

# CORE CONSTRUCTIES

## Statische Berekening

Project: Willemsparkweg 220 Amsterdam  
Onderdeel: Funderingsherstel  
Opdrachtgever: Structure Engineering  
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Opgesteld:

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## 1 Inleiding

### 1.1 Algemeen

Het pand aan Willemsparkweg 220 Amsterdam wordt verbouwd.

Het pand wordt voorzien van een funderingsherstel. De gehele dragende tussenmuur wordt op alle verdiepingen vervangen door een staalconstructie. Op het bestaande dak wordt een dakterras met dakhuisje geplaatst. Er worden een aantal nieuwe badkamers geplaatst op verschillende verdiepingen, een deel van de begane grondvloer wordt vervangen.

In dit document worden de constructieve aspecten van het funderingsherstel beschouwd.

### 1.2 Wijzigingen

Rev1 Diverse wijzigingen

Rev2 De inkassing zit hoger in de muur, de fundering wordt als kelderbak uitgevoerd. Muur Koninginneweg 13 Amsterdam wordt niet opgevangen. Belastingen uit stabiliteitsportaal t.p.v. Koninginneweg 13 toegevoegd.

## 2 Aangehouden belastingen

#### *permanent*

|                     |                         |
|---------------------|-------------------------|
| vloeren (gemiddeld) | = 1,00kN/m <sup>2</sup> |
| badkamers           | = 1,50kN/m <sup>2</sup> |
| plat dak            | = 0,60kN/m <sup>2</sup> |
| schuin dak          | = 0,80kN/m <sup>2</sup> |
| dak+dakterras       | = 0,90kN/m <sup>2</sup> |
| HSB                 | = 1,00kN/m <sup>2</sup> |
| balustrade          | = 0,50kN/m <sup>1</sup> |
| mw                  | = 20,0kN/m <sup>3</sup> |
| beton               | = 25,0kN/m <sup>3</sup> |

#### *veranderlijk*

|           |  |
|-----------|--|
| vloeren   | = 2,55kN/m <sup>2</sup> (incl 0,80kN/m <sup>2</sup> lichte scheidingswanden) |
| dakterras | = 2,50kN/m <sup>2</sup>  |

## 3 Materialen

|             |                   |
|-------------|-------------------|
| hout binnen | C18               |
| hout buiten | C24 geïmpregneerd |
| staal       | S235              |
| bouten      | 8.8               |
| beton       | C20/25            |
| wapening    | B500A             |

## 4 Algemene rekenmethodes

Berekeningen conform Eurocodes.

Gevolgklasse CC2

## 5 Uitgangpunten

### 5.1 Willemsparkweg 218 Amsterdam

De Willemsparkweg 218 Amsterdam heeft een gedeelde bouwmuur met de Willemsparkweg 220 Amsterdam. De Willemsparkweg 218 Amsterdam heeft geen funderingsherstel gehad. De volgende belastingen worden hierdoor opgenomen in de berekening:

- Gedeelde bouwmuur
- Vloeren en dak op de bouwmuur
- Voorgevel tot helft eerste opening
- Achtergevel tot helft eerste opening

### 5.2 Koninginneweg 13 Amsterdam

De Koninginneweg 13 Amsterdam heeft een gedeelde bouwmuur met de Willemsparkweg 220 Amsterdam. De Koninginneweg 13 Amsterdam heeft geen funderingsherstel gehad. De muur is echter losgescheurd van de overige bouwmuren en er liggen geen vloeren op van Willemsparkweg 220. I.o.m. EversPartners wordt deze muur niet opgevangen en wordt er een stabiliteitsportaal geplaatst naast deze muur.

De volgende belastingen worden hierdoor opgenomen in de berekening:

- Geen

### 5.3 Toe te passen palen

Er worden schroefinjectiepalen toegepast. De definitieve paalberekening dient door derden minimaal 3 weken voor aanvang van de werkzaamheden te worden geleverd.

## 6 Beschikbare informatie

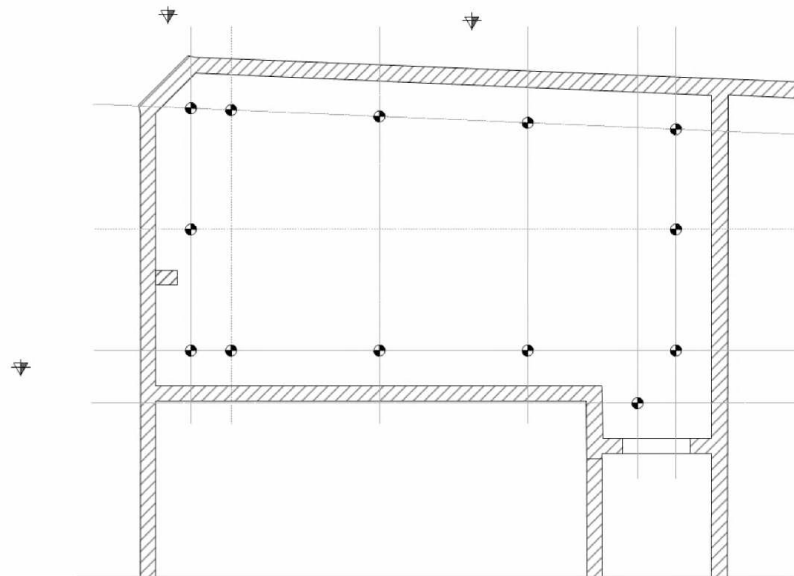
### 6.1 Algemeen

Voor het bepalen van de statische berekening is gebruik gemaakt van de volgende informatie:

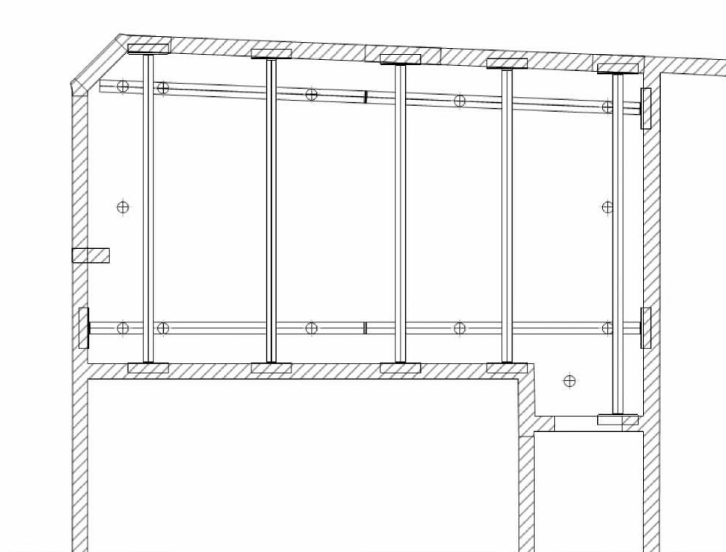
- Tekeningen House Check bouwkundig adviesbureau 2016065 d.d. 20-04-2016
- Principe tekeningen Structure Engineering CO-17014-rev5
- Inmetingen/locatiebezoek/foto's Structure Engineering
- Overleg EversPartners (opvangen muur Koninginneweg 13 en belastingen uit stabiliteitsportaal naast deze muur)
- Geotechnisch advies Hektec PB 17.0436-1 d.d. 28 maart 2017



