854.9 | 958.4 | 1813.3 | 1199.3 | -110.9 | 1088.4 |
| | | -11.50 | 851.4 | 1028.3 | 1879.7 | 1243.2 | -110.9 | 1132.3 |
| | | -12.00 | 818.0 | 1106.8 | 1924.8 | 1273.0 | -110.9 | 1162.1 |
| | | -12.50 | 829.7 | 1167.1 | 1996.8 | 1320.6 | -110.9 | 1209.7 |
| | | -13.00 | 816.0 | 1236.8 | 2052.7 | 1357.6 | -110.9 | 1246.7 |
| | | -13.50 | 819.6 | 1313.9 | 2133.5 | 1411.0 | -110.9 | 1300.1 |
| | | -14.00 | 752.8 | 1428.6 | 2181.4 | 1442.7 | -110.9 | 1331.8 |
| | | -14.50 | 619.8 | 1543.5 | 2163.4 | 1430.8 | -110.9 | 1319.9 |
| | | -15.00 | 521.5 | 1627.6 | 2149.2 | 1421.4 | -110.9 | 1310.5 |
| | | -15.50 | 521.4 | 1689.0 | 2210.3 | 1461.9 | -110.9 | 1351.0 |
| | | -16.00 | 433.7 | 1807.5 | 2241.2 | 1482.3 | -110.9 | 1371.4 |
| | | -16.50 | 280.8 | 1925.9 | 2206.7 | 1459.5 | -110.9 | 1348.5 |
| | | -17.00 | 300.0 | 1946.0 | 2246.1 | 1485.5 | -110.9 | 1374.6 |
| | | -17.50 | 343.9 | 1969.5 | 2313.4 | 1530.0 | -110.9 | 1419.1 |
| | | -18.00 | 435.6 | 2014.4 | 2450.0 | 1620.4 | -110.9 | 1509.5 |
| | | -18.50 | 346.4 | 2144.2 | 2490.6 | 1647.2 | -110.9 | 1536.3 |
| | | -19.00 | 307.6 | 2234.8 | 2542.4 | 1681.5 | -110.9 | 1570.5 |
| | | -19.50 | 307.1 | 2257.8 | 2565.0 | 1696.4 | -110.9 | 1585.5 |
| | | -20.00 | 311.0 | 2276.2 | 2587.2 | 1711.1 | -110.9 | 1600.2 |
| | | -20.50 | 317.7 | 2294.3 | 2612.0 | 1727.5 | -110.9 | 1616.6 |
| | | -21.00 | 335.4 | 2312.6 | 2648.0 | 1751.3 | -110.9 | 1640.4 |
| | | -21.50 | 352.1 | 2334.7 | 2686.8 | 1777.0 | -110.9 | 1666.1 |
| | | -22.00 | 366.2 | 2360.3 | 2726.5 | 1803.2 | -110.9 | 1692.3 |
| | | -22.50 | 369.7 | 2391.6 | 2761.3 | 1826.2 | -110.9 | 1715.3 |
| | | -23.00 | 372.9 | 2422.6 | 2795.5 | 1848.9 | -110.9 | 1738.0 |
| | | -23.50 | 395.6 | 2452.4 | 2848.0 | 1883.6 | -110.9 | 1772.7 |
| | | -24.00 | 407.2 | 2487.8 | 2895.0 | 1914.7 | -110.9 | 1803.8 |
| | | -24.50 | 405.3 | 2524.1 | 2929.5 | 1937.5 | -110.9 | 1826.6 |
| | | -25.00 | 409.4 | 2562.4 | 2971.8 | 1965.4 | -110.9 | 1854.5 |
| | | -25.50 | 407.9 | 2602.6 | 3010.4 | 1991.0 | -110.9 | 1880.1 |
| | | -26.00 | 408.7 | 2641.0 | 3049.8 | 2017.1 | -110.9 | 1906.1 |
| | | -26.50 | 411.0 | 2675.9 | 3086.8 | 2041.5 | -110.9 | 1930.6 |
| | | -27.00 | 411.3 | 2711.6 | 3122.9 | 2065.4 | -110.9 | 1954.5 |
| | | -27.50 | 433.1 | 2746.6 | 3179.8 | 2103.0 | -110.9 | 1992.1 |
| | | -28.00 | 437.8 | 2784.5 | 3222.3 | 2131.1 | -110.9 | 2020.2 |
| | | -28.50 | 439.6 | 2823.5 | 3263.2 | 2158.2 | -110.9 | 2047.3 |
| | | -29.00 | 453.9 | 2861.4 | 3315.3 | 2192.7 | -110.9 | 2081.8 |
| | | -29.50 | 465.7 | 2901.2 | 3367.0 | 2226.8 | -110.9 | 2115.9 |
| | | -30.00 | 467.8 | 2943.8 | 3411.6 | 2256.3 | -110.9 | 2145.4 |
| 251.S01 | -1.05 | -6.00 | 673.9 | 417.3 | 1091.2 | 721.7 | -12.2 | 709.5 |
| | | -6.50 | 430.4 | 503.1 | 933.5 | 617.4 | -12.2 | 605.2 |
| | | -7.00 | 379.8 | 603.2 | 983.0 | 650.1 | -12.2 | 637.9 |
| | | -7.50 | 278.9 | 700.0 | 978.9 | 647.4 | -12.2 | 635.2 |
| | | -8.00 | 196.5 | 788.9 | 985.4 | 651.7 | -12.2 | 639.6 |
| | | -8.50 | 110.3 | 848.8 | 959.1 | 634.3 | -12.2 | 622.2 |
| | | -9.00 | 512.4 | 857.8 | 1370.2 | 906.2 | -12.2 | 894.1 |
| | | -9.50 | 679.2 | 913.1 | 1592.3 | 1053.1 | -12.2 | 1041.0 |
| | | -10.00 | 691.9 | 997.0 | 1688.9 | 1117.0 | -12.2 | 1104.8 |
| | | -10.50 | 676.5 | 1095.6 | 1772.1 | 1172.0 | -12.2 | 1159.8 |
| | | -11.00 | 657.0 | 1170.4 | 1827.4 | 1208.6 | -12.2 | 1196.4 |
| | | -11.50 | 709.0 | 1215.9 | 1924.9 | 1273.1 | -12.2 | 1260.9 |
| | | -12.00 | 988.0 | 1261.1 | 2249.1 | 1487.5 | -12.2 | 1475.3 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 251.S01 | -1.05 | -12.50 | 1058.4 | 1338.0 | 2396.4 | 1584.9 | -12.2 | 1572.7 |
| | | -13.00 | 761.7 | 1428.8 | 2190.5 | 1448.7 | -12.2 | 1436.5 |
| | | -13.50 | 782.8 | 1514.4 | 2297.2 | 1519.3 | -12.2 | 1507.1 |
| | | -14.00 | 733.8 | 1633.4 | 2367.2 | 1565.6 | -12.2 | 1553.4 |
| | | -14.50 | 624.8 | 1751.7 | 2376.5 | 1571.8 | -12.2 | 1559.6 |
| | | -15.00 | 432.6 | 1879.7 | 2312.3 | 1529.3 | -12.2 | 1517.1 |
| | | -15.50 | 1352.0 | 1937.0 | 3289.0 | 2175.3 | -12.2 | 2163.1 |
| | | -16.00 | 1607.9 | 2052.5 | 3660.4 | 2420.9 | -12.2 | 2408.7 |
| | | -16.50 | 1149.9 | 2177.6 | 3327.5 | 2200.7 | -12.2 | 2188.5 |
| | | -17.00 | 1109.8 | 2301.3 | 3411.2 | 2256.1 | -12.2 | 2243.9 |
| | | -17.50 | 1119.7 | 2419.4 | 3539.2 | 2340.7 | -12.2 | 2328.5 |
| | | -18.00 | 1046.1 | 2531.0 | 3577.1 | 2365.8 | -12.2 | 2353.6 |
| | | -18.50 | 903.9 | 2655.9 | 3559.8 | 2354.4 | -12.2 | 2342.2 |
| | | -19.00 | 680.4 | 2731.0 | 3411.4 | 2256.2 | -12.2 | 2244.0 |
| | | -19.50 | 529.9 | 2811.2 | 3341.1 | 2209.7 | -12.2 | 2197.6 |
| | | -20.00 | 438.1 | 2908.5 | 3346.6 | 2213.3 | -12.2 | 2201.2 |
| | | -20.50 | 310.4 | 3044.6 | 3355.0 | 2218.9 | -12.2 | 2206.7 |
| | | -21.00 | 243.3 | 3187.9 | 3431.2 | 2269.3 | -12.2 | 2257.1 |
| | | -21.50 | 220.6 | 3247.4 | 3468.0 | 2293.6 | -12.2 | 2281.5 |
| | | -22.00 | 223.6 | 3266.0 | 3489.6 | 2307.9 | -12.2 | 2295.7 |
| | | -22.50 | 261.7 | 3290.6 | 3552.3 | 2349.4 | -12.2 | 2337.2 |
| | | -23.00 | 326.4 | 3330.0 | 3656.4 | 2418.3 | -12.2 | 2406.1 |
| | | -23.50 | 432.2 | 3381.6 | 3813.8 | 2522.4 | -12.2 | 2510.2 |
| | | -24.00 | 444.7 | 3451.4 | 3896.1 | 2576.8 | -12.2 | 2564.6 |
| | | -24.50 | 461.6 | 3515.0 | 3976.6 | 2630.0 | -12.2 | 2617.8 |
| | | -25.00 | 698.0 | 3572.7 | 4270.7 | 2824.5 | -12.2 | 2812.4 |
| | | -25.50 | 1114.2 | 3676.3 | 4790.4 | 3168.3 | -12.2 | 3156.1 |
| | | -26.00 | 1673.3 | 3828.1 | 5501.4 | 3638.5 | -12.2 | 3626.3 |
| | | -26.50 | 2555.8 | 3974.3 | 6530.2 | 4318.9 | -12.2 | 4306.7 |
| | | -27.00 | 1787.8 | 4099.5 | 5887.2 | 3893.7 | -12.2 | 3881.5 |
| | | -27.50 | 1843.6 | 4224.6 | 6068.1 | 4013.3 | -12.2 | 4001.1 |
| | | -28.00 | 1760.1 | 4349.7 | 6109.8 | 4040.8 | -12.2 | 4028.7 |
| | | -28.50 | 1097.7 | 4474.8 | 5572.5 | 3685.5 | -12.2 | 3673.3 |
| | | -29.00 | 841.7 | 4599.7 | 5441.4 | 3598.8 | -12.2 | 3586.7 |
| | | -29.50 | 778.6 | 4683.7 | 5462.3 | 3612.6 | -12.2 | 3600.5 |
| | | -30.00 | 539.7 | 4783.8 | 5323.5 | 3520.8 | -12.2 | 3508.6 |
| 19-1008_29 | 0.79 | -6.00 | 1333.7 | 757.2 | 2090.9 | 1382.9 | -5.9 | 1377.0 |
| | | -6.50 | 1620.2 | 846.0 | 2466.2 | 1631.1 | -5.9 | 1625.2 |
| | | -7.00 | 1549.9 | 948.4 | 2498.3 | 1652.3 | -5.9 | 1646.4 |
| | | -7.50 | 1536.4 | 1054.8 | 2591.2 | 1713.8 | -5.9 | 1707.9 |
| | | -8.00 | 1542.4 | 1169.2 | 2711.5 | 1793.3 | -5.9 | 1787.4 |
| | | -8.50 | 1537.2 | 1282.7 | 2819.9 | 1865.0 | -5.9 | 1859.1 |
| | | -9.00 | 1377.8 | 1381.5 | 2759.3 | 1825.0 | -5.9 | 1819.1 |
| | | -9.50 | 571.1 | 1473.7 | 2044.8 | 1352.4 | -5.9 | 1346.5 |
| | | -10.00 | 551.7 | 1559.9 | 2111.6 | 1396.6 | -5.9 | 1390.7 |
| | | -10.50 | 506.4 | 1660.0 | 2166.4 | 1432.8 | -5.9 | 1426.9 |
| | | -11.00 | 431.8 | 1759.3 | 2191.1 | 1449.2 | -5.9 | 1443.3 |
| | | -11.50 | 266.0 | 1870.2 | 2136.2 | 1412.9 | -5.9 | 1407.0 |
| | | -12.00 | 481.0 | 1922.4 | 2403.3 | 1589.5 | -5.9 | 1583.6 |
| | | -12.50 | 383.7 | 2035.6 | 2419.3 | 1600.1 | -5.9 | 1594.2 |
| | | -13.00 | 280.2 | 2122.8 | 2403.0 | 1589.3 | -5.9 | 1583.4 |
| | | -13.50 | 290.8 | 2159.3 | 2450.2 | 1620.5 | -5.9 | 1614.6 |
| | | -14.00 | 294.2 | 2202.4 | 2496.6 | 1651.2 | -5.9 | 1645.3 |
| | | -14.50 | 303.8 | 2232.3 | 2536.1 | 1677.3 | -5.9 | 1671.4 |
| | | -15.00 | 323.7 | 2257.8 | 2581.5 | 1707.3 | -5.9 | 1701.4 |
| | | -15.50 | 403.0 | 2288.6 | 2691.6 | 1780.1 | -5.9 | 1774.2 |
| | | -16.00 | 348.9 | 2367.0 | 2715.8 | 1796.2 | -5.9 | 1790.3 |
| | | -16.50 | 362.4 | 2396.0 | 2758.3 | 1824.3 | -5.9 | 1818.4 |
| | | -17.00 | 405.0 | 2425.2 | 2830.2 | 1871.8 | -5.9 | 1865.9 |
| | | -17.50 | 1025.3 | 2467.5 | 3492.8 | 2310.0 | -5.9 | 2304.1 |
| | | -18.00 | 1424.0 | 2570.8 | 3994.8 | 2642.1 | -5.9 | 2636.2 |
| | | -18.50 | 1337.0 | 2695.9 | 4032.9 | 2667.3 | -5.9 | 2661.4 |
| | | -19.00 | 918.3 | 2817.0 | 3735.3 | 2470.4 | -5.9 | 2464.5 |
| | | -19.50 | 2199.8 | 2910.6 | 5110.3 | 3379.8 | -5.9 | 3373.9 |
| | | -20.00 | 2679.2 | 3035.7 | 5714.9 | 3779.7 | -5.9 | 3773.8 |
| | | -20.50 | 1797.9 | 3160.8 | 4958.7 | 3279.5 | -5.9 | 3273.6 |
| | | -21.00 | 1486.7 | 3285.9 | 4772.6 | 3156.5 | -5.9 | 3150.6 |
| | | -21.50 | 1117.6 | 3411.0 | 4528.6 | 2995.1 | -5.9 | 2989.2 |
| | | -22.00 | 940.5 | 3536.1 | 4476.6 | 2960.7 | -5.9 | 2954.8 |
| | | -22.50 | 679.3 | 3681.3 | 4360.6 | 2884.0 | -5.9 | 2878.1 |
| | | -23.00 | 625.9 | 3788.5 | 4414.4 | 2919.6 | -5.9 | 2913.7 |
| | | -23.50 | 704.9 | 3862.7 | 4567.6 | 3020.9 | -5.9 | 3015.0 |
| | | -24.00 | 660.0 | 3950.1 | 4610.1 | 3049.0 | -5.9 | 3043.1 |
| | | -24.50 | 625.6 | 4038.9 | 4664.5 | 3085.0 | -5.9 | 3079.1 |
| | | -25.00 | 581.1 | 4133.3 | 4714.4 | 3118.0 | -5.9 | 3112.1 |
| | | -25.50 | 601.9 | 4191.9 | 4793.8 | 3170.5 | -5.9 | 3164.6 |
| | | -26.00 | 601.4 | 4259.3 | 4860.7 | 3214.8 | -5.9 | 3208.9 |
| | | -26.50 | 593.5 | 4322.1 | 4915.7 | 3251.1 | -5.9 | 3245.2 |
| | | -27.00 | 574.7 | 4401.0 | 4975.7 | 3290.8 | -5.9 | 3284.9 |
| | | -27.50 | 594.5 | 4460.6 | 5055.2 | 3343.4 | -5.9 | 3337.5 |
| | | -28.00 | 581.1 | 4518.8 | 5099.8 | 3372.9 | -5.9 | 3367.0 |
| | | -28.50 | 584.6 | 4576.5 | 5161.1 | 3413.4 | -5.9 | 3407.5 |
| | | -29.00 | 803.1 | 4640.1 | 5443.2 | 3600.0 | -5.9 | 3594.1 |
| | | -29.50 | 961.0 | 4740.5 | 5701.6 | 3770.9 | -5.9 | 3765.0 |
| | | -30.00 | 807.4 | 4825.6 | 5633.1 | 3725.6 | -5.9 | 3719.7 |
| 283.S02 | 0.17 | -6.00 | 1139.4 | 567.0 | 1706.4 | 1128.6 | -11.9 | 1116.7 |
| | | -6.50 | 1184.4 | 639.1 | 1823.5 | 1206.0 | -11.9 | 1194.1 |
| | | -7.00 | 1149.0 | 726.6 | 1875.7 | 1240.5 | -11.9 | 1228.6 |
| | | -7.50 | 1190.8 | 795.0 | 1985.8 | 1313.4 | -11.9 | 1301.5 |
| | | -8.00 | 1246.8 | 862.6 | 2109.4 | 1395.1 | -11.9 | 1383.2 |
| | | -8.50 | 1241.4 | 944.8 | 2186.2 | 1445.9 | -11.9 | 1434.0 |
| | | -9.00 | 1225.9 | 1020.5 | 2246.3 | 1485.7 | -11.9 | 1473.8 |
| | | -9.50 | 939.5 | 1084.6 | 2024.2 | 1338.7 | -11.9 | 1326.9 |
| | | -10.00 | 934.9 | 1156.8 | 2091.7 | 1383.4 | -11.9 | 1371.5 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 283.S02 | 0.17 | -10.50 | 921.1 | 1226.4 | 2147.4 | 1420.3 | -11.9 | 1408.4 |
| | | -11.00 | 908.8 | 1294.4 | 2203.3 | 1457.2 | -11.9 | 1445.3 |
| | | -11.50 | 831.7 | 1367.5 | 2199.1 | 1454.5 | -11.9 | 1442.6 |
| | | -12.00 | 1191.8 | 1414.3 | 2606.0 | 1723.6 | -11.9 | 1711.7 |
| | | -12.50 | 1341.2 | 1495.5 | 2836.7 | 1876.1 | -11.9 | 1864.2 |
| | | -13.00 | 1486.9 | 1585.8 | 3072.7 | 2032.2 | -11.9 | 2020.3 |
| | | -13.50 | 1632.9 | 1686.4 | 3319.3 | 2195.3 | -11.9 | 2183.4 |
| | | -14.00 | 1668.6 | 1805.8 | 3474.4 | 2297.9 | -11.9 | 2286.0 |
| | | -14.50 | 1643.0 | 1925.2 | 3568.2 | 2359.9 | -11.9 | 2348.0 |
| | | -15.00 | 1600.7 | 2031.8 | 3632.5 | 2402.4 | -11.9 | 2390.6 |
| | | -15.50 | 1823.4 | 2123.0 | 3946.4 | 2610.1 | -11.9 | 2598.2 |
| | | -16.00 | 1977.7 | 2223.0 | 4200.7 | 2778.3 | -11.9 | 2766.4 |
| | | -16.50 | 2147.5 | 2334.4 | 4481.9 | 2964.2 | -11.9 | 2952.3 |
| | | -17.00 | 2482.4 | 2453.7 | 4936.2 | 3264.7 | -11.9 | 3252.8 |
| | | -17.50 | 2534.8 | 2578.8 | 5113.6 | 3382.0 | -11.9 | 3370.1 |
| | | -18.00 | 2411.3 | 2703.9 | 5115.2 | 3383.1 | -11.9 | 3371.2 |
| | | -18.50 | 2452.7 | 2829.0 | 5281.8 | 3493.2 | -11.9 | 3481.3 |
| | | -19.00 | 2493.9 | 2954.2 | 5448.1 | 3603.2 | -11.9 | 3591.4 |
| | | -19.50 | 2506.7 | 3079.3 | 5586.0 | 3694.5 | -11.9 | 3682.6 |
| | | -20.00 | 2361.0 | 3204.4 | 5565.4 | 3680.8 | -11.9 | 3668.9 |
| | | -20.50 | 2585.0 | 3323.9 | 5908.9 | 3908.0 | -11.9 | 3896.1 |
| | | -21.00 | 2877.2 | 3449.0 | 6326.2 | 4184.0 | -11.9 | 4172.1 |
| | | -21.50 | 2917.2 | 3574.1 | 6491.3 | 4293.2 | -11.9 | 4281.3 |
| | | -22.00 | 2924.8 | 3699.3 | 6624.0 | 4381.0 | -11.9 | 4369.1 |
| | | -22.50 | 2938.1 | 3824.4 | 6762.5 | 4472.5 | -11.9 | 4460.7 |
| | | -23.00 | 2991.4 | 3949.5 | 6940.9 | 4590.5 | -11.9 | 4578.6 |
| | | -23.50 | 3339.1 | 4074.6 | 7413.7 | 4903.2 | -11.9 | 4891.3 |
| | | -24.00 | 2850.0 | 4199.7 | 7049.7 | 4662.5 | -11.9 | 4650.6 |
| | | -24.50 | 1247.6 | 4324.8 | 5572.5 | 3685.5 | -11.9 | 3673.6 |
| | | -25.00 | 1009.8 | 4449.9 | 5459.8 | 3611.0 | -11.9 | 3599.1 |
| | | -25.50 | 749.8 | 4575.1 | 5324.9 | 3521.7 | -11.9 | 3509.9 |
| | | -26.00 | 622.3 | 4700.2 | 5322.5 | 3520.2 | -11.9 | 3508.3 |
| | | -26.50 | 441.6 | 4831.9 | 5273.5 | 3487.7 | -11.9 | 3475.9 |
| | | -27.00 | 459.1 | 4877.6 | 5336.7 | 3529.6 | -11.9 | 3517.7 |
| | | -27.50 | 484.7 | 4920.9 | 5405.6 | 3575.1 | -11.9 | 3563.3 |
| | | -28.00 | 418.2 | 4975.4 | 5393.6 | 3567.2 | -11.9 | 3555.3 |
| | | -28.50 | 385.3 | 5044.5 | 5429.8 | 3591.1 | -11.9 | 3579.2 |
| | | -29.00 | 377.2 | 5093.8 | 5471.0 | 3618.4 | -11.9 | 3606.5 |
| | | -29.50 | 370.4 | 5137.1 | 5507.5 | 3642.5 | -11.9 | 3630.7 |
| 19-1008_35 | 0.92 | -6.00 | 901.7 | 663.9 | 1565.6 | 1035.5 | -7.3 | 1028.2 |
| | | -6.50 | 881.9 | 717.6 | 1599.5 | 1057.8 | -7.3 | 1050.5 |
| | | -7.00 | 884.1 | 761.6 | 1645.7 | 1088.4 | -7.3 | 1081.1 |
| | | -7.50 | 963.8 | 806.7 | 1770.5 | 1171.0 | -7.3 | 1163.6 |
| | | -8.00 | 953.5 | 869.3 | 1822.8 | 1205.5 | -7.3 | 1198.2 |
| | | -8.50 | 927.8 | 932.4 | 1860.2 | 1230.3 | -7.3 | 1223.0 |
| | | -9.00 | 938.6 | 980.6 | 1919.2 | 1269.3 | -7.3 | 1262.0 |
| | | -9.50 | 990.2 | 1029.2 | 2019.4 | 1335.6 | -7.3 | 1328.3 |
| | | -10.00 | 990.6 | 1087.9 | 2078.5 | 1374.7 | -7.3 | 1367.4 |
| | | -10.50 | 1064.6 | 1142.9 | 2207.5 | 1460.0 | -7.3 | 1452.7 |
| | | -11.00 | 1027.1 | 1237.6 | 2264.6 | 1497.8 | -7.3 | 1490.5 |
| | | -11.50 | 986.2 | 1318.1 | 2304.3 | 1524.0 | -7.3 | 1516.7 |
| | | -12.00 | 973.2 | 1373.9 | 2347.1 | 1552.3 | -7.3 | 1545.0 |
| | | -12.50 | 1098.4 | 1422.0 | 2520.5 | 1667.0 | -7.3 | 1659.7 |
| | | -13.00 | 1260.8 | 1486.3 | 2747.0 | 1816.8 | -7.3 | 1809.5 |
| | | -13.50 | 1337.6 | 1562.0 | 2899.7 | 1917.8 | -7.3 | 1910.5 |
| | | -14.00 | 1573.3 | 1641.2 | 3214.4 | 2126.0 | -7.3 | 2118.7 |
| | | -14.50 | 1588.8 | 1738.3 | 3327.1 | 2200.4 | -7.3 | 2193.1 |
| | | -15.00 | 1499.0 | 1835.4 | 3334.4 | 2205.3 | -7.3 | 2198.0 |
| | | -15.50 | 1514.4 | 1933.9 | 3448.2 | 2280.6 | -7.3 | 2273.3 |
| | | -16.00 | 1508.9 | 2034.7 | 3543.7 | 2343.7 | -7.3 | 2336.4 |
| | | -16.50 | 1435.2 | 2136.1 | 3571.3 | 2362.0 | -7.3 | 2354.7 |
| | | -17.00 | 1418.0 | 2223.1 | 3641.1 | 2408.2 | -7.3 | 2400.9 |
| | | -17.50 | 1621.1 | 2297.0 | 3918.1 | 2591.3 | -7.3 | 2584.0 |
| | | -18.00 | 1593.3 | 2395.2 | 3988.4 | 2637.8 | -7.3 | 2630.5 |
| | | -18.50 | 1740.2 | 2483.8 | 4223.9 | 2793.6 | -7.3 | 2786.3 |
| | | -19.00 | 1747.1 | 2583.6 | 4330.7 | 2864.2 | -7.3 | 2856.9 |
| | | -19.50 | 1800.4 | 2682.3 | 4482.7 | 2964.7 | -7.3 | 2957.4 |
| | | -20.00 | 2120.2 | 2784.1 | 4904.3 | 3243.6 | -7.3 | 3236.3 |
| | | -20.50 | 2149.0 | 2909.2 | 5058.2 | 3345.4 | -7.3 | 3338.1 |
| | | -21.00 | 2189.8 | 3034.3 | 5224.1 | 3455.1 | -7.3 | 3447.8 |
| | | -21.50 | 2274.2 | 3159.4 | 5433.6 | 3593.7 | -7.3 | 3586.4 |
| | | -22.00 | 2642.9 | 3281.1 | 5924.0 | 3918.0 | -7.3 | 3910.7 |
| | | -22.50 | 2427.0 | 3406.3 | 5833.3 | 3858.0 | -7.3 | 3850.7 |
| | | -23.00 | 2440.1 | 3531.4 | 5971.5 | 3949.4 | -7.3 | 3942.1 |
| | | -23.50 | 1961.0 | 3656.5 | 5617.4 | 3715.2 | -7.3 | 3707.9 |
| | | -24.00 | 1922.6 | 3781.6 | 5704.2 | 3772.6 | -7.3 | 3765.3 |
| | | -24.50 | 1902.3 | 3903.9 | 5806.2 | 3840.1 | -7.3 | 3832.8 |
| | | -25.00 | 1860.3 | 4021.4 | 5881.8 | 3890.1 | -7.3 | 3882.7 |
| | | -25.50 | 1609.6 | 4155.9 | 5765.5 | 3813.2 | -7.3 | 3805.9 |
| | | -26.00 | 1858.7 | 4281.5 | 6140.2 | 4061.0 | -7.3 | 4053.7 |
| | | -26.50 | 2265.9 | 4390.3 | 6656.2 | 4402.3 | -7.3 | 4395.0 |
| | | -27.00 | 2367.7 | 4515.4 | 6883.1 | 4552.3 | -7.3 | 4545.0 |
| | | -27.50 | 2424.7 | 4640.5 | 7065.2 | 4672.8 | -7.3 | 4665.4 |
| | | -28.00 | 2440.4 | 4765.7 | 7206.1 | 4765.9 | -7.3 | 4758.6 |
| | | -28.50 | 2704.0 | 4890.8 | 7594.8 | 5023.0 | -7.3 | 5015.7 |
| | | -29.00 | 2838.3 | 5015.9 | 7854.2 | 5194.6 | -7.3 | 5187.3 |
| | | -29.50 | 1489.9 | 5141.0 | 6630.9 | 4385.5 | -7.3 | 4378.2 |
| | | -30.00 | 1230.7 | 5266.1 | 6496.8 | 4296.9 | -7.3 | 4289.6 |
| 312.S03 | 3.78 | -6.00 | 583.8 | 822.7 | 1406.5 | 930.2 | 0.0 | 930.2 |
| | | -6.50 | 518.6 | 917.6 | 1436.3 | 949.9 | 0.0 | 949.9 |
| | | -7.00 | 398.1 | 1028.8 | 1426.9 | 943.7 | 0.0 | 943.7 |
| | | -7.50 | 589.7 | 1096.3 | 1686.0 | 1115.1 | 0.0 | 1115.1 |
| | | -8.00 | 1623.7 | 1169.8 | 2793.5 | 1847.6 | 0.0 | 1847.6 |
| | | -8.50 | 1517.1 | 1294.9 | 2812.0 | 1859.8 | 0.0 | 1859.8 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 312.S03 | 3.78 | -9.00 | 1615.5 | 1420.0 | 3035.5 | 2007.6 | 0.0 | 2007.6 |
| | | -9.50 | 1607.8 | 1545.1 | 3153.0 | 2085.3 | 0.0 | 2085.3 |
| | | -10.00 | 1720.3 | 1670.3 | 3390.6 | 2242.4 | 0.0 | 2242.4 |
| | | -10.50 | 1950.1 | 1793.9 | 3744.0 | 2476.2 | 0.0 | 2476.2 |
| | | -11.00 | 1717.0 | 1910.5 | 3627.5 | 2399.1 | 0.0 | 2399.1 |
| | | -11.50 | 1778.5 | 2035.6 | 3814.2 | 2522.6 | 0.0 | 2522.6 |
| | | -12.00 | 1840.2 | 2160.7 | 4000.8 | 2646.1 | 0.0 | 2646.1 |
| | | -12.50 | 1707.0 | 2285.8 | 3992.8 | 2640.7 | 0.0 | 2640.7 |
| | | -13.00 | 1645.8 | 2407.3 | 4053.0 | 2680.6 | 0.0 | 2680.6 |
| | | -13.50 | 1836.1 | 2495.5 | 4331.6 | 2864.8 | 0.0 | 2864.8 |
| | | -14.00 | 1852.4 | 2595.6 | 4448.0 | 2941.8 | 0.0 | 2941.8 |
| | | -14.50 | 1792.2 | 2695.7 | 4487.8 | 2968.1 | 0.0 | 2968.1 |
| | | -15.00 | 1688.2 | 2791.4 | 4479.6 | 2962.7 | 0.0 | 2962.7 |
| | | -15.50 | 1667.9 | 2891.5 | 4559.4 | 3015.5 | 0.0 | 3015.5 |
| | | -16.00 | 1630.2 | 2988.3 | 4618.5 | 3054.6 | 0.0 | 3054.6 |
| | | -16.50 | 1539.2 | 3088.4 | 4627.6 | 3060.6 | 0.0 | 3060.6 |
| | | -17.00 | 1477.9 | 3180.9 | 4658.8 | 3081.2 | 0.0 | 3081.2 |
| | | -17.50 | 1525.2 | 3253.2 | 4778.4 | 3160.3 | 0.0 | 3160.3 |
| | | -18.00 | 945.4 | 3330.8 | 4276.2 | 2828.2 | 0.0 | 2828.2 |
| | | -18.50 | 945.7 | 3428.2 | 4374.0 | 2892.8 | 0.0 | 2892.8 |
| | | -19.00 | 940.6 | 3530.6 | 4471.2 | 2957.1 | 0.0 | 2957.1 |
| | | -19.50 | 788.6 | 3636.8 | 4425.5 | 2926.9 | 0.0 | 2926.9 |
| | | -20.00 | 636.3 | 3739.1 | 4375.3 | 2893.7 | 0.0 | 2893.7 |
| | | -20.50 | 1120.5 | 3828.6 | 4949.1 | 3273.2 | 0.0 | 3273.2 |
| | | -21.00 | 1325.4 | 3927.5 | 5252.9 | 3474.1 | 0.0 | 3474.1 |
| | | -21.50 | 1433.6 | 4019.4 | 5453.1 | 3606.5 | 0.0 | 3606.5 |
| | | -22.00 | 1640.1 | 4123.3 | 5763.3 | 3811.7 | 0.0 | 3811.7 |
| | | -22.50 | 1716.0 | 4245.3 | 5961.3 | 3942.7 | 0.0 | 3942.7 |
| | | -23.00 | 1750.6 | 4368.2 | 6118.8 | 4046.8 | 0.0 | 4046.8 |
| | | -23.50 | 1778.2 | 4487.4 | 6265.6 | 4143.9 | 0.0 | 4143.9 |
| | | -24.00 | 2001.0 | 4596.6 | 6597.6 | 4363.5 | 0.0 | 4363.5 |
| | | -24.50 | 2029.3 | 4721.8 | 6751.1 | 4465.0 | 0.0 | 4465.0 |
| | | -25.00 | 1130.0 | 4846.9 | 5976.9 | 3953.0 | 0.0 | 3953.0 |
| | | -25.50 | 993.6 | 4964.4 | 5958.0 | 3940.5 | 0.0 | 3940.5 |
| | | -26.00 | 818.5 | 5069.4 | 5887.8 | 3894.1 | 0.0 | 3894.1 |
| | | -26.50 | 687.8 | 5191.8 | 5879.6 | 3888.6 | 0.0 | 3888.6 |
| | | -27.00 | 500.1 | 5314.2 | 5814.2 | 3845.4 | 0.0 | 3845.4 |
| | | -27.50 | 478.1 | 5379.8 | 5857.8 | 3874.2 | 0.0 | 3874.2 |
| | | -28.00 | 467.4 | 5431.8 | 5899.2 | 3901.6 | 0.0 | 3901.6 |
| | | -28.50 | 466.1 | 5471.7 | 5937.8 | 3927.1 | 0.0 | 3927.1 |
| | | -29.00 | 471.9 | 5510.9 | 5982.8 | 3956.9 | 0.0 | 3956.9 |
| | | -29.50 | 532.8 | 5556.5 | 6089.3 | 4027.3 | 0.0 | 4027.3 |
| 19-1008_43 | 9.88 | -6.00 | 835.3 | 723.2 | 1558.5 | 1030.7 | 0.0 | 1030.7 |
| | | -6.50 | 1326.8 | 774.2 | 2101.1 | 1389.6 | 0.0 | 1389.6 |
| | | -7.00 | 1350.2 | 871.4 | 2221.6 | 1469.3 | 0.0 | 1469.3 |
| | | -7.50 | 1378.9 | 964.7 | 2343.7 | 1550.1 | 0.0 | 1550.1 |
| | | -8.00 | 1415.6 | 1061.9 | 2477.5 | 1638.5 | 0.0 | 1638.5 |
| | | -8.50 | 1455.9 | 1152.5 | 2608.4 | 1725.1 | 0.0 | 1725.1 |
| | | -9.00 | 1498.9 | 1245.2 | 2744.1 | 1814.9 | 0.0 | 1814.9 |
| | | -9.50 | 1522.3 | 1340.0 | 2862.4 | 1893.1 | 0.0 | 1893.1 |
| | | -10.00 | 1741.3 | 1426.5 | 3167.8 | 2095.1 | 0.0 | 2095.1 |
| | | -10.50 | 1894.4 | 1530.6 | 3425.0 | 2265.2 | 0.0 | 2265.2 |
| | | -11.00 | 1798.3 | 1655.7 | 3454.0 | 2284.4 | 0.0 | 2284.4 |
| | | -11.50 | 1767.6 | 1780.8 | 3548.5 | 2346.9 | 0.0 | 2346.9 |
| | | -12.00 | 1741.4 | 1905.8 | 3647.3 | 2412.2 | 0.0 | 2412.2 |
| | | -12.50 | 1641.5 | 2029.9 | 3671.4 | 2428.2 | 0.0 | 2428.2 |
| | | -13.00 | 1607.4 | 2122.3 | 3729.6 | 2466.7 | 0.0 | 2466.7 |
| | | -13.50 | 1726.0 | 2201.7 | 3927.7 | 2597.7 | 0.0 | 2597.7 |
| | | -14.00 | 1736.1 | 2294.4 | 4030.5 | 2665.7 | 0.0 | 2665.7 |
| | | -14.50 | 1656.3 | 2394.5 | 4050.8 | 2679.1 | 0.0 | 2679.1 |
| | | -15.00 | 2074.2 | 2482.0 | 4556.3 | 3013.4 | 0.0 | 3013.4 |
| | | -15.50 | 2100.7 | 2591.0 | 4691.7 | 3103.0 | 0.0 | 3103.0 |
| | | -16.00 | 1947.2 | 2711.3 | 4658.5 | 3081.0 | 0.0 | 3081.0 |
| | | -16.50 | 1790.2 | 2836.4 | 4626.6 | 3059.9 | 0.0 | 3059.9 |
| | | -17.00 | 1356.4 | 2961.5 | 4317.9 | 2855.7 | 0.0 | 2855.7 |
| | | -17.50 | 1245.2 | 3082.0 | 4327.2 | 2861.9 | 0.0 | 2861.9 |
| | | -18.00 | 1214.4 | 3191.1 | 4405.5 | 2913.7 | 0.0 | 2913.7 |
| | | -18.50 | 1167.2 | 3288.7 | 4455.9 | 2947.1 | 0.0 | 2947.1 |
| | | -19.00 | 1108.6 | 3386.5 | 4495.1 | 2973.0 | 0.0 | 2973.0 |
| | | -19.50 | 1143.7 | 3465.6 | 4609.3 | 3048.5 | 0.0 | 3048.5 |
| | | -20.00 | 1280.4 | 3547.2 | 4827.6 | 3192.8 | 0.0 | 3192.8 |
| | | -20.50 | 1343.2 | 3650.3 | 4993.5 | 3302.6 | 0.0 | 3302.6 |
| | | -21.00 | 1413.0 | 3769.9 | 5182.9 | 3427.8 | 0.0 | 3427.8 |
| | | -21.50 | 1825.8 | 3868.8 | 5694.6 | 3766.3 | 0.0 | 3766.3 |
| | | -22.00 | 2449.7 | 3980.9 | 6430.6 | 4253.0 | 0.0 | 4253.0 |
| | | -22.50 | 2000.5 | 4106.0 | 6106.5 | 4038.7 | 0.0 | 4038.7 |
| 328.S02 | 10.17 | -6.00 | 1077.5 | 1234.9 | 2312.4 | 1529.4 | 0.0 | 1529.4 |
| | | -6.50 | 917.3 | 1335.0 | 2252.3 | 1489.6 | 0.0 | 1489.6 |
| | | -7.00 | 1062.7 | 1403.7 | 2466.4 | 1631.2 | 0.0 | 1631.2 |
| | | -7.50 | 1116.7 | 1490.8 | 2607.5 | 1724.5 | 0.0 | 1724.5 |
| | | -8.00 | 1151.6 | 1586.8 | 2738.4 | 1811.1 | 0.0 | 1811.1 |
| | | -8.50 | 1147.5 | 1685.3 | 2832.8 | 1873.6 | 0.0 | 1873.6 |
| | | -9.00 | 1262.1 | 1781.4 | 3043.5 | 2012.9 | 0.0 | 2012.9 |
| | | -9.50 | 1468.4 | 1863.6 | 3332.0 | 2203.7 | 0.0 | 2203.7 |
| | | -10.00 | 1647.2 | 1956.4 | 3603.6 | 2383.3 | 0.0 | 2383.3 |
| | | -10.50 | 1733.7 | 2053.8 | 3787.5 | 2505.0 | 0.0 | 2505.0 |
| | | -11.00 | 1762.6 | 2165.7 | 3928.3 | 2598.1 | 0.0 | 2598.1 |
| | | -11.50 | 1768.9 | 2280.7 | 4049.6 | 2678.3 | 0.0 | 2678.3 |
| | | -12.00 | 1765.2 | 2391.8 | 4157.0 | 2749.4 | 0.0 | 2749.4 |
| | | -12.50 | 1810.6 | 2492.2 | 4302.8 | 2845.8 | 0.0 | 2845.8 |
| | | -13.00 | 1868.4 | 2590.1 | 4458.6 | 2948.8 | 0.0 | 2948.8 |
| | | -13.50 | 1546.7 | 2689.2 | 4235.9 | 2801.5 | 0.0 | 2801.5 |
| | | -14.00 | 1487.6 | 2789.2 | 4276.9 | 2828.6 | 0.0 | 2828.6 |
| | | -14.50 | 1485.4 | 2886.4 | 4371.8 | 2891.4 | 0.0 | 2891.4 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 328.S02 | 10.17 | -15.00 | 1446.8 | 2987.5 | 4434.3 | 2932.8 | 0.0 | 2932.8 |
| | | -15.50 | 1354.8 | 3087.4 | 4442.3 | 2938.0 | 0.0 | 2938.0 |
| | | -16.00 | 1425.7 | 3186.6 | 4612.3 | 3050.4 | 0.0 | 3050.4 |
| | | -16.50 | 1507.8 | 3290.3 | 4798.1 | 3173.4 | 0.0 | 3173.4 |
| | | -17.00 | 1550.0 | 3415.5 | 4965.4 | 3284.0 | 0.0 | 3284.0 |
| | | -17.50 | 1493.0 | 3540.6 | 5033.6 | 3329.1 | 0.0 | 3329.1 |
| | | -18.00 | 941.5 | 3684.2 | 4625.7 | 3059.3 | 0.0 | 3059.3 |
| | | -18.50 | 1740.9 | 3773.2 | 5514.1 | 3646.9 | 0.0 | 3646.9 |
| | | -19.00 | 1778.9 | 3885.2 | 5664.2 | 3746.1 | 0.0 | 3746.1 |
| | | -19.50 | 1968.5 | 4004.7 | 5973.2 | 3950.6 | 0.0 | 3950.6 |
| | | -20.00 | 2067.5 | 4129.8 | 6197.3 | 4098.8 | 0.0 | 4098.8 |
| | | -20.50 | 2282.0 | 4254.9 | 6536.9 | 4323.3 | 0.0 | 4323.3 |
| | | -21.00 | 2376.8 | 4380.0 | 6756.8 | 4468.8 | 0.0 | 4468.8 |
| | | -21.50 | 2490.7 | 4505.1 | 6995.9 | 4626.9 | 0.0 | 4626.9 |
| | | -22.00 | 2271.8 | 4630.3 | 6902.0 | 4564.8 | 0.0 | 4564.8 |
| | | -22.50 | 2358.9 | 4755.4 | 7114.3 | 4705.2 | 0.0 | 4705.2 |
| | | -23.00 | 2150.6 | 4880.5 | 7031.1 | 4650.2 | 0.0 | 4650.2 |
| | | -23.50 | 2159.3 | 5005.6 | 7164.9 | 4738.7 | 0.0 | 4738.7 |
| | | -24.00 | 2052.2 | 5130.7 | 7182.9 | 4750.6 | 0.0 | 4750.6 |
| | | -24.50 | 2073.8 | 5235.0 | 7308.8 | 4833.9 | 0.0 | 4833.9 |
| | | -25.00 | 1957.7 | 5335.1 | 7292.8 | 4823.3 | 0.0 | 4823.3 |
| | | -25.50 | 2064.4 | 5433.2 | 7497.6 | 4958.7 | 0.0 | 4958.7 |
| | | -26.00 | 1625.6 | 5533.3 | 7158.9 | 4734.7 | 0.0 | 4734.7 |
| | | -26.50 | 1703.8 | 5638.9 | 7342.7 | 4856.3 | 0.0 | 4856.3 |

## REKENGEGEVENS SI Ø610/850 druk

Berekening : Ontwerpend
Rekenmethode : Drukpalen volgens NEN-EN 1997-1, art. 7.6.2
Sondering(en) : 19-1008_1, 19-1008_6, 166.S01, 19-1008_11, 19-1008_12
: 19-1008_17, 19-1008_20, 19-1008_21, 251.S01, 19-1008_29
: 283.S02, 19-1008_35, 312.S03, 19-1008_43, 328.S02

Stijf bouwwerk : JA
Paalgroep : NEE
Aantal sonderingen : 15
Factor $\xi_{3\ (n=1)}$ : 1.26 (handmatig)
Factor $\xi_{3\ (gem)}$ : 1.26 (handmatig)
Factor $\xi_{4\ (min)}$ : 1.26 (handmatig)
Weerstandsfactor $\gamma_R$ : 1.20
$\gamma_{f;nk}$ : 1.0
$R_{s;cal;max;i}$ begrenzen op 0.75 * $R_{b;cal;max;i}$ : NEE
UGT draagvermogen zonder negatieve kleef : NEE

Paal : SI Ø610/850
Niveau paalkop [m] : N.A.P. 0.00
Bovenbel. [kN/m²] : 0.00

## PAALPUNTNIVEAUS SI Ø610/850

Alle niveaus/hoogtes/peilmaten zijn t.o.v. : N.A.P.

| Nr | Beginniveau [m] | Eindniveau [m] | Stapgrootte [m] |
|---|---|---|---|
| 1 | -7.00 | -30.00 | 0.50 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_1 | 19-1008_6 | 166.S01 | 19-1008_11 | 19-1008_12 | 19-1008_17 |
|---|---|---|---|---|---|---|
| Niveau | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ |
| [m] | [kN] | [kN] | [kN] | [kN] | [kN] | [kN] |
| -7.00 | -59 | **3720** | 2652 | 134 | 1936 | -16 |
| -7.50 | 6 | **4282** | 2791 | 281 | 1900 | -72 |
| -8.00 | 24 | **4657** | 2955 | 325 | 1796 | -41 |
| -8.50 | 34 | **4926** | 3130 | 364 | 1740 | -10 |
| -9.00 | 179 | **5063** | 3186 | 408 | 1762 | 13 |
| -9.50 | 224 | **5201** | 3301 | 410 | 1789 | 451 |
| -10.00 | 271 | **5996** | 3171 | 459 | 1791 | 252 |
| -10.50 | 358 | **6079** | 3228 | 495 | 1822 | 788 |
| -11.00 | 504 | **6070** | 3329 | 541 | 1811 | 1716 |
| -11.50 | 579 | **6210** | 3294 | 560 | 1866 | 1898 |
| -12.00 | 624 | **6306** | 3284 | 519 | 1880 | 1802 |
| -12.50 | 1133 | **6345** | 3343 | 1232 | 1891 | 1961 |
| -13.00 | 1246 | **6397** | 3589 | 1498 | 1932 | 2021 |
| -13.50 | 1403 | **6715** | 4011 | 1620 | 2023 | 2113 |
| -14.00 | 1646 | **6817** | 4169 | 1740 | 2062 | 2219 |
| -14.50 | 1925 | **6920** | 4320 | 1846 | 2096 | 2557 |
| -15.00 | 2040 | **6658** | 4477 | 1939 | 2129 | 2785 |
| -15.50 | 1989 | **5552** | 4915 | 2042 | 2231 | 2072 |
| -16.00 | 2266 | **5537** | 5099 | 2293 | 2285 | 2083 |
| -16.50 | 2440 | **5604** | 5202 | 2398 | 2339 | 2176 |
| -17.00 | 2928 | **5593** | 5274 | 2501 | 2408 | 2301 |
| -17.50 | 3434 | **5584** | 5428 | 3074 | 2529 | 2234 |
| -18.00 | 3532 | **6065** | 5579 | 3582 | 2790 | 2180 |
| -18.50 | 3212 | **6766** | 5722 | 3804 | 2891 | 2625 |
| -19.00 | 3232 | **6893** | 5830 | 3930 | 3316 | 2725 |
| -19.50 | 3200 | **7023** | 5900 | 4006 | 3556 | 2840 |
| -20.00 | 3169 | **7165** | 0 | 4166 | 3867 | 2972 |
| -20.50 | 3315 | **7291** | 0 | 3639 | 3836 | 3169 |
| -21.00 | 3450 | **7601** | 0 | 3715 | 4294 | 3111 |
| -21.50 | 4763 | 0 | 0 | 3736 | 4455 | 3504 |
| -22.00 | **6143** | 0 | 0 | 3594 | 4631 | 3539 |
| -22.50 | **6245** | 0 | 0 | 3591 | 4733 | 3605 |
| -23.00 | **6347** | 0 | 0 | 3571 | 4766 | 3617 |
| -23.50 | **6450** | 0 | 0 | 3873 | 4465 | 3637 |
| -24.00 | **6552** | 0 | 0 | 3968 | 4471 | 3727 |
| -24.50 | **6655** | 0 | 0 | 4019 | 4402 | 3790 |
| -25.00 | **6757** | 0 | 0 | 4089 | 4291 | 3872 |
| -25.50 | **6859** | 0 | 0 | 4949 | 4318 | 3953 |
| -26.00 | **6962** | 0 | 0 | 5055 | 4405 | 4065 |
| -26.50 | **7064** | 0 | 0 | 5139 | 4485 | 3330 |
| -27.00 | **7166** | 0 | 0 | 5263 | 4554 | 3357 |
| -27.50 | **7269** | 0 | 0 | 5429 | 4593 | 3420 |
| -28.00 | **7371** | 0 | 0 | 5831 | 5306 | 3469 |
| -28.50 | **7474** | 0 | 0 | 6068 | 5823 | 3456 |
| -29.00 | **7576** | 0 | 0 | 6467 | 0 | 3351 |
| -29.50 | **7678** | 0 | 0 | 7193 | 0 | 4057 |
| -30.00 | 0 | 0 | 0 | **7415** | 0 | 4562 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_20 | 19-1008_21 | 251.S01 | 19-1008_29 | 283.S02 | 19-1008_35 |
|---|---|---|---|---|---|---|
| Niveau | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ | $F_{netto;d}$ |
| [m] | [kN] | [kN] | [kN] | [kN] | [kN] | [kN] |
| -7.00 | 715 | 967 | 859 | 2243 | 1692 | 1530 |
| -7.50 | 645 | 1034 | 834 | 2377 | 1847 | 1629 |
| -8.00 | 669 | 1113 | 825 | 2477 | 1928 | 1667 |
| -8.50 | 718 | 1102 | 813 | 2284 | 1990 | 1692 |
| -9.00 | 749 | 1150 | 1255 | 1679 | 1773 | 1753 |
| -9.50 | 768 | 1327 | 1401 | 1754 | 1826 | 1833 |
| -10.00 | 729 | 1402 | 1485 | 1828 | 1878 | 1919 |
| -10.50 | 897 | 1469 | 1543 | 1864 | 1921 | 1999 |
| -11.00 | 908 | 1510 | 1577 | 1870 | 1965 | 2038 |
| -11.50 | 872 | 1562 | 1659 | 1929 | 1969 | 2061 |
| -12.00 | 918 | 1631 | 1970 | 2007 | 2390 | 2093 |
| -12.50 | 954 | 1604 | 1812 | 2020 | 2586 | 2313 |
| -13.00 | 968 | 1701 | 1907 | 2008 | 2814 | 2476 |
| -13.50 | 1080 | 1768 | 1997 | 2047 | 2976 | 2616 |
| -14.00 | 1085 | 1719 | 2051 | 2083 | 3116 | 2881 |
| -14.50 | 1122 | 1753 | 2047 | 2116 | 3179 | 2888 |
| -15.00 | 1166 | 1863 | 2006 | 2188 | 3252 | 2988 |
| -15.50 | 1197 | 1771 | 2985 | 2257 | 3503 | 3083 |
| -16.00 | 1234 | 1781 | 2797 | 2264 | 3774 | 3154 |
| -16.50 | 1262 | 1723 | 2865 | 2301 | 4004 | 3158 |
| -17.00 | 1313 | 1769 | 2993 | 2421 | 4416 | 3226 |
| -17.50 | 1506 | 1893 | 3069 | 3189 | 4450 | 3473 |
| -18.00 | 1576 | 1925 | 3079 | 3530 | 4612 | 3576 |
| -18.50 | 1633 | 1960 | 2748 | 3540 | 4753 | 3777 |
| -19.00 | 1752 | 2001 | 2796 | 3406 | 4892 | 3864 |
| -19.50 | 1846 | 2019 | 2769 | 4573 | 5002 | 4037 |
| -20.00 | 1842 | 2037 | 2764 | 4179 | 5024 | 4395 |
| -20.50 | 1834 | 2058 | 2791 | 4028 | 5414 | 4517 |
| -21.00 | 1848 | 2092 | 2840 | 3919 | 5692 | 4651 |
| -21.50 | 1882 | 2125 | 2866 | 3846 | **5836** | 4945 |
| -22.00 | 1917 | 2159 | 2883 | 3784 | 5945 | 5055 |
| -22.50 | 1956 | 2190 | 2979 | 3686 | 6051 | 5187 |
| -23.00 | 2374 | 2220 | 3033 | 3725 | 6269 | 4866 |
| -23.50 | 2553 | 2267 | 3187 | 3824 | 5469 | 4938 |
| -24.00 | 2731 | 2299 | 3252 | 3904 | 4727 | 5032 |
| -24.50 | 2876 | 2332 | 3338 | 3931 | 4587 | 5112 |
| -25.00 | 2977 | 2364 | 3601 | 3963 | 4552 | 5165 |
| -25.50 | 3083 | 2399 | 4097 | 4032 | 4450 | 5042 |
| -26.00 | 3212 | 2432 | 5052 | 4078 | 4423 | 5397 |
| -26.50 | 3113 | 2465 | 4945 | 4130 | 4386 | 5869 |
| -27.00 | 3200 | 2496 | 5098 | 4175 | 4452 | 6062 |
| -27.50 | 3248 | 2547 | 5086 | 4231 | 4423 | 6209 |
| -28.00 | 3333 | 2583 | 4694 | 4278 | 4464 | 6314 |
| -28.50 | 3422 | 2617 | 4561 | 4397 | 4503 | 6627 |
| -29.00 | 3492 | 2662 | 4531 | 4801 | 4536 | 5623 |
| -29.50 | 3562 | 2706 | 4488 | 4764 | 0 | 5510 |
| -30.00 | 3467 | 2746 | 4445 | 4713 | 0 | 5367 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 312.S03 | 19-1008_43 | 328.S02 |
|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -7.00 | 1245 | 2055 | 2201 |
| -7.50 | 1691 | 2165 | 2319 |
| -8.00 | 2402 | 2276 | 2426 |
| -8.50 | 2574 | 2383 | 2494 |
| -9.00 | 2763 | 2493 | 2768 |
| -9.50 | 2842 | 2586 | 2947 |
| -10.00 | 3044 | 2933 | 3169 |
| -10.50 | 3077 | 3004 | 3352 |
| -11.00 | 3223 | 3082 | 3509 |
| -11.50 | 3366 | 3202 | 3587 |
| -12.00 | 3528 | 3307 | 3702 |
| -12.50 | 3486 | 3321 | 3822 |
| -13.00 | 3674 | 3369 | 3627 |
| -13.50 | 3896 | 3548 | 3695 |
| -14.00 | 3974 | 3635 | 3766 |
| -14.50 | 3923 | 3634 | 3854 |
| -15.00 | 3960 | 4117 | 3908 |
| -15.50 | 4014 | 4037 | 3882 |
| -16.00 | 4096 | 3921 | 4051 |
| -16.50 | 4086 | 3735 | 4219 |
| -17.00 | 4101 | 3717 | 4364 |
| -17.50 | 3572 | 3784 | 4409 |
| -18.00 | 3683 | 3841 | 4007 |
| -18.50 | 3763 | 3873 | 4849 |
| -19.00 | 3841 | 3894 | 4963 |
| -19.50 | 3775 | 3999 | 5235 |
| -20.00 | 3798 | 4222 | 5414 |
| -20.50 | 4265 | 4344 | 5719 |
| -21.00 | 4540 | 4546 | 5900 |
| -21.50 | 4765 | 5135 | 5825 |
| -22.00 | 4988 | 5270 | 5997 |
| -22.50 | 5148 | 0 | 5941 |
| -23.00 | 5267 | 0 | 6089 |
| -23.50 | 5454 | 0 | 6167 |
| -24.00 | 5711 | 0 | 6253 |
| -24.50 | 5045 | 0 | 6384 |
| -25.00 | 4987 | 0 | 6296 |
| -25.50 | 4908 | 0 | 6069 |
| -26.00 | 4903 | 0 | 0 |
| -26.50 | 4894 | 0 | 0 |
| -27.00 | 4855 | 0 | 0 |
| -27.50 | 4886 | 0 | 0 |
| -28.00 | 4918 | 0 | 0 |
| -28.50 | 4949 | 0 | 0 |
| -29.00 | 5033 | 0 | 0 |
| -29.50 | 0 | 0 | 0 |
| -30.00 | 0 | 0 | 0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SAMENVATTINGSTABEL SI Ø610/850 druk (n=1)

**Uitgangspunten**
- paal : SI Ø610/850
- paaltype : In de grond gevormde geschroefde paal; groutinjectie
- schachtafmeting : 730 mm

Paalklassefactor $\alpha_p$ : 0.63
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Correlatiefactor $\xi_{3(n=1)}$ : 1.26