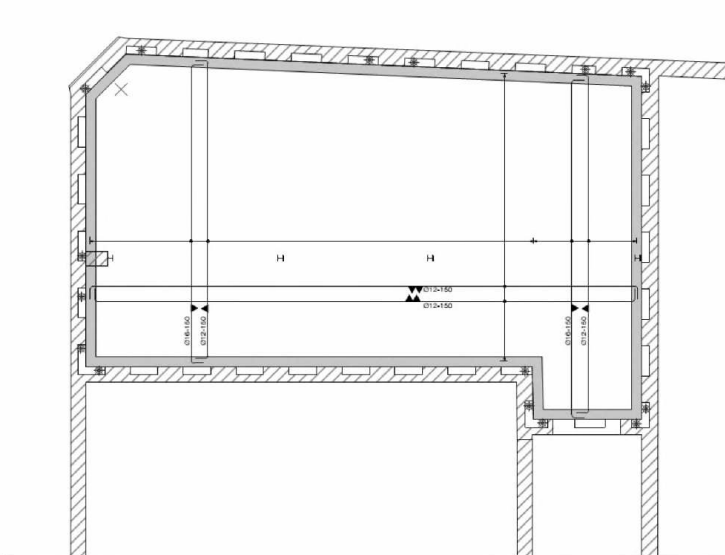
## 6.2.2 Structure Engineering



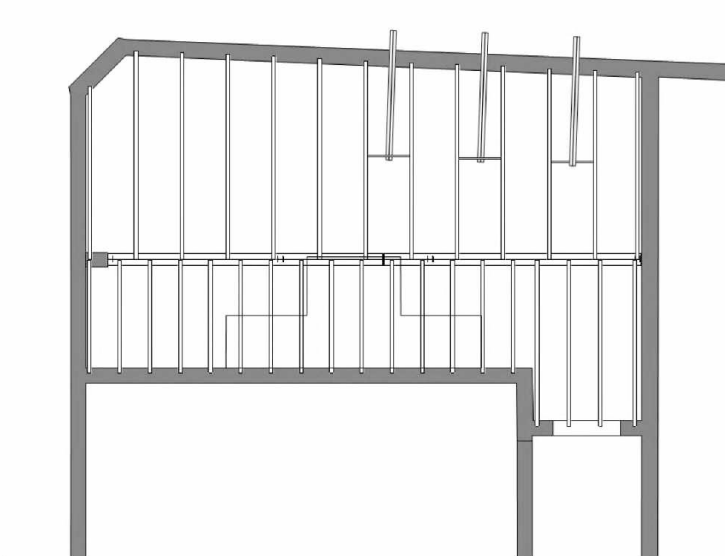
Palenplan



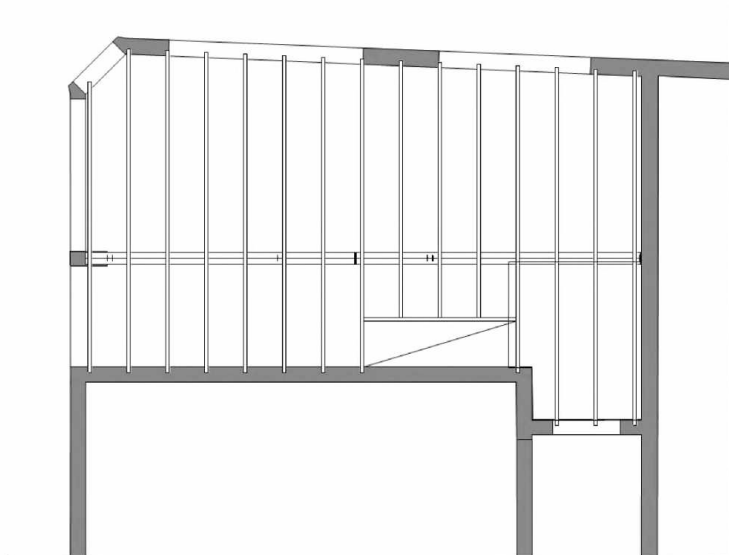
Tafelconstructie



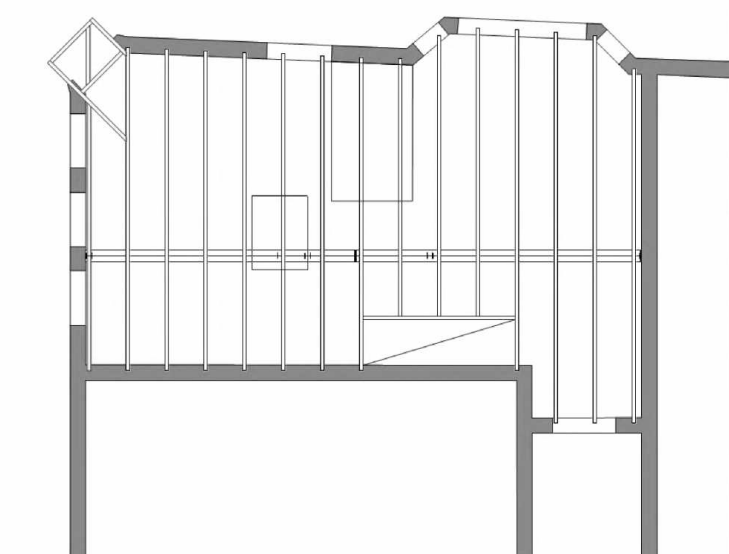
Betonvloer



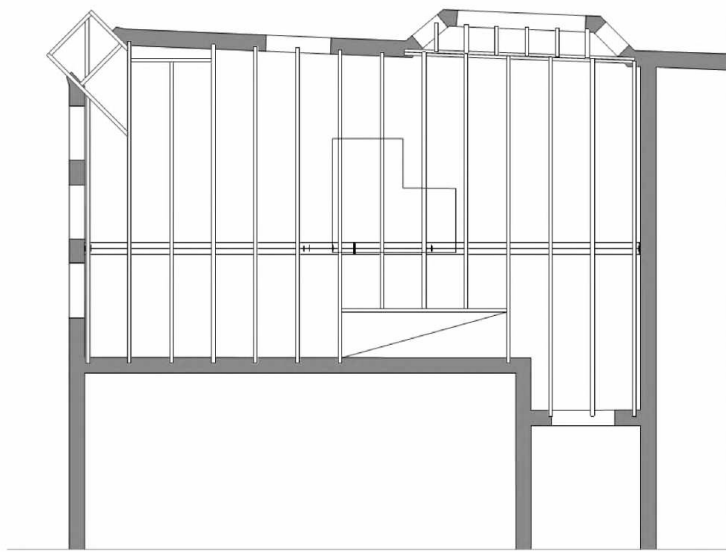
Begane grondvloer



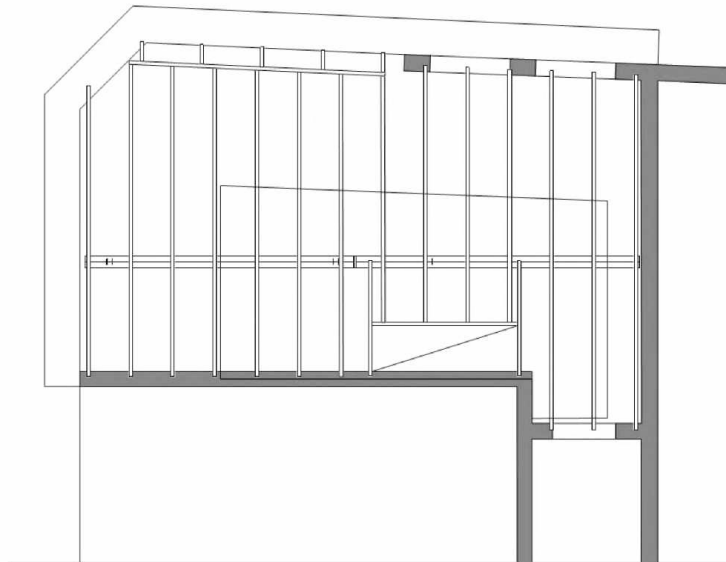
1<sup>e</sup> verdieping



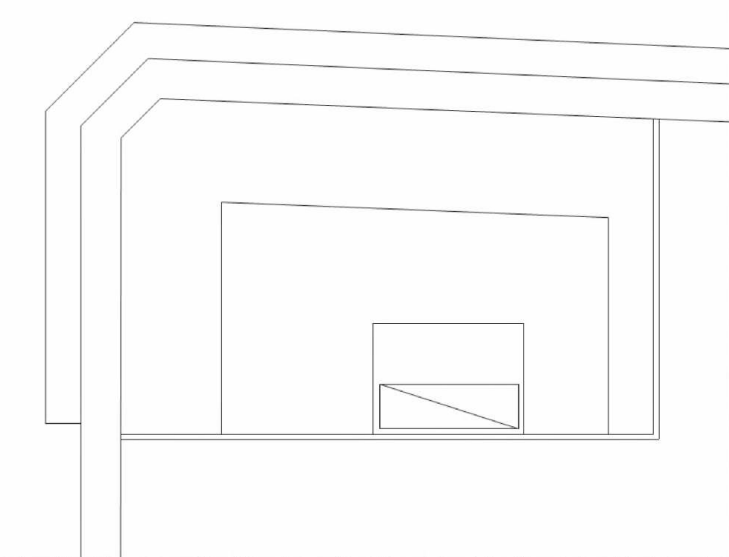
2<sup>e</sup> verdieping



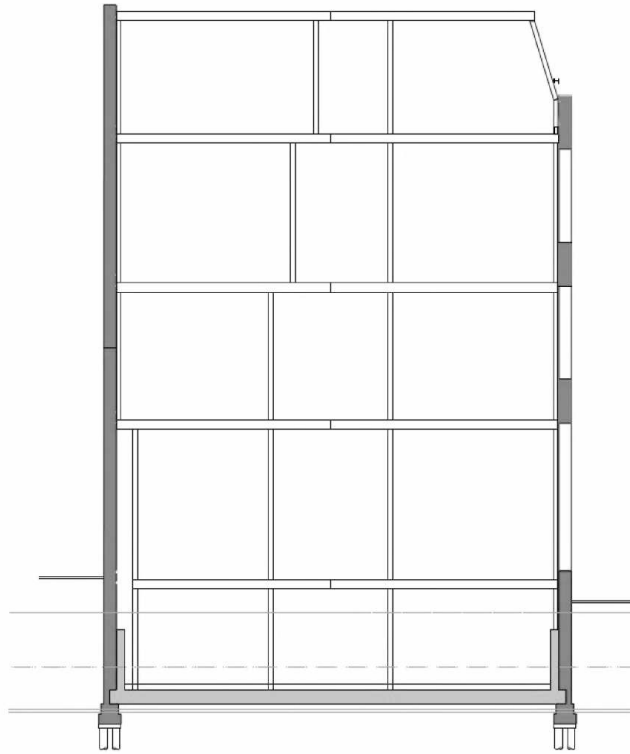
3<sup>e</sup> verdieping



Daklaag



Dakterras met dakhuisje



Doorsnede

## 7 Statische berekening

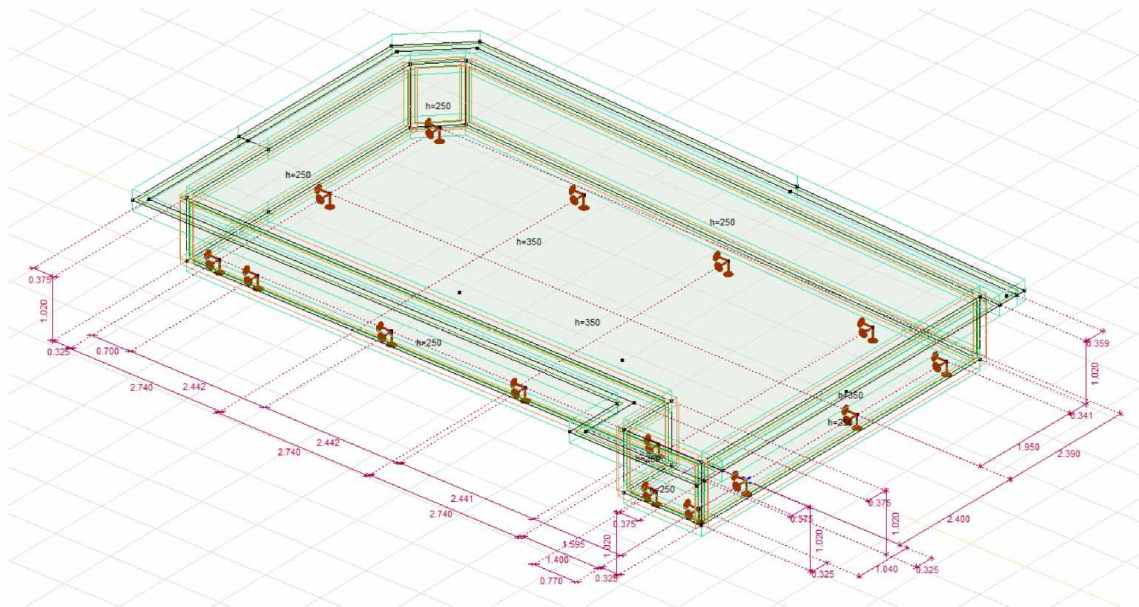
### 7.1 FEM berekening vloer

#### 7.1.1 Toegepaste fundering

Vloer, d=350mm, C30/37

Wanden, d=250mm, C30/37

#### 7.1.2 Geometrie

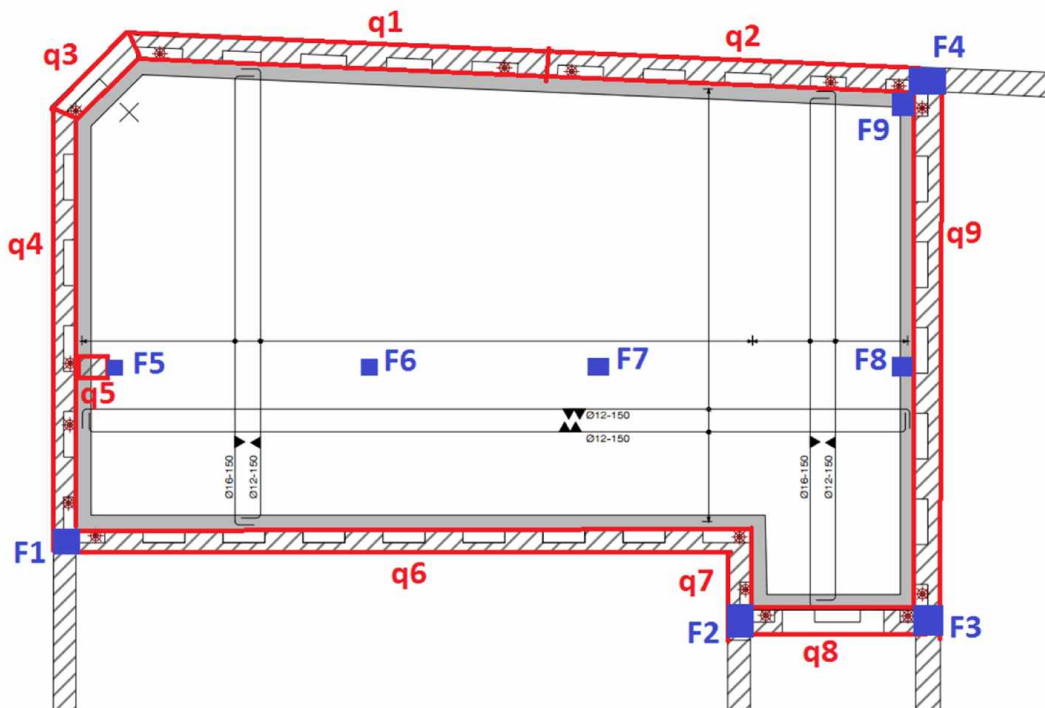


#### 7.1.3 Veerconstante palen

De aangehouden veerconstante is  $2,0 \times 10^4$  kN/m

## 7.1.4 Belastingen

### 7.1.4.1 Plattegrond met belastingen



### 7.1.4.2 Overzicht belastingen

| p                               | aantal | L | b | h    | PB                | VB                |                   |                   |
|---------------------------------|--------|---|---|------|-------------------|-------------------|-------------------|-------------------|
| Onderdeel                       | stuks  | m | m | m    | kN/m <sup>3</sup> | kN/m <sup>2</sup> | kN/m <sup>2</sup> | kN/m <sup>2</sup> |
| afwerking vloer                 | 1      |   |   | 0.05 | 25                | 1.25              |                   | 2.55              |
| hoogste GWS omgeving peilbuizen |        |   |   | 0.95 |                   |                   | -10               | -9.5              |

| q1                  | aantal | L | b    | h      | PB   | VB                |                   |                   |       |                   |                   |
|---------------------|--------|---|------|--------|------|-------------------|-------------------|-------------------|-------|-------------------|-------------------|
| Onderdeel           | stuks  | m | m    | % raam | m    | kN/m <sup>3</sup> | kN/m <sup>2</sup> | kN/m <sup>1</sup> | stuks | kN/m <sup>2</sup> | kN/m <sup>1</sup> |
| mw 220mm            | 1      | 1 | 0.25 | 11.6%  | 13.8 | 20                |                   | 61.02             |       |                   |                   |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2  | 25                |                   | 4.50              |       |                   |                   |
| schuin dak          | 1      | 3 | 1    |        |      |                   | 0.8               | 2.40              |       |                   |                   |
| vloeren BG tm 3e    | 4      | 1 | 2    |        |      |                   | 1                 | 8.00              | 2.8   | 2.55              | 14.28             |
| dak+dakterras       | 1      | 1 | 2    |        |      |                   | 1                 | 2.00              | 0.4   | 2.5               | 2.00              |
| <b>TOTAAL</b>       |        |   |      |        |      |                   |                   | <b>77.92</b>      |       |                   | <b>16.28</b>      |

2 extreem, 2 momentaan  
momentaan

| q2                  | aantal | L | b    | h      | PB  | VB                |                   |                   |       |                   |                   |
|---------------------|--------|---|------|--------|-----|-------------------|-------------------|-------------------|-------|-------------------|-------------------|
| Onderdeel           | stuks  | m | m    | % raam | m   | kN/m <sup>3</sup> | kN/m <sup>2</sup> | kN/m <sup>1</sup> | stuks | kN/m <sup>2</sup> | kN/m <sup>1</sup> |
| mw 220mm            | 1      | 1 | 0.25 | 35.0%  | 16  | 20                |                   | 52.03             |       |                   |                   |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2 | 25                |                   | 4.50              |       |                   |                   |
| vloeren BG tm 3e    | 4      | 1 | 2    |        |     |                   | 1                 | 8.00              | 2.8   | 2.55              | 14.28             |
| dak+dakterras       | 1      | 1 | 2    |        |     |                   | 1                 | 2.00              | 0.4   | 2.5               | 2.00              |
| <b>TOTAAL</b>       |        |   |      |        |     |                   |                   | <b>66.53</b>      |       |                   | <b>16.28</b>      |

2 extreem, 2 momentaan  
momentaan

| q3                  | aantal | L | b    |        | h    | PB    |       |              | VB    |       |              |
|---------------------|--------|---|------|--------|------|-------|-------|--------------|-------|-------|--------------|
| Onderdeel           | stuks  | m | m    | % raam | m    | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1        |
| mw 220mm            | 1      | 1 | 0.25 | 33.0%  | 13.8 | 20    |       | 46.23        |       |       |              |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2  | 25    |       | 4.50         |       |       |              |
| schuin dak/overig   | 1      | 3 | 1    |        |      |       | 0.8   | 2.40         |       |       |              |
| vloeren BG tm 3e    | 4      | 1 | 2    |        |      |       | 1     | 8.00         | 2.8   | 2.55  | 14.28        |
| dak+dakterras       | 1      | 1 | 2    |        |      |       | 1     | 2.00         | 0.4   | 2.5   | 2.00         |
| <b>TOTAAL</b>       |        |   |      |        |      |       |       | <b>63.13</b> |       |       | <b>16.28</b> |

2 extreem, 2 momentaan  
momentaan

| q4                  | aantal | L | b    |        | h    | PB    |       |              | VB    |       |             |
|---------------------|--------|---|------|--------|------|-------|-------|--------------|-------|-------|-------------|
| Onderdeel           | stuks  | m | m    | % raam | m    | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1       |
| mw 220mm            | 1      | 1 | 0.25 | 28.8%  | 13.8 | 20    |       | 49.11        |       |       |             |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2  | 25    |       | 4.50         |       |       |             |
| schuin dak/overig   | 1      | 3 | 1    |        |      |       | 0.8   | 2.40         |       |       |             |
| <b>TOTAAL</b>       |        |   |      |        |      |       |       | <b>56.01</b> |       |       | <b>0.00</b> |

| q5            | aantal | L | b    |        | h   | PB    |       |              | VB    |       |             |
|---------------|--------|---|------|--------|-----|-------|-------|--------------|-------|-------|-------------|
| Onderdeel     | stuks  | m | m    | % raam | m   | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1       |
| mw 220mm      | 1      | 1 | 0.25 |        | 2.7 | 20    |       | 13.50        |       |       |             |
| vloer BG      | 1      | 1 | 2.9  |        |     |       | 1     | 2.90         | 1     | 2.55  | 7.40        |
| <b>TOTAAL</b> |        |   |      |        |     |       |       | <b>16.40</b> |       |       | <b>7.40</b> |

extreem

| q6                        | aantal | L | b    |        | h   | PB    |       |              | VB    |       |              |
|---------------------------|--------|---|------|--------|-----|-------|-------|--------------|-------|-------|--------------|
| Onderdeel                 | stuks  | m | m    | % raam | m   | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1        |
| mw 220mm                  | 1      | 1 | 0.25 |        | 16  | 20    |       | 80.00        |       |       |              |
| betonnen kelderwand       | 1      | 1 | 0.15 |        | 1.2 | 25    |       | 4.50         |       |       |              |
| vloeren BG tm 3e nr 220   | 4      | 1 | 1.1  |        |     |       | 1     | 4.40         | 2.8   | 2.55  | 7.85         |
| dak+dakterras nr 220      | 1      | 1 | 1.1  |        |     |       | 1     | 1.10         | 0.4   | 2.5   | 1.10         |
| vloeren BG tm 3e nr 218   | 4      | 1 | 1.1  |        |     |       | 1     | 4.40         | 2.8   | 2.55  | 7.85         |
| dak+(evt)dakterras nr 218 | 1      | 1 | 1.1  |        |     |       | 1     | 1.10         | 0.4   | 2.5   | 1.10         |
| <b>TOTAAL</b>             |        |   |      |        |     |       |       | <b>95.50</b> |       |       | <b>17.91</b> |

2 extreem, 2 momentaan  
momentaan  
2 extreem, 2 momentaan  
momentaan

| q7                  | aantal | L | b    |        | h   | PB    |       |              | VB    |       |             |
|---------------------|--------|---|------|--------|-----|-------|-------|--------------|-------|-------|-------------|
| Onderdeel           | stuks  | m | m    | % raam | m   | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1       |
| mw 220mm            | 1      | 1 | 0.25 |        | 16  | 20    |       | 80.00        |       |       |             |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2 | 25    |       | 4.50         |       |       |             |
| <b>TOTAAL</b>       |        |   |      |        |     |       |       | <b>84.50</b> |       |       | <b>0.00</b> |

| q8                  | aantal | L | b    |        | h   | PB    |       |              | VB    |       |              |
|---------------------|--------|---|------|--------|-----|-------|-------|--------------|-------|-------|--------------|
| Onderdeel           | stuks  | m | m    | % raam | m   | kN/m3 | kN/m2 | kN/m1        | stuks | kN/m2 | kN/m1        |
| mw 220mm            | 1      | 1 | 0.25 |        | 16  | 20    |       | 80.00        |       |       |              |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2 | 25    |       | 4.50         |       |       |              |
| vloeren BG tm 3e    | 4      | 1 | 1.65 |        |     |       | 1     | 6.60         | 2.8   | 2.55  | 11.78        |
| dak+dakterras       | 1      | 1 | 1.65 |        |     |       | 1     | 1.65         | 0.4   | 2.5   | 1.65         |
| <b>TOTAAL</b>       |        |   |      |        |     |       |       | <b>92.75</b> |       |       | <b>13.43</b> |

2 extreem, 2 momentaan  
momentaan

| q9                  | aantal | L | b    |        | h   | PB    |       |             | VB    |       |             |
|---------------------|--------|---|------|--------|-----|-------|-------|-------------|-------|-------|-------------|
| Onderdeel           | stuks  | m | m    | % raam | m   | kN/m3 | kN/m2 | kN/m1       | stuks | kN/m2 | kN/m1       |
| betonnen kelderwand | 1      | 1 | 0.15 |        | 1.2 | 25    |       | 4.50        |       |       |             |
| <b>TOTAAL</b>       |        |   |      |        |     |       |       | <b>4.50</b> |       |       | <b>0.00</b> |

| F1                  | aantal | L | b |        | h | PB    |       |               | VB    |       |             |
|---------------------|--------|---|---|--------|---|-------|-------|---------------|-------|-------|-------------|
| Onderdeel           | stuks  | m | m | % raam | m | kN/m3 | kN/m1 | kN            | stuks | kN/m1 | kN          |
| mw voorgevel nr 218 |        |   |   |        |   |       |       | 100.00        |       |       |             |
| <b>TOTAAL</b>       |        |   |   |        |   |       |       | <b>100.00</b> |       |       | <b>0.00</b> |

Conservatief aangehouden op basis van foto's

| F2                    | aantal | L | b    |        | h    | PB    |       |              | VB    |       |             |
|-----------------------|--------|---|------|--------|------|-------|-------|--------------|-------|-------|-------------|
| Onderdeel             | stuks  | m | m    | % raam | m    | kN/m3 | kN/m1 | kN           | stuks | kN/m1 | kN          |
| mw achtergevel nr 218 | 1      | 1 | 0.25 |        | 17.1 | 20    |       | 85.50        |       |       |             |
| <b>TOTAAL</b>         |        |   |      |        |      |       |       | <b>85.50</b> |       |       | <b>0.00</b> |

1 meter gevel meegenomen

PB = 100kN aangehouden in berekening

| F3            | aantal | L | b |        | h | PB    |       |             | VB    |       |             |
|---------------|--------|---|---|--------|---|-------|-------|-------------|-------|-------|-------------|
| Onderdeel     | stuks  | m | m | % raam | m | kN/m3 | kN/m1 | kN          | stuks | kN/m1 | kN          |
| VERVALLEN     |        |   |   |        |   |       |       |             |       |       |             |
| <b>TOTAAL</b> |        |   |   |        |   |       |       | <b>0.00</b> |       |       | <b>0.00</b> |

| F4            | aantal | L | b |        | h | PB    |       |             | VB    |       |             |
|---------------|--------|---|---|--------|---|-------|-------|-------------|-------|-------|-------------|
| Onderdeel     | stuks  | m | m | % raam | m | kN/m3 | kN/m1 | kN          | stuks | kN/m1 | kN          |
| VERVALLEN     |        |   |   |        |   |       |       |             |       |       |             |
| <b>TOTAAL</b> |        |   |   |        |   |       |       | <b>0.00</b> |       |       | <b>0.00</b> |

| F5                                   | aantal | A  | b |        | h | PB    |       |              | VB    |       |              |
|--------------------------------------|--------|----|---|--------|---|-------|-------|--------------|-------|-------|--------------|
| Onderdeel                            | stuks  | m2 | m | % raam | m | kN/m3 | kN/m1 | kN           | stuks | kN    | kN           |
| uit SB-CC17021-doorbraken-rev0 Pos 1 |        |    |   |        |   |       |       | 45.70        |       |       |              |
| VB dak                               |        |    |   |        |   |       |       |              | 0.4   | 24.20 | 9.68         |
| VB 3e                                |        |    |   |        |   |       |       |              | 1     | 23.60 | 23.6         |
| VB 2e                                |        |    |   |        |   |       |       |              | 0.4   | 21.10 | 8.44         |
| VB 1e                                |        |    |   |        |   |       |       |              | 1     | 22.20 | 22.2         |
| VB BG                                |        |    |   |        |   |       |       |              | 0.4   | 17.70 | 7.08         |
| <b>TOTAAL</b>                        |        |    |   |        |   |       |       | <b>45.70</b> |       |       | <b>71.00</b> |

momentaan

extreem

momentaan

extreem

momentaan

| F6                                   | aantal | A  | b |        | h | PB    |       |              | VB    |       |               |
|--------------------------------------|--------|----|---|--------|---|-------|-------|--------------|-------|-------|---------------|
| Onderdeel                            | stuks  | m2 | m | % raam | m | kN/m3 | kN/m1 | kN           | stuks | kN    | kN            |
| uit SB-CC17021-doorbraken-rev0 Pos 1 |        |    |   |        |   |       |       | 69.50        |       |       |               |
| VB dak                               |        |    |   |        |   |       |       |              | 0.4   | 26.40 | 10.56         |
| VB 3e                                |        |    |   |        |   |       |       |              | 0.4   | 29.70 | 11.88         |
| VB 2e                                |        |    |   |        |   |       |       |              | 1     | 34.60 | 34.6          |
| VB 1e                                |        |    |   |        |   |       |       |              | 0.4   | 31.80 | 12.72         |
| VB BG                                |        |    |   |        |   |       |       |              | 1     | 32.20 | 32.2          |
| <b>TOTAAL</b>                        |        |    |   |        |   |       |       | <b>69.50</b> |       |       | <b>101.96</b> |

momentaan

momentaan

extreem

momentaan

extreem

| F7                                   | aantal | A  | b |        | h | PB    |       |              | VB    |       |               |
|--------------------------------------|--------|----|---|--------|---|-------|-------|--------------|-------|-------|---------------|
| Onderdeel                            | stuks  | m2 | m | % raam | m | kN/m3 | kN/m1 | kN           | stuks | kN    | kN            |
| uit SB-CC17021-doorbraken-rev0 Pos 1 |        |    |   |        |   |       |       | 74.10        |       |       |               |
| VB dak                               |        |    |   |        |   |       |       |              | 0.4   | 31.70 | 12.68         |
| VB 3e                                |        |    |   |        |   |       |       |              | 1     | 36.40 | 36.4          |
| VB 2e                                |        |    |   |        |   |       |       |              | 0.4   | 34.40 | 13.76         |
| VB 1e                                |        |    |   |        |   |       |       |              | 0.4   | 36.10 | 14.44         |
| VB BG                                |        |    |   |        |   |       |       |              | 1     | 36.80 | 36.8          |
| <b>TOTAAL</b>                        |        |    |   |        |   |       |       | <b>74.10</b> |       |       | <b>114.08</b> |

momentaan

extreem

momentaan

momentaan

extreem

| F8                                   | aantal           | A  | b |        | h | PB    |       |              | VB    |       |              |
|--------------------------------------|------------------|----|---|--------|---|-------|-------|--------------|-------|-------|--------------|
| Onderdeel                            | stuks            | m2 | m | % raam | m | kN/m3 | kN/m1 | kN           | stuks | kN    | kN           |
| uit SB-CC17021-doorbraken-rev0 Pos 1 |                  |    |   |        |   |       |       | 35.80        |       |       |              |
| VB dak                               |                  |    |   |        |   |       |       |              | 0.4   | 3.50  | 1.4          |
| VB 3e                                |                  |    |   |        |   |       |       |              | 1     | 20.10 | 20.1         |
| VB 2e                                |                  |    |   |        |   |       |       |              | 1     | 19.70 | 19.7         |
| VB 1e                                |                  |    |   |        |   |       |       |              | 0.4   | 19.70 | 7.88         |
| VB BG                                |                  |    |   |        |   |       |       |              | 0.4   | 18.70 | 7.48         |
| stab.portaal                         | wind +/- 165,0kN |    |   |        |   |       |       | 10.00        |       |       |              |
| <b>TOTAAL</b>                        |                  |    |   |        |   |       |       | <b>45.80</b> |       |       | <b>56.56</b> |

momentaan

extreem

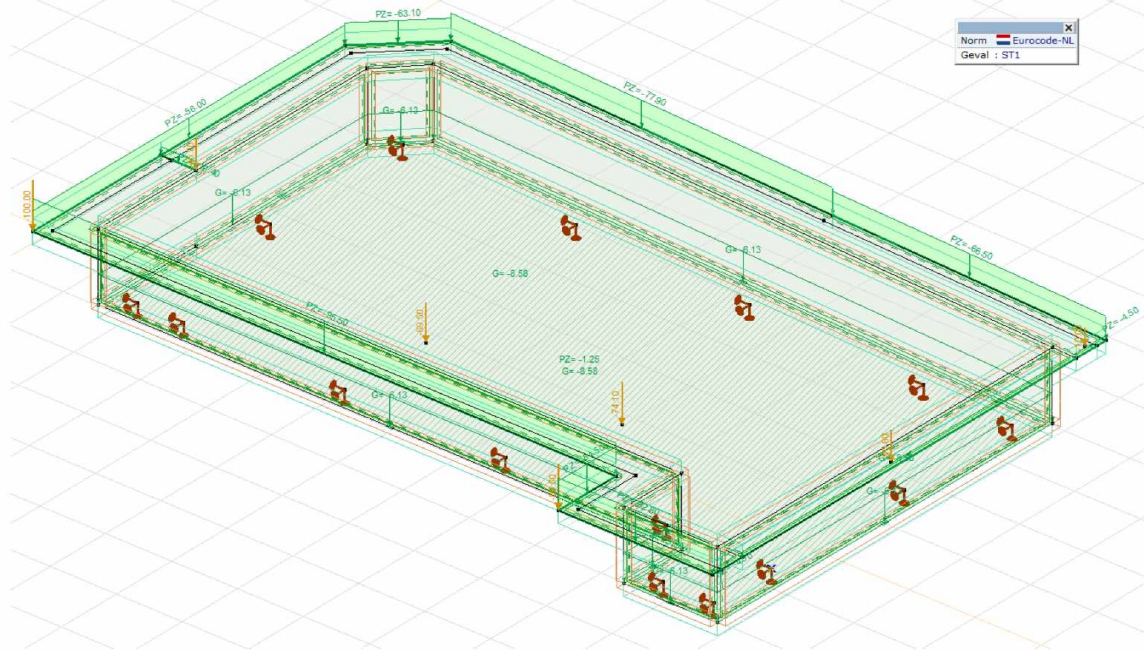
extreem

momentaan

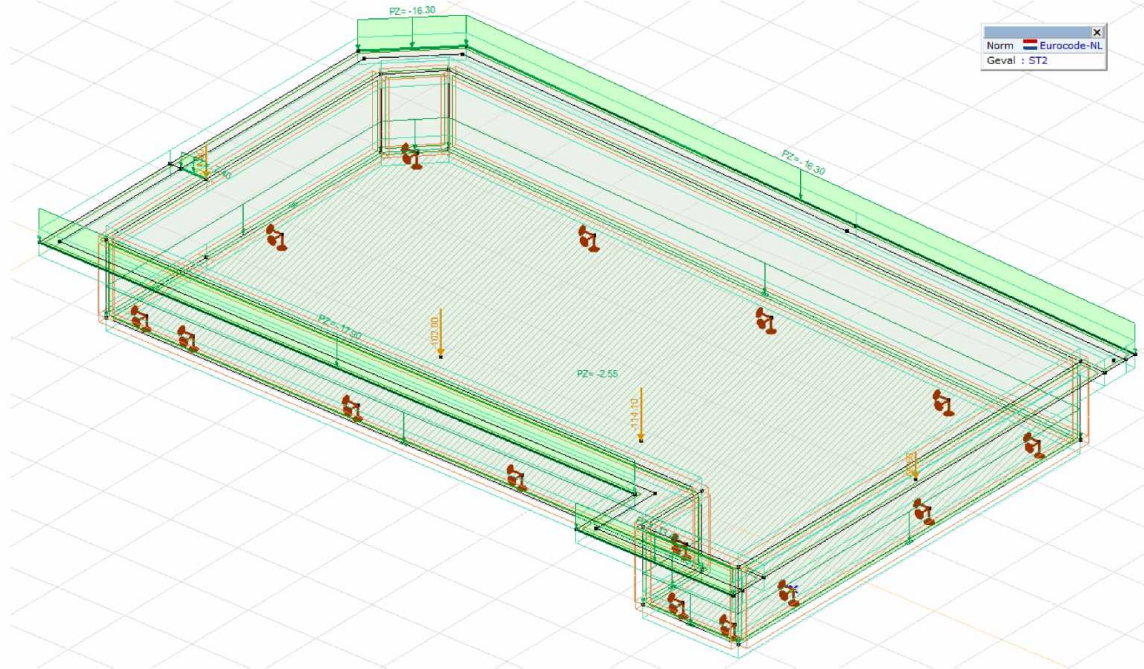
momentaan

| F9            | aantal | A                | b |        | h | PB    |       |              | VB    |    |    |
|---------------|--------|------------------|---|--------|---|-------|-------|--------------|-------|----|----|
| Onderdeel     | stuks  | m2               | m | % raam | m | kN/m3 | kN/m1 | kN           | stuks | kN | kN |
| stab.portaal  |        | wind +/- 165,0kN |   |        |   |       |       | 10.00        |       |    |    |
| <b>TOTAAL</b> |        |                  |   |        |   |       |       | <b>10.00</b> |       |    |    |

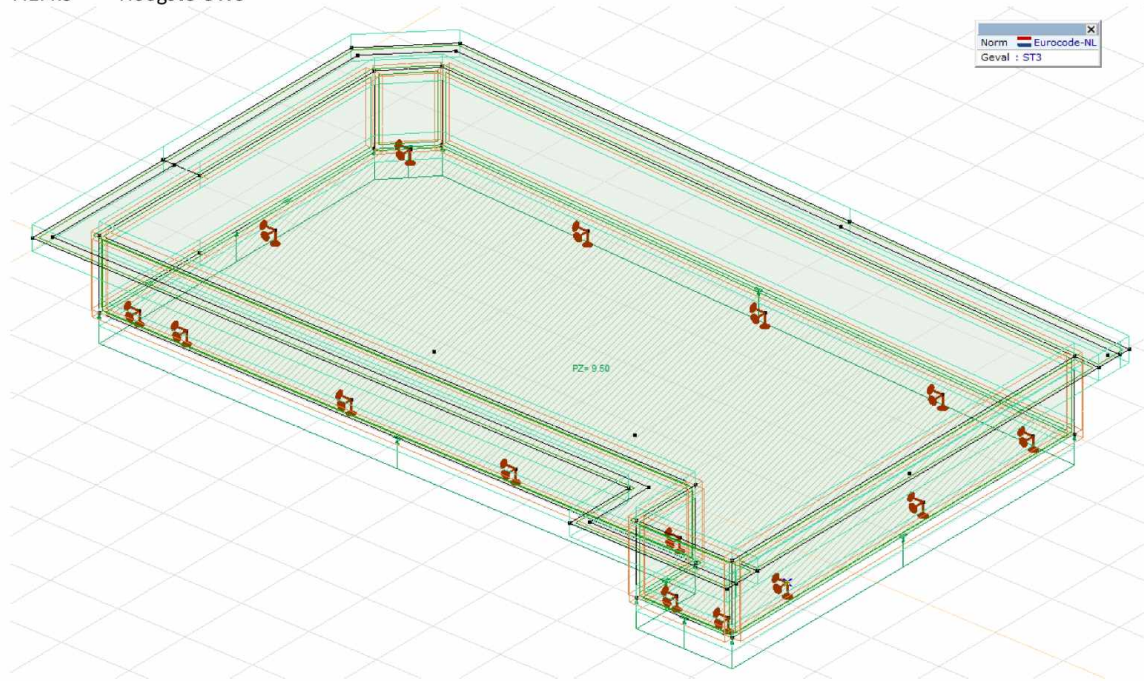
### 7.1.4.3 Permanente belasting



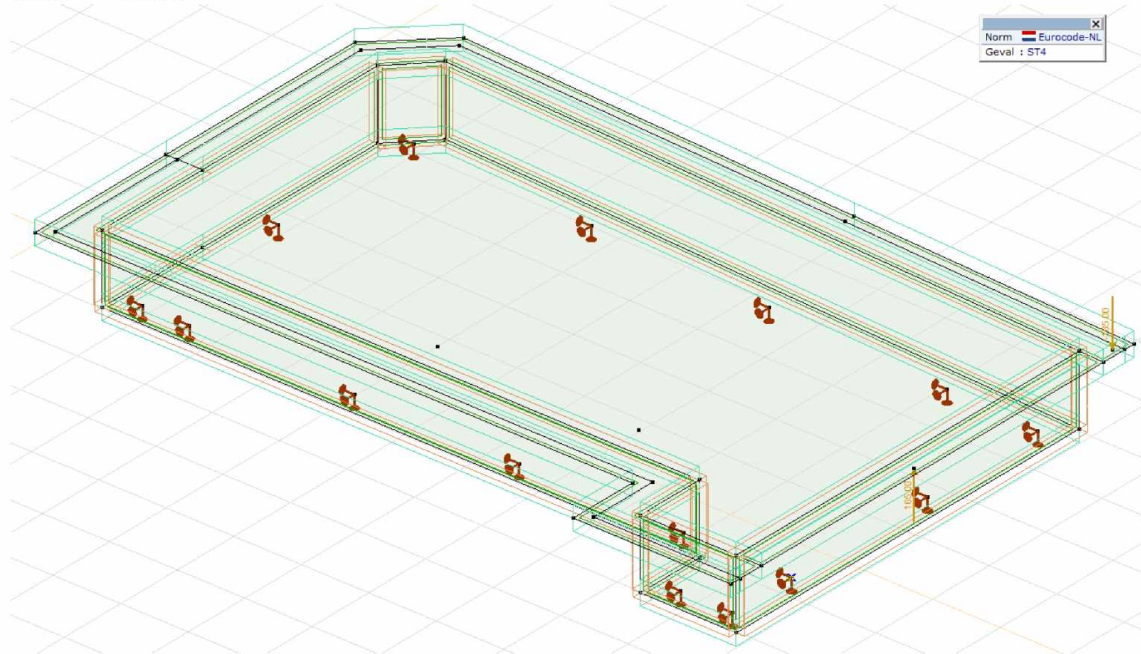
### 7.1.4.4 Veranderlijke belasting



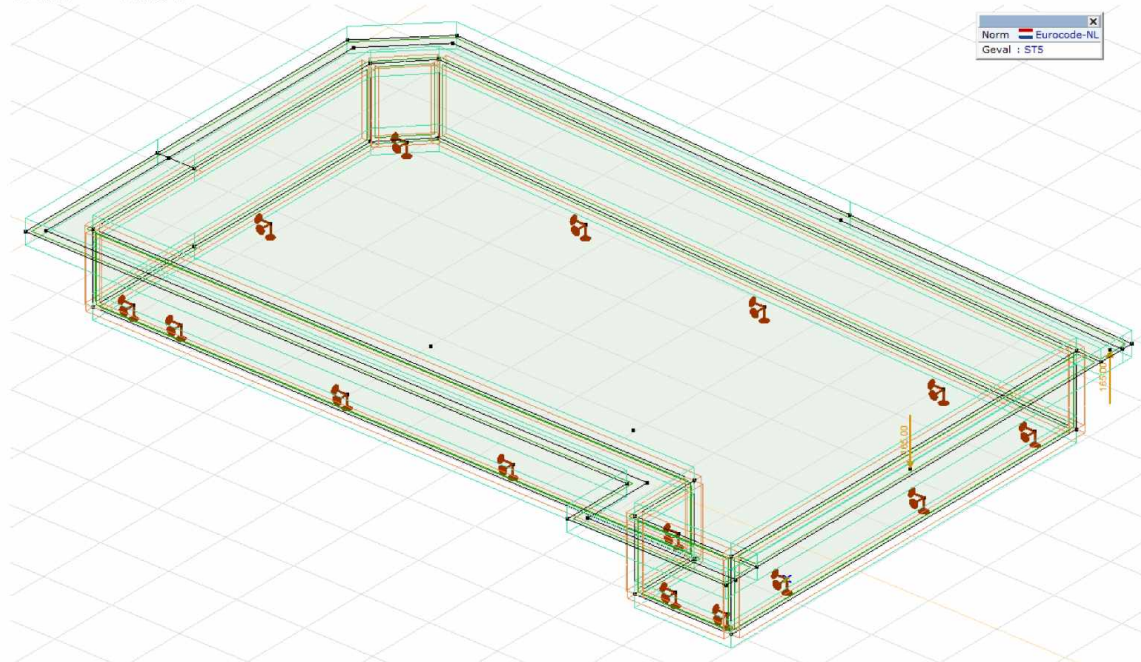
## 7.1.4.5 Hoogste GWS



## 7.1.4.6 Wind 1



## 7.1.4.7 Wind 2



## 7.2 Standaard wapening

### 7.2.1 Wapening vloer

In AxisVM is de onder- en boven wapening als volgt gedefinieerd:

X-richting (Loodrecht op bouwmuren)

Boven Ø16-150, dekking 20mm

Onder Ø12-150, dekking 35mm

Y-richting (Evenwijdig aan bouwmuren)

Boven Ø16-150, dekking 36mm

Onder Ø12-150, dekking 47mm

### 7.2.2 Wapening kelderwanden

#### 7.2.2.1 Verticale wapening kelderwand gedeelde bouwmuur nr 220-218 (q6)

Buiten Ø12-150, dekking 35mm

Binnen Ø12-100, dekking 20mm

#### 7.2.2.2 Verticale wapening kelderwand zijgevel (q1, q2)

Buiten Ø12-150, dekking 35mm

Binnen Ø12-125, dekking 20mm

#### 7.2.2.3 Verticale wapening overige kelderwanden

Buiten Ø12-150, dekking 35mm

Binnen Ø12-150, dekking 20mm

#### 7.2.2.4 Horizontale wapening kelderwanden

Minimaal aan te houden 0,7x1000x250/100/2 = 875mm<sup>2</sup>/m

Toepassen Ø12-125 = 905mm<sup>2</sup>/m

## 7.2.3 Dwarskracht naast bouwmuren

### 7.2.3.1 Dwarskracht naast bouwmuren

$$q_d = 1,2 \times (95,5 + 1,02 \times 0,25 \times 25,0) + 1,5 \times 17,9 = 149,1 \text{ kN/m (q6)}$$

| Dwarskracht vloer zonder wap |  |
|------------------------------|--|
| V <sub>d</sub>               | 149.1 kN                               |
| b <sub>w</sub>               | 1000 mm                                |
| h                            | 350 mm                                 |
| c                            | 20 mm                                  |
| z                            | 297 mm                                 |
| f <sub>ck</sub>              | 30 N/mm <sup>2</sup>                   |
| A <sub>sl</sub>              | d 16 mm                                |
|                              | hoh 150 mm                             |
|                              | A <sub>s</sub> 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              | 0 N/mm <sup>2</sup>                    |
| N <sub>ed</sub>              | 0 kN                                   |
| C <sub>Rd,c</sub>            | 0.12                                   |
| k                            | 1.778                                  |
| pl                           | 0.0041                                 |
| k <sub>1</sub>               | 0.15                                   |
| v <sub>min</sub>             | 0.455 N/mm <sup>2</sup>                |
| V <sub>Rdc</sub>             | 0.491 N/mm <sup>2</sup>                |
| VR <sub>dc</sub>             | 162.0 kN/m                             |
| <b>Dsn</b>                   | <b>AKKOORD</b>                         |

## 7.2.4 Dwarskracht t.p.v. F1, F2

$$q_d = 1,2 \times (95,5 + 1,02 \times 0,25 \times 25,0 + 100) + 1,5 \times 17,9 = 269,1 \text{ kN/m (q6+F1)}$$

| Dwarskracht vloer zonder wap |                |                         |
|------------------------------|----------------|-------------------------|
| V <sub>d</sub>               |                | 269.1 kN                |
| b <sub>w</sub>               |                | 1000 mm                 |
| h                            |                | 350 mm                  |
| c                            |                | 20 mm                   |
| z                            |                | 297 mm                  |
| f <sub>ck</sub>              |                | 30 N/mm <sup>2</sup>    |
| A <sub>sl</sub>              | d              | 16 mm                   |
|                              | hoh            | 150 mm                  |
|                              | A <sub>s</sub> | 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              |                | 0 N/mm <sup>2</sup>     |
| N <sub>ed</sub>              |                | 0 kN                    |
| C <sub>Rd,c</sub>            |                | 0.12                    |
| k                            |                | 1.778                   |
| pl                           |                | 0.0041                  |
| k <sub>1</sub>               |                | 0.15                    |
| V <sub>min</sub>             |                | 0.455 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                | 0.491 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                | 162.0 kN/m              |
| <b>Dsn</b>                   |                | <b>NIET AKKOORD</b>     |

| Dwarskracht vloer met wap |                    |                          |
|---------------------------|--------------------|--------------------------|
| V <sub>d</sub>            |                    | 269.1 kN                 |
| b <sub>w</sub>            |                    | 1000 mm                  |
| h                         |                    | 350 mm                   |
| c                         |                    | 20 mm                    |
| z                         |                    | 297 mm                   |
| f <sub>ck</sub>           |                    | 30 N/mm <sup>2</sup>     |
| f <sub>cd</sub>           |                    | 20 N/mm <sup>2</sup>     |
| v <sub>1</sub>            |                    | 0.552                    |
| θ                         |                    | 4.73 graden              |
| cotθ                      |                    | 12.102                   |
| A <sub>sw</sub>           |                    | 0.17 mm <sup>2</sup> /mm |
| A <sub>s;TOE</sub>        | d                  | 10 mm                    |
|                           | hoh                | 300 mm                   |
|                           | A <sub>s</sub> /mm | 0.52 mm <sup>2</sup> /mm |
| UC                        |                    | AKKOORD                  |
| <b>Toepassen</b>          | <b>Ø10-300</b>     | <b>over L=B</b>          |
| H.o.h. MAX ⊥ Muur         |                    | 330 mm                   |
| H.o.h. MAX //             |                    |                          |
| Muur                      |                    | 495 mm                   |

## 7.2.5 Dwarskracht t.p.v. kolom F5

$$q_d = 1,2 \times (56,0 + 0,5 \times 16,4 + 45,7 + 1,02 \times 0,25 \times 25,0) + 1,5 \times (0,5 \times 7,4 + 71,0) = 259,6 \text{ kN/m (q4+0,5m q5+F5)}$$

| Dwarskracht vloer zonder wap |                     |                         |
|------------------------------|---------------------|-------------------------|
| V <sub>d</sub>               |                     | 251.58 kN               |
| b <sub>w</sub>               |                     | 1000 mm                 |
| h                            |                     | 350 mm                  |
| c                            |                     | 20 mm                   |
| z                            |                     | 297 mm                  |
| f <sub>ck</sub>              |                     | 30 N/mm <sup>2</sup>    |
| A <sub>sl</sub>              | d                   | 16 mm                   |
|                              | hoh                 | 150 mm                  |
|                              | A <sub>s</sub>      | 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              |                     | 0 N/mm <sup>2</sup>     |
| N <sub>ed</sub>              |                     | 0 kN                    |
| C <sub>Rd,c</sub>            |                     | 0.12                    |
| k                            |                     | 1.778                   |
| pl                           |                     | 0.0041                  |
| k <sub>1</sub>               |                     | 0.15                    |
| V <sub>min</sub>             |                     | 0.455 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                     | 0.491 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                     | 162.0 kN/m              |
| <b>Dsn</b>                   | <b>NIET AKKOORD</b> |                         |

| Dwarskracht vloer met wap |                    |                          |
|---------------------------|--------------------|--------------------------|
| V <sub>d</sub>            |                    | 251.58 kN                |
| b <sub>w</sub>            |                    | 1000 mm                  |
| h                         |                    | 350 mm                   |
| c                         |                    | 20 mm                    |
| z                         |                    | 297 mm                   |
| f <sub>ck</sub>           |                    | 30 N/mm <sup>2</sup>     |
| f <sub>cd</sub>           |                    | 20 N/mm <sup>2</sup>     |
| v <sub>1</sub>            |                    | 0.552                    |
| θ                         |                    | 4.42 graden              |
| cotθ                      |                    | 12.956                   |
| A <sub>sw</sub>           |                    | 0.15 mm <sup>2</sup> /mm |
| A <sub>s;TOE</sub>        | d                  | 10 mm                    |
|                           | hoh                | 300 mm                   |
|                           | A <sub>s</sub> /mm | 0.52 mm <sup>2</sup> /mm |
| UC                        | AKKOORD            |                          |
| <b>Toepassen</b>          | <b>Ø10-300</b>     | <b>over L=B</b>          |
| H.o.h. MAX ⊥ Muur         |                    | 330 mm                   |
| H.o.h. MAX //             |                    |                          |
| Muur                      |                    | 495 mm                   |