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{b;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -7.00 | 126.5 | 0.0 | 126.5 | 83.6 | -142.7 | -59.1 |
| | | -7.50 | 221.6 | 2.9 | 224.5 | 148.5 | -142.7 | 5.7 |
| | | -8.00 | 215.1 | 37.2 | 252.2 | 166.8 | -142.7 | 24.1 |
| | | -8.50 | 190.7 | 75.9 | 266.6 | 176.3 | -142.7 | 33.6 |
| | | -9.00 | 399.3 | 87.6 | 486.9 | 322.0 | -142.7 | 179.3 |
| | | -9.50 | 403.0 | 151.7 | 554.7 | 366.9 | -142.7 | 224.1 |
| | | -10.00 | 416.9 | 208.7 | 625.6 | 413.7 | -142.7 | 271.0 |
| | | -10.50 | 481.1 | 275.4 | 756.5 | 500.3 | -142.7 | 357.6 |
| | | -11.00 | 657.5 | 320.8 | 978.2 | 647.0 | -142.7 | 504.2 |
| | | -11.50 | 691.3 | 399.6 | 1090.9 | 721.5 | -142.7 | 578.7 |
| | | -12.00 | 658.8 | 501.0 | 1159.8 | 767.1 | -142.7 | 624.3 |
| | | -12.50 | 1360.0 | 568.3 | 1928.3 | 1275.3 | -142.7 | 1132.6 |
| | | -13.00 | 1422.5 | 676.8 | 2099.3 | 1388.4 | -142.7 | 1245.7 |
| | | -13.50 | 1552.7 | 785.2 | 2337.9 | 1546.2 | -142.7 | 1403.5 |
| | | -14.00 | 1825.6 | 878.6 | 2704.1 | 1788.4 | -142.7 | 1645.7 |
| | | -14.50 | 2124.2 | 1001.7 | 3125.8 | 2067.3 | -142.7 | 1924.6 |
| | | -15.00 | 2186.3 | 1113.8 | 3300.1 | 2182.6 | -142.7 | 2039.9 |
| | | -15.50 | 1986.3 | 1236.7 | 3223.0 | 2131.6 | -142.7 | 1988.9 |
| | | -16.00 | 2300.4 | 1341.9 | 3642.3 | 2408.9 | -142.7 | 2266.2 |
| | | -16.50 | 2446.6 | 1457.8 | 3904.4 | 2582.3 | -142.7 | 2439.5 |
| | | -17.00 | 3066.9 | 1575.6 | 4642.6 | 3070.5 | -142.7 | 2927.7 |
| | | -17.50 | 3693.9 | 1713.5 | 5407.4 | 3576.3 | -142.7 | 3433.6 |
| | | -18.00 | 3688.4 | 1868.3 | 5556.8 | 3675.1 | -142.7 | 3532.4 |
| | | -18.50 | 3048.8 | 2023.2 | 5072.0 | 3354.5 | -142.7 | 3211.7 |
| | | -19.00 | 2925.1 | 2178.0 | 5103.0 | 3375.0 | -142.7 | 3232.3 |
| | | -19.50 | 2721.1 | 2332.8 | 5053.9 | 3342.5 | -142.7 | 3199.8 |
| | | -20.00 | 2484.0 | 2523.8 | 5007.9 | 3312.1 | -142.7 | 3169.3 |
| | | -20.50 | 2506.7 | 2722.1 | 5228.8 | 3458.2 | -142.7 | 3315.4 |
| | | -21.00 | 2503.8 | 2928.5 | 5432.3 | 3592.8 | -142.7 | 3450.1 |
| | | -21.50 | 4346.4 | 3070.6 | 7417.0 | 4905.4 | -142.7 | 4762.7 |
| | | -22.00 | 6278.1 | 3225.4 | 9503.5 | 6285.4 | -142.7 | 6142.7 |
| | | -22.50 | 6278.1 | 3380.2 | 9658.3 | 6387.8 | -142.7 | 6245.0 |
| | | -23.00 | 6278.1 | 3535.0 | 9813.1 | 6490.2 | -142.7 | 6347.4 |
| | | -23.50 | 6278.1 | 3689.8 | 9967.9 | 6592.5 | -142.7 | 6449.8 |
| | | -24.00 | 6278.1 | 3844.6 | 10122.7 | 6694.9 | -142.7 | 6552.2 |
| | | -24.50 | 6278.1 | 3999.4 | 10277.5 | 6797.3 | -142.7 | 6654.6 |
| | | -25.00 | 6278.1 | 4154.2 | 10432.3 | 6899.7 | -142.7 | 6757.0 |
| | | -25.50 | 6278.1 | 4309.1 | 10587.1 | 7002.1 | -142.7 | 6859.3 |
| | | -26.00 | 6278.1 | 4463.9 | 10741.9 | 7104.5 | -142.7 | 6961.7 |
| | | -26.50 | 6278.1 | 4618.7 | 10896.7 | 7206.8 | -142.7 | 7064.1 |
| | | -27.00 | 6278.1 | 4773.5 | 11051.5 | 7309.2 | -142.7 | 7166.5 |
| | | -27.50 | 6278.1 | 4928.3 | 11206.3 | 7411.6 | -142.7 | 7268.9 |
| | | -28.00 | 6278.1 | 5083.1 | 11361.1 | 7514.0 | -142.7 | 7371.2 |
| | | -28.50 | 6278.1 | 5237.9 | 11515.9 | 7616.4 | -142.7 | 7473.6 |
| | | -29.00 | 6278.1 | 5392.7 | 11670.7 | 7718.7 | -142.7 | 7576.0 |
| | | -29.50 | 6278.1 | 5547.5 | 11825.5 | 7821.1 | -142.7 | 7678.4 |
| 19-1008_6 | 11.00 | -7.00 | 3761.5 | 1862.4 | 5623.9 | 3719.5 | 0.0 | 3719.5 |
| | | -7.50 | 4457.9 | 2017.2 | 6475.0 | 4282.4 | 0.0 | 4282.4 |
| | | -8.00 | 4868.9 | 2172.0 | 7040.8 | 4656.6 | 0.0 | 4656.6 |
| | | -8.50 | 5122.0 | 2326.8 | 7448.8 | 4926.5 | 0.0 | 4926.5 |
| | | -9.00 | 5174.4 | 2481.6 | 7656.0 | 5063.5 | 0.0 | 5063.5 |
| | | -9.50 | 5227.2 | 2636.4 | 7863.6 | 5200.8 | 0.0 | 5200.8 |
| | | -10.00 | 6275.5 | 2791.2 | 9066.7 | 5996.5 | 0.0 | 5996.5 |
| | | -10.50 | 6245.8 | 2946.0 | 9191.8 | 6079.2 | 0.0 | 6079.2 |
| | | -11.00 | 6076.5 | 3100.8 | 9177.3 | 6069.6 | 0.0 | 6069.6 |
| | | -11.50 | 6133.6 | 3255.6 | 9389.2 | 6209.8 | 0.0 | 6209.8 |
| | | -12.00 | 6124.0 | 3410.4 | 9534.4 | 6305.8 | 0.0 | 6305.8 |
| | | -12.50 | 6028.9 | 3565.2 | 9594.1 | 6345.3 | 0.0 | 6345.3 |
| | | -13.00 | 5951.5 | 3720.0 | 9671.5 | 6396.5 | 0.0 | 6396.5 |
| | | -13.50 | 6278.1 | 3874.8 | 10152.9 | 6714.9 | 0.0 | 6714.9 |
| | | -14.00 | 6278.1 | 4029.6 | 10307.7 | 6817.3 | 0.0 | 6817.3 |
| | | -14.50 | 6278.1 | 4184.4 | 10462.5 | 6919.6 | 0.0 | 6919.6 |
| | | -15.00 | 5727.2 | 4339.2 | 10066.4 | 6657.7 | 0.0 | 6657.7 |
| | | -15.50 | 3900.7 | 4494.0 | 8394.7 | 5552.0 | 0.0 | 5552.0 |
| | | -16.00 | 3722.5 | 4648.8 | 8371.4 | 5536.6 | 0.0 | 5536.6 |
| | | -16.50 | 3669.6 | 4803.6 | 8473.2 | 5604.0 | 0.0 | 5604.0 |
| | | -17.00 | 3498.7 | 4958.4 | 8457.1 | 5593.3 | 0.0 | 5593.3 |
| | | -17.50 | 3329.5 | 5113.2 | 8442.8 | 5583.8 | 0.0 | 5583.8 |
| | | -18.00 | 3901.9 | 5268.0 | 9170.0 | 6064.8 | 0.0 | 6064.8 |
| | | -18.50 | 4817.8 | 5412.5 | 10230.3 | 6766.1 | 0.0 | 6766.1 |
| | | -19.00 | 4854.7 | 5567.3 | 10421.9 | 6892.8 | 0.0 | 6892.8 |
| | | -19.50 | 4896.6 | 5722.1 | 10618.7 | 7022.9 | 0.0 | 7022.9 |
| | | -20.00 | 4956.5 | 5876.9 | 10833.3 | 7164.9 | 0.0 | 7164.9 |
| | | -20.50 | 4991.8 | 6031.7 | 11023.4 | 7290.6 | 0.0 | 7290.6 |
| | | -21.00 | 5305.8 | 6186.5 | 11492.2 | 7600.7 | 0.0 | 7600.7 |
| 166.S01 | 3.45 | -7.00 | 3009.4 | 1016.6 | 4026.0 | 2662.7 | -11.0 | 2651.7 |
| | | -7.50 | 3065.5 | 1171.5 | 4236.9 | 2802.2 | -11.0 | 2791.2 |
| | | -8.00 | 3159.0 | 1326.3 | 4485.2 | 2966.4 | -11.0 | 2955.5 |
| | | -8.50 | 3269.8 | 1479.9 | 4749.6 | 3141.3 | -11.0 | 3130.3 |
| | | -9.00 | 3201.1 | 1633.3 | 4834.4 | 3197.3 | -11.0 | 3186.4 |
| | | -9.50 | 3223.6 | 1784.5 | 5008.1 | 3312.3 | -11.0 | 3301.3 |
| | | -10.00 | 2871.6 | 1939.3 | 4811.0 | 3181.9 | -11.0 | 3170.9 |
| | | -10.50 | 2802.8 | 2094.1 | 4896.9 | 3238.7 | -11.0 | 3227.7 |
| | | -11.00 | 2801.0 | 2248.9 | 5049.9 | 3339.9 | -11.0 | 3328.9 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 166.S01 | 3.45 | -11.50 | 2593.6 | 2403.7 | 4997.3 | 3305.1 | -11.0 | 3294.1 |
| | | -12.00 | 2435.9 | 2546.0 | 4982.0 | 3294.9 | -11.0 | 3284.0 |
| | | -12.50 | 2405.1 | 2666.2 | 5071.3 | 3354.1 | -11.0 | 3343.1 |
| | | -13.00 | 2665.1 | 2778.6 | 5443.7 | 3600.3 | -11.0 | 3589.4 |
| | | -13.50 | 3188.4 | 2892.9 | 6081.2 | 4022.0 | -11.0 | 4011.0 |
| | | -14.00 | 3294.0 | 3025.8 | 6319.9 | 4179.8 | -11.0 | 4168.8 |
| | | -14.50 | 3369.8 | 3179.0 | 6548.8 | 4331.2 | -11.0 | 4320.2 |
| | | -15.00 | 3452.1 | 3333.8 | 6785.9 | 4488.0 | -11.0 | 4477.0 |
| | | -15.50 | 3959.9 | 3488.6 | 7448.5 | 4926.2 | -11.0 | 4915.3 |
| | | -16.00 | 4082.4 | 3643.4 | 7725.8 | 5109.6 | -11.0 | 5098.7 |
| | | -16.50 | 4083.2 | 3798.2 | 7881.4 | 5212.6 | -11.0 | 5201.6 |
| | | -17.00 | 4037.8 | 3953.0 | 7990.8 | 5284.9 | -11.0 | 5273.9 |
| | | -17.50 | 4116.0 | 4107.8 | 8223.8 | 5439.0 | -11.0 | 5428.1 |
| | | -18.00 | 4189.8 | 4262.6 | 8452.4 | 5590.2 | -11.0 | 5579.2 |
| | | -18.50 | 4250.9 | 4417.4 | 8668.3 | 5733.0 | -11.0 | 5722.0 |
| | | -19.00 | 4260.0 | 4572.2 | 8832.2 | 5841.4 | -11.0 | 5830.4 |
| | | -19.50 | 4210.2 | 4727.0 | 8937.2 | 5910.8 | -11.0 | 5899.9 |
| 19-1008_11 | 0.62 | -7.00 | 448.0 | 6.8 | 454.8 | 300.8 | -167.1 | 133.7 |
| | | -7.50 | 629.1 | 49.1 | 678.2 | 448.5 | -167.1 | 281.5 |
| | | -8.00 | 633.3 | 111.2 | 744.4 | 492.3 | -167.1 | 325.2 |
| | | -8.50 | 635.1 | 167.7 | 802.8 | 530.9 | -167.1 | 363.9 |
| | | -9.00 | 658.3 | 211.6 | 869.9 | 575.3 | -167.1 | 408.3 |
| | | -9.50 | 619.0 | 253.4 | 872.4 | 577.0 | -167.1 | 409.9 |
| | | -10.00 | 650.6 | 296.7 | 947.3 | 626.5 | -167.1 | 459.4 |
| | | -10.50 | 651.7 | 348.7 | 1000.3 | 661.6 | -167.1 | 494.5 |
| | | -11.00 | 661.7 | 409.3 | 1071.0 | 708.3 | -167.1 | 541.2 |
| | | -11.50 | 616.5 | 482.3 | 1098.7 | 726.7 | -167.1 | 559.6 |
| | | -12.00 | 463.6 | 574.3 | 1037.9 | 686.4 | -167.1 | 519.3 |
| | | -12.50 | 1506.7 | 608.6 | 2115.3 | 1399.0 | -167.1 | 1231.9 |
| | | -13.00 | 1800.6 | 717.2 | 2517.8 | 1665.2 | -167.1 | 1498.2 |
| | | -13.50 | 1857.0 | 845.2 | 2702.3 | 1787.2 | -167.1 | 1620.1 |
| | | -14.00 | 1907.3 | 975.7 | 2883.0 | 1906.7 | -167.1 | 1739.6 |
| | | -14.50 | 1936.0 | 1107.6 | 3043.7 | 2013.0 | -167.1 | 1845.9 |
| | | -15.00 | 1944.8 | 1239.6 | 3184.4 | 2106.1 | -167.1 | 1939.0 |
| | | -15.50 | 1976.7 | 1363.0 | 3339.8 | 2208.8 | -167.1 | 2041.8 |
| | | -16.00 | 2252.0 | 1467.2 | 3719.2 | 2459.8 | -167.1 | 2292.7 |
| | | -16.50 | 2289.1 | 1589.2 | 3878.3 | 2565.0 | -167.1 | 2398.0 |
| | | -17.00 | 2327.0 | 1706.4 | 4033.4 | 2667.6 | -167.1 | 2500.5 |
| | | -17.50 | 3083.0 | 1817.1 | 4900.2 | 3240.9 | -167.1 | 3073.8 |
| | | -18.00 | 3712.4 | 1956.8 | 5669.2 | 3749.5 | -167.1 | 3582.4 |
| | | -18.50 | 3893.1 | 2111.6 | 6004.6 | 3971.3 | -167.1 | 3804.2 |
| | | -19.00 | 3928.3 | 2266.4 | 6194.6 | 4097.0 | -167.1 | 3929.9 |
| | | -19.50 | 3889.0 | 2421.2 | 6310.1 | 4173.4 | -167.1 | 4006.3 |
| | | -20.00 | 3976.1 | 2576.0 | 6552.1 | 4333.4 | -167.1 | 4166.3 |
| | | -20.50 | 3024.6 | 2730.8 | 5755.3 | 3806.4 | -167.1 | 3639.4 |
| | | -21.00 | 2984.4 | 2885.6 | 5870.0 | 3882.3 | -167.1 | 3715.2 |
| | | -21.50 | 2870.2 | 3031.4 | 5901.6 | 3903.2 | -167.1 | 3736.1 |
| | | -22.00 | 2500.9 | 3186.2 | 5687.1 | 3761.3 | -167.1 | 3594.2 |
| | | -22.50 | 2340.6 | 3341.0 | 5681.6 | 3757.7 | -167.1 | 3590.6 |
| | | -23.00 | 2170.4 | 3481.4 | 5651.8 | 3738.0 | -167.1 | 3570.9 |
| | | -23.50 | 2534.1 | 3574.6 | 6108.7 | 4040.2 | -167.1 | 3873.1 |
| | | -24.00 | 2557.2 | 3694.8 | 6252.0 | 4134.9 | -167.1 | 3967.8 |
| | | -24.50 | 2499.0 | 3831.1 | 6330.1 | 4186.6 | -167.1 | 4019.5 |
| | | -25.00 | 2474.2 | 3960.8 | 6435.0 | 4255.9 | -167.1 | 4088.9 |
| | | -25.50 | 3664.9 | 4070.2 | 7735.1 | 5115.8 | -167.1 | 4948.7 |
| | | -26.00 | 3671.2 | 4225.0 | 7896.1 | 5222.3 | -167.1 | 5055.2 |
| | | -26.50 | 3643.0 | 4379.8 | 8022.8 | 5306.1 | -167.1 | 5139.0 |
| | | -27.00 | 3675.7 | 4534.6 | 8210.2 | 5430.1 | -167.1 | 5263.0 |
| | | -27.50 | 3771.8 | 4689.4 | 8461.2 | 5596.0 | -167.1 | 5428.9 |
| | | -28.00 | 4225.4 | 4844.2 | 9069.6 | 5998.4 | -167.1 | 5831.3 |
| | | -28.50 | 4428.0 | 4998.9 | 9426.9 | 6234.7 | -167.1 | 6067.6 |
| | | -29.00 | 4877.6 | 5153.7 | 10031.3 | 6634.4 | -167.1 | 6467.4 |
| | | -29.50 | 5819.9 | 5308.5 | 11128.5 | 7360.1 | -167.1 | 7193.0 |
| | | -30.00 | 6001.2 | 5463.3 | 11464.6 | 7582.4 | -167.1 | 7415.3 |
| 19-1008_12 | 3.57 | -7.00 | 974.4 | 1952.4 | 2926.8 | 1935.7 | 0.0 | 1935.7 |
| | | -7.50 | 765.6 | 2107.2 | 2872.8 | 1900.0 | 0.0 | 1900.0 |
| | | -8.00 | 454.5 | 2260.6 | 2715.1 | 1795.7 | 0.0 | 1795.7 |
| | | -8.50 | 291.3 | 2339.4 | 2630.8 | 1739.9 | 0.0 | 1739.9 |
| | | -9.00 | 301.8 | 2362.5 | 2664.3 | 1762.1 | 0.0 | 1762.1 |
| | | -9.50 | 326.4 | 2379.3 | 2705.7 | 1789.5 | 0.0 | 1789.5 |
| | | -10.00 | 295.8 | 2412.8 | 2708.6 | 1791.4 | 0.0 | 1791.4 |
| | | -10.50 | 274.2 | 2481.0 | 2755.2 | 1822.2 | 0.0 | 1822.2 |
| | | -11.00 | 204.6 | 2533.5 | 2738.1 | 1810.9 | 0.0 | 1810.9 |
| | | -11.50 | 278.0 | 2543.8 | 2821.8 | 1866.3 | 0.0 | 1866.3 |
| | | -12.00 | 249.3 | 2593.0 | 2842.3 | 1879.9 | 0.0 | 1879.9 |
| | | -12.50 | 248.8 | 2610.8 | 2859.7 | 1891.3 | 0.0 | 1891.3 |
| | | -13.00 | 296.1 | 2624.8 | 2920.8 | 1931.8 | 0.0 | 1931.8 |
| | | -13.50 | 416.0 | 2642.1 | 3058.1 | 2022.6 | 0.0 | 2022.6 |
| | | -14.00 | 432.5 | 2684.6 | 3117.2 | 2061.6 | 0.0 | 2061.6 |
| | | -14.50 | 428.7 | 2740.3 | 3169.0 | 2095.9 | 0.0 | 2095.9 |
| | | -15.00 | 440.0 | 2779.1 | 3219.2 | 2129.1 | 0.0 | 2129.1 |
| | | -15.50 | 562.6 | 2809.9 | 3372.6 | 2230.5 | 0.0 | 2230.5 |
| | | -16.00 | 594.4 | 2860.2 | 3454.6 | 2284.8 | 0.0 | 2284.8 |
| | | -16.50 | 606.9 | 2929.0 | 3535.9 | 2338.6 | 0.0 | 2338.6 |
| | | -17.00 | 654.5 | 2986.1 | 3640.6 | 2407.8 | 0.0 | 2407.8 |
| | | -17.50 | 752.4 | 3071.3 | 3823.6 | 2528.9 | 0.0 | 2528.9 |
| | | -18.00 | 1080.6 | 3137.2 | 4217.8 | 2789.6 | 0.0 | 2789.6 |
| | | -18.50 | 1082.0 | 3289.6 | 4371.6 | 2891.3 | 0.0 | 2891.3 |
| | | -19.00 | 1585.3 | 3429.0 | 5014.3 | 3316.3 | 0.0 | 3316.3 |
| | | -19.50 | 1820.5 | 3556.5 | 5377.0 | 3556.2 | 0.0 | 3556.2 |
| | | -20.00 | 2180.0 | 3666.4 | 5846.4 | 3866.7 | 0.0 | 3866.7 |
| | | -20.50 | 2010.5 | 3790.2 | 5800.8 | 3836.5 | 0.0 | 3836.5 |
| | | -21.00 | 2586.1 | 3906.2 | 6492.2 | 4293.8 | 0.0 | 4293.8 |
| | | -21.50 | 2689.3 | 4046.7 | 6736.0 | 4455.0 | 0.0 | 4455.0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_12 | 3.57 | -22.00 | 2801.9 | 4199.4 | 7001.4 | 4630.5 | 0.0 | 4630.5 |
| | | -22.50 | 2804.1 | 4351.8 | 7155.9 | 4732.8 | 0.0 | 4732.8 |
| | | -23.00 | 2714.1 | 4491.5 | 7205.7 | 4765.7 | 0.0 | 4765.7 |
| | | -23.50 | 2124.5 | 4626.0 | 6750.5 | 4464.6 | 0.0 | 4464.6 |
| | | -24.00 | 1991.2 | 4768.7 | 6759.9 | 4470.8 | 0.0 | 4470.8 |
| | | -24.50 | 1732.9 | 4923.5 | 6656.4 | 4402.4 | 0.0 | 4402.4 |
| | | -25.00 | 1409.9 | 5078.3 | 6488.2 | 4291.1 | 0.0 | 4291.1 |
| | | -25.50 | 1246.4 | 5282.6 | 6529.0 | 4318.1 | 0.0 | 4318.1 |
| | | -26.00 | 1171.7 | 5488.1 | 6659.7 | 4404.6 | 0.0 | 4404.6 |
| | | -26.50 | 1175.6 | 5606.4 | 6782.0 | 4485.4 | 0.0 | 4485.4 |
| | | -27.00 | 1168.5 | 5717.0 | 6885.5 | 4553.9 | 0.0 | 4553.9 |
| | | -27.50 | 1100.3 | 5843.8 | 6944.1 | 4592.7 | 0.0 | 4592.7 |
| | | -28.00 | 2086.8 | 5935.4 | 8022.3 | 5305.7 | 0.0 | 5305.7 |
| | | -28.50 | 2751.2 | 6053.0 | 8804.2 | 5822.9 | 0.0 | 5822.9 |
| 19-1008_17 | 0.20 | -7.00 | 287.1 | 0.0 | 287.1 | 189.9 | -206.0 | -16.2 |
| | | -7.50 | 244.4 | 0.0 | 244.4 | 161.7 | -233.3 | -71.6 |
| | | -8.00 | 290.5 | 0.0 | 290.5 | 192.1 | -233.3 | -41.2 |
| | | -8.50 | 337.5 | 0.0 | 337.5 | 223.2 | -233.3 | -10.1 |
| | | -9.00 | 372.8 | 0.0 | 372.8 | 246.5 | -233.3 | 13.2 |
| | | -9.50 | 1034.2 | 0.0 | 1034.2 | 684.0 | -233.3 | 450.7 |
| | | -10.00 | 733.7 | 0.0 | 733.7 | 485.3 | -233.3 | 251.9 |
| | | -10.50 | 1520.5 | 23.8 | 1544.3 | 1021.4 | -233.3 | 788.1 |
| | | -11.00 | 2827.2 | 120.8 | 2948.0 | 1949.7 | -233.3 | 1716.4 |
| | | -11.50 | 2946.9 | 275.6 | 3222.5 | 2131.3 | -233.3 | 1897.9 |
| | | -12.00 | 2646.9 | 430.4 | 3077.3 | 2035.3 | -233.3 | 1801.9 |
| | | -12.50 | 2732.2 | 585.2 | 3317.4 | 2194.0 | -233.3 | 1960.7 |
| | | -13.00 | 2668.8 | 740.0 | 3408.8 | 2254.5 | -233.3 | 2021.2 |
| | | -13.50 | 2652.8 | 894.8 | 3547.6 | 2346.3 | -233.3 | 2113.0 |
| | | -14.00 | 2658.5 | 1049.6 | 3708.1 | 2452.5 | -233.3 | 2219.1 |
| | | -14.50 | 3014.4 | 1204.3 | 4218.7 | 2790.2 | -233.3 | 2556.9 |
| | | -15.00 | 3215.9 | 1347.4 | 4563.3 | 3018.0 | -233.3 | 2784.7 |
| | | -15.50 | 1984.2 | 1502.2 | 3486.4 | 2305.8 | -233.3 | 2072.5 |
| | | -16.00 | 1845.2 | 1657.0 | 3502.2 | 2316.2 | -233.3 | 2082.9 |
| | | -16.50 | 1831.2 | 1811.8 | 3643.0 | 2409.4 | -233.3 | 2176.1 |
| | | -17.00 | 1871.2 | 1960.2 | 3831.4 | 2534.0 | -233.3 | 2300.7 |
| | | -17.50 | 1610.2 | 2120.5 | 3730.7 | 2467.4 | -233.3 | 2234.1 |
| | | -18.00 | 1341.8 | 2306.4 | 3648.2 | 2412.8 | -233.3 | 2179.5 |
| | | -18.50 | 1890.8 | 2430.8 | 4321.6 | 2858.2 | -233.3 | 2624.9 |
| | | -19.00 | 1935.5 | 2538.0 | 4473.5 | 2958.7 | -233.3 | 2725.4 |
| | | -19.50 | 1984.6 | 2661.8 | 4646.5 | 3073.1 | -233.3 | 2839.7 |
| | | -20.00 | 2059.3 | 2786.8 | 4846.0 | 3205.1 | -233.3 | 2971.7 |
| | | -20.50 | 2224.7 | 2919.3 | 5144.0 | 3402.1 | -233.3 | 3168.8 |
| | | -21.00 | 2000.2 | 3056.2 | 5056.4 | 3344.2 | -233.3 | 3110.9 |
| | | -21.50 | 2441.3 | 3209.5 | 5650.8 | 3737.3 | -233.3 | 3504.0 |
| | | -22.00 | 2362.0 | 3341.5 | 5703.5 | 3772.2 | -233.3 | 3538.8 |
| | | -22.50 | 2306.9 | 3496.3 | 5803.2 | 3838.1 | -233.3 | 3604.8 |
| | | -23.00 | 2170.1 | 3651.1 | 5821.2 | 3850.0 | -233.3 | 3616.7 |
| | | -23.50 | 2045.6 | 3805.9 | 5851.5 | 3870.0 | -233.3 | 3636.7 |
| | | -24.00 | 2039.9 | 3948.6 | 5988.5 | 3960.6 | -233.3 | 3727.3 |
| | | -24.50 | 2010.9 | 4072.2 | 6083.1 | 4023.2 | -233.3 | 3789.9 |
| | | -25.00 | 2038.0 | 4168.5 | 6206.5 | 4104.9 | -233.3 | 3871.5 |
| | | -25.50 | 2067.8 | 4262.0 | 6329.8 | 4186.4 | -233.3 | 3953.0 |
| | | -26.00 | 2146.4 | 4353.2 | 6499.6 | 4298.7 | -233.3 | 4065.4 |
| | | -26.50 | 942.9 | 4444.1 | 5387.0 | 3562.8 | -233.3 | 3329.5 |
| | | -27.00 | 876.6 | 4552.1 | 5428.6 | 3590.4 | -233.3 | 3357.1 |
| | | -27.50 | 856.7 | 4667.8 | 5524.5 | 3653.7 | -233.3 | 3420.4 |
| | | -28.00 | 812.9 | 4785.7 | 5598.6 | 3702.8 | -233.3 | 3469.5 |
| | | -28.50 | 668.7 | 4909.4 | 5578.1 | 3689.2 | -233.3 | 3455.9 |
| | | -29.00 | 379.7 | 5039.3 | 5419.0 | 3584.0 | -233.3 | 3350.7 |
| | | -29.50 | 1411.6 | 5075.9 | 6487.5 | 4290.7 | -233.3 | 4057.3 |
| | | -30.00 | 2075.6 | 5174.4 | 7250.0 | 4795.0 | -233.3 | 4561.7 |
| 19-1008_20 | -0.03 | -7.00 | 845.8 | 301.3 | 1147.1 | 758.7 | -44.0 | 714.7 |
| | | -7.50 | 657.3 | 384.2 | 1041.5 | 688.8 | -44.0 | 644.8 |
| | | -8.00 | 629.6 | 448.2 | 1077.9 | 712.9 | -44.0 | 668.9 |
| | | -8.50 | 641.2 | 510.6 | 1151.9 | 761.8 | -44.0 | 717.9 |
| | | -9.00 | 601.7 | 597.3 | 1198.9 | 793.0 | -44.0 | 749.0 |
| | | -9.50 | 560.4 | 667.4 | 1227.7 | 812.0 | -44.0 | 768.0 |
| | | -10.00 | 420.2 | 748.3 | 1168.6 | 772.9 | -44.0 | 728.9 |
| | | -10.50 | 655.7 | 767.7 | 1423.4 | 941.4 | -44.0 | 897.5 |
| | | -11.00 | 567.3 | 872.7 | 1440.0 | 952.4 | -44.0 | 908.4 |
| | | -11.50 | 397.9 | 986.2 | 1384.2 | 915.5 | -44.0 | 871.5 |
| | | -12.00 | 446.3 | 1008.3 | 1454.7 | 962.1 | -44.0 | 918.1 |
| | | -12.50 | 475.7 | 1033.7 | 1509.4 | 998.3 | -44.0 | 954.3 |
| | | -13.00 | 447.7 | 1082.5 | 1530.2 | 1012.1 | -44.0 | 968.1 |
| | | -13.50 | 594.6 | 1104.5 | 1699.1 | 1123.7 | -44.0 | 1079.8 |
| | | -14.00 | 559.6 | 1147.6 | 1707.3 | 1129.1 | -44.0 | 1085.2 |
| | | -14.50 | 536.0 | 1227.5 | 1763.5 | 1166.4 | -44.0 | 1122.4 |
| | | -15.00 | 509.9 | 1318.8 | 1828.7 | 1209.5 | -44.0 | 1165.5 |
| | | -15.50 | 506.7 | 1370.1 | 1876.8 | 1241.3 | -44.0 | 1197.3 |
| | | -16.00 | 523.5 | 1408.6 | 1932.1 | 1277.8 | -44.0 | 1233.9 |
| | | -16.50 | 512.1 | 1463.1 | 1975.2 | 1306.4 | -44.0 | 1262.4 |
| | | -17.00 | 553.2 | 1498.4 | 2051.6 | 1356.9 | -44.0 | 1312.9 |
| | | -17.50 | 802.4 | 1541.7 | 2344.1 | 1550.4 | -44.0 | 1506.4 |
| | | -18.00 | 825.9 | 1622.8 | 2448.7 | 1619.5 | -44.0 | 1575.6 |
| | | -18.50 | 817.0 | 1717.8 | 2534.9 | 1676.5 | -44.0 | 1632.5 |
| | | -19.00 | 926.2 | 1788.9 | 2715.0 | 1795.7 | -44.0 | 1751.7 |
| | | -19.50 | 972.7 | 1884.6 | 2857.3 | 1889.7 | -44.0 | 1845.8 |
| | | -20.00 | 867.7 | 1983.3 | 2851.0 | 1885.6 | -44.0 | 1841.6 |
| | | -20.50 | 729.2 | 2110.5 | 2839.6 | 1878.1 | -44.0 | 1834.1 |
| | | -21.00 | 579.8 | 2280.7 | 2860.6 | 1891.9 | -44.0 | 1848.0 |
| | | -21.50 | 559.0 | 2352.9 | 2911.9 | 1925.8 | -44.0 | 1881.9 |
| | | -22.00 | 564.0 | 2400.5 | 2964.5 | 1960.6 | -44.0 | 1916.7 |
| | | -22.50 | 572.3 | 2452.4 | 3024.7 | 2000.4 | -44.0 | 1956.5 |
| | | -23.00 | 1162.0 | 2494.3 | 3656.3 | 2418.2 | -44.0 | 2374.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_20 | -0.03 | -23.50 | 1351.1 | 2575.8 | 3927.0 | 2597.2 | -44.0 | 2553.2 |
| | | -24.00 | 1529.0 | 2667.1 | 4196.1 | 2775.2 | -44.0 | 2731.3 |
| | | -24.50 | 1651.6 | 2762.8 | 4414.4 | 2919.6 | -44.0 | 2875.6 |
| | | -25.00 | 1687.2 | 2880.6 | 4567.7 | 3021.0 | -44.0 | 2977.0 |
| | | -25.50 | 1740.6 | 2987.6 | 4728.2 | 3127.1 | -44.0 | 3083.1 |
| | | -26.00 | 1830.7 | 3092.3 | 4923.0 | 3256.0 | -44.0 | 3212.0 |
| | | -26.50 | 1585.8 | 3186.8 | 4772.6 | 3156.5 | -44.0 | 3112.5 |
| | | -27.00 | 1602.6 | 3302.2 | 4904.8 | 3243.9 | -44.0 | 3199.9 |
| | | -27.50 | 1573.9 | 3403.6 | 4977.5 | 3292.0 | -44.0 | 3248.0 |
| | | -28.00 | 1611.3 | 3495.2 | 5106.5 | 3377.3 | -44.0 | 3333.3 |
| | | -28.50 | 1637.7 | 3602.7 | 5240.3 | 3465.8 | -44.0 | 3421.8 |
| | | -29.00 | 1644.5 | 3702.2 | 5346.7 | 3536.2 | -44.0 | 3492.2 |
| | | -29.50 | 1669.9 | 3782.3 | 5452.2 | 3605.9 | -44.0 | 3562.0 |
| | | -30.00 | 1425.7 | 3883.4 | 5309.1 | 3511.3 | -44.0 | 3467.3 |
| 19-1008_21 | 1.78 | -7.00 | 1133.1 | 535.8 | 1668.9 | 1103.8 | -137.2 | 966.5 |
| | | -7.50 | 1113.1 | 657.1 | 1770.2 | 1170.8 | -137.2 | 1033.5 |
| | | -8.00 | 1119.5 | 770.7 | 1890.2 | 1250.1 | -137.2 | 1112.9 |
| | | -8.50 | 988.3 | 885.5 | 1873.7 | 1239.2 | -137.2 | 1102.0 |
| | | -9.00 | 1001.5 | 944.8 | 1946.3 | 1287.2 | -137.2 | 1150.0 |
| | | -9.50 | 1224.4 | 989.5 | 2213.9 | 1464.2 | -137.2 | 1327.0 |
| | | -10.00 | 1270.5 | 1057.6 | 2328.1 | 1539.7 | -137.2 | 1402.5 |
| | | -10.50 | 1311.8 | 1117.3 | 2429.1 | 1606.6 | -137.2 | 1469.3 |
| | | -11.00 | 1304.2 | 1185.8 | 2490.0 | 1646.9 | -137.2 | 1509.6 |
| | | -11.50 | 1297.6 | 1272.3 | 2569.9 | 1699.7 | -137.2 | 1562.5 |
| | | -12.00 | 1304.1 | 1369.4 | 2673.6 | 1768.2 | -137.2 | 1631.0 |
| | | -12.50 | 1189.1 | 1444.0 | 2633.1 | 1741.5 | -137.2 | 1604.2 |
| | | -13.00 | 1249.2 | 1530.2 | 2779.4 | 1838.2 | -137.2 | 1701.0 |
| | | -13.50 | 1254.7 | 1625.6 | 2880.4 | 1905.0 | -137.2 | 1767.8 |
| | | -14.00 | 1038.3 | 1767.6 | 2805.9 | 1855.8 | -137.2 | 1718.5 |
| | | -14.50 | 948.9 | 1909.8 | 2858.7 | 1890.7 | -137.2 | 1753.5 |
| | | -15.00 | 1010.8 | 2013.9 | 3024.7 | 2000.4 | -137.2 | 1863.2 |
| | | -15.50 | 795.4 | 2089.7 | 2885.2 | 1908.2 | -137.2 | 1771.0 |
| | | -16.00 | 663.9 | 2236.5 | 2900.4 | 1918.2 | -137.2 | 1781.0 |
| | | -16.50 | 429.8 | 2382.9 | 2812.7 | 1860.3 | -137.2 | 1723.1 |
| | | -17.00 | 474.6 | 2407.8 | 2882.4 | 1906.3 | -137.2 | 1769.1 |
| | | -17.50 | 633.2 | 2436.9 | 3070.0 | 2030.4 | -137.2 | 1893.2 |
| | | -18.00 | 625.1 | 2492.4 | 3117.4 | 2061.8 | -137.2 | 1924.6 |
| | | -18.50 | 518.6 | 2653.0 | 3171.7 | 2097.7 | -137.2 | 1960.4 |
| | | -19.00 | 467.3 | 2765.1 | 3232.4 | 2137.8 | -137.2 | 2000.6 |
| | | -19.50 | 467.3 | 2793.6 | 3261.0 | 2156.7 | -137.2 | 2019.5 |
| | | -20.00 | 470.8 | 2816.3 | 3287.1 | 2174.0 | -137.2 | 2036.8 |
| | | -20.50 | 480.3 | 2838.7 | 3319.0 | 2195.1 | -137.2 | 2057.9 |
| | | -21.00 | 509.7 | 2861.4 | 3371.0 | 2229.5 | -137.2 | 2092.3 |
| | | -21.50 | 531.2 | 2888.7 | 3419.9 | 2261.8 | -137.2 | 2124.6 |
| | | -22.00 | 551.9 | 2920.4 | 3472.2 | 2296.5 | -137.2 | 2159.2 |
| | | -22.50 | 560.0 | 2959.1 | 3519.0 | 2327.4 | -137.2 | 2190.2 |
| | | -23.00 | 566.6 | 2997.4 | 3564.1 | 2357.2 | -137.2 | 2220.0 |
| | | -23.50 | 601.3 | 3034.3 | 3635.6 | 2404.5 | -137.2 | 2267.3 |
| | | -24.00 | 605.4 | 3078.1 | 3683.5 | 2436.1 | -137.2 | 2298.9 |
| | | -24.50 | 610.6 | 3123.1 | 3733.6 | 2469.3 | -137.2 | 2332.1 |
| | | -25.00 | 612.2 | 3170.4 | 3782.6 | 2501.7 | -137.2 | 2364.5 |
| | | -25.50 | 614.3 | 3220.1 | 3834.4 | 2536.0 | -137.2 | 2398.8 |
| | | -26.00 | 616.3 | 3267.7 | 3884.1 | 2568.8 | -137.2 | 2431.6 |
| | | -26.50 | 623.0 | 3310.8 | 3933.9 | 2601.8 | -137.2 | 2464.5 |
| | | -27.00 | 626.7 | 3355.0 | 3981.7 | 2633.4 | -137.2 | 2496.2 |
| | | -27.50 | 659.9 | 3398.4 | 4058.3 | 2684.1 | -137.2 | 2546.8 |
| | | -28.00 | 667.9 | 3445.2 | 4113.1 | 2720.3 | -137.2 | 2583.1 |
| | | -28.50 | 670.2 | 3493.5 | 4163.7 | 2753.8 | -137.2 | 2616.6 |
| | | -29.00 | 692.1 | 3540.4 | 4232.5 | 2799.3 | -137.2 | 2662.1 |
| | | -29.50 | 709.2 | 3589.7 | 4298.9 | 2843.2 | -137.2 | 2706.0 |
| | | -30.00 | 716.9 | 3642.3 | 4359.2 | 2883.1 | -137.2 | 2745.8 |
| 251.S01 | -1.05 | -7.00 | 575.9 | 746.3 | 1322.2 | 874.4 | -15.1 | 859.4 |
| | | -7.50 | 417.2 | 866.1 | 1283.2 | 848.7 | -15.1 | 833.6 |
| | | -8.00 | 293.6 | 976.2 | 1269.8 | 839.8 | -15.1 | 824.7 |
| | | -8.50 | 202.4 | 1050.3 | 1252.7 | 828.5 | -15.1 | 813.4 |
| | | -9.00 | 859.6 | 1061.4 | 1921.0 | 1270.5 | -15.1 | 1255.4 |
| | | -9.50 | 1011.0 | 1129.8 | 2140.8 | 1415.9 | -15.1 | 1400.8 |
| | | -10.00 | 1035.2 | 1233.5 | 2268.8 | 1500.5 | -15.1 | 1485.4 |
| | | -10.50 | 1000.1 | 1355.5 | 2355.6 | 1557.9 | -15.1 | 1542.9 |
| | | -11.00 | 958.4 | 1448.2 | 2406.6 | 1591.7 | -15.1 | 1576.6 |
| | | -11.50 | 1026.3 | 1504.5 | 2530.8 | 1673.8 | -15.1 | 1658.8 |
| | | -12.00 | 1440.9 | 1560.4 | 3001.3 | 1985.0 | -15.1 | 1969.9 |
| | | -12.50 | 1107.2 | 1655.4 | 2762.6 | 1827.1 | -15.1 | 1812.1 |
| | | -13.00 | 1139.0 | 1767.9 | 2906.9 | 1922.5 | -15.1 | 1907.5 |
| | | -13.50 | 1168.1 | 1873.8 | 3041.9 | 2011.8 | -15.1 | 1996.7 |
| | | -14.00 | 1103.3 | 2021.0 | 3124.3 | 2066.3 | -15.1 | 2051.3 |
| | | -14.50 | 950.3 | 2167.3 | 3117.6 | 2061.9 | -15.1 | 2046.8 |
| | | -15.00 | 729.8 | 2325.7 | 3055.5 | 2020.8 | -15.1 | 2005.8 |
| | | -15.50 | 2139.0 | 2396.6 | 4535.7 | 2999.8 | -15.1 | 2984.7 |
| | | -16.00 | 1712.0 | 2539.5 | 4251.6 | 2811.9 | -15.1 | 2796.8 |
| | | -16.50 | 1659.7 | 2694.3 | 4354.0 | 2879.6 | -15.1 | 2864.6 |
| | | -17.00 | 1701.0 | 2847.4 | 4548.5 | 3008.2 | -15.1 | 2993.2 |
| | | -17.50 | 1669.8 | 2993.5 | 4663.3 | 3084.2 | -15.1 | 3069.1 |
| | | -18.00 | 1546.6 | 3131.5 | 4678.1 | 3094.0 | -15.1 | 3078.9 |
| | | -18.50 | 891.3 | 3286.1 | 4177.4 | 2762.9 | -15.1 | 2747.8 |
| | | -19.00 | 871.2 | 3379.0 | 4250.2 | 2811.0 | -15.1 | 2795.9 |
| | | -19.50 | 731.1 | 3478.3 | 4209.4 | 2784.0 | -15.1 | 2768.9 |
| | | -20.00 | 602.8 | 3598.7 | 4201.5 | 2778.8 | -15.1 | 2763.7 |
| | | -20.50 | 475.2 | 3767.1 | 4242.2 | 2805.7 | -15.1 | 2790.6 |
| | | -21.00 | 372.5 | 3944.4 | 4316.8 | 2855.0 | -15.1 | 2840.0 |
| | | -21.50 | 337.7 | 4017.9 | 4355.6 | 2880.7 | -15.1 | 2865.6 |
| | | -22.00 | 341.2 | 4040.9 | 4382.1 | 2898.2 | -15.1 | 2883.2 |
| | | -22.50 | 455.0 | 4071.4 | 4526.4 | 2993.6 | -15.1 | 2978.6 |
| | | -23.00 | 488.4 | 4120.2 | 4608.6 | 3048.0 | -15.1 | 3032.9 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 251.S01 | -1.05 | -23.50 | 656.8 | 4184.0 | 4840.8 | 3201.6 | -15.1 | 3186.5 |
| | | -24.00 | 669.6 | 4270.4 | 4940.0 | 3267.2 | -15.1 | 3252.2 |
| | | -24.50 | 721.5 | 4349.1 | 5070.5 | 3353.5 | -15.1 | 3338.5 |
| | | -25.00 | 1047.3 | 4420.5 | 5467.8 | 3616.3 | -15.1 | 3601.2 |
| | | -25.50 | 1669.3 | 4548.6 | 6217.9 | 4112.3 | -15.1 | 4097.3 |
| | | -26.00 | 2925.2 | 4736.4 | 7661.6 | 5067.2 | -15.1 | 5052.1 |
| | | -26.50 | 2582.5 | 4917.4 | 7499.9 | 4960.3 | -15.1 | 4945.2 |
| | | -27.00 | 2658.8 | 5072.2 | 7731.0 | 5113.1 | -15.1 | 5098.0 |
| | | -27.50 | 2485.5 | 5227.0 | 7712.6 | 5100.9 | -15.1 | 5085.8 |
| | | -28.00 | 1737.7 | 5381.8 | 7119.5 | 4708.7 | -15.1 | 4693.6 |
| | | -28.50 | 1382.4 | 5536.6 | 6919.0 | 4576.0 | -15.1 | 4561.0 |
| | | -29.00 | 1182.9 | 5691.2 | 6874.1 | 4546.3 | -15.1 | 4531.3 |
| | | -29.50 | 1013.2 | 5795.1 | 6808.2 | 4502.8 | -15.1 | 4487.7 |
| | | -30.00 | 824.8 | 5918.9 | 6743.7 | 4460.1 | -15.1 | 4445.1 |
| 19-1008_29 | 0.79 | -7.00 | 2229.0 | 1173.4 | 3402.4 | 2250.3 | -7.3 | 2243.0 |
| | | -7.50 | 2299.7 | 1305.1 | 3604.9 | 2384.2 | -7.3 | 2376.9 |
| | | -8.00 | 2309.4 | 1446.6 | 3756.0 | 2484.1 | -7.3 | 2476.8 |
| | | -8.50 | 1877.2 | 1587.1 | 3464.3 | 2291.2 | -7.3 | 2283.9 |
| | | -9.00 | 839.6 | 1709.3 | 2549.0 | 1685.8 | -7.3 | 1678.5 |
| | | -9.50 | 839.3 | 1823.4 | 2662.7 | 1761.1 | -7.3 | 1753.8 |
| | | -10.00 | 844.6 | 1930.1 | 2774.6 | 1835.1 | -7.3 | 1827.8 |
| | | -10.50 | 775.2 | 2053.9 | 2829.2 | 1871.1 | -7.3 | 1863.8 |
| | | -11.00 | 661.1 | 2176.8 | 2837.9 | 1876.9 | -7.3 | 1869.6 |
| | | -11.50 | 613.8 | 2314.0 | 2927.8 | 1936.4 | -7.3 | 1929.1 |
| | | -12.00 | 666.5 | 2378.5 | 3045.0 | 2013.9 | -7.3 | 2006.6 |
| | | -12.50 | 547.2 | 2518.6 | 3065.8 | 2027.7 | -7.3 | 2020.4 |
| | | -13.00 | 420.9 | 2626.5 | 3047.4 | 2015.5 | -7.3 | 2008.2 |
| | | -13.50 | 434.1 | 2671.7 | 3105.9 | 2054.1 | -7.3 | 2046.9 |
| | | -14.00 | 436.2 | 2725.0 | 3161.2 | 2090.8 | -7.3 | 2083.5 |
| | | -14.50 | 447.9 | 2762.0 | 3209.8 | 2122.9 | -7.3 | 2115.6 |
| | | -15.00 | 525.8 | 2793.6 | 3319.4 | 2195.4 | -7.3 | 2188.1 |
| | | -15.50 | 592.6 | 2831.7 | 3424.2 | 2264.7 | -7.3 | 2257.4 |
| | | -16.00 | 506.2 | 2928.6 | 3434.8 | 2271.7 | -7.3 | 2264.4 |
| | | -16.50 | 526.1 | 2964.5 | 3490.6 | 2308.6 | -7.3 | 2301.3 |
| | | -17.00 | 671.2 | 3000.7 | 3671.9 | 2428.5 | -7.3 | 2421.2 |
| | | -17.50 | 1779.5 | 3053.0 | 4832.5 | 3196.1 | -7.3 | 3188.8 |
| | | -18.00 | 2167.8 | 3180.8 | 5348.6 | 3537.5 | -7.3 | 3530.2 |
| | | -18.50 | 2028.6 | 3335.6 | 5364.3 | 3547.8 | -7.3 | 3540.5 |
| | | -19.00 | 1676.0 | 3485.5 | 5161.5 | 3413.7 | -7.3 | 3406.4 |
| | | -19.50 | 3324.1 | 3601.2 | 6925.2 | 4580.2 | -7.3 | 4572.9 |
| | | -20.00 | 2574.3 | 3756.0 | 6330.3 | 4186.7 | -7.3 | 4179.4 |
| | | -20.50 | 2190.3 | 3910.8 | 6101.1 | 4035.1 | -7.3 | 4027.8 |
| | | -21.00 | 1871.5 | 4065.6 | 5937.1 | 3926.7 | -7.3 | 3919.4 |
| | | -21.50 | 1605.6 | 4220.4 | 5826.0 | 3853.2 | -7.3 | 3845.9 |
| | | -22.00 | 1356.6 | 4375.2 | 5731.8 | 3790.9 | -7.3 | 3783.6 |
| | | -22.50 | 1029.3 | 4554.8 | 5584.0 | 3693.2 | -7.3 | 3685.9 |
| | | -23.00 | 956.4 | 4687.5 | 5643.9 | 3732.7 | -7.3 | 3725.4 |
| | | -23.50 | 1013.9 | 4779.3 | 5793.2 | 3831.5 | -7.3 | 3824.2 |
| | | -24.00 | 1026.1 | 4887.4 | 5913.4 | 3911.0 | -7.3 | 3903.7 |
| | | -24.50 | 957.2 | 4997.3 | 5954.5 | 3938.2 | -7.3 | 3930.9 |
| | | -25.00 | 888.9 | 5114.1 | 6003.1 | 3970.3 | -7.3 | 3963.0 |
| | | -25.50 | 921.0 | 5186.5 | 6107.5 | 4039.4 | -7.3 | 4032.1 |
| | | -26.00 | 906.6 | 5270.0 | 6176.6 | 4085.0 | -7.3 | 4077.7 |
| | | -26.50 | 907.7 | 5347.7 | 6255.3 | 4137.1 | -7.3 | 4129.8 |
| | | -27.00 | 878.9 | 5445.3 | 6324.2 | 4182.7 | -7.3 | 4175.4 |
| | | -27.50 | 888.5 | 5519.1 | 6407.6 | 4237.8 | -7.3 | 4230.5 |
| | | -28.00 | 888.0 | 5591.0 | 6479.0 | 4285.1 | -7.3 | 4277.8 |
| | | -28.50 | 997.3 | 5662.4 | 6659.7 | 4404.6 | -7.3 | 4397.3 |
| | | -29.00 | 1529.0 | 5741.1 | 7270.2 | 4808.3 | -7.3 | 4801.0 |
| | | -29.50 | 1349.5 | 5865.4 | 7214.9 | 4771.8 | -7.3 | 4764.5 |
| | | -30.00 | 1166.1 | 5970.7 | 7136.8 | 4720.1 | -7.3 | 4712.8 |
| 283.S02 | 0.17 | -7.00 | 1681.2 | 899.0 | 2580.2 | 1706.5 | -14.7 | 1691.8 |
| | | -7.50 | 1831.7 | 983.7 | 2815.4 | 1862.0 | -14.7 | 1847.3 |
| | | -8.00 | 1870.1 | 1067.3 | 2937.4 | 1942.7 | -14.7 | 1928.0 |
| | | -8.50 | 1861.4 | 1169.0 | 3030.4 | 2004.2 | -14.7 | 1989.5 |
| | | -9.00 | 1440.6 | 1262.6 | 2703.2 | 1787.8 | -14.7 | 1773.1 |
| | | -9.50 | 1440.5 | 1342.0 | 2782.5 | 1840.3 | -14.7 | 1825.5 |
| | | -10.00 | 1431.2 | 1431.3 | 2862.5 | 1893.2 | -14.7 | 1878.4 |
| | | -10.50 | 1410.0 | 1517.4 | 2927.4 | 1936.1 | -14.7 | 1921.4 |
| | | -11.00 | 1391.3 | 1601.6 | 2992.9 | 1979.4 | -14.7 | 1964.7 |
| | | -11.50 | 1307.0 | 1692.0 | 2999.0 | 1983.4 | -14.7 | 1968.7 |
| | | -12.00 | 1885.6 | 1749.9 | 3635.5 | 2404.4 | -14.7 | 2389.7 |
| | | -12.50 | 2081.6 | 1850.4 | 3932.0 | 2600.5 | -14.7 | 2585.8 |
| | | -13.00 | 2314.9 | 1962.1 | 4276.9 | 2828.6 | -14.7 | 2813.9 |
| | | -13.50 | 2435.3 | 2086.5 | 4521.8 | 2990.6 | -14.7 | 2975.9 |
| | | -14.00 | 2500.0 | 2234.3 | 4734.2 | 3131.1 | -14.7 | 3116.4 |
| | | -14.50 | 2446.6 | 2382.0 | 4828.6 | 3193.5 | -14.7 | 3178.8 |
| | | -15.00 | 2425.4 | 2513.9 | 4939.3 | 3266.7 | -14.7 | 3252.0 |
| | | -15.50 | 2692.0 | 2626.8 | 5318.8 | 3517.7 | -14.7 | 3503.0 |
| | | -16.00 | 2977.7 | 2750.5 | 5728.2 | 3788.5 | -14.7 | 3773.8 |
| | | -16.50 | 3188.2 | 2888.3 | 6076.6 | 4018.9 | -14.7 | 4004.2 |
| | | -17.00 | 3663.9 | 3035.9 | 6699.8 | 4431.1 | -14.7 | 4416.4 |
| | | -17.50 | 3560.6 | 3190.7 | 6751.4 | 4465.2 | -14.7 | 4450.5 |
| | | -18.00 | 3649.7 | 3345.5 | 6995.3 | 4626.5 | -14.7 | 4611.8 |
| | | -18.50 | 3708.5 | 3500.3 | 7208.8 | 4767.7 | -14.7 | 4753.0 |
| | | -19.00 | 3763.6 | 3655.2 | 7418.8 | 4906.6 | -14.7 | 4891.9 |
| | | -19.50 | 3775.3 | 3810.0 | 7585.2 | 5016.7 | -14.7 | 5002.0 |
| | | -20.00 | 3654.2 | 3964.8 | 7618.9 | 5039.0 | -14.7 | 5024.3 |
| | | -20.50 | 4095.1 | 4112.6 | 8207.8 | 5428.4 | -14.7 | 5413.7 |
| | | -21.00 | 4361.3 | 4267.4 | 8628.7 | 5706.8 | -14.7 | 5692.1 |
| | | -21.50 | 4424.7 | 4422.2 | 8846.9 | 5851.1 | -14.7 | 5836.4 |
| | | -22.00 | 4434.3 | 4577.1 | 9011.3 | 5959.9 | -14.7 | 5945.2 |
| | | -22.50 | 4440.3 | 4731.9 | 9172.1 | 6066.2 | -14.7 | 6051.5 |
| | | -23.00 | 4614.6 | 4886.7 | 9501.2 | 6283.9 | -14.7 | 6269.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 283.S02 | 0.17 | -23.50 | 3250.3 | 5041.5 | 8291.7 | 5483.9 | -14.7 | 5469.2 |
| | | -24.00 | 1973.0 | 5196.3 | 7169.3 | 4741.6 | -14.7 | 4726.9 |
| | | -24.50 | 1606.5 | 5351.1 | 6957.6 | 4601.6 | -14.7 | 4586.9 |
| | | -25.00 | 1398.4 | 5505.9 | 6904.3 | 4566.3 | -14.7 | 4551.6 |
| | | -25.50 | 1089.3 | 5660.7 | 6750.0 | 4464.3 | -14.7 | 4449.5 |
| | | -26.00 | 894.5 | 5815.5 | 6709.9 | 4437.8 | -14.7 | 4423.1 |
| | | -26.50 | 676.0 | 5978.4 | 6654.5 | 4401.1 | -14.7 | 4386.4 |
| | | -27.00 | 718.8 | 6035.0 | 6753.7 | 4466.7 | -14.7 | 4452.0 |
| | | -27.50 | 621.9 | 6088.6 | 6710.5 | 4438.1 | -14.7 | 4423.4 |
| | | -28.00 | 616.5 | 6156.1 | 6772.6 | 4479.2 | -14.7 | 4464.5 |
| | | -28.50 | 589.8 | 6241.5 | 6831.3 | 4518.1 | -14.7 | 4503.4 |
| | | -29.00 | 577.4 | 6302.5 | 6879.9 | 4550.2 | -14.7 | 4535.5 |
| 19-1008_35 | 0.92 | -7.00 | 1384.4 | 942.4 | 2326.8 | 1538.9 | -9.0 | 1529.9 |
| | | -7.50 | 1478.2 | 998.1 | 2476.3 | 1637.7 | -9.0 | 1628.7 |
| | | -8.00 | 1458.6 | 1075.5 | 2534.1 | 1676.0 | -9.0 | 1666.9 |
| | | -8.50 | 1418.7 | 1153.7 | 2572.4 | 1701.3 | -9.0 | 1692.3 |
| | | -9.00 | 1450.7 | 1213.3 | 2664.0 | 1761.9 | -9.0 | 1752.9 |
| | | -9.50 | 1511.3 | 1273.4 | 2784.7 | 1841.7 | -9.0 | 1832.7 |
| | | -10.00 | 1568.8 | 1346.1 | 2914.9 | 1927.8 | -9.0 | 1918.8 |
| | | -10.50 | 1622.1 | 1414.1 | 3036.3 | 2008.1 | -9.0 | 1999.1 |
| | | -11.00 | 1563.2 | 1531.2 | 3094.4 | 2046.6 | -9.0 | 2037.5 |
| | | -11.50 | 1499.0 | 1630.9 | 3129.9 | 2070.1 | -9.0 | 2061.0 |
| | | -12.00 | 1478.1 | 1699.9 | 3178.0 | 2101.8 | -9.0 | 2092.8 |
| | | -12.50 | 1751.7 | 1759.5 | 3511.1 | 2322.2 | -9.0 | 2313.1 |
| | | -13.00 | 1918.9 | 1838.9 | 3757.9 | 2485.4 | -9.0 | 2476.3 |
| | | -13.50 | 2036.5 | 1932.7 | 3969.2 | 2625.1 | -9.0 | 2616.1 |
| | | -14.00 | 2338.6 | 2030.6 | 4369.2 | 2889.7 | -9.0 | 2880.7 |
| | | -14.50 | 2229.2 | 2150.8 | 4380.0 | 2896.8 | -9.0 | 2887.8 |
| | | -15.00 | 2260.2 | 2271.0 | 4531.2 | 2996.8 | -9.0 | 2987.8 |
| | | -15.50 | 2281.8 | 2392.7 | 4674.6 | 3091.6 | -9.0 | 3082.6 |
| | | -16.00 | 2265.1 | 2517.5 | 4782.6 | 3163.1 | -9.0 | 3154.1 |
| | | -16.50 | 2145.5 | 2642.9 | 4788.4 | 3166.9 | -9.0 | 3157.9 |
| | | -17.00 | 2141.3 | 2750.7 | 4892.0 | 3235.5 | -9.0 | 3226.4 |
| | | -17.50 | 2422.3 | 2842.0 | 5264.3 | 3481.7 | -9.0 | 3472.7 |
| | | -18.00 | 2457.0 | 2963.5 | 5420.5 | 3585.0 | -9.0 | 3575.9 |
| | | -18.50 | 2651.5 | 3073.2 | 5724.7 | 3786.2 | -9.0 | 3777.1 |
| | | -19.00 | 2659.5 | 3196.7 | 5856.2 | 3873.1 | -9.0 | 3864.1 |
| | | -19.50 | 2799.6 | 3318.8 | 6118.4 | 4046.5 | -9.0 | 4037.5 |
| | | -20.00 | 3214.7 | 3444.7 | 6659.4 | 4404.4 | -9.0 | 4395.3 |
| | | -20.50 | 3244.2 | 3599.5 | 6843.7 | 4526.2 | -9.0 | 4517.2 |
| | | -21.00 | 3291.9 | 3754.3 | 7046.2 | 4660.2 | -9.0 | 4651.2 |
| | | -21.50 | 3581.5 | 3909.1 | 7490.7 | 4954.1 | -9.0 | 4945.1 |
| | | -22.00 | 3597.9 | 4059.7 | 7657.6 | 5064.5 | -9.0 | 5055.5 |
| | | -22.50 | 3642.3 | 4214.5 | 7856.9 | 5196.3 | -9.0 | 5187.3 |
| | | -23.00 | 3001.5 | 4369.3 | 7370.8 | 4874.9 | -9.0 | 4865.8 |
| | | -23.50 | 2956.0 | 4524.1 | 7480.1 | 4947.2 | -9.0 | 4938.1 |
| | | -24.00 | 2943.3 | 4678.9 | 7622.2 | 5041.1 | -9.0 | 5032.1 |
| | | -24.50 | 2912.2 | 4830.3 | 7742.5 | 5120.7 | -9.0 | 5111.6 |
| | | -25.00 | 2848.0 | 4975.7 | 7823.6 | 5174.3 | -9.0 | 5165.3 |
| | | -25.50 | 2495.6 | 5142.0 | 7637.6 | 5051.3 | -9.0 | 5042.3 |
| | | -26.00 | 2875.9 | 5297.4 | 8173.3 | 5405.6 | -9.0 | 5396.6 |
| | | -26.50 | 3455.5 | 5432.1 | 8887.6 | 5878.1 | -9.0 | 5869.0 |
| | | -27.00 | 3592.1 | 5586.9 | 9179.0 | 6070.7 | -9.0 | 6061.7 |
| | | -27.50 | 3659.8 | 5741.7 | 9401.5 | 6217.9 | -9.0 | 6208.9 |
| | | -28.00 | 3664.5 | 5896.5 | 9561.0 | 6323.4 | -9.0 | 6314.4 |
| | | -28.50 | 3982.9 | 6051.3 | 10034.2 | 6636.4 | -9.0 | 6627.3 |
| | | -29.00 | 2310.2 | 6206.1 | 8516.3 | 5632.5 | -9.0 | 5623.4 |
| | | -29.50 | 1983.7 | 6360.9 | 8344.6 | 5518.9 | -9.0 | 5509.9 |
| | | -30.00 | 1613.2 | 6515.7 | 8128.9 | 5376.3 | -9.0 | 5367.2 |
| 312.S03 | 3.78 | -7.00 | 609.5 | 1273.0 | 1882.4 | 1245.0 | 0.0 | 1245.0 |
| | | -7.50 | 1199.9 | 1356.5 | 2556.4 | 1690.7 | 0.0 | 1690.7 |
| | | -8.00 | 2184.2 | 1447.4 | 3631.6 | 2401.9 | 0.0 | 2401.9 |
| | | -8.50 | 2290.5 | 1602.2 | 3892.6 | 2574.5 | 0.0 | 2574.5 |
| | | -9.00 | 2421.4 | 1757.0 | 4178.4 | 2763.5 | 0.0 | 2763.5 |
| | | -9.50 | 2385.2 | 1911.8 | 4296.9 | 2841.9 | 0.0 | 2841.9 |
| | | -10.00 | 2535.2 | 2066.6 | 4601.8 | 3043.5 | 0.0 | 3043.5 |
| | | -10.50 | 2432.8 | 2219.5 | 4652.3 | 3076.9 | 0.0 | 3076.9 |
| | | -11.00 | 2509.3 | 2363.8 | 4873.2 | 3223.0 | 0.0 | 3223.0 |
| | | -11.50 | 2571.4 | 2518.6 | 5090.0 | 3366.4 | 0.0 | 3366.4 |
| | | -12.00 | 2661.0 | 2673.4 | 5334.4 | 3528.0 | 0.0 | 3528.0 |
| | | -12.50 | 2442.4 | 2828.2 | 5270.6 | 3485.8 | 0.0 | 3485.8 |
| | | -13.00 | 2576.8 | 2978.5 | 5555.3 | 3674.1 | 0.0 | 3674.1 |
| | | -13.50 | 2803.8 | 3087.6 | 5891.4 | 3896.4 | 0.0 | 3896.4 |
| | | -14.00 | 2797.8 | 3211.5 | 6009.3 | 3974.4 | 0.0 | 3974.4 |
| | | -14.50 | 2595.7 | 3335.3 | 5931.0 | 3922.6 | 0.0 | 3922.6 |
| | | -15.00 | 2533.6 | 3453.8 | 5987.3 | 3959.9 | 0.0 | 3959.9 |
| | | -15.50 | 2490.9 | 3577.6 | 6068.5 | 4013.6 | 0.0 | 4013.6 |
| | | -16.00 | 2495.6 | 3697.4 | 6193.0 | 4095.9 | 0.0 | 4095.9 |
| | | -16.50 | 2356.2 | 3821.2 | 6177.5 | 4085.6 | 0.0 | 4085.6 |
| | | -17.00 | 2265.2 | 3935.7 | 6200.9 | 4101.1 | 0.0 | 4101.1 |
| | | -17.50 | 1376.2 | 4025.2 | 5401.4 | 3572.3 | 0.0 | 3572.3 |
| | | -18.00 | 1447.3 | 4121.2 | 5568.5 | 3682.9 | 0.0 | 3682.9 |
| | | -18.50 | 1447.8 | 4241.7 | 5689.5 | 3762.9 | 0.0 | 3762.9 |
| | | -19.00 | 1439.9 | 4368.4 | 5808.3 | 3841.5 | 0.0 | 3841.5 |
| | | -19.50 | 1207.3 | 4499.8 | 5707.1 | 3774.5 | 0.0 | 3774.5 |
| | | -20.00 | 1116.1 | 4626.3 | 5742.4 | 3797.9 | 0.0 | 3797.9 |
| | | -20.50 | 1711.2 | 4737.1 | 6448.3 | 4264.8 | 0.0 | 4264.8 |
| | | -21.00 | 2005.5 | 4859.5 | 6865.0 | 4540.3 | 0.0 | 4540.3 |
| | | -21.50 | 2231.3 | 4973.2 | 7204.5 | 4764.9 | 0.0 | 4764.9 |
| | | -22.00 | 2440.1 | 5101.7 | 7541.8 | 4988.0 | 0.0 | 4988.0 |
| | | -22.50 | 2531.2 | 5252.7 | 7783.9 | 5148.1 | 0.0 | 5148.1 |
| | | -23.00 | 2558.9 | 5404.7 | 7963.6 | 5267.0 | 0.0 | 5267.0 |
| | | -23.50 | 2695.0 | 5552.2 | 8247.2 | 5454.5 | 0.0 | 5454.5 |
| | | -24.00 | 2947.9 | 5687.4 | 8635.3 | 5711.2 | 0.0 | 5711.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 312.S03 | 3.78 | -24.50 | 1786.5 | 5842.2 | 7628.7 | 5045.4 | 0.0 | 5045.4 |
| | | -25.00 | 1544.0 | 5997.0 | 7541.0 | 4987.4 | 0.0 | 4987.4 |
| | | -25.50 | 1278.2 | 6142.4 | 7420.6 | 4907.8 | 0.0 | 4907.8 |
| | | -26.00 | 1140.4 | 6272.3 | 7412.7 | 4902.6 | 0.0 | 4902.6 |
| | | -26.50 | 976.0 | 6423.7 | 7399.7 | 4894.0 | 0.0 | 4894.0 |
| | | -27.00 | 765.3 | 6575.1 | 7340.5 | 4854.8 | 0.0 | 4854.8 |
| | | -27.50 | 731.8 | 6656.3 | 7388.1 | 4886.3 | 0.0 | 4886.3 |
| | | -28.00 | 715.6 | 6720.7 | 7436.3 | 4918.2 | 0.0 | 4918.2 |
| | | -28.50 | 713.5 | 6770.1 | 7483.6 | 4949.5 | 0.0 | 4949.5 |
| | | -29.00 | 791.7 | 6818.6 | 7610.3 | 5033.3 | 0.0 | 5033.3 |
| 19-1008_43 | 9.88 | -7.00 | 2028.6 | 1078.2 | 3106.8 | 2054.7 | 0.0 | 2054.7 |
| | | -7.50 | 2079.8 | 1193.7 | 3273.5 | 2165.0 | 0.0 | 2165.0 |
| | | -8.00 | 2127.5 | 1313.8 | 3441.4 | 2276.0 | 0.0 | 2276.0 |
| | | -8.50 | 2176.4 | 1426.0 | 3602.4 | 2382.5 | 0.0 | 2382.5 |
| | | -9.00 | 2229.5 | 1540.6 | 3770.1 | 2493.4 | 0.0 | 2493.4 |
| | | -9.50 | 2252.4 | 1658.0 | 3910.4 | 2586.2 | 0.0 | 2586.2 |
| | | -10.00 | 2670.3 | 1765.0 | 4435.3 | 2933.4 | 0.0 | 2933.4 |
| | | -10.50 | 2648.9 | 1893.8 | 4542.7 | 3004.4 | 0.0 | 3004.4 |
| | | -11.00 | 2610.7 | 2048.6 | 4659.3 | 3081.5 | 0.0 | 3081.5 |
| | | -11.50 | 2638.7 | 2203.4 | 4842.1 | 3202.5 | 0.0 | 3202.5 |
| | | -12.00 | 2642.2 | 2358.1 | 5000.2 | 3307.0 | 0.0 | 3307.0 |
| | | -12.50 | 2509.7 | 2511.6 | 5021.3 | 3321.0 | 0.0 | 3321.0 |
| | | -13.00 | 2468.3 | 2625.8 | 5094.2 | 3369.2 | 0.0 | 3369.2 |
| | | -13.50 | 2640.5 | 2724.2 | 5364.7 | 3548.1 | 0.0 | 3548.1 |
| | | -14.00 | 2656.9 | 2838.9 | 5495.7 | 3634.7 | 0.0 | 3634.7 |
| | | -14.50 | 2532.2 | 2962.7 | 5494.9 | 3634.2 | 0.0 | 3634.2 |
| | | -15.00 | 3154.3 | 3071.0 | 6225.3 | 4117.3 | 0.0 | 4117.3 |
| | | -15.50 | 2898.5 | 3205.8 | 6104.3 | 4037.2 | 0.0 | 4037.2 |
| | | -16.00 | 2573.9 | 3354.6 | 5928.5 | 3921.0 | 0.0 | 3921.0 |
| | | -16.50 | 2138.4 | 3509.4 | 5647.8 | 3735.3 | 0.0 | 3735.3 |
| | | -17.00 | 1956.4 | 3664.2 | 5620.6 | 3717.3 | 0.0 | 3717.3 |
| | | -17.50 | 1907.4 | 3813.3 | 5720.7 | 3783.5 | 0.0 | 3783.5 |
| | | -18.00 | 1858.6 | 3948.3 | 5806.9 | 3840.6 | 0.0 | 3840.6 |
| | | -18.50 | 1786.9 | 4069.1 | 5856.0 | 3873.0 | 0.0 | 3873.0 |
| | | -19.00 | 1697.2 | 4190.1 | 5887.3 | 3893.7 | 0.0 | 3893.7 |
| | | -19.50 | 1759.3 | 4287.9 | 6047.2 | 3999.5 | 0.0 | 3999.5 |
| | | -20.00 | 1994.8 | 4388.9 | 6383.6 | 4222.0 | 0.0 | 4222.0 |
| | | -20.50 | 2051.0 | 4516.4 | 6567.4 | 4343.5 | 0.0 | 4343.5 |
| | | -21.00 | 2208.6 | 4664.4 | 6873.0 | 4545.7 | 0.0 | 4545.7 |
| | | -21.50 | 2977.5 | 4786.8 | 7764.3 | 5135.1 | 0.0 | 5135.1 |
| | | -22.00 | 3042.6 | 4925.5 | 7968.1 | 5269.9 | 0.0 | 5269.9 |
| 328.S02 | 10.17 | -7.00 | 1590.9 | 1736.8 | 3327.6 | 2200.8 | 0.0 | 2200.8 |
| | | -7.50 | 1662.1 | 1844.6 | 3506.6 | 2319.2 | 0.0 | 2319.2 |
| | | -8.00 | 1704.1 | 1963.4 | 3667.4 | 2425.6 | 0.0 | 2425.6 |
| | | -8.50 | 1686.4 | 2085.2 | 3771.6 | 2494.5 | 0.0 | 2494.5 |
| | | -9.00 | 1980.9 | 2204.1 | 4185.0 | 2767.9 | 0.0 | 2767.9 |
| | | -9.50 | 2149.4 | 2305.9 | 4455.3 | 2946.6 | 0.0 | 2946.6 |
| | | -10.00 | 2371.3 | 2420.6 | 4791.9 | 3169.3 | 0.0 | 3169.3 |
| | | -10.50 | 2526.4 | 2541.1 | 5067.5 | 3351.5 | 0.0 | 3351.5 |
| | | -11.00 | 2625.3 | 2679.6 | 5304.9 | 3508.5 | 0.0 | 3508.5 |
| | | -11.50 | 2602.0 | 2821.9 | 5423.9 | 3587.2 | 0.0 | 3587.2 |
| | | -12.00 | 2637.6 | 2959.4 | 5597.0 | 3701.7 | 0.0 | 3701.7 |
| | | -12.50 | 2694.8 | 3083.6 | 5778.4 | 3821.7 | 0.0 | 3821.7 |
| | | -13.00 | 2278.8 | 3204.8 | 5483.5 | 3626.7 | 0.0 | 3626.7 |
| | | -13.50 | 2259.6 | 3327.3 | 5586.8 | 3695.0 | 0.0 | 3695.0 |
| | | -14.00 | 2243.5 | 3451.1 | 5694.6 | 3766.2 | 0.0 | 3766.2 |
| | | -14.50 | 2256.1 | 3571.3 | 5827.4 | 3854.1 | 0.0 | 3854.1 |
| | | -15.00 | 2212.9 | 3696.5 | 5909.4 | 3908.3 | 0.0 | 3908.3 |
| | | -15.50 | 2048.9 | 3820.1 | 5868.9 | 3881.6 | 0.0 | 3881.6 |
| | | -16.00 | 2182.6 | 3942.7 | 6125.3 | 4051.1 | 0.0 | 4051.1 |
| | | -16.50 | 2308.3 | 4071.1 | 6379.4 | 4219.2 | 0.0 | 4219.2 |
| | | -17.00 | 2372.8 | 4225.9 | 6598.7 | 4364.3 | 0.0 | 4364.3 |
| | | -17.50 | 2285.6 | 4380.7 | 6666.3 | 4408.9 | 0.0 | 4408.9 |
| | | -18.00 | 1500.6 | 4558.4 | 6059.0 | 4007.3 | 0.0 | 4007.3 |
| | | -18.50 | 2662.9 | 4668.6 | 7331.5 | 4848.9 | 0.0 | 4848.9 |
| | | -19.00 | 2697.0 | 4807.2 | 7504.2 | 4963.1 | 0.0 | 4963.1 |
| | | -19.50 | 2960.8 | 4955.0 | 7915.7 | 5235.3 | 0.0 | 5235.3 |
| | | -20.00 | 3076.6 | 5109.8 | 8186.4 | 5414.3 | 0.0 | 5414.3 |
| | | -20.50 | 3383.0 | 5264.6 | 8647.6 | 5719.3 | 0.0 | 5719.3 |
| | | -21.00 | 3500.9 | 5419.4 | 8920.2 | 5899.6 | 0.0 | 5899.6 |
| | | -21.50 | 3232.8 | 5574.2 | 8806.9 | 5824.7 | 0.0 | 5824.7 |
| | | -22.00 | 3339.1 | 5729.0 | 9068.1 | 5997.4 | 0.0 | 5997.4 |
| | | -22.50 | 3099.6 | 5883.8 | 8983.4 | 5941.4 | 0.0 | 5941.4 |
| | | -23.00 | 3168.5 | 6038.6 | 9207.1 | 6089.3 | 0.0 | 6089.3 |
| | | -23.50 | 3130.6 | 6193.4 | 9324.0 | 6166.7 | 0.0 | 6166.7 |
| | | -24.00 | 3105.8 | 6348.2 | 9453.9 | 6252.6 | 0.0 | 6252.6 |
| | | -24.50 | 3174.7 | 6477.2 | 9651.9 | 6383.6 | 0.0 | 6383.6 |
| | | -25.00 | 2918.6 | 6601.1 | 9519.6 | 6296.1 | 0.0 | 6296.1 |
| | | -25.50 | 2454.0 | 6722.4 | 9176.4 | 6069.1 | 0.0 | 6069.1 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## REKENGEGEVENS SI Ø762/950 druk

Berekening : Ontwerpend
Rekenmethode : Drukpalen volgens NEN-EN 1997-1, art. 7.6.2
Sondering(en) : 19-1008_1, 19-1008_6, 166.S01, 19-1008_11, 19-1008_12
: 19-1008_17, 19-1008_20, 19-1008_21, 251.S01, 19-1008_29
: 283.S02, 19-1008_35, 312.S03, 19-1008_43, 328.S02

Stijf bouwwerk : JA
Paalgroep : NEE
Aantal sonderingen : 15
Factor $\xi_{3\ (n=1)}$ : 1.26 (handmatig)
Factor $\xi_{3\ (gem)}$ : 1.26 (handmatig)
Factor $\xi_{4\ (min)}$ : 1.26 (handmatig)
Weerstandsfactor $\gamma_R$ : 1.20
$\gamma_{f;nk}$ : 1.0
$R_{s;cal;max;i}$ begrenzen op 0.75 * $R_{b;cal;max;i}$ : NEE
UGT draagvermogen zonder negatieve kleef : NEE

Paal : SI Ø762/950
Niveau paalkop [m] : N.A.P. 0.00
Bovenbel. [kN/m²] : 0.00

## PAALPUNTNIVEAUS SI Ø762/950

Alle niveaus/hoogtes/peilmaten zijn t.o.v. : N.A.P.

| Nr | Beginniveau [m] | Eindniveau [m] | Stapgrootte [m] |
|---|---|---|---|
| 1 | -8.00 | -30.00 | 0.50 |

## RESULTATEN SI Ø762/950 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_1 | 19-1008_6 | 166.S01 | 19-1008_11 | 19-1008_12 | 19-1008_17 |
|---|---|---|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -8.00 | 55 | **6072** | 3793 | 464 | 2064 | -4 |
| -8.50 | 116 | **6401** | 3822 | 506 | 2090 | 24 |
| -9.00 | 264 | **6546** | 3973 | 506 | 2118 | 101 |
| -9.50 | 316 | **6819** | 3897 | 561 | 2122 | 662 |
| -10.00 | 371 | **7449** | 4012 | 623 | 2147 | 416 |
| -10.50 | 511 | **7504** | 4160 | 663 | 2186 | 1309 |
| -11.00 | 675 | **7761** | 4277 | 718 | 2188 | 2351 |
| -11.50 | 764 | **7962** | 4229 | 733 | 2237 | 2220 |
| -12.00 | 832 | **8135** | 4207 | 703 | 2248 | 2444 |
| -12.50 | 1501 | **8219** | 4272 | 1716 | 2262 | 2622 |
| -13.00 | 1633 | **8287** | 4730 | 1995 | 2342 | 2672 |
| -13.50 | 1886 | **8782** | 5206 | 2136 | 2437 | 2763 |
| -14.00 | 2140 | **8902** | 5357 | 2281 | 2483 | 2874 |
| -14.50 | 2452 | **8631** | 5536 | 2399 | 2521 | 3338 |
| -15.00 | 2634 | **7033** | 5794 | 2498 | 2560 | 2492 |
| -15.50 | 2543 | **7082** | 6292 | 2646 | 2688 | 2587 |
| -16.00 | 2906 | **7039** | 6441 | 2935 | 2760 | 2700 |
| -16.50 | 3101 | **7111** | 6544 | 3052 | 2826 | 2804 |
| -17.00 | 3978 | **7075** | 6696 | 3217 | 2908 | 2967 |
| -17.50 | 4387 | **7040** | 6878 | 4052 | 3118 | 2855 |
| -18.00 | 4013 | **8004** | 7055 | 4725 | 3417 | 2765 |
| -18.50 | 4175 | **8643** | 7221 | 4882 | 3552 | 3323 |
| -19.00 | 4185 | **8770** | 7341 | 5090 | 4102 | 3477 |
| -19.50 | 4147 | **8913** | 0 | 5214 | 4531 | 3617 |
| -20.00 | 4078 | **9072** | 0 | 4701 | 4823 | 3782 |
| -20.50 | 4254 | 0 | 0 | 4630 | 4757 | 4035 |
| -21.00 | 4625 | 0 | 0 | 4646 | 5362 | 3884 |
| -21.50 | 6433 | 0 | 0 | 4731 | 5551 | 4318 |
| -22.00 | **8108** | 0 | 0 | 4583 | 5757 | 4392 |
| -22.50 | **8228** | 0 | 0 | 4555 | 5677 | 4476 |
| -23.00 | **8349** | 0 | 0 | 4515 | 5376 | 4468 |
| -23.50 | **8470** | 0 | 0 | 4892 | 5386 | 4534 |
| -24.00 | **8590** | 0 | 0 | 5024 | 5397 | 4630 |
| -24.50 | **8711** | 0 | 0 | 5073 | 5214 | 4697 |
| -25.00 | **8831** | 0 | 0 | 5348 | 5248 | 4801 |
| -25.50 | **8952** | 0 | 0 | 6322 | 5260 | 4902 |
| -26.00 | **9073** | 0 | 0 | 6437 | 5352 | 3964 |
| -26.50 | **9193** | 0 | 0 | 6521 | 5447 | 3998 |
| -27.00 | **9314** | 0 | 0 | 6661 | 5527 | 4077 |
| -27.50 | **9434** | 0 | 0 | 6859 | 5595 | 4148 |
| -28.00 | **9555** | 0 | 0 | 7385 | 6679 | 4200 |
| -28.50 | **9676** | 0 | 0 | 7677 | 0 | 4164 |
| -29.00 | **9796** | 0 | 0 | 8326 | 0 | 4000 |
| -29.50 | 0 | 0 | 0 | **9174** | 0 | 5175 |
| -30.00 | 0 | 0 | 0 | **9347** | 0 | 5666 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø762/950 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_20 | 19-1008_21 | 251.S01 | 19-1008_29 | 283.S02 | 19-1008_35 |
|---|---|---|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -8.00 | 861 | 1425 | 1006 | 2784 | 2468 | 2165 |
| -8.50 | 918 | 1391 | 1055 | 2011 | 2214 | 2189 |
| -9.00 | 947 | 1469 | 1674 | 2098 | 2289 | 2289 |
| -9.50 | 962 | 1681 | 1781 | 2183 | 2351 | 2366 |
| -10.00 | 911 | 1775 | 1880 | 2270 | 2412 | 2517 |
| -10.50 | 1115 | 1885 | 1936 | 2320 | 2459 | 2576 |
| -11.00 | 1142 | 1955 | 1963 | 2294 | 2508 | 2612 |
| -11.50 | 1081 | 2017 | 2071 | 2417 | 2548 | 2630 |
| -12.00 | 1149 | 1958 | 2161 | 2417 | 3075 | 2665 |
| -12.50 | 1190 | 2055 | 2275 | 2453 | 3358 | 2982 |
| -13.00 | 1202 | 2177 | 2389 | 2419 | 3654 | 3173 |
| -13.50 | 1316 | 2052 | 2497 | 2465 | 3820 | 3368 |
| -14.00 | 1347 | 2047 | 2550 | 2507 | 3986 | 3583 |
| -14.50 | 1395 | 2197 | 2522 | 2544 | 4044 | 3694 |
| -15.00 | 1441 | 2127 | 2582 | 2667 | 4178 | 3811 |
| -15.50 | 1477 | 2197 | 3379 | 2727 | 4442 | 3924 |
| -16.00 | 1522 | 2190 | 3472 | 2722 | 4790 | 4004 |
| -16.50 | 1554 | 2090 | 3612 | 2766 | 5172 | 3988 |
| -17.00 | 1662 | 2167 | 3742 | 3007 | 5437 | 4109 |
| -17.50 | 1880 | 2295 | 3821 | 4076 | 5630 | 4389 |
| -18.00 | 1963 | 2333 | 3263 | 4441 | 5832 | 4579 |
| -18.50 | 2083 | 2378 | 3300 | 4441 | 6046 | 4768 |
| -19.00 | 2164 | 2420 | 3286 | 4448 | 6249 | 4883 |
| -19.50 | 2223 | 2441 | 3308 | 5065 | 6380 | 5222 |
| -20.00 | 2288 | 2462 | 3321 | 4893 | 6385 | 5606 |
| -20.50 | 2260 | 2489 | 3354 | 4823 | 7022 | 5745 |
| -21.00 | 2256 | 2532 | 3397 | 4772 | **7252** | 5911 |
| -21.50 | 2292 | 2573 | 3423 | 4677 | **7434** | 6213 |
| -22.00 | 2334 | 2614 | 3443 | 4533 | 7569 | 6404 |
| -22.50 | 2469 | 2650 | 3571 | 4469 | 7701 | 6032 |
| -23.00 | 2983 | 2689 | 3661 | 4512 | 6508 | 6115 |
| -23.50 | 3188 | 2746 | 3842 | 4649 | 5741 | 6238 |
| -24.00 | 3447 | 2788 | 3918 | 4720 | 5597 | 6335 |
| -24.50 | 3578 | 2825 | 4101 | 4741 | 5512 | 6426 |
| -25.00 | 3707 | 2865 | 4410 | 4792 | 5477 | 6480 |
| -25.50 | 3829 | 2905 | 5037 | 4878 | 5341 | 6319 |
| -26.00 | 3731 | 2943 | 5924 | 4929 | 5308 | 6813 |
| -26.50 | 3848 | 2982 | 6187 | 4991 | 5261 | 7378 |
| -27.00 | 3885 | 3019 | 6030 | 5040 | 5253 | 7621 |
| -27.50 | 3989 | 3087 | 5680 | 5107 | 5298 | 7792 |
| -28.00 | 4095 | 3133 | 5561 | 5162 | 5345 | 7906 |
| -28.50 | 4198 | 3174 | 5484 | 5266 | 5387 | 6790 |
| -29.00 | 4290 | 3232 | 5362 | 5697 | 0 | 6718 |
| -29.50 | 4183 | 3283 | 5412 | 5732 | 0 | 6565 |
| -30.00 | 4283 | 0 | 5348 | 5662 | 0 | 6391 |

## RESULTATEN SI Ø762/950 druk (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 312.S03 | 19-1008_43 | 328.S02 |
|---|---|---|---|
| Niveau [m] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] | $F_{netto;d}$ [kN] |
| -8.00 | 3127 | 2938 | 3060 |
| -8.50 | 3332 | 3078 | 3132 |
| -9.00 | 3560 | 3208 | 3488 |
| -9.50 | 3634 | 3313 | 3702 |
| -10.00 | 3741 | 3722 | 3993 |
| -10.50 | 3890 | 3821 | 4213 |
| -11.00 | 4075 | 3929 | 4344 |
| -11.50 | 4197 | 4034 | 4496 |
| -12.00 | 4434 | 4164 | 4666 |
| -12.50 | 4343 | 4199 | 4451 |
| -13.00 | 4636 | 4303 | 4541 |
| -13.50 | 4820 | 4544 | 4648 |
| -14.00 | 4857 | 4648 | 4727 |
| -14.50 | 4926 | 4636 | 4830 |
| -15.00 | 5017 | 5047 | 4717 |
| -15.50 | 5074 | 4812 | 4857 |
| -16.00 | 5172 | 4638 | 5075 |
| -16.50 | 5140 | 4589 | 5291 |
| -17.00 | 4278 | 4648 | 5471 |
| -17.50 | 4399 | 4719 | 5511 |
| -18.00 | 4540 | 4782 | 5091 |
| -18.50 | 4634 | 4811 | 6081 |
| -19.00 | 4725 | 4822 | 6209 |
| -19.50 | 4614 | 4972 | 6548 |
| -20.00 | 4763 | 5250 | 6782 |
| -20.50 | 5259 | 5388 | **7143** |
| -21.00 | 5613 | 5669 | 7039 |
| -21.50 | 5953 | 6427 | 7241 |
| -22.00 | 6174 | 0 | 7184 |
| -22.50 | 6344 | 0 | 7376 |
| -23.00 | 6489 | 0 | 7460 |
| -23.50 | 6764 | 0 | 7615 |
| -24.00 | 6105 | 0 | 7694 |
| -24.50 | 6044 | 0 | 7606 |
| -25.00 | 5899 | 0 | 7336 |
| -25.50 | 5864 | 0 | 0 |
| -26.00 | 5855 | 0 | 0 |
| -26.50 | 5882 | 0 | 0 |
| -27.00 | 5823 | 0 | 0 |
| -27.50 | 5858 | 0 | 0 |
| -28.00 | 5893 | 0 | 0 |
| -28.50 | 5930 | 0 | 0 |
| -29.00 | 0 | 0 | 0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

| | | | |
|---|---|---|---|
| -29.50 | 0 | 0 | 0 |
| -30.00 | 0 | 0 | 0 |

## SAMENVATTINGSTABEL SI Ø762/950 druk (n=1)

**Uitgangspunten**
- paal : SI Ø762/950
- paaltype : In de grond gevormde geschroefde paal; groutinjectie
- schachtafmeting : 860 mm

Paalklassefactor $\alpha_p$ : 0.63
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Correlatiefactor $\xi_{3(n=1)}$ : 1.26