## 7.2.6 Dwarskracht t.p.v. kolom F8, F9

$$q_d = 1,2 \times (4,5 + 45,8 + 1,02 \times 0,25 \times 25,0) + 1,5 \times 165,0 = 315,5 \text{ kN/m (} q_9 + F_8 \text{)}$$

| Dwarskracht vloer zonder wap |                     |                         |
|------------------------------|---------------------|-------------------------|
| V <sub>d</sub>               |                     | 315.51 kN               |
| b <sub>w</sub>               |                     | 1000 mm                 |
| h                            |                     | 350 mm                  |
| c                            |                     | 20 mm                   |
| z                            |                     | 297 mm                  |
| f <sub>ck</sub>              |                     | 30 N/mm <sup>2</sup>    |
| A <sub>sl</sub>              | d                   | 16 mm                   |
|                              | hoh                 | 150 mm                  |
|                              | A <sub>s</sub>      | 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              |                     | 0 N/mm <sup>2</sup>     |
| N <sub>ed</sub>              |                     | 0 kN                    |
| C <sub>Rd,c</sub>            |                     | 0.12                    |
| k                            |                     | 1.778                   |
| pl                           |                     | 0.0041                  |
| k <sub>1</sub>               |                     | 0.15                    |
| V <sub>min</sub>             |                     | 0.455 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                     | 0.491 N/mm <sup>2</sup> |
| V <sub>Rdc</sub>             |                     | 162.0 kN/m              |
| <b>Dsn</b>                   | <b>NIET AKKOORD</b> |                         |

| Dwarskracht vloer met wap |                    |                          |
|---------------------------|--------------------|--------------------------|
| V <sub>d</sub>            |                    | 315.51 kN                |
| b <sub>w</sub>            |                    | 1000 mm                  |
| h                         |                    | 350 mm                   |
| c                         |                    | 20 mm                    |
| z                         |                    | 297 mm                   |
| f <sub>ck</sub>           |                    | 30 N/mm <sup>2</sup>     |
| f <sub>cd</sub>           |                    | 20 N/mm <sup>2</sup>     |
| v <sub>1</sub>            |                    | 0.552                    |
| θ                         |                    | 5.55 graden              |
| cotθ                      |                    | 10.295                   |
| A <sub>sw</sub>           |                    | 0.24 mm <sup>2</sup> /mm |
| A <sub>s;TOE</sub>        | d                  | 10 mm                    |
|                           | hoh                | 300 mm                   |
|                           | A <sub>s</sub> /mm | 0.52 mm <sup>2</sup> /mm |
| UC                        | AKKOORD            |                          |
| <b>Toepassen</b>          | <b>Ø10-300</b>     | <b>over L=B</b>          |
| H.o.h. MAX ⊥ Muur         |                    | 330 mm                   |
| H.o.h. MAX //             |                    |                          |
| Muur                      |                    | 495 mm                   |

## 7.2.7 Dwarskracht t.p.v. kolom F6, F7

Smalle beuk

$$q_d = 1,2 \times (0,4 \times 25,0 + 67\% \times 74,2) + 1,5 \times (2,55 + 67\% \times 114,1) = 190,2 \text{ kN/m (F7)}$$

| Dwarskracht vloer zonder wap |  |
|------------------------------|--|
| V <sub>d</sub>               | 190.1523 kN                            |
| b <sub>w</sub>               | 1000 mm                                |
| h                            | 350 mm                                 |
| c                            | 20 mm                                  |
| z                            | 297 mm                                 |
| f <sub>ck</sub>              | 30 N/mm <sup>2</sup>                   |
| A <sub>sl</sub>              | d 16 mm                                |
|                              | hoh 150 mm                             |
|                              | A <sub>s</sub> 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              | 0 N/mm <sup>2</sup>                    |
| N <sub>ed</sub>              | 0 kN                                   |
| C <sub>Rd,c</sub>            | 0.12                                   |
| k                            | 1.778                                  |
| pl                           | 0.0041                                 |
| k <sub>1</sub>               | 0.15                                   |
| v <sub>min</sub>             | 0.455 N/mm <sup>2</sup>                |
| V <sub>Rdc</sub>             | 0.491 N/mm <sup>2</sup>                |
| VR <sub>dc</sub>             | 162.0 kN/m                             |
| <b>Dsn</b>                   | <b>NIET AKKOORD</b>                    |

| Dwarskracht vloer met wap |   |
|---------------------------|---|
| V <sub>d</sub>            | 190.1523 kN                                 |
| b <sub>w</sub>            | 1000 mm                                     |
| h                         | 350 mm                                      |
| c                         | 20 mm                                       |
| z                         | 297 mm                                      |
| f <sub>ck</sub>           | 30 N/mm <sup>2</sup>                        |
| f <sub>cd</sub>           | 20 N/mm <sup>2</sup>                        |
| v <sub>1</sub>            | 0.552                                       |
| θ                         | 3.33 graden                                 |
| cotθ                      | 17.185                                      |
| A <sub>sw</sub>           | 0.09 mm <sup>2</sup> /mm                    |
| A <sub>s,TOE</sub>        | d 10 mm                                     |
|                           | hoh 300 mm                                  |
|                           | A <sub>s</sub> /mm 0.52 mm <sup>2</sup> /mm |
| UC                        | AKKOORD                                     |
| <b>Toepassen</b>          | <b>Ø10-300 over L=B</b>                     |
| H.o.h. MAX ⊥ Muur         | 330 mm                                      |
| H.o.h. MAX //             |   |
| Muur                      | 495 mm                                      |

**LET OP: Dubbele beugels toepassen en beugels doorzetten tot over palen!**

Brede beuk

$$q_d = 1,2 \times (0,4 \times 25,0 + 33\% \times 74,2) + 1,5 \times (2,55 + 33\% \times 114,1) = 101,7 \text{ kN/m (F7)}$$

| Dwarskracht vloer zonder wap |  |
|------------------------------|--|
| V <sub>d</sub>               | 101.6877 kN                            |
| b <sub>w</sub>               | 1000 mm                                |
| h                            | 350 mm                                 |
| c                            | 20 mm                                  |
| z                            | 297 mm                                 |
| f <sub>ck</sub>              | 30 N/mm <sup>2</sup>                   |
| A <sub>sl</sub>              | d 16 mm                                |
|                              | hoh 150 mm                             |
|                              | A <sub>s</sub> 1340 mm <sup>2</sup> /m |
| σ <sub>cp</sub>              | 0 N/mm <sup>2</sup>                    |
| N <sub>ed</sub>              | 0 kN                                   |
| C <sub>Rd,c</sub>            | 0.12                                   |
| k                            | 1.778                                  |
| pl                           | 0.0041                                 |
| k <sub>1</sub>               | 0.15                                   |
| v <sub>min</sub>             | 0.455 N/mm <sup>2</sup>                |
| V <sub>Rdc</sub>             | 0.491 N/mm <sup>2</sup>                |
| VR <sub>dc</sub>             | 162.0 kN/m                             |
| <b>Dsn</b>                   | <b>AKKOORD</b>                         |

7.2.8 Inkassingen

7.2.8.1 Standaard inkassingen

Kasbreedte is 600mm, h.o.h. 1,1m. Het moment wordt berekend tussen hart muur en hart kelderwand.

$$F_d = 1,1m \times (1,2 \times 95,5 + 1,5 \times 17,9) = 155,6kN (q_6)$$

| Wapening inkassing |                |                     |
|--------------------|----------------|---------------------|
| V <sub>d</sub>     | 155.595        | kN                  |
| B                  | 600            | mm                  |
| arm                | 500            | mm                  |
| h                  | 350            | mm                  |
| c                  | 20             | mm                  |
| z                  | 297            | mm                  |
| f <sub>s</sub>     | 435            | N/mm <sup>2</sup>   |
| M <sub>d</sub>     | 77.80          | kNm                 |
| A <sub>s;ben</sub> | 669            | mm <sup>2</sup>     |
| A <sub>s;TOE</sub> | d              | 12 mm               |
|                    | aantal         | 6 stuks             |
|                    | A <sub>s</sub> | 678 mm <sup>2</sup> |
| UC                 | AKKOORD        |                     |
| <b>Toepassen</b>   | <b>6Ø12</b>    | <b>over L=B</b>     |

| Dwarskracht inkassing |                    |                          |
|-----------------------|--------------------|--------------------------|
| V <sub>d</sub>        | 155.595            | kN                       |
| b <sub>w</sub>        | 500                | mm                       |
| h                     | 350                | mm                       |
| c                     | 20                 | mm                       |
| z                     | 297                | mm                       |
| f <sub>ck</sub>       | 30                 | N/mm <sup>2</sup>        |
| f <sub>cd</sub>       | 20                 | N/mm <sup>2</sup>        |
| v <sub>1</sub>        | 0.552              |                          |
| θ                     | 5.47               | graden                   |
| cotθ                  | 10.441             |                          |
| A <sub>sw</sub>       | 0.12               | mm <sup>2</sup> /mm      |
| A <sub>s;TOE</sub>    | d                  | 10 mm                    |
|                       | aantal             | 3 stuks                  |
|                       | A <sub>s</sub> /mm | 1.41 mm <sup>2</sup> /mm |
| UC                    | AKKOORD            |                          |
| <b>Toepassen</b>      | <b>3Ø10</b>        |                          |

## 7.2.8.2 Inkassingen en kelderwand t.p.v. F1, F2

$$F_d = 1,1m \times (1,2 \times 95,5 + 1,5 \times 17,9) + 1,2 \times 100,0 = 286,8 \text{ kN (} q_6 + F_1 \text{)}$$

| Wapening inkassing |                |                      |
|--------------------|----------------|----------------------|
| V <sub>d</sub>     | 275.595        | kN                   |
| B                  | 600            | mm                   |
| arm                | 500            | mm                   |
| h                  | 350            | mm                   |
| c                  | 20             | mm                   |
| z                  | 297            | mm                   |
| f <sub>s</sub>     | 435            | N/mm <sup>2</sup>    |
| M <sub>d</sub>     | 137.80         | kNm                  |
| A <sub>s;ben</sub> | 1185           | mm <sup>2</sup>      |
| A <sub>s;TOE</sub> | d              | 16 mm                |
|                    | aantal         | 6 stuks              |
|                    | A <sub>s</sub> | 1206 mm <sup>2</sup> |
| UC                 | AKKOORD        |                      |
| <b>Toepassen</b>   | <b>6Ø16</b>    | <b>over L=B</b>      |

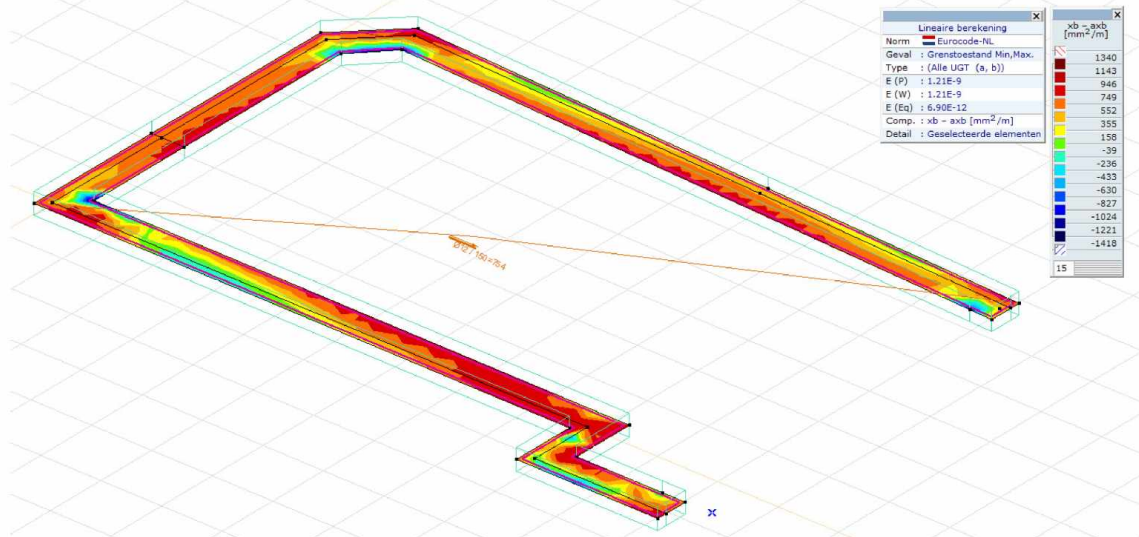
| Dwarskracht inkassing |                    |                          |
|-----------------------|--------------------|--------------------------|
| V <sub>d</sub>        | 275.595            | kN                       |
| b <sub>w</sub>        | 500                | mm                       |
| h                     | 350                | mm                       |
| c                     | 20                 | mm                       |
| z                     | 297                | mm                       |
| f <sub>ck</sub>       | 30                 | N/mm <sup>2</sup>        |
| f <sub>cd</sub>       | 20                 | N/mm <sup>2</sup>        |
| v <sub>1</sub>        | 0.552              |                          |
| θ                     | 9.83               | graden                   |
| cotθ                  | 5.776              |                          |
| A <sub>sw</sub>       | 0.37               | mm <sup>2</sup> /mm      |
| A <sub>s;TOE</sub>    | d                  | 10 mm                    |
|                       | aantal             | 3 stuks                  |
|                       | A <sub>s</sub> /mm | 1.41 mm <sup>2</sup> /mm |
| UC                    | AKKOORD            |                          |
| <b>Toepassen</b>      | <b>3Ø10</b>        |                          |

## 7.3 Extra wapening in plint

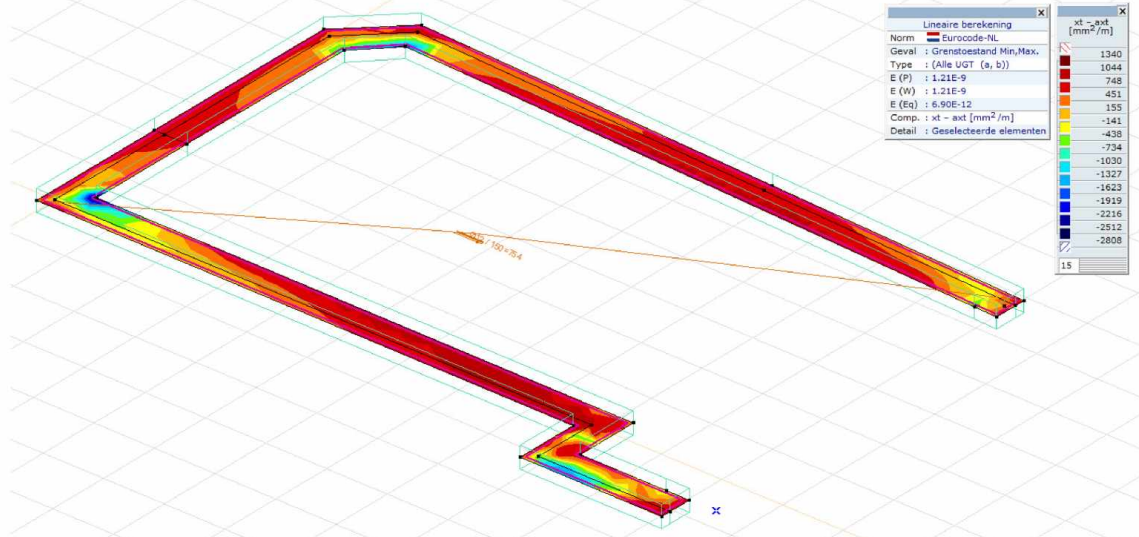
### 7.3.1 Extra wapening

Evenwijdig aan bouwmuur boven/onder 3Ø16

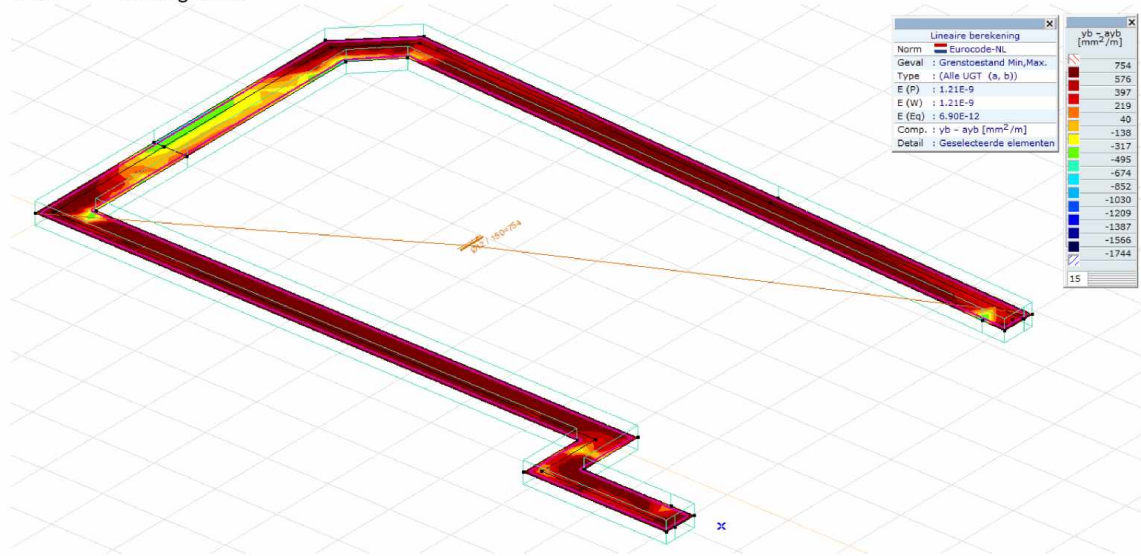
### 7.3.2 X-richting onder



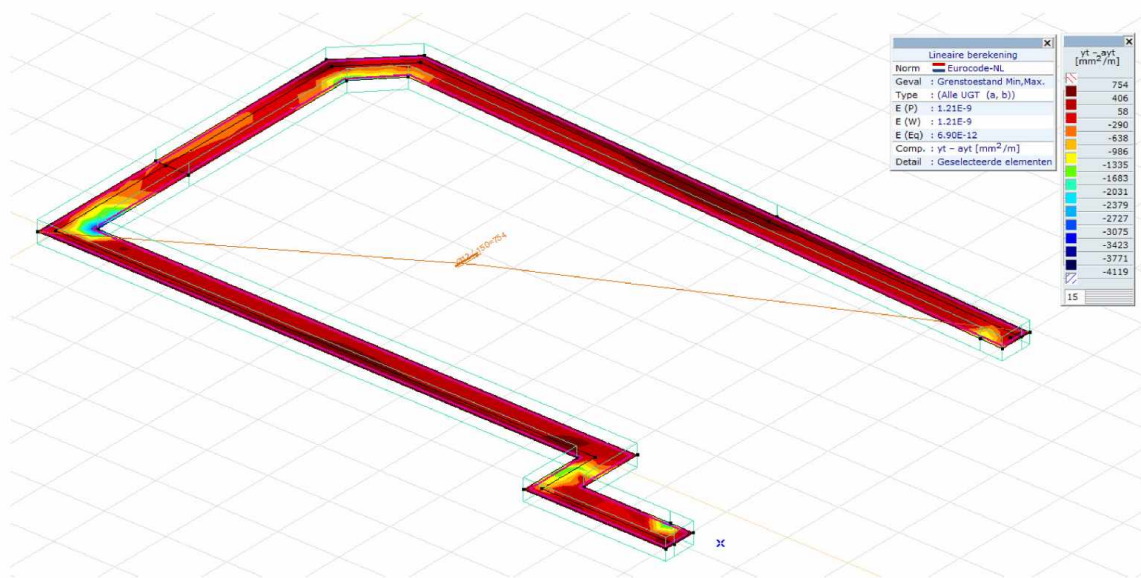
### 7.3.3 X-richting boven



### 7.3.4 Y-richting onder



### 7.3.5 Y-richting boven



## 7.4 Extra wapening in kelderwanden

### 7.4.1 Extra verticale wapening kelderwand t.p.v. F8

F8 (horizontale windbelasting) = 28,4kN >>  $M_d$  1,5x1,02x28,4 = 43,45kNm  
 F8 (verticale windbelasting) = 165kN >>  $M_d$  1,5x0,25x165 = 61,88kNm (maatgevend)

| Extra wapening binnen |           |                   |        |            |                 |
|-----------------------|-----------|-------------------|--------|------------|-----------------|
| Onderdeel             |           | belasting<br>[kN] | factor | arm<br>[m] | moment<br>[kNm] |
| q9                    | PB        | 4.5               | 1.2    | 0.25       | 1.35            |
|                       | VB        | 0                 | 1.5    | 0.25       | 0               |
| F8                    | PB        | 45.8              | 1.2    | 0.25       | 13.74           |
|                       | VB        | 56.6              | 1.5    | 0.25       | 21.23           |
| wind                  | verticaal | 165               | 1.5    | 0.25       | 61.88           |
| <b>TOTAAL</b>         |           |                   |        |            | <b>98.2</b>     |