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -8.00 | 294.1 | 43.8 | 337.9 | 223.5 | -168.2 | 55.3 |
| | | -8.50 | 339.6 | 89.4 | 429.0 | 283.7 | -168.2 | 115.6 |
| | | -9.00 | 549.9 | 103.2 | 653.1 | 431.9 | -168.2 | 263.8 |
| | | -9.50 | 552.8 | 178.7 | 731.4 | 483.8 | -168.2 | 315.6 |
| | | -10.00 | 569.5 | 245.8 | 815.3 | 539.2 | -168.2 | 371.0 |
| | | -10.50 | 702.5 | 324.4 | 1026.9 | 679.2 | -168.2 | 511.0 |
| | | -11.00 | 897.4 | 377.9 | 1275.3 | 843.5 | -168.2 | 675.3 |
| | | -11.50 | 938.5 | 470.7 | 1409.2 | 932.0 | -168.2 | 763.8 |
| | | -12.00 | 921.8 | 590.3 | 1512.1 | 1000.1 | -168.2 | 831.9 |
| | | -12.50 | 1853.7 | 669.5 | 2523.1 | 1668.7 | -168.2 | 1500.6 |
| | | -13.00 | 1925.9 | 797.3 | 2723.2 | 1801.1 | -168.2 | 1632.9 |
| | | -13.50 | 2181.4 | 925.0 | 3106.5 | 2054.5 | -168.2 | 1886.4 |
| | | -14.00 | 2455.4 | 1035.0 | 3490.4 | 2308.5 | -168.2 | 2140.3 |
| | | -14.50 | 2781.8 | 1180.0 | 3961.8 | 2620.2 | -168.2 | 2452.1 |
| | | -15.00 | 2924.9 | 1312.1 | 4237.0 | 2802.2 | -168.2 | 2634.1 |
| | | -15.50 | 2642.6 | 1456.9 | 4099.5 | 2711.3 | -168.2 | 2543.1 |
| | | -16.00 | 3067.9 | 1580.8 | 4648.8 | 3074.6 | -168.2 | 2906.4 |
| | | -16.50 | 3225.6 | 1717.4 | 4943.0 | 3269.2 | -168.2 | 3101.0 |
| | | -17.00 | 4413.5 | 1856.2 | 6269.7 | 4146.7 | -168.2 | 3978.5 |
| | | -17.50 | 4868.9 | 2018.7 | 6887.6 | 4555.3 | -168.2 | 4387.1 |
| | | -18.00 | 4120.4 | 2201.1 | 6321.5 | 4180.9 | -168.2 | 4012.7 |
| | | -18.50 | 4183.7 | 2383.4 | 6567.2 | 4343.4 | -168.2 | 4175.2 |
| | | -19.00 | 4016.6 | 2565.8 | 6582.4 | 4353.5 | -168.2 | 4185.3 |
| | | -19.50 | 3776.6 | 2748.2 | 6524.7 | 4315.3 | -168.2 | 4147.2 |
| | | -20.00 | 3447.5 | 2973.3 | 6420.8 | 4246.6 | -168.2 | 4078.4 |
| | | -20.50 | 3478.9 | 3206.9 | 6685.8 | 4421.8 | -168.2 | 4253.7 |
| | | -21.00 | 3797.1 | 3450.0 | 7247.1 | 4793.1 | -168.2 | 4624.9 |
| | | -21.50 | 6363.8 | 3617.5 | 9981.2 | 6601.3 | -168.2 | 6433.2 |
| | | -22.00 | 8713.2 | 3799.8 | 12513.0 | 8275.8 | -168.2 | 8107.7 |
| | | -22.50 | 8713.2 | 3982.2 | 12695.4 | 8396.4 | -168.2 | 8228.3 |
| | | -23.00 | 8713.2 | 4164.6 | 12877.8 | 8517.0 | -168.2 | 8348.9 |
| | | -23.50 | 8713.2 | 4346.9 | 13060.1 | 8637.7 | -168.2 | 8469.5 |
| | | -24.00 | 8713.2 | 4529.3 | 13242.5 | 8758.3 | -168.2 | 8590.1 |
| | | -24.50 | 8713.2 | 4711.7 | 13424.9 | 8878.9 | -168.2 | 8710.7 |
| | | -25.00 | 8713.2 | 4894.0 | 13607.3 | 8999.5 | -168.2 | 8831.4 |
| | | -25.50 | 8713.2 | 5076.4 | 13789.6 | 9120.1 | -168.2 | 8952.0 |
| | | -26.00 | 8713.2 | 5258.8 | 13972.0 | 9240.7 | -168.2 | 9072.6 |
| | | -26.50 | 8713.2 | 5441.2 | 14154.4 | 9361.4 | -168.2 | 9193.2 |
| | | -27.00 | 8713.2 | 5623.5 | 14336.7 | 9482.0 | -168.2 | 9313.8 |
| | | -27.50 | 8713.2 | 5805.9 | 14519.1 | 9602.6 | -168.2 | 9434.4 |
| | | -28.00 | 8713.2 | 5988.3 | 14701.5 | 9723.2 | -168.2 | 9555.0 |
| | | -28.50 | 8713.2 | 6170.6 | 14883.8 | 9843.8 | -168.2 | 9675.7 |
| | | -29.00 | 8713.2 | 6353.0 | 15066.2 | 9964.4 | -168.2 | 9796.3 |
| 19-1008_6 | 11.00 | -8.00 | 6622.1 | 2558.8 | 9180.9 | 6072.0 | 0.0 | 6072.0 |
| | | -8.50 | 6937.6 | 2741.2 | 9678.7 | 6401.3 | 0.0 | 6401.3 |
| | | -9.00 | 6973.7 | 2923.5 | 9897.2 | 6545.8 | 0.0 | 6545.8 |
| | | -9.50 | 7204.7 | 3105.9 | 10310.6 | 6819.2 | 0.0 | 6819.2 |
| | | -10.00 | 7974.9 | 3288.3 | 11263.2 | 7449.2 | 0.0 | 7449.2 |
| | | -10.50 | 7875.3 | 3470.6 | 11346.0 | 7503.9 | 0.0 | 7503.9 |
| | | -11.00 | 8082.2 | 3653.0 | 11735.2 | 7761.4 | 0.0 | 7761.4 |
| | | -11.50 | 8203.2 | 3835.4 | 12038.5 | 7962.0 | 0.0 | 7962.0 |
| | | -12.00 | 8282.8 | 4017.7 | 12300.6 | 8135.3 | 0.0 | 8135.3 |
| | | -12.50 | 8226.4 | 4200.1 | 12426.5 | 8218.6 | 0.0 | 8218.6 |
| | | -13.00 | 8148.1 | 4382.5 | 12530.6 | 8287.4 | 0.0 | 8287.4 |
| | | -13.50 | 8713.2 | 4564.8 | 13278.1 | 8781.8 | 0.0 | 8781.8 |
| | | -14.00 | 8713.2 | 4747.2 | 13460.4 | 8902.4 | 0.0 | 8902.4 |
| | | -14.50 | 8120.1 | 4929.6 | 13049.7 | 8630.7 | 0.0 | 8630.7 |
| | | -15.00 | 5522.5 | 5112.0 | 10634.5 | 7033.4 | 0.0 | 7033.4 |
| | | -15.50 | 5413.7 | 5294.3 | 10708.0 | 7082.0 | 0.0 | 7082.0 |
| | | -16.00 | 5166.4 | 5476.7 | 10643.1 | 7039.1 | 0.0 | 7039.1 |
| | | -16.50 | 5092.9 | 5659.1 | 10752.0 | 7111.1 | 0.0 | 7111.1 |
| | | -17.00 | 4855.8 | 5841.4 | 10697.2 | 7074.9 | 0.0 | 7074.9 |
| | | -17.50 | 4621.0 | 6023.8 | 10644.8 | 7040.2 | 0.0 | 7040.2 |
| | | -18.00 | 5895.7 | 6206.2 | 12101.9 | 8003.9 | 0.0 | 8003.9 |
| | | -18.50 | 6691.2 | 6376.3 | 13067.5 | 8642.5 | 0.0 | 8642.5 |
| | | -19.00 | 6701.8 | 6558.7 | 13260.5 | 8770.2 | 0.0 | 8770.2 |
| | | -19.50 | 6735.0 | 6741.1 | 13476.0 | 8912.7 | 0.0 | 8912.7 |
| | | -20.00 | 6793.1 | 6923.4 | 13716.5 | 9071.8 | 0.0 | 9071.8 |
| 166.S01 | 3.45 | -8.00 | 4192.9 | 1562.4 | 5755.3 | 3806.4 | -12.9 | 3793.5 |
| | | -8.50 | 4054.8 | 1743.4 | 5798.2 | 3834.8 | -12.9 | 3821.9 |
| | | -9.00 | 4102.7 | 1924.2 | 6026.8 | 3986.0 | -12.9 | 3973.1 |
| | | -9.50 | 3808.8 | 2102.3 | 5911.1 | 3909.5 | -12.9 | 3896.5 |
| | | -10.00 | 3801.2 | 2284.7 | 6085.9 | 4025.0 | -12.9 | 4012.1 |
| | | -10.50 | 3843.1 | 2467.1 | 6310.1 | 4173.4 | -12.9 | 4160.4 |
| | | -11.00 | 3837.4 | 2649.4 | 6486.8 | 4290.2 | -12.9 | 4277.3 |
| | | -11.50 | 3581.2 | 2831.8 | 6413.1 | 4241.4 | -12.9 | 4228.5 |
| | | -12.00 | 3380.8 | 2999.4 | 6380.2 | 4219.7 | -12.9 | 4206.8 |
| | | -12.50 | 3338.0 | 3141.0 | 6479.0 | 4285.1 | -12.9 | 4272.1 |
| | | -13.00 | 3898.5 | 3273.5 | 7172.0 | 4743.4 | -12.9 | 4730.4 |
| | | -13.50 | 4482.3 | 3408.0 | 7890.3 | 5218.5 | -12.9 | 5205.6 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 166.S01 | 3.45 | -14.00 | 4555.4 | 3564.7 | 8120.0 | 5370.4 | -12.9 | 5357.5 |
| | | -14.50 | 4645.1 | 3745.1 | 8390.2 | 5549.1 | -12.9 | 5536.2 |
| | | -15.00 | 4852.6 | 3927.5 | 8780.1 | 5806.9 | -12.9 | 5794.0 |
| | | -15.50 | 5422.6 | 4109.8 | 9532.5 | 6304.5 | -12.9 | 6291.6 |
| | | -16.00 | 5465.6 | 4292.2 | 9757.8 | 6453.6 | -12.9 | 6440.6 |
| | | -16.50 | 5439.0 | 4474.6 | 9913.5 | 6556.6 | -12.9 | 6543.6 |
| | | -17.00 | 5487.3 | 4657.0 | 10144.3 | 6709.2 | -12.9 | 6696.3 |
| | | -17.50 | 5579.3 | 4839.3 | 10418.6 | 6890.6 | -12.9 | 6877.7 |
| | | -18.00 | 5665.6 | 5021.7 | 10687.3 | 7068.3 | -12.9 | 7055.4 |
| | | -18.50 | 5733.3 | 5204.1 | 10937.4 | 7233.7 | -12.9 | 7220.8 |
| | | -19.00 | 5732.3 | 5386.4 | 11118.7 | 7353.6 | -12.9 | 7340.7 |
| 19-1008_11 | 0.62 | -8.00 | 868.1 | 130.9 | 999.1 | 660.8 | -196.8 | 463.9 |
| | | -8.50 | 865.5 | 197.6 | 1063.1 | 703.1 | -196.8 | 506.2 |
| | | -9.00 | 813.8 | 249.3 | 1063.1 | 703.1 | -196.8 | 506.2 |
| | | -9.50 | 848.0 | 298.5 | 1146.5 | 758.3 | -196.8 | 561.5 |
| | | -10.00 | 889.9 | 349.5 | 1239.4 | 819.7 | -196.8 | 622.9 |
| | | -10.50 | 889.5 | 410.8 | 1300.2 | 859.9 | -196.8 | 663.1 |
| | | -11.00 | 901.4 | 482.2 | 1383.6 | 915.1 | -196.8 | 718.3 |
| | | -11.50 | 837.2 | 568.1 | 1405.3 | 929.4 | -196.8 | 732.6 |
| | | -12.00 | 683.9 | 676.5 | 1360.4 | 899.8 | -196.8 | 702.9 |
| | | -12.50 | 2175.1 | 717.0 | 2892.1 | 1912.8 | -196.8 | 1715.9 |
| | | -13.00 | 2468.6 | 844.9 | 3313.5 | 2191.5 | -196.8 | 1994.6 |
| | | -13.50 | 2531.7 | 995.8 | 3527.4 | 2333.0 | -196.8 | 2136.1 |
| | | -14.00 | 2597.2 | 1149.5 | 3746.7 | 2478.0 | -196.8 | 2281.1 |
| | | -14.50 | 2619.3 | 1304.9 | 3924.2 | 2595.4 | -196.8 | 2398.5 |
| | | -15.00 | 2614.0 | 1460.3 | 4074.3 | 2694.6 | -196.8 | 2497.8 |
| | | -15.50 | 2692.5 | 1605.8 | 4298.3 | 2842.8 | -196.8 | 2645.9 |
| | | -16.00 | 3006.1 | 1728.5 | 4734.7 | 3131.4 | -196.8 | 2934.6 |
| | | -16.50 | 3040.3 | 1872.2 | 4912.6 | 3249.0 | -196.8 | 3052.2 |
| | | -17.00 | 3151.4 | 2010.3 | 5161.8 | 3413.9 | -196.8 | 3217.0 |
| | | -17.50 | 4282.9 | 2140.8 | 6423.7 | 4248.5 | -196.8 | 4051.6 |
| | | -18.00 | 5137.2 | 2305.2 | 7442.5 | 4922.3 | -196.8 | 4725.4 |
| | | -18.50 | 5192.2 | 2487.6 | 7679.8 | 5079.2 | -196.8 | 4882.4 |
| | | -19.00 | 5324.3 | 2670.0 | 7994.2 | 5287.2 | -196.8 | 5090.4 |
| | | -19.50 | 5329.3 | 2852.3 | 8181.6 | 5411.1 | -196.8 | 5214.3 |
| | | -20.00 | 4370.2 | 3034.7 | 7404.8 | 4897.4 | -196.8 | 4700.6 |
| | | -20.50 | 4081.6 | 3217.1 | 7298.7 | 4827.2 | -196.8 | 4630.3 |
| | | -21.00 | 3922.7 | 3399.4 | 7322.1 | 4842.6 | -196.8 | 4645.8 |
| | | -21.50 | 3879.4 | 3571.3 | 7450.7 | 4927.7 | -196.8 | 4730.9 |
| | | -22.00 | 3472.8 | 3753.7 | 7226.5 | 4779.4 | -196.8 | 4582.6 |
| | | -22.50 | 3248.4 | 3936.0 | 7184.4 | 4751.6 | -196.8 | 4554.8 |
| | | -23.00 | 3023.5 | 4101.3 | 7124.8 | 4712.2 | -196.8 | 4515.3 |
| | | -23.50 | 3483.0 | 4211.2 | 7694.2 | 5088.7 | -196.8 | 4891.9 |
| | | -24.00 | 3541.3 | 4352.8 | 7894.1 | 5221.0 | -196.8 | 5024.2 |
| | | -24.50 | 3455.1 | 4513.4 | 7968.5 | 5270.2 | -196.8 | 5073.3 |
| | | -25.00 | 3717.8 | 4666.1 | 8383.9 | 5544.9 | -196.8 | 5348.1 |
| | | -25.50 | 5061.6 | 4795.0 | 9856.6 | 6518.9 | -196.8 | 6322.0 |
| | | -26.00 | 5053.6 | 4977.4 | 10031.0 | 6634.3 | -196.8 | 6437.4 |
| | | -26.50 | 4998.0 | 5159.7 | 10157.7 | 6718.1 | -196.8 | 6521.2 |
| | | -27.00 | 5026.7 | 5342.1 | 10368.8 | 6857.7 | -196.8 | 6660.8 |
| | | -27.50 | 5143.5 | 5524.5 | 10668.0 | 7055.5 | -196.8 | 6858.7 |
| | | -28.00 | 5756.5 | 5706.8 | 11463.3 | 7581.5 | -196.8 | 7384.7 |
| | | -28.50 | 6016.0 | 5889.1 | 11905.1 | 7873.7 | -196.8 | 7676.9 |
| | | -29.00 | 6815.5 | 6071.5 | 12887.0 | 8523.2 | -196.8 | 8326.3 |
| | | -29.50 | 7914.3 | 6253.9 | 14168.2 | 9370.5 | -196.8 | 9173.7 |
| | | -30.00 | 7994.5 | 6436.2 | 14430.8 | 9544.2 | -196.8 | 9347.3 |
| 19-1008_12 | 3.57 | -8.00 | 457.8 | 2663.1 | 3120.9 | 2064.1 | 0.0 | 2064.1 |
| | | -8.50 | 404.3 | 2756.0 | 3160.4 | 2090.2 | 0.0 | 2090.2 |
| | | -9.00 | 418.8 | 2783.2 | 3202.0 | 2117.7 | 0.0 | 2117.7 |
| | | -9.50 | 406.0 | 2803.0 | 3209.1 | 2122.4 | 0.0 | 2122.4 |
| | | -10.00 | 403.9 | 2842.5 | 3246.4 | 2147.1 | 0.0 | 2147.1 |
| | | -10.50 | 382.7 | 2922.8 | 3305.5 | 2186.2 | 0.0 | 2186.2 |
| | | -11.00 | 323.6 | 2984.7 | 3308.3 | 2188.0 | 0.0 | 2188.0 |
| | | -11.50 | 385.4 | 2996.8 | 3382.3 | 2236.9 | 0.0 | 2236.9 |
| | | -12.00 | 344.9 | 3054.8 | 3399.7 | 2248.5 | 0.0 | 2248.5 |
| | | -12.50 | 344.0 | 3075.8 | 3419.8 | 2261.8 | 0.0 | 2261.8 |
| | | -13.00 | 448.8 | 3092.2 | 3540.9 | 2341.9 | 0.0 | 2341.9 |
| | | -13.50 | 572.5 | 3112.6 | 3685.1 | 2437.3 | 0.0 | 2437.3 |
| | | -14.00 | 592.3 | 3162.7 | 3755.0 | 2483.5 | 0.0 | 2483.5 |
| | | -14.50 | 583.6 | 3228.3 | 3811.9 | 2521.1 | 0.0 | 2521.1 |
| | | -15.00 | 596.8 | 3274.1 | 3870.9 | 2560.1 | 0.0 | 2560.1 |
| | | -15.50 | 753.8 | 3310.3 | 4064.2 | 2687.9 | 0.0 | 2687.9 |
| | | -16.00 | 803.0 | 3369.6 | 4172.6 | 2759.7 | 0.0 | 2759.7 |
| | | -16.50 | 822.2 | 3450.6 | 4272.7 | 2825.9 | 0.0 | 2825.9 |
| | | -17.00 | 879.3 | 3517.8 | 4397.2 | 2908.2 | 0.0 | 2908.2 |
| | | -17.50 | 1096.1 | 3618.2 | 4714.3 | 3117.9 | 0.0 | 3117.9 |
| | | -18.00 | 1470.9 | 3695.9 | 5166.8 | 3417.2 | 0.0 | 3417.2 |
| | | -18.50 | 1495.0 | 3875.4 | 5370.4 | 3551.9 | 0.0 | 3551.9 |
| | | -19.00 | 2162.0 | 4039.6 | 6201.6 | 4101.6 | 0.0 | 4101.6 |
| | | -19.50 | 2661.2 | 4189.8 | 6851.0 | 4531.1 | 0.0 | 4531.1 |
| | | -20.00 | 2973.1 | 4319.3 | 7292.4 | 4823.0 | 0.0 | 4823.0 |
| | | -20.50 | 2727.8 | 4465.2 | 7193.1 | 4757.3 | 0.0 | 4757.3 |
| | | -21.00 | 3505.5 | 4601.8 | 8107.3 | 5362.0 | 0.0 | 5362.0 |
| | | -21.50 | 3625.1 | 4767.4 | 8392.5 | 5550.6 | 0.0 | 5550.6 |
| | | -22.00 | 3757.3 | 4947.2 | 8704.5 | 5757.0 | 0.0 | 5757.0 |
| | | -22.50 | 3456.9 | 5126.8 | 8583.7 | 5677.1 | 0.0 | 5677.1 |
| | | -23.00 | 2836.4 | 5291.4 | 8127.8 | 5375.5 | 0.0 | 5375.5 |
| | | -23.50 | 2694.3 | 5449.8 | 8144.1 | 5386.3 | 0.0 | 5386.3 |
| | | -24.00 | 2542.0 | 5617.9 | 8159.9 | 5396.8 | 0.0 | 5396.8 |
| | | -24.50 | 2083.5 | 5800.3 | 7883.8 | 5214.2 | 0.0 | 5214.2 |
| | | -25.00 | 1953.1 | 5982.7 | 7935.7 | 5248.5 | 0.0 | 5248.5 |
| | | -25.50 | 1729.8 | 6223.4 | 7953.2 | 5260.1 | 0.0 | 5260.1 |
| | | -26.00 | 1626.2 | 6465.4 | 8091.5 | 5351.6 | 0.0 | 5351.6 |
| | | -26.50 | 1631.5 | 6604.8 | 8236.4 | 5447.3 | 0.0 | 5447.3 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_12 | 3.57 | -27.00 | 1621.7 | 6735.1 | 8356.8 | 5527.0 | 0.0 | 5527.0 |
| | | -27.50 | 1575.1 | 6884.5 | 8459.6 | 5595.0 | 0.0 | 5595.0 |
| | | -28.00 | 3106.4 | 6992.4 | 10098.9 | 6679.1 | 0.0 | 6679.1 |
| 19-1008_17 | 0.20 | -8.00 | 409.4 | 0.0 | 409.4 | 270.8 | -274.9 | -4.1 |
| | | -8.50 | 452.5 | 0.0 | 452.5 | 299.3 | -274.9 | 24.4 |
| | | -9.00 | 568.5 | 0.0 | 568.5 | 376.0 | -274.9 | 101.1 |
| | | -9.50 | 1415.9 | 0.0 | 1415.9 | 936.4 | -274.9 | 661.5 |
| | | -10.00 | 1044.0 | 0.0 | 1044.0 | 690.5 | -274.9 | 415.6 |
| | | -10.50 | 2367.5 | 28.0 | 2395.5 | 1584.3 | -274.9 | 1309.5 |
| | | -11.00 | 3827.7 | 142.3 | 3970.0 | 2625.6 | -274.9 | 2350.8 |
| | | -11.50 | 3447.0 | 324.7 | 3771.7 | 2494.5 | -274.9 | 2219.6 |
| | | -12.00 | 3603.8 | 507.1 | 4110.8 | 2718.8 | -274.9 | 2443.9 |
| | | -12.50 | 3690.8 | 689.4 | 4380.2 | 2897.0 | -274.9 | 2622.1 |
| | | -13.00 | 3583.4 | 871.8 | 4455.2 | 2946.6 | -274.9 | 2671.7 |
| | | -13.50 | 3538.8 | 1054.2 | 4593.0 | 3037.7 | -274.9 | 2762.8 |
| | | -14.00 | 3524.2 | 1236.5 | 4760.8 | 3148.7 | -274.9 | 2873.8 |
| | | -14.50 | 4044.0 | 1418.8 | 5462.8 | 3613.0 | -274.9 | 3338.1 |
| | | -15.00 | 2596.0 | 1587.3 | 4183.3 | 2766.7 | -274.9 | 2491.9 |
| | | -15.50 | 2558.0 | 1769.7 | 4327.7 | 2862.2 | -274.9 | 2587.4 |
| | | -16.00 | 2546.2 | 1952.1 | 4498.3 | 2975.1 | -274.9 | 2700.2 |
| | | -16.50 | 2521.3 | 2134.4 | 4655.8 | 3079.2 | -274.9 | 2804.3 |
| | | -17.00 | 2592.5 | 2309.3 | 4901.8 | 3241.9 | -274.9 | 2967.1 |
| | | -17.50 | 2234.8 | 2498.1 | 4732.9 | 3130.2 | -274.9 | 2855.3 |
| | | -18.00 | 1879.8 | 2717.1 | 4596.9 | 3040.3 | -274.9 | 2765.4 |
| | | -18.50 | 2576.5 | 2863.7 | 5440.2 | 3598.0 | -274.9 | 3323.1 |
| | | -19.00 | 2683.6 | 2990.0 | 5673.6 | 3752.4 | -274.9 | 3477.5 |
| | | -19.50 | 2749.2 | 3135.9 | 5885.1 | 3892.3 | -274.9 | 3617.4 |
| | | -20.00 | 2850.4 | 3283.1 | 6133.4 | 4056.5 | -274.9 | 3781.6 |
| | | -20.50 | 3077.5 | 3439.2 | 6516.7 | 4310.0 | -274.9 | 4035.1 |
| | | -21.00 | 2687.2 | 3600.5 | 6287.7 | 4158.5 | -274.9 | 3883.6 |
| | | -21.50 | 3162.9 | 3781.0 | 6944.0 | 4592.6 | -274.9 | 4317.7 |
| | | -22.00 | 3120.4 | 3936.6 | 7057.0 | 4667.3 | -274.9 | 4392.5 |
| | | -22.50 | 3064.6 | 4119.0 | 7183.6 | 4751.0 | -274.9 | 4476.2 |
| | | -23.00 | 2870.4 | 4301.3 | 7171.8 | 4743.2 | -274.9 | 4468.4 |
| | | -23.50 | 2787.2 | 4483.7 | 7270.9 | 4808.8 | -274.9 | 4533.9 |
| | | -24.00 | 2765.0 | 4651.8 | 7416.8 | 4905.3 | -274.9 | 4630.4 |
| | | -24.50 | 2720.8 | 4797.4 | 7518.2 | 4972.4 | -274.9 | 4697.5 |
| | | -25.00 | 2764.6 | 4910.9 | 7675.4 | 5076.4 | -274.9 | 4801.5 |
| | | -25.50 | 2807.2 | 5020.9 | 7828.1 | 5177.3 | -274.9 | 4902.5 |
| | | -26.00 | 1280.3 | 5128.4 | 6408.7 | 4238.5 | -274.9 | 3963.7 |
| | | -26.50 | 1225.0 | 5235.5 | 6460.5 | 4272.8 | -274.9 | 3997.9 |
| | | -27.00 | 1216.6 | 5362.7 | 6579.3 | 4351.4 | -274.9 | 4076.5 |
| | | -27.50 | 1189.0 | 5499.0 | 6688.0 | 4423.3 | -274.9 | 4148.4 |
| | | -28.00 | 1128.3 | 5637.9 | 6766.2 | 4475.0 | -274.9 | 4200.1 |
| | | -28.50 | 928.1 | 5783.7 | 6711.8 | 4439.0 | -274.9 | 4164.1 |
| | | -29.00 | 526.8 | 5936.7 | 6463.4 | 4274.8 | -274.9 | 3999.9 |
| | | -29.50 | 2260.5 | 5979.8 | 8240.3 | 5450.0 | -274.9 | 5175.1 |
| | | -30.00 | 2886.1 | 6095.9 | 8982.0 | 5940.5 | -274.9 | 5665.6 |
| 19-1008_20 | -0.03 | -8.00 | 852.3 | 528.1 | 1380.3 | 912.9 | -51.8 | 861.1 |
| | | -8.50 | 865.2 | 601.6 | 1466.8 | 970.1 | -51.8 | 918.3 |
| | | -9.00 | 807.1 | 703.6 | 1510.8 | 999.2 | -51.8 | 947.4 |
| | | -9.50 | 746.7 | 786.2 | 1532.9 | 1013.8 | -51.8 | 962.0 |
| | | -10.00 | 574.9 | 881.6 | 1456.5 | 963.3 | -51.8 | 911.5 |
| | | -10.50 | 859.5 | 904.4 | 1763.9 | 1166.6 | -51.8 | 1114.8 |
| | | -11.00 | 776.6 | 1028.2 | 1804.8 | 1193.7 | -51.8 | 1141.9 |
| | | -11.50 | 550.8 | 1161.9 | 1712.7 | 1132.7 | -51.8 | 1080.9 |
| | | -12.00 | 627.1 | 1187.9 | 1815.0 | 1200.4 | -51.8 | 1148.6 |
| | | -12.50 | 659.5 | 1217.8 | 1877.2 | 1241.5 | -51.8 | 1189.7 |
| | | -13.00 | 620.5 | 1275.3 | 1895.8 | 1253.8 | -51.8 | 1202.0 |
| | | -13.50 | 767.2 | 1301.2 | 2068.4 | 1368.0 | -51.8 | 1316.2 |
| | | -14.00 | 762.6 | 1352.0 | 2114.6 | 1398.5 | -51.8 | 1346.7 |
| | | -14.50 | 741.7 | 1446.1 | 2187.8 | 1447.0 | -51.8 | 1395.2 |
| | | -15.00 | 703.4 | 1553.7 | 2257.1 | 1492.8 | -51.8 | 1441.0 |
| | | -15.50 | 698.2 | 1614.1 | 2312.3 | 1529.3 | -51.8 | 1477.5 |
| | | -16.00 | 720.8 | 1659.4 | 2380.2 | 1574.2 | -51.8 | 1522.4 |
| | | -16.50 | 704.2 | 1723.7 | 2427.9 | 1605.8 | -51.8 | 1554.0 |
| | | -17.00 | 826.7 | 1765.3 | 2592.0 | 1714.3 | -51.8 | 1662.5 |
| | | -17.50 | 1104.4 | 1816.3 | 2920.7 | 1931.7 | -51.8 | 1879.9 |
| | | -18.00 | 1135.2 | 1911.8 | 3047.0 | 2015.2 | -51.8 | 1963.4 |
| | | -18.50 | 1203.8 | 2023.8 | 3227.5 | 2134.6 | -51.8 | 2082.8 |
| | | -19.00 | 1242.8 | 2107.5 | 3350.3 | 2215.8 | -51.8 | 2164.0 |
| | | -19.50 | 1219.7 | 2220.2 | 3440.0 | 2275.1 | -51.8 | 2223.3 |
| | | -20.00 | 1200.5 | 2336.5 | 3537.0 | 2339.3 | -51.8 | 2287.5 |
| | | -20.50 | 1009.4 | 2486.3 | 3495.7 | 2312.0 | -51.8 | 2260.2 |
| | | -21.00 | 801.8 | 2686.9 | 3488.7 | 2307.4 | -51.8 | 2255.6 |
| | | -21.50 | 772.5 | 2771.9 | 3544.4 | 2344.2 | -51.8 | 2292.4 |
| | | -22.00 | 779.2 | 2827.9 | 3607.2 | 2385.7 | -51.8 | 2333.9 |
| | | -22.50 | 921.9 | 2889.2 | 3811.1 | 2520.6 | -51.8 | 2468.8 |
| | | -23.00 | 1650.8 | 2938.5 | 4589.3 | 3035.2 | -51.8 | 2983.4 |
| | | -23.50 | 1863.4 | 3034.5 | 4897.9 | 3239.4 | -51.8 | 3187.6 |
| | | -24.00 | 2148.1 | 3142.1 | 5290.2 | 3498.8 | -51.8 | 3447.0 |
| | | -24.50 | 2233.5 | 3254.9 | 5488.4 | 3629.9 | -51.8 | 3578.1 |
| | | -25.00 | 2289.4 | 3393.5 | 5682.9 | 3758.6 | -51.8 | 3706.8 |
| | | -25.50 | 2348.6 | 3519.6 | 5868.2 | 3881.1 | -51.8 | 3829.3 |
| | | -26.00 | 2076.3 | 3643.0 | 5719.3 | 3782.6 | -51.8 | 3730.8 |
| | | -26.50 | 2142.7 | 3754.4 | 5897.0 | 3900.1 | -51.8 | 3848.3 |
| | | -27.00 | 2062.8 | 3890.3 | 5953.1 | 3937.2 | -51.8 | 3885.4 |
| | | -27.50 | 2100.5 | 4009.7 | 6110.2 | 4041.1 | -51.8 | 3989.3 |
| | | -28.00 | 2152.6 | 4117.7 | 6270.3 | 4147.0 | -51.8 | 4095.2 |
| | | -28.50 | 2180.9 | 4244.2 | 6425.2 | 4249.5 | -51.8 | 4197.7 |
| | | -29.00 | 2202.9 | 4361.5 | 6564.4 | 4341.5 | -51.8 | 4289.7 |
| | | -29.50 | 1947.1 | 4455.9 | 6403.0 | 4234.8 | -51.8 | 4183.0 |
| | | -30.00 | 1978.7 | 4575.0 | 6553.6 | 4334.4 | -51.8 | 4282.6 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_21 | 1.78 | -8.00 | 1491.2 | 908.0 | 2399.1 | 1586.7 | -161.7 | 1425.1 |
| | | -8.50 | 1304.1 | 1043.1 | 2347.3 | 1552.4 | -161.7 | 1390.7 |
| | | -9.00 | 1352.6 | 1113.1 | 2465.7 | 1630.7 | -161.7 | 1469.1 |
| | | -9.50 | 1619.8 | 1165.7 | 2785.6 | 1842.3 | -161.7 | 1680.6 |
| | | -10.00 | 1682.5 | 1245.9 | 2928.3 | 1936.7 | -161.7 | 1775.1 |
| | | -10.50 | 1778.2 | 1316.3 | 3094.5 | 2046.7 | -161.7 | 1885.0 |
| | | -11.00 | 1803.4 | 1397.0 | 3200.4 | 2116.7 | -161.7 | 1955.0 |
| | | -11.50 | 1795.9 | 1498.9 | 3294.8 | 2179.1 | -161.7 | 2017.4 |
| | | -12.00 | 1591.3 | 1613.3 | 3204.6 | 2119.4 | -161.7 | 1957.8 |
| | | -12.50 | 1650.3 | 1701.2 | 3351.5 | 2216.6 | -161.7 | 2054.9 |
| | | -13.00 | 1733.7 | 1802.7 | 3536.4 | 2338.9 | -161.7 | 2177.2 |
| | | -13.50 | 1431.6 | 1915.1 | 3346.7 | 2213.5 | -161.7 | 2051.8 |
| | | -14.00 | 1257.5 | 2082.3 | 3339.8 | 2208.9 | -161.7 | 2047.2 |
| | | -14.50 | 1317.0 | 2249.9 | 3566.9 | 2359.0 | -161.7 | 2197.4 |
| | | -15.00 | 1088.1 | 2372.5 | 3460.6 | 2288.8 | -161.7 | 2127.1 |
| | | -15.50 | 1104.0 | 2461.9 | 3565.9 | 2358.4 | -161.7 | 2196.7 |
| | | -16.00 | 921.4 | 2634.7 | 3556.2 | 2352.0 | -161.7 | 2190.3 |
| | | -16.50 | 596.5 | 2807.3 | 3403.8 | 2251.2 | -161.7 | 2089.5 |
| | | -17.00 | 684.9 | 2836.6 | 3521.5 | 2329.0 | -161.7 | 2167.4 |
| | | -17.50 | 844.2 | 2870.8 | 3715.1 | 2457.0 | -161.7 | 2295.4 |
| | | -18.00 | 835.6 | 2936.2 | 3771.8 | 2494.6 | -161.7 | 2332.9 |
| | | -18.50 | 714.2 | 3125.5 | 3839.7 | 2539.5 | -161.7 | 2377.8 |
| | | -19.00 | 645.5 | 3257.5 | 3903.0 | 2581.3 | -161.7 | 2419.7 |
| | | -19.50 | 644.7 | 3291.1 | 3935.8 | 2603.0 | -161.7 | 2441.4 |
| | | -20.00 | 648.7 | 3317.8 | 3966.5 | 2623.3 | -161.7 | 2461.7 |
| | | -20.50 | 662.8 | 3344.3 | 4007.1 | 2650.2 | -161.7 | 2488.5 |
| | | -21.00 | 702.3 | 3370.9 | 4073.3 | 2694.0 | -161.7 | 2532.3 |
| | | -21.50 | 731.0 | 3403.2 | 4134.2 | 2734.2 | -161.7 | 2572.6 |
| | | -22.00 | 756.3 | 3440.4 | 4196.7 | 2775.6 | -161.7 | 2613.9 |
| | | -22.50 | 765.7 | 3486.0 | 4251.7 | 2812.0 | -161.7 | 2650.3 |
| | | -23.00 | 779.0 | 3531.2 | 4310.3 | 2850.7 | -161.7 | 2689.0 |
| | | -23.50 | 821.4 | 3574.7 | 4396.1 | 2907.4 | -161.7 | 2745.8 |
| | | -24.00 | 834.0 | 3626.2 | 4460.2 | 2949.9 | -161.7 | 2788.2 |
| | | -24.50 | 836.1 | 3679.2 | 4515.3 | 2986.3 | -161.7 | 2824.7 |
| | | -25.00 | 841.4 | 3735.0 | 4576.4 | 3026.7 | -161.7 | 2865.0 |
| | | -25.50 | 843.1 | 3793.6 | 4636.7 | 3066.6 | -161.7 | 2904.9 |
| | | -26.00 | 845.1 | 3849.7 | 4694.8 | 3105.0 | -161.7 | 2943.4 |
| | | -26.50 | 853.2 | 3900.4 | 4753.7 | 3144.0 | -161.7 | 2982.3 |
| | | -27.00 | 857.3 | 3952.5 | 4809.7 | 3181.0 | -161.7 | 3019.4 |
| | | -27.50 | 909.1 | 4003.6 | 4912.7 | 3249.1 | -161.7 | 3087.5 |
| | | -28.00 | 923.2 | 4058.7 | 4981.9 | 3294.9 | -161.7 | 3133.2 |
| | | -28.50 | 927.5 | 4115.7 | 5043.2 | 3335.4 | -161.7 | 3173.8 |
| | | -29.00 | 961.0 | 4170.9 | 5131.9 | 3394.1 | -161.7 | 3232.4 |
| | | -29.50 | 979.5 | 4228.9 | 5208.4 | 3444.7 | -161.7 | 3283.1 |
| 251.S01 | -1.05 | -8.00 | 397.9 | 1150.0 | 1547.9 | 1023.8 | -17.8 | 1006.0 |
| | | -8.50 | 385.3 | 1237.3 | 1622.6 | 1073.1 | -17.8 | 1055.4 |
| | | -9.00 | 1307.1 | 1250.4 | 2557.5 | 1691.5 | -17.8 | 1673.7 |
| | | -9.50 | 1388.7 | 1331.0 | 2719.7 | 1798.8 | -17.8 | 1781.0 |
| | | -10.00 | 1415.6 | 1453.2 | 2868.8 | 1897.4 | -17.8 | 1879.6 |
| | | -10.50 | 1356.4 | 1596.9 | 2953.4 | 1953.3 | -17.8 | 1935.5 |
| | | -11.00 | 1288.3 | 1706.1 | 2994.4 | 1980.4 | -17.8 | 1962.7 |
| | | -11.50 | 1386.5 | 1772.4 | 3158.9 | 2089.2 | -17.8 | 2071.5 |
| | | -12.00 | 1456.4 | 1838.2 | 3294.6 | 2179.0 | -17.8 | 2161.2 |
| | | -12.50 | 1515.7 | 1950.2 | 3465.9 | 2292.3 | -17.8 | 2274.5 |
| | | -13.00 | 1557.0 | 2082.7 | 3639.6 | 2407.2 | -17.8 | 2389.4 |
| | | -13.50 | 1594.4 | 2207.4 | 3801.9 | 2514.5 | -17.8 | 2496.7 |
| | | -14.00 | 1501.5 | 2380.9 | 3882.5 | 2567.8 | -17.8 | 2550.0 |
| | | -14.50 | 1286.3 | 2553.3 | 3839.6 | 2539.4 | -17.8 | 2521.7 |
| | | -15.00 | 1191.7 | 2739.9 | 3931.6 | 2600.2 | -17.8 | 2582.5 |
| | | -15.50 | 2313.0 | 2823.4 | 5136.4 | 3397.1 | -17.8 | 3379.3 |
| | | -16.00 | 2285.3 | 2991.8 | 5277.1 | 3490.1 | -17.8 | 3472.4 |
| | | -16.50 | 2314.4 | 3174.1 | 5488.5 | 3630.0 | -17.8 | 3612.2 |
| | | -17.00 | 2330.9 | 3354.5 | 5685.4 | 3760.2 | -17.8 | 3742.4 |
| | | -17.50 | 2278.3 | 3526.6 | 5804.9 | 3839.2 | -17.8 | 3821.4 |
| | | -18.00 | 1271.1 | 3689.2 | 4960.3 | 3280.6 | -17.8 | 3262.9 |
| | | -18.50 | 1145.8 | 3871.3 | 5017.1 | 3318.2 | -17.8 | 3300.4 |
| | | -19.00 | 1013.8 | 3980.8 | 4994.6 | 3303.3 | -17.8 | 3285.6 |
| | | -19.50 | 930.4 | 4097.7 | 5028.2 | 3325.5 | -17.8 | 3307.7 |
| | | -20.00 | 809.4 | 4239.5 | 5048.9 | 3339.3 | -17.8 | 3321.5 |
| | | -20.50 | 659.5 | 4437.9 | 5097.4 | 3371.3 | -17.8 | 3353.5 |
| | | -21.00 | 516.9 | 4646.8 | 5163.7 | 3415.1 | -17.8 | 3397.4 |
| | | -21.50 | 468.6 | 4733.4 | 5202.1 | 3440.5 | -17.8 | 3422.8 |
| | | -22.00 | 472.6 | 4760.6 | 5233.2 | 3461.1 | -17.8 | 3443.3 |
| | | -22.50 | 629.6 | 4796.4 | 5426.0 | 3588.6 | -17.8 | 3570.9 |
| | | -23.00 | 708.0 | 4853.9 | 5561.9 | 3678.5 | -17.8 | 3660.7 |
| | | -23.50 | 907.3 | 4929.1 | 5836.4 | 3860.1 | -17.8 | 3842.3 |
| | | -24.00 | 919.5 | 5030.9 | 5950.4 | 3935.4 | -17.8 | 3917.7 |
| | | -24.50 | 1104.5 | 5123.6 | 6228.1 | 4119.1 | -17.8 | 4101.3 |
| | | -25.00 | 1486.9 | 5207.7 | 6694.7 | 4427.7 | -17.8 | 4409.9 |
| | | -25.50 | 2284.5 | 5358.6 | 7643.2 | 5055.0 | -17.8 | 5037.2 |
| | | -26.00 | 3403.7 | 5579.9 | 8983.6 | 5941.5 | -17.8 | 5923.8 |
| | | -26.50 | 3588.9 | 5793.1 | 9382.0 | 6205.0 | -17.8 | 6187.3 |
| | | -27.00 | 3168.6 | 5975.5 | 9144.0 | 6047.6 | -17.8 | 6029.9 |
| | | -27.50 | 2457.4 | 6157.8 | 8615.3 | 5697.9 | -17.8 | 5680.2 |
| | | -28.00 | 2094.1 | 6340.2 | 8434.4 | 5578.3 | -17.8 | 5560.5 |
| | | -28.50 | 1796.6 | 6522.6 | 8319.2 | 5502.1 | -17.8 | 5484.4 |
| | | -29.00 | 1429.6 | 6704.7 | 8134.4 | 5379.9 | -17.8 | 5362.1 |
| | | -29.50 | 1383.3 | 6827.1 | 8210.4 | 5430.1 | -17.8 | 5412.4 |
| | | -30.00 | 1139.3 | 6973.0 | 8112.3 | 5365.3 | -17.8 | 5347.5 |
| 19-1008_29 | 0.79 | -8.00 | 2518.7 | 1704.2 | 4222.9 | 2792.9 | -8.6 | 2784.3 |
| | | -8.50 | 1184.7 | 1869.7 | 3054.4 | 2020.1 | -8.6 | 2011.5 |
| | | -9.00 | 1172.0 | 2013.7 | 3185.7 | 2107.0 | -8.6 | 2098.4 |
| | | -9.50 | 1164.8 | 2148.1 | 3313.0 | 2191.1 | -8.6 | 2182.5 |
| | | -10.00 | 1172.1 | 2273.8 | 3445.9 | 2279.1 | -8.6 | 2270.5 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_29 | 0.79 | -10.50 | 1101.1 | 2419.7 | 3520.8 | 2328.6 | -8.6 | 2320.0 |
| | | -11.00 | 917.5 | 2564.4 | 3481.9 | 2302.9 | -8.6 | 2294.3 |
| | | -11.50 | 941.3 | 2726.1 | 3667.4 | 2425.5 | -8.6 | 2416.9 |
| | | -12.00 | 865.6 | 2802.1 | 3667.7 | 2425.8 | -8.6 | 2417.2 |
| | | -12.50 | 754.4 | 2967.1 | 3721.5 | 2461.3 | -8.6 | 2452.7 |
| | | -13.00 | 577.0 | 3094.3 | 3671.3 | 2428.1 | -8.6 | 2419.5 |
| | | -13.50 | 592.7 | 3147.5 | 3740.2 | 2473.7 | -8.6 | 2465.1 |
| | | -14.00 | 592.9 | 3210.3 | 3803.2 | 2515.3 | -8.6 | 2506.7 |
| | | -14.50 | 606.3 | 3253.8 | 3860.1 | 2553.0 | -8.6 | 2544.4 |
| | | -15.00 | 754.1 | 3291.1 | 4045.2 | 2675.4 | -8.6 | 2666.8 |
| | | -15.50 | 800.9 | 3335.9 | 4136.8 | 2736.0 | -8.6 | 2727.4 |
| | | -16.00 | 677.9 | 3450.1 | 4128.1 | 2730.2 | -8.6 | 2721.6 |
| | | -16.50 | 702.2 | 3492.4 | 4194.6 | 2774.2 | -8.6 | 2765.6 |
| | | -17.00 | 1024.8 | 3535.1 | 4559.9 | 3015.8 | -8.6 | 3007.2 |
| | | -17.50 | 2579.3 | 3596.6 | 6176.0 | 4084.6 | -8.6 | 4076.0 |
| | | -18.00 | 2980.8 | 3747.2 | 6728.0 | 4449.7 | -8.6 | 4441.1 |
| | | -18.50 | 2797.5 | 3929.6 | 6727.1 | 4449.2 | -8.6 | 4440.6 |
| | | -19.00 | 2631.6 | 4106.2 | 6737.8 | 4456.2 | -8.6 | 4447.6 |
| | | -19.50 | 3429.5 | 4242.5 | 7672.0 | 5074.1 | -8.6 | 5065.5 |
| | | -20.00 | 2986.5 | 4424.9 | 7411.3 | 4901.7 | -8.6 | 4893.1 |
| | | -20.50 | 2697.4 | 4607.2 | 7304.7 | 4831.1 | -8.6 | 4822.5 |
| | | -21.00 | 2439.2 | 4789.6 | 7228.8 | 4781.0 | -8.6 | 4772.4 |
| | | -21.50 | 2112.4 | 4972.0 | 7084.4 | 4685.4 | -8.6 | 4676.8 |
| | | -22.00 | 1712.4 | 5154.3 | 6866.7 | 4541.5 | -8.6 | 4532.9 |
| | | -22.50 | 1404.5 | 5365.9 | 6770.3 | 4477.7 | -8.6 | 4469.1 |
| | | -23.00 | 1312.4 | 5522.2 | 6834.7 | 4520.3 | -8.6 | 4511.7 |
| | | -23.50 | 1411.5 | 5630.4 | 7041.9 | 4657.4 | -8.6 | 4648.8 |
| | | -24.00 | 1392.2 | 5757.7 | 7149.9 | 4728.8 | -8.6 | 4720.2 |
| | | -24.50 | 1294.2 | 5887.2 | 7181.4 | 4749.6 | -8.6 | 4741.0 |
| | | -25.00 | 1233.2 | 6024.8 | 7258.0 | 4800.3 | -8.6 | 4791.7 |
| | | -25.50 | 1277.7 | 6110.2 | 7387.9 | 4886.2 | -8.6 | 4877.6 |
| | | -26.00 | 1257.7 | 6208.5 | 7466.2 | 4937.9 | -8.6 | 4929.3 |
| | | -26.50 | 1259.0 | 6300.0 | 7559.1 | 4999.4 | -8.6 | 4990.8 |
| | | -27.00 | 1219.0 | 6415.1 | 7634.1 | 5049.0 | -8.6 | 5040.4 |
| | | -27.50 | 1232.3 | 6502.0 | 7734.2 | 5115.2 | -8.6 | 5106.6 |
| | | -28.00 | 1231.1 | 6586.7 | 7817.7 | 5170.5 | -8.6 | 5161.9 |
| | | -28.50 | 1303.8 | 6670.8 | 7974.6 | 5274.2 | -8.6 | 5265.6 |
| | | -29.00 | 1863.1 | 6763.5 | 8626.6 | 5705.4 | -8.6 | 5696.8 |
| | | -29.50 | 1769.5 | 6910.0 | 8679.4 | 5740.4 | -8.6 | 5731.8 |
| | | -30.00 | 1540.6 | 7034.0 | 8574.6 | 5671.0 | -8.6 | 5662.4 |
| 283.S02 | 0.17 | -8.00 | 2500.0 | 1257.4 | 3757.4 | 2485.0 | -17.3 | 2467.7 |
| | | -8.50 | 1995.9 | 1377.2 | 3373.0 | 2230.8 | -17.3 | 2213.5 |
| | | -9.00 | 1999.4 | 1487.4 | 3486.8 | 2306.1 | -17.3 | 2288.8 |
| | | -9.50 | 1999.2 | 1581.0 | 3580.2 | 2367.8 | -17.3 | 2350.5 |
| | | -10.00 | 1986.3 | 1686.1 | 3672.5 | 2428.9 | -17.3 | 2411.5 |
| | | -10.50 | 1956.9 | 1787.6 | 3744.5 | 2476.5 | -17.3 | 2459.2 |
| | | -11.00 | 1931.0 | 1886.8 | 3817.8 | 2525.0 | -17.3 | 2507.6 |
| | | -11.50 | 1886.2 | 1993.3 | 3879.4 | 2565.8 | -17.3 | 2548.4 |
| | | -12.00 | 2613.4 | 2061.5 | 4674.9 | 3091.8 | -17.3 | 3074.5 |
| | | -12.50 | 2924.0 | 2179.9 | 5103.9 | 3375.6 | -17.3 | 3358.2 |
| | | -13.00 | 3239.9 | 2311.5 | 5551.4 | 3671.6 | -17.3 | 3654.2 |
| | | -13.50 | 3344.1 | 2458.1 | 5802.2 | 3837.4 | -17.3 | 3820.1 |
| | | -14.00 | 3421.5 | 2632.1 | 6053.6 | 4003.7 | -17.3 | 3986.4 |
| | | -14.50 | 3334.9 | 2806.2 | 6141.1 | 4061.6 | -17.3 | 4044.2 |
| | | -15.00 | 3381.9 | 2961.6 | 6343.5 | 4195.4 | -17.3 | 4178.1 |
| | | -15.50 | 3648.3 | 3094.6 | 6742.9 | 4459.6 | -17.3 | 4442.2 |
| | | -16.00 | 4028.2 | 3240.4 | 7268.5 | 4807.2 | -17.3 | 4789.9 |
| | | -16.50 | 4443.0 | 3402.7 | 7845.7 | 5189.0 | -17.3 | 5171.6 |
| | | -17.00 | 4670.5 | 3576.6 | 8247.1 | 5454.4 | -17.3 | 5437.1 |
| | | -17.50 | 4779.4 | 3759.0 | 8538.3 | 5647.1 | -17.3 | 5629.7 |
| | | -18.00 | 4903.6 | 3941.3 | 8844.9 | 5849.8 | -17.3 | 5832.5 |
| | | -18.50 | 5043.6 | 4123.7 | 9167.3 | 6063.0 | -17.3 | 6045.7 |
| | | -19.00 | 5169.2 | 4306.1 | 9475.3 | 6266.7 | -17.3 | 6249.4 |
| | | -19.50 | 5184.6 | 4488.4 | 9673.0 | 6397.5 | -17.3 | 6380.2 |
| | | -20.00 | 5009.4 | 4670.8 | 9680.3 | 6402.3 | -17.3 | 6385.0 |
| | | -20.50 | 5799.2 | 4845.0 | 10644.2 | 7039.8 | -17.3 | 7022.5 |
| | | -21.00 | 5964.6 | 5027.4 | 10992.0 | 7269.8 | -17.3 | 7252.5 |
| | | -21.50 | 6056.4 | 5209.8 | 11266.2 | 7451.2 | -17.3 | 7433.8 |
| | | -22.00 | 6079.0 | 5392.1 | 11471.1 | 7586.7 | -17.3 | 7569.4 |
| | | -22.50 | 6095.5 | 5574.5 | 11670.0 | 7718.3 | -17.3 | 7700.9 |
| | | -23.00 | 4109.8 | 5756.9 | 9866.7 | 6525.6 | -17.3 | 6508.3 |
| | | -23.50 | 2766.9 | 5939.2 | 8706.1 | 5758.0 | -17.3 | 5740.7 |
| | | -24.00 | 2367.6 | 6121.6 | 8489.2 | 5614.6 | -17.3 | 5597.2 |
| | | -24.50 | 2055.8 | 6304.0 | 8359.8 | 5528.9 | -17.3 | 5511.6 |
| | | -25.00 | 1820.6 | 6486.4 | 8306.9 | 5494.0 | -17.3 | 5476.7 |
| | | -25.50 | 1433.1 | 6668.7 | 8101.8 | 5358.3 | -17.3 | 5341.0 |
| | | -26.00 | 1201.2 | 6851.1 | 8052.3 | 5325.6 | -17.3 | 5308.3 |
| | | -26.50 | 938.2 | 7043.1 | 7981.3 | 5278.6 | -17.3 | 5261.3 |
| | | -27.00 | 858.5 | 7109.7 | 7968.2 | 5270.0 | -17.3 | 5252.6 |
| | | -27.50 | 863.5 | 7172.9 | 8036.4 | 5315.1 | -17.3 | 5297.7 |
| | | -28.00 | 855.7 | 7252.3 | 8108.0 | 5362.4 | -17.3 | 5345.1 |
| | | -28.50 | 818.6 | 7353.0 | 8171.6 | 5404.5 | -17.3 | 5387.2 |
| 19-1008_35 | 0.92 | -8.00 | 2023.3 | 1267.1 | 3290.3 | 2176.1 | -10.6 | 2165.5 |
| | | -8.50 | 1967.2 | 1359.1 | 3326.3 | 2199.9 | -10.6 | 2189.3 |
| | | -9.00 | 2047.7 | 1429.4 | 3477.1 | 2299.7 | -10.6 | 2289.0 |
| | | -9.50 | 2093.4 | 1500.2 | 3593.6 | 2376.7 | -10.6 | 2366.0 |
| | | -10.00 | 2236.6 | 1585.8 | 3822.4 | 2528.1 | -10.6 | 2517.4 |
| | | -10.50 | 2244.6 | 1666.0 | 3910.5 | 2586.3 | -10.6 | 2575.7 |
| | | -11.00 | 2161.4 | 1803.9 | 3965.3 | 2622.5 | -10.6 | 2611.9 |
| | | -11.50 | 2071.0 | 1921.4 | 3992.3 | 2640.4 | -10.6 | 2629.8 |
| | | -12.00 | 2043.4 | 2002.6 | 4046.0 | 2675.9 | -10.6 | 2665.3 |
| | | -12.50 | 2451.7 | 2072.8 | 4524.5 | 2992.4 | -10.6 | 2981.7 |
| | | -13.00 | 2646.9 | 2166.4 | 4813.3 | 3183.4 | -10.6 | 3172.7 |
| | | -13.50 | 2832.3 | 2276.9 | 5109.1 | 3379.1 | -10.6 | 3368.4 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_35 | 0.92 | -14.00 | 3041.8 | 2392.2 | 5434.1 | 3594.0 | -10.6 | 3583.3 |
| | | -14.50 | 3068.2 | 2533.8 | 5602.0 | 3705.0 | -10.6 | 3694.4 |
| | | -15.00 | 3103.3 | 2675.4 | 5778.7 | 3821.9 | -10.6 | 3811.2 |
| | | -15.50 | 3131.0 | 2818.8 | 5949.8 | 3935.1 | -10.6 | 3924.4 |
| | | -16.00 | 3103.8 | 2965.9 | 6069.7 | 4014.3 | -10.6 | 4003.7 |
| | | -16.50 | 2932.0 | 3113.6 | 6045.6 | 3998.4 | -10.6 | 3987.7 |
| | | -17.00 | 2988.6 | 3240.5 | 6229.1 | 4119.8 | -10.6 | 4109.1 |
| | | -17.50 | 3303.5 | 3348.1 | 6651.6 | 4399.2 | -10.6 | 4388.6 |
| | | -18.00 | 3447.8 | 3491.3 | 6939.0 | 4589.3 | -10.6 | 4578.7 |
| | | -18.50 | 3604.2 | 3620.4 | 7224.6 | 4778.2 | -10.6 | 4767.5 |
| | | -19.00 | 3632.7 | 3766.0 | 7398.7 | 4893.3 | -10.6 | 4882.7 |
| | | -19.50 | 4001.9 | 3909.8 | 7911.7 | 5232.6 | -10.6 | 5222.0 |
| | | -20.00 | 4434.1 | 4058.2 | 8492.2 | 5616.6 | -10.6 | 5605.9 |
| | | -20.50 | 4462.0 | 4240.5 | 8702.6 | 5755.7 | -10.6 | 5745.0 |
| | | -21.00 | 4529.9 | 4422.9 | 8952.8 | 5921.2 | -10.6 | 5910.5 |
| | | -21.50 | 4804.9 | 4605.3 | 9410.2 | 6223.7 | -10.6 | 6213.0 |
| | | -22.00 | 4915.9 | 4782.7 | 9698.6 | 6414.4 | -10.6 | 6403.8 |
| | | -22.50 | 4171.3 | 4965.0 | 9136.4 | 6042.6 | -10.6 | 6031.9 |
| | | -23.00 | 4114.3 | 5147.4 | 9261.7 | 6125.4 | -10.6 | 6114.8 |
| | | -23.50 | 4118.3 | 5329.8 | 9448.1 | 6248.7 | -10.6 | 6238.1 |
| | | -24.00 | 4082.6 | 5512.2 | 9594.8 | 6345.7 | -10.6 | 6335.1 |
| | | -24.50 | 4041.8 | 5690.4 | 9732.2 | 6436.7 | -10.6 | 6426.0 |
| | | -25.00 | 3952.6 | 5861.7 | 9814.3 | 6491.0 | -10.6 | 6480.3 |
| | | -25.50 | 3513.3 | 6057.7 | 9571.0 | 6330.0 | -10.6 | 6319.4 |
| | | -26.00 | 4076.2 | 6240.8 | 10316.9 | 6823.4 | -10.6 | 6812.7 |
| | | -26.50 | 4771.9 | 6399.5 | 11171.4 | 7388.5 | -10.6 | 7377.8 |
| | | -27.00 | 4956.5 | 6581.8 | 11538.3 | 7631.2 | -10.6 | 7620.5 |
| | | -27.50 | 5033.4 | 6764.2 | 11797.5 | 7802.6 | -10.6 | 7792.0 |
| | | -28.00 | 5022.7 | 6946.6 | 11969.2 | 7916.2 | -10.6 | 7905.5 |
| | | -28.50 | 3153.3 | 7128.9 | 10282.2 | 6800.4 | -10.6 | 6789.7 |
| | | -29.00 | 2862.1 | 7311.3 | 10173.4 | 6728.4 | -10.6 | 6717.8 |
| | | -29.50 | 2448.6 | 7493.7 | 9942.2 | 6575.6 | -10.6 | 6564.9 |
| | | -30.00 | 2003.0 | 7676.0 | 9679.0 | 6401.5 | -10.6 | 6390.8 |
| 312.S03 | 3.78 | -8.00 | 3022.7 | 1705.1 | 4727.8 | 3126.9 | 0.0 | 3126.9 |
| | | -8.50 | 3150.6 | 1887.5 | 5038.1 | 3332.1 | 0.0 | 3332.1 |
| | | -9.00 | 3312.7 | 2069.9 | 5382.6 | 3559.9 | 0.0 | 3559.9 |
| | | -9.50 | 3242.9 | 2252.2 | 5495.1 | 3634.3 | 0.0 | 3634.3 |
| | | -10.00 | 3221.5 | 2434.6 | 5656.1 | 3740.8 | 0.0 | 3740.8 |
| | | -10.50 | 3267.0 | 2614.8 | 5881.8 | 3890.1 | 0.0 | 3890.1 |
| | | -11.00 | 3377.3 | 2784.8 | 6162.1 | 4075.4 | 0.0 | 4075.4 |
| | | -11.50 | 3378.2 | 2967.2 | 6345.4 | 4196.7 | 0.0 | 4196.7 |
| | | -12.00 | 3555.2 | 3149.4 | 6704.6 | 4434.3 | 0.0 | 4434.3 |
| | | -12.50 | 3235.5 | 3331.8 | 6567.3 | 4343.4 | 0.0 | 4343.4 |
| | | -13.00 | 3501.0 | 3508.9 | 7009.9 | 4636.2 | 0.0 | 4636.2 |
| | | -13.50 | 3650.2 | 3637.5 | 7287.7 | 4819.9 | 0.0 | 4819.9 |
| | | -14.00 | 3560.3 | 3783.4 | 7343.7 | 4856.9 | 0.0 | 4856.9 |
| | | -14.50 | 3519.5 | 3929.3 | 7448.8 | 4926.4 | 0.0 | 4926.4 |
| | | -15.00 | 3517.0 | 4068.8 | 7585.9 | 5017.1 | 0.0 | 5017.1 |
| | | -15.50 | 3457.0 | 4214.7 | 7671.8 | 5073.9 | 0.0 | 5073.9 |
| | | -16.00 | 3463.5 | 4355.8 | 7819.4 | 5171.5 | 0.0 | 5171.5 |
| | | -16.50 | 3270.1 | 4501.7 | 7771.9 | 5140.1 | 0.0 | 5140.1 |
| | | -17.00 | 1832.2 | 4636.6 | 6468.7 | 4278.3 | 0.0 | 4278.3 |
| | | -17.50 | 1910.0 | 4742.0 | 6652.0 | 4399.5 | 0.0 | 4399.5 |
| | | -18.00 | 2008.7 | 4855.1 | 6863.8 | 4539.5 | 0.0 | 4539.5 |
| | | -18.50 | 2009.4 | 4997.1 | 7006.5 | 4633.9 | 0.0 | 4633.9 |
| | | -19.00 | 1998.4 | 5146.3 | 7144.7 | 4725.4 | 0.0 | 4725.4 |
| | | -19.50 | 1675.6 | 5301.1 | 6976.7 | 4614.2 | 0.0 | 4614.2 |
| | | -20.00 | 1752.0 | 5450.2 | 7202.2 | 4763.4 | 0.0 | 4763.4 |
| | | -20.50 | 2371.4 | 5580.7 | 7952.0 | 5259.3 | 0.0 | 5259.3 |
| | | -21.00 | 2762.6 | 5724.9 | 8487.5 | 5613.4 | 0.0 | 5613.4 |
| | | -21.50 | 3142.0 | 5858.8 | 9000.8 | 5952.9 | 0.0 | 5952.9 |
| | | -22.00 | 3324.2 | 6010.2 | 9334.4 | 6173.5 | 0.0 | 6173.5 |
| | | -22.50 | 3403.5 | 6188.1 | 9591.6 | 6343.6 | 0.0 | 6343.6 |
| | | -23.00 | 3444.5 | 6367.2 | 9811.6 | 6489.2 | 0.0 | 6489.2 |
| | | -23.50 | 3686.7 | 6540.9 | 10227.6 | 6764.3 | 0.0 | 6764.3 |
| | | -24.00 | 2530.6 | 6700.2 | 9230.8 | 6105.0 | 0.0 | 6105.0 |
| | | -24.50 | 2255.7 | 6882.6 | 9138.3 | 6043.9 | 0.0 | 6043.9 |
| | | -25.00 | 1854.5 | 7064.9 | 8919.5 | 5899.1 | 0.0 | 5899.1 |
| | | -25.50 | 1629.5 | 7236.3 | 8865.7 | 5863.6 | 0.0 | 5863.6 |
| | | -26.00 | 1463.5 | 7389.2 | 8852.8 | 5855.0 | 0.0 | 5855.0 |
| | | -26.50 | 1326.2 | 7567.7 | 8893.9 | 5882.2 | 0.0 | 5882.2 |
| | | -27.00 | 1059.1 | 7746.1 | 8805.1 | 5823.5 | 0.0 | 5823.5 |
| | | -27.50 | 1015.7 | 7841.7 | 8857.4 | 5858.1 | 0.0 | 5858.1 |
| | | -28.00 | 993.1 | 7917.6 | 8910.7 | 5893.3 | 0.0 | 5893.3 |
| | | -28.50 | 990.3 | 7975.7 | 8966.0 | 5929.9 | 0.0 | 5929.9 |
| 19-1008_43 | 9.88 | -8.00 | 2894.8 | 1547.8 | 4442.6 | 2938.2 | 0.0 | 2938.2 |
| | | -8.50 | 2974.3 | 1679.9 | 4654.2 | 3078.2 | 0.0 | 3078.2 |
| | | -9.00 | 3035.7 | 1815.0 | 4850.7 | 3208.1 | 0.0 | 3208.1 |
| | | -9.50 | 3056.0 | 1953.3 | 5009.3 | 3313.0 | 0.0 | 3313.0 |
| | | -10.00 | 3548.2 | 2079.3 | 5627.5 | 3721.9 | 0.0 | 3721.9 |
| | | -10.50 | 3546.7 | 2231.1 | 5777.8 | 3821.3 | 0.0 | 3821.3 |
| | | -11.00 | 3527.3 | 2413.4 | 5940.8 | 3929.1 | 0.0 | 3929.1 |
| | | -11.50 | 3503.0 | 2595.8 | 6098.8 | 4033.6 | 0.0 | 4033.6 |
| | | -12.00 | 3518.0 | 2778.0 | 6296.0 | 4164.0 | 0.0 | 4164.0 |
| | | -12.50 | 3390.7 | 2958.9 | 6349.6 | 4199.5 | 0.0 | 4199.5 |
| | | -13.00 | 3413.1 | 3093.5 | 6506.5 | 4303.3 | 0.0 | 4303.3 |
| | | -13.50 | 3660.9 | 3209.3 | 6870.2 | 4543.8 | 0.0 | 4543.8 |
| | | -14.00 | 3683.0 | 3344.4 | 7027.5 | 4647.8 | 0.0 | 4647.8 |
| | | -14.50 | 3519.4 | 3490.3 | 7009.7 | 4636.0 | 0.0 | 4636.0 |
| | | -15.00 | 4013.7 | 3617.9 | 7631.6 | 5047.3 | 0.0 | 5047.3 |
| | | -15.50 | 3499.4 | 3776.7 | 7276.1 | 4812.2 | 0.0 | 4812.2 |
| | | -16.00 | 3060.5 | 3952.0 | 7012.5 | 4637.9 | 0.0 | 4637.9 |
| | | -16.50 | 2804.5 | 4134.4 | 6938.9 | 4589.2 | 0.0 | 4589.2 |
| | | -17.00 | 2711.3 | 4316.8 | 7028.1 | 4648.2 | 0.0 | 4648.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{c;cal}$ [kN] | $R_{s;cal}$ [kN] | $R_{c;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $F_{nk;d}$ [kN] | $R_{c;netto;d}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| 19-1008_43 | 9.88 | -17.50 | 2642.2 | 4492.4 | 7134.6 | 4718.7 | 0.0 | 4718.7 |
| | | -18.00 | 2579.6 | 4651.4 | 7231.0 | 4782.4 | 0.0 | 4782.4 |
| | | -18.50 | 2480.0 | 4793.7 | 7273.7 | 4810.7 | 0.0 | 4810.7 |
| | | -19.00 | 2355.2 | 4936.3 | 7291.5 | 4822.4 | 0.0 | 4822.4 |
| | | -19.50 | 2465.4 | 5051.5 | 7516.9 | 4971.5 | 0.0 | 4971.5 |
| | | -20.00 | 2767.0 | 5170.5 | 7937.4 | 5249.6 | 0.0 | 5249.6 |
| | | -20.50 | 2825.6 | 5320.7 | 8146.3 | 5387.8 | 0.0 | 5387.8 |
| | | -21.00 | 3077.2 | 5495.1 | 8572.3 | 5669.5 | 0.0 | 5669.5 |
| | | -21.50 | 4078.0 | 5639.2 | 9717.3 | 6426.8 | 0.0 | 6426.8 |
| 328.S02 | 10.17 | -8.00 | 2313.0 | 2313.0 | 4626.0 | 3059.5 | 0.0 | 3059.5 |
| | | -8.50 | 2278.4 | 2456.5 | 4735.0 | 3131.6 | 0.0 | 3131.6 |
| | | -9.00 | 2676.5 | 2596.6 | 5273.1 | 3487.5 | 0.0 | 3487.5 |
| | | -9.50 | 2880.6 | 2716.5 | 5597.1 | 3701.8 | 0.0 | 3701.8 |
| | | -10.00 | 3186.1 | 2851.7 | 6037.8 | 3993.3 | 0.0 | 3993.3 |
| | | -10.50 | 3377.1 | 2993.6 | 6370.8 | 4213.5 | 0.0 | 4213.5 |
| | | -11.00 | 3411.4 | 3156.8 | 6568.1 | 4344.0 | 0.0 | 4344.0 |
| | | -11.50 | 3473.1 | 3324.4 | 6797.5 | 4495.7 | 0.0 | 4495.7 |
| | | -12.00 | 3568.4 | 3486.4 | 7054.8 | 4665.9 | 0.0 | 4665.9 |
| | | -12.50 | 3097.1 | 3632.7 | 6729.8 | 4450.9 | 0.0 | 4450.9 |
| | | -13.00 | 3090.5 | 3775.5 | 6866.0 | 4541.0 | 0.0 | 4541.0 |
| | | -13.50 | 3107.3 | 3919.8 | 7027.1 | 4647.6 | 0.0 | 4647.6 |
| | | -14.00 | 3081.6 | 4065.7 | 7147.3 | 4727.1 | 0.0 | 4727.1 |
| | | -14.50 | 3095.8 | 4207.3 | 7303.0 | 4830.1 | 0.0 | 4830.1 |
| | | -15.00 | 2778.0 | 4354.7 | 7132.7 | 4717.4 | 0.0 | 4717.4 |
| | | -15.50 | 2843.6 | 4500.3 | 7343.9 | 4857.1 | 0.0 | 4857.1 |
| | | -16.00 | 3029.1 | 4644.8 | 7674.0 | 5075.4 | 0.0 | 5075.4 |
| | | -16.50 | 3203.6 | 4796.1 | 7999.7 | 5290.8 | 0.0 | 5290.8 |
| | | -17.00 | 3293.2 | 4978.5 | 8271.7 | 5470.7 | 0.0 | 5470.7 |
| | | -17.50 | 3172.1 | 5160.8 | 8332.9 | 5511.2 | 0.0 | 5511.2 |
| | | -18.00 | 2328.0 | 5370.1 | 7698.1 | 5091.3 | 0.0 | 5091.3 |
| | | -18.50 | 3693.9 | 5500.0 | 9193.8 | 6080.6 | 0.0 | 6080.6 |
| | | -19.00 | 3724.9 | 5663.2 | 9388.1 | 6209.1 | 0.0 | 6209.1 |
| | | -19.50 | 4062.5 | 5837.4 | 9899.9 | 6547.5 | 0.0 | 6547.5 |
| | | -20.00 | 4234.7 | 6019.7 | 10254.5 | 6782.0 | 0.0 | 6782.0 |
| | | -20.50 | 4597.6 | 6202.1 | 10799.7 | 7142.7 | 0.0 | 7142.7 |
| | | -21.00 | 4258.1 | 6384.4 | 10642.6 | 7038.7 | 0.0 | 7038.7 |
| | | -21.50 | 4381.3 | 6566.8 | 10948.1 | 7240.8 | 0.0 | 7240.8 |
| | | -22.00 | 4113.1 | 6749.2 | 10862.3 | 7184.0 | 0.0 | 7184.0 |
| | | -22.50 | 4221.0 | 6931.6 | 11152.5 | 7376.0 | 0.0 | 7376.0 |
| | | -23.00 | 4166.3 | 7113.9 | 11280.2 | 7460.4 | 0.0 | 7460.4 |
| | | -23.50 | 4217.2 | 7296.3 | 11513.5 | 7614.7 | 0.0 | 7614.7 |
| | | -24.00 | 4155.4 | 7478.7 | 11634.0 | 7694.5 | 0.0 | 7694.5 |
| | | -24.50 | 3869.0 | 7630.7 | 11499.7 | 7605.6 | 0.0 | 7605.6 |
| | | -25.00 | 3316.0 | 7776.6 | 11092.6 | 7336.4 | 0.0 | 7336.4 |

## PAALGEGEVENS SI Ø508/670

Type : In de grond gevormde geschroefde paal; groutinjectie
Wijze van installeren : Schroeven
Wijze van terugwinnen : n.v.t.
Diameter [m] : 0.590
Elasticiteitsmodulus [N/mm²] : 20000
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Factor $\alpha_t$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Paalklassefactor $\alpha_p$ : 0.63
Paalvoetvormfactor $\beta$ : 1.00
Type lastzakkingsdiagram : Grondverdringende paal
Verm.factor * $\varphi'_{j;k}$ : 1.00
Groutomhulling : JA

## PAALGEGEVENS SI Ø610/850

Type : In de grond gevormde geschroefde paal; groutinjectie
Wijze van installeren : Schroeven
Wijze van terugwinnen : n.v.t.
Diameter [m] : 0.730
Elasticiteitsmodulus [N/mm²] : 20000
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Factor $\alpha_t$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Paalklassefactor $\alpha_p$ : 0.63
Paalvoetvormfactor $\beta$ : 1.00
Type lastzakkingsdiagram : Grondverdringende paal
Verm.factor * $\varphi'_{j;k}$ : 1.00
Groutomhulling : JA

## PAALGEGEVENS SI Ø762/950

Type : In de grond gevormde geschroefde paal; groutinjectie
Wijze van installeren : Schroeven
Wijze van terugwinnen : n.v.t.
Diameter [m] : 0.860
Elasticiteitsmodulus [N/mm²] : 20000
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Factor $\alpha_t$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Paalklassefactor $\alpha_p$ : 0.63
Paalvoetvormfactor $\beta$ : 1.00
Type lastzakkingsdiagram : Grondverdringende paal
Verm.factor * $\varphi'_{j;k}$ : 1.00
Groutomhulling : JA

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## OVERZICHT NETTO DRAAGVERMOGEN DRUKPALEN

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -6.00 | -67 | | |
| | | -6.50 | -66 | | |
| | | -7.00 | -61 | -60 | |
| | | -7.50 | -16 | 5 | |
| | | -8.00 | -2 | 24 | 55 |
| | | -8.50 | -7 | 33 | 115 |
| | | -9.00 | 105 | 179 | 263 |
| | | -9.50 | 144 | 224 | 315 |
| | | -10.00 | 179 | 271 | 371 |
| | | -10.50 | 230 | 357 | 511 |
| | | -11.00 | 347 | 504 | 675 |
| | | -11.50 | 407 | 578 | 763 |
| | | -12.00 | 450 | 624 | 831 |
| | | -12.50 | 791 | 1132 | 1500 |
| | | -13.00 | 882 | 1245 | 1632 |
| | | -13.50 | 972 | 1403 | 1886 |
| | | -14.00 | 1176 | 1645 | 2140 |
| | | -14.50 | 1357 | 1924 | 2452 |
| | | -15.00 | 1468 | 2039 | 2634 |
| | | -15.50 | 1454 | 1988 | 2543 |
| | | -16.00 | 1645 | 2266 | 2906 |
| | | -16.50 | 1770 | 2439 | 3101 |
| | | -17.00 | 2000 | 2927 | 3978 |
| | | -17.50 | 2894 | 3433 | 4387 |
| | | -18.00 | 2558 | 3532 | 4012 |
| | | -18.50 | 2619 | 3211 | 4175 |
| | | -19.00 | 2304 | 3232 | 4185 |
| | | -19.50 | 2307 | 3199 | 4147 |
| | | -20.00 | 2306 | 3169 | 4078 |
| | | -20.50 | 2422 | 3315 | 4253 |
| | | -21.00 | 2446 | 3450 | 4624 |
| | | -21.50 | 3334 | 4762 | 6433 |
| | | -22.00 | 4321 | 6142 | 8107 |
| | | -22.50 | 4403 | 6245 | 8228 |
| | | -23.00 | 4486 | 6347 | 8348 |
| | | -23.50 | 4569 | 6449 | 8469 |
| | | -24.00 | 4652 | 6552 | 8590 |
| | | -24.50 | 4734 | 6654 | 8710 |
| | | -25.00 | 4817 | 6756 | 8831 |
| | | -25.50 | 4900 | 6859 | 8951 |
| | | -26.00 | 4983 | 6961 | 9072 |
| | | -26.50 | 5065 | 7064 | 9193 |
| | | -27.00 | 5148 | 7166 | 9313 |
| | | -27.50 | 5231 | 7268 | 9434 |
| | | -28.00 | 5313 | 7371 | 9555 |
| | | -28.50 | 5396 | 7473 | 9675 |
| | | -29.00 | 5479 | 7576 | 9796 |
| | | -29.50 | 5562 | 7678 | |
| | | -30.00 | 5644 | | |
| 19-1008_6 | 11.00 | -6.00 | 2443 | | |
| | | -6.50 | 2583 | | |
| | | -7.00 | 2661 | 3719 | |
| | | -7.50 | 3053 | 4282 | |
| | | -8.00 | 3305 | 4656 | 6072 |
| | | -8.50 | 3540 | 4926 | 6401 |
| | | -9.00 | 3663 | 5063 | 6545 |
| | | -9.50 | 3736 | 5200 | 6819 |
| | | -10.00 | 4204 | 5996 | 7449 |
| | | -10.50 | 4287 | 6079 | 7503 |
| | | -11.00 | 4369 | 6069 | 7761 |
| | | -11.50 | 4442 | 6209 | 7962 |
| | | -12.00 | 4513 | 6305 | 8135 |
| | | -12.50 | 4546 | 6345 | 8218 |
| | | -13.00 | 4577 | 6396 | 8287 |
| | | -13.50 | 4783 | 6714 | 8781 |
| | | -14.00 | 4866 | 6817 | 8902 |
| | | -14.50 | 4948 | 6919 | 8630 |
| | | -15.00 | 5031 | 6657 | 7033 |
| | | -15.50 | 4849 | 5552 | 7082 |
| | | -16.00 | 4089 | 5536 | 7039 |
| | | -16.50 | 4153 | 5603 | 7111 |
| | | -17.00 | 4161 | 5593 | 7074 |
| | | -17.50 | 4171 | 5583 | 7040 |
| | | -18.00 | 4308 | 6064 | 8003 |
| | | -18.50 | 5081 | 6766 | 8642 |
| | | -19.00 | 5091 | 6892 | 8770 |
| | | -19.50 | 5203 | 7022 | 8912 |
| | | -20.00 | 5324 | 7164 | 9071 |
| | | -20.50 | 5434 | 7290 | |
| | | -21.00 | 5579 | 7600 | |
| | | -21.50 | 6064 | | |
| 166.S01 | 3.45 | -6.00 | 1585 | | |
| | | -6.50 | 1787 | | |
| | | -7.00 | 1899 | 2651 | |
| | | -7.50 | 2019 | 2791 | |
| | | -8.00 | 2156 | 2955 | 3793 |
| | | -8.50 | 2290 | 3130 | 3821 |
| | | -9.00 | 2407 | 3186 | 3973 |
| | | -9.50 | 2695 | 3301 | 3896 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -10.00 | 2477 | 3170 | 4012 |
| | | -10.50 | 2466 | 3227 | 4160 |
| | | -11.00 | 2395 | 3328 | 4277 |
| | | -11.50 | 2396 | 3294 | 4228 |
| | | -12.00 | 2404 | 3283 | 4206 |
| | | -12.50 | 2455 | 3343 | 4272 |
| | | -13.00 | 2578 | 3589 | 4730 |
| | | -13.50 | 2918 | 4011 | 5205 |
| | | -14.00 | 3039 | 4168 | 5357 |
| | | -14.50 | 3161 | 4320 | 5536 |
| | | -15.00 | 3275 | 4477 | 5793 |
| | | -15.50 | 3584 | 4915 | 6291 |
| | | -16.00 | 3741 | 5098 | 6440 |
| | | -16.50 | 3873 | 5201 | 6543 |
| | | -17.00 | 3968 | 5273 | 6696 |
| | | -17.50 | 4031 | 5428 | 6877 |
| | | -18.00 | 4147 | 5579 | 7055 |
| | | -18.50 | 4240 | 5722 | 7220 |
| | | -19.00 | 4303 | 5830 | 7340 |
| | | -19.50 | 4346 | 5899 | |
| | | -20.00 | 4532 | | |
| 19-1008_11 | 0.62 | -6.00 | -45 | | |
| | | -6.50 | -39 | | |
| | | -7.00 | 49 | 133 | |
| | | -7.50 | 164 | 281 | |
| | | -8.00 | 203 | 325 | 463 |
| | | -8.50 | 236 | 363 | 506 |
| | | -9.00 | 272 | 408 | 506 |
| | | -9.50 | 310 | 409 | 561 |
| | | -10.00 | 310 | 459 | 622 |
| | | -10.50 | 339 | 494 | 663 |
| | | -11.00 | 376 | 541 | 718 |
| | | -11.50 | 396 | 559 | 732 |
| | | -12.00 | 368 | 519 | 702 |
| | | -12.50 | 810 | 1231 | 1715 |
| | | -13.00 | 1129 | 1498 | 1994 |
| | | -13.50 | 1137 | 1620 | 2136 |
| | | -14.00 | 1235 | 1739 | 2281 |
| | | -14.50 | 1326 | 1845 | 2398 |
| | | -15.00 | 1409 | 1938 | 2497 |
| | | -15.50 | 1497 | 2041 | 2645 |
| | | -16.00 | 1680 | 2292 | 2934 |
| | | -16.50 | 1770 | 2397 | 3052 |
| | | -17.00 | 1854 | 2500 | 3217 |
| | | -17.50 | 2144 | 3073 | 4051 |
| | | -18.00 | 2549 | 3582 | 4725 |
| | | -18.50 | 2688 | 3804 | 4882 |
| | | -19.00 | 2793 | 3929 | 5090 |
| | | -19.50 | 2866 | 4006 | 5214 |
| | | -20.00 | 3124 | 4166 | 4700 |
| | | -20.50 | 3046 | 3639 | 4630 |
| | | -21.00 | 2696 | 3715 | 4645 |
| | | -21.50 | 2718 | 3736 | 4730 |
| | | -22.00 | 2648 | 3594 | 4582 |
| | | -22.50 | 2662 | 3590 | 4554 |
| | | -23.00 | 2654 | 3570 | 4515 |
| | | -23.50 | 2859 | 3873 | 4891 |
| | | -24.00 | 2948 | 3967 | 5024 |
| | | -24.50 | 2998 | 4019 | 5073 |
| | | -25.00 | 3043 | 4088 | 5348 |
| | | -25.50 | 3780 | 4948 | 6322 |
| | | -26.00 | 3729 | 5055 | 6437 |
| | | -26.50 | 3808 | 5139 | 6521 |
| | | -27.00 | 3913 | 5262 | 6660 |
| | | -27.50 | 4045 | 5428 | 6858 |
| | | -28.00 | 4265 | 5831 | 7384 |
| | | -28.50 | 4499 | 6067 | 7676 |
| | | -29.00 | 4665 | 6467 | 8326 |
| | | -29.50 | 5278 | 7193 | 9173 |
| | | -30.00 | 5455 | 7415 | 9347 |
| 19-1008_12 | 3.57 | -6.00 | 1939 | | |
| | | -6.50 | 1566 | | |
| | | -7.00 | 1518 | 1935 | |
| | | -7.50 | 1474 | 1900 | |
| | | -8.00 | 1424 | 1795 | 2064 |
| | | -8.50 | 1416 | 1739 | 2090 |
| | | -9.00 | 1393 | 1762 | 2117 |
| | | -9.50 | 1412 | 1789 | 2122 |
| | | -10.00 | 1428 | 1791 | 2147 |
| | | -10.50 | 1445 | 1822 | 2186 |
| | | -11.00 | 1435 | 1810 | 2188 |
| | | -11.50 | 1480 | 1866 | 2236 |
| | | -12.00 | 1494 | 1879 | 2248 |
| | | -12.50 | 1501 | 1891 | 2261 |
| | | -13.00 | 1524 | 1931 | 2341 |
| | | -13.50 | 1588 | 2022 | 2437 |
| | | -14.00 | 1625 | 2061 | 2483 |
| | | -14.50 | 1655 | 2095 | 2521 |
| | | -15.00 | 1682 | 2129 | 2560 |
| | | -15.50 | 1737 | 2230 | 2687 |
| | | -16.00 | 1796 | 2284 | 2759 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -16.50 | 1838 | 2338 | 2825 |
| | | -17.00 | 1889 | 2407 | 2908 |
| | | -17.50 | 1928 | 2528 | 3117 |
| | | -18.00 | 2155 | 2789 | 3417 |
| | | -18.50 | 2241 | 2891 | 3551 |
| | | -19.00 | 2526 | 3316 | 4101 |
| | | -19.50 | 2674 | 3556 | 4531 |
| | | -20.00 | 2923 | 3866 | 4822 |
| | | -20.50 | 2925 | 3836 | 4757 |
| | | -21.00 | 3236 | 4293 | 5361 |
| | | -21.50 | 3376 | 4455 | 5550 |
| | | -22.00 | 3519 | 4630 | 5756 |
| | | -22.50 | 3612 | 4732 | 5677 |
| | | -23.00 | 3848 | 4765 | 5375 |
| | | -23.50 | 3770 | 4464 | 5386 |
| | | -24.00 | 3481 | 4470 | 5396 |
| | | -24.50 | 3441 | 4402 | 5214 |
| | | -25.00 | 3423 | 4291 | 5248 |
| | | -25.50 | 3367 | 4318 | 5260 |
| | | -26.00 | 3439 | 4404 | 5351 |
| | | -26.50 | 3504 | 4485 | 5447 |
| | | -27.00 | 3560 | 4553 | 5526 |
| | | -27.50 | 3604 | 4592 | 5594 |
| | | -28.00 | 3994 | 5305 | 6679 |
| | | -28.50 | 4431 | 5822 | |
| | | -29.00 | 4553 | | |
| 19-1008_17 | 0.20 | -6.00 | -33 | | |
| | | -6.50 | 14 | | |
| | | -7.00 | -38 | -17 | |
| | | -7.50 | -78 | -72 | |
| | | -8.00 | -66 | -42 | -5 |
| | | -8.50 | -37 | -11 | 24 |
| | | -9.00 | -33 | 13 | 101 |
| | | -9.50 | 264 | 450 | 661 |
| | | -10.00 | 117 | 251 | 415 |
| | | -10.50 | 390 | 788 | 1309 |
| | | -11.00 | 1116 | 1716 | 2350 |
| | | -11.50 | 1296 | 1897 | 2219 |
| | | -12.00 | 1450 | 1801 | 2443 |
| | | -12.50 | 1344 | 1960 | 2622 |
| | | -13.00 | 1418 | 2021 | 2671 |
| | | -13.50 | 1504 | 2112 | 2762 |
| | | -14.00 | 1598 | 2219 | 2873 |
| | | -14.50 | 1790 | 2556 | 3338 |
| | | -15.00 | 2006 | 2784 | 2491 |
| | | -15.50 | 2127 | 2072 | 2587 |
| | | -16.00 | 1617 | 2082 | 2700 |
| | | -16.50 | 1571 | 2176 | 2804 |
| | | -17.00 | 1667 | 2300 | 2967 |
| | | -17.50 | 1640 | 2234 | 2855 |
| | | -18.00 | 1635 | 2179 | 2765 |
| | | -18.50 | 1899 | 2624 | 3323 |
| | | -19.00 | 2077 | 2725 | 3477 |
| | | -19.50 | 2094 | 2839 | 3617 |
| | | -20.00 | 2194 | 2971 | 3781 |
| | | -20.50 | 2338 | 3168 | 4035 |
| | | -21.00 | 2315 | 3110 | 3883 |
| | | -21.50 | 2541 | 3503 | 4317 |
| | | -22.00 | 2812 | 3538 | 4392 |
| | | -22.50 | 2748 | 3604 | 4476 |
| | | -23.00 | 2752 | 3616 | 4468 |
| | | -23.50 | 2782 | 3636 | 4533 |
| | | -24.00 | 2823 | 3727 | 4630 |
| | | -24.50 | 2879 | 3789 | 4697 |
| | | -25.00 | 2946 | 3871 | 4801 |
| | | -25.50 | 3013 | 3953 | 4902 |
| | | -26.00 | 3092 | 4065 | 3963 |
| | | -26.50 | 3242 | 3329 | 3997 |
| | | -27.00 | 2651 | 3357 | 4076 |
| | | -27.50 | 2676 | 3420 | 4148 |
| | | -28.00 | 2720 | 3469 | 4200 |
| | | -28.50 | 2724 | 3455 | 4164 |
| | | -29.00 | 2669 | 3350 | 3999 |
| | | -29.50 | 3022 | 4057 | 5175 |
| | | -30.00 | 3483 | 4561 | 5665 |
| 19-1008_20 | -0.03 | -6.00 | 364 | | |
| | | -6.50 | 528 | | |
| | | -7.00 | 556 | 714 | |
| | | -7.50 | 618 | 644 | |
| | | -8.00 | 506 | 668 | 861 |
| | | -8.50 | 526 | 717 | 918 |
| | | -9.00 | 557 | 748 | 947 |
| | | -9.50 | 575 | 768 | 962 |
| | | -10.00 | 551 | 728 | 911 |
| | | -10.50 | 681 | 897 | 1114 |
| | | -11.00 | 678 | 908 | 1141 |
| | | -11.50 | 663 | 871 | 1080 |
| | | -12.00 | 692 | 918 | 1148 |
| | | -12.50 | 722 | 954 | 1189 |
| | | -13.00 | 736 | 968 | 1202 |
| | | -13.50 | 808 | 1079 | 1316 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -14.00 | 844 | 1085 | 1346 |
| | | -14.50 | 855 | 1122 | 1395 |
| | | -15.00 | 891 | 1165 | 1440 |
| | | -15.50 | 918 | 1197 | 1477 |
| | | -16.00 | 946 | 1233 | 1522 |
| | | -16.50 | 965 | 1262 | 1553 |
| | | -17.00 | 999 | 1312 | 1662 |
| | | -17.50 | 1137 | 1506 | 1879 |
| | | -18.00 | 1190 | 1575 | 1963 |
| | | -18.50 | 1221 | 1632 | 2082 |
| | | -19.00 | 1324 | 1751 | 2163 |
| | | -19.50 | 1448 | 1845 | 2223 |
| | | -20.00 | 1449 | 1841 | 2287 |
| | | -20.50 | 1412 | 1834 | 2260 |
| | | -21.00 | 1435 | 1847 | 2255 |
| | | -21.50 | 1465 | 1881 | 2292 |
| | | -22.00 | 1492 | 1916 | 2333 |
| | | -22.50 | 1512 | 1956 | 2468 |
| | | -23.00 | 1799 | 2374 | 2983 |
| | | -23.50 | 1930 | 2553 | 3187 |
| | | -24.00 | 2058 | 2731 | 3447 |
| | | -24.50 | 2173 | 2875 | 3578 |
| | | -25.00 | 2258 | 2977 | 3706 |
| | | -25.50 | 2346 | 3083 | 3829 |
| | | -26.00 | 2427 | 3211 | 3730 |
| | | -26.50 | 2541 | 3112 | 3848 |
| | | -27.00 | 2457 | 3199 | 3885 |
| | | -27.50 | 2532 | 3248 | 3989 |
| | | -28.00 | 2556 | 3333 | 4095 |
| | | -28.50 | 2608 | 3421 | 4197 |
| | | -29.00 | 2653 | 3492 | 4289 |
| | | -29.50 | 2707 | 3561 | 4183 |
| | | -30.00 | 2771 | 3467 | 4282 |
| 19-1008_21 | 1.78 | -6.00 | 750 | | |
| | | -6.50 | 675 | | |
| | | -7.00 | 692 | 966 | |
| | | -7.50 | 753 | 1033 | |
| | | -8.00 | 807 | 1112 | 1425 |
| | | -8.50 | 820 | 1102 | 1390 |
| | | -9.00 | 845 | 1149 | 1469 |
| | | -9.50 | 971 | 1326 | 1680 |
| | | -10.00 | 1004 | 1402 | 1775 |
| | | -10.50 | 1054 | 1469 | 1884 |
| | | -11.00 | 1088 | 1509 | 1955 |
| | | -11.50 | 1132 | 1562 | 2017 |
| | | -12.00 | 1162 | 1631 | 1957 |
| | | -12.50 | 1209 | 1604 | 2054 |
| | | -13.00 | 1246 | 1700 | 2177 |
| | | -13.50 | 1300 | 1767 | 2051 |
| | | -14.00 | 1331 | 1718 | 2047 |
| | | -14.50 | 1319 | 1753 | 2197 |
| | | -15.00 | 1310 | 1863 | 2127 |
| | | -15.50 | 1350 | 1770 | 2196 |
| | | -16.00 | 1371 | 1781 | 2190 |
| | | -16.50 | 1348 | 1723 | 2089 |
| | | -17.00 | 1374 | 1769 | 2167 |
| | | -17.50 | 1419 | 1893 | 2295 |
| | | -18.00 | 1509 | 1924 | 2332 |
| | | -18.50 | 1536 | 1960 | 2377 |
| | | -19.00 | 1570 | 2000 | 2419 |
| | | -19.50 | 1585 | 2019 | 2441 |
| | | -20.00 | 1600 | 2036 | 2461 |
| | | -20.50 | 1616 | 2057 | 2488 |
| | | -21.00 | 1640 | 2092 | 2532 |
| | | -21.50 | 1666 | 2124 | 2572 |
| | | -22.00 | 1692 | 2159 | 2613 |
| | | -22.50 | 1715 | 2190 | 2650 |
| | | -23.00 | 1737 | 2219 | 2689 |
| | | -23.50 | 1772 | 2267 | 2745 |
| | | -24.00 | 1803 | 2298 | 2788 |
| | | -24.50 | 1826 | 2332 | 2824 |
| | | -25.00 | 1854 | 2364 | 2865 |
| | | -25.50 | 1880 | 2398 | 2904 |
| | | -26.00 | 1906 | 2431 | 2943 |
| | | -26.50 | 1930 | 2464 | 2982 |
| | | -27.00 | 1954 | 2496 | 3019 |
| | | -27.50 | 1992 | 2546 | 3087 |
| | | -28.00 | 2020 | 2583 | 3133 |
| | | -28.50 | 2047 | 2616 | 3173 |
| | | -29.00 | 2081 | 2662 | 3232 |
| | | -29.50 | 2115 | 2705 | 3283 |
| | | -30.00 | 2145 | 2745 | |
| 251.S01 | -1.05 | -6.00 | 709 | | |
| | | -6.50 | 605 | | |
| | | -7.00 | 637 | 859 | |
| | | -7.50 | 635 | 833 | |
| | | -8.00 | 639 | 824 | 1006 |
| | | -8.50 | 622 | 813 | 1055 |
| | | -9.00 | 894 | 1255 | 1673 |
| | | -9.50 | 1040 | 1400 | 1781 |
| | | -10.00 | 1104 | 1485 | 1879 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

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Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -10.50 | 1159 | 1542 | 1935 |
| | | -11.00 | 1196 | 1576 | 1962 |
| | | -11.50 | 1260 | 1658 | 2071 |
| | | -12.00 | 1475 | 1969 | 2161 |
| | | -12.50 | 1572 | 1812 | 2274 |
| | | -13.00 | 1436 | 1907 | 2389 |
| | | -13.50 | 1507 | 1996 | 2496 |
| | | -14.00 | 1553 | 2051 | 2550 |
| | | -14.50 | 1559 | 2046 | 2521 |
| | | -15.00 | 1517 | 2005 | 2582 |
| | | -15.50 | 2163 | 2984 | 3379 |
| | | -16.00 | 2408 | 2796 | 3472 |
| | | -16.50 | 2188 | 2864 | 3612 |
| | | -17.00 | 2243 | 2993 | 3742 |
| | | -17.50 | 2328 | 3069 | 3821 |
| | | -18.00 | 2353 | 3078 | 3262 |
| | | -18.50 | 2342 | 2747 | 3300 |
| | | -19.00 | 2244 | 2795 | 3285 |
| | | -19.50 | 2197 | 2768 | 3307 |
| | | -20.00 | 2201 | 2763 | 3321 |
| | | -20.50 | 2206 | 2790 | 3353 |
| | | -21.00 | 2257 | 2839 | 3397 |
| | | -21.50 | 2281 | 2865 | 3422 |
| | | -22.00 | 2295 | 2883 | 3443 |
| | | -22.50 | 2337 | 2978 | 3570 |
| | | -23.00 | 2406 | 3032 | 3660 |
| | | -23.50 | 2510 | 3186 | 3842 |
| | | -24.00 | 2564 | 3252 | 3917 |
| | | -24.50 | 2617 | 3338 | 4101 |
| | | -25.00 | 2812 | 3601 | 4409 |
| | | -25.50 | 3156 | 4097 | 5037 |
| | | -26.00 | 3626 | 5052 | 5923 |
| | | -26.50 | 4306 | 4945 | 6187 |
| | | -27.00 | 3881 | 5098 | 6029 |
| | | -27.50 | 4001 | 5085 | 5680 |
| | | -28.00 | 4028 | 4693 | 5560 |
| | | -28.50 | 3673 | 4560 | 5484 |
| | | -29.00 | 3586 | 4531 | 5362 |
| | | -29.50 | 3600 | 4487 | 5412 |
| | | -30.00 | 3508 | 4445 | 5347 |
| 19-1008_29 | 0.79 | -6.00 | 1376 | | |
| | | -6.50 | 1625 | | |
| | | -7.00 | 1646 | 2242 | |
| | | -7.50 | 1707 | 2376 | |
| | | -8.00 | 1787 | 2476 | 2784 |
| | | -8.50 | 1859 | 2283 | 2011 |
| | | -9.00 | 1819 | 1678 | 2098 |
| | | -9.50 | 1346 | 1753 | 2182 |
| | | -10.00 | 1390 | 1827 | 2270 |
| | | -10.50 | 1426 | 1863 | 2319 |
| | | -11.00 | 1443 | 1869 | 2294 |
| | | -11.50 | 1406 | 1929 | 2416 |
| | | -12.00 | 1583 | 2006 | 2417 |
| | | -12.50 | 1594 | 2020 | 2452 |
| | | -13.00 | 1583 | 2008 | 2419 |
| | | -13.50 | 1614 | 2046 | 2465 |
| | | -14.00 | 1645 | 2083 | 2506 |
| | | -14.50 | 1671 | 2115 | 2544 |
| | | -15.00 | 1701 | 2188 | 2666 |
| | | -15.50 | 1774 | 2257 | 2727 |
| | | -16.00 | 1790 | 2264 | 2721 |
| | | -16.50 | 1818 | 2301 | 2765 |
| | | -17.00 | 1865 | 2421 | 3007 |
| | | -17.50 | 2304 | 3188 | 4076 |
| | | -18.00 | 2636 | 3530 | 4441 |
| | | -18.50 | 2661 | 3540 | 4440 |
| | | -19.00 | 2464 | 3406 | 4447 |
| | | -19.50 | 3373 | 4572 | 5065 |
| | | -20.00 | 3773 | 4179 | 4893 |
| | | -20.50 | 3273 | 4027 | 4822 |
| | | -21.00 | 3150 | 3919 | 4772 |
| | | -21.50 | 2989 | 3845 | 4676 |
| | | -22.00 | 2954 | 3783 | 4532 |
| | | -22.50 | 2878 | 3685 | 4469 |
| | | -23.00 | 2913 | 3725 | 4511 |
| | | -23.50 | 3015 | 3824 | 4648 |
| | | -24.00 | 3043 | 3903 | 4720 |
| | | -24.50 | 3079 | 3930 | 4741 |
| | | -25.00 | 3112 | 3962 | 4791 |
| | | -25.50 | 3164 | 4032 | 4877 |
| | | -26.00 | 3208 | 4077 | 4929 |
| | | -26.50 | 3245 | 4129 | 4990 |
| | | -27.00 | 3284 | 4175 | 5040 |
| | | -27.50 | 3337 | 4230 | 5106 |
| | | -28.00 | 3367 | 4277 | 5161 |
| | | -28.50 | 3407 | 4397 | 5265 |
| | | -29.00 | 3594 | 4801 | 5696 |
| | | -29.50 | 3764 | 4764 | 5731 |
| | | -30.00 | 3719 | 4712 | 5662 |
| 283.S02 | 0.17 | -6.00 | 1116 | | |
| | | -6.50 | 1194 | | |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

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Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -7.00 | 1228 | 1691 | |
| | | -7.50 | 1301 | 1847 | |
| | | -8.00 | 1383 | 1927 | 2467 |
| | | -8.50 | 1434 | 1989 | 2213 |
| | | -9.00 | 1473 | 1773 | 2288 |
| | | -9.50 | 1326 | 1825 | 2350 |
| | | -10.00 | 1371 | 1878 | 2411 |
| | | -10.50 | 1408 | 1921 | 2459 |
| | | -11.00 | 1445 | 1964 | 2507 |
| | | -11.50 | 1442 | 1968 | 2548 |
| | | -12.00 | 1711 | 2389 | 3074 |
| | | -12.50 | 1864 | 2585 | 3358 |
| | | -13.00 | 2020 | 2813 | 3654 |
| | | -13.50 | 2183 | 2975 | 3820 |
| | | -14.00 | 2285 | 3116 | 3986 |
| | | -14.50 | 2347 | 3178 | 4044 |
| | | -15.00 | 2390 | 3252 | 4178 |
| | | -15.50 | 2598 | 3503 | 4442 |
| | | -16.00 | 2766 | 3773 | 4789 |
| | | -16.50 | 2952 | 4004 | 5171 |
| | | -17.00 | 3252 | 4416 | 5437 |
| | | -17.50 | 3370 | 4450 | 5629 |
| | | -18.00 | 3371 | 4611 | 5832 |
| | | -18.50 | 3481 | 4753 | 6045 |
| | | -19.00 | 3591 | 4891 | 6249 |
| | | -19.50 | 3682 | 5001 | 6380 |
| | | -20.00 | 3668 | 5024 | 6384 |
| | | -20.50 | 3896 | 5413 | 7022 |
| | | -21.00 | 4172 | 5692 | 7252 |
| | | -21.50 | 4281 | 5836 | 7433 |
| | | -22.00 | 4369 | 5945 | 7569 |
| | | -22.50 | 4460 | 6051 | 7700 |
| | | -23.00 | 4578 | 6269 | 6508 |
| | | -23.50 | 4891 | 5469 | 5740 |
| | | -24.00 | 4650 | 4726 | 5597 |
| | | -24.50 | 3673 | 4586 | 5511 |
| | | -25.00 | 3599 | 4551 | 5476 |
| | | -25.50 | 3509 | 4449 | 5340 |
| | | -26.00 | 3508 | 4423 | 5308 |
| | | -26.50 | 3475 | 4386 | 5261 |
| | | -27.00 | 3517 | 4452 | 5252 |
| | | -27.50 | 3563 | 4423 | 5297 |
| | | -28.00 | 3555 | 4464 | 5345 |
| | | -28.50 | 3579 | 4503 | 5387 |
| | | -29.00 | 3606 | 4535 | |
| | | -29.50 | 3630 | | |
| 19-1008_35 | 0.92 | -6.00 | 1028 | | |
| | | -6.50 | 1050 | | |
| | | -7.00 | 1081 | 1529 | |
| | | -7.50 | 1163 | 1628 | |
| | | -8.00 | 1198 | 1666 | 2165 |
| | | -8.50 | 1222 | 1692 | 2189 |
| | | -9.00 | 1262 | 1752 | 2289 |
| | | -9.50 | 1328 | 1832 | 2366 |
| | | -10.00 | 1367 | 1918 | 2517 |
| | | -10.50 | 1452 | 1999 | 2575 |
| | | -11.00 | 1490 | 2037 | 2611 |
| | | -11.50 | 1516 | 2061 | 2629 |
| | | -12.00 | 1545 | 2092 | 2665 |
| | | -12.50 | 1659 | 2313 | 2981 |
| | | -13.00 | 1809 | 2476 | 3172 |
| | | -13.50 | 1910 | 2616 | 3368 |
| | | -14.00 | 2118 | 2880 | 3583 |
| | | -14.50 | 2193 | 2887 | 3694 |
| | | -15.00 | 2198 | 2987 | 3811 |
| | | -15.50 | 2273 | 3082 | 3924 |
| | | -16.00 | 2336 | 3154 | 4003 |
| | | -16.50 | 2354 | 3157 | 3987 |
| | | -17.00 | 2400 | 3226 | 4109 |
| | | -17.50 | 2584 | 3472 | 4388 |
| | | -18.00 | 2630 | 3575 | 4578 |
| | | -18.50 | 2786 | 3777 | 4767 |
| | | -19.00 | 2856 | 3864 | 4882 |
| | | -19.50 | 2957 | 4037 | 5221 |
| | | -20.00 | 3236 | 4395 | 5605 |
| | | -20.50 | 3338 | 4517 | 5745 |
| | | -21.00 | 3447 | 4651 | 5910 |
| | | -21.50 | 3586 | 4945 | 6213 |
| | | -22.00 | 3910 | 5055 | 6403 |
| | | -22.50 | 3850 | 5187 | 6031 |
| | | -23.00 | 3942 | 4865 | 6114 |
| | | -23.50 | 3707 | 4938 | 6238 |
| | | -24.00 | 3765 | 5032 | 6335 |
| | | -24.50 | 3832 | 5111 | 6426 |
| | | -25.00 | 3882 | 5165 | 6480 |
| | | -25.50 | 3805 | 5042 | 6319 |
| | | -26.00 | 4053 | 5396 | 6812 |
| | | -26.50 | 4394 | 5869 | 7377 |
| | | -27.00 | 4545 | 6061 | 7620 |
| | | -27.50 | 4665 | 6208 | 7791 |
| | | -28.00 | 4758 | 6314 | 7905 |
| | | -28.50 | 5015 | 6627 | 6789 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -29.00 | 5187 | 5623 | 6717 |
| | | -29.50 | 4378 | 5509 | 6564 |
| | | -30.00 | 4289 | 5367 | 6390 |
| 312.S03 | 3.78 | -6.00 | 930 | | |
| | | -6.50 | 949 | | |
| | | -7.00 | 943 | 1244 | |
| | | -7.50 | 1115 | 1690 | |
| | | -8.00 | 1847 | 2401 | 3126 |
| | | -8.50 | 1859 | 2574 | 3332 |
| | | -9.00 | 2007 | 2763 | 3559 |
| | | -9.50 | 2085 | 2841 | 3634 |
| | | -10.00 | 2242 | 3043 | 3740 |
| | | -10.50 | 2476 | 3076 | 3890 |
| | | -11.00 | 2399 | 3222 | 4075 |
| | | -11.50 | 2522 | 3366 | 4196 |
| | | -12.00 | 2646 | 3528 | 4434 |
| | | -12.50 | 2640 | 3485 | 4343 |
| | | -13.00 | 2680 | 3674 | 4636 |
| | | -13.50 | 2864 | 3896 | 4819 |
| | | -14.00 | 2941 | 3974 | 4856 |
| | | -14.50 | 2968 | 3922 | 4926 |
| | | -15.00 | 2962 | 3959 | 5017 |
| | | -15.50 | 3015 | 4013 | 5073 |
| | | -16.00 | 3054 | 4095 | 5171 |
| | | -16.50 | 3060 | 4085 | 5140 |
| | | -17.00 | 3081 | 4101 | 4278 |
| | | -17.50 | 3160 | 3572 | 4399 |
| | | -18.00 | 2828 | 3682 | 4539 |
| | | -18.50 | 2892 | 3762 | 4633 |
| | | -19.00 | 2957 | 3841 | 4725 |
| | | -19.50 | 2926 | 3774 | 4614 |
| | | -20.00 | 2893 | 3797 | 4763 |
| | | -20.50 | 3273 | 4264 | 5259 |
| | | -21.00 | 3474 | 4540 | 5613 |
| | | -21.50 | 3606 | 4764 | 5952 |
| | | -22.00 | 3811 | 4987 | 6173 |
| | | -22.50 | 3942 | 5148 | 6343 |
| | | -23.00 | 4046 | 5266 | 6489 |
| | | -23.50 | 4143 | 5454 | 6764 |
| | | -24.00 | 4363 | 5711 | 6105 |
| | | -24.50 | 4465 | 5045 | 6043 |
| | | -25.00 | 3952 | 4987 | 5899 |
| | | -25.50 | 3940 | 4907 | 5863 |
| | | -26.00 | 3894 | 4902 | 5855 |
| | | -26.50 | 3888 | 4893 | 5882 |
| | | -27.00 | 3845 | 4854 | 5823 |
| | | -27.50 | 3874 | 4886 | 5858 |
| | | -28.00 | 3901 | 4918 | 5893 |
| | | -28.50 | 3927 | 4949 | 5929 |
| | | -29.00 | 3956 | 5033 | |
| | | -29.50 | 4027 | | |
| 19-1008_43 | 9.88 | -6.00 | 1030 | | |
| | | -6.50 | 1389 | | |
| | | -7.00 | 1469 | 2054 | |
| | | -7.50 | 1550 | 2164 | |
| | | -8.00 | 1638 | 2276 | 2938 |
| | | -8.50 | 1725 | 2382 | 3078 |
| | | -9.00 | 1814 | 2493 | 3208 |
| | | -9.50 | 1893 | 2586 | 3313 |
| | | -10.00 | 2095 | 2933 | 3721 |
| | | -10.50 | 2265 | 3004 | 3821 |
| | | -11.00 | 2284 | 3081 | 3929 |
| | | -11.50 | 2346 | 3202 | 4033 |
| | | -12.00 | 2412 | 3307 | 4164 |
| | | -12.50 | 2428 | 3320 | 4199 |
| | | -13.00 | 2466 | 3369 | 4303 |
| | | -13.50 | 2597 | 3548 | 4543 |
| | | -14.00 | 2665 | 3634 | 4647 |
| | | -14.50 | 2679 | 3634 | 4636 |
| | | -15.00 | 3013 | 4117 | 5047 |
| | | -15.50 | 3102 | 4037 | 4812 |
| | | -16.00 | 3081 | 3920 | 4637 |
| | | -16.50 | 3059 | 3735 | 4589 |
| | | -17.00 | 2855 | 3717 | 4648 |
| | | -17.50 | 2861 | 3783 | 4718 |
| | | -18.00 | 2913 | 3840 | 4782 |
| | | -18.50 | 2947 | 3873 | 4810 |
| | | -19.00 | 2972 | 3893 | 4822 |
| | | -19.50 | 3048 | 3999 | 4971 |
| | | -20.00 | 3192 | 4221 | 5249 |
| | | -20.50 | 3302 | 4343 | 5387 |
| | | -21.00 | 3427 | 4545 | 5669 |
| | | -21.50 | 3766 | 5135 | 6426 |
| | | -22.00 | 4253 | 5269 | |
| | | -22.50 | 4038 | | |
| 328.S02 | 10.17 | -6.00 | 1529 | | |
| | | -6.50 | 1489 | | |
| | | -7.00 | 1631 | 2200 | |
| | | -7.50 | 1724 | 2319 | |
| | | -8.00 | 1811 | 2425 | 3059 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 | SI Ø762/9 |
|---|---|---|---|---|---|
| | | -8.50 | 1873 | 2494 | 3131 |
| | | -9.00 | 2012 | 2767 | 3487 |
| | | -9.50 | 2203 | 2946 | 3701 |
| | | -10.00 | 2383 | 3169 | 3993 |
| | | -10.50 | 2504 | 3351 | 4213 |
| | | -11.00 | 2598 | 3508 | 4344 |
| | | -11.50 | 2678 | 3587 | 4495 |
| | | -12.00 | 2749 | 3701 | 4665 |
| | | -12.50 | 2845 | 3821 | 4450 |
| | | -13.00 | 2948 | 3626 | 4540 |
| | | -13.50 | 2801 | 3694 | 4647 |
| | | -14.00 | 2828 | 3766 | 4727 |
| | | -14.50 | 2891 | 3854 | 4830 |
| | | -15.00 | 2932 | 3908 | 4717 |
| | | -15.50 | 2937 | 3881 | 4857 |
| | | -16.00 | 3050 | 4051 | 5075 |
| | | -16.50 | 3173 | 4219 | 5290 |
| | | -17.00 | 3284 | 4364 | 5470 |
| | | -17.50 | 3329 | 4408 | 5511 |
| | | -18.00 | 3059 | 4007 | 5091 |
| | | -18.50 | 3646 | 4848 | 6080 |
| | | -19.00 | 3746 | 4963 | 6209 |
| | | -19.50 | 3950 | 5235 | 6547 |
| | | -20.00 | 4098 | 5414 | 6782 |
| | | -20.50 | 4323 | 5719 | 7142 |
| | | -21.00 | 4468 | 5899 | 7038 |
| | | -21.50 | 4626 | 5824 | 7240 |
| | | -22.00 | 4564 | 5997 | 7184 |
| | | -22.50 | 4705 | 5941 | 7376 |
| | | -23.00 | 4650 | 6089 | 7460 |
| | | -23.50 | 4738 | 6166 | 7614 |
| | | -24.00 | 4750 | 6252 | 7694 |
| | | -24.50 | 4833 | 6383 | 7605 |
| | | -25.00 | 4823 | 6296 | 7336 |
| | | -25.50 | 4958 | 6069 | |
| | | -26.00 | 4734 | | |
| | | -26.50 | 4856 | | |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## ALGEMENE GEGEVENS

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380
Datum : 27-03-2021
Bestand : P:\EANL_Projects\10124719 - TenneT Engineering ZW380 kV Oost\2 Content\007 DO vakwerkmasten\TS Paalfunderingen\ZWO380 hoekmast DO.pvw
Berekeningstype : Verticaal belaste paal
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

## Toegepaste normen volgens Eurocode met Nederlandse NB

Geotechniek EN 1997-1:2004 AC:2009
NEN-EN 1997-1:2005 C1+A1:2013 NB:2016
NEN 9997-1:2016 C2:2017

## REKENGEGEVENS SI Ø508/670 trek

Berekening : Ontwerpend
Rekenmethode : Trekpalen volgens NEN-EN 1997-1, art. 7.6.3
Sondering(en) : 19-1008_1, 19-1008_6, 166.S01, 19-1008_11, 19-1008_12
: 19-1008_17, 19-1008_20, 19-1008_21, 251.S01, 19-1008_29
: 283.S02, 19-1008_35, 312.S03, 19-1008_43, 328.S02
Let op: trekcapaciteit t.p.v. negatief kleeftraject is meegerekend.

Stijf bouwwerk : JA
Paalgroep : JA
Aantal sonderingen : 15
Factor $\xi_{3\ (n=1)}$ : 1.26 (handmatig)
Factor $\xi_{3\ (gem)}$ : 1.26 (handmatig)
Factor $\xi_{4\ (min)}$ : 1.26 (handmatig)
Weerstandsfactor $\gamma_R$ : 1.35
$\gamma_{m;var;gc}$ : 1.25
UGT draagvermogen zonder negatieve kleef : NEE

Paal : SI Ø508/670
Niveau paalkop [m] : N.A.P. 0.00
Opp. paalgebied [m²] : 20.00 Bovenbel. [kN/m²] : 0.00
Rekenen op verdichting: NEE (factor f1 > 1.00)

## PAALPUNTNIVEAUS SI Ø508/670

Alle niveaus/hoogtes/peilmaten zijn t.o.v. : N.A.P.

| Nr | Beginniveau [m] | Eindniveau [m] | Stapgrootte [m] |
|---|---|---|---|
| 1 | -6.00 | -30.00 | 0.50 |

## RESULTATEN SI Ø508/670 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_1 | 19-1008_6 | 166.S01 | 19-1008_11 | 19-1008_12 | 19-1008_17 |
|---|---|---|---|---|---|---|
| Niveau [m] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] |
| -6.00 | 55 | 490 | 288 | 199 | **499** | 82 |
| -6.50 | 59 | **546** | 343 | 205 | 540 | 89 |
| -7.00 | 63 | **601** | 397 | 212 | 589 | 121 |
| -7.50 | 67 | **655** | 451 | 229 | 640 | 136 |
| -8.00 | 81 | **709** | 505 | 253 | 689 | 143 |
| -8.50 | 98 | **763** | 557 | 274 | 715 | 151 |
| -9.00 | 104 | **817** | 609 | 291 | 726 | 165 |
| -9.50 | 130 | **870** | 660 | 307 | 734 | 176 |
| -10.00 | 153 | **922** | 712 | 324 | 748 | 219 |
| -10.50 | 180 | **975** | 763 | 344 | 776 | 241 |
| -11.00 | 199 | **1027** | 814 | 366 | 797 | 277 |
| -11.50 | 230 | **1079** | 864 | 393 | 803 | 333 |
| -12.00 | 271 | **1131** | 911 | 428 | 823 | 388 |
| -12.50 | 298 | **1182** | 950 | 443 | 832 | 442 |
| -13.00 | 338 | **1234** | 987 | 483 | 838 | 496 |
| -13.50 | 377 | **1285** | 1024 | 528 | 847 | 549 |
| -14.00 | 411 | **1336** | 1067 | 574 | 864 | 601 |
| -14.50 | 454 | **1386** | 1116 | 619 | 887 | 653 |
| -15.00 | 494 | **1437** | 1165 | 665 | 904 | 701 |
| -15.50 | 537 | **1487** | 1214 | 708 | 917 | 752 |
| -16.00 | 574 | **1537** | 1263 | 744 | 938 | 803 |
| -16.50 | 614 | **1587** | 1312 | 786 | 965 | 854 |
| -17.00 | 655 | **1637** | 1360 | 826 | 989 | 902 |
| -17.50 | 702 | **1687** | 1408 | 864 | 1023 | 960 |
| -18.00 | 754 | **1737** | 1456 | 912 | 1049 | 1033 |
| -18.50 | 806 | **1783** | 1504 | 963 | 1109 | 1081 |
| -19.00 | 857 | **1832** | 1552 | 1015 | 1164 | 1117 |
| -19.50 | 908 | **1881** | 1599 | 1066 | 1209 | 1156 |
| -20.00 | 979 | **1931** | 1647 | 1117 | 1245 | 1196 |
| -20.50 | 1056 | **1979** | 1694 | 1167 | 1285 | 1238 |
| -21.00 | 1136 | **2028** | 1741 | 1218 | 1322 | 1281 |
| -21.50 | 1187 | **2077** | 1789 | 1265 | 1368 | 1339 |
| -22.00 | 1235 | **2126** | 1836 | 1315 | 1416 | 1381 |
| -22.50 | 1284 | **2174** | 1883 | 1365 | 1465 | 1429 |
| -23.00 | 1332 | **2223** | 0 | 1410 | 1509 | 1477 |
| -23.50 | 1381 | **2271** | 0 | 1440 | 1552 | 1524 |
| -24.00 | 1429 | 0 | 0 | 1479 | 1597 | 1568 |
| -24.50 | 1477 | 0 | 0 | 1523 | 1646 | 1607 |
| -25.00 | 1525 | 0 | 0 | 1564 | 1694 | 1637 |
| -25.50 | 1572 | 0 | 0 | 1599 | 1767 | 1666 |
| -26.00 | 1620 | 0 | 0 | 1649 | 1847 | 1695 |
| -26.50 | 1668 | 0 | 0 | 1698 | 1894 | 1723 |
| -27.00 | 1715 | 0 | 0 | 1746 | 1937 | 1757 |
| -27.50 | 1762 | 0 | 0 | 1795 | 1987 | 1793 |
| -28.00 | 1810 | 0 | 0 | 1843 | 2023 | 1830 |
| -28.50 | 1857 | 0 | 0 | 1891 | 2060 | 1868 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

| | | | | | | |
|---|---|---|---|---|---|---|
| -29.00 | 1904 | 0 | 0 | 1939 | 2107 | 1910 |
| -29.50 | 1951 | 0 | 0 | 1987 | 2154 | 1926 |
| -30.00 | 1998 | 0 | 0 | 2035 | 2200 | 1959 |

## RESULTATEN SI Ø508/670 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_20 | 19-1008_21 | 251.S01 | 19-1008_29 | 283.S02 | 19-1008_35 |
|---|---|---|---|---|---|---|
| Niveau [m] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] |
| -6.00 | 105 | 191 | 221 | 331 | 265 | 293 |
| -6.50 | 125 | 227 | 258 | 369 | 296 | 317 |
| -7.00 | 160 | 263 | 300 | 411 | 333 | 337 |
| -7.50 | 191 | 307 | 340 | 456 | 362 | 357 |
| -8.00 | 215 | 348 | 380 | 502 | 390 | 384 |
| -8.50 | 238 | 389 | 410 | 549 | 424 | 411 |
| -9.00 | 270 | 410 | 416 | 589 | 456 | 433 |
| -9.50 | 296 | 427 | 440 | 626 | 483 | 454 |
| -10.00 | 326 | 452 | 475 | 661 | 512 | 479 |
| -10.50 | 335 | 473 | 515 | 701 | 541 | 503 |
| -11.00 | 374 | 498 | 545 | 741 | 569 | 543 |
| -11.50 | 415 | 529 | 565 | 792 | 599 | 577 |
| -12.00 | 425 | 563 | 584 | 819 | 619 | 601 |
| -12.50 | 436 | 591 | 615 | 869 | 652 | 622 |
| -13.00 | 456 | 626 | 652 | 905 | 689 | 649 |
| -13.50 | 466 | 659 | 687 | 924 | 730 | 681 |
| -14.00 | 484 | 707 | 735 | 946 | 777 | 714 |
| -14.50 | 516 | 755 | 782 | 962 | 824 | 755 |
| -15.00 | 553 | 794 | 837 | 975 | 866 | 795 |
| -15.50 | 574 | 826 | 865 | 991 | 902 | 835 |
| -16.00 | 590 | 885 | 910 | 1027 | 941 | 876 |
| -16.50 | 612 | 944 | 958 | 1042 | 984 | 917 |
| -17.00 | 627 | 955 | 1006 | 1058 | 1030 | 952 |
| -17.50 | 646 | 967 | 1052 | 1079 | 1078 | 983 |
| -18.00 | 678 | 990 | 1094 | 1123 | 1126 | 1022 |
| -18.50 | 716 | 1054 | 1148 | 1172 | 1174 | 1058 |
| -19.00 | 744 | 1098 | 1185 | 1220 | 1221 | 1098 |
| -19.50 | 782 | 1111 | 1219 | 1263 | 1268 | 1137 |
| -20.00 | 818 | 1121 | 1256 | 1311 | 1315 | 1178 |
| -20.50 | 862 | 1131 | 1317 | 1359 | 1360 | 1227 |
| -21.00 | 928 | 1141 | 1386 | 1407 | 1407 | 1276 |
| -21.50 | 957 | 1153 | 1416 | 1455 | 1454 | 1325 |
| -22.00 | 977 | 1167 | 1426 | 1502 | 1501 | 1372 |
| -22.50 | 998 | 1183 | 1439 | 1562 | 1547 | 1420 |
| -23.00 | 1016 | 1200 | 1459 | 1615 | 1593 | 1469 |
| -23.50 | 1045 | 1215 | 1485 | 1652 | 1639 | 1517 |
| -24.00 | 1076 | 1233 | 1520 | 1694 | 1686 | 1565 |
| -24.50 | 1108 | 1252 | 1551 | 1733 | 1732 | 1611 |
| -25.00 | 1148 | 1272 | 1580 | 1779 | 1778 | 1656 |
| -25.50 | 1184 | 1292 | 1630 | 1809 | 1823 | 1713 |
| -26.00 | 1219 | 1312 | 1704 | 1842 | 1869 | 1773 |
| -26.50 | 1251 | 1330 | 1769 | 1873 | 1925 | 1814 |
| -27.00 | 1290 | 1348 | 1816 | 1912 | 1949 | 1861 |
| -27.50 | 1324 | 1366 | 1863 | 1942 | 1971 | 1908 |
| -28.00 | 1355 | 1386 | 1909 | 1970 | 1998 | 1955 |
| -28.50 | 1390 | 1406 | 1956 | 1999 | 2032 | 2002 |
| -29.00 | 1424 | 1425 | 2002 | 2031 | 2057 | 2048 |
| -29.50 | 1451 | 1446 | 2034 | 2079 | 2079 | 2095 |
| -30.00 | 1484 | 1467 | 2072 | 2112 | 2099 | 2142 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø508/670 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 312.S03 | 19-1008_43 | 328.S02 |
|---|---|---|---|
| Niveau [m] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] |
| -6.00 | 355 | 284 | 467 |
| -6.50 | 397 | 308 | 512 |
| -7.00 | 447 | 353 | 543 |
| -7.50 | 480 | 396 | 582 |
| -8.00 | 514 | 440 | 624 |
| -8.50 | 566 | 481 | 668 |
| -9.00 | 618 | 523 | 710 |
| -9.50 | 669 | 566 | 746 |
| -10.00 | 720 | 605 | 786 |
| -10.50 | 770 | 651 | 829 |
| -11.00 | 817 | 706 | 877 |
| -11.50 | 867 | 761 | 925 |
| -12.00 | 917 | 815 | 973 |
| -12.50 | 966 | 869 | 1015 |
| -13.00 | 1013 | 909 | 1057 |
| -13.50 | 1048 | 943 | 1099 |
| -14.00 | 1088 | 983 | 1141 |
| -14.50 | 1127 | 1026 | 1182 |
| -15.00 | 1165 | 1064 | 1224 |
| -15.50 | 1204 | 1110 | 1266 |
| -16.00 | 1242 | 1161 | 1314 |
| -16.50 | 1281 | 1213 | 1358 |
| -17.00 | 1317 | 1265 | 1409 |
| -17.50 | 1346 | 1315 | 1460 |
| -18.00 | 1376 | 1361 | 1523 |
| -18.50 | 1414 | 1401 | 1566 |
| -19.00 | 1454 | 1446 | 1612 |
| -19.50 | 1495 | 1485 | 1660 |
| -20.00 | 1535 | 1525 | 1710 |
| -20.50 | 1575 | 1575 | 1760 |
| -21.00 | 1614 | 1633 | 1810 |
| -21.50 | 1649 | 1677 | 1860 |
| -22.00 | 1689 | 1723 | 1910 |
| -22.50 | 1735 | 1774 | 1959 |
| -23.00 | 1782 | 1824 | 2009 |
| -23.50 | 1827 | 1874 | 2058 |
| -24.00 | 1869 | 1924 | **2107** |
| -24.50 | 1916 | 1974 | **2149** |
| -25.00 | 1963 | 2017 | **2188** |
| -25.50 | 2007 | 0 | **2227** |
| -26.00 | 2047 | 0 | **2267** |
| -26.50 | 2093 | 0 | **2309** |
| -27.00 | 2139 | 0 | **2357** |
| -27.50 | 2170 | 0 | **2406** |
| -28.00 | 2196 | 0 | **2447** |
| -28.50 | 2216 | 0 | **2483** |
| -29.00 | **2236** | 0 | 0 |
| -29.50 | **2260** | 0 | 0 |
| -30.00 | **2290** | 0 | 0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SAMENVATTINGSTABEL SI Ø508/670 trek (n=1)

**Uitgangspunten**
- paal : SI Ø508/670
- paaltype : In de grond gevormde geschroefde paal; groutinjectie
- schachtafmeting : 590 mm

Paalklassefactor $\alpha_p$ : 0.63
Factor $\alpha_c$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Correlatiefactor $\xi_{3(n=1)}$ : 1.26

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -6.00 | 55.0 | 55.0 | 55.0 |
| | | -6.50 | 58.8 | 58.8 | 58.8 |
| | | -7.00 | 62.7 | 62.7 | 62.7 |
| | | -7.50 | 66.7 | 66.7 | 66.7 |
| | | -8.00 | 81.4 | 81.4 | 81.4 |
| | | -8.50 | 97.7 | 97.7 | 97.7 |
| | | -9.00 | 103.8 | 103.8 | 103.8 |
| | | -9.50 | 129.8 | 129.8 | 129.8 |
| | | -10.00 | 153.0 | 153.0 | 153.0 |
| | | -10.50 | 180.0 | 180.0 | 180.0 |
| | | -11.00 | 198.9 | 198.9 | 198.9 |
| | | -11.50 | 230.4 | 230.4 | 230.4 |
| | | -12.00 | 270.6 | 270.6 | 270.6 |
| | | -12.50 | 297.8 | 297.8 | 297.8 |
| | | -13.00 | 338.0 | 338.0 | 338.0 |
| | | -13.50 | 377.1 | 377.1 | 377.1 |
| | | -14.00 | 410.8 | 410.8 | 410.8 |
| | | -14.50 | 454.5 | 454.5 | 454.5 |
| | | -15.00 | 494.3 | 494.3 | 494.3 |
| | | -15.50 | 537.3 | 537.3 | 537.3 |
| | | -16.00 | 574.1 | 574.1 | 574.1 |
| | | -16.50 | 614.3 | 614.3 | 614.3 |
| | | -17.00 | 654.9 | 654.9 | 654.9 |
| | | -17.50 | 701.9 | 701.9 | 701.9 |
| | | -18.00 | 754.1 | 754.1 | 754.1 |
| | | -18.50 | 805.8 | 805.8 | 805.8 |
| | | -19.00 | 857.3 | 857.3 | 857.3 |
| | | -19.50 | 908.4 | 908.4 | 908.4 |
| | | -20.00 | 978.7 | 978.7 | 978.7 |
| | | -20.50 | 1055.9 | 1055.9 | 1055.9 |
| | | -21.00 | 1136.0 | 1136.0 | 1136.0 |
| | | -21.50 | 1186.7 | 1186.7 | 1186.7 |
| | | -22.00 | 1235.4 | 1235.4 | 1235.4 |
| | | -22.50 | 1284.0 | 1284.0 | 1284.0 |
| | | -23.00 | 1332.4 | 1332.4 | 1332.4 |
| | | -23.50 | 1380.6 | 1380.6 | 1380.6 |
| | | -24.00 | 1428.8 | 1428.8 | 1428.8 |
| | | -24.50 | 1476.7 | 1476.7 | 1476.7 |
| | | -25.00 | 1524.6 | 1524.6 | 1524.6 |
| | | -25.50 | 1572.4 | 1572.4 | 1572.4 |
| | | -26.00 | 1620.0 | 1620.0 | 1620.0 |
| | | -26.50 | 1667.6 | 1667.6 | 1667.6 |
| | | -27.00 | 1715.1 | 1715.1 | 1715.1 |
| | | -27.50 | 1762.4 | 1762.4 | 1762.4 |
| | | -28.00 | 1809.7 | 1809.7 | 1809.7 |
| | | -28.50 | 1856.9 | 1856.9 | 1856.9 |
| | | -29.00 | 1904.0 | 1904.0 | 1904.0 |
| | | -29.50 | 1951.1 | 1951.1 | 1951.1 |
| | | -30.00 | 1998.1 | 1998.1 | 1998.1 |
| 19-1008_6 | 11.00 | -6.00 | 490.4 | 490.4 | 490.4 |
| | | -6.50 | 545.9 | 545.9 | 545.9 |
| | | -7.00 | 600.7 | 600.7 | 600.7 |
| | | -7.50 | 655.2 | 655.2 | 655.2 |
| | | -8.00 | 709.4 | 709.4 | 709.4 |
| | | -8.50 | 763.1 | 763.1 | 763.1 |
| | | -9.00 | 816.6 | 816.6 | 816.6 |
| | | -9.50 | 869.7 | 869.7 | 869.7 |
| | | -10.00 | 922.5 | 922.5 | 922.5 |
| | | -10.50 | 975.0 | 975.0 | 975.0 |
| | | -11.00 | 1027.3 | 1027.3 | 1027.3 |
| | | -11.50 | 1079.3 | 1079.3 | 1079.3 |
| | | -12.00 | 1131.0 | 1131.0 | 1131.0 |
| | | -12.50 | 1182.5 | 1182.5 | 1182.5 |
| | | -13.00 | 1233.7 | 1233.7 | 1233.7 |
| | | -13.50 | 1284.8 | 1284.8 | 1284.8 |
| | | -14.00 | 1335.7 | 1335.7 | 1335.7 |
| | | -14.50 | 1386.4 | 1386.4 | 1386.4 |
| | | -15.00 | 1436.9 | 1436.9 | 1436.9 |
| | | -15.50 | 1487.2 | 1487.2 | 1487.2 |
| | | -16.00 | 1537.4 | 1537.4 | 1537.4 |
| | | -16.50 | 1587.5 | 1587.5 | 1587.5 |
| | | -17.00 | 1637.4 | 1637.4 | 1637.4 |
| | | -17.50 | 1687.1 | 1687.1 | 1687.1 |
| | | -18.00 | 1736.7 | 1736.7 | 1736.7 |
| | | -18.50 | 1782.9 | 1782.9 | 1782.9 |
| | | -19.00 | 1832.2 | 1832.2 | 1832.2 |
| | | -19.50 | 1881.4 | 1881.4 | 1881.4 |
| | | -20.00 | 1930.5 | 1930.5 | 1930.5 |
| | | -20.50 | 1979.5 | 1979.5 | 1979.5 |
| | | -21.00 | 2028.3 | 2028.3 | 2028.3 |
| | | -21.50 | 2077.1 | 2077.1 | 2077.1 |
| | | -22.00 | 2125.8 | 2125.8 | 2125.8 |
| | | -22.50 | 2174.3 | 2174.3 | 2174.3 |
| | | -23.00 | 2222.8 | 2222.8 | 2222.8 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_6 | 11.00 | -23.50 | 2271.2 | 2271.2 | 2271.2 |
| 166.S01 | 3.45 | -6.00 | 287.5 | 287.5 | 287.5 |
| | | -6.50 | 342.8 | 342.8 | 342.8 |
| | | -7.00 | 397.4 | 397.4 | 397.4 |
| | | -7.50 | 451.4 | 451.4 | 451.4 |
| | | -8.00 | 504.8 | 504.8 | 504.8 |
| | | -8.50 | 557.3 | 557.3 | 557.3 |
| | | -9.00 | 609.3 | 609.3 | 609.3 |
| | | -9.50 | 660.1 | 660.1 | 660.1 |
| | | -10.00 | 711.7 | 711.7 | 711.7 |
| | | -10.50 | 762.9 | 762.9 | 762.9 |
| | | -11.00 | 813.7 | 813.7 | 813.7 |
| | | -11.50 | 864.2 | 864.2 | 864.2 |
| | | -12.00 | 911.0 | 911.0 | 911.0 |
| | | -12.50 | 950.3 | 950.3 | 950.3 |
| | | -13.00 | 987.2 | 987.2 | 987.2 |
| | | -13.50 | 1024.3 | 1024.3 | 1024.3 |
| | | -14.00 | 1067.1 | 1067.1 | 1067.1 |
| | | -14.50 | 1116.2 | 1116.2 | 1116.2 |
| | | -15.00 | 1165.4 | 1165.4 | 1165.4 |
| | | -15.50 | 1214.4 | 1214.4 | 1214.4 |
| | | -16.00 | 1263.1 | 1263.1 | 1263.1 |
| | | -16.50 | 1311.7 | 1311.7 | 1311.7 |
| | | -17.00 | 1360.0 | 1360.0 | 1360.0 |
| | | -17.50 | 1408.2 | 1408.2 | 1408.2 |
| | | -18.00 | 1456.3 | 1456.3 | 1456.3 |
| | | -18.50 | 1504.1 | 1504.1 | 1504.1 |
| | | -19.00 | 1551.9 | 1551.9 | 1551.9 |
| | | -19.50 | 1599.5 | 1599.5 | 1599.5 |
| | | -20.00 | 1646.9 | 1646.9 | 1646.9 |
| | | -20.50 | 1694.3 | 1694.3 | 1694.3 |
| | | -21.00 | 1741.5 | 1741.5 | 1741.5 |
| | | -21.50 | 1788.6 | 1788.6 | 1788.6 |
| | | -22.00 | 1835.6 | 1835.6 | 1835.6 |
| | | -22.50 | 1882.6 | 1882.6 | 1882.6 |
| 19-1008_11 | 0.62 | -6.00 | 199.4 | 199.4 | 199.4 |
| | | -6.50 | 205.0 | 205.0 | 205.0 |
| | | -7.00 | 211.6 | 211.6 | 211.6 |
| | | -7.50 | 229.1 | 229.1 | 229.1 |
| | | -8.00 | 252.6 | 252.6 | 252.6 |
| | | -8.50 | 274.0 | 274.0 | 274.0 |
| | | -9.00 | 291.0 | 291.0 | 291.0 |
| | | -9.50 | 307.2 | 307.2 | 307.2 |
| | | -10.00 | 324.0 | 324.0 | 324.0 |
| | | -10.50 | 343.7 | 343.7 | 343.7 |
| | | -11.00 | 366.5 | 366.5 | 366.5 |
| | | -11.50 | 393.4 | 393.4 | 393.4 |
| | | -12.00 | 428.0 | 428.0 | 428.0 |
| | | -12.50 | 442.7 | 442.7 | 442.7 |
| | | -13.00 | 482.5 | 482.5 | 482.5 |
| | | -13.50 | 527.8 | 527.8 | 527.8 |
| | | -14.00 | 573.5 | 573.5 | 573.5 |
| | | -14.50 | 619.5 | 619.5 | 619.5 |
| | | -15.00 | 665.1 | 665.1 | 665.1 |
| | | -15.50 | 707.8 | 707.8 | 707.8 |
| | | -16.00 | 743.9 | 743.9 | 743.9 |
| | | -16.50 | 785.8 | 785.8 | 785.8 |
| | | -17.00 | 826.3 | 826.3 | 826.3 |
| | | -17.50 | 864.4 | 864.4 | 864.4 |
| | | -18.00 | 911.7 | 911.7 | 911.7 |
| | | -18.50 | 963.4 | 963.4 | 963.4 |
| | | -19.00 | 1014.7 | 1014.7 | 1014.7 |
| | | -19.50 | 1065.8 | 1065.8 | 1065.8 |
| | | -20.00 | 1116.6 | 1116.6 | 1116.6 |
| | | -20.50 | 1167.2 | 1167.2 | 1167.2 |
| | | -21.00 | 1217.5 | 1217.5 | 1217.5 |
| | | -21.50 | 1264.9 | 1264.9 | 1264.9 |
| | | -22.00 | 1314.9 | 1314.9 | 1314.9 |
| | | -22.50 | 1364.6 | 1364.6 | 1364.6 |
| | | -23.00 | 1410.0 | 1410.0 | 1410.0 |
| | | -23.50 | 1440.4 | 1440.4 | 1440.4 |
| | | -24.00 | 1479.2 | 1479.2 | 1479.2 |
| | | -24.50 | 1522.7 | 1522.7 | 1522.7 |
| | | -25.00 | 1564.3 | 1564.3 | 1564.3 |
| | | -25.50 | 1599.4 | 1599.4 | 1599.4 |
| | | -26.00 | 1648.9 | 1648.9 | 1648.9 |
| | | -26.50 | 1697.7 | 1697.7 | 1697.7 |
| | | -27.00 | 1746.3 | 1746.3 | 1746.3 |
| | | -27.50 | 1794.7 | 1794.7 | 1794.7 |
| | | -28.00 | 1843.1 | 1843.1 | 1843.1 |
| | | -28.50 | 1891.3 | 1891.3 | 1891.3 |
| | | -29.00 | 1939.3 | 1939.3 | 1939.3 |
| | | -29.50 | 1987.3 | 1987.3 | 1987.3 |
| | | -30.00 | 2035.2 | 2035.2 | 2035.2 |
| 19-1008_12 | 3.57 | -6.00 | 499.0 | 499.0 | 499.0 |
| | | -6.50 | 539.6 | 539.6 | 539.6 |
| | | -7.00 | 589.1 | 589.1 | 589.1 |
| | | -7.50 | 639.5 | 639.5 | 639.5 |
| | | -8.00 | 689.2 | 689.2 | 689.2 |
| | | -8.50 | 715.4 | 715.4 | 715.4 |
| | | -9.00 | 725.8 | 725.8 | 725.8 |
| | | -9.50 | 733.8 | 733.8 | 733.8 |
| | | -10.00 | 748.2 | 748.2 | 748.2 |
| | | -10.50 | 775.7 | 775.7 | 775.7 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_12 | 3.57 | -11.00 | 797.3 | 797.3 | 797.3 |
| | | -11.50 | 802.8 | 802.8 | 802.8 |
| | | -12.00 | 823.1 | 823.1 | 823.1 |
| | | -12.50 | 831.5 | 831.5 | 831.5 |
| | | -13.00 | 838.4 | 838.4 | 838.4 |
| | | -13.50 | 846.6 | 846.6 | 846.6 |
| | | -14.00 | 864.4 | 864.4 | 864.4 |
| | | -14.50 | 887.2 | 887.2 | 887.2 |
| | | -15.00 | 903.6 | 903.6 | 903.6 |
| | | -15.50 | 916.9 | 916.9 | 916.9 |
| | | -16.00 | 937.6 | 937.6 | 937.6 |
| | | -16.50 | 965.4 | 965.4 | 965.4 |
| | | -17.00 | 988.7 | 988.7 | 988.7 |
| | | -17.50 | 1022.7 | 1022.7 | 1022.7 |
| | | -18.00 | 1049.4 | 1049.4 | 1049.4 |
| | | -18.50 | 1109.0 | 1109.0 | 1109.0 |
| | | -19.00 | 1163.6 | 1163.6 | 1163.6 |
| | | -19.50 | 1208.8 | 1208.8 | 1208.8 |
| | | -20.00 | 1244.6 | 1244.6 | 1244.6 |
| | | -20.50 | 1284.7 | 1284.7 | 1284.7 |
| | | -21.00 | 1322.3 | 1322.3 | 1322.3 |
| | | -21.50 | 1367.5 | 1367.5 | 1367.5 |
| | | -22.00 | 1416.2 | 1416.2 | 1416.2 |
| | | -22.50 | 1464.6 | 1464.6 | 1464.6 |
| | | -23.00 | 1509.0 | 1509.0 | 1509.0 |
| | | -23.50 | 1551.7 | 1551.7 | 1551.7 |
| | | -24.00 | 1597.1 | 1597.1 | 1597.1 |
| | | -24.50 | 1645.7 | 1645.7 | 1645.7 |
| | | -25.00 | 1694.2 | 1694.2 | 1694.2 |
| | | -25.50 | 1767.2 | 1767.2 | 1767.2 |
| | | -26.00 | 1846.9 | 1846.9 | 1846.9 |
| | | -26.50 | 1893.5 | 1893.5 | 1893.5 |
| | | -27.00 | 1937.2 | 1937.2 | 1937.2 |
| | | -27.50 | 1987.0 | 1987.0 | 1987.0 |
| | | -28.00 | 2023.2 | 2023.2 | 2023.2 |
| | | -28.50 | 2059.7 | 2059.7 | 2059.7 |
| | | -29.00 | 2107.0 | 2107.0 | 2107.0 |
| | | -29.50 | 2154.1 | 2154.1 | 2154.1 |
| | | -30.00 | 2200.4 | 2200.4 | 2200.4 |
| 19-1008_17 | 0.20 | -6.00 | 82.3 | 82.3 | 82.3 |
| | | -6.50 | 89.4 | 89.4 | 89.4 |
| | | -7.00 | 121.1 | 121.1 | 121.1 |
| | | -7.50 | 135.9 | 135.9 | 135.9 |
| | | -8.00 | 142.8 | 142.8 | 142.8 |
| | | -8.50 | 150.8 | 150.8 | 150.8 |
| | | -9.00 | 164.9 | 164.9 | 164.9 |
| | | -9.50 | 175.7 | 175.7 | 175.7 |
| | | -10.00 | 218.7 | 218.7 | 218.7 |
| | | -10.50 | 240.9 | 240.9 | 240.9 |
| | | -11.00 | 277.1 | 277.1 | 277.1 |
| | | -11.50 | 332.7 | 332.7 | 332.7 |
| | | -12.00 | 387.6 | 387.6 | 387.6 |
| | | -12.50 | 441.8 | 441.8 | 441.8 |
| | | -13.00 | 495.5 | 495.5 | 495.5 |
| | | -13.50 | 548.6 | 548.6 | 548.6 |
| | | -14.00 | 601.2 | 601.2 | 601.2 |
| | | -14.50 | 653.3 | 653.3 | 653.3 |
| | | -15.00 | 701.2 | 701.2 | 701.2 |
| | | -15.50 | 752.5 | 752.5 | 752.5 |
| | | -16.00 | 803.4 | 803.4 | 803.4 |
| | | -16.50 | 853.9 | 853.9 | 853.9 |
| | | -17.00 | 902.2 | 902.2 | 902.2 |
| | | -17.50 | 960.2 | 960.2 | 960.2 |
| | | -18.00 | 1032.5 | 1032.5 | 1032.5 |
| | | -18.50 | 1081.4 | 1081.4 | 1081.4 |
| | | -19.00 | 1116.7 | 1116.7 | 1116.7 |
| | | -19.50 | 1156.1 | 1156.1 | 1156.1 |
| | | -20.00 | 1196.0 | 1196.0 | 1196.0 |
| | | -20.50 | 1237.9 | 1237.9 | 1237.9 |
| | | -21.00 | 1281.0 | 1281.0 | 1281.0 |
| | | -21.50 | 1338.7 | 1338.7 | 1338.7 |
| | | -22.00 | 1380.7 | 1380.7 | 1380.7 |
| | | -22.50 | 1428.7 | 1428.7 | 1428.7 |
| | | -23.00 | 1476.5 | 1476.5 | 1476.5 |
| | | -23.50 | 1524.2 | 1524.2 | 1524.2 |
| | | -24.00 | 1568.5 | 1568.5 | 1568.5 |
| | | -24.50 | 1606.8 | 1606.8 | 1606.8 |
| | | -25.00 | 1636.9 | 1636.9 | 1636.9 |
| | | -25.50 | 1666.2 | 1666.2 | 1666.2 |
| | | -26.00 | 1694.9 | 1694.9 | 1694.9 |
| | | -26.50 | 1723.4 | 1723.4 | 1723.4 |
| | | -27.00 | 1757.1 | 1757.1 | 1757.1 |
| | | -27.50 | 1793.0 | 1793.0 | 1793.0 |
| | | -28.00 | 1829.6 | 1829.6 | 1829.6 |
| | | -28.50 | 1867.8 | 1867.8 | 1867.8 |
| | | -29.00 | 1910.5 | 1910.5 | 1910.5 |
| | | -29.50 | 1926.0 | 1926.0 | 1926.0 |
| | | -30.00 | 1958.6 | 1958.6 | 1958.6 |
| 19-1008_20 | -0.03 | -6.00 | 105.0 | 105.0 | 105.0 |
| | | -6.50 | 124.7 | 124.7 | 124.7 |
| | | -7.00 | 160.3 | 160.3 | 160.3 |
| | | -7.50 | 191.1 | 191.1 | 191.1 |
| | | -8.00 | 215.1 | 215.1 | 215.1 |
| | | -8.50 | 238.5 | 238.5 | 238.5 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_20 | -0.03 | -9.00 | 270.1 | 270.1 | 270.1 |
| | | -9.50 | 295.8 | 295.8 | 295.8 |
| | | -10.00 | 326.4 | 326.4 | 326.4 |
| | | -10.50 | 335.4 | 335.4 | 335.4 |
| | | -11.00 | 374.0 | 374.0 | 374.0 |
| | | -11.50 | 415.0 | 415.0 | 415.0 |
| | | -12.00 | 425.0 | 425.0 | 425.0 |
| | | -12.50 | 436.3 | 436.3 | 436.3 |
| | | -13.00 | 456.4 | 456.4 | 456.4 |
| | | -13.50 | 466.4 | 466.4 | 466.4 |
| | | -14.00 | 484.4 | 484.4 | 484.4 |
| | | -14.50 | 516.4 | 516.4 | 516.4 |
| | | -15.00 | 552.7 | 552.7 | 552.7 |
| | | -15.50 | 573.8 | 573.8 | 573.8 |
| | | -16.00 | 590.1 | 590.1 | 590.1 |
| | | -16.50 | 612.4 | 612.4 | 612.4 |
| | | -17.00 | 627.5 | 627.5 | 627.5 |
| | | -17.50 | 645.5 | 645.5 | 645.5 |
| | | -18.00 | 678.0 | 678.0 | 678.0 |
| | | -18.50 | 715.7 | 715.7 | 715.7 |
| | | -19.00 | 744.3 | 744.3 | 744.3 |
| | | -19.50 | 782.3 | 782.3 | 782.3 |
| | | -20.00 | 817.9 | 817.9 | 817.9 |
| | | -20.50 | 861.6 | 861.6 | 861.6 |
| | | -21.00 | 928.1 | 928.1 | 928.1 |
| | | -21.50 | 957.1 | 957.1 | 957.1 |
| | | -22.00 | 976.8 | 976.8 | 976.8 |
| | | -22.50 | 998.2 | 998.2 | 998.2 |
| | | -23.00 | 1015.7 | 1015.7 | 1015.7 |
| | | -23.50 | 1044.6 | 1044.6 | 1044.6 |
| | | -24.00 | 1075.8 | 1075.8 | 1075.8 |
| | | -24.50 | 1108.4 | 1108.4 | 1108.4 |
| | | -25.00 | 1148.1 | 1148.1 | 1148.1 |
| | | -25.50 | 1184.2 | 1184.2 | 1184.2 |
| | | -26.00 | 1219.4 | 1219.4 | 1219.4 |
| | | -26.50 | 1251.3 | 1251.3 | 1251.3 |
| | | -27.00 | 1289.9 | 1289.9 | 1289.9 |
| | | -27.50 | 1323.9 | 1323.9 | 1323.9 |
| | | -28.00 | 1354.6 | 1354.6 | 1354.6 |
| | | -28.50 | 1390.4 | 1390.4 | 1390.4 |
| | | -29.00 | 1423.6 | 1423.6 | 1423.6 |
| | | -29.50 | 1450.6 | 1450.6 | 1450.6 |
| | | -30.00 | 1484.2 | 1484.2 | 1484.2 |
| 19-1008_21 | 1.78 | -6.00 | 190.7 | 190.7 | 190.7 |
| | | -6.50 | 227.3 | 227.3 | 227.3 |
| | | -7.00 | 263.4 | 263.4 | 263.4 |
| | | -7.50 | 307.1 | 307.1 | 307.1 |
| | | -8.00 | 347.7 | 347.7 | 347.7 |
| | | -8.50 | 388.5 | 388.5 | 388.5 |
| | | -9.00 | 410.2 | 410.2 | 410.2 |
| | | -9.50 | 427.0 | 427.0 | 427.0 |
| | | -10.00 | 451.6 | 451.6 | 451.6 |
| | | -10.50 | 473.3 | 473.3 | 473.3 |
| | | -11.00 | 498.0 | 498.0 | 498.0 |
| | | -11.50 | 528.6 | 528.6 | 528.6 |
| | | -12.00 | 562.7 | 562.7 | 562.7 |
| | | -12.50 | 591.3 | 591.3 | 591.3 |
| | | -13.00 | 625.5 | 625.5 | 625.5 |
| | | -13.50 | 658.7 | 658.7 | 658.7 |
| | | -14.00 | 707.1 | 707.1 | 707.1 |
| | | -14.50 | 755.2 | 755.2 | 755.2 |
| | | -15.00 | 793.8 | 793.8 | 793.8 |
| | | -15.50 | 826.3 | 826.3 | 826.3 |
| | | -16.00 | 884.9 | 884.9 | 884.9 |
| | | -16.50 | 943.7 | 943.7 | 943.7 |
| | | -17.00 | 954.8 | 954.8 | 954.8 |
| | | -17.50 | 967.4 | 967.4 | 967.4 |
| | | -18.00 | 990.1 | 990.1 | 990.1 |
| | | -18.50 | 1054.1 | 1054.1 | 1054.1 |
| | | -19.00 | 1098.3 | 1098.3 | 1098.3 |
| | | -19.50 | 1110.8 | 1110.8 | 1110.8 |
| | | -20.00 | 1121.0 | 1121.0 | 1121.0 |
| | | -20.50 | 1131.2 | 1131.2 | 1131.2 |
| | | -21.00 | 1141.4 | 1141.4 | 1141.4 |
| | | -21.50 | 1153.4 | 1153.4 | 1153.4 |
| | | -22.00 | 1167.0 | 1167.0 | 1167.0 |
| | | -22.50 | 1183.4 | 1183.4 | 1183.4 |
| | | -23.00 | 1199.6 | 1199.6 | 1199.6 |
| | | -23.50 | 1215.2 | 1215.2 | 1215.2 |
| | | -24.00 | 1233.4 | 1233.4 | 1233.4 |
| | | -24.50 | 1252.2 | 1252.2 | 1252.2 |
| | | -25.00 | 1271.8 | 1271.8 | 1271.8 |
| | | -25.50 | 1292.3 | 1292.3 | 1292.3 |
| | | -26.00 | 1312.0 | 1312.0 | 1312.0 |
| | | -26.50 | 1330.0 | 1330.0 | 1330.0 |
| | | -27.00 | 1348.4 | 1348.4 | 1348.4 |
| | | -27.50 | 1366.5 | 1366.5 | 1366.5 |
| | | -28.00 | 1385.9 | 1385.9 | 1385.9 |
| | | -28.50 | 1405.9 | 1405.9 | 1405.9 |
| | | -29.00 | 1425.3 | 1425.3 | 1425.3 |
| | | -29.50 | 1445.7 | 1445.7 | 1445.7 |
| | | -30.00 | 1467.3 | 1467.3 | 1467.3 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 251.S01 | -1.05 | -6.00 | 220.6 | 220.6 | 220.6 |
| | | -6.50 | 257.5 | 257.5 | 257.5 |
| | | -7.00 | 299.7 | 299.7 | 299.7 |
| | | -7.50 | 340.2 | 340.2 | 340.2 |
| | | -8.00 | 380.3 | 380.3 | 380.3 |
| | | -8.50 | 410.1 | 410.1 | 410.1 |
| | | -9.00 | 415.9 | 415.9 | 415.9 |
| | | -9.50 | 440.2 | 440.2 | 440.2 |
| | | -10.00 | 474.6 | 474.6 | 474.6 |
| | | -10.50 | 514.6 | 514.6 | 514.6 |
| | | -11.00 | 545.3 | 545.3 | 545.3 |
| | | -11.50 | 564.5 | 564.5 | 564.5 |
| | | -12.00 | 583.7 | 583.7 | 583.7 |
| | | -12.50 | 615.3 | 615.3 | 615.3 |
| | | -13.00 | 652.3 | 652.3 | 652.3 |
| | | -13.50 | 687.2 | 687.2 | 687.2 |
| | | -14.00 | 734.6 | 734.6 | 734.6 |
| | | -14.50 | 781.5 | 781.5 | 781.5 |
| | | -15.00 | 837.2 | 837.2 | 837.2 |
| | | -15.50 | 865.0 | 865.0 | 865.0 |
| | | -16.00 | 910.1 | 910.1 | 910.1 |
| | | -16.50 | 958.5 | 958.5 | 958.5 |
| | | -17.00 | 1006.2 | 1006.2 | 1006.2 |
| | | -17.50 | 1051.6 | 1051.6 | 1051.6 |
| | | -18.00 | 1094.4 | 1094.4 | 1094.4 |
| | | -18.50 | 1147.8 | 1147.8 | 1147.8 |
| | | -19.00 | 1184.7 | 1184.7 | 1184.7 |
| | | -19.50 | 1219.0 | 1219.0 | 1219.0 |
| | | -20.00 | 1256.3 | 1256.3 | 1256.3 |
| | | -20.50 | 1317.1 | 1317.1 | 1317.1 |
| | | -21.00 | 1386.2 | 1386.2 | 1386.2 |
| | | -21.50 | 1415.8 | 1415.8 | 1415.8 |
| | | -22.00 | 1426.1 | 1426.1 | 1426.1 |
| | | -22.50 | 1439.3 | 1439.3 | 1439.3 |
| | | -23.00 | 1459.5 | 1459.5 | 1459.5 |
| | | -23.50 | 1485.4 | 1485.4 | 1485.4 |
| | | -24.00 | 1519.8 | 1519.8 | 1519.8 |
| | | -24.50 | 1551.3 | 1551.3 | 1551.3 |
| | | -25.00 | 1580.1 | 1580.1 | 1580.1 |
| | | -25.50 | 1630.4 | 1630.4 | 1630.4 |
| | | -26.00 | 1703.5 | 1703.5 | 1703.5 |
| | | -26.50 | 1769.3 | 1769.3 | 1769.3 |
| | | -27.00 | 1816.0 | 1816.0 | 1816.0 |
| | | -27.50 | 1862.7 | 1862.7 | 1862.7 |
| | | -28.00 | 1909.3 | 1909.3 | 1909.3 |
| | | -28.50 | 1955.9 | 1955.9 | 1955.9 |
| | | -29.00 | 2002.3 | 2002.3 | 2002.3 |
| | | -29.50 | 2034.4 | 2034.4 | 2034.4 |
| | | -30.00 | 2071.8 | 2071.8 | 2071.8 |
| 19-1008_29 | 0.79 | -6.00 | 330.9 | 330.9 | 330.9 |
| | | -6.50 | 368.6 | 368.6 | 368.6 |
| | | -7.00 | 411.5 | 411.5 | 411.5 |
| | | -7.50 | 455.7 | 455.7 | 455.7 |
| | | -8.00 | 502.5 | 502.5 | 502.5 |
| | | -8.50 | 548.6 | 548.6 | 548.6 |
| | | -9.00 | 588.7 | 588.7 | 588.7 |
| | | -9.50 | 626.1 | 626.1 | 626.1 |
| | | -10.00 | 661.0 | 661.0 | 661.0 |
| | | -10.50 | 701.2 | 701.2 | 701.2 |
| | | -11.00 | 741.0 | 741.0 | 741.0 |
| | | -11.50 | 792.3 | 792.3 | 792.3 |
| | | -12.00 | 818.5 | 818.5 | 818.5 |
| | | -12.50 | 868.6 | 868.6 | 868.6 |
| | | -13.00 | 905.2 | 905.2 | 905.2 |
| | | -13.50 | 924.0 | 924.0 | 924.0 |
| | | -14.00 | 945.9 | 945.9 | 945.9 |
| | | -14.50 | 961.5 | 961.5 | 961.5 |
| | | -15.00 | 975.2 | 975.2 | 975.2 |
| | | -15.50 | 991.2 | 991.2 | 991.2 |
| | | -16.00 | 1026.9 | 1026.9 | 1026.9 |
| | | -16.50 | 1042.2 | 1042.2 | 1042.2 |
| | | -17.00 | 1057.5 | 1057.5 | 1057.5 |
| | | -17.50 | 1079.0 | 1079.0 | 1079.0 |
| | | -18.00 | 1123.2 | 1123.2 | 1123.2 |
| | | -18.50 | 1171.8 | 1171.8 | 1171.8 |
| | | -19.00 | 1220.1 | 1220.1 | 1220.1 |
| | | -19.50 | 1263.0 | 1263.0 | 1263.0 |
| | | -20.00 | 1311.1 | 1311.1 | 1311.1 |
| | | -20.50 | 1359.1 | 1359.1 | 1359.1 |
| | | -21.00 | 1406.9 | 1406.9 | 1406.9 |
| | | -21.50 | 1454.6 | 1454.6 | 1454.6 |
| | | -22.00 | 1502.1 | 1502.1 | 1502.1 |
| | | -22.50 | 1562.0 | 1562.0 | 1562.0 |
| | | -23.00 | 1615.2 | 1615.2 | 1615.2 |
| | | -23.50 | 1651.8 | 1651.8 | 1651.8 |
| | | -24.00 | 1694.0 | 1694.0 | 1694.0 |
| | | -24.50 | 1733.5 | 1733.5 | 1733.5 |
| | | -25.00 | 1779.5 | 1779.5 | 1779.5 |
| | | -25.50 | 1808.7 | 1808.7 | 1808.7 |
| | | -26.00 | 1842.0 | 1842.0 | 1842.0 |
| | | -26.50 | 1873.1 | 1873.1 | 1873.1 |
| | | -27.00 | 1911.9 | 1911.9 | 1911.9 |
| | | -27.50 | 1941.5 | 1941.5 | 1941.5 |
| | | -28.00 | 1970.5 | 1970.5 | 1970.5 |
| | | -28.50 | 1999.2 | 1999.2 | 1999.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_29 | 0.79 | -29.00 | 2030.8 | 2030.8 | 2030.8 |
| | | -29.50 | 2079.0 | 2079.0 | 2079.0 |
| | | -30.00 | 2111.5 | 2111.5 | 2111.5 |
| 283.S02 | 0.17 | -6.00 | 265.5 | 265.5 | 265.5 |
| | | -6.50 | 296.3 | 296.3 | 296.3 |
| | | -7.00 | 333.0 | 333.0 | 333.0 |
| | | -7.50 | 361.9 | 361.9 | 361.9 |
| | | -8.00 | 390.4 | 390.4 | 390.4 |
| | | -8.50 | 424.4 | 424.4 | 424.4 |
| | | -9.00 | 455.8 | 455.8 | 455.8 |
| | | -9.50 | 482.6 | 482.6 | 482.6 |
| | | -10.00 | 512.4 | 512.4 | 512.4 |
| | | -10.50 | 541.2 | 541.2 | 541.2 |
| | | -11.00 | 569.3 | 569.3 | 569.3 |
| | | -11.50 | 599.4 | 599.4 | 599.4 |
| | | -12.00 | 619.2 | 619.2 | 619.2 |
| | | -12.50 | 652.4 | 652.4 | 652.4 |
| | | -13.00 | 689.0 | 689.0 | 689.0 |
| | | -13.50 | 729.5 | 729.5 | 729.5 |
| | | -14.00 | 776.8 | 776.8 | 776.8 |
| | | -14.50 | 823.7 | 823.7 | 823.7 |
| | | -15.00 | 865.7 | 865.7 | 865.7 |
| | | -15.50 | 901.7 | 901.7 | 901.7 |
| | | -16.00 | 940.8 | 940.8 | 940.8 |
| | | -16.50 | 984.2 | 984.2 | 984.2 |
| | | -17.00 | 1030.3 | 1030.3 | 1030.3 |
| | | -17.50 | 1078.3 | 1078.3 | 1078.3 |
| | | -18.00 | 1126.1 | 1126.1 | 1126.1 |
| | | -18.50 | 1173.7 | 1173.7 | 1173.7 |
| | | -19.00 | 1221.1 | 1221.1 | 1221.1 |
| | | -19.50 | 1268.4 | 1268.4 | 1268.4 |
| | | -20.00 | 1315.5 | 1315.5 | 1315.5 |
| | | -20.50 | 1360.5 | 1360.5 | 1360.5 |
| | | -21.00 | 1407.3 | 1407.3 | 1407.3 |
| | | -21.50 | 1454.0 | 1454.0 | 1454.0 |
| | | -22.00 | 1500.5 | 1500.5 | 1500.5 |
| | | -22.50 | 1546.9 | 1546.9 | 1546.9 |
| | | -23.00 | 1593.3 | 1593.3 | 1593.3 |
| | | -23.50 | 1639.5 | 1639.5 | 1639.5 |
| | | -24.00 | 1685.6 | 1685.6 | 1685.6 |
| | | -24.50 | 1731.6 | 1731.6 | 1731.6 |
| | | -25.00 | 1777.5 | 1777.5 | 1777.5 |
| | | -25.50 | 1823.3 | 1823.3 | 1823.3 |
| | | -26.00 | 1869.1 | 1869.1 | 1869.1 |
| | | -26.50 | 1925.4 | 1925.4 | 1925.4 |
| | | -27.00 | 1948.5 | 1948.5 | 1948.5 |
| | | -27.50 | 1970.5 | 1970.5 | 1970.5 |
| | | -28.00 | 1997.8 | 1997.8 | 1997.8 |
| | | -28.50 | 2031.9 | 2031.9 | 2031.9 |
| | | -29.00 | 2056.7 | 2056.7 | 2056.7 |
| | | -29.50 | 2078.7 | 2078.7 | 2078.7 |
| | | -30.00 | 2099.2 | 2099.2 | 2099.2 |
| 19-1008_35 | 0.92 | -6.00 | 293.2 | 293.2 | 293.2 |
| | | -6.50 | 316.9 | 316.9 | 316.9 |
| | | -7.00 | 336.6 | 336.6 | 336.6 |
| | | -7.50 | 356.7 | 356.7 | 356.7 |
| | | -8.00 | 383.9 | 383.9 | 383.9 |
| | | -8.50 | 411.3 | 411.3 | 411.3 |
| | | -9.00 | 432.6 | 432.6 | 432.6 |
| | | -9.50 | 454.0 | 454.0 | 454.0 |
| | | -10.00 | 479.5 | 479.5 | 479.5 |
| | | -10.50 | 503.4 | 503.4 | 503.4 |
| | | -11.00 | 543.3 | 543.3 | 543.3 |
| | | -11.50 | 577.3 | 577.3 | 577.3 |
| | | -12.00 | 601.2 | 601.2 | 601.2 |
| | | -12.50 | 622.1 | 622.1 | 622.1 |
| | | -13.00 | 649.5 | 649.5 | 649.5 |
| | | -13.50 | 681.4 | 681.4 | 681.4 |
| | | -14.00 | 714.5 | 714.5 | 714.5 |
| | | -14.50 | 754.6 | 754.6 | 754.6 |
| | | -15.00 | 794.6 | 794.6 | 794.6 |
| | | -15.50 | 834.9 | 834.9 | 834.9 |
| | | -16.00 | 876.0 | 876.0 | 876.0 |
| | | -16.50 | 917.0 | 917.0 | 917.0 |
| | | -17.00 | 952.4 | 952.4 | 952.4 |
| | | -17.50 | 982.5 | 982.5 | 982.5 |
| | | -18.00 | 1022.1 | 1022.1 | 1022.1 |
| | | -18.50 | 1057.9 | 1057.9 | 1057.9 |
| | | -19.00 | 1097.8 | 1097.8 | 1097.8 |
| | | -19.50 | 1137.3 | 1137.3 | 1137.3 |
| | | -20.00 | 1177.8 | 1177.8 | 1177.8 |
| | | -20.50 | 1227.0 | 1227.0 | 1227.0 |
| | | -21.00 | 1275.9 | 1275.9 | 1275.9 |
| | | -21.50 | 1324.6 | 1324.6 | 1324.6 |
| | | -22.00 | 1372.1 | 1372.1 | 1372.1 |
| | | -22.50 | 1420.4 | 1420.4 | 1420.4 |
| | | -23.00 | 1468.6 | 1468.6 | 1468.6 |
| | | -23.50 | 1516.6 | 1516.6 | 1516.6 |
| | | -24.00 | 1564.5 | 1564.5 | 1564.5 |
| | | -24.50 | 1611.4 | 1611.4 | 1611.4 |
| | | -25.00 | 1656.5 | 1656.5 | 1656.5 |
| | | -25.50 | 1713.2 | 1713.2 | 1713.2 |
| | | -26.00 | 1772.7 | 1772.7 | 1772.7 |
| | | -26.50 | 1814.2 | 1814.2 | 1814.2 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_35 | 0.92 | -27.00 | 1861.3 | 1861.3 | 1861.3 |
| | | -27.50 | 1908.2 | 1908.2 | 1908.2 |
| | | -28.00 | 1955.1 | 1955.1 | 1955.1 |
| | | -28.50 | 2001.8 | 2001.8 | 2001.8 |
| | | -29.00 | 2048.5 | 2048.5 | 2048.5 |
| | | -29.50 | 2095.1 | 2095.1 | 2095.1 |
| | | -30.00 | 2141.6 | 2141.6 | 2141.6 |
| 312.S03 | 3.78 | -6.00 | 355.3 | 355.3 | 355.3 |
| | | -6.50 | 396.5 | 396.5 | 396.5 |
| | | -7.00 | 446.5 | 446.5 | 446.5 |
| | | -7.50 | 479.9 | 479.9 | 479.9 |
| | | -8.00 | 514.0 | 514.0 | 514.0 |
| | | -8.50 | 566.1 | 566.1 | 566.1 |
| | | -9.00 | 617.7 | 617.7 | 617.7 |
| | | -9.50 | 668.9 | 668.9 | 668.9 |
| | | -10.00 | 719.6 | 719.6 | 719.6 |
| | | -10.50 | 769.8 | 769.8 | 769.8 |
| | | -11.00 | 817.3 | 817.3 | 817.3 |
| | | -11.50 | 867.0 | 867.0 | 867.0 |
| | | -12.00 | 916.5 | 916.5 | 916.5 |
| | | -12.50 | 965.7 | 965.7 | 965.7 |
| | | -13.00 | 1013.3 | 1013.3 | 1013.3 |
| | | -13.50 | 1048.5 | 1048.5 | 1048.5 |
| | | -14.00 | 1087.8 | 1087.8 | 1087.8 |
| | | -14.50 | 1127.0 | 1127.0 | 1127.0 |
| | | -15.00 | 1164.9 | 1164.9 | 1164.9 |
| | | -15.50 | 1204.0 | 1204.0 | 1204.0 |
| | | -16.00 | 1242.0 | 1242.0 | 1242.0 |
| | | -16.50 | 1280.9 | 1280.9 | 1280.9 |
| | | -17.00 | 1317.0 | 1317.0 | 1317.0 |
| | | -17.50 | 1345.6 | 1345.6 | 1345.6 |
| | | -18.00 | 1376.1 | 1376.1 | 1376.1 |
| | | -18.50 | 1414.0 | 1414.0 | 1414.0 |
| | | -19.00 | 1454.0 | 1454.0 | 1454.0 |
| | | -19.50 | 1495.1 | 1495.1 | 1495.1 |
| | | -20.00 | 1534.8 | 1534.8 | 1534.8 |
| | | -20.50 | 1575.5 | 1575.5 | 1575.5 |
| | | -21.00 | 1613.6 | 1613.6 | 1613.6 |
| | | -21.50 | 1649.1 | 1649.1 | 1649.1 |
| | | -22.00 | 1689.0 | 1689.0 | 1689.0 |
| | | -22.50 | 1735.5 | 1735.5 | 1735.5 |
| | | -23.00 | 1782.1 | 1782.1 | 1782.1 |
| | | -23.50 | 1827.3 | 1827.3 | 1827.3 |
| | | -24.00 | 1868.9 | 1868.9 | 1868.9 |
| | | -24.50 | 1916.1 | 1916.1 | 1916.1 |
| | | -25.00 | 1963.1 | 1963.1 | 1963.1 |
| | | -25.50 | 2007.4 | 2007.4 | 2007.4 |
| | | -26.00 | 2047.0 | 2047.0 | 2047.0 |
| | | -26.50 | 2092.9 | 2092.9 | 2092.9 |
| | | -27.00 | 2138.7 | 2138.7 | 2138.7 |
| | | -27.50 | 2169.9 | 2169.9 | 2169.9 |
| | | -28.00 | 2196.0 | 2196.0 | 2196.0 |
| | | -28.50 | 2216.4 | 2216.4 | 2216.4 |
| | | -29.00 | 2236.4 | 2236.4 | 2236.4 |
| | | -29.50 | 2259.5 | 2259.5 | 2259.5 |
| | | -30.00 | 2290.4 | 2290.4 | 2290.4 |
| 19-1008_43 | 9.88 | -6.00 | 283.7 | 283.7 | 283.7 |
| | | -6.50 | 308.1 | 308.1 | 308.1 |
| | | -7.00 | 353.0 | 353.0 | 353.0 |
| | | -7.50 | 395.9 | 395.9 | 395.9 |
| | | -8.00 | 440.2 | 440.2 | 440.2 |
| | | -8.50 | 481.4 | 481.4 | 481.4 |
| | | -9.00 | 523.3 | 523.3 | 523.3 |
| | | -9.50 | 566.0 | 566.0 | 566.0 |
| | | -10.00 | 604.9 | 604.9 | 604.9 |
| | | -10.50 | 651.3 | 651.3 | 651.3 |
| | | -11.00 | 706.2 | 706.2 | 706.2 |
| | | -11.50 | 760.8 | 760.8 | 760.8 |
| | | -12.00 | 815.0 | 815.0 | 815.0 |
| | | -12.50 | 868.6 | 868.6 | 868.6 |
| | | -13.00 | 908.6 | 908.6 | 908.6 |
| | | -13.50 | 943.2 | 943.2 | 943.2 |
| | | -14.00 | 983.2 | 983.2 | 983.2 |
| | | -14.50 | 1026.1 | 1026.1 | 1026.1 |
| | | -15.00 | 1063.7 | 1063.7 | 1063.7 |
| | | -15.50 | 1110.0 | 1110.0 | 1110.0 |
| | | -16.00 | 1160.7 | 1160.7 | 1160.7 |
| | | -16.50 | 1213.0 | 1213.0 | 1213.0 |
| | | -17.00 | 1265.2 | 1265.2 | 1265.2 |
| | | -17.50 | 1315.3 | 1315.3 | 1315.3 |
| | | -18.00 | 1360.6 | 1360.6 | 1360.6 |
| | | -18.50 | 1401.2 | 1401.2 | 1401.2 |
| | | -19.00 | 1445.9 | 1445.9 | 1445.9 |
| | | -19.50 | 1484.7 | 1484.7 | 1484.7 |
| | | -20.00 | 1524.7 | 1524.7 | 1524.7 |
| | | -20.50 | 1574.8 | 1574.8 | 1574.8 |
| | | -21.00 | 1632.9 | 1632.9 | 1632.9 |
| | | -21.50 | 1677.4 | 1677.4 | 1677.4 |
| | | -22.00 | 1723.1 | 1723.1 | 1723.1 |
| | | -22.50 | 1773.6 | 1773.6 | 1773.6 |
| | | -23.00 | 1824.0 | 1824.0 | 1824.0 |
| | | -23.50 | 1874.2 | 1874.2 | 1874.2 |
| | | -24.00 | 1924.3 | 1924.3 | 1924.3 |
| | | -24.50 | 1974.3 | 1974.3 | 1974.3 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_43 | 9.88 | -25.00 | 2016.6 | 2016.6 | 2016.6 |
| 328.S02 | 10.17 | -6.00 | 467.3 | 467.3 | 467.3 |
| | | -6.50 | 512.0 | 512.0 | 512.0 |
| | | -7.00 | 543.1 | 543.1 | 543.1 |
| | | -7.50 | 581.9 | 581.9 | 581.9 |
| | | -8.00 | 624.3 | 624.3 | 624.3 |
| | | -8.50 | 667.6 | 667.6 | 667.6 |
| | | -9.00 | 709.7 | 709.7 | 709.7 |
| | | -9.50 | 745.8 | 745.8 | 745.8 |
| | | -10.00 | 786.4 | 786.4 | 786.4 |
| | | -10.50 | 828.6 | 828.6 | 828.6 |
| | | -11.00 | 876.5 | 876.5 | 876.5 |
| | | -11.50 | 925.5 | 925.5 | 925.5 |
| | | -12.00 | 972.7 | 972.7 | 972.7 |
| | | -12.50 | 1015.3 | 1015.3 | 1015.3 |
| | | -13.00 | 1056.8 | 1056.8 | 1056.8 |
| | | -13.50 | 1098.7 | 1098.7 | 1098.7 |
| | | -14.00 | 1140.8 | 1140.8 | 1140.8 |
| | | -14.50 | 1181.6 | 1181.6 | 1181.6 |
| | | -15.00 | 1223.9 | 1223.9 | 1223.9 |
| | | -15.50 | 1265.5 | 1265.5 | 1265.5 |
| | | -16.00 | 1313.8 | 1313.8 | 1313.8 |
| | | -16.50 | 1357.8 | 1357.8 | 1357.8 |
| | | -17.00 | 1409.1 | 1409.1 | 1409.1 |
| | | -17.50 | 1460.1 | 1460.1 | 1460.1 |
| | | -18.00 | 1523.4 | 1523.4 | 1523.4 |
| | | -18.50 | 1566.0 | 1566.0 | 1566.0 |
| | | -19.00 | 1611.6 | 1611.6 | 1611.6 |
| | | -19.50 | 1660.0 | 1660.0 | 1660.0 |
| | | -20.00 | 1710.3 | 1710.3 | 1710.3 |
| | | -20.50 | 1760.4 | 1760.4 | 1760.4 |
| | | -21.00 | 1810.3 | 1810.3 | 1810.3 |
| | | -21.50 | 1860.2 | 1860.2 | 1860.2 |
| | | -22.00 | 1909.8 | 1909.8 | 1909.8 |
| | | -22.50 | 1959.4 | 1959.4 | 1959.4 |
| | | -23.00 | 2008.8 | 2008.8 | 2008.8 |
| | | -23.50 | 2058.0 | 2058.0 | 2058.0 |
| | | -24.00 | 2107.2 | 2107.2 | 2107.2 |
| | | -24.50 | 2148.9 | 2148.9 | 2148.9 |
| | | -25.00 | 2188.4 | 2188.4 | 2188.4 |
| | | -25.50 | 2227.4 | 2227.4 | 2227.4 |
| | | -26.00 | 2266.8 | 2266.8 | 2266.8 |
| | | -26.50 | 2308.5 | 2308.5 | 2308.5 |
| | | -27.00 | 2357.3 | 2357.3 | 2357.3 |
| | | -27.50 | 2405.9 | 2405.9 | 2405.9 |
| | | -28.00 | 2447.1 | 2447.1 | 2447.1 |
| | | -28.50 | 2483.1 | 2483.1 | 2483.1 |