| Extra wapening kelderwand binnen |             |                        |
|----------------------------------|-------------|------------------------|
| B                                |             | 1000 mm                |
| h                                |             | 250 mm                 |
| c                                |             | 20 mm                  |
| z                                |             | 207 mm                 |
| $f_s$                            |             | 435 N/mm <sup>2</sup>  |
| $M_d$                            |             | 98.19 kNm              |
| $A_{s;aanw}$                     | d           | 12 mm                  |
|                                  | hoh         | 150 mm                 |
|                                  | $A_{s/m}$   | 754 mm <sup>2</sup> /m |
| $A_{sben;TOT}$                   |             | 1090 mm <sup>2</sup>   |
| $A_{sben;EXTRA}$                 |             | 337 mm <sup>2</sup>    |
| $A_{s;extra}$                    | d           | 12 mm                  |
|                                  | aantal      | 6 mm                   |
|                                  | $A_s$       | 678 mm <sup>2</sup>    |
| $A_{s;TOT}$                      |             | 1432 mm <sup>2</sup>   |
| UC                               | AKKOORD     |                        |
| <b>Toepassen</b>                 | <b>6Ø12</b> | <b>over L=B</b>        |

| Extra wapening buiten |           |                   |        |            |                 |
|-----------------------|-----------|-------------------|--------|------------|-----------------|
| Onderdeel             |           | belasting<br>[kN] | factor | arm<br>[m] | moment<br>[kNm] |
| q9                    | PB        | 4.5               | 0.9    | 0.25       | 1.01            |
|                       | VB        | 0                 | 0      | 0.25       | 0               |
| F8                    | PB        | 45.8              | 0.9    | 0.25       | 10.31           |
|                       | VB        | 56.6              | 0      | 0.25       | 0               |
| wind                  | verticaal | -165              | 1.5    | 0.25       | -61.88          |
| <b>TOTAAL</b>         |           |                   |        |            | <b>-50.6</b>    |

| Extra wapening kelderwand buiten |             |                        |
|----------------------------------|-------------|------------------------|
| B                                |             | 1000 mm                |
| h                                |             | 250 mm                 |
| c                                |             | 35 mm                  |
| z                                |             | 193.5 mm               |
| $f_s$                            |             | 435 N/mm <sup>2</sup>  |
| $M_d$                            |             | 50.56 kNm              |
| $A_{s;aanw}$                     | d           | 12 mm                  |
|                                  | hoh         | 150 mm                 |
|                                  | $A_{s/m}$   | 754 mm <sup>2</sup> /m |
| $A_{sben;TOT}$                   |             | 601 mm <sup>2</sup>    |
| $A_{sben;EXTRA}$                 |             | -153 mm <sup>2</sup>   |
| $A_{s;extra}$                    | d           | 12 mm                  |
|                                  | aantal      | 2 mm                   |
|                                  | $A_s$       | mm <sup>2</sup>        |
| $A_{s;TOT}$                      |             | 754 mm <sup>2</sup>    |
| UC                               | AKKOORD     |                        |
| <b>Toepassen</b>                 | <b>2Ø12</b> | <b>over L=B</b>        |

7.4.2 Extra verticale wapening kelderwand t.p.v. F9

| Extra wapening binnen |           |                   |        |            |                 |
|-----------------------|-----------|-------------------|--------|------------|-----------------|
| Onderdeel             |           | belasting<br>[kN] | factor | arm<br>[m] | moment<br>[kNm] |
| q9                    | PB        | 4.5               | 1.2    | 0.25       | 1.35            |
|                       | VB        | 0                 | 1.5    | 0.25       | 0               |
| F9                    | PB        | 10                | 1.2    | 0.25       | 3               |
| Wind                  | Verticaal | 165               | 1.5    | 0.25       | 61.88           |
| <b>TOTAAL</b>         |           |                   |        |            | <b>66.2</b>     |

| Extra wapening kelderwand binnen |                  |                        |
|----------------------------------|------------------|------------------------|
| B                                |                  | 1000 mm                |
| h                                |                  | 250 mm                 |
| c                                |                  | 20 mm                  |
| z                                |                  | 207 mm                 |
| f <sub>s</sub>                   |                  | 435 N/mm <sup>2</sup>  |
| M <sub>ld</sub>                  |                  | 66.23 kNm              |
| A <sub>s,aanw</sub>              | d                | 12 mm                  |
|                                  | hoh              | 150 mm                 |
|                                  | A <sub>s/m</sub> | 754 mm <sup>2</sup> /m |
| A <sub>sben,TOT</sub>            |                  | 735 mm <sup>2</sup>    |
| A <sub>sben;EXTRA</sub>          |                  | -18 mm <sup>2</sup>    |
| A <sub>s;extra</sub>             | d                | 12 mm                  |
|                                  | aantal           | 2 mm                   |
|                                  | A <sub>s</sub>   | 226 mm <sup>2</sup>    |
| A <sub>s,TOT</sub>               |                  | 980 mm <sup>2</sup>    |
| UC                               | AKKOORD          |                        |
| <b>Toepassen</b>                 | <b>2Ø12</b>      | <b>over L=B</b>        |

| Extra wapening buiten |           |                   |        |            |                 |
|-----------------------|-----------|-------------------|--------|------------|-----------------|
| Onderdeel             |           | belasting<br>[kN] | factor | arm<br>[m] | moment<br>[kNm] |
| q9                    | PB        | 4.5               | 0.9    | 0.25       | 1.01            |
|                       | VB        | 0                 | 0      | 0.25       | 0               |
| F9                    | PB        | 10                | 0.9    | 0.25       | 2.25            |
| Wind                  | Verticaal | -165              | 1.5    | 0.25       | -61.88          |
| <b>TOTAAL</b>         |           |                   |        |            | <b>-58.6</b>    |

| Extra wapening kelderwand buiten |                  |                        |
|----------------------------------|------------------|------------------------|
| B                                |                  | 1000 mm                |
| h                                |                  | 250 mm                 |
| c                                |                  | 35 mm                  |
| z                                |                  | 193.5 mm               |
| f <sub>s</sub>                   |                  | 435 N/mm <sup>2</sup>  |
| M <sub>ld</sub>                  |                  | 58.61 kNm              |
| A <sub>s,aanw</sub>              | d                | 12 mm                  |
|                                  | hoh              | 150 mm                 |
|                                  | A <sub>s/m</sub> | 754 mm <sup>2</sup> /m |
| A <sub>sben,TOT</sub>            |                  | 696 mm <sup>2</sup>    |
| A <sub>sben;EXTRA</sub>          |                  | -57 mm <sup>2</sup>    |
| A <sub>s;extra</sub>             | d                | 12 mm                  |
|                                  | aantal           | 2 mm                   |
|                                  | A <sub>s</sub>   | mm <sup>2</sup>        |
| A <sub>s,TOT</sub>               |                  | 754 mm <sup>2</sup>    |
| UC                               | AKKOORD          |                        |
| <b>Toepassen</b>                 | <b>2Ø12</b>      | <b>over L=B</b>        |

7.4.3 Extra verticale wapening kelderwand t.p.v. F1

| Wapening kelderwand     |                  |                         |
|-------------------------|------------------|-------------------------|
| V <sub>d</sub>          | 261.45           | kN                      |
| B                       | 1000             | mm                      |
| h                       | 250              | mm                      |
| c                       | 20               | mm                      |
| z                       | 207              | mm                      |
| f <sub>s</sub>          | 435              | N/mm <sup>2</sup>       |
| L                       | 500              | mm                      |
| M <sub>d</sub>          | 130.73           | kNm                     |
| A <sub>s;aanw</sub>     | d                | 12 mm                   |
|                         | hoh              | 100 mm                  |
|                         | A <sub>s/m</sub> | 1130 mm <sup>2</sup> /m |
| A <sub>sben;TOT</sub>   | 1452             | mm <sup>2</sup>         |
| A <sub>sben;EXTRA</sub> | 321              | mm <sup>2</sup>         |
| A <sub>s;extra</sub>    | d                | 12 mm                   |
|                         | aantal           | 4 mm                    |
|                         | A <sub>s</sub>   | 452 mm <sup>2</sup>     |
| A <sub>s;TOT</sub>      | 1583             | mm <sup>2</sup>         |
| UC                      | AKKOORD          |                         |
|                         |                  | <b>over</b>             |
| <b>Toepassen</b>        | <b>4Ø12</b>      | <b>L=B</b>              |

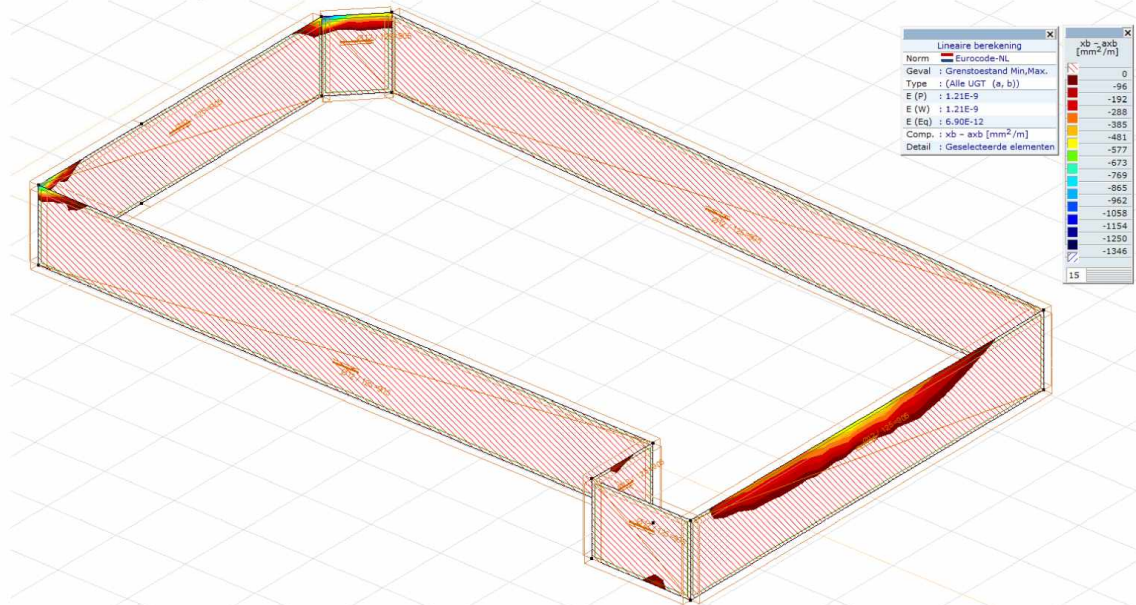
7.4.4 Extra verticale wapening kelderwand t.p.v. F2

| Wapening kelderwand     |                  |                        |
|-------------------------|------------------|------------------------|
| V <sub>d</sub>          | 251.46           | kN                     |
| B                       | 1000             | mm                     |
| h                       | 250              | mm                     |
| c                       | 20               | mm                     |
| z                       | 207              | mm                     |
| f <sub>s</sub>          | 435              | N/mm <sup>2</sup>      |
| L                       | 500              | mm                     |
| M <sub>d</sub>          | 125.73           | kNm                    |
| A <sub>s;aanw</sub>     | d                | 12 mm                  |
|                         | hoh              | 150 mm                 |
|                         | A <sub>s/m</sub> | 754 mm <sup>2</sup> /m |
| A <sub>sben;TOT</sub>   | 1396             | mm <sup>2</sup>        |
| A <sub>sben;EXTRA</sub> | 643              | mm <sup>2</sup>        |
| A <sub>s;extra</sub>    | d                | 12 mm                  |
|                         | aantal           | 6 mm                   |
|                         | A <sub>s</sub>   | 678 mm <sup>2</sup>    |
| A <sub>s;TOT</sub>      | 1432             | mm <sup>2</sup>        |
| UC                      | AKKOORD          |                        |
|                         |                  | <b>over</b>            |
| <b>Toepassen</b>        | <b>6Ø12</b>      | <b>L=B</b>             |

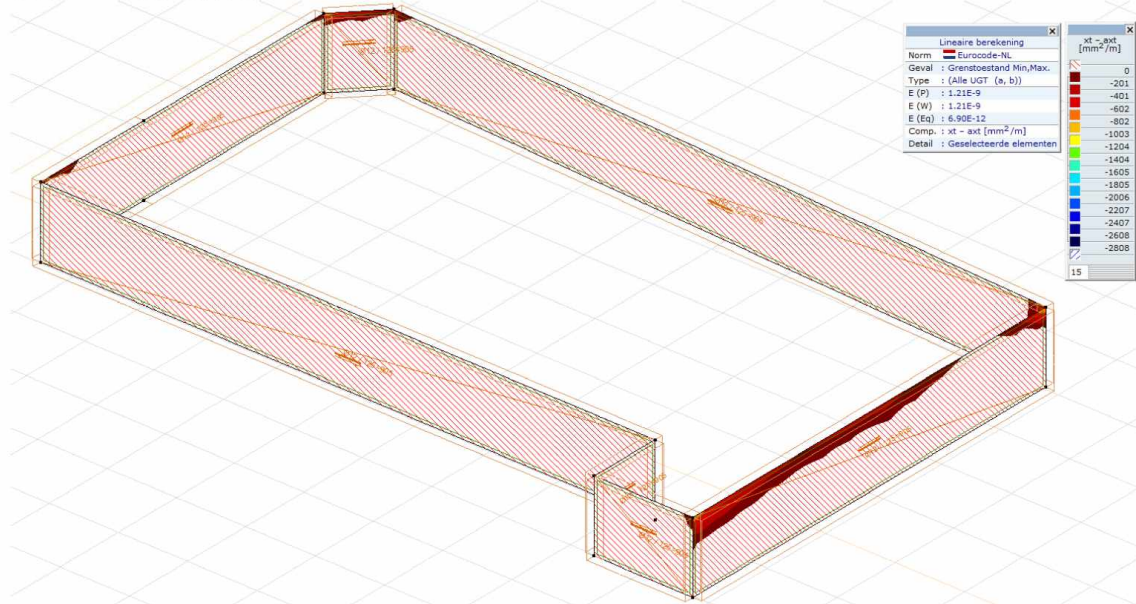
7.4.5 Extra wapening  
 Boven in kelderwand evenwijdig aan bouwmuur boven/onder 2Ø16