## REKENGEGEVENS SI Ø610/850 trek

Berekening : Ontwerpend
Rekenmethode : Trekpalen volgens NEN-EN 1997-1, art. 7.6.3
Sondering(en) : 19-1008_1, 19-1008_6, 166.S01, 19-1008_11, 19-1008_12
: 19-1008_17, 19-1008_20, 19-1008_21, 251.S01, 19-1008_29
: 283.S02, 19-1008_35, 312.S03, 19-1008_43, 328.S02
Let op: trekcapaciteit t.p.v. negatief kleeftraject is meegerekend.

Stijf bouwwerk : JA
Paalgroep : JA
Aantal sonderingen : 15
Factor $\xi_{3\ (n=1)}$ : 1.26 (handmatig)
Factor $\xi_{3\ (gem)}$ : 1.26 (handmatig)
Factor $\xi_{4\ (min)}$ : 1.26 (handmatig)
Weerstandsfactor $\gamma_R$ : 1.35
$\gamma_{m;var;qc}$ : 1.25
UGT draagvermogen zonder negatieve kleef : NEE

Paal : SI Ø610/850
Niveau paalkop [m] : N.A.P. 0.00
Opp. paalgebied [m²] : 20.00 Bovenbel. [kN/m²] : 0.00
Rekenen op verdichting: NEE (factor f1 > 1.00)

## PAALPUNTNIVEAUS SI Ø610/850

Alle niveaus/hoogtes/peilmaten zijn t.o.v. : N.A.P.

| Nr | Beginniveau [m] | Eindniveau [m] | Stapgrootte [m] |
|---|---|---|---|
| 1 | -7.00 | -30.00 | 0.50 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_1 | 19-1008_6 | 166.S01 | 19-1008_11 | 19-1008_12 | 19-1008_17 |
|---|---|---|---|---|---|---|
| Niveau | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ |
| [m] | [kN] | [kN] | [kN] | [kN] | [kN] | [kN] |
| -7.00 | 84 | **740** | 491 | 267 | 716 | 157 |
| -7.50 | 90 | **806** | 557 | 290 | 776 | 175 |
| -8.00 | 108 | **872** | 621 | 319 | 835 | 184 |
| -8.50 | 129 | **937** | 685 | 345 | 867 | 195 |
| -9.00 | 137 | **1001** | 747 | 366 | 880 | 212 |
| -9.50 | 170 | **1065** | 808 | 386 | 891 | 226 |
| -10.00 | 199 | **1129** | 870 | 407 | 909 | 280 |
| -10.50 | 233 | **1192** | 931 | 432 | 943 | 307 |
| -11.00 | 257 | **1255** | 992 | 460 | 971 | 352 |
| -11.50 | 296 | **1317** | 1052 | 493 | 978 | 419 |
| -12.00 | 346 | **1379** | 1107 | 535 | 1003 | 486 |
| -12.50 | 380 | **1441** | 1154 | 554 | 1014 | 552 |
| -13.00 | 430 | **1502** | 1198 | 603 | 1023 | 617 |
| -13.50 | 477 | **1563** | 1242 | 658 | 1034 | 681 |
| -14.00 | 519 | **1624** | 1293 | 713 | 1056 | 744 |
| -14.50 | 572 | **1684** | 1351 | 769 | 1085 | 807 |
| -15.00 | 620 | **1744** | 1410 | 824 | 1106 | 864 |
| -15.50 | 672 | **1804** | 1467 | 876 | 1123 | 925 |
| -16.00 | 717 | **1864** | 1525 | 919 | 1149 | 986 |
| -16.50 | 765 | **1924** | 1582 | 970 | 1184 | 1046 |
| -17.00 | 814 | **1983** | 1639 | 1019 | 1213 | 1104 |
| -17.50 | 871 | **2042** | 1696 | 1065 | 1256 | 1175 |
| -18.00 | 933 | **2101** | 1752 | 1121 | 1289 | 1265 |
| -18.50 | 995 | **2155** | 1809 | 1183 | 1363 | 1326 |
| -19.00 | 1057 | **2214** | 1865 | 1245 | 1431 | 1368 |
| -19.50 | 1118 | **2272** | 1921 | 1306 | 1486 | 1414 |
| -20.00 | 1204 | **2330** | 1976 | 1366 | 1529 | 1461 |
| -20.50 | 1300 | **2388** | 2032 | 1426 | 1576 | 1511 |
| -21.00 | 1399 | **2445** | 2087 | 1486 | 1621 | 1561 |
| -21.50 | 1461 | **2503** | 2142 | 1543 | 1674 | 1632 |
| -22.00 | 1518 | **2560** | 2197 | 1602 | 1732 | 1682 |
| -22.50 | 1575 | **2618** | 2252 | 1661 | 1789 | 1738 |
| -23.00 | 1631 | **2675** | 0 | 1715 | 1841 | 1794 |
| -23.50 | 1688 | **2732** | 0 | 1751 | 1892 | 1850 |
| -24.00 | 1744 | 0 | 0 | 1797 | 1945 | 1902 |
| -24.50 | 1801 | 0 | 0 | 1849 | 2002 | 1947 |
| -25.00 | 1857 | 0 | 0 | 1898 | 2059 | 1982 |
| -25.50 | 1913 | 0 | 0 | 1940 | 2148 | 2017 |
| -26.00 | 1968 | 0 | 0 | 1998 | 2248 | 2050 |
| -26.50 | 2024 | 0 | 0 | 2056 | 2306 | 2084 |
| -27.00 | 2079 | 0 | 0 | 2113 | 2360 | 2124 |
| -27.50 | 2135 | 0 | 0 | 2170 | 2422 | 2166 |
| -28.00 | 2190 | 0 | 0 | 2227 | 2467 | 2209 |
| -28.50 | 2245 | 0 | 0 | 2284 | 2510 | 2254 |
| -29.00 | 2300 | 0 | 0 | 2340 | 2565 | 2305 |
| -29.50 | 2355 | 0 | 0 | 2397 | 2620 | 2324 |
| -30.00 | 2410 | 0 | 0 | 2453 | 2674 | 2363 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 19-1008_20 | 19-1008_21 | 251.S01 | 19-1008_29 | 283.S02 | 19-1008_35 |
|---|---|---|---|---|---|---|
| Niveau | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ | $F_{netto;t}$ |
| [m] | [kN] | [kN] | [kN] | [kN] | [kN] | [kN] |
| -7.00 | 204 | 329 | 371 | 504 | 409 | 414 |
| -7.50 | 242 | 382 | 420 | 557 | 444 | 439 |
| -8.00 | 272 | 432 | 469 | 613 | 478 | 472 |
| -8.50 | 301 | 482 | 506 | 668 | 519 | 505 |
| -9.00 | 339 | 508 | 514 | 716 | 557 | 531 |
| -9.50 | 371 | 529 | 544 | 760 | 589 | 557 |
| -10.00 | 409 | 559 | 585 | 802 | 625 | 588 |
| -10.50 | 420 | 586 | 632 | 850 | 659 | 617 |
| -11.00 | 468 | 616 | 669 | 897 | 693 | 665 |
| -11.50 | 518 | 653 | 692 | 960 | 729 | 706 |
| -12.00 | 531 | 694 | 715 | 993 | 753 | 735 |
| -12.50 | 545 | 730 | 753 | 1054 | 793 | 761 |
| -13.00 | 570 | 773 | 797 | 1098 | 837 | 794 |
| -13.50 | 583 | 813 | 839 | 1121 | 885 | 832 |
| -14.00 | 606 | 871 | 895 | 1149 | 941 | 872 |
| -14.50 | 646 | 929 | 951 | 1169 | 997 | 920 |
| -15.00 | 691 | 976 | 1019 | 1186 | 1046 | 968 |
| -15.50 | 718 | 1017 | 1053 | 1206 | 1089 | 1017 |
| -16.00 | 739 | 1090 | 1107 | 1250 | 1135 | 1066 |
| -16.50 | 767 | 1163 | 1164 | 1269 | 1187 | 1115 |
| -17.00 | 786 | 1177 | 1220 | 1289 | 1241 | 1157 |
| -17.50 | 809 | 1193 | 1273 | 1316 | 1298 | 1193 |
| -18.00 | 849 | 1222 | 1323 | 1369 | 1354 | 1240 |
| -18.50 | 896 | 1302 | 1388 | 1426 | 1410 | 1283 |
| -19.00 | 932 | 1357 | 1434 | 1483 | 1466 | 1330 |
| -19.50 | 980 | 1373 | 1476 | 1536 | 1521 | 1377 |
| -20.00 | 1023 | 1386 | 1519 | 1592 | 1576 | 1425 |
| -20.50 | 1076 | 1399 | 1594 | 1649 | 1629 | 1484 |
| -21.00 | 1159 | 1412 | 1680 | 1705 | 1684 | 1541 |
| -21.50 | 1195 | 1427 | 1717 | 1761 | 1738 | 1599 |
| -22.00 | 1220 | 1445 | 1730 | 1816 | 1793 | 1655 |
| -22.50 | 1247 | 1465 | 1747 | 1888 | 1847 | 1712 |
| -23.00 | 1269 | 1486 | 1772 | 1954 | 1901 | 1769 |
| -23.50 | 1304 | 1506 | 1805 | 2000 | 1955 | 1825 |
| -24.00 | 1341 | 1529 | 1848 | 2053 | 2009 | 1882 |
| -24.50 | 1381 | 1552 | 1887 | 2101 | 2062 | 1937 |
| -25.00 | 1428 | 1577 | 1924 | 2158 | 2116 | 1990 |
| -25.50 | 1471 | 1603 | 1986 | 2195 | 2169 | 2058 |
| -26.00 | 1513 | 1628 | 2077 | 2236 | 2223 | 2132 |
| -26.50 | 1552 | 1651 | 2157 | 2275 | 2291 | 2181 |
| -27.00 | 1598 | 1674 | 2212 | 2324 | 2320 | 2236 |
| -27.50 | 1638 | 1697 | 2266 | 2361 | 2347 | 2291 |
| -28.00 | 1675 | 1721 | 2320 | 2397 | 2381 | 2345 |
| -28.50 | 1718 | 1746 | 2374 | 2433 | 2424 | 2400 |
| -29.00 | 1758 | 1771 | 2428 | 2473 | 2455 | 2455 |
| -29.50 | 1790 | 1797 | 2465 | 2533 | 2483 | 2509 |
| -30.00 | 1830 | 1824 | 2509 | 2571 | 2509 | 2563 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## RESULTATEN SI Ø610/850 trek (n=1)

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| Sondering | 312.S03 | 19-1008_43 | 328.S02 |
|---|---|---|---|
| Niveau [m] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] | $F_{netto;t}$ [kN] |
| -7.00 | 550 | 440 | 671 |
| -7.50 | 591 | 493 | 719 |
| -8.00 | 633 | 547 | 770 |
| -8.50 | 696 | 598 | 823 |
| -9.00 | 758 | 649 | 874 |
| -9.50 | 819 | 702 | 918 |
| -10.00 | 879 | 749 | 967 |
| -10.50 | 939 | 806 | 1019 |
| -11.00 | 995 | 873 | 1077 |
| -11.50 | 1054 | 939 | 1136 |
| -12.00 | 1113 | 1005 | 1193 |
| -12.50 | 1171 | 1070 | 1244 |
| -13.00 | 1227 | 1118 | 1294 |
| -13.50 | 1269 | 1160 | 1344 |
| -14.00 | 1315 | 1209 | 1395 |
| -14.50 | 1362 | 1260 | 1444 |
| -15.00 | 1406 | 1306 | 1495 |
| -15.50 | 1453 | 1362 | 1545 |
| -16.00 | 1497 | 1423 | 1605 |
| -16.50 | 1543 | 1486 | 1658 |
| -17.00 | 1586 | 1548 | 1720 |
| -17.50 | 1620 | 1608 | 1781 |
| -18.00 | 1656 | 1663 | 1858 |
| -18.50 | 1701 | 1712 | 1910 |
| -19.00 | 1748 | 1767 | 1965 |
| -19.50 | 1797 | 1815 | 2022 |
| -20.00 | 1843 | 1865 | 2082 |
| -20.50 | 1893 | 1927 | 2142 |
| -21.00 | 1938 | 2000 | 2201 |
| -21.50 | 1980 | 2054 | 2260 |
| -22.00 | 2027 | 2109 | 2319 |
| -22.50 | 2082 | 2169 | 2377 |
| -23.00 | 2136 | 2229 | 2436 |
| -23.50 | 2189 | 2288 | 2494 |
| -24.00 | 2238 | 2348 | **2552** |
| -24.50 | 2294 | 2407 | **2602** |
| -25.00 | 2349 | 2457 | **2648** |
| -25.50 | 2400 | 0 | **2694** |
| -26.00 | 2447 | 0 | **2741** |
| -26.50 | 2501 | 0 | **2790** |
| -27.00 | 2554 | 0 | **2848** |
| -27.50 | 2593 | 0 | **2905** |
| -28.00 | 2626 | 0 | **2954** |
| -28.50 | 2651 | 0 | **2997** |
| -29.00 | **2677** | 0 | 0 |
| -29.50 | **2706** | 0 | 0 |
| -30.00 | **2744** | 0 | 0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## SAMENVATTINGSTABEL SI Ø610/850 trek (n=1)

**Uitgangspunten**
- paal : SI Ø610/850
- paaltype : In de grond gevormde geschroefde paal; groutinjectie
- schachtafmeting : 730 mm

Paalklassefactor $\alpha_p$ : 0.63
Factor $\alpha_c$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Correlatiefactor $\xi_{3(n=1)}$ : 1.26

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_1 | 2.12 | -7.00 | 84.2 | 84.2 | 84.2 |
| | | -7.50 | 89.7 | 89.7 | 89.7 |
| | | -8.00 | 108.3 | 108.3 | 108.3 |
| | | -8.50 | 129.0 | 129.0 | 129.0 |
| | | -9.00 | 136.9 | 136.9 | 136.9 |
| | | -9.50 | 169.5 | 169.5 | 169.5 |
| | | -10.00 | 198.8 | 198.8 | 198.8 |
| | | -10.50 | 232.7 | 232.7 | 232.7 |
| | | -11.00 | 256.5 | 256.5 | 256.5 |
| | | -11.50 | 296.0 | 296.0 | 296.0 |
| | | -12.00 | 346.2 | 346.2 | 346.2 |
| | | -12.50 | 380.3 | 380.3 | 380.3 |
| | | -13.00 | 429.7 | 429.7 | 429.7 |
| | | -13.50 | 477.4 | 477.4 | 477.4 |
| | | -14.00 | 518.5 | 518.5 | 518.5 |
| | | -14.50 | 571.5 | 571.5 | 571.5 |
| | | -15.00 | 620.0 | 620.0 | 620.0 |
| | | -15.50 | 672.0 | 672.0 | 672.0 |
| | | -16.00 | 716.6 | 716.6 | 716.6 |
| | | -16.50 | 765.2 | 765.2 | 765.2 |
| | | -17.00 | 814.2 | 814.2 | 814.2 |
| | | -17.50 | 870.7 | 870.7 | 870.7 |
| | | -18.00 | 933.3 | 933.3 | 933.3 |
| | | -18.50 | 995.3 | 995.3 | 995.3 |
| | | -19.00 | 1056.8 | 1056.8 | 1056.8 |
| | | -19.50 | 1117.8 | 1117.8 | 1117.8 |
| | | -20.00 | 1203.7 | 1203.7 | 1203.7 |
| | | -20.50 | 1299.7 | 1299.7 | 1299.7 |
| | | -21.00 | 1399.2 | 1399.2 | 1399.2 |
| | | -21.50 | 1460.5 | 1460.5 | 1460.5 |
| | | -22.00 | 1517.7 | 1517.7 | 1517.7 |
| | | -22.50 | 1574.7 | 1574.7 | 1574.7 |
| | | -23.00 | 1631.4 | 1631.4 | 1631.4 |
| | | -23.50 | 1688.0 | 1688.0 | 1688.0 |
| | | -24.00 | 1744.4 | 1744.4 | 1744.4 |
| | | -24.50 | 1800.6 | 1800.6 | 1800.6 |
| | | -25.00 | 1856.6 | 1856.6 | 1856.6 |
| | | -25.50 | 1912.5 | 1912.5 | 1912.5 |
| | | -26.00 | 1968.2 | 1968.2 | 1968.2 |
| | | -26.50 | 2023.9 | 2023.9 | 2023.9 |
| | | -27.00 | 2079.3 | 2079.3 | 2079.3 |
| | | -27.50 | 2134.7 | 2134.7 | 2134.7 |
| | | -28.00 | 2189.9 | 2189.9 | 2189.9 |
| | | -28.50 | 2245.1 | 2245.1 | 2245.1 |
| | | -29.00 | 2300.1 | 2300.1 | 2300.1 |
| | | -29.50 | 2355.0 | 2355.0 | 2355.0 |
| | | -30.00 | 2409.8 | 2409.8 | 2409.8 |
| 19-1008_6 | 11.00 | -7.00 | 740.0 | 740.0 | 740.0 |
| | | -7.50 | 806.2 | 806.2 | 806.2 |
| | | -8.00 | 871.8 | 871.8 | 871.8 |
| | | -8.50 | 936.8 | 936.8 | 936.8 |
| | | -9.00 | 1001.4 | 1001.4 | 1001.4 |
| | | -9.50 | 1065.5 | 1065.5 | 1065.5 |
| | | -10.00 | 1129.1 | 1129.1 | 1129.1 |
| | | -10.50 | 1192.3 | 1192.3 | 1192.3 |
| | | -11.00 | 1255.0 | 1255.0 | 1255.0 |
| | | -11.50 | 1317.4 | 1317.4 | 1317.4 |
| | | -12.00 | 1379.4 | 1379.4 | 1379.4 |
| | | -12.50 | 1441.0 | 1441.0 | 1441.0 |
| | | -13.00 | 1502.3 | 1502.3 | 1502.3 |
| | | -13.50 | 1563.2 | 1563.2 | 1563.2 |
| | | -14.00 | 1623.9 | 1623.9 | 1623.9 |
| | | -14.50 | 1684.3 | 1684.3 | 1684.3 |
| | | -15.00 | 1744.5 | 1744.5 | 1744.5 |
| | | -15.50 | 1804.4 | 1804.4 | 1804.4 |
| | | -16.00 | 1864.1 | 1864.1 | 1864.1 |
| | | -16.50 | 1923.5 | 1923.5 | 1923.5 |
| | | -17.00 | 1982.8 | 1982.8 | 1982.8 |
| | | -17.50 | 2041.8 | 2041.8 | 2041.8 |
| | | -18.00 | 2100.5 | 2100.5 | 2100.5 |
| | | -18.50 | 2155.3 | 2155.3 | 2155.3 |
| | | -19.00 | 2213.7 | 2213.7 | 2213.7 |
| | | -19.50 | 2271.9 | 2271.9 | 2271.9 |
| | | -20.00 | 2329.9 | 2329.9 | 2329.9 |
| | | -20.50 | 2387.7 | 2387.7 | 2387.7 |
| | | -21.00 | 2445.5 | 2445.5 | 2445.5 |
| | | -21.50 | 2503.0 | 2503.0 | 2503.0 |
| | | -22.00 | 2560.4 | 2560.4 | 2560.4 |
| | | -22.50 | 2617.7 | 2617.7 | 2617.7 |
| | | -23.00 | 2674.9 | 2674.9 | 2674.9 |
| | | -23.50 | 2731.9 | 2731.9 | 2731.9 |
| 166.S01 | 3.45 | -7.00 | 491.5 | 491.5 | 491.5 |
| | | -7.50 | 556.9 | 556.9 | 556.9 |
| | | -8.00 | 621.4 | 621.4 | 621.4 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 166.S01 | 3.45 | -8.50 | 684.7 | 684.7 | 684.7 |
| | | -9.00 | 747.1 | 747.1 | 747.1 |
| | | -9.50 | 808.1 | 808.1 | 808.1 |
| | | -10.00 | 869.9 | 869.9 | 869.9 |
| | | -10.50 | 931.0 | 931.0 | 931.0 |
| | | -11.00 | 991.6 | 991.6 | 991.6 |
| | | -11.50 | 1051.8 | 1051.8 | 1051.8 |
| | | -12.00 | 1107.4 | 1107.4 | 1107.4 |
| | | -12.50 | 1154.2 | 1154.2 | 1154.2 |
| | | -13.00 | 1198.2 | 1198.2 | 1198.2 |
| | | -13.50 | 1242.4 | 1242.4 | 1242.4 |
| | | -14.00 | 1293.2 | 1293.2 | 1293.2 |
| | | -14.50 | 1351.4 | 1351.4 | 1351.4 |
| | | -15.00 | 1409.5 | 1409.5 | 1409.5 |
| | | -15.50 | 1467.4 | 1467.4 | 1467.4 |
| | | -16.00 | 1524.9 | 1524.9 | 1524.9 |
| | | -16.50 | 1582.2 | 1582.2 | 1582.2 |
| | | -17.00 | 1639.1 | 1639.1 | 1639.1 |
| | | -17.50 | 1695.9 | 1695.9 | 1695.9 |
| | | -18.00 | 1752.4 | 1752.4 | 1752.4 |
| | | -18.50 | 1808.7 | 1808.7 | 1808.7 |
| | | -19.00 | 1864.7 | 1864.7 | 1864.7 |
| | | -19.50 | 1920.6 | 1920.6 | 1920.6 |
| | | -20.00 | 1976.2 | 1976.2 | 1976.2 |
| | | -20.50 | 2031.7 | 2031.7 | 2031.7 |
| | | -21.00 | 2087.0 | 2087.0 | 2087.0 |
| | | -21.50 | 2142.2 | 2142.2 | 2142.2 |
| | | -22.00 | 2197.2 | 2197.2 | 2197.2 |
| | | -22.50 | 2252.1 | 2252.1 | 2252.1 |
| 19-1008_11 | 0.62 | -7.00 | 267.4 | 267.4 | 267.4 |
| | | -7.50 | 289.5 | 289.5 | 289.5 |
| | | -8.00 | 318.5 | 318.5 | 318.5 |
| | | -8.50 | 345.0 | 345.0 | 345.0 |
| | | -9.00 | 366.1 | 366.1 | 366.1 |
| | | -9.50 | 386.3 | 386.3 | 386.3 |
| | | -10.00 | 407.1 | 407.1 | 407.1 |
| | | -10.50 | 431.5 | 431.5 | 431.5 |
| | | -11.00 | 459.6 | 459.6 | 459.6 |
| | | -11.50 | 492.7 | 492.7 | 492.7 |
| | | -12.00 | 535.4 | 535.4 | 535.4 |
| | | -12.50 | 554.1 | 554.1 | 554.1 |
| | | -13.00 | 602.9 | 602.9 | 602.9 |
| | | -13.50 | 657.8 | 657.8 | 657.8 |
| | | -14.00 | 713.3 | 713.3 | 713.3 |
| | | -14.50 | 768.9 | 768.9 | 768.9 |
| | | -15.00 | 824.1 | 824.1 | 824.1 |
| | | -15.50 | 875.7 | 875.7 | 875.7 |
| | | -16.00 | 919.3 | 919.3 | 919.3 |
| | | -16.50 | 969.9 | 969.9 | 969.9 |
| | | -17.00 | 1018.6 | 1018.6 | 1018.6 |
| | | -17.50 | 1064.5 | 1064.5 | 1064.5 |
| | | -18.00 | 1121.3 | 1121.3 | 1121.3 |
| | | -18.50 | 1183.2 | 1183.2 | 1183.2 |
| | | -19.00 | 1244.6 | 1244.6 | 1244.6 |
| | | -19.50 | 1305.6 | 1305.6 | 1305.6 |
| | | -20.00 | 1366.2 | 1366.2 | 1366.2 |
| | | -20.50 | 1426.4 | 1426.4 | 1426.4 |
| | | -21.00 | 1486.3 | 1486.3 | 1486.3 |
| | | -21.50 | 1542.7 | 1542.7 | 1542.7 |
| | | -22.00 | 1602.0 | 1602.0 | 1602.0 |
| | | -22.50 | 1660.9 | 1660.9 | 1660.9 |
| | | -23.00 | 1714.8 | 1714.8 | 1714.8 |
| | | -23.50 | 1751.1 | 1751.1 | 1751.1 |
| | | -24.00 | 1797.1 | 1797.1 | 1797.1 |
| | | -24.50 | 1848.7 | 1848.7 | 1848.7 |
| | | -25.00 | 1897.9 | 1897.9 | 1897.9 |
| | | -25.50 | 1939.6 | 1939.6 | 1939.6 |
| | | -26.00 | 1998.1 | 1998.1 | 1998.1 |
| | | -26.50 | 2055.6 | 2055.6 | 2055.6 |
| | | -27.00 | 2112.9 | 2112.9 | 2112.9 |
| | | -27.50 | 2170.0 | 2170.0 | 2170.0 |
| | | -28.00 | 2227.0 | 2227.0 | 2227.0 |
| | | -28.50 | 2283.7 | 2283.7 | 2283.7 |
| | | -29.00 | 2340.3 | 2340.3 | 2340.3 |
| | | -29.50 | 2396.7 | 2396.7 | 2396.7 |
| | | -30.00 | 2452.9 | 2452.9 | 2452.9 |
| 19-1008_12 | 3.57 | -7.00 | 716.5 | 716.5 | 716.5 |
| | | -7.50 | 776.4 | 776.4 | 776.4 |
| | | -8.00 | 835.4 | 835.4 | 835.4 |
| | | -8.50 | 866.9 | 866.9 | 866.9 |
| | | -9.00 | 880.2 | 880.2 | 880.2 |
| | | -9.50 | 890.6 | 890.6 | 890.6 |
| | | -10.00 | 908.8 | 908.8 | 908.8 |
| | | -10.50 | 943.4 | 943.4 | 943.4 |
| | | -11.00 | 970.5 | 970.5 | 970.5 |
| | | -11.50 | 977.9 | 977.9 | 977.9 |
| | | -12.00 | 1003.4 | 1003.4 | 1003.4 |
| | | -12.50 | 1014.3 | 1014.3 | 1014.3 |
| | | -13.00 | 1023.3 | 1023.3 | 1023.3 |
| | | -13.50 | 1034.0 | 1034.0 | 1034.0 |
| | | -14.00 | 1056.4 | 1056.4 | 1056.4 |
| | | -14.50 | 1085.1 | 1085.1 | 1085.1 |
| | | -15.00 | 1105.8 | 1105.8 | 1105.8 |
| | | -15.50 | 1122.8 | 1122.8 | 1122.8 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_12 | 3.57 | -16.00 | 1148.9 | 1148.9 | 1148.9 |
| | | -16.50 | 1183.7 | 1183.7 | 1183.7 |
| | | -17.00 | 1213.1 | 1213.1 | 1213.1 |
| | | -17.50 | 1255.6 | 1255.6 | 1255.6 |
| | | -18.00 | 1289.1 | 1289.1 | 1289.1 |
| | | -18.50 | 1363.3 | 1363.3 | 1363.3 |
| | | -19.00 | 1431.3 | 1431.3 | 1431.3 |
| | | -19.50 | 1486.2 | 1486.2 | 1486.2 |
| | | -20.00 | 1528.8 | 1528.8 | 1528.8 |
| | | -20.50 | 1576.3 | 1576.3 | 1576.3 |
| | | -21.00 | 1620.8 | 1620.8 | 1620.8 |
| | | -21.50 | 1674.3 | 1674.3 | 1674.3 |
| | | -22.00 | 1731.8 | 1731.8 | 1731.8 |
| | | -22.50 | 1788.9 | 1788.9 | 1788.9 |
| | | -23.00 | 1841.3 | 1841.3 | 1841.3 |
| | | -23.50 | 1891.7 | 1891.7 | 1891.7 |
| | | -24.00 | 1945.1 | 1945.1 | 1945.1 |
| | | -24.50 | 2002.4 | 2002.4 | 2002.4 |
| | | -25.00 | 2059.4 | 2059.4 | 2059.4 |
| | | -25.50 | 2148.4 | 2148.4 | 2148.4 |
| | | -26.00 | 2247.5 | 2247.5 | 2247.5 |
| | | -26.50 | 2305.7 | 2305.7 | 2305.7 |
| | | -27.00 | 2360.1 | 2360.1 | 2360.1 |
| | | -27.50 | 2422.2 | 2422.2 | 2422.2 |
| | | -28.00 | 2467.5 | 2467.5 | 2467.5 |
| | | -28.50 | 2510.1 | 2510.1 | 2510.1 |
| | | -29.00 | 2565.1 | 2565.1 | 2565.1 |
| | | -29.50 | 2620.1 | 2620.1 | 2620.1 |
| | | -30.00 | 2673.9 | 2673.9 | 2673.9 |
| 19-1008_17 | 0.20 | -7.00 | 156.6 | 156.6 | 156.6 |
| | | -7.50 | 175.2 | 175.2 | 175.2 |
| | | -8.00 | 184.2 | 184.2 | 184.2 |
| | | -8.50 | 194.7 | 194.7 | 194.7 |
| | | -9.00 | 212.5 | 212.5 | 212.5 |
| | | -9.50 | 226.4 | 226.4 | 226.4 |
| | | -10.00 | 279.5 | 279.5 | 279.5 |
| | | -10.50 | 307.2 | 307.2 | 307.2 |
| | | -11.00 | 351.6 | 351.6 | 351.6 |
| | | -11.50 | 419.5 | 419.5 | 419.5 |
| | | -12.00 | 486.2 | 486.2 | 486.2 |
| | | -12.50 | 552.0 | 552.0 | 552.0 |
| | | -13.00 | 616.9 | 616.9 | 616.9 |
| | | -13.50 | 681.0 | 681.0 | 681.0 |
| | | -14.00 | 744.2 | 744.2 | 744.2 |
| | | -14.50 | 806.7 | 806.7 | 806.7 |
| | | -15.00 | 864.1 | 864.1 | 864.1 |
| | | -15.50 | 925.4 | 925.4 | 925.4 |
| | | -16.00 | 986.1 | 986.1 | 986.1 |
| | | -16.50 | 1046.3 | 1046.3 | 1046.3 |
| | | -17.00 | 1103.7 | 1103.7 | 1103.7 |
| | | -17.50 | 1174.7 | 1174.7 | 1174.7 |
| | | -18.00 | 1264.6 | 1264.6 | 1264.6 |
| | | -18.50 | 1325.6 | 1325.6 | 1325.6 |
| | | -19.00 | 1367.5 | 1367.5 | 1367.5 |
| | | -19.50 | 1414.1 | 1414.1 | 1414.1 |
| | | -20.00 | 1461.1 | 1461.1 | 1461.1 |
| | | -20.50 | 1510.5 | 1510.5 | 1510.5 |
| | | -21.00 | 1561.3 | 1561.3 | 1561.3 |
| | | -21.50 | 1632.2 | 1632.2 | 1632.2 |
| | | -22.00 | 1681.8 | 1681.8 | 1681.8 |
| | | -22.50 | 1738.1 | 1738.1 | 1738.1 |
| | | -23.00 | 1794.1 | 1794.1 | 1794.1 |
| | | -23.50 | 1850.0 | 1850.0 | 1850.0 |
| | | -24.00 | 1901.8 | 1901.8 | 1901.8 |
| | | -24.50 | 1946.7 | 1946.7 | 1946.7 |
| | | -25.00 | 1982.2 | 1982.2 | 1982.2 |
| | | -25.50 | 2016.7 | 2016.7 | 2016.7 |
| | | -26.00 | 2050.5 | 2050.5 | 2050.5 |
| | | -26.50 | 2084.2 | 2084.2 | 2084.2 |
| | | -27.00 | 2123.7 | 2123.7 | 2123.7 |
| | | -27.50 | 2165.9 | 2165.9 | 2165.9 |
| | | -28.00 | 2208.9 | 2208.9 | 2208.9 |
| | | -28.50 | 2253.8 | 2253.8 | 2253.8 |
| | | -29.00 | 2304.7 | 2304.7 | 2304.7 |
| | | -29.50 | 2324.4 | 2324.4 | 2324.4 |
| | | -30.00 | 2363.4 | 2363.4 | 2363.4 |
| 19-1008_20 | -0.03 | -7.00 | 204.2 | 204.2 | 204.2 |
| | | -7.50 | 242.1 | 242.1 | 242.1 |
| | | -8.00 | 271.8 | 271.8 | 271.8 |
| | | -8.50 | 300.6 | 300.6 | 300.6 |
| | | -9.00 | 339.3 | 339.3 | 339.3 |
| | | -9.50 | 370.9 | 370.9 | 370.9 |
| | | -10.00 | 408.7 | 408.7 | 408.7 |
| | | -10.50 | 420.3 | 420.3 | 420.3 |
| | | -11.00 | 467.7 | 467.7 | 467.7 |
| | | -11.50 | 517.7 | 517.7 | 517.7 |
| | | -12.00 | 530.6 | 530.6 | 530.6 |
| | | -12.50 | 545.0 | 545.0 | 545.0 |
| | | -13.00 | 570.4 | 570.4 | 570.4 |
| | | -13.50 | 583.2 | 583.2 | 583.2 |
| | | -14.00 | 606.0 | 606.0 | 606.0 |
| | | -14.50 | 646.0 | 646.0 | 646.0 |
| | | -15.00 | 691.5 | 691.5 | 691.5 |
| | | -15.50 | 718.0 | 718.0 | 718.0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 19-1008_20 | -0.03 | -16.00 | 738.6 | 738.6 | 738.6 |
| | | -16.50 | 766.7 | 766.7 | 766.7 |
| | | -17.00 | 785.8 | 785.8 | 785.8 |
| | | -17.50 | 808.6 | 808.6 | 808.6 |
| | | -18.00 | 849.3 | 849.3 | 849.3 |
| | | -18.50 | 896.4 | 896.4 | 896.4 |
| | | -19.00 | 932.3 | 932.3 | 932.3 |
| | | -19.50 | 979.8 | 979.8 | 979.8 |
| | | -20.00 | 1023.1 | 1023.1 | 1023.1 |
| | | -20.50 | 1075.8 | 1075.8 | 1075.8 |
| | | -21.00 | 1158.5 | 1158.5 | 1158.5 |
| | | -21.50 | 1194.9 | 1194.9 | 1194.9 |
| | | -22.00 | 1219.8 | 1219.8 | 1219.8 |
| | | -22.50 | 1246.7 | 1246.7 | 1246.7 |
| | | -23.00 | 1268.8 | 1268.8 | 1268.8 |
| | | -23.50 | 1304.0 | 1304.0 | 1304.0 |
| | | -24.00 | 1341.5 | 1341.5 | 1341.5 |
| | | -24.50 | 1380.6 | 1380.6 | 1380.6 |
| | | -25.00 | 1428.1 | 1428.1 | 1428.1 |
| | | -25.50 | 1471.2 | 1471.2 | 1471.2 |
| | | -26.00 | 1513.4 | 1513.4 | 1513.4 |
| | | -26.50 | 1551.6 | 1551.6 | 1551.6 |
| | | -27.00 | 1597.8 | 1597.8 | 1597.8 |
| | | -27.50 | 1638.4 | 1638.4 | 1638.4 |
| | | -28.00 | 1675.3 | 1675.3 | 1675.3 |
| | | -28.50 | 1718.0 | 1718.0 | 1718.0 |
| | | -29.00 | 1757.7 | 1757.7 | 1757.7 |
| | | -29.50 | 1790.1 | 1790.1 | 1790.1 |
| | | -30.00 | 1830.2 | 1830.2 | 1830.2 |
| 19-1008_21 | 1.78 | -7.00 | 329.1 | 329.1 | 329.1 |
| | | -7.50 | 382.4 | 382.4 | 382.4 |
| | | -8.00 | 431.9 | 431.9 | 431.9 |
| | | -8.50 | 481.5 | 481.5 | 481.5 |
| | | -9.00 | 508.1 | 508.1 | 508.1 |
| | | -9.50 | 528.8 | 528.8 | 528.8 |
| | | -10.00 | 558.9 | 558.9 | 558.9 |
| | | -10.50 | 585.5 | 585.5 | 585.5 |
| | | -11.00 | 615.7 | 615.7 | 615.7 |
| | | -11.50 | 652.9 | 652.9 | 652.9 |
| | | -12.00 | 694.3 | 694.3 | 694.3 |
| | | -12.50 | 729.7 | 729.7 | 729.7 |
| | | -13.00 | 772.6 | 772.6 | 772.6 |
| | | -13.50 | 812.8 | 812.8 | 812.8 |
| | | -14.00 | 871.0 | 871.0 | 871.0 |
| | | -14.50 | 928.9 | 928.9 | 928.9 |
| | | -15.00 | 976.3 | 976.3 | 976.3 |
| | | -15.50 | 1017.0 | 1017.0 | 1017.0 |
| | | -16.00 | 1089.9 | 1089.9 | 1089.9 |
| | | -16.50 | 1163.2 | 1163.2 | 1163.2 |
| | | -17.00 | 1177.3 | 1177.3 | 1177.3 |
| | | -17.50 | 1193.5 | 1193.5 | 1193.5 |
| | | -18.00 | 1222.1 | 1222.1 | 1222.1 |
| | | -18.50 | 1301.7 | 1301.7 | 1301.7 |
| | | -19.00 | 1356.9 | 1356.9 | 1356.9 |
| | | -19.50 | 1372.7 | 1372.7 | 1372.7 |
| | | -20.00 | 1385.9 | 1385.9 | 1385.9 |
| | | -20.50 | 1398.9 | 1398.9 | 1398.9 |
| | | -21.00 | 1412.0 | 1412.0 | 1412.0 |
| | | -21.50 | 1427.4 | 1427.4 | 1427.4 |
| | | -22.00 | 1444.7 | 1444.7 | 1444.7 |
| | | -22.50 | 1465.4 | 1465.4 | 1465.4 |
| | | -23.00 | 1485.9 | 1485.9 | 1485.9 |
| | | -23.50 | 1505.7 | 1505.7 | 1505.7 |
| | | -24.00 | 1528.8 | 1528.8 | 1528.8 |
| | | -24.50 | 1552.4 | 1552.4 | 1552.4 |
| | | -25.00 | 1577.1 | 1577.1 | 1577.1 |
| | | -25.50 | 1603.0 | 1603.0 | 1603.0 |
| | | -26.00 | 1627.9 | 1627.9 | 1627.9 |
| | | -26.50 | 1650.6 | 1650.6 | 1650.6 |
| | | -27.00 | 1673.9 | 1673.9 | 1673.9 |
| | | -27.50 | 1696.7 | 1696.7 | 1696.7 |
| | | -28.00 | 1721.2 | 1721.2 | 1721.2 |
| | | -28.50 | 1746.5 | 1746.5 | 1746.5 |
| | | -29.00 | 1771.0 | 1771.0 | 1771.0 |
| | | -29.50 | 1796.6 | 1796.6 | 1796.6 |
| | | -30.00 | 1823.8 | 1823.8 | 1823.8 |
| 251.S01 | -1.05 | -7.00 | 371.3 | 371.3 | 371.3 |
| | | -7.50 | 419.9 | 419.9 | 419.9 |
| | | -8.00 | 469.0 | 469.0 | 469.0 |
| | | -8.50 | 506.3 | 506.3 | 506.3 |
| | | -9.00 | 514.0 | 514.0 | 514.0 |
| | | -9.50 | 543.6 | 543.6 | 543.6 |
| | | -10.00 | 584.7 | 584.7 | 584.7 |
| | | -10.50 | 632.4 | 632.4 | 632.4 |
| | | -11.00 | 669.0 | 669.0 | 669.0 |
| | | -11.50 | 692.3 | 692.3 | 692.3 |
| | | -12.00 | 715.5 | 715.5 | 715.5 |
| | | -12.50 | 753.3 | 753.3 | 753.3 |
| | | -13.00 | 797.4 | 797.4 | 797.4 |
| | | -13.50 | 839.1 | 839.1 | 839.1 |
| | | -14.00 | 895.5 | 895.5 | 895.5 |
| | | -14.50 | 951.1 | 951.1 | 951.1 |
| | | -15.00 | 1018.8 | 1018.8 | 1018.8 |
| | | -15.50 | 1053.3 | 1053.3 | 1053.3 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 251.S01 | -1.05 | -16.00 | 1106.6 | 1106.6 | 1106.6 |
| | | -16.50 | 1163.6 | 1163.6 | 1163.6 |
| | | -17.00 | 1219.8 | 1219.8 | 1219.8 |
| | | -17.50 | 1273.1 | 1273.1 | 1273.1 |
| | | -18.00 | 1323.5 | 1323.5 | 1323.5 |
| | | -18.50 | 1388.0 | 1388.0 | 1388.0 |
| | | -19.00 | 1434.2 | 1434.2 | 1434.2 |
| | | -19.50 | 1475.6 | 1475.6 | 1475.6 |
| | | -20.00 | 1519.5 | 1519.5 | 1519.5 |
| | | -20.50 | 1593.9 | 1593.9 | 1593.9 |
| | | -21.00 | 1679.8 | 1679.8 | 1679.8 |
| | | -21.50 | 1716.9 | 1716.9 | 1716.9 |
| | | -22.00 | 1730.2 | 1730.2 | 1730.2 |
| | | -22.50 | 1747.0 | 1747.0 | 1747.0 |
| | | -23.00 | 1772.4 | 1772.4 | 1772.4 |
| | | -23.50 | 1804.9 | 1804.9 | 1804.9 |
| | | -24.00 | 1848.0 | 1848.0 | 1848.0 |
| | | -24.50 | 1887.5 | 1887.5 | 1887.5 |
| | | -25.00 | 1923.6 | 1923.6 | 1923.6 |
| | | -25.50 | 1986.3 | 1986.3 | 1986.3 |
| | | -26.00 | 2077.2 | 2077.2 | 2077.2 |
| | | -26.50 | 2157.4 | 2157.4 | 2157.4 |
| | | -27.00 | 2211.6 | 2211.6 | 2211.6 |
| | | -27.50 | 2265.7 | 2265.7 | 2265.7 |
| | | -28.00 | 2319.8 | 2319.8 | 2319.8 |
| | | -28.50 | 2373.8 | 2373.8 | 2373.8 |
| | | -29.00 | 2427.6 | 2427.6 | 2427.6 |
| | | -29.50 | 2465.0 | 2465.0 | 2465.0 |
| | | -30.00 | 2508.5 | 2508.5 | 2508.5 |
| 19-1008_29 | 0.79 | -7.00 | 503.7 | 503.7 | 503.7 |
| | | -7.50 | 556.7 | 556.7 | 556.7 |
| | | -8.00 | 612.7 | 612.7 | 612.7 |
| | | -8.50 | 667.8 | 667.8 | 667.8 |
| | | -9.00 | 715.6 | 715.6 | 715.6 |
| | | -9.50 | 760.2 | 760.2 | 760.2 |
| | | -10.00 | 801.9 | 801.9 | 801.9 |
| | | -10.50 | 849.7 | 849.7 | 849.7 |
| | | -11.00 | 897.0 | 897.0 | 897.0 |
| | | -11.50 | 960.3 | 960.3 | 960.3 |
| | | -12.00 | 993.1 | 993.1 | 993.1 |
| | | -12.50 | 1053.8 | 1053.8 | 1053.8 |
| | | -13.00 | 1097.6 | 1097.6 | 1097.6 |
| | | -13.50 | 1121.3 | 1121.3 | 1121.3 |
| | | -14.00 | 1148.9 | 1148.9 | 1148.9 |
| | | -14.50 | 1168.7 | 1168.7 | 1168.7 |
| | | -15.00 | 1186.1 | 1186.1 | 1186.1 |
| | | -15.50 | 1206.4 | 1206.4 | 1206.4 |
| | | -16.00 | 1250.0 | 1250.0 | 1250.0 |
| | | -16.50 | 1269.3 | 1269.3 | 1269.3 |
| | | -17.00 | 1288.8 | 1288.8 | 1288.8 |
| | | -17.50 | 1315.9 | 1315.9 | 1315.9 |
| | | -18.00 | 1369.1 | 1369.1 | 1369.1 |
| | | -18.50 | 1426.4 | 1426.4 | 1426.4 |
| | | -19.00 | 1483.2 | 1483.2 | 1483.2 |
| | | -19.50 | 1535.9 | 1535.9 | 1535.9 |
| | | -20.00 | 1592.5 | 1592.5 | 1592.5 |
| | | -20.50 | 1648.7 | 1648.7 | 1648.7 |
| | | -21.00 | 1704.8 | 1704.8 | 1704.8 |
| | | -21.50 | 1760.6 | 1760.6 | 1760.6 |
| | | -22.00 | 1816.2 | 1816.2 | 1816.2 |
| | | -22.50 | 1888.0 | 1888.0 | 1888.0 |
| | | -23.00 | 1954.3 | 1954.3 | 1954.3 |
| | | -23.50 | 2000.0 | 2000.0 | 2000.0 |
| | | -24.00 | 2052.7 | 2052.7 | 2052.7 |
| | | -24.50 | 2100.8 | 2100.8 | 2100.8 |
| | | -25.00 | 2158.2 | 2158.2 | 2158.2 |
| | | -25.50 | 2194.7 | 2194.7 | 2194.7 |
| | | -26.00 | 2236.5 | 2236.5 | 2236.5 |
| | | -26.50 | 2275.5 | 2275.5 | 2275.5 |
| | | -27.00 | 2323.9 | 2323.9 | 2323.9 |
| | | -27.50 | 2361.0 | 2361.0 | 2361.0 |
| | | -28.00 | 2397.3 | 2397.3 | 2397.3 |
| | | -28.50 | 2433.4 | 2433.4 | 2433.4 |
| | | -29.00 | 2472.9 | 2472.9 | 2472.9 |
| | | -29.50 | 2532.8 | 2532.8 | 2532.8 |
| | | -30.00 | 2570.5 | 2570.5 | 2570.5 |
| 283.S02 | 0.17 | -7.00 | 409.1 | 409.1 | 409.1 |
| | | -7.50 | 443.9 | 443.9 | 443.9 |
| | | -8.00 | 478.2 | 478.2 | 478.2 |
| | | -8.50 | 519.1 | 519.1 | 519.1 |
| | | -9.00 | 556.8 | 556.8 | 556.8 |
| | | -9.50 | 589.0 | 589.0 | 589.0 |
| | | -10.00 | 624.9 | 624.9 | 624.9 |
| | | -10.50 | 659.4 | 659.4 | 659.4 |
| | | -11.00 | 693.2 | 693.2 | 693.2 |
| | | -11.50 | 729.2 | 729.2 | 729.2 |
| | | -12.00 | 753.1 | 753.1 | 753.1 |
| | | -12.50 | 792.9 | 792.9 | 792.9 |
| | | -13.00 | 836.7 | 836.7 | 836.7 |
| | | -13.50 | 884.9 | 884.9 | 884.9 |
| | | -14.00 | 941.1 | 941.1 | 941.1 |
| | | -14.50 | 996.7 | 996.7 | 996.7 |
| | | -15.00 | 1046.4 | 1046.4 | 1046.4 |
| | | -15.50 | 1089.0 | 1089.0 | 1089.0 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 283.S02 | 0.17 | -16.00 | 1135.4 | 1135.4 | 1135.4 |
| | | -16.50 | 1186.7 | 1186.7 | 1186.7 |
| | | -17.00 | 1241.1 | 1241.1 | 1241.1 |
| | | -17.50 | 1297.7 | 1297.7 | 1297.7 |
| | | -18.00 | 1353.9 | 1353.9 | 1353.9 |
| | | -18.50 | 1409.8 | 1409.8 | 1409.8 |
| | | -19.00 | 1465.5 | 1465.5 | 1465.5 |
| | | -19.50 | 1520.9 | 1520.9 | 1520.9 |
| | | -20.00 | 1576.1 | 1576.1 | 1576.1 |
| | | -20.50 | 1628.8 | 1628.8 | 1628.8 |
| | | -21.00 | 1683.6 | 1683.6 | 1683.6 |
| | | -21.50 | 1738.2 | 1738.2 | 1738.2 |
| | | -22.00 | 1792.7 | 1792.7 | 1792.7 |
| | | -22.50 | 1846.9 | 1846.9 | 1846.9 |
| | | -23.00 | 1901.0 | 1901.0 | 1901.0 |
| | | -23.50 | 1954.9 | 1954.9 | 1954.9 |
| | | -24.00 | 2008.7 | 2008.7 | 2008.7 |
| | | -24.50 | 2062.4 | 2062.4 | 2062.4 |
| | | -25.00 | 2115.9 | 2115.9 | 2115.9 |
| | | -25.50 | 2169.3 | 2169.3 | 2169.3 |
| | | -26.00 | 2222.6 | 2222.6 | 2222.6 |
| | | -26.50 | 2290.5 | 2290.5 | 2290.5 |
| | | -27.00 | 2319.6 | 2319.6 | 2319.6 |
| | | -27.50 | 2347.3 | 2347.3 | 2347.3 |
| | | -28.00 | 2381.5 | 2381.5 | 2381.5 |
| | | -28.50 | 2424.2 | 2424.2 | 2424.2 |
| | | -29.00 | 2455.3 | 2455.3 | 2455.3 |
| | | -29.50 | 2483.0 | 2483.0 | 2483.0 |
| | | -30.00 | 2508.9 | 2508.9 | 2508.9 |
| 19-1008_35 | 0.92 | -7.00 | 414.2 | 414.2 | 414.2 |
| | | -7.50 | 438.8 | 438.8 | 438.8 |
| | | -8.00 | 471.9 | 471.9 | 471.9 |
| | | -8.50 | 505.2 | 505.2 | 505.2 |
| | | -9.00 | 531.1 | 531.1 | 531.1 |
| | | -9.50 | 557.2 | 557.2 | 557.2 |
| | | -10.00 | 588.2 | 588.2 | 588.2 |
| | | -10.50 | 617.3 | 617.3 | 617.3 |
| | | -11.00 | 665.4 | 665.4 | 665.4 |
| | | -11.50 | 706.4 | 706.4 | 706.4 |
| | | -12.00 | 735.4 | 735.4 | 735.4 |
| | | -12.50 | 760.8 | 760.8 | 760.8 |
| | | -13.00 | 793.9 | 793.9 | 793.9 |
| | | -13.50 | 832.3 | 832.3 | 832.3 |
| | | -14.00 | 872.2 | 872.2 | 872.2 |
| | | -14.50 | 920.3 | 920.3 | 920.3 |
| | | -15.00 | 968.3 | 968.3 | 968.3 |
| | | -15.50 | 1016.5 | 1016.5 | 1016.5 |
| | | -16.00 | 1065.6 | 1065.6 | 1065.6 |
| | | -16.50 | 1114.5 | 1114.5 | 1114.5 |
| | | -17.00 | 1156.8 | 1156.8 | 1156.8 |
| | | -17.50 | 1192.9 | 1192.9 | 1192.9 |
| | | -18.00 | 1240.1 | 1240.1 | 1240.1 |
| | | -18.50 | 1282.7 | 1282.7 | 1282.7 |
| | | -19.00 | 1330.3 | 1330.3 | 1330.3 |
| | | -19.50 | 1377.2 | 1377.2 | 1377.2 |
| | | -20.00 | 1425.3 | 1425.3 | 1425.3 |
| | | -20.50 | 1483.6 | 1483.6 | 1483.6 |
| | | -21.00 | 1541.4 | 1541.4 | 1541.4 |
| | | -21.50 | 1599.0 | 1599.0 | 1599.0 |
| | | -22.00 | 1655.0 | 1655.0 | 1655.0 |
| | | -22.50 | 1712.0 | 1712.0 | 1712.0 |
| | | -23.00 | 1768.8 | 1768.8 | 1768.8 |
| | | -23.50 | 1825.4 | 1825.4 | 1825.4 |
| | | -24.00 | 1881.7 | 1881.7 | 1881.7 |
| | | -24.50 | 1936.9 | 1936.9 | 1936.9 |
| | | -25.00 | 1989.8 | 1989.8 | 1989.8 |
| | | -25.50 | 2058.3 | 2058.3 | 2058.3 |
| | | -26.00 | 2132.0 | 2132.0 | 2132.0 |
| | | -26.50 | 2180.7 | 2180.7 | 2180.7 |
| | | -27.00 | 2235.8 | 2235.8 | 2235.8 |
| | | -27.50 | 2290.7 | 2290.7 | 2290.7 |
| | | -28.00 | 2345.4 | 2345.4 | 2345.4 |
| | | -28.50 | 2400.0 | 2400.0 | 2400.0 |
| | | -29.00 | 2454.5 | 2454.5 | 2454.5 |
| | | -29.50 | 2508.9 | 2508.9 | 2508.9 |
| | | -30.00 | 2563.3 | 2563.3 | 2563.3 |
| 312.S03 | 3.78 | -7.00 | 549.6 | 549.6 | 549.6 |
| | | -7.50 | 591.4 | 591.4 | 591.4 |
| | | -8.00 | 633.4 | 633.4 | 633.4 |
| | | -8.50 | 695.9 | 695.9 | 695.9 |
| | | -9.00 | 757.6 | 757.6 | 757.6 |
| | | -9.50 | 818.7 | 818.7 | 818.7 |
| | | -10.00 | 879.2 | 879.2 | 879.2 |
| | | -10.50 | 938.8 | 938.8 | 938.8 |
| | | -11.00 | 995.2 | 995.2 | 995.2 |
| | | -11.50 | 1054.2 | 1054.2 | 1054.2 |
| | | -12.00 | 1112.7 | 1112.7 | 1112.7 |
| | | -12.50 | 1170.9 | 1170.9 | 1170.9 |
| | | -13.00 | 1227.1 | 1227.1 | 1227.1 |
| | | -13.50 | 1268.7 | 1268.7 | 1268.7 |
| | | -14.00 | 1315.2 | 1315.2 | 1315.2 |
| | | -14.50 | 1361.6 | 1361.6 | 1361.6 |
| | | -15.00 | 1406.4 | 1406.4 | 1406.4 |
| | | -15.50 | 1452.5 | 1452.5 | 1452.5 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{c;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 312.S03 | 3.78 | -16.00 | 1497.4 | 1497.4 | 1497.4 |
| | | -16.50 | 1543.4 | 1543.4 | 1543.4 |
| | | -17.00 | 1586.1 | 1586.1 | 1586.1 |
| | | -17.50 | 1620.0 | 1620.0 | 1620.0 |
| | | -18.00 | 1656.2 | 1656.2 | 1656.2 |
| | | -18.50 | 1701.0 | 1701.0 | 1701.0 |
| | | -19.00 | 1748.2 | 1748.2 | 1748.2 |
| | | -19.50 | 1796.6 | 1796.6 | 1796.6 |
| | | -20.00 | 1843.4 | 1843.4 | 1843.4 |
| | | -20.50 | 1893.4 | 1893.4 | 1893.4 |
| | | -21.00 | 1938.2 | 1938.2 | 1938.2 |
| | | -21.50 | 1980.1 | 1980.1 | 1980.1 |
| | | -22.00 | 2027.1 | 2027.1 | 2027.1 |
| | | -22.50 | 2081.7 | 2081.7 | 2081.7 |
| | | -23.00 | 2136.3 | 2136.3 | 2136.3 |
| | | -23.50 | 2189.4 | 2189.4 | 2189.4 |
| | | -24.00 | 2238.3 | 2238.3 | 2238.3 |
| | | -24.50 | 2293.5 | 2293.5 | 2293.5 |
| | | -25.00 | 2348.6 | 2348.6 | 2348.6 |
| | | -25.50 | 2400.5 | 2400.5 | 2400.5 |
| | | -26.00 | 2447.0 | 2447.0 | 2447.0 |
| | | -26.50 | 2500.7 | 2500.7 | 2500.7 |
| | | -27.00 | 2554.2 | 2554.2 | 2554.2 |
| | | -27.50 | 2592.9 | 2592.9 | 2592.9 |
| | | -28.00 | 2625.6 | 2625.6 | 2625.6 |
| | | -28.50 | 2651.3 | 2651.3 | 2651.3 |
| | | -29.00 | 2676.6 | 2676.6 | 2676.6 |
| | | -29.50 | 2705.6 | 2705.6 | 2705.6 |
| | | -30.00 | 2744.3 | 2744.3 | 2744.3 |
| 19-1008_43 | 9.88 | -7.00 | 440.2 | 440.2 | 440.2 |
| | | -7.50 | 493.0 | 493.0 | 493.0 |
| | | -8.00 | 547.4 | 547.4 | 547.4 |
| | | -8.50 | 598.0 | 598.0 | 598.0 |
| | | -9.00 | 649.4 | 649.4 | 649.4 |
| | | -9.50 | 701.6 | 701.6 | 701.6 |
| | | -10.00 | 749.2 | 749.2 | 749.2 |
| | | -10.50 | 805.8 | 805.8 | 805.8 |
| | | -11.00 | 872.6 | 872.6 | 872.6 |
| | | -11.50 | 938.9 | 938.9 | 938.9 |
| | | -12.00 | 1004.6 | 1004.6 | 1004.6 |
| | | -12.50 | 1069.5 | 1069.5 | 1069.5 |
| | | -13.00 | 1118.1 | 1118.1 | 1118.1 |
| | | -13.50 | 1160.1 | 1160.1 | 1160.1 |
| | | -14.00 | 1208.6 | 1208.6 | 1208.6 |
| | | -14.50 | 1260.4 | 1260.4 | 1260.4 |
| | | -15.00 | 1305.9 | 1305.9 | 1305.9 |
| | | -15.50 | 1361.7 | 1361.7 | 1361.7 |
| | | -16.00 | 1422.8 | 1422.8 | 1422.8 |
| | | -16.50 | 1485.7 | 1485.7 | 1485.7 |
| | | -17.00 | 1548.4 | 1548.4 | 1548.4 |
| | | -17.50 | 1608.4 | 1608.4 | 1608.4 |
| | | -18.00 | 1662.8 | 1662.8 | 1662.8 |
| | | -18.50 | 1711.6 | 1711.6 | 1711.6 |
| | | -19.00 | 1766.6 | 1766.6 | 1766.6 |
| | | -19.50 | 1815.0 | 1815.0 | 1815.0 |
| | | -20.00 | 1865.0 | 1865.0 | 1865.0 |
| | | -20.50 | 1927.4 | 1927.4 | 1927.4 |
| | | -21.00 | 1999.8 | 1999.8 | 1999.8 |
| | | -21.50 | 2054.3 | 2054.3 | 2054.3 |
| | | -22.00 | 2108.6 | 2108.6 | 2108.6 |
| | | -22.50 | 2168.7 | 2168.7 | 2168.7 |
| | | -23.00 | 2228.6 | 2228.6 | 2228.6 |
| | | -23.50 | 2288.3 | 2288.3 | 2288.3 |
| | | -24.00 | 2347.7 | 2347.7 | 2347.7 |
| | | -24.50 | 2407.0 | 2407.0 | 2407.0 |
| | | -25.00 | 2457.2 | 2457.2 | 2457.2 |
| 328.S02 | 10.17 | -7.00 | 671.4 | 671.4 | 671.4 |
| | | -7.50 | 718.7 | 718.7 | 718.7 |
| | | -8.00 | 770.4 | 770.4 | 770.4 |
| | | -8.50 | 823.2 | 823.2 | 823.2 |
| | | -9.00 | 874.2 | 874.2 | 874.2 |
| | | -9.50 | 918.2 | 918.2 | 918.2 |
| | | -10.00 | 967.5 | 967.5 | 967.5 |
| | | -10.50 | 1018.6 | 1018.6 | 1018.6 |
| | | -11.00 | 1076.6 | 1076.6 | 1076.6 |
| | | -11.50 | 1135.7 | 1135.7 | 1135.7 |
| | | -12.00 | 1192.5 | 1192.5 | 1192.5 |
| | | -12.50 | 1244.0 | 1244.0 | 1244.0 |
| | | -13.00 | 1294.0 | 1294.0 | 1294.0 |
| | | -13.50 | 1344.5 | 1344.5 | 1344.5 |
| | | -14.00 | 1395.1 | 1395.1 | 1395.1 |
| | | -14.50 | 1444.2 | 1444.2 | 1444.2 |
| | | -15.00 | 1495.0 | 1495.0 | 1495.0 |
| | | -15.50 | 1545.1 | 1545.1 | 1545.1 |
| | | -16.00 | 1605.2 | 1605.2 | 1605.2 |
| | | -16.50 | 1658.3 | 1658.3 | 1658.3 |
| | | -17.00 | 1719.5 | 1719.5 | 1719.5 |
| | | -17.50 | 1780.5 | 1780.5 | 1780.5 |
| | | -18.00 | 1857.6 | 1857.6 | 1857.6 |
| | | -18.50 | 1910.5 | 1910.5 | 1910.5 |
| | | -19.00 | 1964.8 | 1964.8 | 1964.8 |
| | | -19.50 | 2022.4 | 2022.4 | 2022.4 |
| | | -20.00 | 2082.1 | 2082.1 | 2082.1 |
| | | -20.50 | 2141.6 | 2141.6 | 2141.6 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | Bezwijkdraagvermogen $R_{t;cal}$ [kN] | Rekenwaarden $R_{t;d}$ [kN] | $R_{t;netto;d}$ [kN] |
|---|---|---|---|---|---|
| 328.S02 | 10.17 | -21.00 | 2200.9 | 2200.9 | 2200.9 |
| | | -21.50 | 2259.9 | 2259.9 | 2259.9 |
| | | -22.00 | 2318.8 | 2318.8 | 2318.8 |
| | | -22.50 | 2377.4 | 2377.4 | 2377.4 |
| | | -23.00 | 2435.9 | 2435.9 | 2435.9 |
| | | -23.50 | 2494.1 | 2494.1 | 2494.1 |
| | | -24.00 | 2552.2 | 2552.2 | 2552.2 |
| | | -24.50 | 2601.6 | 2601.6 | 2601.6 |
| | | -25.00 | 2648.4 | 2648.4 | 2648.4 |
| | | -25.50 | 2694.5 | 2694.5 | 2694.5 |
| | | -26.00 | 2741.2 | 2741.2 | 2741.2 |
| | | -26.50 | 2790.5 | 2790.5 | 2790.5 |
| | | -27.00 | 2848.0 | 2848.0 | 2848.0 |
| | | -27.50 | 2905.3 | 2905.3 | 2905.3 |
| | | -28.00 | 2953.9 | 2953.9 | 2953.9 |
| | | -28.50 | 2996.5 | 2996.5 | 2996.5 |