7.4.6 Overzicht MatrixFrame berekening

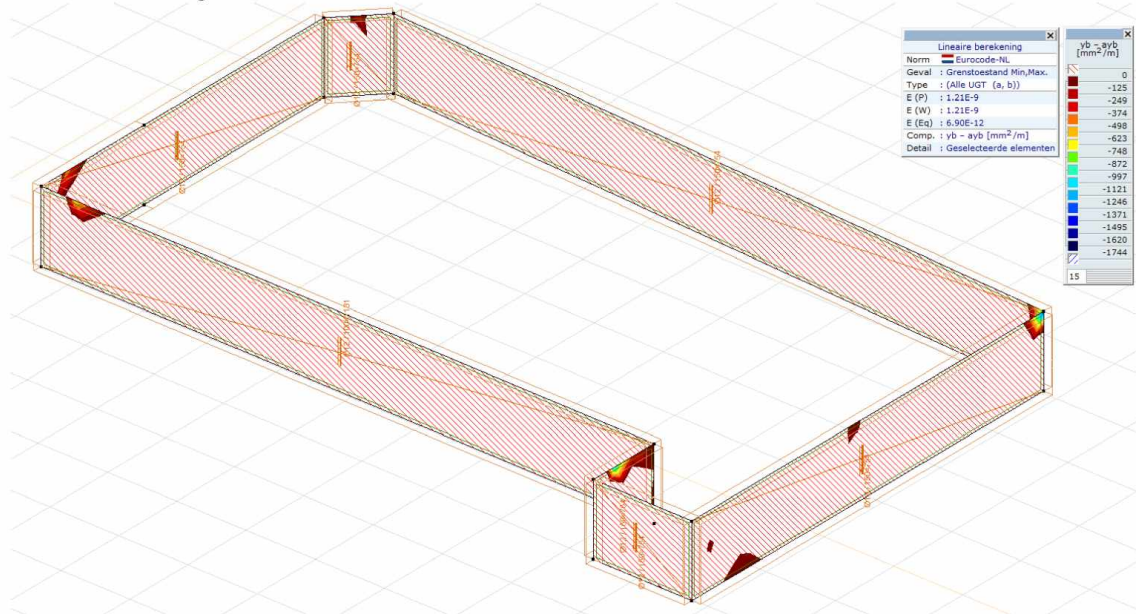
7.4.6.1 X-richting onder



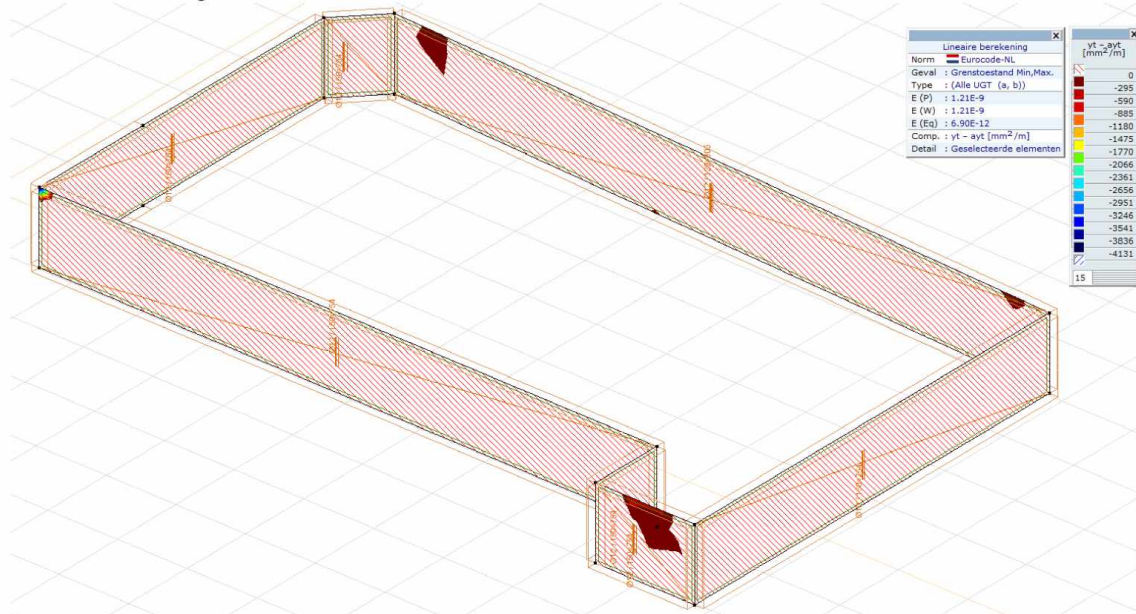
7.4.6.2 X-richting boven



### 7.4.6.3 Y-richting onder

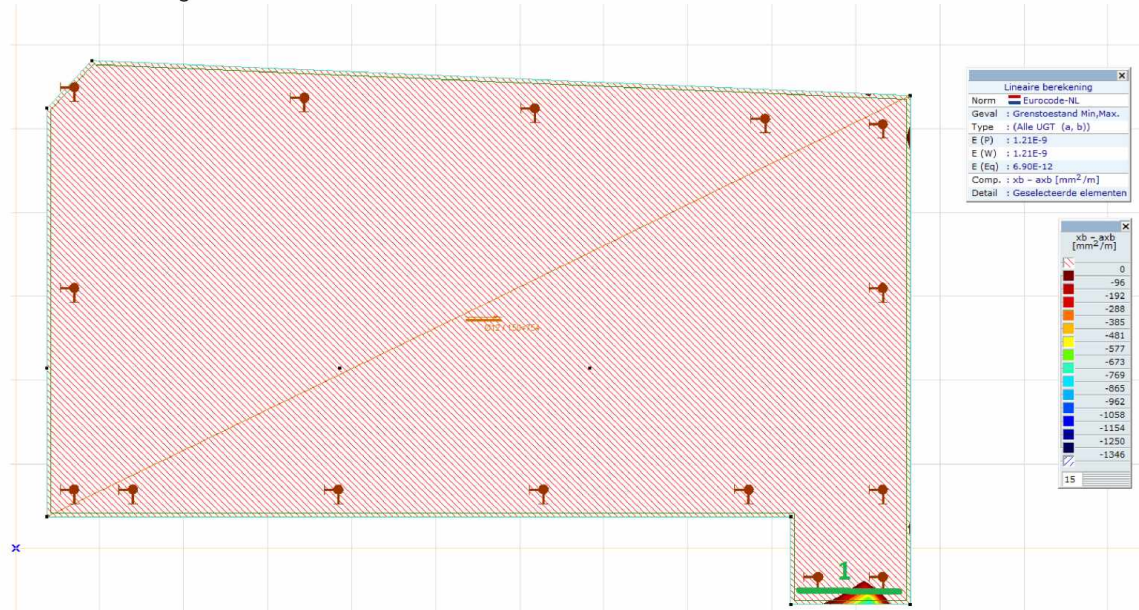


### 7.4.6.4 Y-richting boven



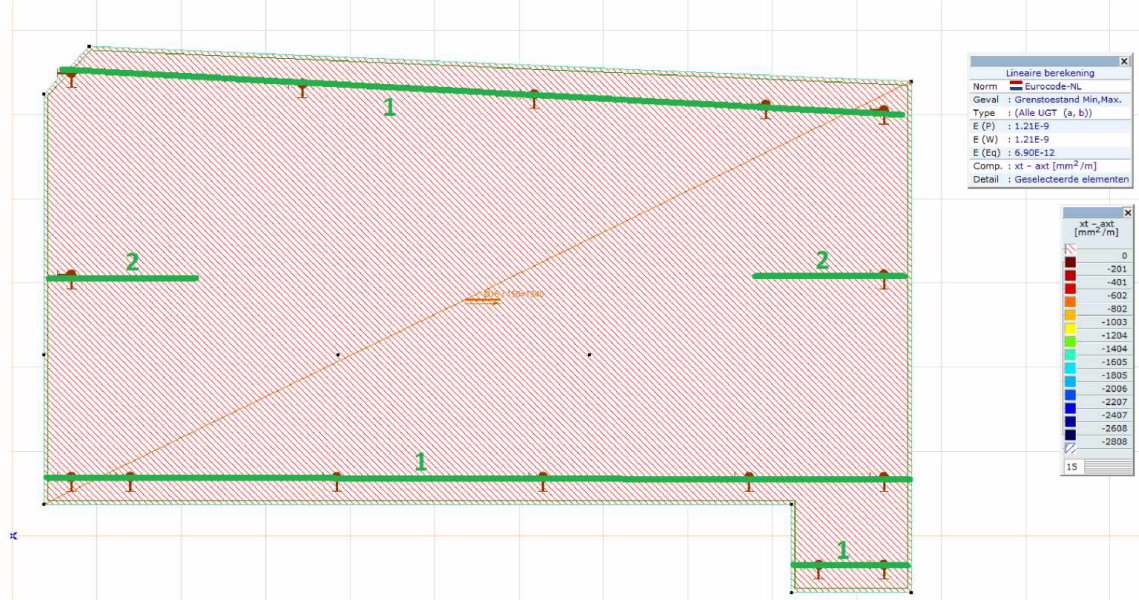
## 7.5 Extra wapening vloer

### 7.5.1 X-richting onder



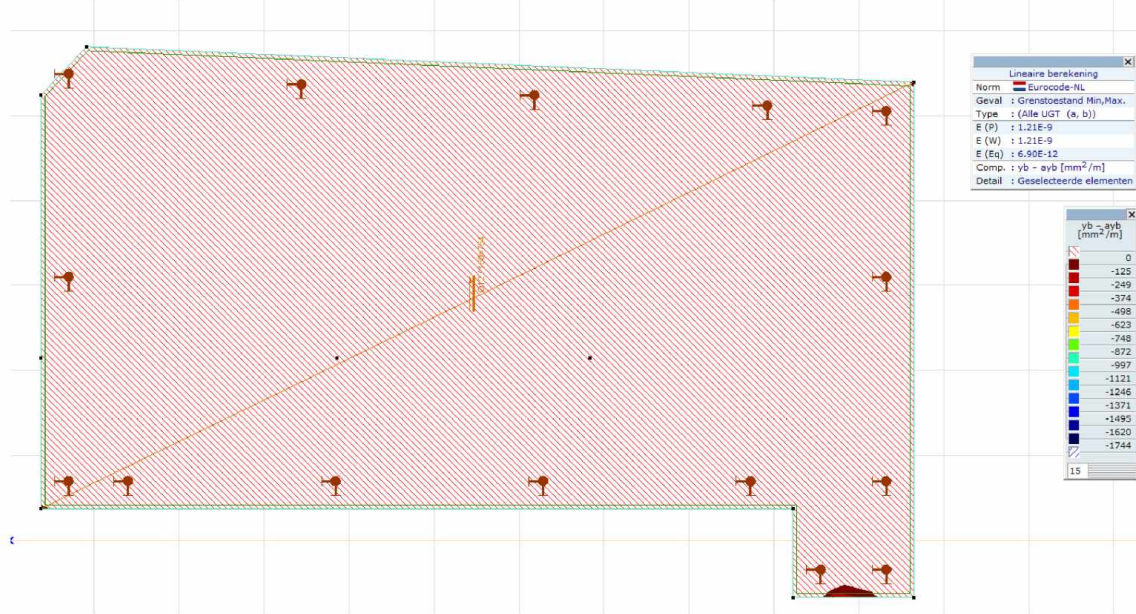
1 2Ø12

### 7.5.2 X-richting boven



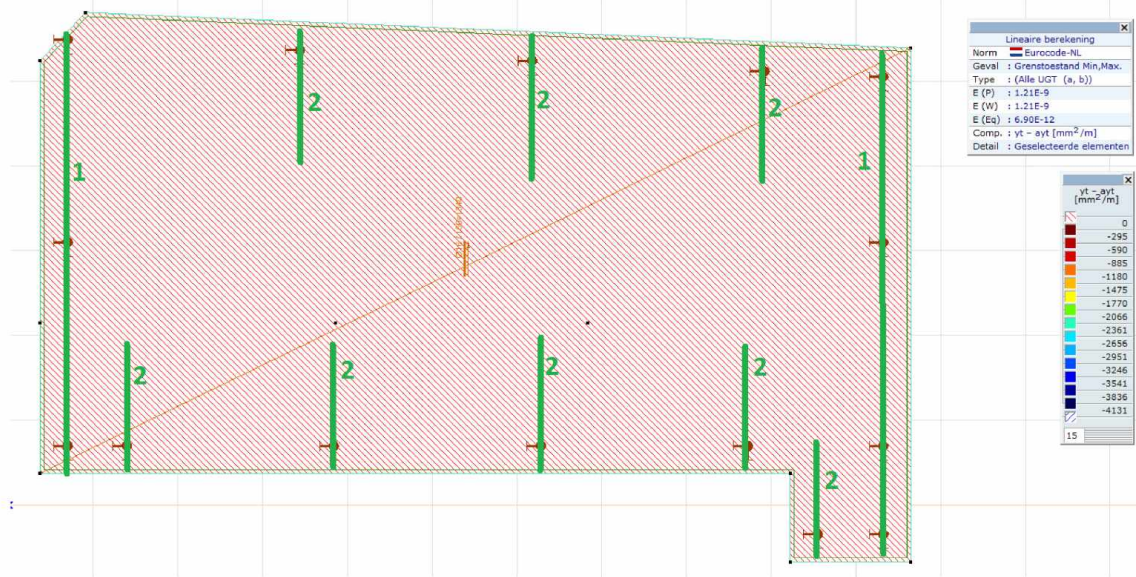
1 2Ø16  
 2 2Ø16, L=2,5m

### 7.5.3 Y-richting onder



Geen

### 7.5.4 Y-richting boven



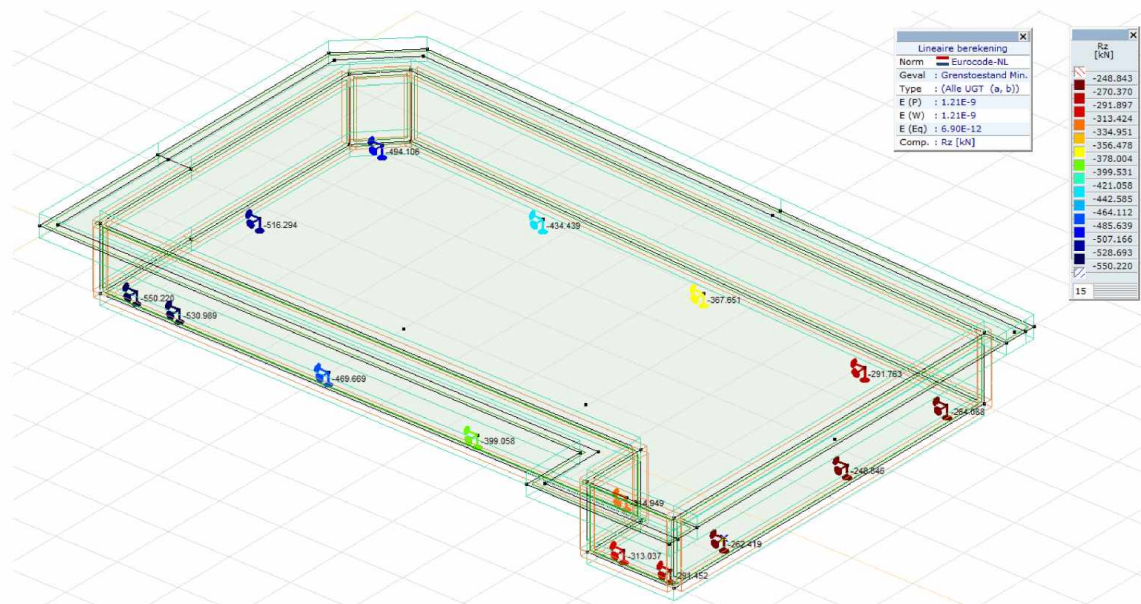
- 1 3Ø16
- 2 3Ø16, L=2,5m

## 7.6 Palen

### 7.6.1 Uitgangspunten

Er worden schroefinjectiepalen toegepast. De paalberekening is door Hektec gedaan (rapport PB 17.0436-1 d.d. 28 maart 2017)

### 7.6.2 Overzicht maximaal optredende paalbelastingen

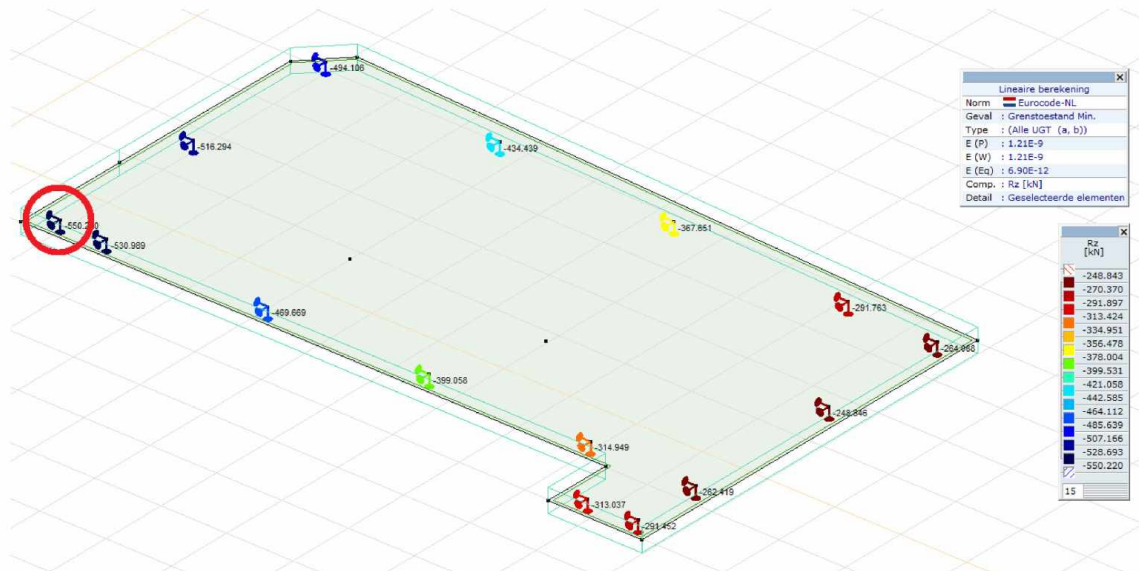


### 7.6.3 Overzicht maximaal toelaatbare paalbelastingen

De maximaal toelaatbare paalbelasting is 590kN (Zie rapport Hektec PB 17.0436-1 d.d. 28 maart 2017)

## 7.7 Pons

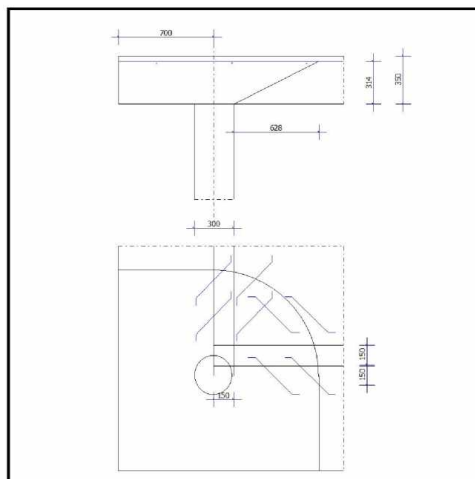
### 7.7.1 Hoekpaal 1



Er wordt een hoekpaal beschouwd. Optredende paalbelasting 550,2kN. Randafstanden 700mm en 700mm.

Aanwezige wapening (minimale bijleg wapening aangehouden)

x-richting  $\varnothing 16-150+3\varnothing 16$  =  $\varnothing 16-103$  gemiddeld  
 y-richting  $\varnothing 16-150+2\varnothing 16$  =  $\varnothing 16-115$  gemiddeld



2 opgebogen staven  $\varnothing 12$ , h.o.h. 300mm op 440mm vanaf hart paal in beide richtingen  
 2 opgebogen staven  $\varnothing 12$ , h.o.h. 300mm op 710mm vanaf hart paal in beide richtingen

|               |  |               |            |
|---------------|--|---------------|------------|
| Projectnaam   |  | Projectnummer |            |
| Omschrijving  |  | Constructeur  |            |
| Opdrachtgever |  | Eenheden      | m, kN, kNm |
| Bestand       | C:\CC\Werken\17021 Willemsparkweg 220 Amsterdam\Core Constructies\Fundering\Rev2\Pons hoekpaal 1.mxf |               |            |

## 1. Pons (NEN-EN1992-1-1+C2:2010/NB:2011)

### PONS

#### CONSTRUCTIE GEGEVENS

|                           |     |         |                            |         |                       |
|---------------------------|-----|---------|----------------------------|---------|-----------------------|
| Beton                     |     | C30/37  | Staal                      |         | B500A                 |
| Totale plaathoogte        | h   | 350 mm  | Rekensterkte dwarskr. wap. | fyed,ef | 329 N/mm <sup>2</sup> |
| Nuttige plaatdikte        | d1  | 322 mm  | Nuttige plaatdikte         | d2      | 306 mm                |
| Effectieve plaatdikte     | d   | 314 mm  | Hoek ponswapening          | Alfa    | 45°                   |
| Breedte lastgebied        | C1  | 300 mm  | Diepte lastgebied          | C2      | 300 mm                |
| Afstand hart kolom-rand 1 |     | 700 mm  | Afstand hart kolom-rand 2  |         | 700 mm                |
| Dekking boven             |     | 20 mm   | Richting 1e wap. net       |         | Y                     |
| Wap. net Y-richting       |     | R16-103 | Wap. net Z-richting        |         | R16-115               |
| Dekking onder             |     | 35 mm   | Richting laatste wap. net  |         | Z                     |
| Wap. net Y-richting       |     | R12-150 | Wap. net Z-richting        |         | R12-150               |
| Verhouding wapening       | w0y | 0.61 %  | Verhouding wapening        | w0z     | 0.57 %                |
| Verhouding wapening       | w0  | 0.59 %  |                            |         |                       |

#### BELASTINGEN

|                     |     |           |                           |      |                         |
|---------------------|-----|-----------|---------------------------|------|-------------------------|
| Normaalkracht       | Fd  | 550.20 kN | Rekenbelasting            | p    | 15.80 kN/m <sup>2</sup> |
| Moment              | Md1 | 0.00 kNm  | Moment                    | Md2  | 0.00 kNm                |
| Geen excentriciteit |     |           | Verhouding excentriciteit | Beta | 1.00                    |

#### BEREKENING VAN HOEKKOLOM - PUNTVORMIGE OPLEGGING

| Perimeter | rContY | rContZ | VEd    | ui   | Beta | vEd               | vRd;c             | vRd;max           | vRd;s             | Asw / sr            | Controle |
|-----------|--------|--------|--------|------|------|-------------------|-------------------|-------------------|-------------------|---------------------|----------|
| u0        | 150    | 150    | 539.98 | 600  | 1.00 | 2.87              |                   | 4.22              |                   |                     | Ok       |
| u1        | 778    | 778    | 518.85 | 2622 | 1.00 | 0.63              | 0.56              | 4.22              | 0.21              | 1.6                 | Ok       |
| u uit     | 953    | 953    | 511.21 | 2898 | 1.00 | 0.56              | 0.56              | 4.22              |                   |                     | Ok       |
| -         | mm     | mm     | kN     | mm   | -    | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | mm <sup>2</sup> /mm | -        |

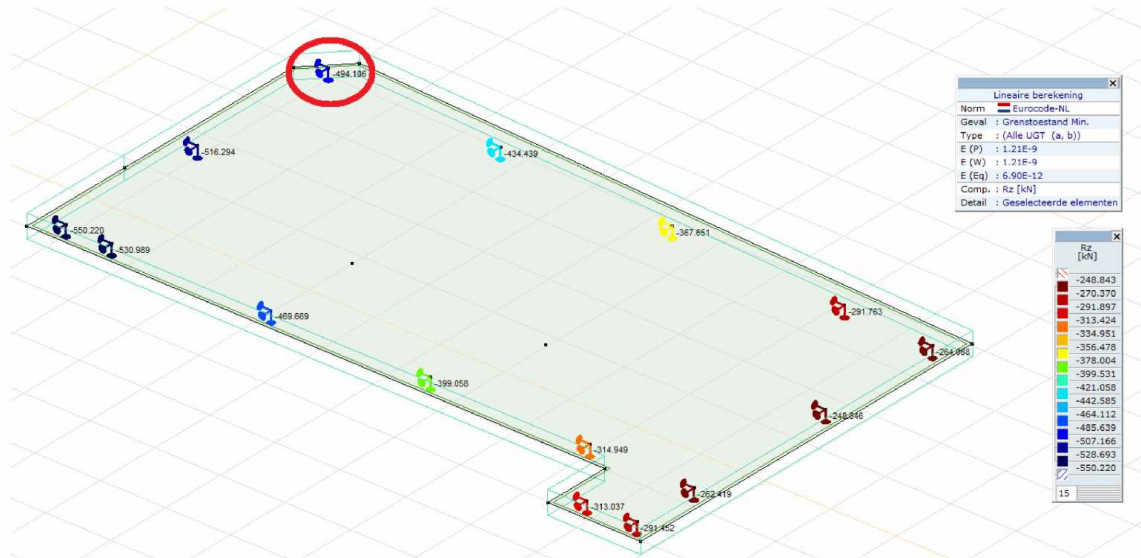
#### PONSWAPENING MET OPGEBOGEN STAVEN

| Perimeter | rCont | x         | Check rCont | Wapening | Asw;Prov < Asw;Req/4 | sr  | st  | Rk_min < Rdiam |
|-----------|-------|-----------|-------------|----------|----------------------|-----|-----|----------------|
| 1 Y       | 442   | 159 - 424 | Volgende    | 2R12-450 | 226 > 211            | 269 | 450 | 8.5 < 12       |
| 1 Z       | 440   | 155 - 424 | Volgende    | 2R12-300 | 226 > 208            | 265 | 300 | 7.0 < 12       |
| 2 Y       | 711   | 428 - 693 | Stop        | 2R12-450 | 226 > 211            | 269 | 450 | 8.5 < 12       |
| 2 Z       | 705   | 420 - 689 | Stop        | 2R12-300 | 226 > 208            | 265 | 300 | 7.0 < 12       |
| -         | mm    | mm        | -           | -        | mm <sup>2</sup>      | mm  | mm  | mm             |

#### CONTROLE

| Perimeter | Xmid | Check rCont            | st < st,max     | Asw_min < Asw,R |
|-----------|------|------------------------|-----------------|-----------------|
| 1 X       | 292  | 159 < 157 (0.5d)       | 75 < 79 (0.25d) | 60 < 113        |
|           |      | 292 > 332 (x out - kd) | 450 < 471       |                 |
| 1 Y       | 290  | 157 < 157 (0.5d)       | 0 < 79 (0.25d)  | 39 < 113        |
|           |      | 290 > 332 (x out - kd) | 300 < 471       |                 |
| 2 X       | 561  | 561 > 332 (x out - kd) | 450 < 628       | 60 < 113        |
| 2 Y       | 555  | 555 > 332 (x out - kd) | 300 < 628       | 39 < 113        |
| -         | mm   | -                      | mm              | mm <sup>2</sup> |

## 7.7.2 Hoekpaal 2



De hoekpaal staat onder de kelderwand.