## PAALGEGEVENS SI Ø508/670

Type : In de grond gevormde geschroefde paal; groutinjectie
Wijze van installeren : Schroeven
Wijze van terugwinnen : n.v.t.
Diameter [m] : 0.590
Elasticiteitsmodulus [N/mm²] : 20000
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Factor $\alpha_t$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Paalklassefactor $\alpha_p$ : 0.63
Paalvoetvormfactor $\beta$ : 1.00
Type lastzakkingsdiagram : Grondverdringende paal
Verm.factor * $\varphi'_{j;k}$ : 1.00
Groutomhulling : JA

## PAALGEGEVENS SI Ø610/850

Type : In de grond gevormde geschroefde paal; groutinjectie
Wijze van installeren : Schroeven
Wijze van terugwinnen : n.v.t.
Diameter [m] : 0.730
Elasticiteitsmodulus [N/mm²] : 20000
Factor $\alpha_s$ (tabel 7.c EC 7.1) : 0.009 (zandlagen; voor kleilagen zie tabel 7.d)
Factor $\alpha_t$ (tabel 7.c EC 7.1) : 0.0090 (zandlagen; voor kleilagen zie tabel 7.d)
Paalklassefactor $\alpha_p$ : 0.63
Paalvoetvormfactor $\beta$ : 1.00
Type lastzakkingsdiagram : Grondverdringende paal
Verm.factor * $\varphi'_{j;k}$ : 1.00
Groutomhulling : JA

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

## OVERZICHT NETTO DRAAGVERMOGEN TREKPALEN (n=1)

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{t;netto;d}$ SI Ø508/6 | SI Ø610/8 [kN] |
|---|---|---|---|---|
| 19-1008_1 | 2.12 | -6.00 | 55 | |
| | | -6.50 | 58 | |
| | | -7.00 | 62 | 84 |
| | | -7.50 | 66 | 89 |
| | | -8.00 | 81 | 108 |
| | | -8.50 | 97 | 128 |
| | | -9.00 | 103 | 136 |
| | | -9.50 | 129 | 169 |
| | | -10.00 | 153 | 198 |
| | | -10.50 | 180 | 232 |
| | | -11.00 | 198 | 256 |
| | | -11.50 | 230 | 296 |
| | | -12.00 | 270 | 346 |
| | | -12.50 | 297 | 380 |
| | | -13.00 | 338 | 429 |
| | | -13.50 | 377 | 477 |
| | | -14.00 | 410 | 518 |
| | | -14.50 | 454 | 571 |
| | | -15.00 | 494 | 619 |
| | | -15.50 | 537 | 671 |
| | | -16.00 | 574 | 716 |
| | | -16.50 | 614 | 765 |
| | | -17.00 | 654 | 814 |
| | | -17.50 | 701 | 870 |
| | | -18.00 | 754 | 933 |
| | | -18.50 | 805 | 995 |
| | | -19.00 | 857 | 1056 |
| | | -19.50 | 908 | 1117 |
| | | -20.00 | 978 | 1203 |
| | | -20.50 | 1055 | 1299 |
| | | -21.00 | 1136 | 1399 |
| | | -21.50 | 1186 | 1460 |
| | | -22.00 | 1235 | 1517 |
| | | -22.50 | 1283 | 1574 |
| | | -23.00 | 1332 | 1631 |
| | | -23.50 | 1380 | 1687 |
| | | -24.00 | 1428 | 1744 |
| | | -24.50 | 1476 | 1800 |
| | | -25.00 | 1524 | 1856 |
| | | -25.50 | 1572 | 1912 |
| | | -26.00 | 1620 | 1968 |
| | | -26.50 | 1667 | 2023 |
| | | -27.00 | 1715 | 2079 |
| | | -27.50 | 1762 | 2134 |
| | | -28.00 | 1809 | 2189 |
| | | -28.50 | 1856 | 2245 |
| | | -29.00 | 1904 | 2300 |
| | | -29.50 | 1951 | 2355 |
| | | -30.00 | 1998 | 2409 |
| 19-1008_6 | 11.00 | -6.00 | 490 | |
| | | -6.50 | 545 | |
| | | -7.00 | 600 | 740 |
| | | -7.50 | 655 | 806 |
| | | -8.00 | 709 | 871 |
| | | -8.50 | 763 | 936 |
| | | -9.00 | 816 | 1001 |
| | | -9.50 | 869 | 1065 |
| | | -10.00 | 922 | 1129 |
| | | -10.50 | 975 | 1192 |
| | | -11.00 | 1027 | 1255 |
| | | -11.50 | 1079 | 1317 |
| | | -12.00 | 1130 | 1379 |
| | | -12.50 | 1182 | 1440 |
| | | -13.00 | 1233 | 1502 |
| | | -13.50 | 1284 | 1563 |
| | | -14.00 | 1335 | 1623 |
| | | -14.50 | 1386 | 1684 |
| | | -15.00 | 1436 | 1744 |
| | | -15.50 | 1487 | 1804 |
| | | -16.00 | 1537 | 1864 |
| | | -16.50 | 1587 | 1923 |
| | | -17.00 | 1637 | 1982 |
| | | -17.50 | 1687 | 2041 |
| | | -18.00 | 1736 | 2100 |
| | | -18.50 | 1782 | 2155 |
| | | -19.00 | 1832 | 2213 |
| | | -19.50 | 1881 | 2271 |
| | | -20.00 | 1930 | 2329 |
| | | -20.50 | 1979 | 2387 |
| | | -21.00 | 2028 | 2445 |
| | | -21.50 | 2077 | 2503 |
| | | -22.00 | 2125 | 2560 |
| | | -22.50 | 2174 | 2617 |
| | | -23.00 | 2222 | 2674 |
| | | -23.50 | 2271 | 2731 |
| 166.S01 | 3.45 | -6.00 | 287 | |
| | | -6.50 | 342 | |
| | | -7.00 | 397 | 491 |
| | | -7.50 | 451 | 556 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 |
|---|---|---|---|---|
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| | | -8.50 | 557 | 684 |
| | | -9.00 | 609 | 747 |
| | | -9.50 | 660 | 808 |
| | | -10.00 | 711 | 869 |
| | | -10.50 | 762 | 931 |
| | | -11.00 | 813 | 991 |
| | | -11.50 | 864 | 1051 |
| | | -12.00 | 910 | 1107 |
| | | -12.50 | 950 | 1154 |
| | | -13.00 | 987 | 1198 |
| | | -13.50 | 1024 | 1242 |
| | | -14.00 | 1067 | 1293 |
| | | -14.50 | 1116 | 1351 |
| | | -15.00 | 1165 | 1409 |
| | | -15.50 | 1214 | 1467 |
| | | -16.00 | 1263 | 1524 |
| | | -16.50 | 1311 | 1582 |
| | | -17.00 | 1360 | 1639 |
| | | -17.50 | 1408 | 1695 |
| | | -18.00 | 1456 | 1752 |
| | | -18.50 | 1504 | 1808 |
| | | -19.00 | 1551 | 1864 |
| | | -19.50 | 1599 | 1920 |
| | | -20.00 | 1646 | 1976 |
| | | -20.50 | 1694 | 2031 |
| | | -21.00 | 1741 | 2087 |
| | | -21.50 | 1788 | 2142 |
| | | -22.00 | 1835 | 2197 |
| | | -22.50 | 1882 | 2252 |
| 19-1008_11 | 0.62 | -6.00 | 199 | |
| | | -6.50 | 204 | |
| | | -7.00 | 211 | 267 |
| | | -7.50 | 229 | 289 |
| | | -8.00 | 252 | 318 |
| | | -8.50 | 274 | 345 |
| | | -9.00 | 290 | 366 |
| | | -9.50 | 307 | 386 |
| | | -10.00 | 323 | 407 |
| | | -10.50 | 343 | 431 |
| | | -11.00 | 366 | 459 |
| | | -11.50 | 393 | 492 |
| | | -12.00 | 428 | 535 |
| | | -12.50 | 442 | 554 |
| | | -13.00 | 482 | 602 |
| | | -13.50 | 527 | 657 |
| | | -14.00 | 573 | 713 |
| | | -14.50 | 619 | 768 |
| | | -15.00 | 665 | 824 |
| | | -15.50 | 707 | 875 |
| | | -16.00 | 743 | 919 |
| | | -16.50 | 785 | 969 |
| | | -17.00 | 826 | 1018 |
| | | -17.50 | 864 | 1064 |
| | | -18.00 | 911 | 1121 |
| | | -18.50 | 963 | 1183 |
| | | -19.00 | 1014 | 1244 |
| | | -19.50 | 1065 | 1305 |
| | | -20.00 | 1116 | 1366 |
| | | -20.50 | 1167 | 1426 |
| | | -21.00 | 1217 | 1486 |
| | | -21.50 | 1264 | 1542 |
| | | -22.00 | 1314 | 1601 |
| | | -22.50 | 1364 | 1660 |
| | | -23.00 | 1410 | 1714 |
| | | -23.50 | 1440 | 1751 |
| | | -24.00 | 1479 | 1797 |
| | | -24.50 | 1522 | 1848 |
| | | -25.00 | 1564 | 1897 |
| | | -25.50 | 1599 | 1939 |
| | | -26.00 | 1648 | 1998 |
| | | -26.50 | 1697 | 2055 |
| | | -27.00 | 1746 | 2112 |
| | | -27.50 | 1794 | 2170 |
| | | -28.00 | 1843 | 2226 |
| | | -28.50 | 1891 | 2283 |
| | | -29.00 | 1939 | 2340 |
| | | -29.50 | 1987 | 2396 |
| | | -30.00 | 2035 | 2452 |
| 19-1008_12 | 3.57 | -6.00 | 498 | |
| | | -6.50 | 539 | |
| | | -7.00 | 589 | 716 |
| | | -7.50 | 639 | 776 |
| | | -8.00 | 689 | 835 |
| | | -8.50 | 715 | 866 |
| | | -9.00 | 725 | 880 |
| | | -9.50 | 733 | 890 |
| | | -10.00 | 748 | 908 |
| | | -10.50 | 775 | 943 |
| | | -11.00 | 797 | 970 |
| | | -11.50 | 802 | 977 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 |
|---|---|---|---|---|
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| | | -12.50 | 831 | 1014 |
| | | -13.00 | 838 | 1023 |
| | | -13.50 | 846 | 1033 |
| | | -14.00 | 864 | 1056 |
| | | -14.50 | 887 | 1085 |
| | | -15.00 | 903 | 1105 |
| | | -15.50 | 916 | 1122 |
| | | -16.00 | 937 | 1148 |
| | | -16.50 | 965 | 1183 |
| | | -17.00 | 988 | 1213 |
| | | -17.50 | 1022 | 1255 |
| | | -18.00 | 1049 | 1289 |
| | | -18.50 | 1108 | 1363 |
| | | -19.00 | 1163 | 1431 |
| | | -19.50 | 1208 | 1486 |
| | | -20.00 | 1244 | 1528 |
| | | -20.50 | 1284 | 1576 |
| | | -21.00 | 1322 | 1620 |
| | | -21.50 | 1367 | 1674 |
| | | -22.00 | 1416 | 1731 |
| | | -22.50 | 1464 | 1788 |
| | | -23.00 | 1509 | 1841 |
| | | -23.50 | 1551 | 1891 |
| | | -24.00 | 1597 | 1945 |
| | | -24.50 | 1645 | 2002 |
| | | -25.00 | 1694 | 2059 |
| | | -25.50 | 1767 | 2148 |
| | | -26.00 | 1846 | 2247 |
| | | -26.50 | 1893 | 2305 |
| | | -27.00 | 1937 | 2360 |
| | | -27.50 | 1986 | 2422 |
| | | -28.00 | 2023 | 2467 |
| | | -28.50 | 2059 | 2510 |
| | | -29.00 | 2106 | 2565 |
| | | -29.50 | 2154 | 2620 |
| | | -30.00 | 2200 | 2673 |
| 19-1008_17 | 0.20 | -6.00 | 82 | |
| | | -6.50 | 89 | |
| | | -7.00 | 121 | 156 |
| | | -7.50 | 135 | 175 |
| | | -8.00 | 142 | 184 |
| | | -8.50 | 150 | 194 |
| | | -9.00 | 164 | 212 |
| | | -9.50 | 175 | 226 |
| | | -10.00 | 218 | 279 |
| | | -10.50 | 240 | 307 |
| | | -11.00 | 277 | 351 |
| | | -11.50 | 332 | 419 |
| | | -12.00 | 387 | 486 |
| | | -12.50 | 441 | 552 |
| | | -13.00 | 495 | 616 |
| | | -13.50 | 548 | 680 |
| | | -14.00 | 601 | 744 |
| | | -14.50 | 653 | 806 |
| | | -15.00 | 701 | 864 |
| | | -15.50 | 752 | 925 |
| | | -16.00 | 803 | 986 |
| | | -16.50 | 853 | 1046 |
| | | -17.00 | 902 | 1103 |
| | | -17.50 | 960 | 1174 |
| | | -18.00 | 1032 | 1264 |
| | | -18.50 | 1081 | 1325 |
| | | -19.00 | 1116 | 1367 |
| | | -19.50 | 1156 | 1414 |
| | | -20.00 | 1195 | 1461 |
| | | -20.50 | 1237 | 1510 |
| | | -21.00 | 1281 | 1561 |
| | | -21.50 | 1338 | 1632 |
| | | -22.00 | 1380 | 1681 |
| | | -22.50 | 1428 | 1738 |
| | | -23.00 | 1476 | 1794 |
| | | -23.50 | 1524 | 1849 |
| | | -24.00 | 1568 | 1901 |
| | | -24.50 | 1606 | 1946 |
| | | -25.00 | 1636 | 1982 |
| | | -25.50 | 1666 | 2016 |
| | | -26.00 | 1694 | 2050 |
| | | -26.50 | 1723 | 2084 |
| | | -27.00 | 1757 | 2123 |
| | | -27.50 | 1792 | 2165 |
| | | -28.00 | 1829 | 2208 |
| | | -28.50 | 1867 | 2253 |
| | | -29.00 | 1910 | 2304 |
| | | -29.50 | 1926 | 2324 |
| | | -30.00 | 1958 | 2363 |
| 19-1008_20 | -0.03 | -6.00 | 104 | |
| | | -6.50 | 124 | |
| | | -7.00 | 160 | 204 |
| | | -7.50 | 191 | 242 |
| | | -8.00 | 215 | 271 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 |
|---|---|---|---|---|
| | | -8.50 | 238 | 300 |
| | | -9.00 | 270 | 339 |
| | | -9.50 | 295 | 370 |
| | | -10.00 | 326 | 408 |
| | | -10.50 | 335 | 420 |
| | | -11.00 | 374 | 467 |
| | | -11.50 | 415 | 517 |
| | | -12.00 | 425 | 530 |
| | | -12.50 | 436 | 544 |
| | | -13.00 | 456 | 570 |
| | | -13.50 | 466 | 583 |
| | | -14.00 | 484 | 605 |
| | | -14.50 | 516 | 646 |
| | | -15.00 | 552 | 691 |
| | | -15.50 | 573 | 718 |
| | | -16.00 | 590 | 738 |
| | | -16.50 | 612 | 766 |
| | | -17.00 | 627 | 785 |
| | | -17.50 | 645 | 808 |
| | | -18.00 | 677 | 849 |
| | | -18.50 | 715 | 896 |
| | | -19.00 | 744 | 932 |
| | | -19.50 | 782 | 979 |
| | | -20.00 | 817 | 1023 |
| | | -20.50 | 861 | 1075 |
| | | -21.00 | 928 | 1158 |
| | | -21.50 | 957 | 1194 |
| | | -22.00 | 976 | 1219 |
| | | -22.50 | 998 | 1246 |
| | | -23.00 | 1015 | 1268 |
| | | -23.50 | 1044 | 1303 |
| | | -24.00 | 1075 | 1341 |
| | | -24.50 | 1108 | 1380 |
| | | -25.00 | 1148 | 1428 |
| | | -25.50 | 1184 | 1471 |
| | | -26.00 | 1219 | 1513 |
| | | -26.50 | 1251 | 1551 |
| | | -27.00 | 1289 | 1597 |
| | | -27.50 | 1323 | 1638 |
| | | -28.00 | 1354 | 1675 |
| | | -28.50 | 1390 | 1717 |
| | | -29.00 | 1423 | 1757 |
| | | -29.50 | 1450 | 1790 |
| | | -30.00 | 1484 | 1830 |
| 19-1008_21 | 1.78 | -6.00 | 190 | |
| | | -6.50 | 227 | |
| | | -7.00 | 263 | 329 |
| | | -7.50 | 307 | 382 |
| | | -8.00 | 347 | 431 |
| | | -8.50 | 388 | 481 |
| | | -9.00 | 410 | 508 |
| | | -9.50 | 426 | 528 |
| | | -10.00 | 451 | 558 |
| | | -10.50 | 473 | 585 |
| | | -11.00 | 497 | 615 |
| | | -11.50 | 528 | 652 |
| | | -12.00 | 562 | 694 |
| | | -12.50 | 591 | 729 |
| | | -13.00 | 625 | 772 |
| | | -13.50 | 658 | 812 |
| | | -14.00 | 707 | 871 |
| | | -14.50 | 755 | 928 |
| | | -15.00 | 793 | 976 |
| | | -15.50 | 826 | 1016 |
| | | -16.00 | 884 | 1089 |
| | | -16.50 | 943 | 1163 |
| | | -17.00 | 954 | 1177 |
| | | -17.50 | 967 | 1193 |
| | | -18.00 | 990 | 1222 |
| | | -18.50 | 1054 | 1301 |
| | | -19.00 | 1098 | 1356 |
| | | -19.50 | 1110 | 1372 |
| | | -20.00 | 1121 | 1385 |
| | | -20.50 | 1131 | 1398 |
| | | -21.00 | 1141 | 1412 |
| | | -21.50 | 1153 | 1427 |
| | | -22.00 | 1167 | 1444 |
| | | -22.50 | 1183 | 1465 |
| | | -23.00 | 1199 | 1485 |
| | | -23.50 | 1215 | 1505 |
| | | -24.00 | 1233 | 1528 |
| | | -24.50 | 1252 | 1552 |
| | | -25.00 | 1271 | 1577 |
| | | -25.50 | 1292 | 1603 |
| | | -26.00 | 1311 | 1627 |
| | | -26.50 | 1329 | 1650 |
| | | -27.00 | 1348 | 1673 |
| | | -27.50 | 1366 | 1696 |
| | | -28.00 | 1385 | 1721 |
| | | -28.50 | 1405 | 1746 |
| | | -29.00 | 1425 | 1770 |
| | | -29.50 | 1445 | 1796 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 |
|---|---|---|---|---|
| | | -30.00 | 1467 | 1823 |
| 251.S01 | -1.05 | -6.00 | 220 | |
| | | -6.50 | 257 | |
| | | -7.00 | 299 | 371 |
| | | -7.50 | 340 | 419 |
| | | -8.00 | 380 | 468 |
| | | -8.50 | 410 | 506 |
| | | -9.00 | 415 | 514 |
| | | -9.50 | 440 | 543 |
| | | -10.00 | 474 | 584 |
| | | -10.50 | 514 | 632 |
| | | -11.00 | 545 | 668 |
| | | -11.50 | 564 | 692 |
| | | -12.00 | 583 | 715 |
| | | -12.50 | 615 | 753 |
| | | -13.00 | 652 | 797 |
| | | -13.50 | 687 | 839 |
| | | -14.00 | 734 | 895 |
| | | -14.50 | 781 | 951 |
| | | -15.00 | 837 | 1018 |
| | | -15.50 | 864 | 1053 |
| | | -16.00 | 910 | 1106 |
| | | -16.50 | 958 | 1163 |
| | | -17.00 | 1006 | 1219 |
| | | -17.50 | 1051 | 1273 |
| | | -18.00 | 1094 | 1323 |
| | | -18.50 | 1147 | 1388 |
| | | -19.00 | 1184 | 1434 |
| | | -19.50 | 1218 | 1475 |
| | | -20.00 | 1256 | 1519 |
| | | -20.50 | 1317 | 1593 |
| | | -21.00 | 1386 | 1679 |
| | | -21.50 | 1415 | 1716 |
| | | -22.00 | 1426 | 1730 |
| | | -22.50 | 1439 | 1746 |
| | | -23.00 | 1459 | 1772 |
| | | -23.50 | 1485 | 1804 |
| | | -24.00 | 1519 | 1848 |
| | | -24.50 | 1551 | 1887 |
| | | -25.00 | 1580 | 1923 |
| | | -25.50 | 1630 | 1986 |
| | | -26.00 | 1703 | 2077 |
| | | -26.50 | 1769 | 2157 |
| | | -27.00 | 1816 | 2211 |
| | | -27.50 | 1862 | 2265 |
| | | -28.00 | 1909 | 2319 |
| | | -28.50 | 1955 | 2373 |
| | | -29.00 | 2002 | 2427 |
| | | -29.50 | 2034 | 2464 |
| | | -30.00 | 2071 | 2508 |
| 19-1008_29 | 0.79 | -6.00 | 330 | |
| | | -6.50 | 368 | |
| | | -7.00 | 411 | 503 |
| | | -7.50 | 455 | 556 |
| | | -8.00 | 502 | 612 |
| | | -8.50 | 548 | 667 |
| | | -9.00 | 588 | 715 |
| | | -9.50 | 626 | 760 |
| | | -10.00 | 661 | 801 |
| | | -10.50 | 701 | 849 |
| | | -11.00 | 740 | 897 |
| | | -11.50 | 792 | 960 |
| | | -12.00 | 818 | 993 |
| | | -12.50 | 868 | 1053 |
| | | -13.00 | 905 | 1097 |
| | | -13.50 | 923 | 1121 |
| | | -14.00 | 945 | 1148 |
| | | -14.50 | 961 | 1168 |
| | | -15.00 | 975 | 1186 |
| | | -15.50 | 991 | 1206 |
| | | -16.00 | 1026 | 1249 |
| | | -16.50 | 1042 | 1269 |
| | | -17.00 | 1057 | 1288 |
| | | -17.50 | 1079 | 1315 |
| | | -18.00 | 1123 | 1369 |
| | | -18.50 | 1171 | 1426 |
| | | -19.00 | 1220 | 1483 |
| | | -19.50 | 1262 | 1535 |
| | | -20.00 | 1311 | 1592 |
| | | -20.50 | 1359 | 1648 |
| | | -21.00 | 1406 | 1704 |
| | | -21.50 | 1454 | 1760 |
| | | -22.00 | 1502 | 1816 |
| | | -22.50 | 1562 | 1888 |
| | | -23.00 | 1615 | 1954 |
| | | -23.50 | 1651 | 2000 |
| | | -24.00 | 1694 | 2052 |
| | | -24.50 | 1733 | 2100 |
| | | -25.00 | 1779 | 2158 |
| | | -25.50 | 1808 | 2194 |
| | | -26.00 | 1841 | 2236 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ [kN] SI Ø508/6 | SI Ø610/8 |
|---|---|---|---|---|
| | | -26.50 | 1873 | 2275 |
| | | -27.00 | 1911 | 2323 |
| | | -27.50 | 1941 | 2361 |
| | | -28.00 | 1970 | 2397 |
| | | -28.50 | 1999 | 2433 |
| | | -29.00 | 2030 | 2472 |
| | | -29.50 | 2078 | 2532 |
| | | -30.00 | 2111 | 2570 |
| 283.S02 | 0.17 | -6.00 | 265 | |
| | | -6.50 | 296 | |
| | | -7.00 | 333 | 409 |
| | | -7.50 | 361 | 443 |
| | | -8.00 | 390 | 478 |
| | | -8.50 | 424 | 519 |
| | | -9.00 | 455 | 556 |
| | | -9.50 | 482 | 589 |
| | | -10.00 | 512 | 624 |
| | | -10.50 | 541 | 659 |
| | | -11.00 | 569 | 693 |
| | | -11.50 | 599 | 729 |
| | | -12.00 | 619 | 753 |
| | | -12.50 | 652 | 792 |
| | | -13.00 | 689 | 836 |
| | | -13.50 | 729 | 884 |
| | | -14.00 | 776 | 941 |
| | | -14.50 | 823 | 996 |
| | | -15.00 | 865 | 1046 |
| | | -15.50 | 901 | 1089 |
| | | -16.00 | 940 | 1135 |
| | | -16.50 | 984 | 1186 |
| | | -17.00 | 1030 | 1241 |
| | | -17.50 | 1078 | 1297 |
| | | -18.00 | 1126 | 1353 |
| | | -18.50 | 1173 | 1409 |
| | | -19.00 | 1221 | 1465 |
| | | -19.50 | 1268 | 1520 |
| | | -20.00 | 1315 | 1576 |
| | | -20.50 | 1360 | 1628 |
| | | -21.00 | 1407 | 1683 |
| | | -21.50 | 1453 | 1738 |
| | | -22.00 | 1500 | 1792 |
| | | -22.50 | 1546 | 1846 |
| | | -23.00 | 1593 | 1900 |
| | | -23.50 | 1639 | 1954 |
| | | -24.00 | 1685 | 2008 |
| | | -24.50 | 1731 | 2062 |
| | | -25.00 | 1777 | 2115 |
| | | -25.50 | 1823 | 2169 |
| | | -26.00 | 1869 | 2222 |
| | | -26.50 | 1925 | 2290 |
| | | -27.00 | 1948 | 2319 |
| | | -27.50 | 1970 | 2347 |
| | | -28.00 | 1997 | 2381 |
| | | -28.50 | 2031 | 2424 |
| | | -29.00 | 2056 | 2455 |
| | | -29.50 | 2078 | 2482 |
| | | -30.00 | 2099 | 2508 |
| 19-1008_35 | 0.92 | -6.00 | 293 | |
| | | -6.50 | 316 | |
| | | -7.00 | 336 | 414 |
| | | -7.50 | 356 | 438 |
| | | -8.00 | 383 | 471 |
| | | -8.50 | 411 | 505 |
| | | -9.00 | 432 | 531 |
| | | -9.50 | 453 | 557 |
| | | -10.00 | 479 | 588 |
| | | -10.50 | 503 | 617 |
| | | -11.00 | 543 | 665 |
| | | -11.50 | 577 | 706 |
| | | -12.00 | 601 | 735 |
| | | -12.50 | 622 | 760 |
| | | -13.00 | 649 | 793 |
| | | -13.50 | 681 | 832 |
| | | -14.00 | 714 | 872 |
| | | -14.50 | 754 | 920 |
| | | -15.00 | 794 | 968 |
| | | -15.50 | 834 | 1016 |
| | | -16.00 | 875 | 1065 |
| | | -16.50 | 916 | 1114 |
| | | -17.00 | 952 | 1156 |
| | | -17.50 | 982 | 1192 |
| | | -18.00 | 1022 | 1240 |
| | | -18.50 | 1057 | 1282 |
| | | -19.00 | 1097 | 1330 |
| | | -19.50 | 1137 | 1377 |
| | | -20.00 | 1177 | 1425 |
| | | -20.50 | 1227 | 1483 |
| | | -21.00 | 1275 | 1541 |
| | | -21.50 | 1324 | 1598 |
| | | -22.00 | 1372 | 1654 |
| | | -22.50 | 1420 | 1712 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ SI Ø508/6 [kN] | SI Ø610/8 [kN] |
|---|---|---|---|---|
| | | -23.00 | 1468 | 1768 |
| | | -23.50 | 1516 | 1825 |
| | | -24.00 | 1564 | 1881 |
| | | -24.50 | 1611 | 1936 |
| | | -25.00 | 1656 | 1989 |
| | | -25.50 | 1713 | 2058 |
| | | -26.00 | 1772 | 2131 |
| | | -26.50 | 1814 | 2180 |
| | | -27.00 | 1861 | 2235 |
| | | -27.50 | 1908 | 2290 |
| | | -28.00 | 1955 | 2345 |
| | | -28.50 | 2001 | 2400 |
| | | -29.00 | 2048 | 2454 |
| | | -29.50 | 2095 | 2508 |
| | | -30.00 | 2141 | 2563 |
| 312.S03 | 3.78 | -6.00 | 355 | |
| | | -6.50 | 396 | |
| | | -7.00 | 446 | 549 |
| | | -7.50 | 479 | 591 |
| | | -8.00 | 514 | 633 |
| | | -8.50 | 566 | 695 |
| | | -9.00 | 617 | 757 |
| | | -9.50 | 668 | 818 |
| | | -10.00 | 719 | 879 |
| | | -10.50 | 769 | 938 |
| | | -11.00 | 817 | 995 |
| | | -11.50 | 867 | 1054 |
| | | -12.00 | 916 | 1112 |
| | | -12.50 | 965 | 1170 |
| | | -13.00 | 1013 | 1227 |
| | | -13.50 | 1048 | 1268 |
| | | -14.00 | 1087 | 1315 |
| | | -14.50 | 1126 | 1361 |
| | | -15.00 | 1164 | 1406 |
| | | -15.50 | 1203 | 1452 |
| | | -16.00 | 1241 | 1497 |
| | | -16.50 | 1280 | 1543 |
| | | -17.00 | 1316 | 1586 |
| | | -17.50 | 1345 | 1619 |
| | | -18.00 | 1376 | 1656 |
| | | -18.50 | 1414 | 1700 |
| | | -19.00 | 1454 | 1748 |
| | | -19.50 | 1495 | 1796 |
| | | -20.00 | 1534 | 1843 |
| | | -20.50 | 1575 | 1893 |
| | | -21.00 | 1613 | 1938 |
| | | -21.50 | 1649 | 1980 |
| | | -22.00 | 1689 | 2027 |
| | | -22.50 | 1735 | 2081 |
| | | -23.00 | 1782 | 2136 |
| | | -23.50 | 1827 | 2189 |
| | | -24.00 | 1868 | 2238 |
| | | -24.50 | 1916 | 2293 |
| | | -25.00 | 1963 | 2348 |
| | | -25.50 | 2007 | 2400 |
| | | -26.00 | 2047 | 2446 |
| | | -26.50 | 2092 | 2500 |
| | | -27.00 | 2138 | 2554 |
| | | -27.50 | 2169 | 2592 |
| | | -28.00 | 2196 | 2625 |
| | | -28.50 | 2216 | 2651 |
| | | -29.00 | 2236 | 2676 |
| | | -29.50 | 2259 | 2705 |
| | | -30.00 | 2290 | 2744 |
| 19-1008_43 | 9.88 | -6.00 | 283 | |
| | | -6.50 | 308 | |
| | | -7.00 | 352 | 440 |
| | | -7.50 | 395 | 492 |
| | | -8.00 | 440 | 547 |
| | | -8.50 | 481 | 598 |
| | | -9.00 | 523 | 649 |
| | | -9.50 | 566 | 701 |
| | | -10.00 | 604 | 749 |
| | | -10.50 | 651 | 805 |
| | | -11.00 | 706 | 872 |
| | | -11.50 | 760 | 938 |
| | | -12.00 | 814 | 1004 |
| | | -12.50 | 868 | 1069 |
| | | -13.00 | 908 | 1118 |
| | | -13.50 | 943 | 1160 |
| | | -14.00 | 983 | 1208 |
| | | -14.50 | 1026 | 1260 |
| | | -15.00 | 1063 | 1305 |
| | | -15.50 | 1109 | 1361 |
| | | -16.00 | 1160 | 1422 |
| | | -16.50 | 1213 | 1485 |
| | | -17.00 | 1265 | 1548 |
| | | -17.50 | 1315 | 1608 |
| | | -18.00 | 1360 | 1662 |
| | | -18.50 | 1401 | 1711 |
| | | -19.00 | 1445 | 1766 |

Project : ZWO380 Funderingen
Onderdeel : RLL-TBG380

Netto paaldraagvermogen(s) zijn naar beneden toe afgerond op: 1.0 kN nauwkeurig
Alle niveaus/hoogtes/peilmaten zijn t.o.v.: N.A.P.

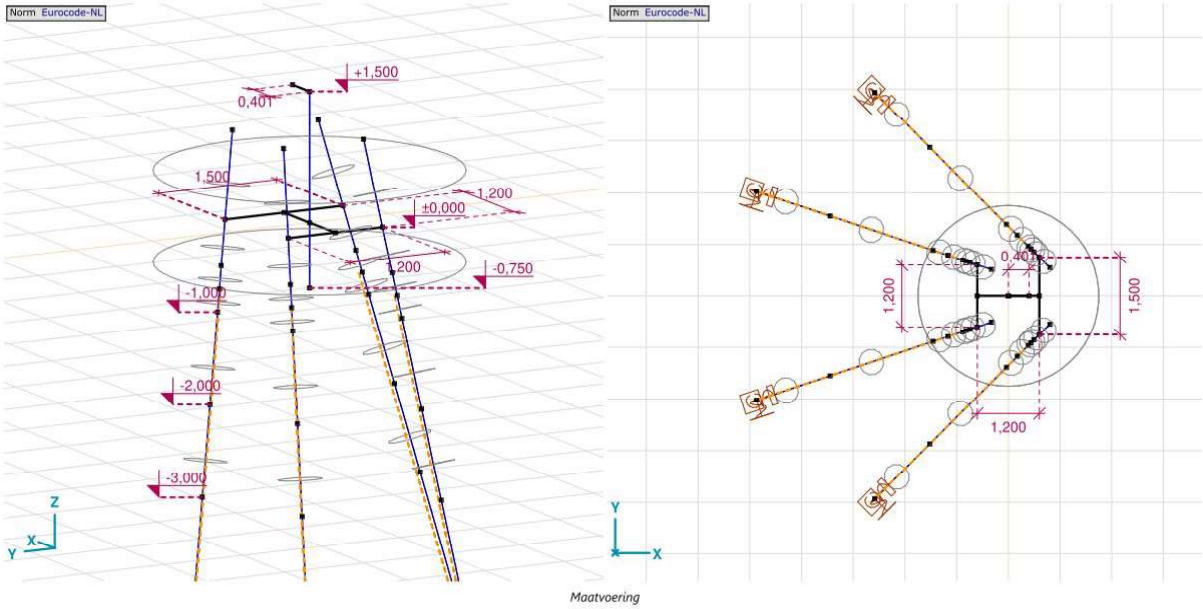
| sondering | maaiveld niveau | paalpunt niveau | $R_{c;netto;d}$ SI Ø508/6 | SI Ø610/8 [kN] |
|---|---|---|---|---|
| | | -19.50 | 1484 | 1815 |
| | | -20.00 | 1524 | 1864 |
| | | -20.50 | 1574 | 1927 |
| | | -21.00 | 1632 | 1999 |
| | | -21.50 | 1677 | 2054 |
| | | -22.00 | 1723 | 2108 |
| | | -22.50 | 1773 | 2168 |
| | | -23.00 | 1823 | 2228 |
| | | -23.50 | 1874 | 2288 |
| | | -24.00 | 1924 | 2347 |
| | | -24.50 | 1974 | 2406 |
| | | -25.00 | 2016 | 2457 |
| 328.S02 | 10.17 | -6.00 | 467 | |
| | | -6.50 | 512 | |
| | | -7.00 | 543 | 671 |
| | | -7.50 | 581 | 718 |
| | | -8.00 | 624 | 770 |
| | | -8.50 | 667 | 823 |
| | | -9.00 | 709 | 874 |
| | | -9.50 | 745 | 918 |
| | | -10.00 | 786 | 967 |
| | | -10.50 | 828 | 1018 |
| | | -11.00 | 876 | 1076 |
| | | -11.50 | 925 | 1135 |
| | | -12.00 | 972 | 1192 |
| | | -12.50 | 1015 | 1244 |
| | | -13.00 | 1056 | 1294 |
| | | -13.50 | 1098 | 1344 |
| | | -14.00 | 1140 | 1395 |
| | | -14.50 | 1181 | 1444 |
| | | -15.00 | 1223 | 1495 |
| | | -15.50 | 1265 | 1545 |
| | | -16.00 | 1313 | 1605 |
| | | -16.50 | 1357 | 1658 |
| | | -17.00 | 1409 | 1719 |
| | | -17.50 | 1460 | 1780 |
| | | -18.00 | 1523 | 1857 |
| | | -18.50 | 1566 | 1910 |
| | | -19.00 | 1611 | 1964 |
| | | -19.50 | 1660 | 2022 |
| | | -20.00 | 1710 | 2082 |
| | | -20.50 | 1760 | 2141 |
| | | -21.00 | 1810 | 2200 |
| | | -21.50 | 1860 | 2259 |
| | | -22.00 | 1909 | 2318 |
| | | -22.50 | 1959 | 2377 |
| | | -23.00 | 2008 | 2435 |
| | | -23.50 | 2058 | 2494 |
| | | -24.00 | 2107 | 2552 |
| | | -24.50 | 2148 | 2601 |
| | | -25.00 | 2188 | 2648 |
| | | -25.50 | 2227 | 2694 |
| | | -26.00 | 2266 | 2741 |
| | | -26.50 | 2308 | 2790 |
| | | -27.00 | 2357 | 2847 |
| | | -27.50 | 2405 | 2905 |
| | | -28.00 | 2447 | 2953 |
| | | -28.50 | 2483 | 2996 |

# APPENDIX E
# Berekening horizontale afdracht

In deze Appendix wordt de horizontale krachtsafdracht aangetoond van de 4-paalspoer.

## Schematisering

De poerconstructie wordt geschematiseerd met fictieve staafelementen, doel is niet om de interne krachten in de poer te berekenen. Dat zal in de UO-fase met staafwerkmodellen moeten plaatsvinden. De palen zijn momentvast verbonden en geschematiseerd als elastisch ondersteunde liggers, met begrensde beddingweerstand tot de passieve gronddruk.




**Figuur 9 Rekenmodel**

In paragraaf 2.8.6 zijn de uitgangspunten gegeven voor de beddingen tegen de palen. Er is in het kader van de berekening voldoende nauwkeurigheid als onderscheid wordt gemaakt in beddingwaarde voor drie grondsoorten. Er zijn twee berekeningen uitgevoerd: een met lage veerwaarde (k gedeeld door √2) en een met hoge veerwaarde (k maal √2).

**Tabel 18 Beddingwaarden**

| Paal | Grond | $k_h$ [kN/m³] | schelp [-] | Diameter [m] | Gem. [kN/m] | Laag [kN/m] | Hoog [kN/m] |
|---|---|---|---|---|---|---|---|
| Ø508/670 | Veen | 1500 | 1,2 | 0,508 | 914 | 647 | 1293 |
| | Klei | 3000 | 1,3 | 0,508 | 1981 | 1401 | 2802 |
| | Zand | 15000 | 2 | 0,67 | 20100 | 14213 | 28426 |

Het maatgevende bodemprofiel van sondering 2019-1008-17 is gebruikt, zie Tabel 14..

**Tabel 19 Gehanteerd bodemprofiel**

| Van [m] | Tot [m] | Omschrijving |
|---|---|---|
| 0,0 | -4,5 | Klei |
| -4,5 | -5,0 | Zand |
| -5,0 | -6,5 | Klei |
| -6,5 | -30,0 | Zand |

De maximale weerstand die in rekening mag worden gebracht kan niet groter zijn dan de passieve gronddruk. Over de bovenste meters waar de grootste verplaatsingen optreden, is vanuit die overweging de maximale reactie van de

lijnondersteuning aan de paal in de berekening begrensd. Er is uitgegaan van een volumiek gewicht van 17 kN/m$^3$, een grondwaterstand van 0,5 m beneden maaiveld.

De methode van Bijlage C van NEN 1997-1 is gevolgd. De factor voor passieve gronddruk is voor klei of veen op 2 aangehouden, voor zand op 3. Onderstaand zijn de maximale grondweerstanden samengevat die zijn toegekend aan de elastische ondersteuningen van de palen. De steun tegen de poer wordt geheel verwaarloosd.

**Tabel 20 Begrenzing passieve gronddruk**

| Paal | Grond | Niveau [m] | p [kN/m$^3$] | $k_{pa}$ [kN/m$^3$] | schelp [-] | Diameter [m] | Max. druk [kN] | Max. druk [kN] 50% |
|---|---|---|---|---|---|---|---|---|
| Ø508 | Klei | -1 | 12 | 2 | 1,3 | 0,508 | 7,9 | 4,0 |
| | | -2 | 19 | 2 | 1,3 | 0,508 | 20,5 | 10,2 |
| | | -3 | 26 | 2 | 1,3 | 0,508 | 29,7 | 14,9 |
| | | -4 | 33 | 2 | 1,3 | 0,508 | 39,0 | 19,5 |

## Belastingen

De reacties vanuit de berekening van masttype HC+0 zijn hieronder gegeven in Tabel 20. De horizontale reacties in het lokale assenstelsel zijn als belastingen ingevoerd in AxisVM. Dit vanwege de modellering, waarbij de hoofdassen overeenkomen met de overhoekse richting.

**Tabel 21 Belastingen HC+0_c**

| Belasting | Combinatie | $R_x$ [kN] | $R_y$ [kN] | $R_z$ [kN] | $R_\eta$ [kN] | $R_\xi$ [kN] | $R_{\xi,lok}$ [kN] | $R_{z,lok}$ [kN] |
|---|---|---|---|---|---|---|---|---|
| Max. druk | ULS 1a_60_120gr | 923 | -876 | **-5205** | -34 | -1272 | -127 | -5357 |
| Max. trek | ULS 1a_0,9_60_120gr | 814 | -701 | **4465** | 80 | 1071 | 129 | 4590 |
| Max. pos. torsie | SPLS 3_90 Ah Ct1_140gr | -437 | 117 | -838 | **392** | -226 | 1 | -868 |
| Max. neg. torsie | SPLS 3_90 Ba Ct1_140gr | 445 | 112 | -877 | **-394** | -235 | 0 | -908 |
| Comb. trek+torsie | SPLS 3_0,9_60 Ah Ct1_120gr | 821 | -411 | **3673** | **290** | 871 | 116 | 3774 |

## Toetsing

De volgende aspecten zijn getoetst:

- Horizontale verplaatsing < 1/400 x b
- Buigspanning in de paal < $f_y$

De gronddruk wordt niet getoetst, deze is immers reeds begrensd.

Tenslotte wordt bepaald wat de verhouding in belasting is tussen de maximaal belaste paal en de gemiddelde belasting per paal. Deze verhouding is de factor “efficiëntie” die in de toetsing met TS/Paalfunderingen wordt gebruikt.

Verplaatsingseisen worden gesteld voor de karakteristieke belastingen, zonder belastingfactoren. In de berekening is gewerkt met rekenwaarden. Als de berekening wordt uitgevoerd met belastingfactor (ULS of SpLS) moet om terug te rekenen worden gedeeld door de belastingfactor. De methode wordt hier toegelicht.

Er wordt gerekend met een verhouding ULS/SLS van 1,35. Voor de load cases van SPLS met maximale torsiebelasting wordt een factor 1,0 gerekend aangezien er geen SLS-equivalent van SPLS bestaat en de SPLS al uitgaat van gereduceerde belastingsfactoren.

Onder de belasting door torsie verplaatsen beide poten in dezelfde richting, theoretisch wordt dan altijd voldaan aan de eis. Gekozen is om ook hier het uitgangspunt te hanteren van 1/400 x b. In de overige load cases kunnen poten in tegengestelde richting vervormen. De toelaatbare vervorming is in die gevallen 50% van de toelaatbare waarde. De eisen zijn in tabel samengevat. De pootspreiding van de HC+0_c mast is gebruikt.

| Mast | Basiseis | | | Eis voor berekeningsresultaten | | |
|---|---|---|---|---|---|---|
| | b | eis | Eis | Factor 1 | Factor 2 | Eis |
| | [m] | [-] | [mm] | [-] | [-] | [mm] |
| HC+0 UGT afkeur | 11,76 | 1/400 | 29,4 | 1,35 | 0,50 | 19,8 |
| HC+0 Torsie | 11,76 | 1/400 | 29,4 | 1,00 | 1,00 | 29,4 |

## Resultaten

Zie berekening AxisVM. De voor de trekkracht in de paal maatgevende combinatie is de combinatie van trek en torsie. Het verschil met de combinatie max. trek is echter gering. Bij de twee andere combinaties met meer horizontale belasting, worden de buitenste palen het zwaarst belast, maar is de trekkracht lager. Met de ongelijke verdeling is rekening gehouden bij het bepalen van het benodigde paalpuntniveau via de efficiëntiefactor. Deze is berekend in Tabel 21, door de totale trekkracht te delen door de maximale trekkracht in één van de palen en het aantal palen. Voor een vierpaalspoer is gerekend met 90% en voor een driepaalspoer met 85% (verschil is 4 palen x 9% / 3 palen = 12%, afgerond 15 % genomen).

**Tabel 22 Berekening efficiëntie 4-paalspoer**

| Combinatie | Max. trek [kN] | Paal | Max. som trek [kN] | Efficiëntie |
|---|---|---|---|---|
| Max. trek | 1180 | buitenpaal | 4296 | 91% |

Zie bijlage AxisVM:

**Tabel 23 Toetsing**

| | Berekend | Toelaatbaar | | Unity-check | |
|---|---|---|---|---|---|
| Spanningscheck buispaal | 154 | 355 | N/mm$^2$ | 0,43 | OK |
| Verplaatsing max. druk/trek | 14,4 | 19,8 | mm | 0,73 | OK |
| Verplaatsing bij torsie | 18,0 | 29,4 | mm | 0,61 | OK |

Conclusie: de 4-paalsfundering voldoet.

Bijlage: rapport AxisVM

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

AxisVM X6 R1l · Geregistreerd aan DNV GL - Energy
ZWO380 20210927 4-p wortelk rev2.axs

Rapport

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| [II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Vz, Lijnen (gevuld) | 27 |
| [II], > Palen, Non-lin., Co #1 Max trek min e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld) | 28 |
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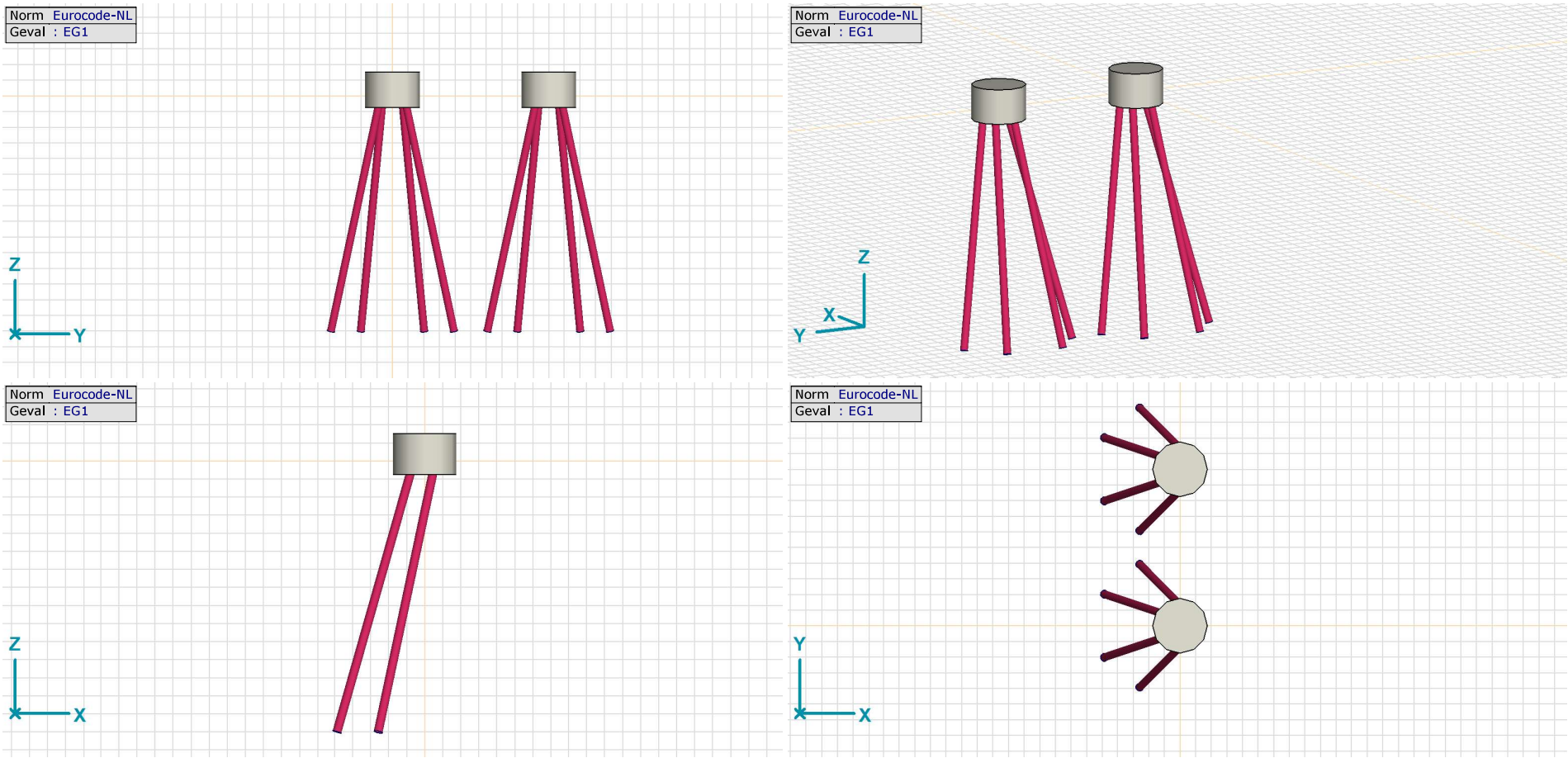


*Overview*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs**

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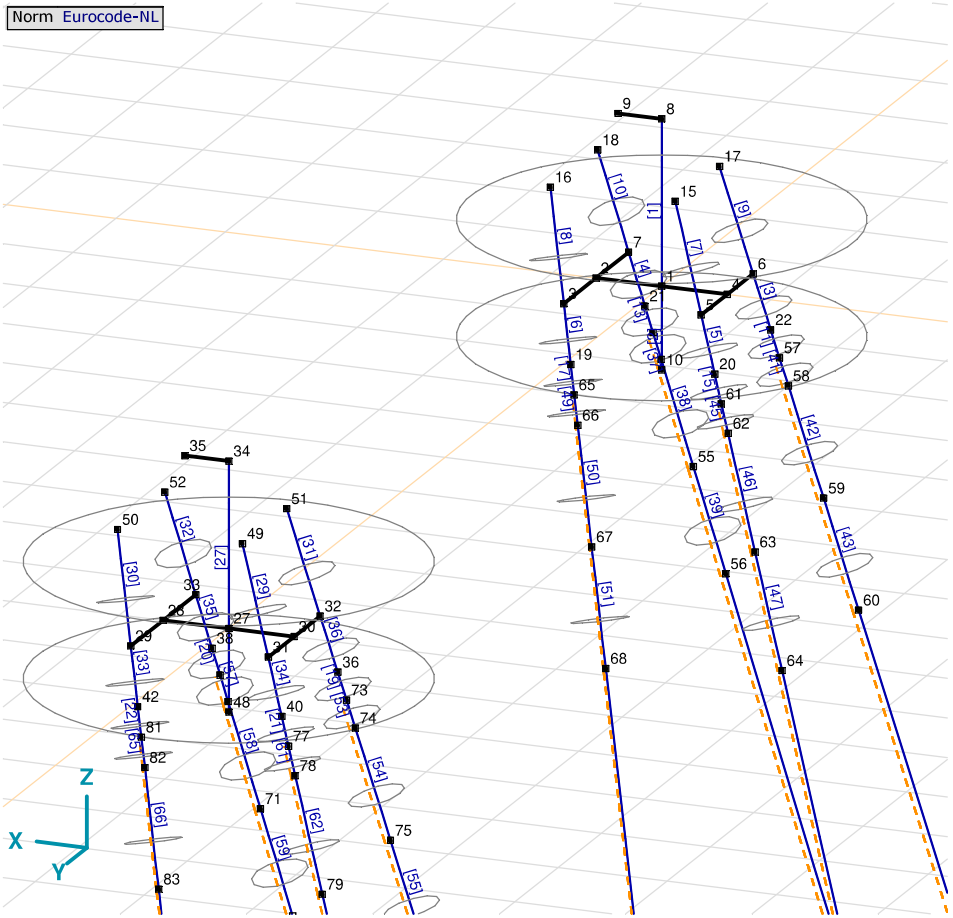


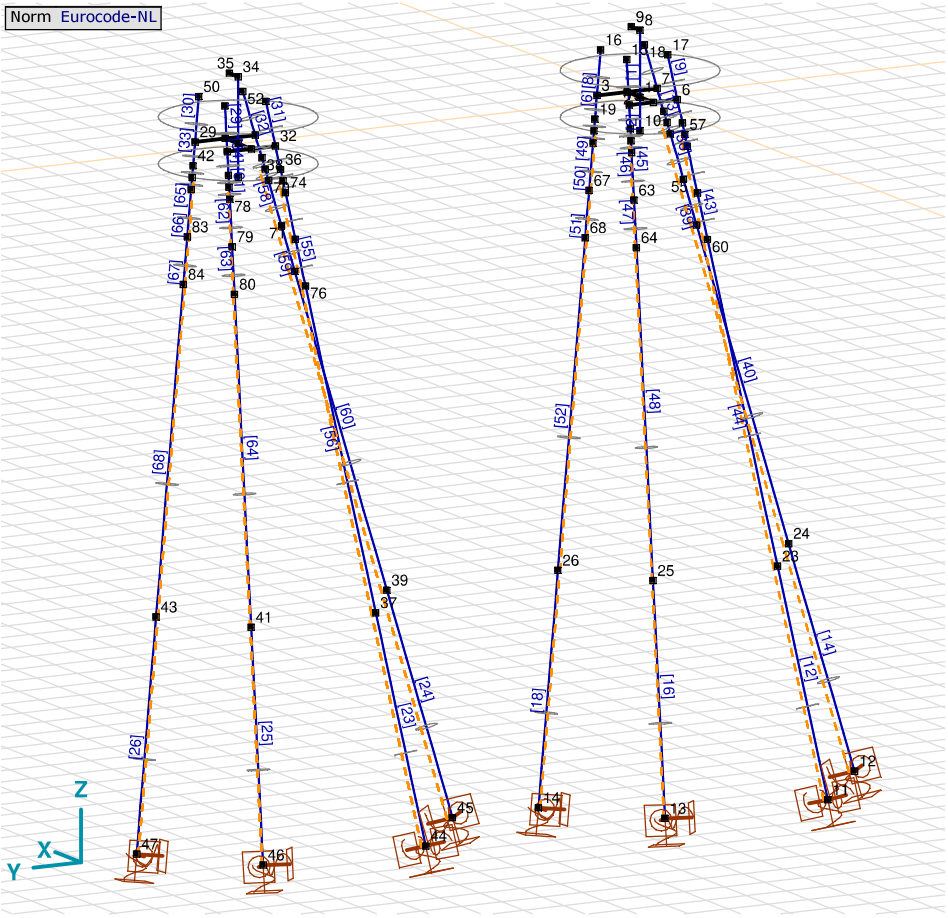


*Nummers*

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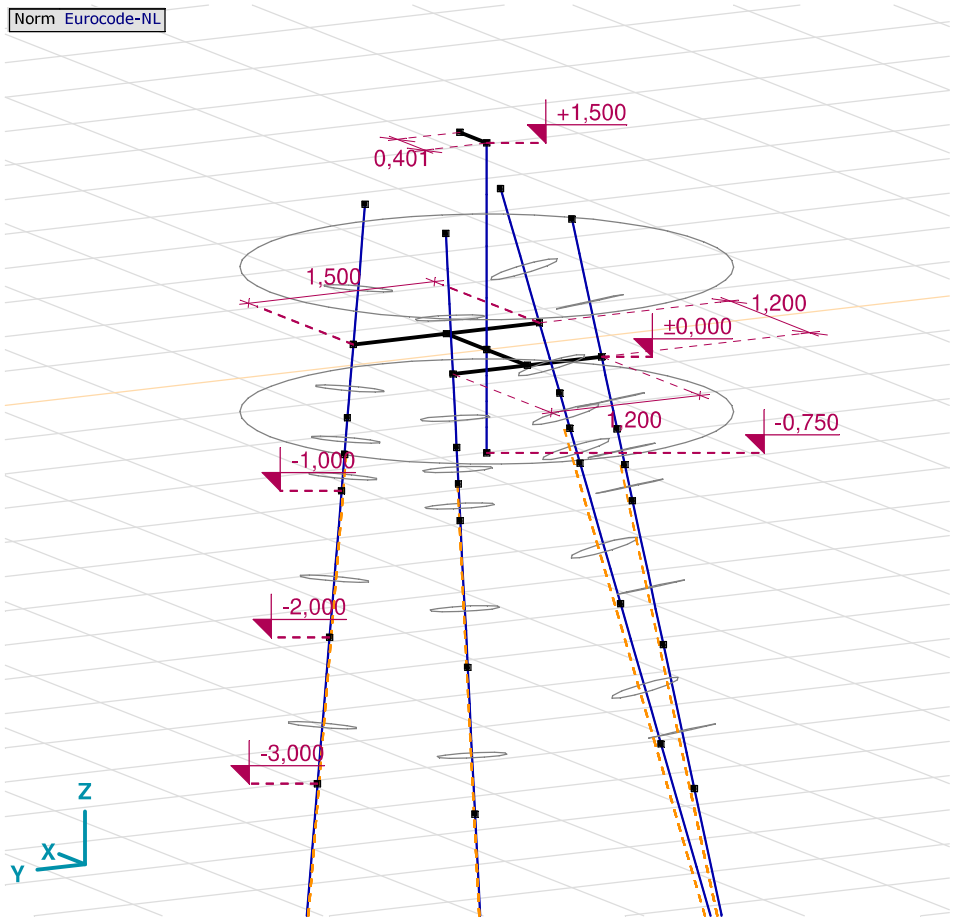
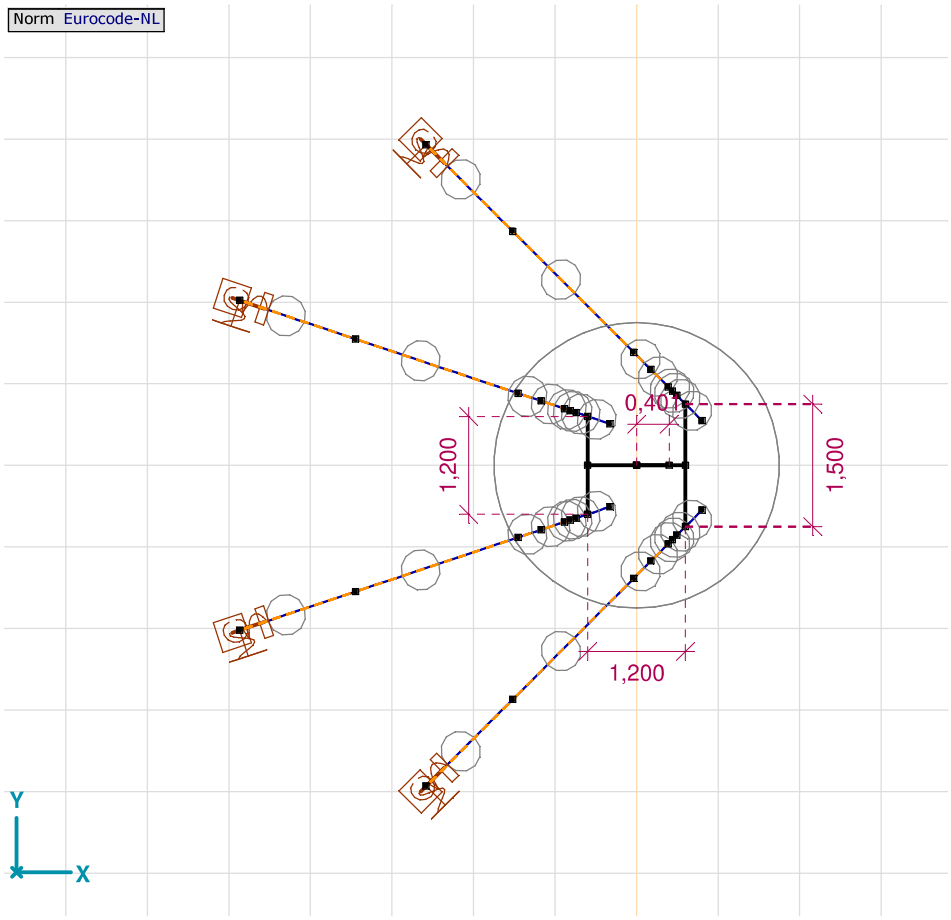



*Maatvoering*

## Materialen

| | Naam | Type | Nationale norm | Materiaalnorm | Model | $E_x$ [N/mm²] | $E_y$ [N/mm²] | ν | $\alpha_T$ [1/°C] | ρ [kg/m³] | Materiaal kleur | Contour kleur | Structuur | $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | C30/37 | Beton | Eurocode-NL | EN 206 | Lineair | 32800 | 32800 | 0,20 | 1E-5 | 2500 | | | Concrete A | $f_{ck}$[N/mm²] = 30,00 |
| 2 | S 355 | Staal | Eurocode-NL | 10025-2 | Lineair | 210000 | 210000 | 0,30 | 1,2E-5 | 7850 | | | Steel | $f_y$[N/mm²] = 355,00 |

| | Naam | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | $P_{11}$ | $P_{12}$ | $P_{13}$ | $P_{14}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | C30/37 | $\gamma_c$= 1,500 | $\alpha_{cc}$= 1,00 | $\phi_t$= 2,00 | | | | | | | | | | |
| 2 | S 355 | $f_u$[N/mm²] = 510,00 | $f^*_y$[N/mm²] = 335,00 | $f^*_u$[N/mm²] = 470,00 | | | | | | | | | | |

**Naam:** Materiaalnaam; **Type:** Type materiaal; **Model:** Materiaal model; **$E_x$:** Elasticiteitsmodulus in lokale x richting; **$E_y$:** Elasticiteitsmodulus in lokale y richting; **ν:** Poisson's verhouding; **$\alpha_T$:** Warmteuitzettingscoëfficiënt; **ρ:** Dichtheid; **Materiaal kleur:** Materiaalkleur; **Contour kleur:** Contourkleur; **$P_1$, $P_2$, $P_3$, $P_4$, $P_5$, $P_6$, $P_7$, $P_8$, $P_9$, $P_{10}$, $P_{11}$, $P_{12}$, $P_{13}$, $P_{14}$:** Ontwerpparameter;

## Profielen

| | Naam | Tekening | Productie | Vorm | h [mm] | b [mm] | tw [mm] | tf [mm] | $r_1$ [mm] | $r_2$ [mm] | $r_3$ [mm] | Ax [mm²] | Ay [mm²] | Az [mm²] | Ix [mm⁴] | Iy [mm⁴] | Iz [mm⁴] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | O 3500 | | Ander | Rond | 3500,0 | 3500,0 | 0 | 0 | 0 | 0 | 0 | 9619174,00 | 8245006,00 | 8245006,00 | 1,47E+13 | 7,36E+12 | 7,36E+12 |
| 2 | O 508x9 | | Gewalst | Buis | 508,0 | 508,0 | 9,3 | 9,3 | 0 | 0 | 0 | 14567,47 | 7287,48 | 7288,00 | 9,06E+08 | 4,53E+08 | 4,53E+08 |

| | Naam | Iyz [mm⁴] | $I_1$ [mm⁴] | $I_2$ [mm⁴] | α [°] | Iω [mm⁶] | $W_{1,el,t}$ [mm³] | $W_{1,el,b}$ [mm³] | $W_{2,el,t}$ [mm³] | $W_{2,el,b}$ [mm³] | $W_{1,pl}$ [mm³] | $W_{2,pl}$ [mm³] | $i_y$ [mm] | $i_z$ [mm] | Hy [mm] | Hz [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | O 3500 | 0 | 7,36E+12 | 7,36E+12 | 0 | 0 | 4,21E+09 | 4,21E+09 | 4,21E+09 | 4,21E+09 | 7,14E+09 | 7,14E+09 | 874,9 | 874,9 | 3500,0 | 3500,0 |
| 2 | O 508x9 | 0 | 4,53E+08 | 4,53E+08 | 0 | 10 | 1783207,00 | 1783207,00 | 1783207,00 | 1783207,00 | 2312489,00 | 2312504,00 | 176,3 | 176,3 | 508,0 | 508,0 |

| | Naam | $y_G$ [mm] | $z_G$ [mm] | $y_s$ [mm] | $z_s$ [mm] | S.p. |
|---|---|---|---|---|---|---|
| 1 | O 3500 | 1750,0 | 1750,0 | 0 | 0 | 5 |
| 2 | O 508x9 | 254,0 | 254,0 | 0 | 0 | 5 |