Er is geen ponswapening benodigd.

## 7.7.3 Overige hoekpalen

Er wordt een hoekpaal beschouwd. Optredende paalbelasting 313,0kN. Randafstanden 700mm en 700mm.

Aanwezige wapening (minimale bijleg wapening aangehouden)

x-richting  $\emptyset 16-150+2\emptyset 16$  =  $\emptyset 16-79$  gemiddeld  
 y-richting  $\emptyset 16-150+2\emptyset 16$  =  $\emptyset 16-79$  gemiddeld

Er is geen ponswapening benodigd.

|               |  |               |            |
|---------------|--|---------------|------------|
| Projectnaam   |  | Projectnummer |            |
| Omschrijving  |  | Constructeur  |            |
| Opdrachtgever |  | Eenheden      | m, kN, kNm |
| Bestand       | C:\CC\Werken\17021 Willemsparkweg 220 Amsterdam\Core Constructies\Fundering\Rev2\Pons hoekpaal 3.mxf |               |            |

### 1. Pons (NEN-EN1992-1-1+C2:2010/NB:2011)

#### PONS

##### CONSTRUCTIE GEGEVENS

|                           |     |         |                            |         |                       |
|---------------------------|-----|---------|----------------------------|---------|-----------------------|
| Beton                     |     | C30/37  | Staal                      |         | B500A                 |
| Totale plaathoogte        | h   | 350 mm  | Rekensterkte dwarskr. wap. | fyed,ef | 329 N/mm <sup>2</sup> |
| Nuttige plaatdikte        | d1  | 322 mm  | Nuttige plaatdikte         | d2      | 306 mm                |
| Effectieve plaatdikte     | d   | 314 mm  | Hoek ponswapening          | Alfa    | 45°                   |
| Breedte lastgebied        | C1  | 300 mm  | Diepte lastgebied          | C2      | 300 mm                |
| Afstand hart kolom-rand 1 |     | 700 mm  | Afstand hart kolom-rand 2  |         | 700 mm                |
| Dekking boven             |     | 20 mm   | Richting 1e wap. net       |         | Y                     |
| Wap. net Y-richting       |     | R16-103 | Wap. net Z-richting        |         | R16-115               |
| Dekking onder             |     | 35 mm   | Richting laatste wap. net  |         | Z                     |
| Wap. net Y-richting       |     | R12-150 | Wap. net Z-richting        |         | R12-150               |
| Verhouding wapening       | w0y | 0.61 %  | Verhouding wapening        | w0z     | 0.57 %                |
| Verhouding wapening       | w0  | 0.59 %  |                            |         |                       |

##### BELASTINGEN

|                     |     |           |                           |      |                         |
|---------------------|-----|-----------|---------------------------|------|-------------------------|
| Normaalkracht       | Fd  | 313.00 kN | Rekenbelasting            | p    | 15.90 kN/m <sup>2</sup> |
| Moment              | Md1 | 0.00 kNm  | Moment                    | Md2  | 0.00 kNm                |
| Geen excentriciteit |     |           | Verhouding excentriciteit | Beta | 1.00                    |

##### BEREKENING VAN HOEKKOLOM - PUNTVORMIGE OPLEGGING

| Perimeter | rContY | rContZ | VEd    | ul   | vEd  | vRd;c             | vRd;s             | vRd;max           | vRd;min           | Asw / sr            | Controle |
|-----------|--------|--------|--------|------|------|-------------------|-------------------|-------------------|-------------------|---------------------|----------|
| u0        | 150    | 150    | 302.78 | 600  | 1.00 | 1.61              | 4.22              | 4.22              | 0.00              | 0.0                 | Ok       |
| u1        | 778    | 778    | 281.65 | 2622 | 1.00 | 0.34              | 0.56              | 4.22              | 0.00              | 0.0                 | Ok       |
| -         | mm     | mm     | kN     | mm   | -    | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | mm <sup>2</sup> /mm | -        |

##### PONSWAPENING MET OPGEBOGEN STAVEN

| Perimeter | rCont | x  | Check rCont | Wapening | Asw;Prov < Asw;Req/4 | sr | st | Rik,min < Rdiam |
|-----------|-------|----|-------------|----------|----------------------|----|----|-----------------|
| -         | mm    | mm | -           | -        | mm <sup>2</sup>      | mm | mm | mm              |

##### CONTROLE

| Perimeter | Xmid | Check rCont | st < st,max | Asw,min < Asw,R |
|-----------|------|-------------|-------------|-----------------|
| -         | mm   | -           | mm          | mm <sup>2</sup> |

## 7.7.4 Randpalen

Er wordt een Randpaal beschouwd. Optredende paalbelasting 531,0kN. Randafstand 700mm.

Aanwezige wapening (minimale bijleg wapening aangehouden)

x-richting  $\emptyset 16-150+3\emptyset 16$  =  $\emptyset 16-103$  gemiddeld  
 y-richting  $\emptyset 16-150+2\emptyset 16$  =  $\emptyset 16-115$  gemiddeld

Er is geen ponswapening benodigd.

|               |   |               |            |
|---------------|---|---------------|------------|
| Projectnaam   |   | Projectnummer |            |
| Omschrijving  |   | Constructeur  |            |
| Opdrachtgever |   | Eenheden      | m, kN, kNm |
| Bestand       | C:\CC\Werken\17021 Willemsparkweg 220 Amsterdam\Core Constructies\Fundering\Rev2\Pons randpalen.mxf |               |            |

### 1. Pons (NEN-EN1992-1-1+C2:2010/NB:2011)

#### PONS

##### CONSTRUCTIE GEGEVENS

| Beton                     |     | C30/37  | Staal                      |         | B500A                 |
|---------------------------|-----|---------|----------------------------|---------|-----------------------|
| Totale plaathoogte        | h   | 350 mm  | Rekensterkte dwarskr. wap. | fyed,ef | 329 N/mm <sup>2</sup> |
| Nuttige plaatdikte        | d1  | 322 mm  | Nuttige plaatdikte         | d2      | 306 mm                |
| Effectieve plaatdikte     | d   | 314 mm  | Hoek ponswapening          | Alfa    | 45°                   |
| Breedte lastgebied        | C1  | 300 mm  | Diepte lastgebied          | C2      | 300 mm                |
| Alstand hart kolom-rand 1 |     | 700 mm  |                            |         |                       |
| Dekking boven             |     | 20 mm   | Richting 1e wap. net       |         | Y                     |
| Wap. net Y-richting       |     | R16-103 | Wap. net Z-richting        |         | R16-115               |
| Dekking onder             |     | 35 mm   | Richting laatste wap. net  |         | Z                     |
| Wap. net Y-richting       |     | R12-150 | Wap. net Z-richting        |         | R12-150               |
| Verhouding wapening       | w0y | 0.61 %  | Verhouding wapening        | w0z     | 0.57 %                |
| Verhouding wapening       | w0  | 0.59 %  |                            |         |                       |

##### BELASTINGEN

|                     |     |           |                           |      |                         |
|---------------------|-----|-----------|---------------------------|------|-------------------------|
| Normaalkracht       | Fd  | 531.00 kN | Rekenbelasting            | p    | 15.80 kN/m <sup>2</sup> |
| Moment              | Md1 | 0.00 kNm  | Moment                    | Md2  | 0.00 kNm                |
| Geen excentriciteit |     |           | Verhouding excentriciteit | Beta | 1.00                    |

##### BEREKENING VAN RANDKOLOM - PUNTVORMIGE OPLEGGING

| Perimeter | rContY | rContZ | VEd    | ui   | Beta | vEd               | vRd:c             | vRd:max           | vRd;s             | Asw / sr            | Controle |
|-----------|--------|--------|--------|------|------|-------------------|-------------------|-------------------|-------------------|---------------------|----------|
| u0        | 150    | 150    | 528.24 | 900  | 1.00 | 1.87              |                   | 4.22              |                   |                     | Ok       |
| u1        | 778    | 778    | 499.89 | 3844 | 1.00 | 0.41              | 0.56              | 4.22              | 0.00              | 0.0                 | Ok       |
| -         | mm     | mm     | kN     | mm   | -    | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | N/mm <sup>2</sup> | mm <sup>2</sup> /mm | -        |

##### PONSWAPENING MET OPGEBOGEN STAVEN

| Perimeter | rCont | x  | Check rCont | Wapening | Asw,Prov < Asw,Req/4 | sr | st | Rk,min < Rdiam |
|-----------|-------|----|-------------|----------|----------------------|----|----|----------------|
| -         | mm    | mm | -           | -        | mm <sup>2</sup>      | mm | mm | mm             |

##### CONTROLE

| Perimeter | Xmid | Check rCont | st < st,max | Asw,min < Asw,R |
|-----------|------|-------------|-------------|-----------------|
| -         | mm   | -           | mm          | mm <sup>2</sup> |

## 8 Bijlagen

### 8.1 Bijlage uitdraai AxisVM berekening

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# **Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

AxisVM 12.0 R3k · Geregistreerd aan Core Constructies

17021-rev2.axs

Rapport

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## Rapport

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| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., mx, Isolijnen, Boveanaanzicht          | 60     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., mx, Isolijnen, Boveanaanzicht          | 61     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., my, Isolijnen, Boveanaanzicht          | 61     |
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| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., vEd, Isolijnen, Boveanaanzicht         | 63     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., vEd, Isolijnen, Boveanaanzicht         | 64     |
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| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand, axb, Isolijnen, Boveanaanzicht              | 66     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand, ayb, Isolijnen, Boveanaanzicht              | 67     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand, axt, Isolijnen, Boveanaanzicht              | 67     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand, ayt, Isolijnen, Boveanaanzicht              | 68     |
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| Grenstoestand Min,Max.  | 68     |
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| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., VRd,c, Isolijnen, Boveanaanzicht       | 69     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., VRd,c, Isolijnen, Boveanaanzicht       | 70     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., (vEd-vRd,c), Isolijnen, Boveanaanzicht | 70     |
| Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., (vEd-vRd,c), Isolijnen, Boveanaanzicht | 71     |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., ny, Isolijnen, Bovenaanzicht          | 79            |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., nxy, Isolijnen, Bovenaanzicht         | 80            |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., my, Isolijnen, Bovenaanzicht          | 82            |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., mxy, Isolijnen, Bovenaanzicht         | 83            |
| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., vEd, Isolijnen, Bovenaanzicht         | 84            |
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| Spanningen  | 84            |
| Vlakspanningen  | 84            |
| Grenstoestand Min,Max.  | 84            |
| Vlakspanningen [Lineair,(Alle UGT (a, b)) Grenstoestand, Geselecteerd]                              | 85            |
| Betonontwerp  | 85            |
| Wapeningshoeveelheden, Eurocode-NL  | 85            |
| Grenstoestand Min,Max.  | 85            |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand, axb, Isolijnen, Bovenaanzicht              | 86            |
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| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand, axt, Isolijnen, Bovenaanzicht              | 87            |
| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand, ayt, Isolijnen, Bovenaanzicht              | 88            |
| Scheurwijdte, Eurocode-NL   | 88            |
| Grenstoestand Min,Max.  | 88            |
| Scheurwijdte, Eurocode-NL [Lineair,(BGT Frequent) Grenstoestand, Geselecteerd]                      | 88            |
| Afschuifweerstand, Eurocode-NL  | 88            |
| Grenstoestand Min,Max.  | 88            |
| Afschuifweerstand, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Geselecteerd]              | 89            |
| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., VRd,c, Isolijnen, Bovenaanzicht       | 89            |
| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., VRd,c, Isolijnen, Bovenaanzicht       | 90            |
| Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., (vEd-vRd,c), Isolijnen, Bovenaanzicht | 90            |
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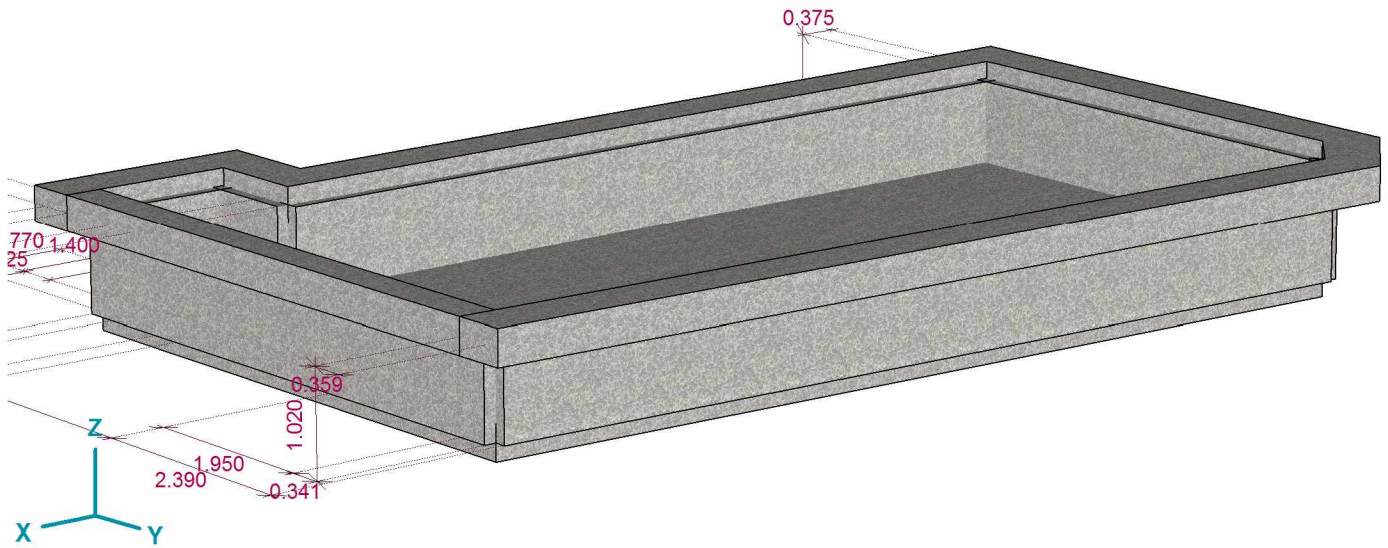
Constructeur: Core Constructies

Model: 17021-rev2.axs

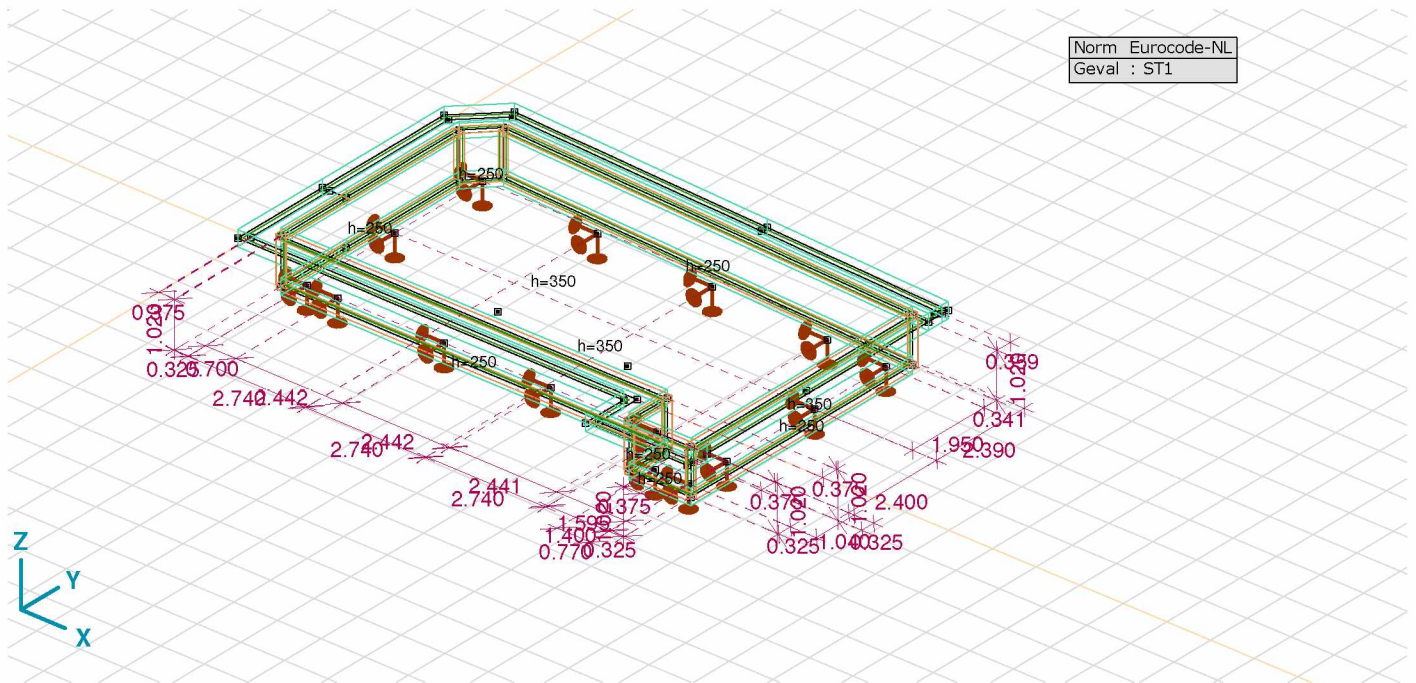
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|       |             |
|-------|-------------|
| Norm  | Eurocode-NL |
| Geval | : ST2       |



Rapport Overzicht



|       |             |
|-------|-------------|
| Norm  | Eurocode-NL |
| Geval | : ST1       |