**Naam:** Doorsnede naam; **Productie:** Productieproces; **Vorm:** Profiel; **h:** Doorsnede hoogte; **b:** Doorsnede breedte; **tw:** Lijfdikte; **tf:** Flensdikte; **$r_1$, $r_2$, $r_3$:** Afrondingswaarde; **Ax:** Doorsnede-oppervlak; **Ay, Az:** Afschuivingsoppervlak; **Ix:** Torsietraagheidsmoment; **Iy, Iz:** Buigtraagheidsmoment; **Iyz:** Centrifugaal traagheidsmoment; **$I_1$, $I_2$:** Hoofdbuigtraagheidsmoment; **α:** Hoofdrichtingen; **Iω:** Krommingsconstante; **$W_{1,el,t}$, $W_{1,el,b}$, $W_{2,el,t}$, $W_{2,el,b}$:** Elastisch weerstandsmoment; **$W_{1,pl}$, $W_{2,pl}$:** Plastisch weerstandsmoment; **$i_y$, $i_z$:** Traagheidsstraal; **Hy:** Afmeting in lokale Y-richting; **Hz:** Afmeting in lokale Z-richting; **$y_G$:** Y-coördinaat van het zwaartepunt; **$z_G$:** Z-coördinaat van het zwaartepunt; **$y_s$:** Y-coördinaat van het afschuivingsmiddelpunt (torsie); **$z_s$:** Z-coördinaat van het afschuivingsmiddelpunt (torsie); **S.p.:** Spanningspunten;

Knopen

| | X [m] | Y [m] | Z [m] |
|---|---|---|---|
| 1 | 0 | 0 | 0 |
| 2 | 0,600 | 0 | 0 |
| 3 | 0,600 | 0,750 | 0 |
| 4 | −0,600 | 0 | 0 |
| 5 | −0,600 | 0,600 | 0 |
| 6 | −0,600 | −0,600 | 0 |
| 7 | 0,600 | −0,750 | 0 |
| 8 | 0 | 0 | 1,500 |
| 9 | 0,401 | 0 | 1,500 |
| 10 | 0 | 0 | −0,750 |
| 11 | −4,869 | −2,023 | −15,000 |
| 12 | −2,582 | −3,932 | −15,000 |
| 13 | −4,869 | 2,023 | −15,000 |
| 14 | −2,582 | 3,932 | −15,000 |
| 15 | −0,327 | 0,509 | 0,958 |
| 16 | 0,803 | 0,547 | 0,958 |
| 17 | −0,327 | −0,509 | 0,958 |
| 18 | 0,803 | −0,547 | 0,958 |
| 19 | 0,494 | 0,856 | −0,500 |
| 20 | −0,742 | 0,647 | −0,500 |
| 21 | 0,494 | −0,856 | −0,500 |
| 22 | −0,742 | −0,647 | −0,500 |
| 23 | −3,446 | −1,549 | −10,000 |
| 24 | −1,521 | −2,871 | −10,000 |
| 25 | −3,446 | 1,549 | −10,000 |
| 26 | −1,521 | 2,871 | −10,000 |
| 27 | 0 | 10,000 | 0 |
| 28 | 0,600 | 10,000 | 0 |
| 29 | 0,600 | 10,750 | 0 |
| 30 | −0,600 | 10,000 | 0 |
| 31 | −0,600 | 10,600 | 0 |
| 32 | −0,600 | 9,400 | 0 |
| 33 | 0,600 | 9,250 | 0 |
| 34 | 0 | 10,000 | 1,500 |
| 35 | 0,401 | 10,000 | 1,500 |
| 36 | −0,742 | 9,353 | −0,500 |
| 37 | −3,446 | 8,451 | −10,000 |
| 38 | 0,494 | 9,144 | −0,500 |
| 39 | −1,521 | 7,129 | −10,000 |
| 40 | −0,742 | 10,647 | −0,500 |
| 41 | −3,446 | 11,549 | −10,000 |
| 42 | 0,494 | 10,856 | −0,500 |
| 43 | −1,521 | 12,871 | −10,000 |
| 44 | −4,869 | 7,977 | −15,000 |
| 45 | −2,582 | 6,068 | −15,000 |
| 46 | −4,869 | 12,023 | −15,000 |
| 47 | −2,582 | 13,932 | −15,000 |
| 48 | 0 | 10,000 | −0,750 |
| 49 | −0,327 | 10,509 | 0,958 |
| 50 | 0,803 | 10,547 | 0,958 |
| 51 | −0,327 | 9,491 | 0,958 |
| 52 | 0,803 | 9,453 | 0,958 |
| 53 | 0,441 | −0,909 | −0,750 |
| 54 | 0,388 | −0,962 | −1,000 |
| 55 | 0,176 | −1,174 | −2,000 |
| 56 | −0,036 | −1,386 | −3,000 |
| 57 | −0,813 | −0,671 | −0,750 |
| 58 | −0,884 | −0,695 | −1,000 |
| 59 | −1,169 | −0,790 | −2,000 |
| 60 | −1,454 | −0,885 | −3,000 |
| 61 | −0,814 | 0,671 | −0,750 |
| 62 | −0,885 | 0,695 | −1,000 |
| 63 | −1,169 | 0,790 | −2,000 |
| 64 | −1,454 | 0,885 | −3,000 |
| 65 | 0,441 | 0,909 | −0,750 |
| 66 | 0,388 | 0,962 | −1,000 |
| 67 | 0,176 | 1,174 | −2,000 |
| 68 | −0,036 | 1,386 | −3,000 |
| 69 | 0,441 | 9,091 | −0,750 |
| 70 | 0,388 | 9,038 | −1,000 |
| 71 | 0,176 | 8,826 | −2,000 |
| 72 | −0,036 | 8,614 | −3,000 |
| 73 | −0,813 | 9,329 | −0,750 |
| 74 | −0,885 | 9,305 | −1,000 |
| 75 | −1,169 | 9,210 | −2,000 |
| 76 | −1,454 | 9,115 | −3,000 |
| 77 | −0,813 | 10,671 | −0,750 |
| 78 | −0,885 | 10,695 | −1,000 |
| 79 | −1,169 | 10,790 | −2,000 |
| 80 | −1,454 | 10,885 | −3,000 |
| 81 | 0,441 | 10,909 | −0,750 |
| 82 | 0,388 | 10,962 | −1,000 |
| 83 | 0,176 | 11,174 | −2,000 |
| 84 | −0,036 | 11,386 | −3,000 |

Staven

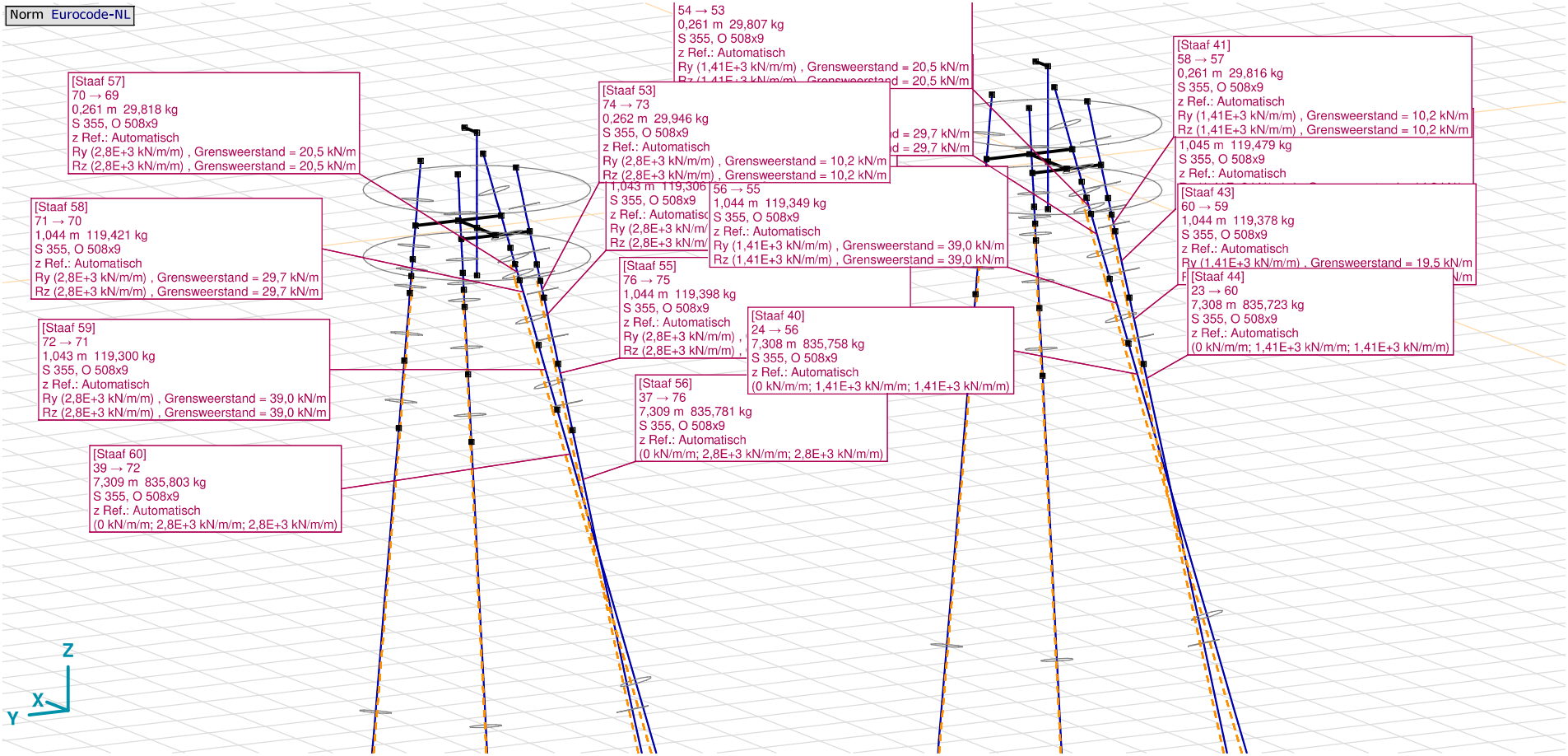
| | Start-punt | Eind-punt | Lengte | Lokaal X | Materiaal | Doorsnede |
|---|---|---|---|---|---|---|
| 1 | 1 | 8 | 1,500 | i - j | C30/37 | 1 |
| 2 | 10 | 1 | 0,750 | j - i | C30/37 | 1 |
| 3 | 22 | 6 | 0,522 | j - i | S 355 | 2 |
| 4 | 21 | 7 | 0,522 | j - i | S 355 | 2 |
| 5 | 20 | 5 | 0,522 | j - i | S 355 | 2 |
| 6 | 19 | 3 | 0,522 | j - i | S 355 | 2 |
| 7 | 5 | 15 | 1,000 | i - j | S 355 | 2 |
| 8 | 3 | 16 | 1,000 | i - j | S 355 | 2 |
| 9 | 6 | 17 | 1,000 | i - j | S 355 | 2 |
| 10 | 7 | 18 | 1,000 | i - j | S 355 | 2 |
| 11 | 57 | 22 | 0,260 | j - i | S 355 | 2 |
| 12 | 11 | 23 | 5,220 | i - j | S 355 | 2 |
| 13 | 53 | 21 | 0,261 | j - i | S 355 | 2 |
| 14 | 12 | 24 | 5,220 | i - j | S 355 | 2 |
| 15 | 61 | 20 | 0,261 | j - i | S 355 | 2 |
| 16 | 13 | 25 | 5,220 | i - j | S 355 | 2 |
| 17 | 65 | 19 | 0,260 | j - i | S 355 | 2 |
| 18 | 14 | 26 | 5,220 | i - j | S 355 | 2 |
| 19 | 73 | 36 | 0,260 | j - i | S 355 | 2 |
| 20 | 69 | 38 | 0,261 | j - i | S 355 | 2 |
| 21 | 77 | 40 | 0,260 | j - i | S 355 | 2 |
| 22 | 81 | 42 | 0,261 | j - i | S 355 | 2 |
| 23 | 44 | 37 | 5,220 | j - i | S 355 | 2 |
| 24 | 45 | 39 | 5,220 | j - i | S 355 | 2 |
| 25 | 46 | 41 | 5,220 | j - i | S 355 | 2 |
| 26 | 47 | 43 | 5,220 | j - i | S 355 | 2 |
| 27 | 27 | 34 | 1,500 | i - j | C30/37 | 1 |
| 28 | 48 | 27 | 0,750 | j - i | C30/37 | 1 |
| 29 | 31 | 49 | 1,000 | i - j | S 355 | 2 |
| 30 | 29 | 50 | 1,000 | i - j | S 355 | 2 |
| 31 | 32 | 51 | 1,000 | i - j | S 355 | 2 |
| 32 | 33 | 52 | 1,000 | i - j | S 355 | 2 |
| 33 | 42 | 29 | 0,522 | j - i | S 355 | 2 |
| 34 | 40 | 31 | 0,522 | j - i | S 355 | 2 |
| 35 | 38 | 33 | 0,522 | j - i | S 355 | 2 |
| 36 | 36 | 32 | 0,522 | j - i | S 355 | 2 |
| 37 | 54 | 53 | 0,261 | j - i | S 355 | 2 |
| 38 | 55 | 54 | 1,044 | j - i | S 355 | 2 |
| 39 | 56 | 55 | 1,044 | j - i | S 355 | 2 |
| 40 | 24 | 56 | 7,308 | i - j | S 355 | 2 |
| 41 | 58 | 57 | 0,261 | j - i | S 355 | 2 |
| 42 | 59 | 58 | 1,045 | j - i | S 355 | 2 |
| 43 | 60 | 59 | 1,044 | j - i | S 355 | 2 |
| 44 | 23 | 60 | 7,308 | i - j | S 355 | 2 |
| 45 | 62 | 61 | 0,261 | j - i | S 355 | 2 |
| 46 | 63 | 62 | 1,044 | j - i | S 355 | 2 |
| 47 | 64 | 63 | 1,044 | j - i | S 355 | 2 |
| 48 | 25 | 64 | 7,309 | i - j | S 355 | 2 |
| 49 | 66 | 65 | 0,262 | j - i | S 355 | 2 |
| 50 | 67 | 66 | 1,044 | j - i | S 355 | 2 |
| 51 | 68 | 67 | 1,045 | j - i | S 355 | 2 |
| 52 | 26 | 68 | 7,308 | i - j | S 355 | 2 |
| 53 | 74 | 73 | 0,262 | j - i | S 355 | 2 |
| 54 | 75 | 74 | 1,043 | j - i | S 355 | 2 |
| 55 | 76 | 75 | 1,044 | j - i | S 355 | 2 |
| 56 | 37 | 76 | 7,309 | i - j | S 355 | 2 |
| 57 | 70 | 69 | 0,261 | j - i | S 355 | 2 |
| 58 | 71 | 70 | 1,044 | j - i | S 355 | 2 |
| 59 | 72 | 71 | 1,043 | j - i | S 355 | 2 |
| 60 | 39 | 72 | 7,309 | i - j | S 355 | 2 |
| 61 | 78 | 77 | 0,262 | j - i | S 355 | 2 |
| 62 | 79 | 78 | 1,044 | j - i | S 355 | 2 |
| 63 | 80 | 79 | 1,044 | j - i | S 355 | 2 |
| 64 | 41 | 80 | 7,308 | i - j | S 355 | 2 |
| 65 | 82 | 81 | 0,261 | j - i | S 355 | 2 |
| 66 | 83 | 82 | 1,044 | j - i | S 355 | 2 |
| 67 | 84 | 83 | 1,044 | j - i | S 355 | 2 |
| 68 | 43 | 84 | 7,308 | i - j | S 355 | 2 |

**Lengte:** Elementlengte; **Lokaal X:** Lokale X-richting;

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 10




*Bedding*

Lijnopleggingen

| | Lijn | Type | Ref. elem. | Rx [kN/m/m] | Ry [kN/m/m] | Rz [kN/m/m] | Rxx [kNm/rad/m] | Ryy [kNm/rad/m] | Rzz [kNm/rad/m] | NL(x) | NL(y) | NL(z) | NL(xx) | NL(yy) | NL(zz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Staaf r.** | | | | | | | | | | | | | |
| 1 | Staaf 12 | Staaf r. | | 0 | 1,42E+4 | 1,42E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 2 | Staaf 14 | Staaf r. | | 0 | 1,42E+4 | 1,42E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 3 | Staaf 16 | Staaf r. | | 0 | 1,42E+4 | 1,42E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 4 | Staaf 18 | Staaf r. | | 0 | 1,42E+4 | 1,42E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 5 | Staaf 23 | Staaf r. | | 0 | 2,84E+4 | 2,84E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 6 | Staaf 24 | Staaf r. | | 0 | 2,84E+4 | 2,84E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 7 | Staaf 25 | Staaf r. | | 0 | 2,84E+4 | 2,84E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 8 | Staaf 26 | Staaf r. | | 0 | 2,84E+4 | 2,84E+4 | | | | | Symmetrisch | Symmetrisch | | | |
| 9 | Staaf 37 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 10 | Staaf 38 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 11 | Staaf 39 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 12 | Staaf 40 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 13 | Staaf 41 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 14 | Staaf 42 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 15 | Staaf 43 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 16 | Staaf 44 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |

| | Lijn | F(x) [kN/m] | F(y) [kN/m] | F(z) [kN/m] | M(x) [kNm/m] | M(y) [kNm/m] | M(z) [kNm/m] |
|---|---|---|---|---|---|---|---|
| 1 | Staaf 12 | | | | | | |
| 2 | Staaf 14 | | | | | | |
| 3 | Staaf 16 | | | | | | |
| 4 | Staaf 18 | | | | | | |
| 5 | Staaf 23 | | | | | | |
| 6 | Staaf 24 | | | | | | |
| 7 | Staaf 25 | | | | | | |
| 8 | Staaf 26 | | | | | | |
| 9 | Staaf 37 | | 20,5 | 20,5 | | | |
| 10 | Staaf 38 | | 29,7 | 29,7 | | | |
| 11 | Staaf 39 | | 39,0 | 39,0 | | | |
| 12 | Staaf 40 | | | | | | |
| 13 | Staaf 41 | | 10,2 | 10,2 | | | |
| 14 | Staaf 42 | | 14,9 | 14,9 | | | |
| 15 | Staaf 43 | | 19,5 | 19,5 | | | |
| 16 | Staaf 44 | | | | | | |

Lijnopleggingen

| | Lijn | Type | Ref. elem. | Rx [kN/m/m] | Ry [kN/m/m] | Rz [kN/m/m] | Rxx [kNm/rad/m] | Ryy [kNm/rad/m] | Rzz [kNm/rad/m] | NL(x) | NL(y) | NL(z) | NL(xx) | NL(yy) | NL(zz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | Staaf 45 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 18 | Staaf 46 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 19 | Staaf 47 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 20 | Staaf 48 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 21 | Staaf 49 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 22 | Staaf 50 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 23 | Staaf 51 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 24 | Staaf 52 | Staaf r. | | 0 | 1,41E+3 | 1,41E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 25 | Staaf 53 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 26 | Staaf 54 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 27 | Staaf 55 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 28 | Staaf 56 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 29 | Staaf 57 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 30 | Staaf 58 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 31 | Staaf 59 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 32 | Staaf 60 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 33 | Staaf 61 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |

| | Lijn | F(x) [kN/m] | F(y) [kN/m] | F(z) [kN/m] | M(x) [kNm/m] | M(y) [kNm/m] | M(z) [kNm/m] |
|---|---|---|---|---|---|---|---|
| 17 | Staaf 45 | | 10,2 | 10,2 | | | |
| 18 | Staaf 46 | | 14,9 | 14,9 | | | |
| 19 | Staaf 47 | | 19,5 | 19,5 | | | |
| 20 | Staaf 48 | | | | | | |
| 21 | Staaf 49 | | 20,5 | 20,5 | | | |
| 22 | Staaf 50 | | 29,7 | 29,7 | | | |
| 23 | Staaf 51 | | 39,0 | 39,0 | | | |
| 24 | Staaf 52 | | | | | | |
| 25 | Staaf 53 | | 10,2 | 10,2 | | | |
| 26 | Staaf 54 | | 14,9 | 14,9 | | | |
| 27 | Staaf 55 | | 19,5 | 19,5 | | | |
| 28 | Staaf 56 | | | | | | |
| 29 | Staaf 57 | | 20,5 | 20,5 | | | |
| 30 | Staaf 58 | | 29,7 | 29,7 | | | |
| 31 | Staaf 59 | | 39,0 | 39,0 | | | |
| 32 | Staaf 60 | | | | | | |
| 33 | Staaf 61 | | 10,2 | 10,2 | | | |

## Lijnopleggingen

| | *Lijn* | *Type* | *Ref. elem.* | *Rx [kN/m/m]* | *Ry [kN/m/m]* | *Rz [kN/m/m]* | *Rxx [kNm/rad/m]* | *Ryy [kNm/rad/m]* | *Rzz [kNm/rad/m]* | *NL(x)* | *NL(y)* | *NL(z)* | *NL(xx)* | *NL(yy)* | *NL(zz)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | Staaf 62 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 35 | Staaf 63 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 36 | Staaf 64 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 37 | Staaf 65 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 38 | Staaf 66 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 39 | Staaf 67 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |
| 40 | Staaf 68 | Staaf r. | | 0 | 2,8E+3 | 2,8E+3 | | | | | Symmetrisch | Symmetrisch | | | |

| | *Lijn* | *F(x) [kN/m]* | *F(y) [kN/m]* | *F(z) [kN/m]* | *M(x) [kNm/m]* | *M(y) [kNm/m]* | *M(z) [kNm/m]* |
|---|---|---|---|---|---|---|---|
| 34 | Staaf 62 | | 14,9 | 14,9 | | | |
| 35 | Staaf 63 | | 19,5 | 19,5 | | | |
| 36 | Staaf 64 | | | | | | |
| 37 | Staaf 65 | | 20,5 | 20,5 | | | |
| 38 | Staaf 66 | | 29,7 | 29,7 | | | |
| 39 | Staaf 67 | | 39,0 | 39,0 | | | |
| 40 | Staaf 68 | | | | | | |

**Lijn:** Ondersteund lijnelement; **Type:** Opleggingstype; **Ref. elem.:** Referentie-element; **Rx, Ry, Rz:** Verplaatsingsstijfheid; **Rxx, Ryy, Rzz:** Rotatiestijfheid; **NL(x), NL(y), NL(z), NL(xx), NL(yy), NL(zz):** Niet-lineaire parameters; **F(x):** Weerstand in X-richting; **F(y):** Weerstand in Y-richting; **F(z):** Weerstand in Z-richting; **M(x):** Weerstandsmoment in X-richting; **M(y):** Weerstandsmoment in Y-richting; **M(z):** Weerstandsmoment in Z-richting;

## Knoopopleggingen

| | *Knoop* | *X [m]* | *Y [m]* | *Z [m]* | *Type* | *Ref. elem.* | *$Naam_x$* | *$K_x$ [kN/m]* | *$K_{xV}$ [kN/m]* | *$Naam_y$* | *$K_y$ [kN/m]* | *$K_{yV}$ [kN/m]* | *$Naam_z$* | *$K_z$ [kN/m]* | *$K_{zV}$ [kN/m]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | −4,869 | −2,023 | −15,000 | Staaf r. | Staaf 14 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 2 | 12 | −2,582 | −3,932 | −15,000 | Staaf r. | Staaf 25 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 3 | 13 | −4,869 | 2,023 | −15,000 | Staaf r. | Staaf 36 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 4 | 14 | −2,582 | 3,932 | −15,000 | Staaf r. | Staaf 47 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 5 | 44 | −4,869 | 7,977 | −15,000 | Staaf r. | Staaf 93 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 6 | 45 | −2,582 | 6,068 | −15,000 | Staaf r. | Staaf 103 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 7 | 46 | −4,869 | 12,023 | −15,000 | Staaf r. | Staaf 113 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |
| 8 | 47 | −2,582 | 13,932 | −15,000 | Staaf r. | Staaf 123 | Lineair 2E+5 kN/m | 2E+5 | 2E+5 | Vast - translatie | 1E+10 | 1E+10 | Vast - translatie | 1E+10 | 1E+10 |

| | *Knoop* | *$Naam_{xx}$* | *$K_{xx}$ [kNm/rad]* | *$K_{xxV}$ [kNm/rad]* | *$Naam_{yy}$* | *$K_{yy}$ [kNm/rad]* | *$K_{yyV}$ [kNm/rad]* | *$Naam_{zz}$* | *$K_{zz}$ [kNm/rad]* | *$K_{zzV}$ [kNm/rad]* |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 2 | 12 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 3 | 13 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 4 | 14 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 5 | 44 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 6 | 45 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 7 | 46 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |
| 8 | 47 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 | Vast - rotatie | 1E+10 | 1E+10 |

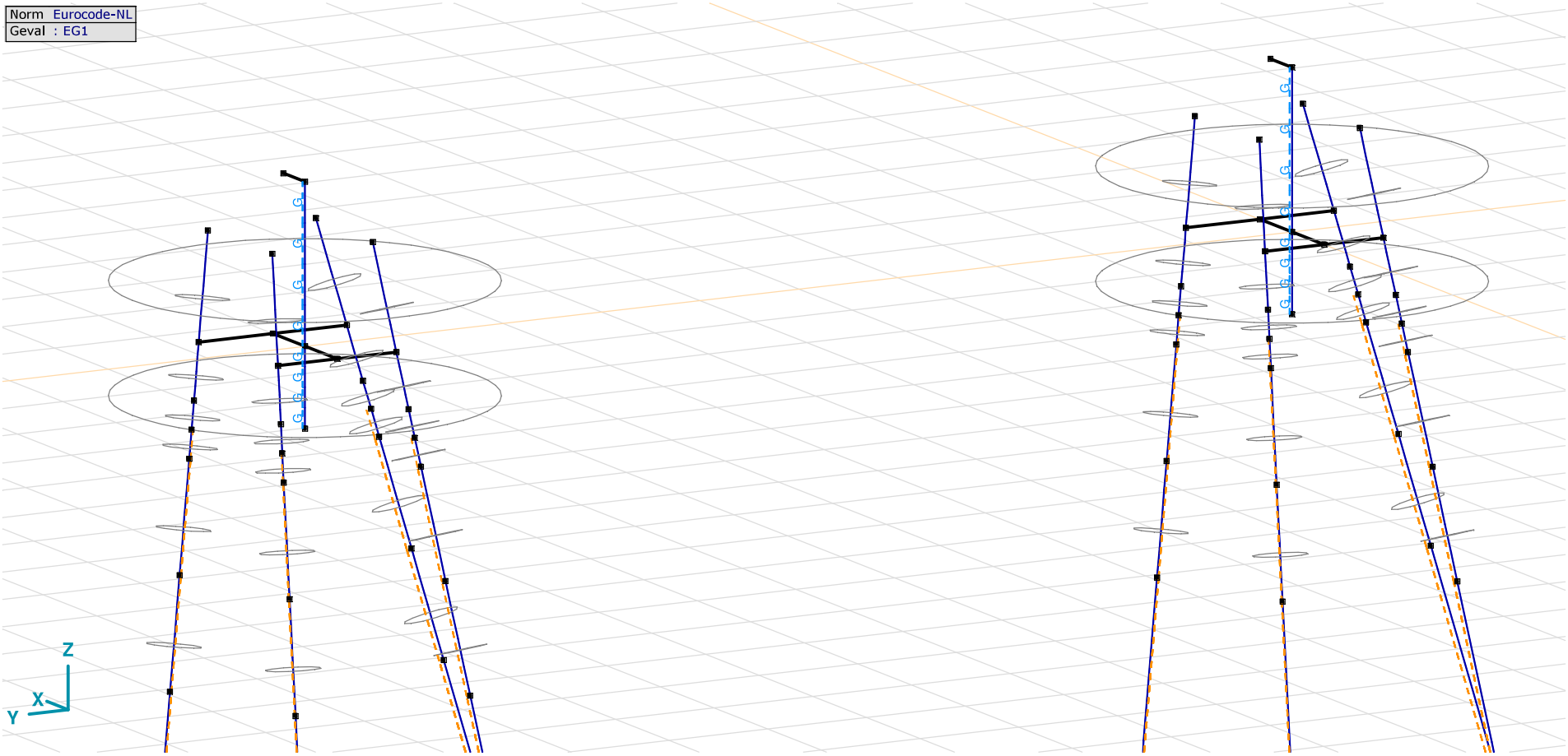
**Knoop:** Ondersteunde knoop; **Type:** Opleggingstype; **Ref. elem.:** Referentie-element; **$K_x$, $K_y$, $K_z$, $K_{xx}$, $K_{yy}$, $K_{zz}$:** Initiële stijfheid;

## EG1: Staaf eigen gewicht

| | *Σ [kg]* |
|---|---|
| 125–132 | 54107,853 |
| 229–236 | 54107,853 |
| **Totaal** | **108215,705** |

**Σ:** Totale massa;

**Project: 4-paalspoer**
Constructeur: DNV GL - Energy
Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 15

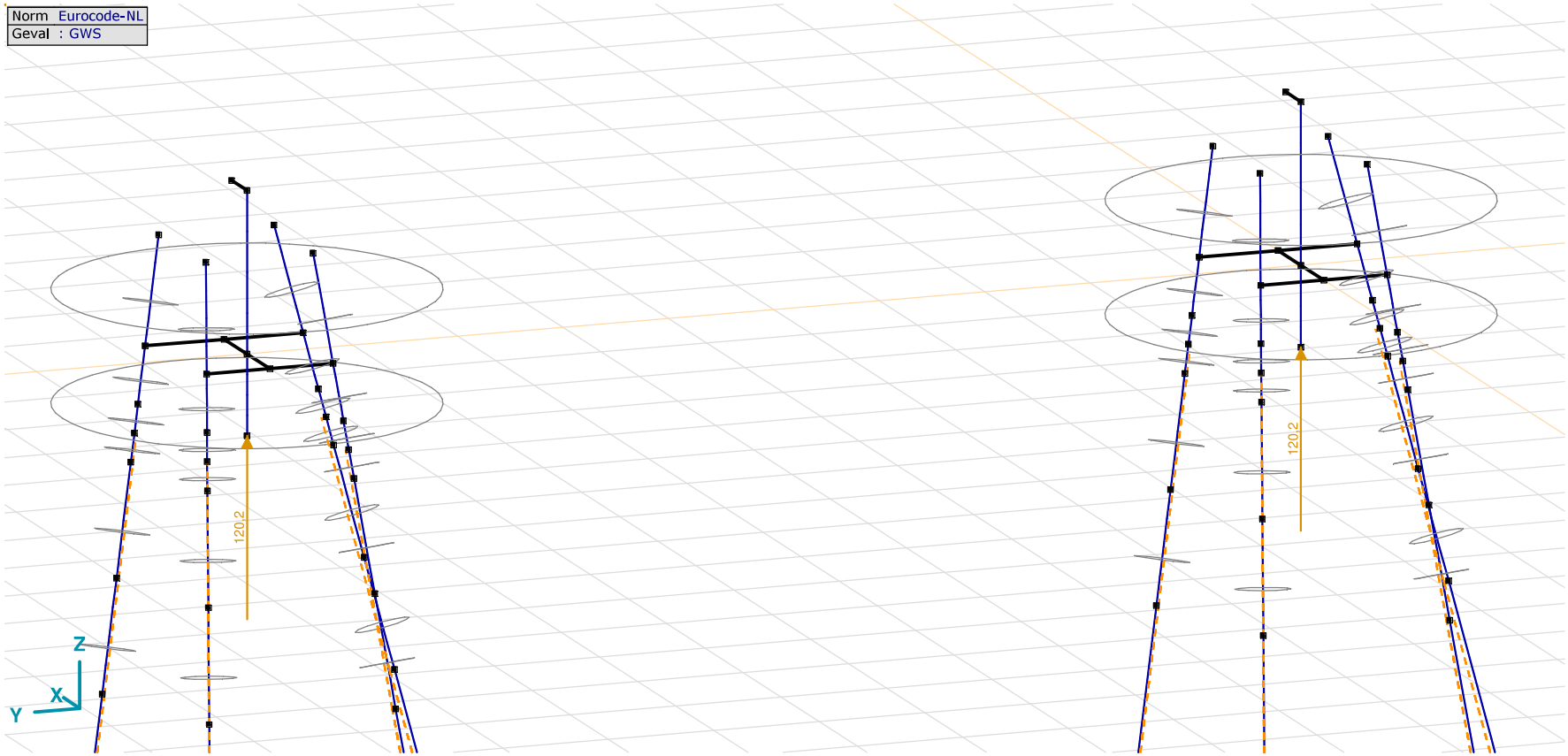



*EG1*

GWS: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 10 | Globaal | 0 | 0 | 120,2 | 0 | 0 | 0 |
| 48 | Globaal | 0 | 0 | 120,2 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;

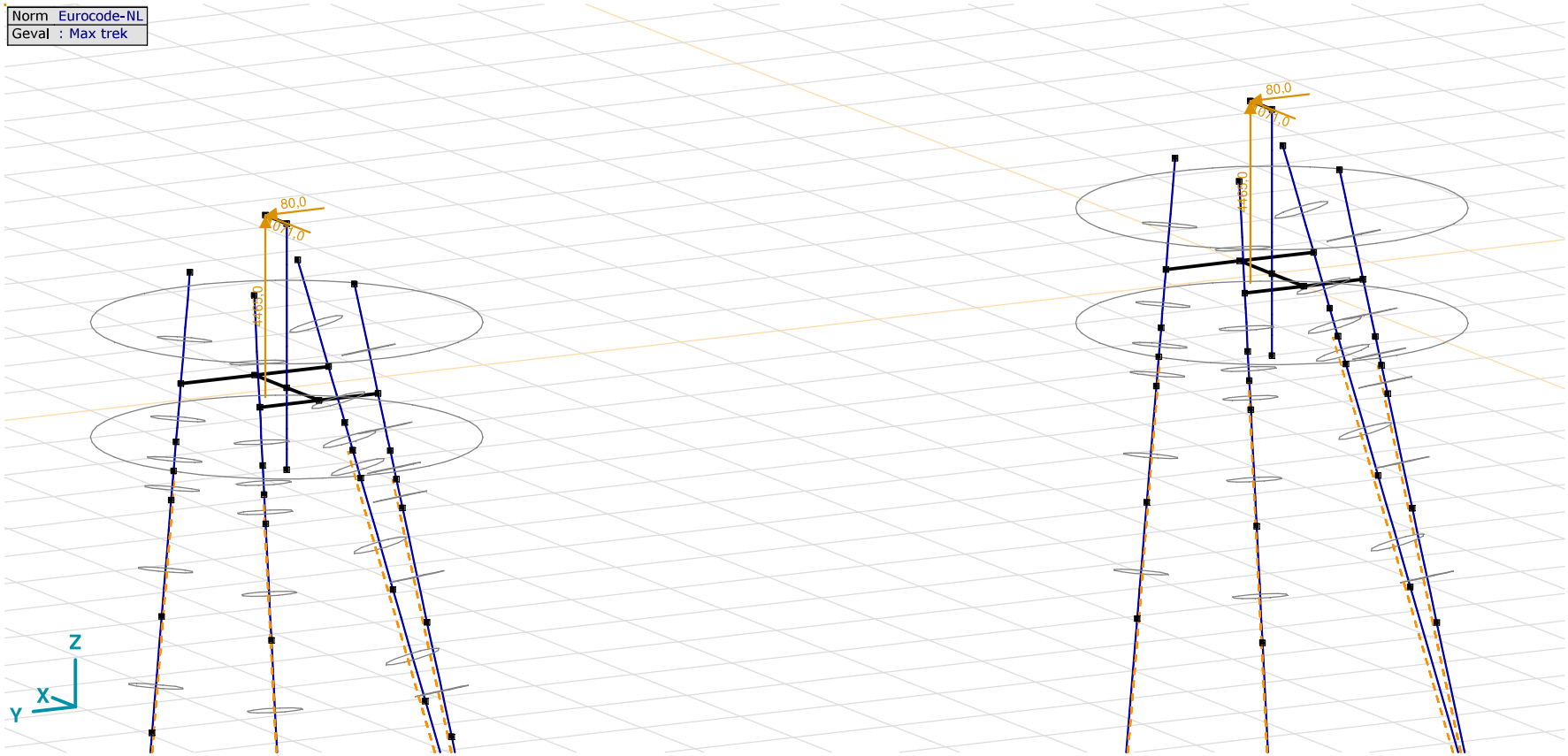



*GWS*

Max trek: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 9 | Globaal | 1071,0 | 80,0 | 4465,0 | 0 | 0 | 0 |
| 35 | Globaal | 1071,0 | 80,0 | 4465,0 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;

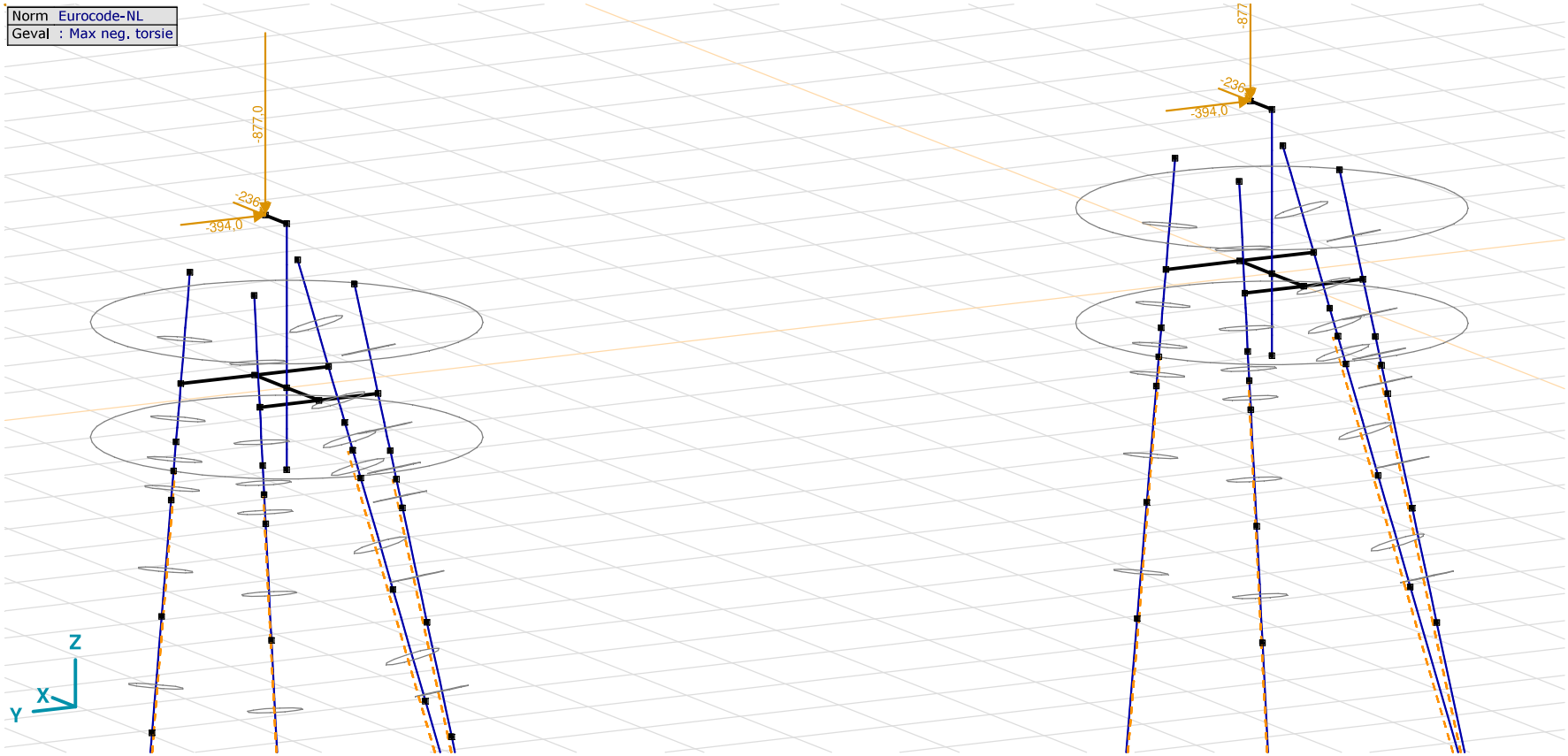



*Max trek*

Max neg. torsie: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 9 | Globaal | −236,0 | −394,0 | −877,0 | 0 | 0 | 0 |
| 35 | Globaal | −236,0 | −394,0 | −877,0 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;

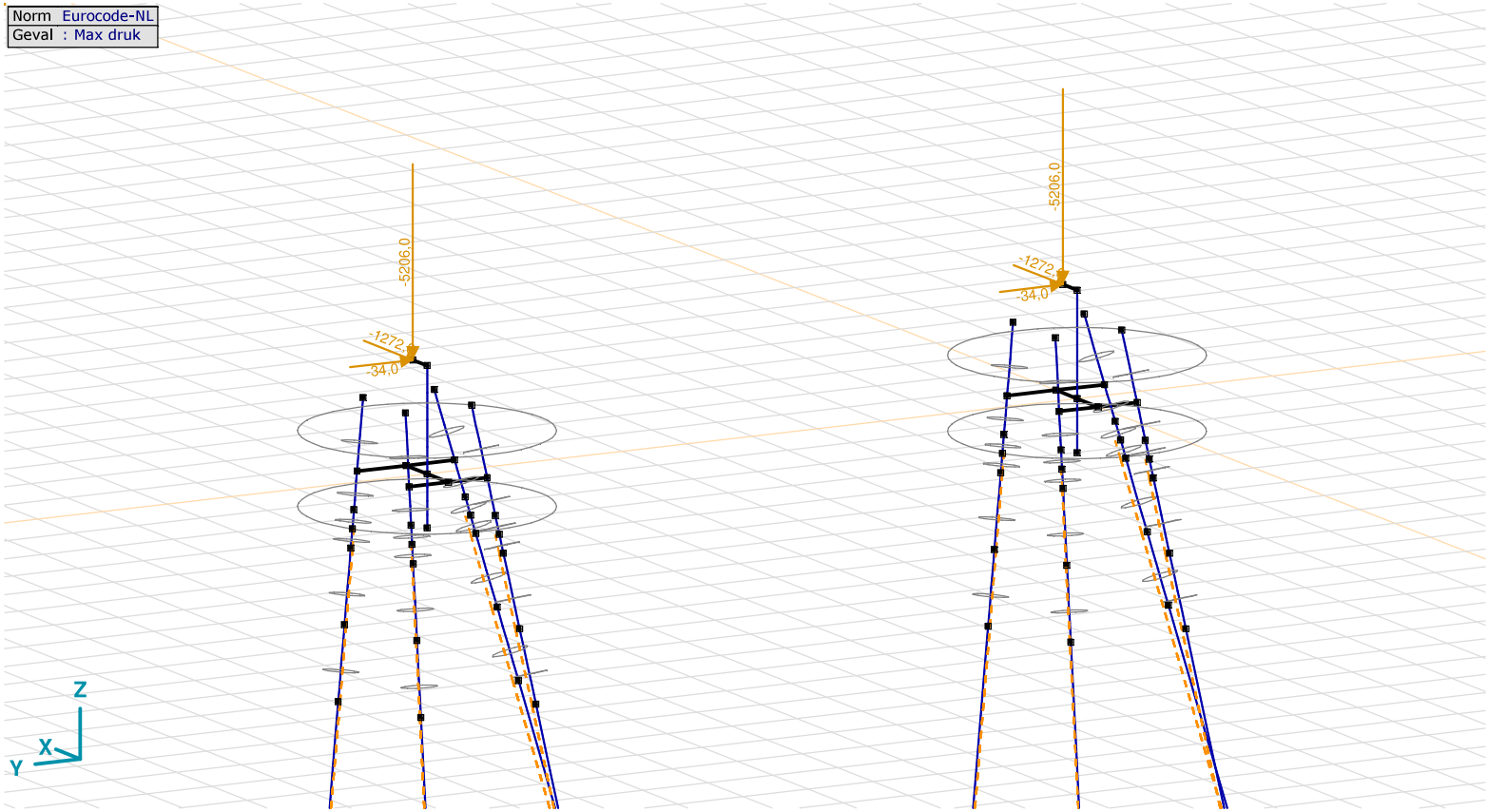



*Max neg. torsie*

Max druk: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 9 | Globaal | −1272,0 | −34,0 | −5206,0 | 0 | 0 | 0 |
| 35 | Globaal | −1272,0 | −34,0 | −5206,0 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;

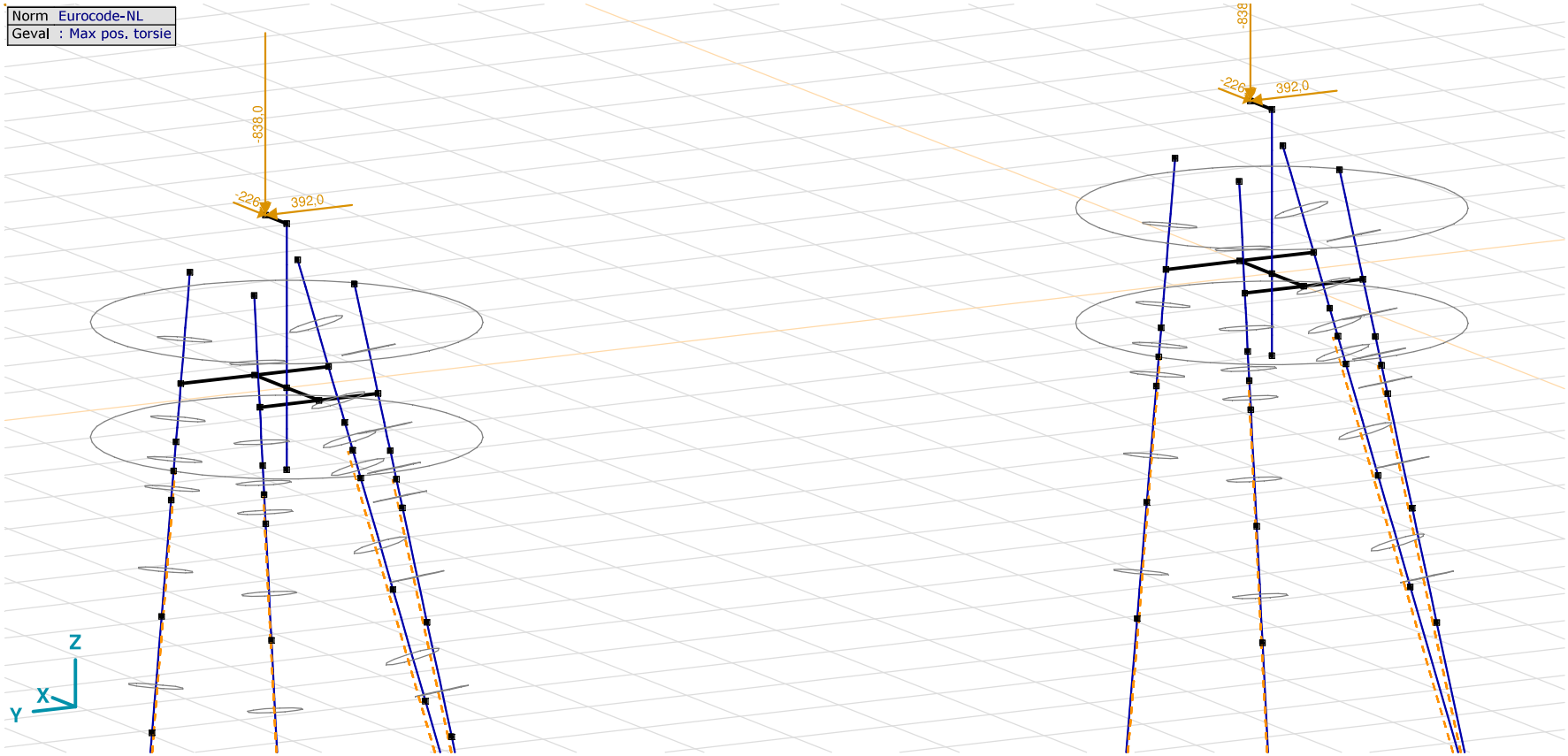



*Max druk*

Max pos. torsie: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 9 | Globaal | −226,0 | 392,0 | −838,0 | 0 | 0 | 0 |
| 35 | Globaal | −226,0 | 392,0 | −838,0 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;




*Max pos. torsie*

# Project: 4-paalspoer

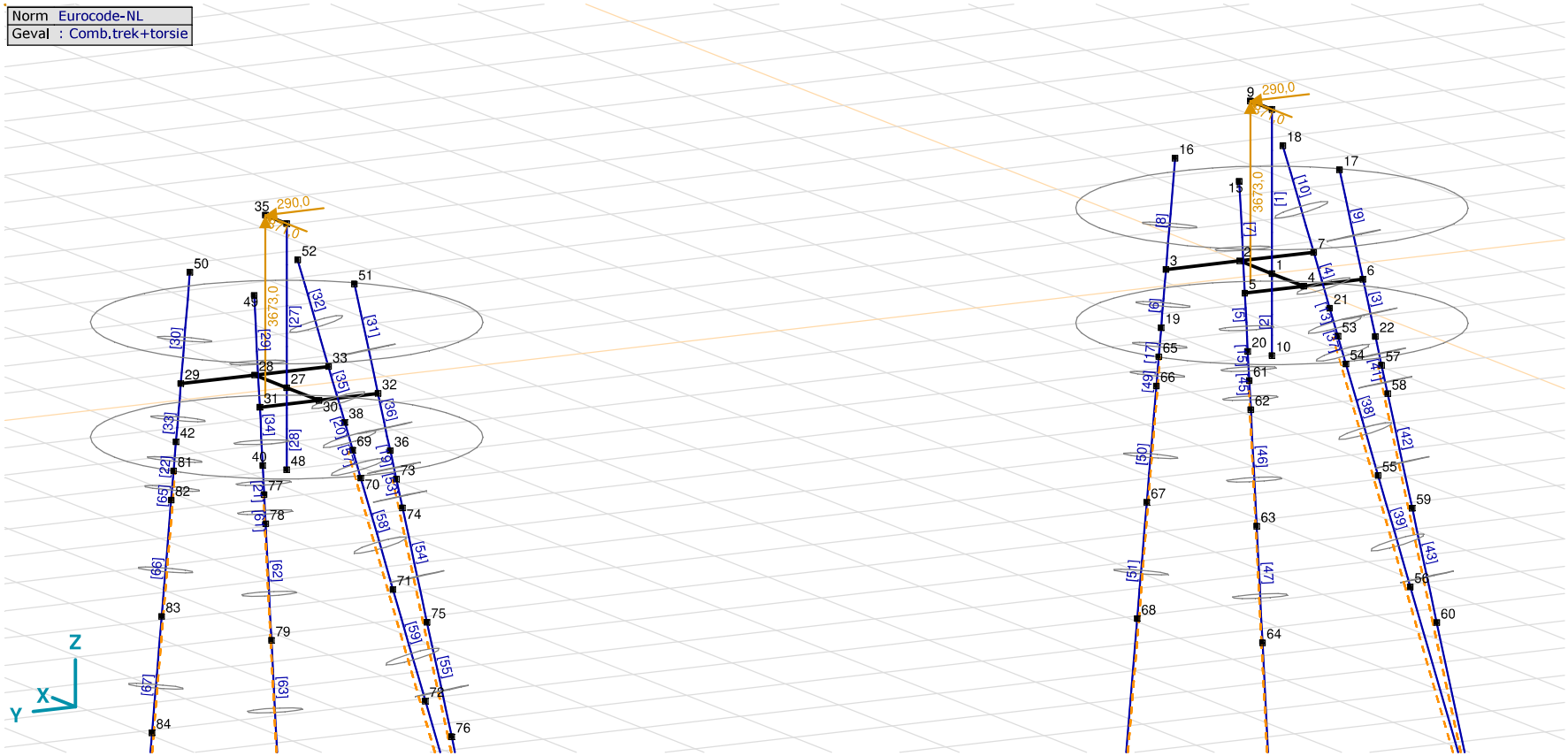
Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 21

## Comb.trek+torsie: Knoopbelastingen

| | *Richting* | *Fx [kN]* | *Fy [kN]* | *Fz [kN]* | *Mx [kNm]* | *My [kNm]* | *Mz [kNm]* |
|---|---|---|---|---|---|---|---|
| 9 | Globaal | 871,0 | 290,0 | 3673,0 | 0 | 0 | 0 |
| 35 | Globaal | 871,0 | 290,0 | 3673,0 | 0 | 0 | 0 |

**Fx, Fy, Fz:** Belastingkracht component; **Mx, My, Mz:** Belastingsmoment component;




*Comb.trek+torsie*

Gebruiker gedefinieerde belastingcombinaties uit belastinggevallen

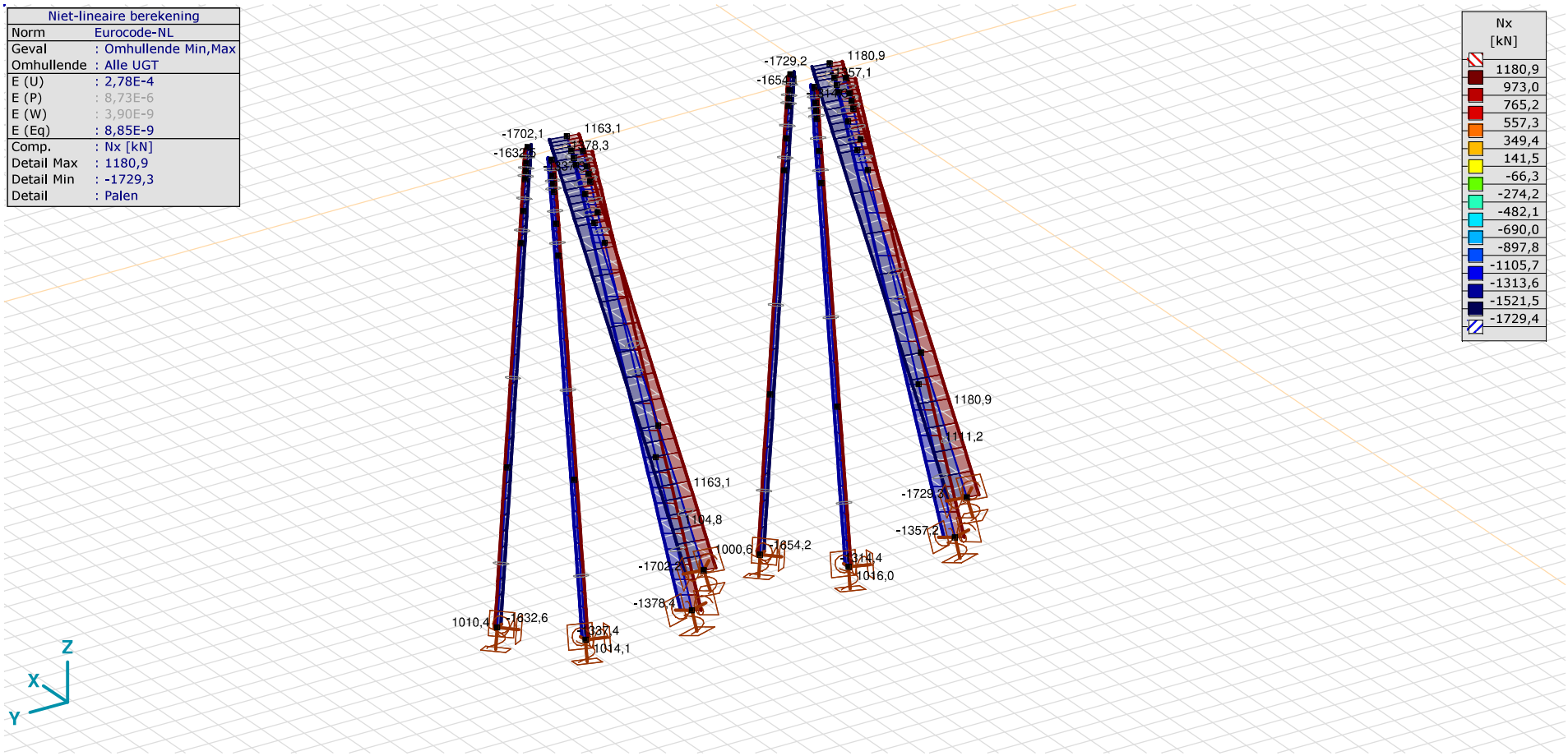
| | *Naam* | *Type* | *EG1 (PERM1)* | *GWS (PERM1)* | *Max druk (VER1)* | *Max trek (VER1)* | *Max pos. torsie (VER1)* | *Max neg. torsie (VER1)* | *Comb.trek+torsie (VER1)* | *Commentaar* |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Co #1 Max trek min e.g. | UGT | 0,90 | 1,00 | 0 | 1,00 | 0 | 0 | 0 | |
| 2 | Co #2 Max pos torsie min e.g. | UGT | 0,90 | 1,00 | 0 | 0 | 1,00 | 0 | 0 | |
| 3 | Co #3 Max neg torsie min e.g. | UGT | 0,90 | 1,00 | 0 | 0 | 0 | 1,00 | 0 | |
| 4 | Co #4 Comb.trek+torsie min e.g. | UGT | 0,90 | 1,00 | 0 | 0 | 0 | 0 | 1,00 | |
| 5 | Co #5 Max druk max e.g. | UGT | 1,20 | 0 | 1,00 | 0 | 0 | 0 | 0 | |
| 6 | Co #6 Max pos torsie max e.g. | UGT | 1,20 | 0 | 0 | 0 | 1,00 | 0 | 0 | |
| 7 | Co #7 Max neg torsie max e.g. | UGT | 1,20 | 0 | 0 | 0 | 0 | 1,00 | 0 | |

**Naam:** Naam belastingcombinatie; **Type:** Type belastingcombinatie; **EG1 (PERM1), GWS (PERM1), Max druk (VER1), Max trek (VER1), Max pos. torsie (VER1), Max neg. torsie (VER1), Comb.trek+torsie (VER1):** Factor;

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 23

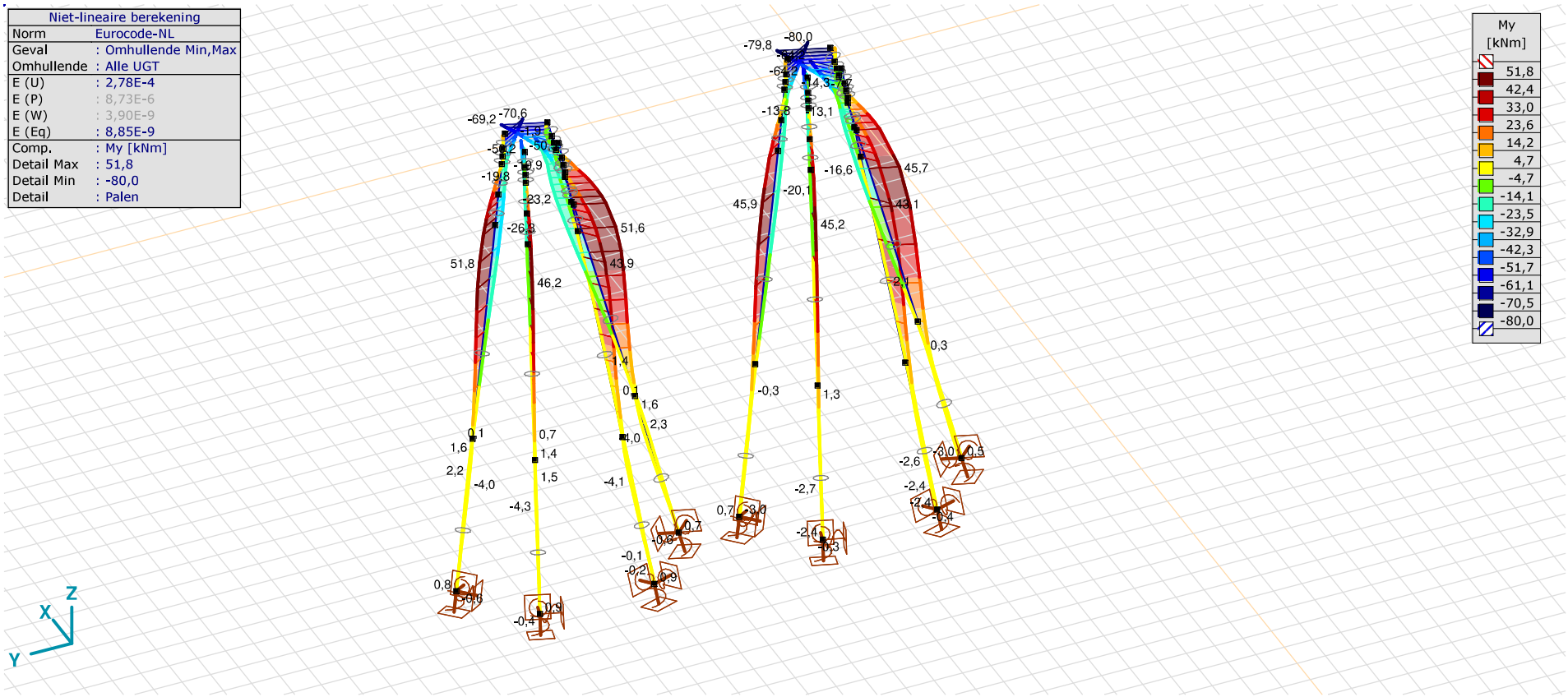



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 24

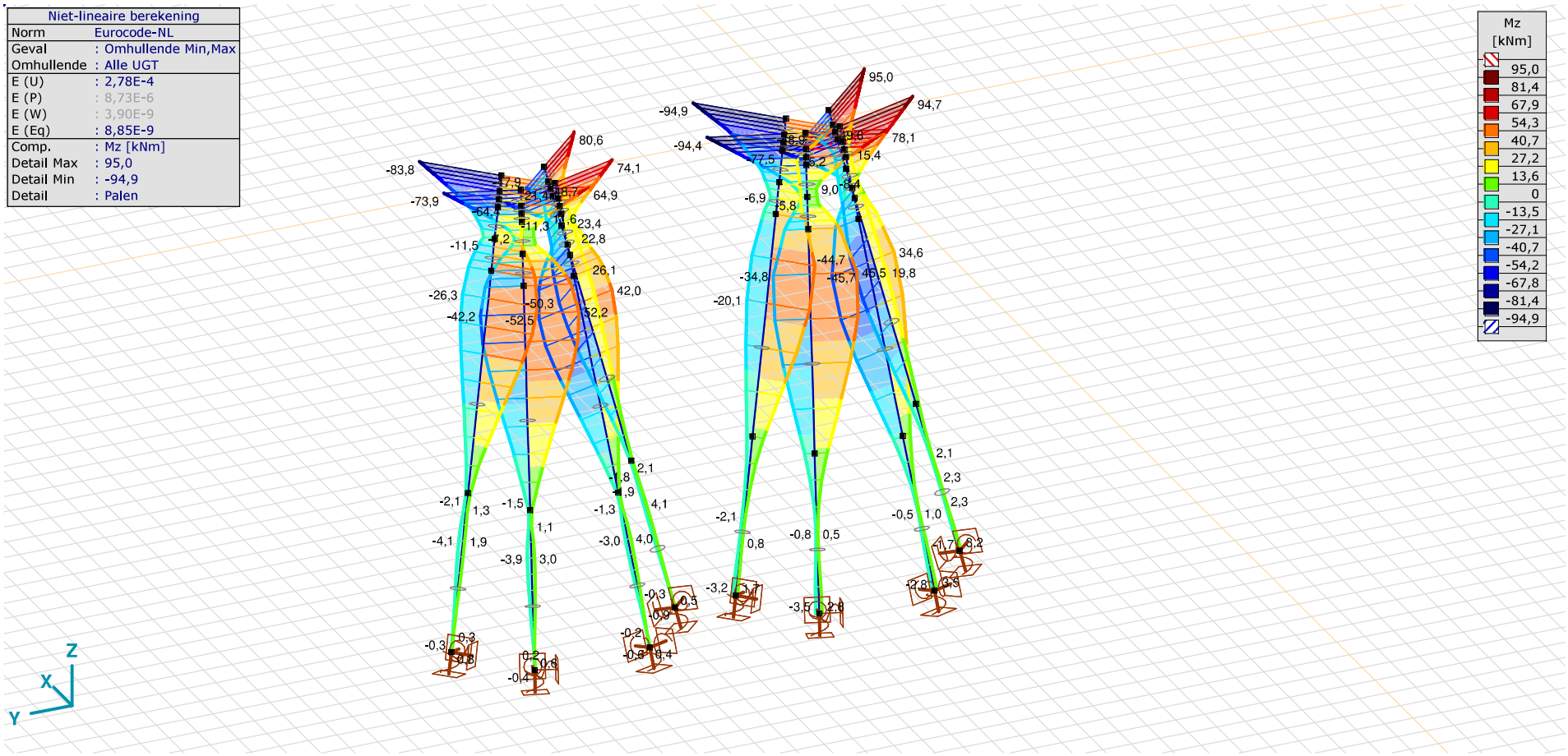



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, My, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 25

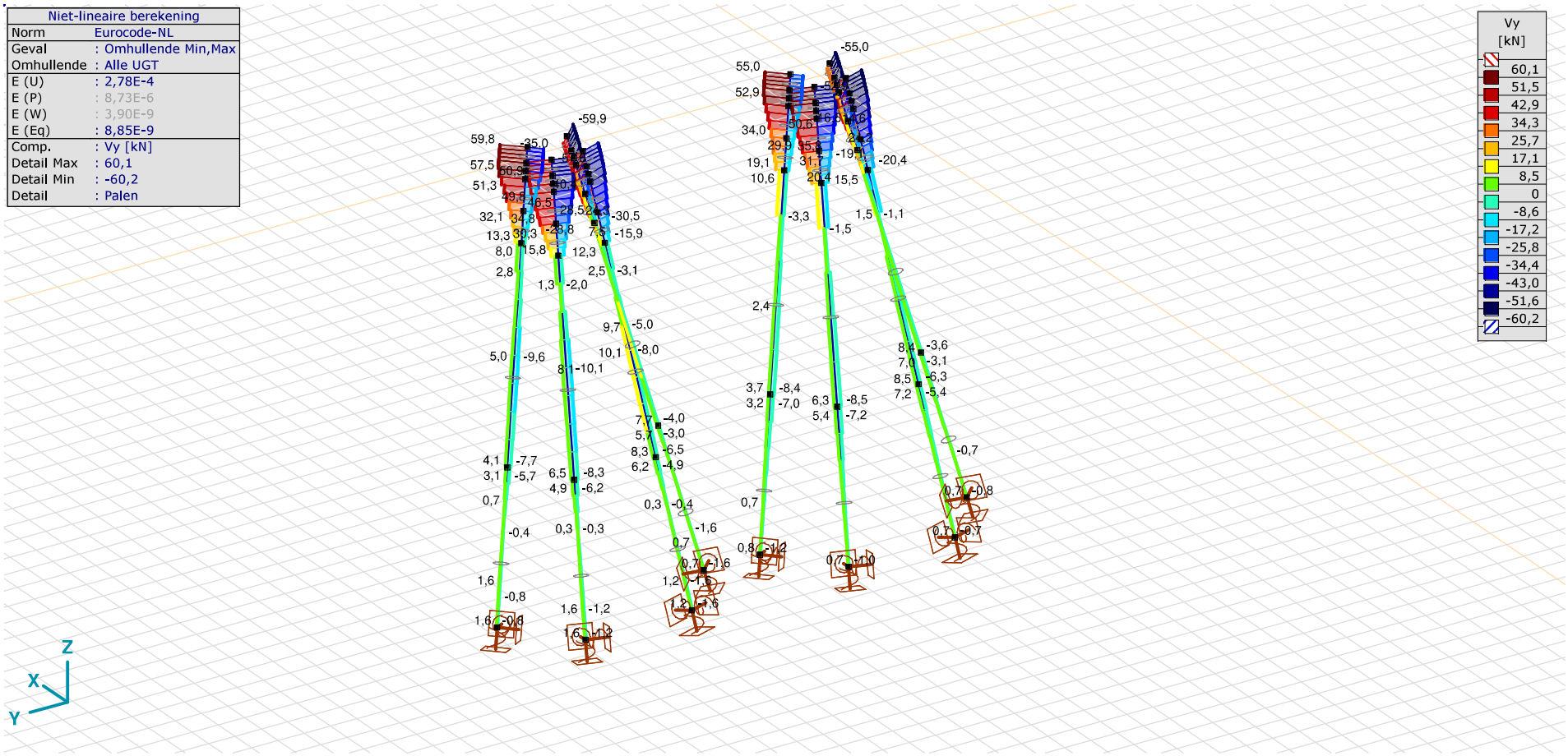



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Mz, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 26

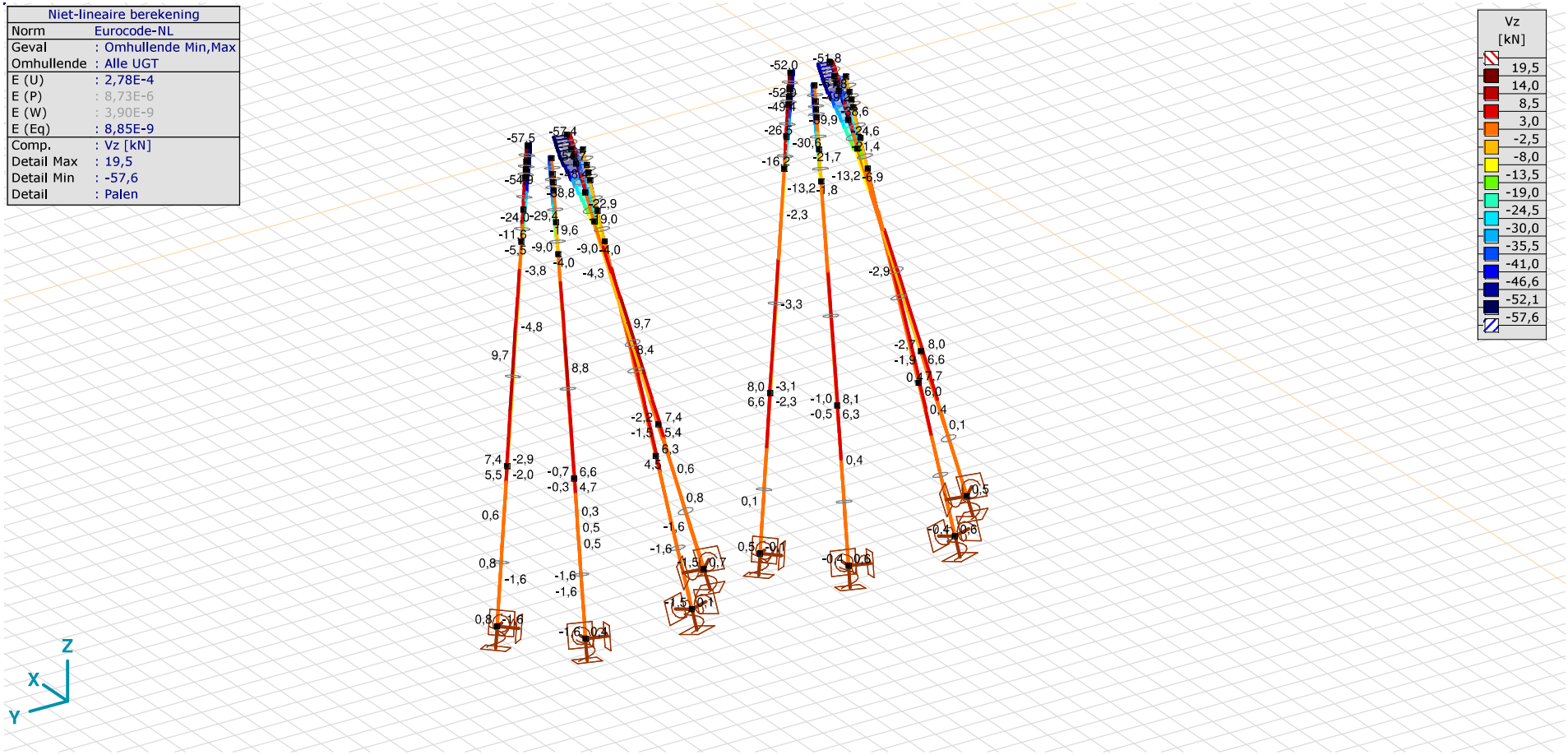



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Vy, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 27

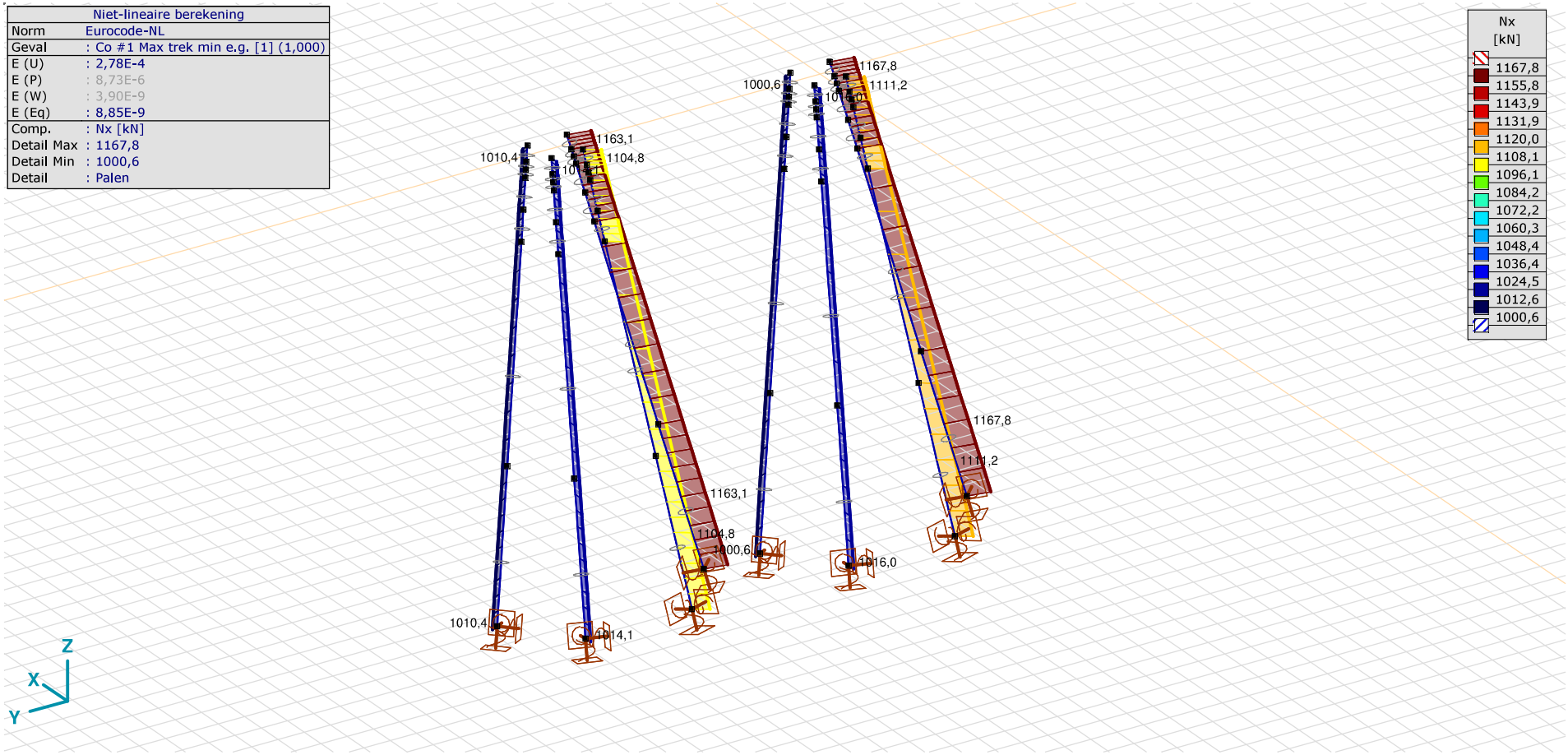



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Vz, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 28

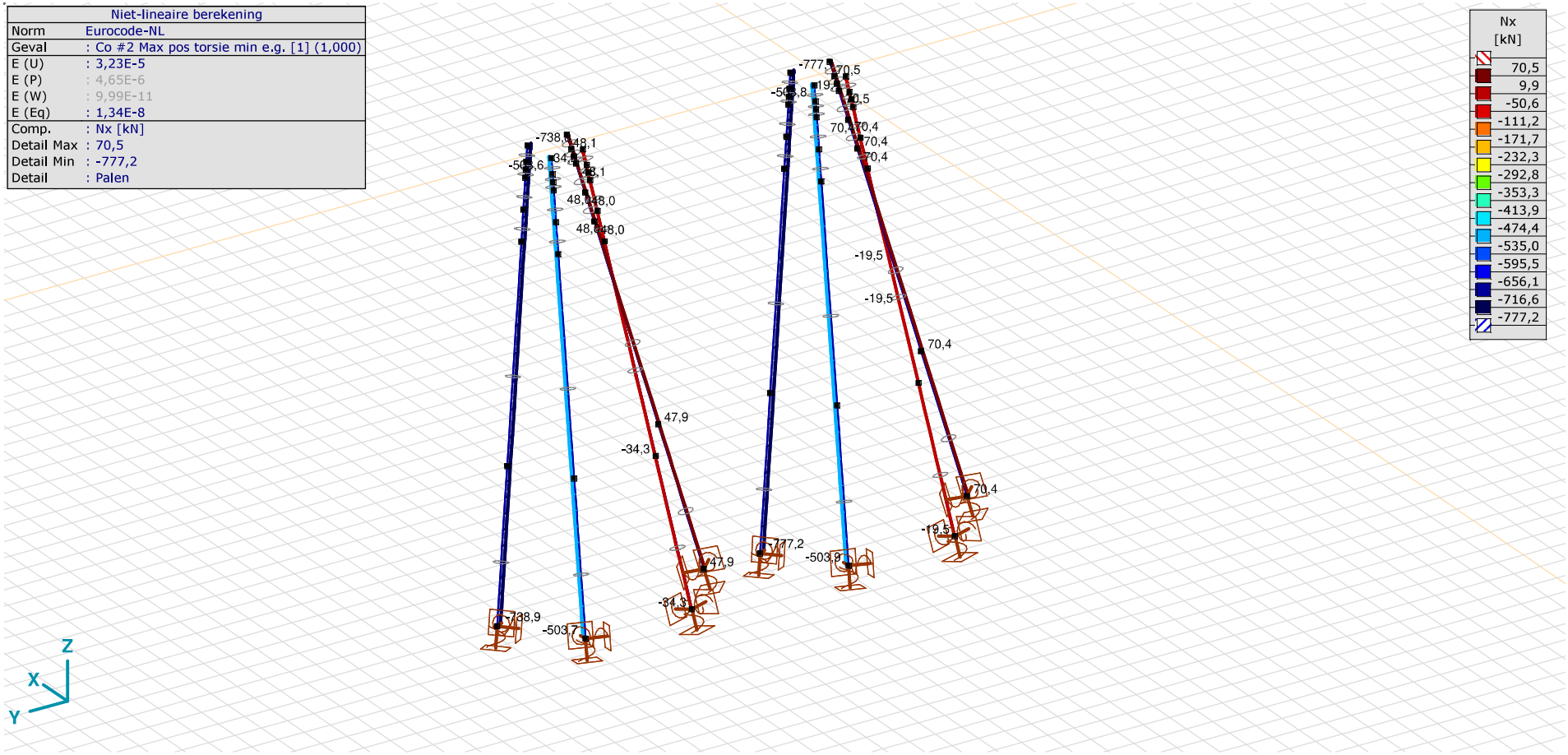



*[II], > Palen, Non-lin., Co #1 Max trek min e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 29

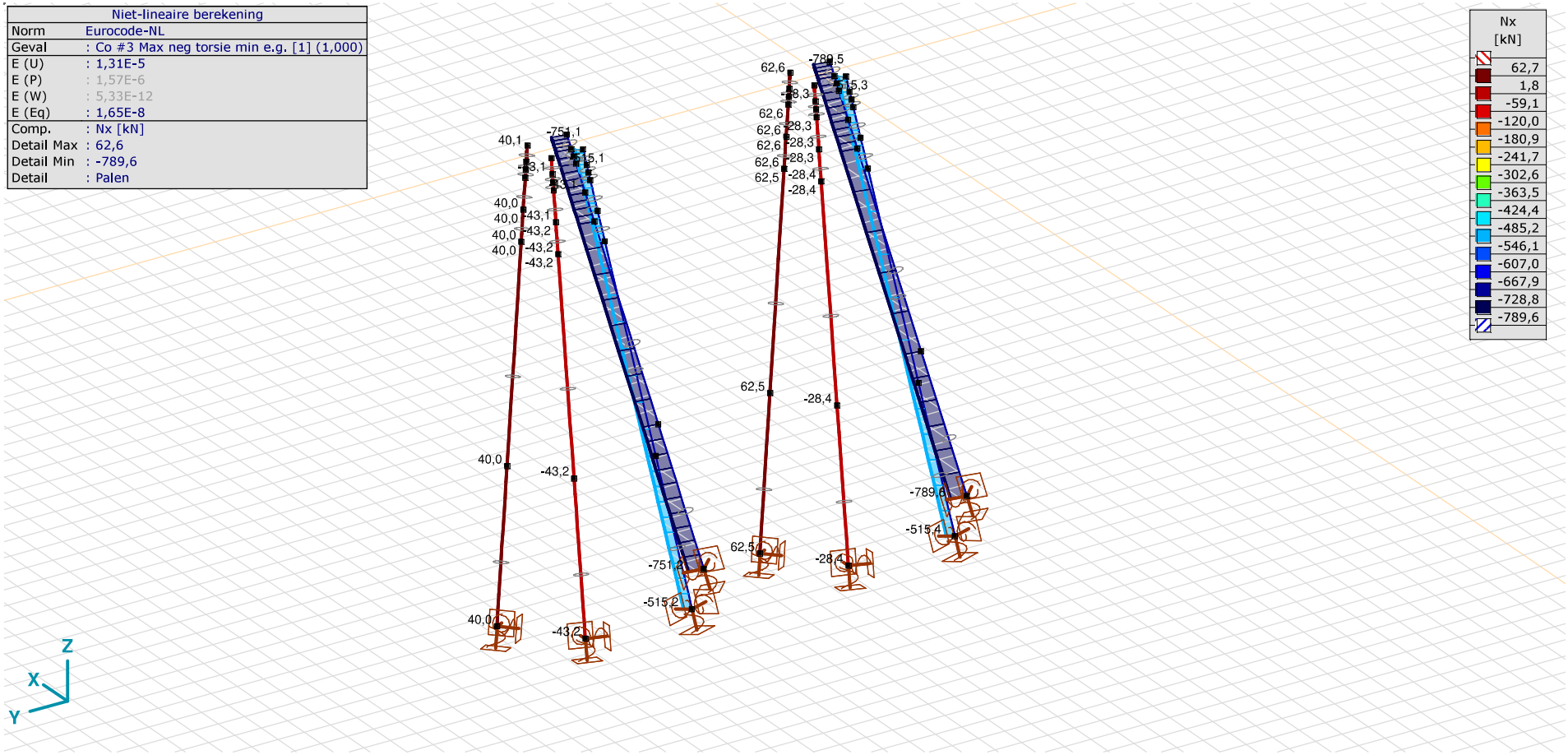



*[II], > Palen, Non-lin., Co #2 Max pos torsie min e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 30



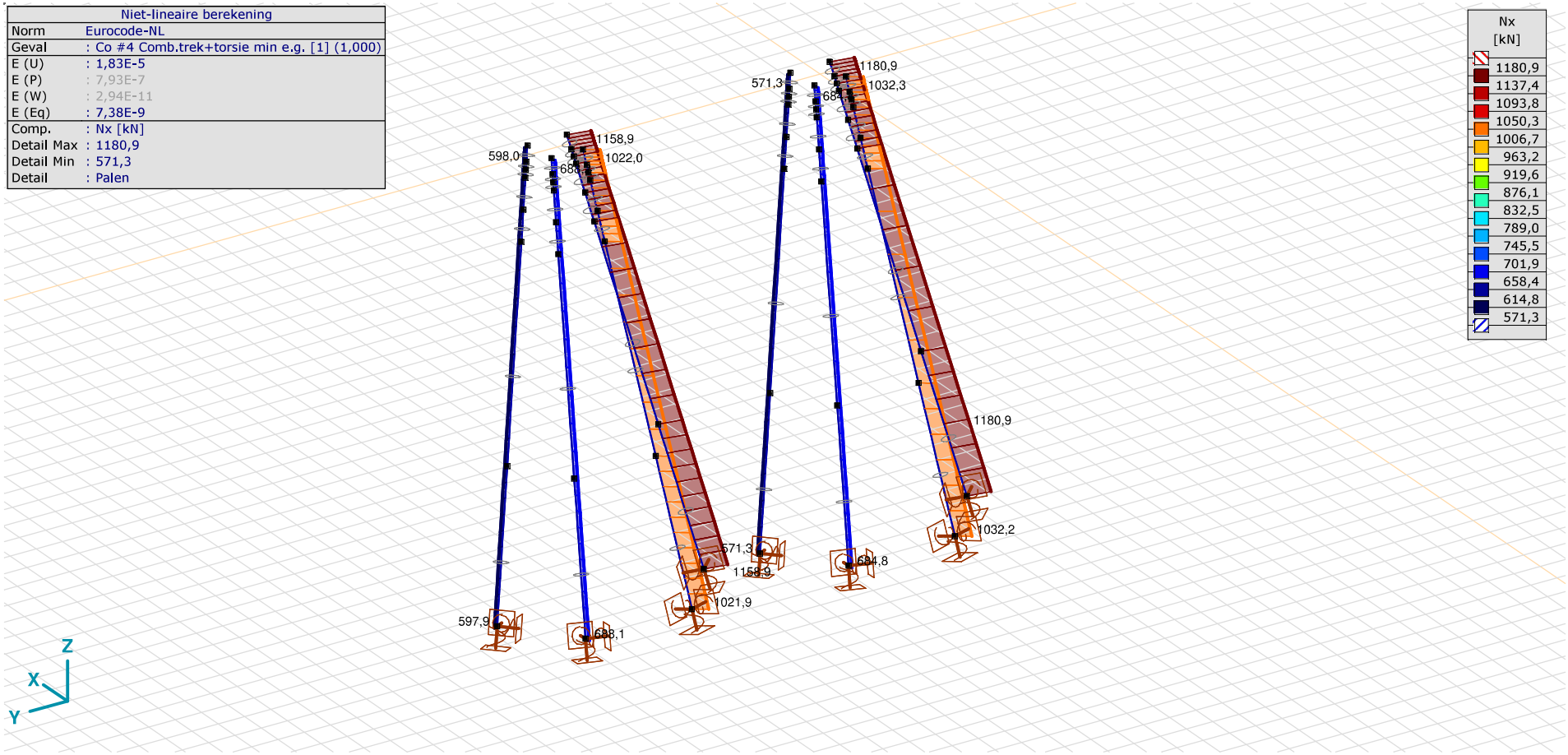

*[II], > Palen, Non-lin., Co #3 Max neg torsie min e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs**



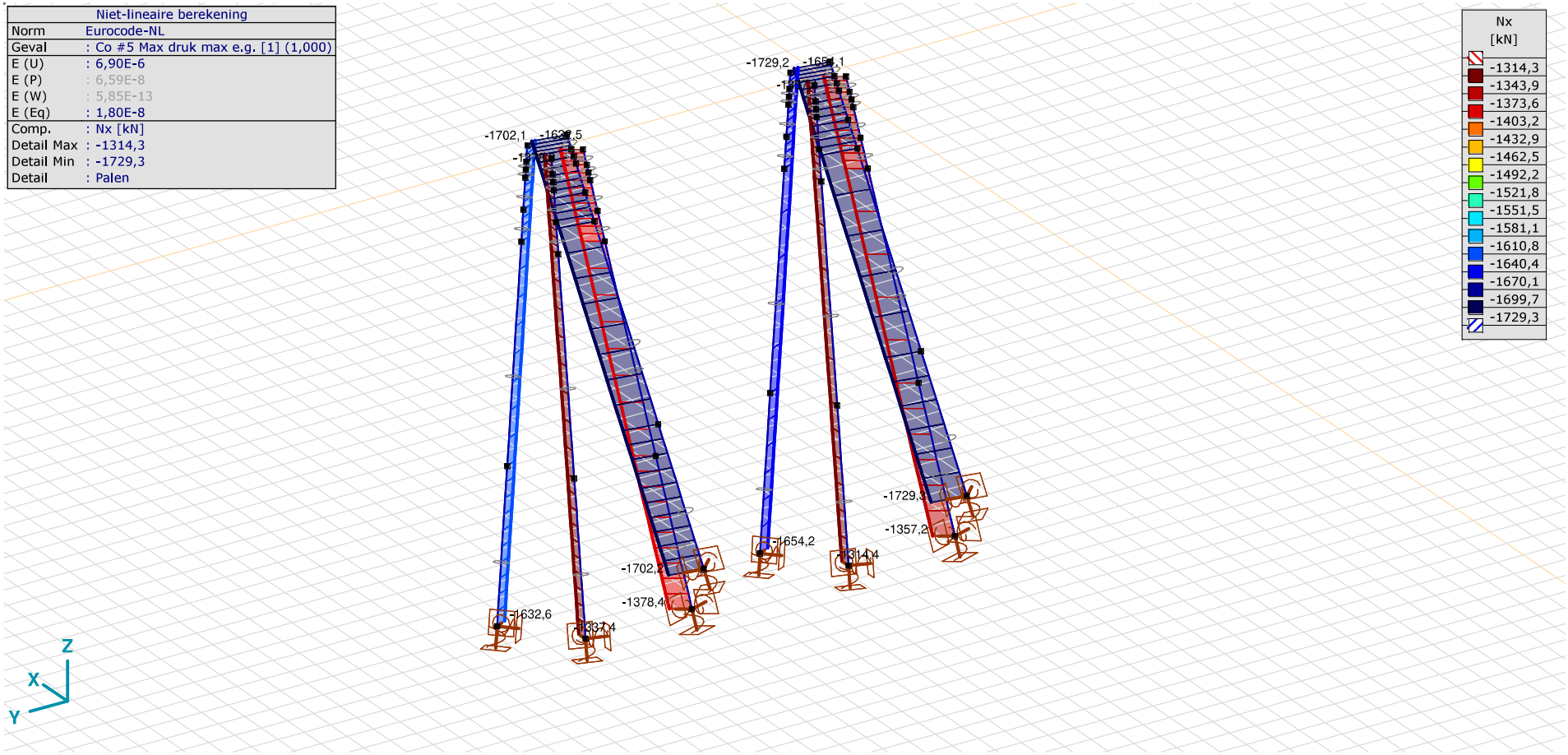



*[II], > Palen, Non-lin., Co #4 Comb.trek+torsie min e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 32

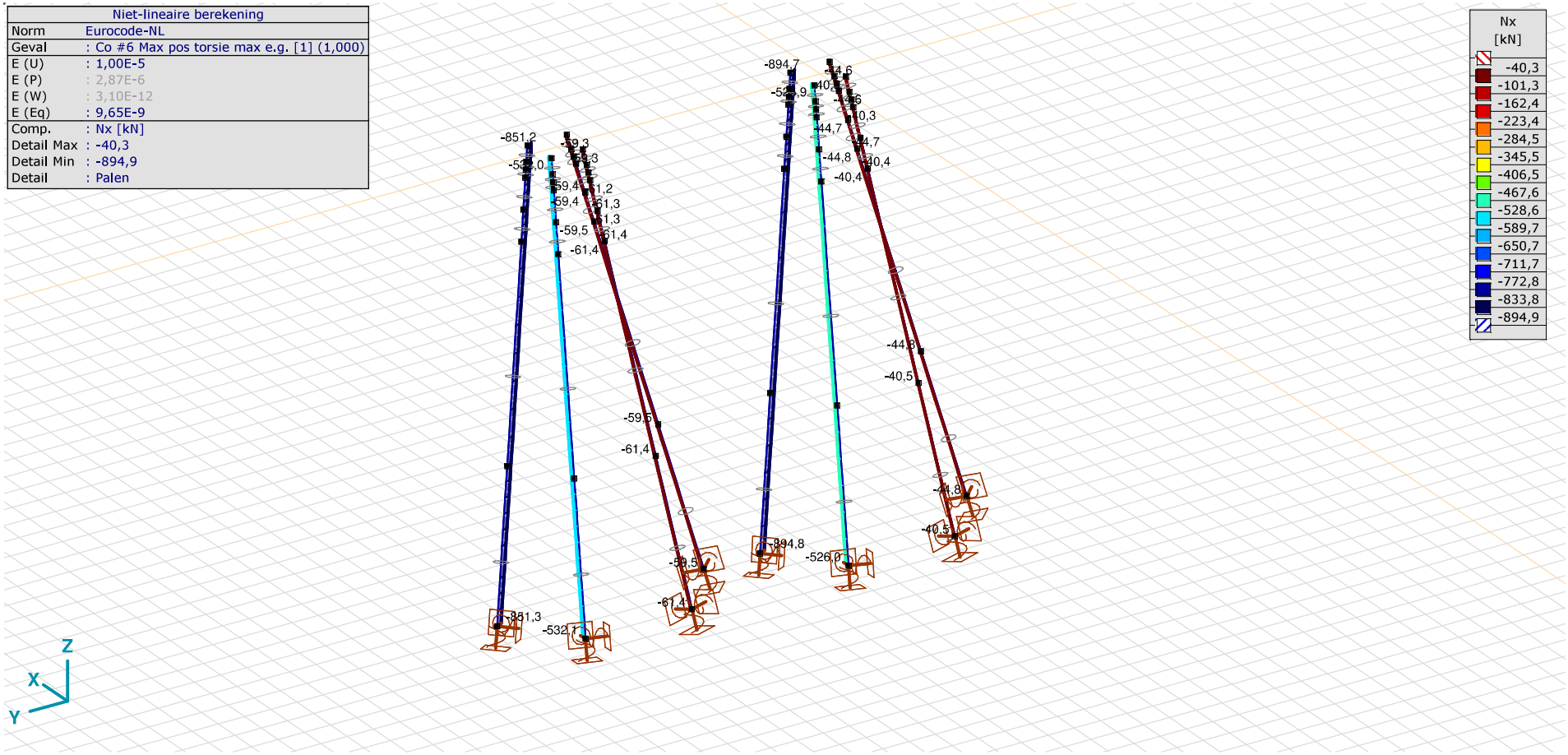



*[II], > Palen, Non-lin., Co #5 Max druk max e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 33

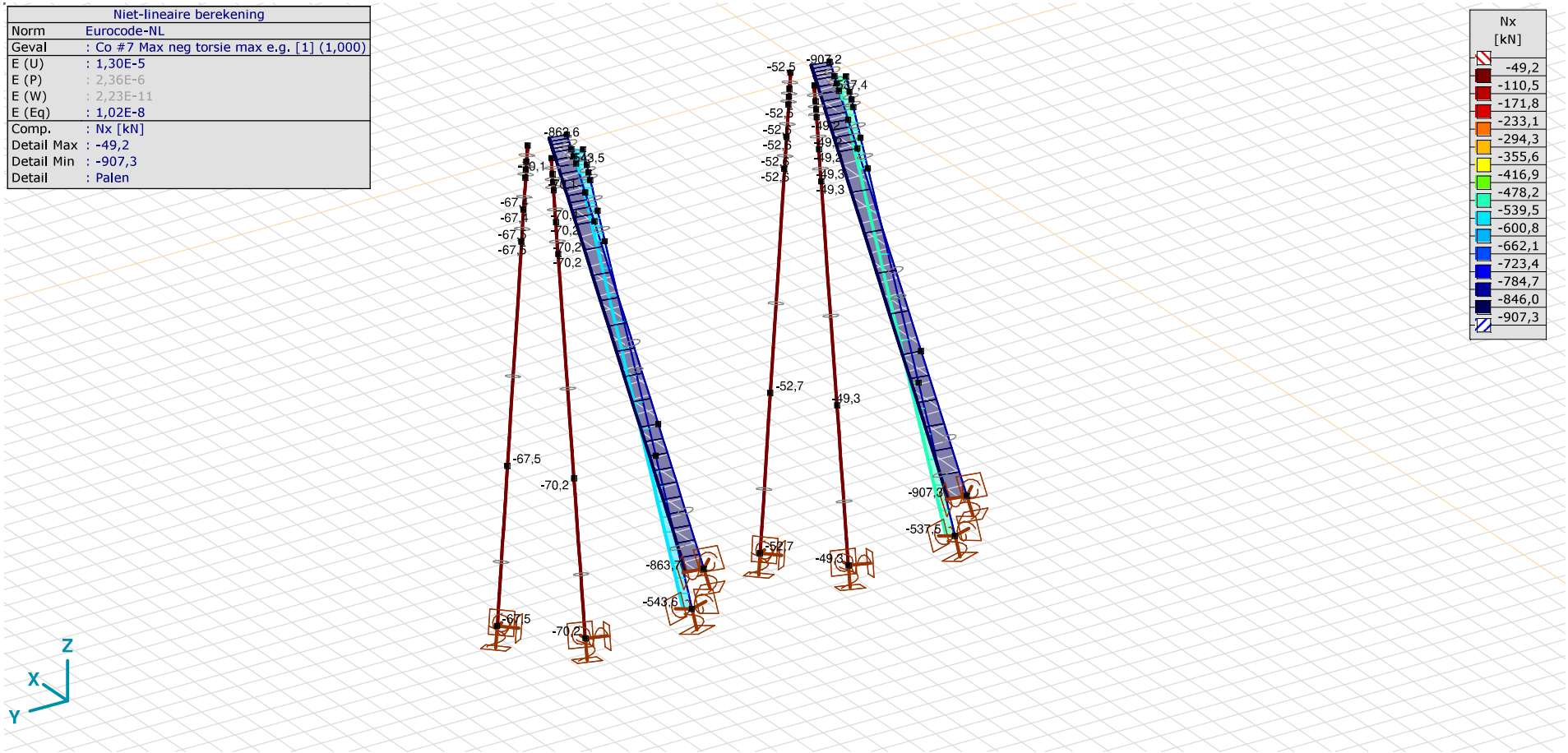



*[II], > Palen, Non-lin., Co #6 Max pos torsie max e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 34




*[II], > Palen, Non-lin., Co #7 Max neg torsie max e.g. [1] (1,000), Onmiddellijke doorbuiging, Nx, Lijnen (gevuld)*

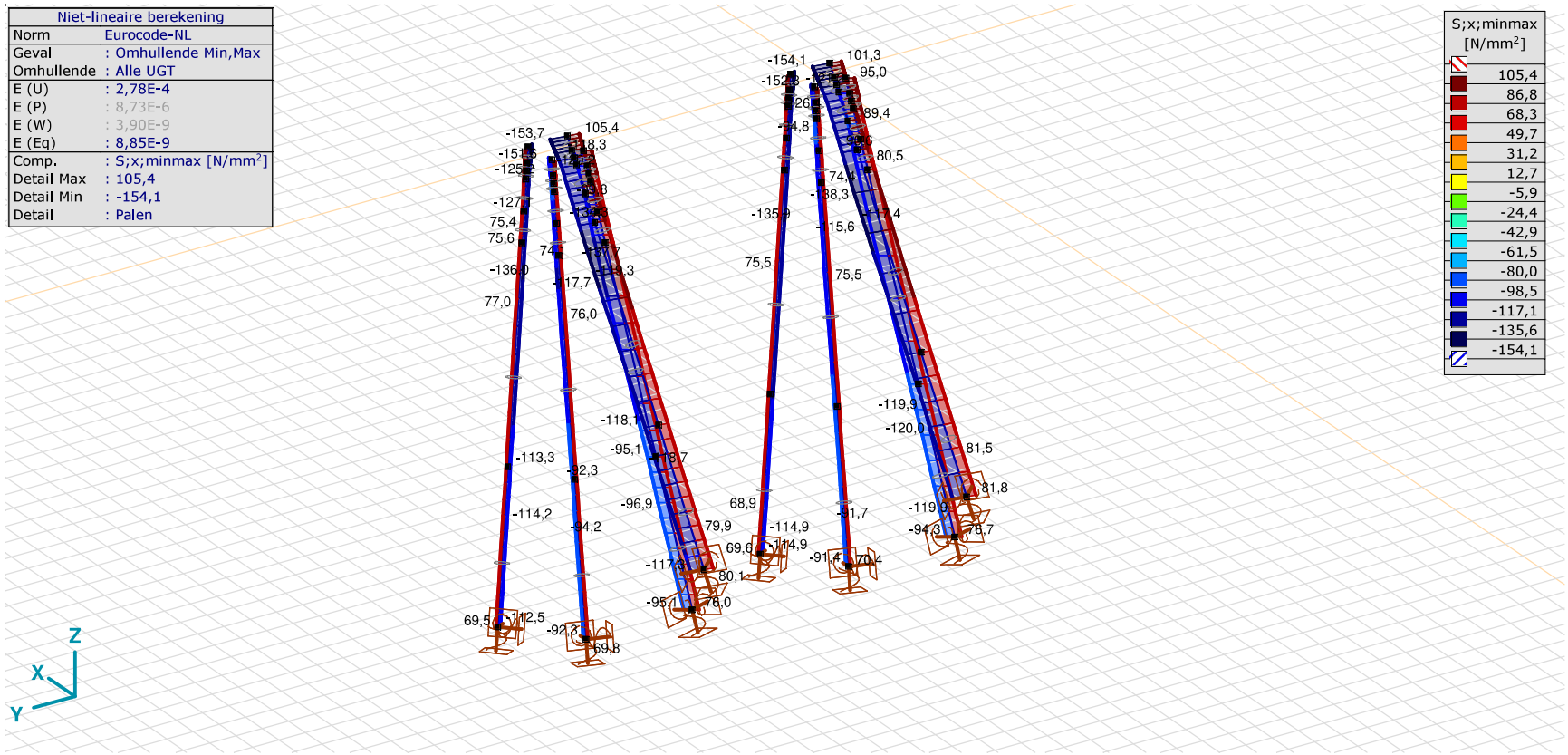
Staafkrachten [Non-lin., Omhullende (Alle UGT ), Palen]

| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *Nx [kN]* | *Vy [kN]* | *Vz [kN]* | *Tx [kNm]* | *My [kNm]* | *Mz [kNm]* | *B [kNm²]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext. | | | | | | | | | | | | | | |
| 4 | 2 | O 508x9 | Nx | min | Co #5 Max druk max e.g. [1] (1,000) | 0,392 | (194) | **−1729,2** | −20,6 | −38,9 | 2,8 | −58,1 | 10,9 | 0 |
| 13 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 0 | (53) | **−1729,2** | −20,6 | −39,4 | 2,8 | −32,5 | −2,5 | 0 |
| 14 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 0 | (12) | **−1729,3** | −0,8 | 0 | 2,8 | −2,1 | 0,7 | 0 |
| 37 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 0 | (54) | **−1729,2** | −19,4 | −37,7 | 2,8 | −22,7 | −7,6 | 0 |
| 38 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 0 | (55) | **−1729,3** | −10,5 | −24,0 | 2,8 | 7,5 | −21,8 | 0 |
| 39 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 0 | (56) | **−1729,3** | −4,0 | −13,2 | 2,8 | 25,3 | −28,3 | 0 |
| 40 | 2 | O 508x9 | | min | Co #5 Max druk max e.g. [1] (1,000) | 2,923 | (95) | **−1729,3** | 4,8 | 4,7 | 2,8 | 26,4 | −16,7 | 0 |
| 4 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (21) | **1180,9** | 9,7 | −21,6 | −3,8 | −24,8 | 3,9 | 0 |
| 13 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (53) | **1180,9** | 9,7 | −21,5 | −3,8 | −19,2 | 6,4 | 0 |
| 14 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (12) | **1180,9** | 0,2 | 0,4 | −3,8 | −1,3 | −0,5 | 0 |
| 37 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (54) | **1180,9** | 9,0 | −20,4 | −3,8 | −13,9 | 8,8 | 0 |
| 38 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0,783 | (224) | **1180,9** | 7,7 | −18,3 | −3,8 | −9,1 | 10,8 | 0 |
| 39 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0,783 | (221) | **1180,9** | 3,3 | −11,1 | −3,8 | 5,2 | 15,7 | 0 |
| 40 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 5,847 | (97) | **1180,9** | −0,6 | −3,7 | −3,8 | 16,7 | 16,0 | 0 |
| 20 | 2 | O 508x9 | Vy | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (69) | −863,6 | **−60,2** | −0,3 | 5,4 | −21,0 | 33,6 | 0 |
| 22 | 2 | O 508x9 | | max | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (81) | −851,2 | **60,1** | −0,4 | −5,4 | −21,0 | −33,6 | 0 |
| 22 | 2 | O 508x9 | Vz | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (81) | −67,3 | −24,1 | **−57,6** | 3,4 | −24,3 | 15,3 | 0 |
| 33 | 2 | O 508x9 | | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (42) | −67,3 | −24,1 | **−57,6** | 3,4 | −39,3 | 21,6 | 0 |
| 22 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (81) | 598,0 | 48,6 | **19,5** | −2,4 | −6,9 | −45,6 | 0 |
| 33 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0,392 | (281) | 598,0 | 48,8 | **19,5** | −2,4 | 5,8 | −77,4 | 0 |
| 5 | 2 | O 508x9 | Tx | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (20) | −525,8 | 51,8 | −19,9 | **−6,4** | −29,5 | −67,4 | 0 |
| 15 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (61) | −525,8 | 51,8 | −20,0 | **−6,4** | −24,3 | −53,9 | 0 |
| 16 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (13) | −526,0 | −0,7 | 0,4 | **−6,4** | −1,3 | −3,5 | 0 |
| 45 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (62) | −525,8 | 50,6 | −19,1 | **−6,4** | −19,3 | −40,7 | 0 |
| 46 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (63) | −525,9 | 35,8 | −12,8 | **−6,4** | −3,6 | 2,7 | 0 |
| 47 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (64) | −525,9 | 20,4 | −7,6 | **−6,4** | 6,3 | 29,7 | 0 |
| 48 | 2 | O 508x9 | | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (25) | −526,0 | −8,5 | 2,6 | **−6,4** | 4,5 | 12,2 | 0 |
| 3 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (22) | −537,3 | −51,9 | −19,8 | **6,4** | −29,3 | 67,6 | 0 |
| 11 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (57) | −537,3 | −52,0 | −19,9 | **6,4** | −24,2 | 54,1 | 0 |
| 12 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (11) | −537,5 | 0,7 | 0,4 | **6,4** | −1,3 | 3,5 | 0 |
| 41 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (58) | −537,3 | −50,7 | −19,0 | **6,4** | −19,2 | 40,9 | 0 |
| 42 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (59) | −537,4 | −35,9 | −12,7 | **6,4** | −3,5 | −2,7 | 0 |
| 43 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (60) | −537,4 | −20,4 | −7,6 | **6,4** | 6,3 | −29,8 | 0 |
| 44 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (23) | −537,5 | 8,5 | 2,5 | **6,4** | 4,5 | −12,2 | 0 |
| 6 | 2 | O 508x9 | My | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0,522 | (3) | −52,5 | −17,2 | −52,0 | 4,2 | **−80,0** | 32,8 | 0 |
| 68 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 6,395 | (164) | −67,5 | 0,5 | 3,5 | 3,4 | **51,8** | −17,9 | 0 |

Staafkrachten [Non-lin., Omhullende (Alle UGT ), Palen]

| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *Nx [kN]* | *Vy [kN]* | *Vz [kN]* | *Tx [kNm]* | *My [kNm]* | *Mz [kNm]* | *B [kNm²]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 2 | O 508x9 | Mz | min | Co #6 Max pos torsie max e.g. [1] (1,000) | 0,522 | (3) | −894,7 | 55,0 | −0,8 | −6,3 | −15,6 | **−94,9** | 0 |
| 4 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0,522 | (7) | −907,2 | −55,0 | −0,7 | 6,3 | −15,4 | **95,0** | 0 |

**Prof.:** Profiel; **C:** Extreme component; **min. max.:** Extreme type; **Geval:** Belastinggeval van de extreme; **Pos.:** Lokale X-positie van de doorsnede op de staaf; **Nx:** Normaalkracht; **Vy:** Dwarskracht in lokale y-richting; **Vz:** Dwarskracht in lokale z-richting; **Tx:** Torsiemoment; **My:** Buigend moment in lokale y-richting; **Mz:** Buigend moment in lokale z-richting;

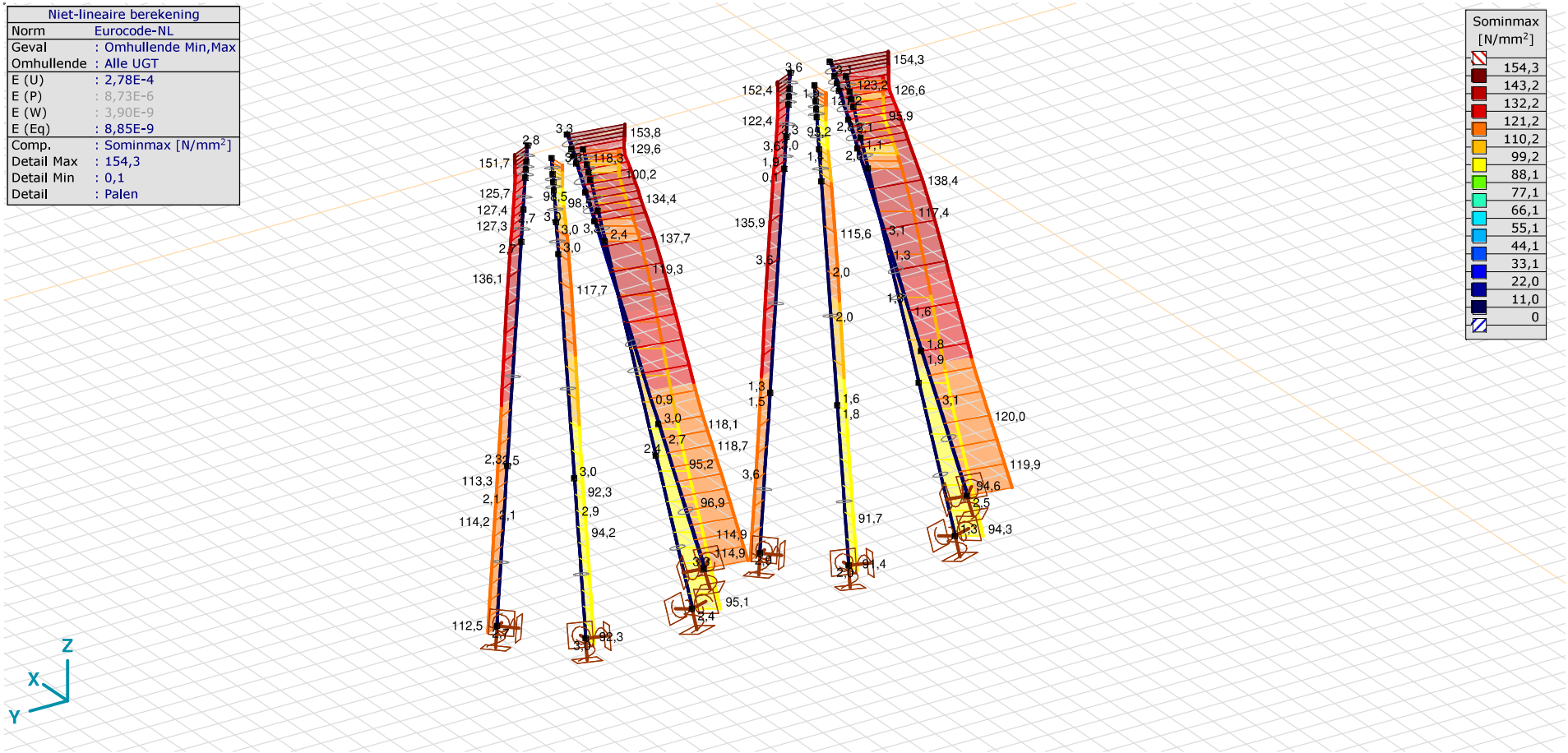



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, S;x;minmax, Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 37




*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Sominmax, Lijnen (gevuld)*

Staafspanningen [Non-lin., Omhullende (Alle UGT ), Palen]

| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *S;x;min [N/mm²]* | *S;x;max [N/mm²]* | *Vmin [N/mm²]* | *Vmax [N/mm²]* | *Somin [N/mm²]* | *Somax [N/mm²]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext. | | | | | | | | | | | | | |
| 4 | 2 | O 508x9 | S;x;min | min | Co #5 Max druk max e.g. [1] (1,000) | 0,522 | (7) | **−154,1** | −83,3 | 0 | 6,1 | 83,4 | 154,3 |
| 14 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 1,740 | (99) | **80,6** | 81,5 | 0 | 1,1 | 80,6 | 81,5 |
| 14 | 2 | O 508x9 | S;x;max | min | Co #5 Max druk max e.g. [1] (1,000) | 1,740 | (99) | −119,9 | **−117,5** | 0 | 0,9 | 117,6 | 119,9 |
| 35 | 2 | O 508x9 | | max | Co #1 Max trek min e.g. [1] (1,000) | 0,522 | (33) | 54,3 | **105,4** | 0 | 2,5 | 54,4 | 105,4 |
| 3 | 2 | O 508x9 | Vmin | min | Co #1 Max trek min e.g. [1] (1,000) | 0 | (22) | 61,0 | 91,5 | **0** | 2,0 | 61,0 | 91,5 |
| 3 | 2 | O 508x9 | | max | Co #1 Max trek min e.g. [1] (1,000) | 0 | (22) | 61,0 | 91,5 | **0** | 2,0 | 61,0 | 91,5 |
| 26 | 2 | O 508x9 | Vmax | min | Co #1 Max trek min e.g. [1] (1,000) | 2,610 | (182) | 69,0 | 69,7 | 0 | **0,1** | 69,0 | 69,7 |
| 20 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (69) | −78,1 | −40,4 | 0 | **9,8** | 40,5 | 78,2 |
| 52 | 2 | O 508x9 | Somin | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 7,308 | (68) | −23,0 | 15,8 | 0 | 2,3 | **0,1** | 23,1 |
| 14 | 2 | O 508x9 | | max | Co #5 Max druk max e.g. [1] (1,000) | 1,740 | (99) | −119,9 | −117,5 | 0 | 0,9 | **117,6** | 119,9 |
| 12 | 2 | O 508x9 | Somax | min | Co #2 Max pos torsie min e.g. [1] (1,000) | 2,610 | (91) | −1,7 | −1,0 | 0 | 1,8 | 1,3 | **3,3** |
| 4 | 2 | O 508x9 | | max | Co #5 Max druk max e.g. [1] (1,000) | 0,522 | (7) | −154,1 | −83,3 | 0 | 6,1 | 83,4 | **154,3** |
| 20 | 2 | O 508x9 | V;y;gem | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (69) | −78,1 | −40,4 | 0 | 9,8 | 40,5 | 78,2 |
| 22 | 2 | O 508x9 | | max | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (81) | −77,3 | −39,6 | 0 | 9,8 | 39,7 | 77,3 |
| 22 | 2 | O 508x9 | V;z;gem | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (81) | −18,3 | 9,0 | 0 | 8,9 | 4,6 | 19,7 |
| 33 | 2 | O 508x9 | | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (42) | −26,7 | 17,4 | 0 | 8,9 | 4,6 | 27,7 |

| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *V;y;gem [N/mm²]* | *V;z;gem [N/mm²]* |
|---|---|---|---|---|---|---|---|---|---|
| Ext. | | | | | | | | | |
| 4 | 2 | O 508x9 | S;x;min | min | Co #5 Max druk max e.g. [1] (1,000) | 0,522 | (7) | −1,4 | −2,7 |
| 14 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 1,740 | (99) | 0 | 0 |
| 14 | 2 | O 508x9 | S;x;max | min | Co #5 Max druk max e.g. [1] (1,000) | 1,740 | (99) | 0 | 0 |
| 35 | 2 | O 508x9 | | max | Co #1 Max trek min e.g. [1] (1,000) | 0,522 | (33) | −1,1 | −0,3 |
| 3 | 2 | O 508x9 | Vmin | min | Co #1 Max trek min e.g. [1] (1,000) | 0 | (22) | 0,1 | −0,8 |
| 3 | 2 | O 508x9 | | max | Co #1 Max trek min e.g. [1] (1,000) | 0 | (22) | 0,1 | −0,8 |
| 26 | 2 | O 508x9 | Vmax | min | Co #1 Max trek min e.g. [1] (1,000) | 2,610 | (182) | 0 | 0 |
| 20 | 2 | O 508x9 | | max | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (69) | −4,1 | 0 |
| 52 | 2 | O 508x9 | Somin | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 7,308 | (68) | −0,3 | −0,6 |
| 14 | 2 | O 508x9 | | max | Co #5 Max druk max e.g. [1] (1,000) | 1,740 | (99) | 0 | 0 |
| 12 | 2 | O 508x9 | Somax | min | Co #2 Max pos torsie min e.g. [1] (1,000) | 2,610 | (91) | −0,1 | 0 |
| 4 | 2 | O 508x9 | | max | Co #5 Max druk max e.g. [1] (1,000) | 0,522 | (7) | −1,4 | −2,7 |
| 20 | 2 | O 508x9 | V;y;gem | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (69) | **−4,1** | 0 |
| 22 | 2 | O 508x9 | | max | Co #6 Max pos torsie max e.g. [1] (1,000) | 0 | (81) | **4,1** | 0 |
| 22 | 2 | O 508x9 | V;z;gem | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (81) | −1,7 | **−4,0** |
| 33 | 2 | O 508x9 | | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 0 | (42) | −1,7 | **−4,0** |

Staafspanningen [Non-lin., Omhullende (Alle UGT ), Palen]

| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *S;x;min [N/mm²]* | *S;x;max [N/mm²]* | *Vmin [N/mm²]* | *Vmax [N/mm²]* | *Somin [N/mm²]* | *Somax [N/mm²]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (81) | 15,5 | 66,6 | 0 | 7,3 | 16,5 | 66,7 |
| 33 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0,392 | (281) | −2,3 | 84,4 | 0 | 7,4 | 6,3 | 84,5 |

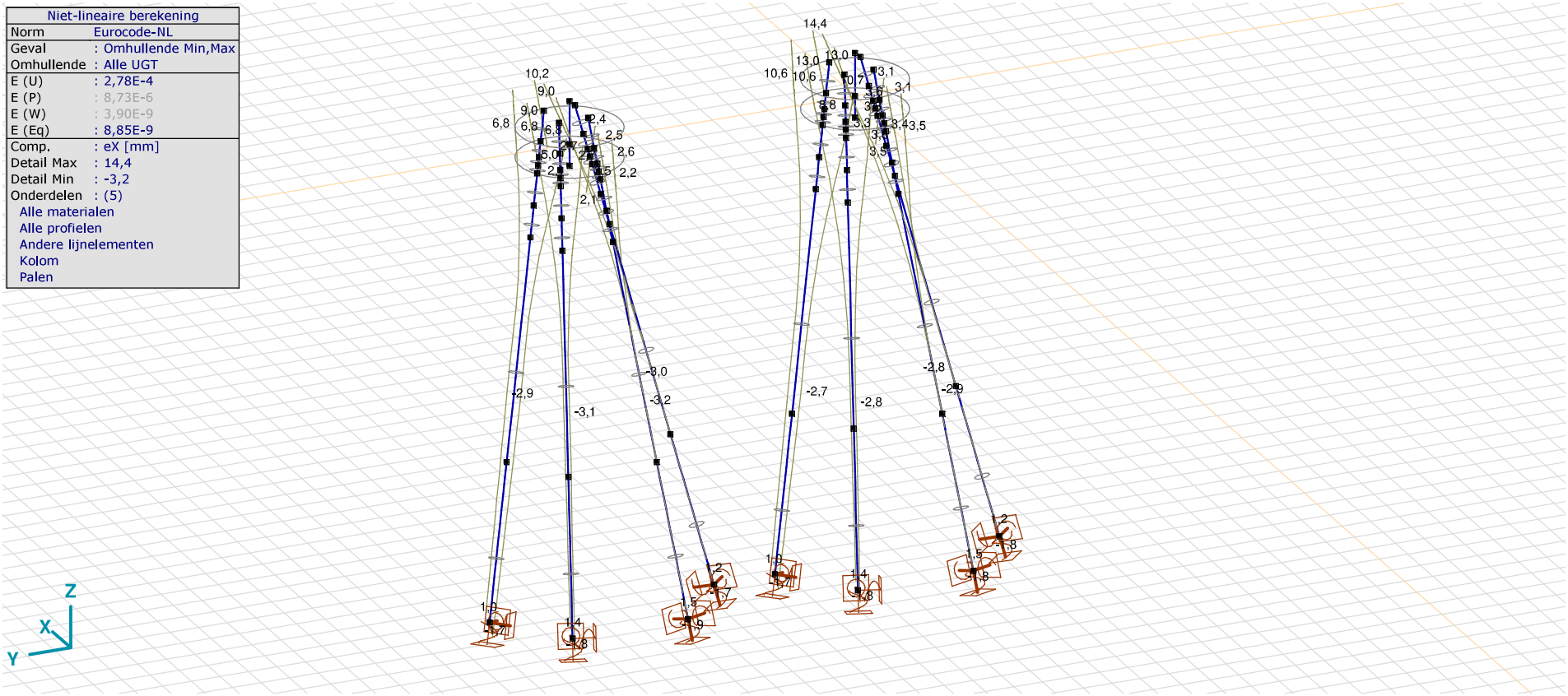
| | *Prof.* | *Doorsnede naam* | *C* | *min. max.* | *Geval* | *Pos. [m]* | *Knoop* | *V;y;gem [N/mm²]* | *V;z;gem [N/mm²]* |
|---|---|---|---|---|---|---|---|---|---|
| 22 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0 | (81) | 3,3 | **1,3** |
| 33 | 2 | O 508x9 | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | 0,392 | (281) | 3,4 | **1,3** |

**Prof.:** Profiel; **C:** Extreme component; **min. max.:** Extreme type; **Geval:** Belastinggeval van de extreme; **Pos.:** Lokale X-positie van de doorsnede op de staaf; **S;x;min:** Doorsnede minimum normaalspanning; **S;x;max:** Doorsnede maximum normaalspanning; **Vmin:** Doorsnede minimum afschuifspanning; **Vmax:** Doorsnede maximum afschuifspanning; **Somin:** Doorsnede minimum Von Mises spanning; **Somax:** Doorsnede maximum Von Mises spanning; **V;y;gem:** Afschuifspanning in lokale Y-richting; **V;z;gem:** Afschuifspanning in lokale Z-richting;

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 40

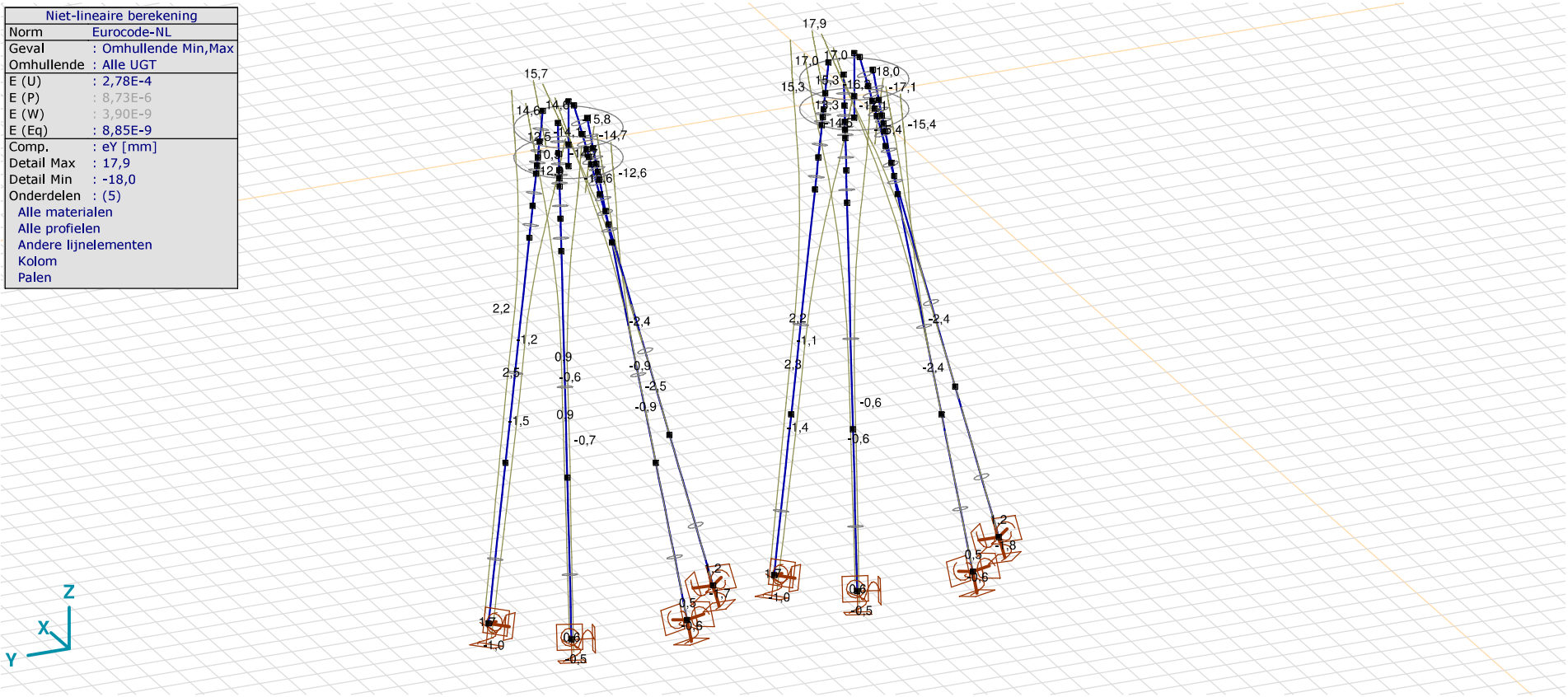



*[II], > 7 details, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, eX, Lijnen*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 41

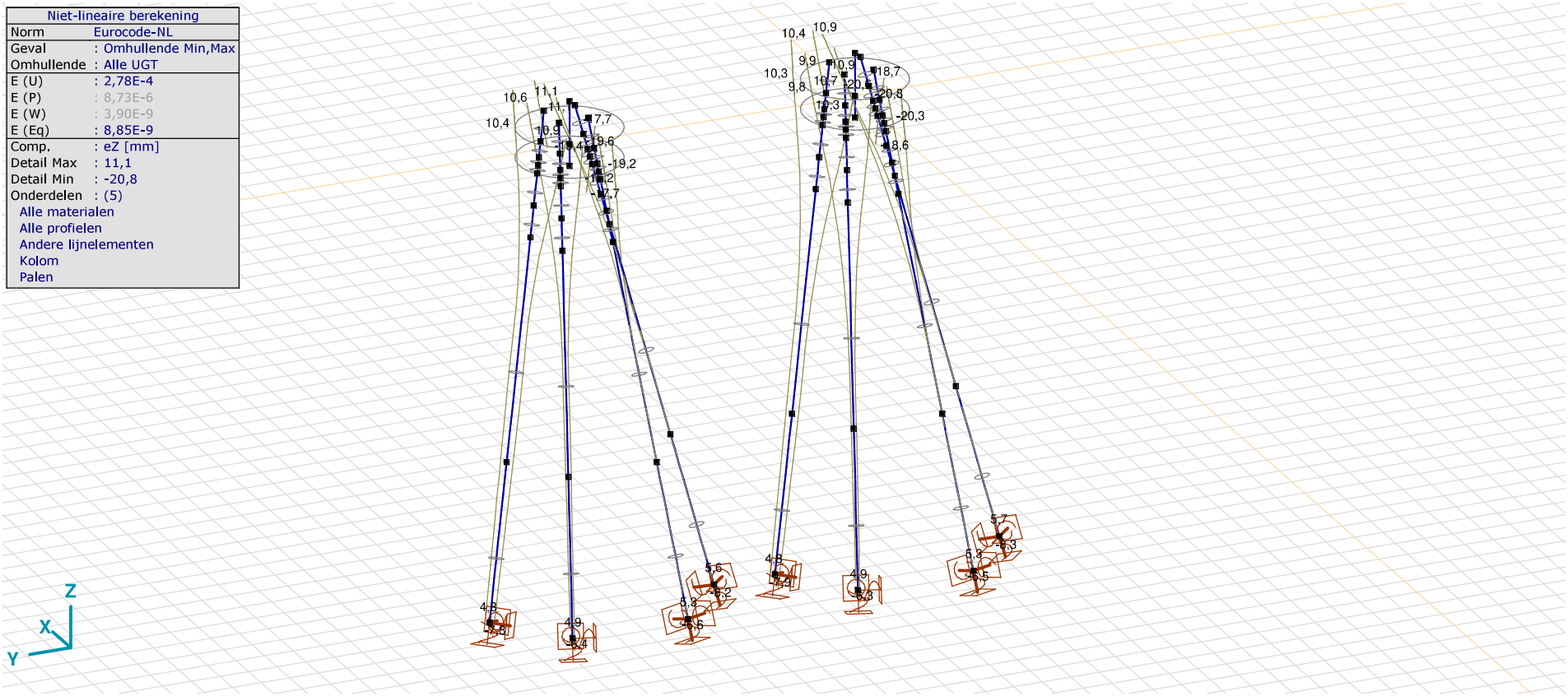



*[II], > 7 details, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, eY, Lijnen*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 42



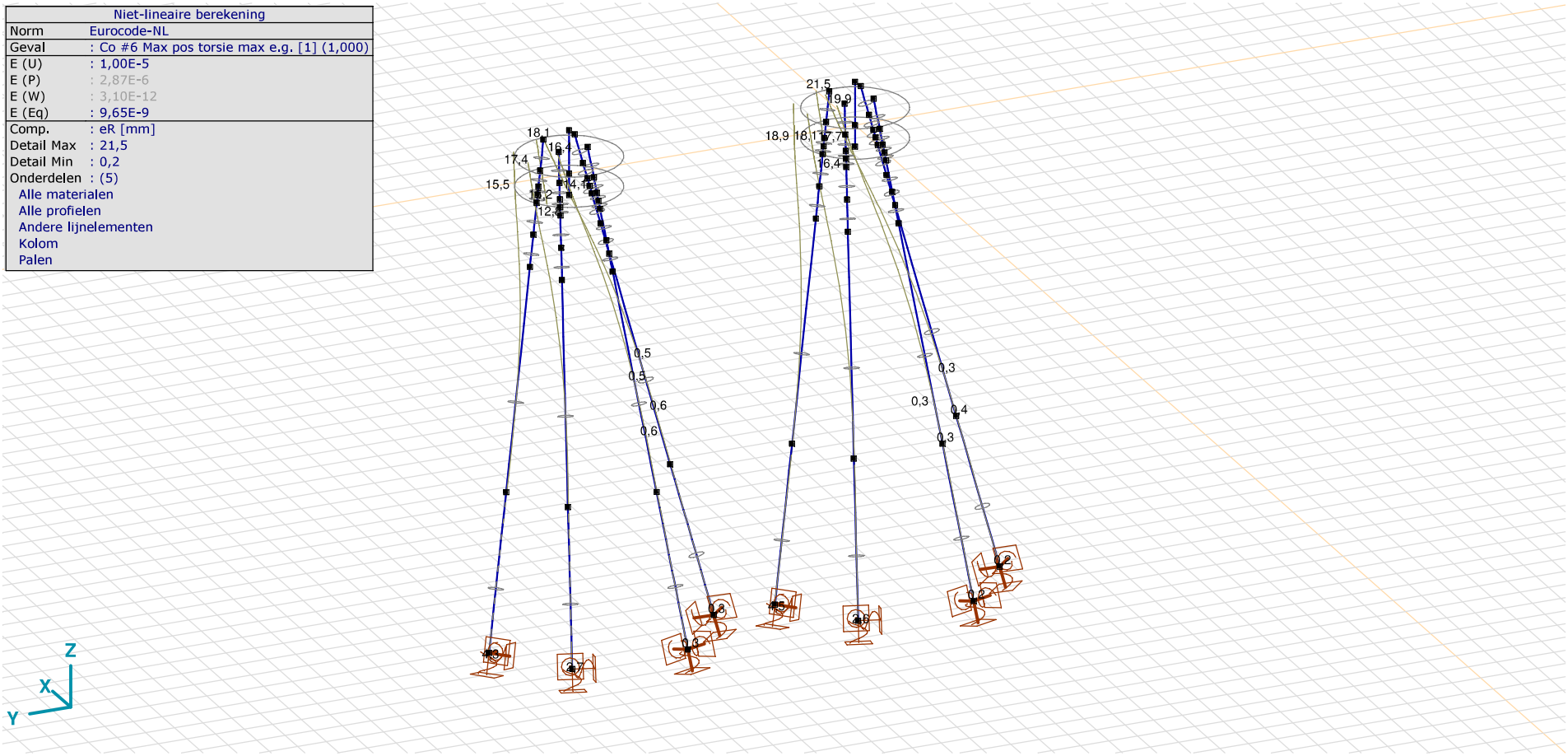

*[II], > 7 details, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, eZ, Lijnen*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 43

| Niet-lineaire berekening | |
|---|---|
| Norm | Eurocode-NL |
| Geval | : Co #6 Max pos torsie max e.g. [1] (1,000) |
| E (U) | : 1,00E-5 |
| E (P) | : 2,87E-6 |
| E (W) | : 3,10E-12 |
| E (Eq) | : 9,65E-9 |
| Comp. | : eR [mm] |
| Detail Max | : 21,5 |
| Detail Min | : 0,2 |
| Onderdelen | : (5) |
| Alle materialen | |
| Alle profielen | |
| Andere lijnelementen | |
| Kolom | |
| Palen | |




*[II], > 7 details, Non-lin., Co #6 Max pos torsie max e.g. [1] (1,000), Onmiddellijke doorbuiging, eR, Lijnen*

Knoopverplaatsingen [Non-lin., Omhullende (Alle UGT ), Details]

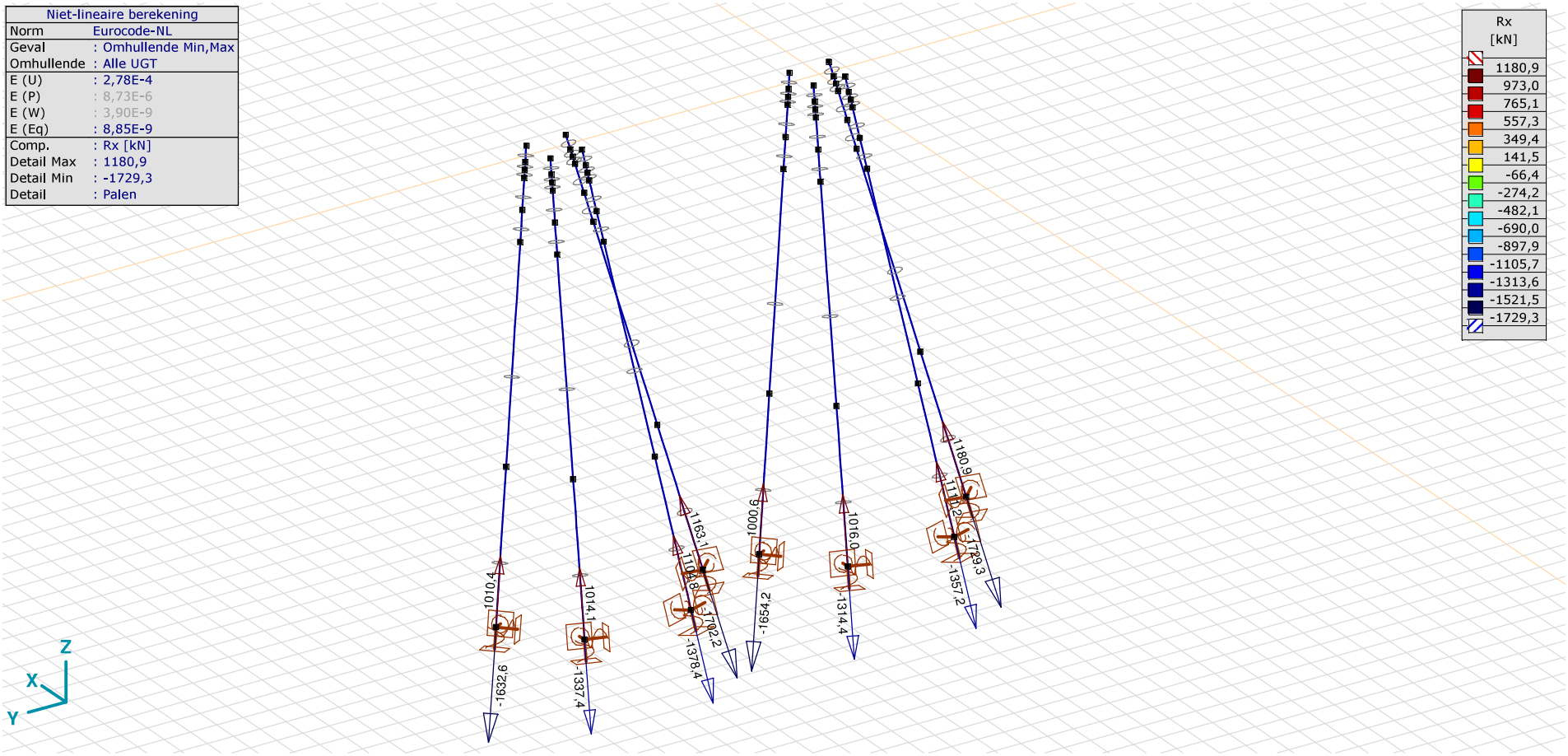
| | *C* | *min. max.* | *Geval* | *eX [mm]* | *eY [mm]* | *eZ [mm]* | *eR [mm]* | *fX [rad]* | *fY [rad]* | *fZ [rad]* | *fR [rad]* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext. | | | | | | | | | | | |
| 150 | eX | min | Co #5 Max druk max e.g. [1] (1,000) | **−3,2** | −0,9 | −9,9 | 10,5 | 0 | 0,0001 | 0,0001 | 0,0002 |
| 8 | | max | Co #5 Max druk max e.g. [1] (1,000) | **14,4** | −1,6 | −18,7 | 23,6 | 0,0002 | 0,0025 | 0 | 0,0025 |
| 8 | eY | min | Co #7 Max neg torsie max e.g. [1] (1,000) | 10,1 | **−18,0** | −6,2 | 21,6 | 0,0021 | 0,0011 | 0,0007 | 0,0025 |
| 8 | | max | Co #6 Max pos torsie max e.g. [1] (1,000) | 10,1 | **17,9** | −6,1 | 21,5 | −0,0021 | 0,0011 | −0,0007 | 0,0025 |
| 18 | eZ | min | Co #5 Max druk max e.g. [1] (1,000) | 13,0 | −1,4 | **−20,8** | 24,6 | 0,0002 | 0,0025 | 0 | 0,0025 |
| 33 | | max | Co #1 Max trek min e.g. [1] (1,000) | 3,4 | 2,3 | **11,1** | 11,8 | −0,0004 | −0,0004 | 0 | 0,0006 |
| 52 | | max | Co #1 Max trek min e.g. [1] (1,000) | 3,0 | 2,7 | **11,1** | 11,8 | −0,0004 | −0,0004 | 0 | 0,0006 |
| 278 | | max | Co #1 Max trek min e.g. [1] (1,000) | 3,3 | 2,4 | **11,1** | 11,8 | −0,0004 | −0,0004 | 0 | 0,0006 |
| 279 | | max | Co #1 Max trek min e.g. [1] (1,000) | 3,2 | 2,5 | **11,1** | 11,8 | −0,0004 | −0,0004 | 0 | 0,0006 |
| 280 | | max | Co #1 Max trek min e.g. [1] (1,000) | 3,1 | 2,6 | **11,1** | 11,8 | −0,0004 | −0,0004 | 0 | 0,0006 |
| 104 | eR | min | Co #3 Max neg torsie min e.g. [1] (1,000) | 0 | −0,8 | −0,3 | **0,8** | 0,0009 | 0,0001 | 0,0004 | 0,0010 |
| 18 | | max | Co #5 Max druk max e.g. [1] (1,000) | 13,0 | −1,4 | −20,8 | **24,6** | 0,0002 | 0,0025 | 0 | 0,0025 |

**C:** Extreme component; **min. max.:** Extreme type; **Geval:** Belastinggeval van de extreme; **eX:** Verplaatsing in X-richting; **eY:** Verplaatsing in Y-richting; **eZ:** Verplaatsing in Z-richting; **eR:** Resulterende verplaatsing; **fX:** Rotatie in X-richting; **fY:** Rotatie in Y-richting; **fZ:** Rotatie in Z-richting; **fR:** Resulterende rotatie;

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 45

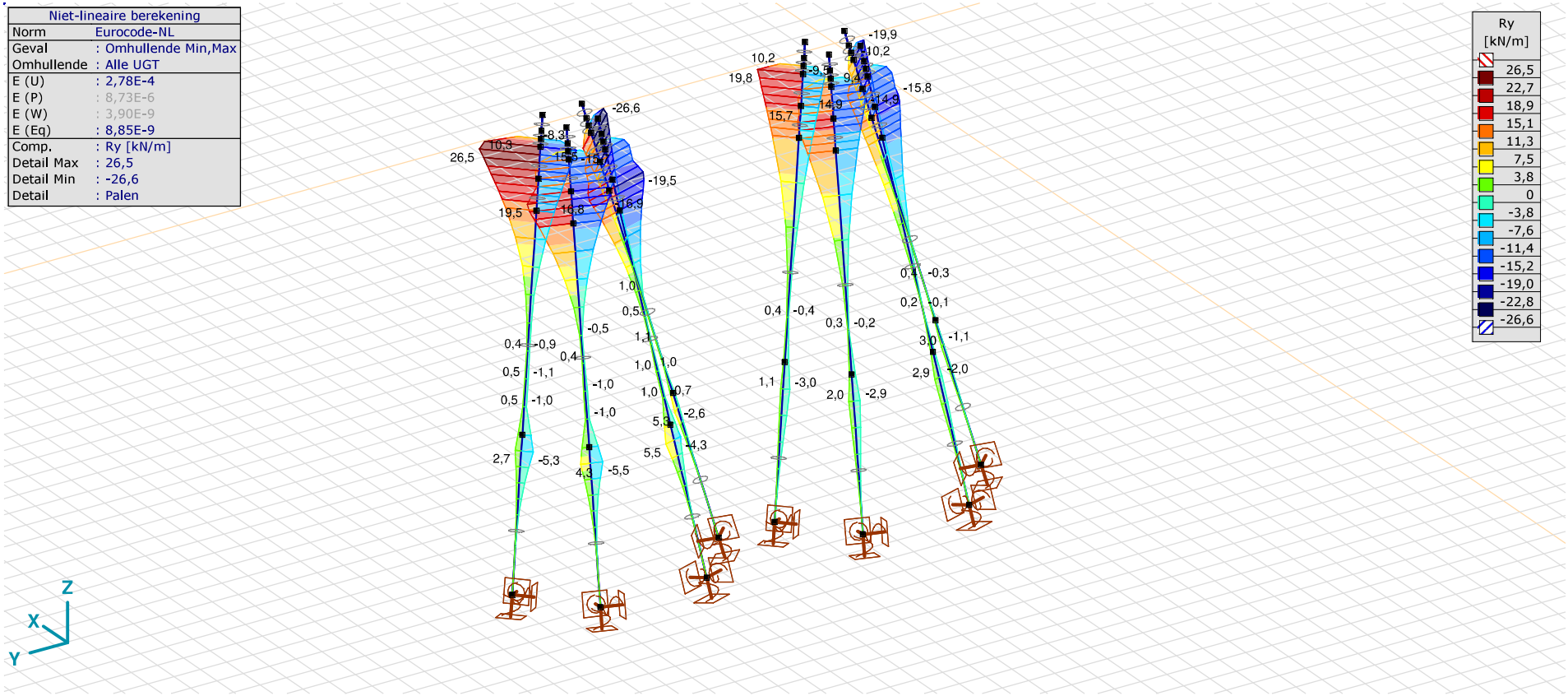



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Rx (knoopopl.), Lijnen*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 46

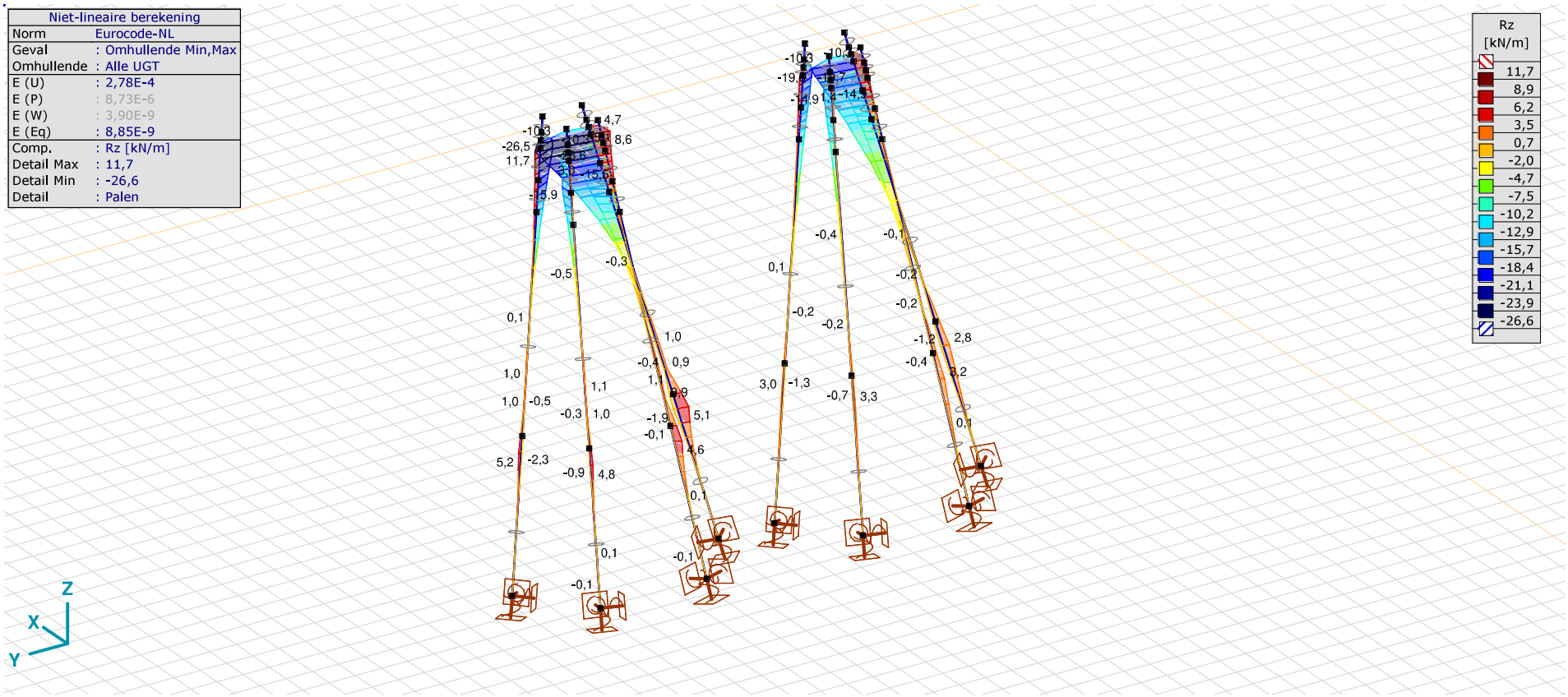



*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Ry (lijnopp.), Lijnen (gevuld)*

# Project: 4-paalspoer

Constructeur: DNV GL - Energy

Model: **ZWO380 20210927 4-p wortelk rev2.axs** 14-10-2021 Pag. 47




*[II], > Palen, Non-lin., Omhullende (Alle UGT ), Onmiddellijke doorbuiging, Rz (lijnopp.), Lijnen (gevuld)*

Interne krachten knoopoplegging [Non-lin., Omhullende (Alle UGT ), Palen]

| | *Knoop* | *X [m]* | *Y [m]* | *Z [m]* | *Type* | *C* | *min. max.* | *Geval* | *Rx [kN]* | *Ry [kN]* | *Rz [kN]* | *Rr [kN]* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext. | | | | | | | | | | | | |
| 2 | 12 | −2,582 | −3,932 | −15,000 | Staaf r. | Rx | min | Co #5 Max druk max e.g. [1] (1,000) | **−1729,3** | −0,8 | −0,1 | 1729,3 |
| 2 | 12 | −2,582 | −3,932 | −15,000 | Staaf r. | | max | Co #4 Comb.trek+torsie min e.g. [1] (1,000) | **1180,9** | 0,2 | 0,4 | 1180,9 |

| | *Rxx [kNm]* | *Ryy [kNm]* | *Rzz [kNm]* | *Rrr [kNm]* | *αR* |
|---|---|---|---|---|---|
| Ext. | | | | | |
| 2 | 2,8 | −2,1 | 0,7 | 3,5 | −20954,240 |
| 2 | −3,8 | −1,3 | −0,5 | 4,0 | 2700,926 |

**Knoop:** Ondersteunde knoop; **Type:** Opleggingstype; **C:** Extreme component; **min. max.:** Extreme type; **Geval:** Belastinggeval van de extreme; **Rx:** X-component opleggingsreactiekracht; **Ry:** Y-component opleggingsreactiekracht; **Rz:** Z-component opleggingsreactiekracht; **Rr:** Resulterende opleggingsreactiekracht; **Rxx:** X-component opleggingsreactiemoment; **Ryy:** Y-component opleggingsreactiemoment; **Rzz:** Z-component opleggingsreactiemoment; **Rrr:** Resulterend opleggingsreactiemoment; **αR:** Verhouding verticale oplegkracht / horizontale oplegkracht;

## About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analyzing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.