Geometrie

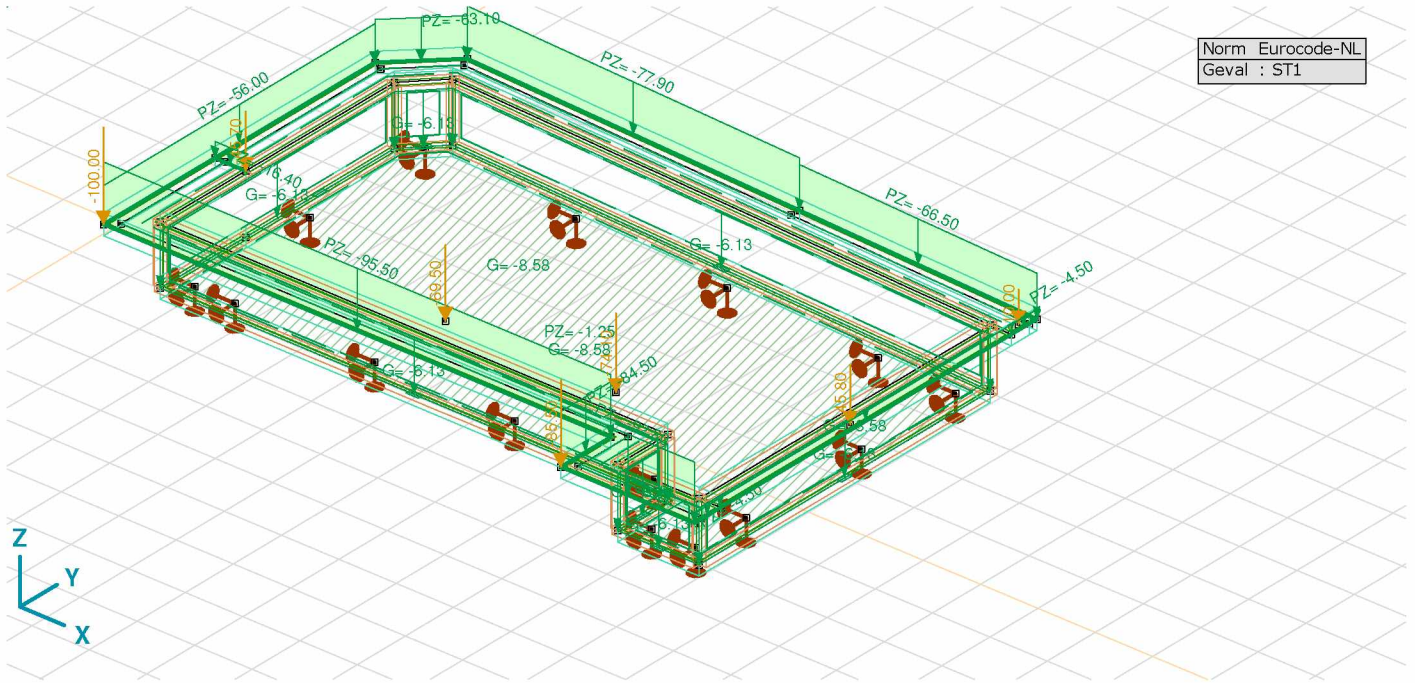
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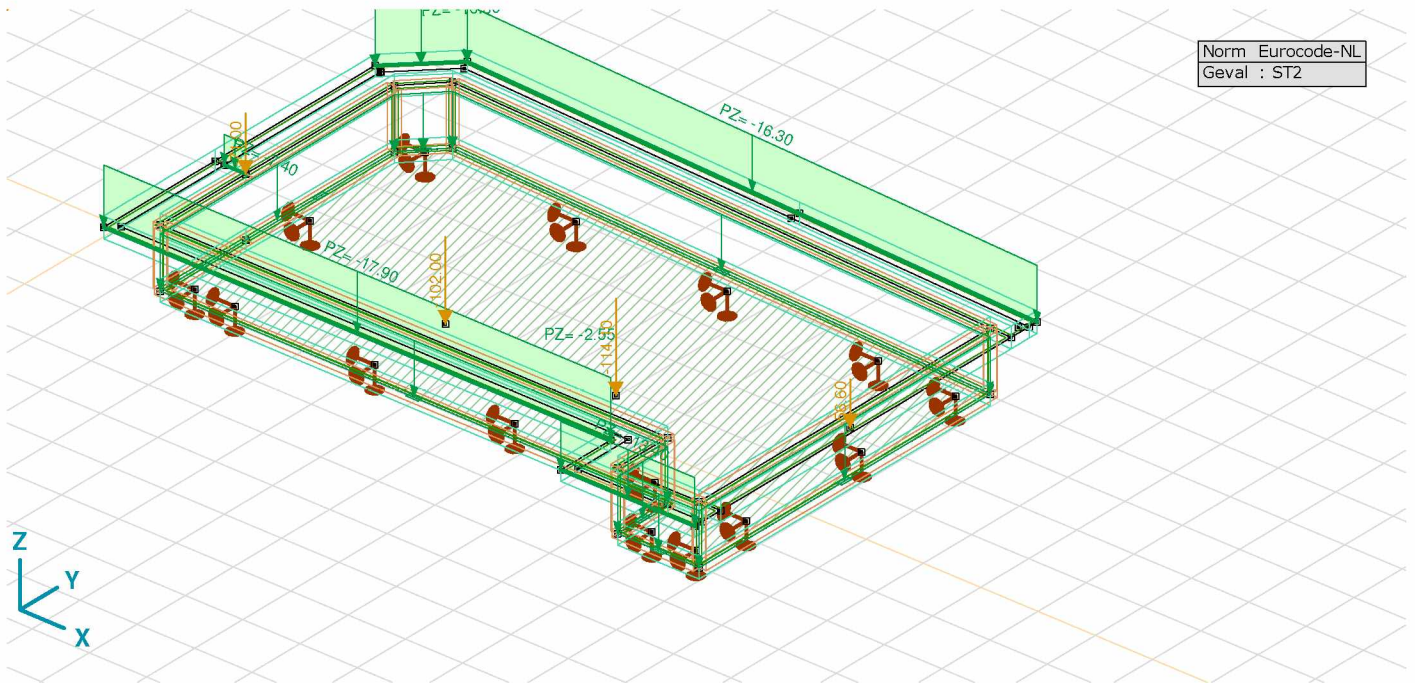
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ST1



ST2

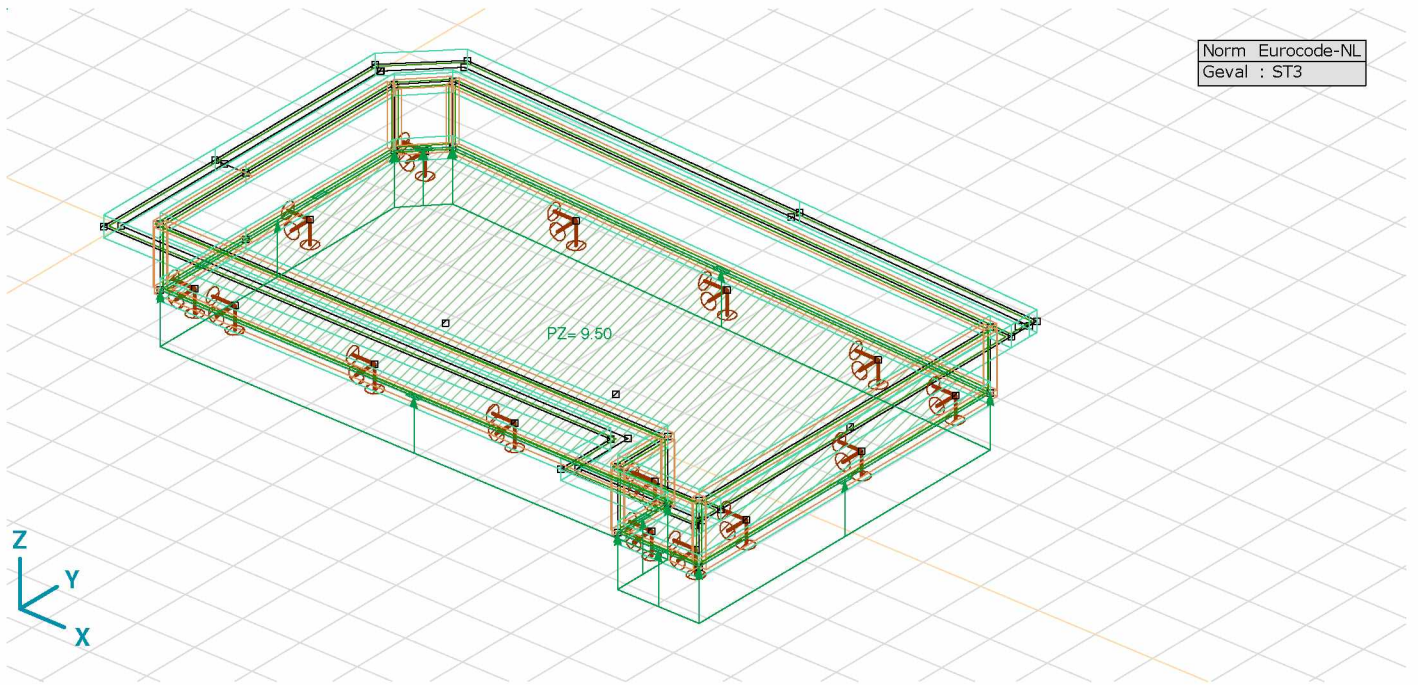
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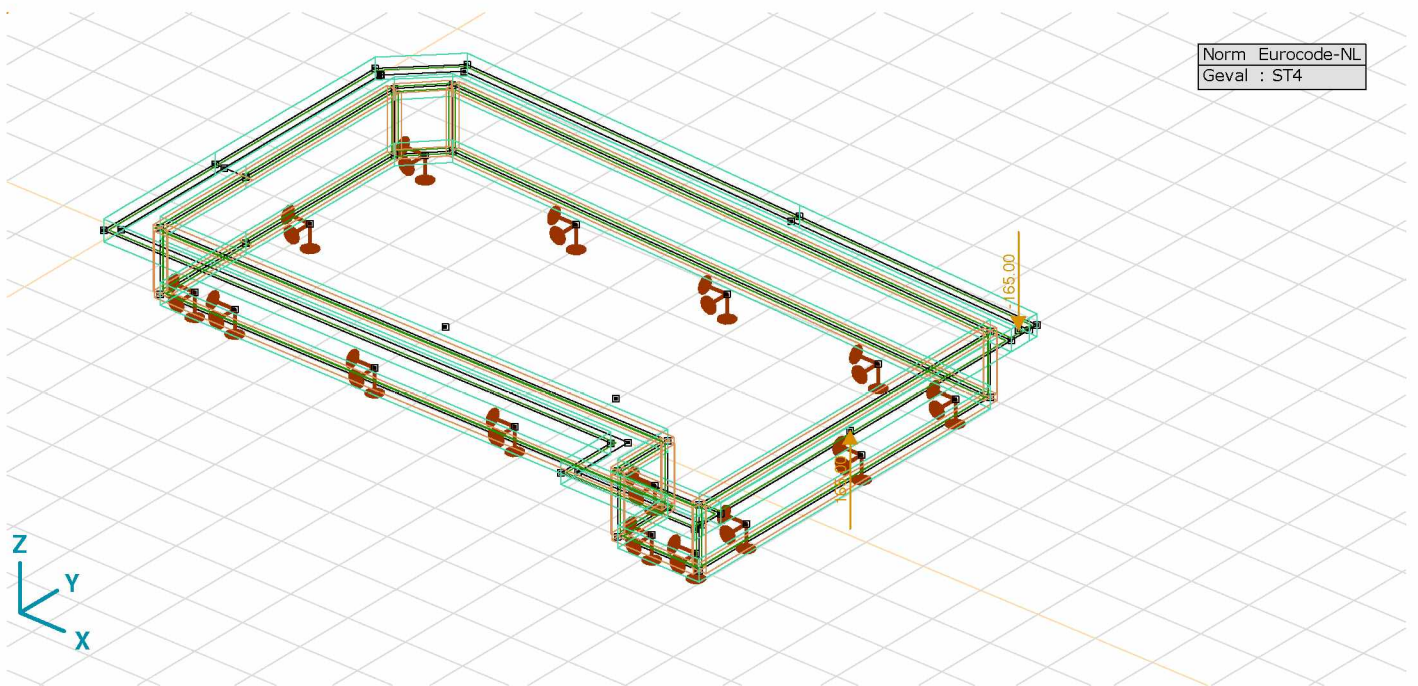
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ST3



ST4

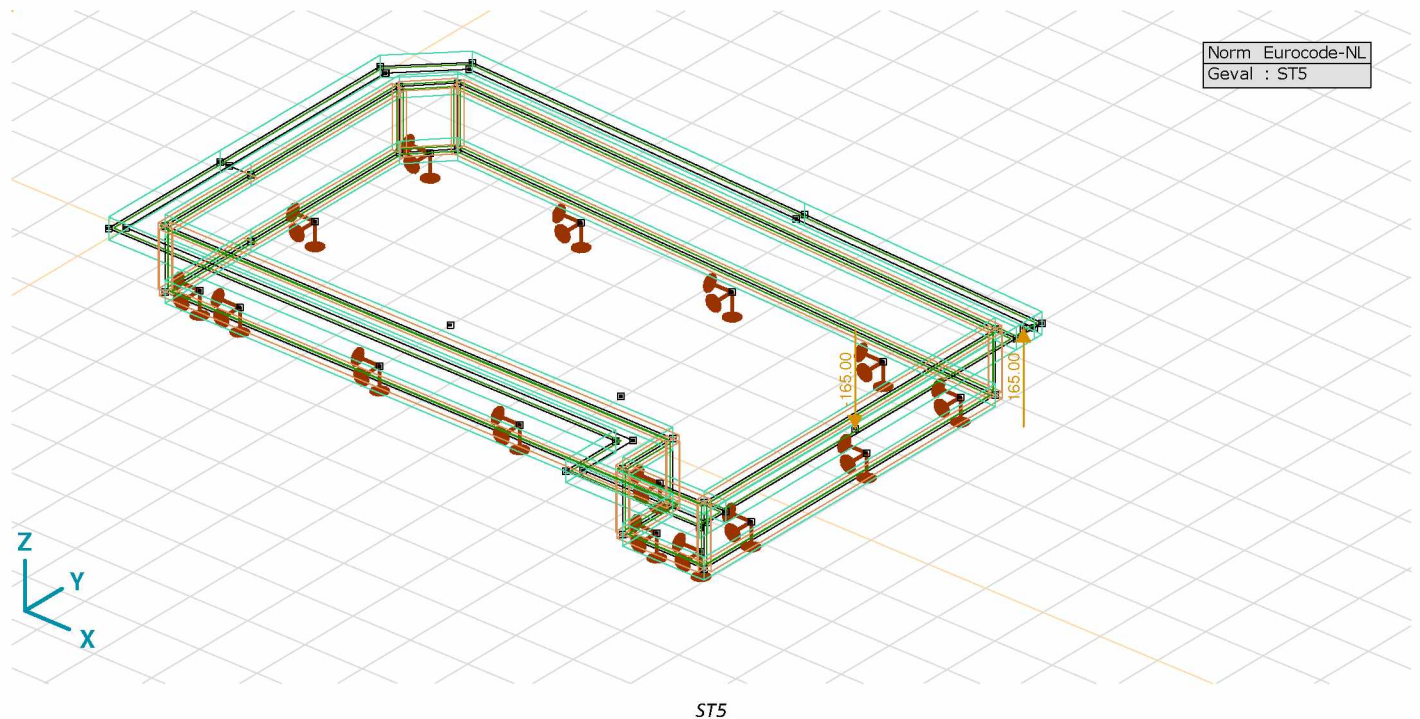
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**Berekende maatgevende combinaties uit belastinggevallen**

|    | <i>Kritische combinatie</i>           | <i>Type</i> |
|----|---------------------------------------|-------------|
| 1  | [0.9*ST1]                             | UGT (a, b)  |
| 2  | [0.9*ST1] {0.6*ST2}                   | UGT (a, b)  |
| 3  | [0.9*ST1] {0.6*ST2} (0.6*ST3)         | UGT (a, b)  |
| 4  | [0.9*ST1] {0.6*ST3}                   | UGT (a, b)  |
| 5  | [0.9*ST1] {0.6*ST3} (0.6*ST2)         | UGT (a, b)  |
| 6  | [0.9*ST1]                             | UGT (a, b)  |
| 7  | [0.9*ST1] (0.6*ST2)                   | UGT (a, b)  |
| 8  | [0.9*ST1] (0.6*ST3)                   | UGT (a, b)  |
| 9  | [0.9*ST1] (0.6*ST2+0.6*ST3)           | UGT (a, b)  |
| 10 | [1.35*ST1]                            | UGT (a, b)  |
| 11 | [1.35*ST1] {0.6*ST2}                  | UGT (a, b)  |
| 12 | [1.35*ST1] {0.6*ST2} (0.6*ST3)        | UGT (a, b)  |
| 13 | [1.35*ST1] {0.6*ST3}                  | UGT (a, b)  |
| 14 | [1.35*ST1] {0.6*ST3} (0.6*ST2)        | UGT (a, b)  |
| 15 | [1.35*ST1]                            | UGT (a, b)  |
| 16 | [1.35*ST1] (0.6*ST2)                  | UGT (a, b)  |
| 17 | [1.35*ST1] (0.6*ST3)                  | UGT (a, b)  |
| 18 | [1.35*ST1] (0.6*ST2+0.6*ST3)          | UGT (a, b)  |
| 19 | [0.9*ST1] {1.5*ST2}                   | UGT (a, b)  |
| 20 | [0.9*ST1] {1.5*ST2} (0.6*ST3)         | UGT (a, b)  |
| 21 | [0.9*ST1] {1.5*ST3}                   | UGT (a, b)  |
| 22 | [0.9*ST1] {1.5*ST3} (0.6*ST2)         | UGT (a, b)  |
| 23 | [0.9*ST1] {1.5*ST4}                   | UGT (a, b)  |
| 24 | [0.9*ST1] {1.5*ST4} (0.6*ST2)         | UGT (a, b)  |
| 25 | [0.9*ST1] {1.5*ST4} (0.6*ST3)         | UGT (a, b)  |
| 26 | [0.9*ST1] {1.5*ST4} (0.6*ST2+0.6*ST3) | UGT (a, b)  |
| 27 | [0.9*ST1] {1.5*ST5}                   | UGT (a, b)  |
| 28 | [0.9*ST1] {1.5*ST5} (0.6*ST2)         | UGT (a, b)  |
| 29 | [0.9*ST1] {1.5*ST5} (0.6*ST3)         | UGT (a, b)  |
| 30 | [0.9*ST1] {1.5*ST5} (0.6*ST2+0.6*ST3) | UGT (a, b)  |
| 31 | [1.2*ST1]                             | UGT (a, b)  |

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Berekende maatgevende combinaties uit belastinggevallen

|    | <i>Kritische combinatie</i>           | <i>Type</i>        |
|----|---------------------------------------|--------------------|
| 32 | [1.2*ST1] {1.5*ST2}                   | UGT (a, b)         |
| 33 | [1.2*ST1] {1.5*ST2} (0.6*ST3)         | UGT (a, b)         |
| 34 | [1.2*ST1] {1.5*ST3}                   | UGT (a, b)         |
| 35 | [1.2*ST1] {1.5*ST3} (0.6*ST2)         | UGT (a, b)         |
| 36 | [1.2*ST1] {1.5*ST4}                   | UGT (a, b)         |
| 37 | [1.2*ST1] {1.5*ST4} (0.6*ST2)         | UGT (a, b)         |
| 38 | [1.2*ST1] {1.5*ST4} (0.6*ST3)         | UGT (a, b)         |
| 39 | [1.2*ST1] {1.5*ST4} (0.6*ST2+0.6*ST3) | UGT (a, b)         |
| 40 | [1.2*ST1] {1.5*ST5}                   | UGT (a, b)         |
| 41 | [1.2*ST1] {1.5*ST5} (0.6*ST2)         | UGT (a, b)         |
| 42 | [1.2*ST1] {1.5*ST5} (0.6*ST3)         | UGT (a, b)         |
| 43 | [1.2*ST1] {1.5*ST5} (0.6*ST2+0.6*ST3) | UGT (a, b)         |
| 44 | [ST1]                                 | BGT Karakteristiek |
| 45 | [ST1] {ST2}                           | BGT Karakteristiek |
| 46 | [ST1] {ST2} (0.4*ST3)                 | BGT Karakteristiek |
| 47 | [ST1] {ST3}                           | BGT Karakteristiek |
| 48 | [ST1] {ST3} (0.4*ST2)                 | BGT Karakteristiek |
| 49 | [ST1] {ST4}                           | BGT Karakteristiek |
| 50 | [ST1] {ST4} (0.4*ST2)                 | BGT Karakteristiek |
| 51 | [ST1] {ST4} (0.4*ST3)                 | BGT Karakteristiek |
| 52 | [ST1] {ST4} (0.4*ST2+0.4*ST3)         | BGT Karakteristiek |
| 53 | [ST1] {ST5}                           | BGT Karakteristiek |
| 54 | [ST1] {ST5} (0.4*ST2)                 | BGT Karakteristiek |
| 55 | [ST1] {ST5} (0.4*ST3)                 | BGT Karakteristiek |
| 56 | [ST1] {ST5} (0.4*ST2+0.4*ST3)         | BGT Karakteristiek |
| 57 | [ST1]                                 | BGT Frequent       |
| 58 | [ST1] {0.5*ST2}                       | BGT Frequent       |
| 59 | [ST1] {0.5*ST2} (0.3*ST3)             | BGT Frequent       |
| 60 | [ST1] {0.5*ST3}                       | BGT Frequent       |
| 61 | [ST1] {0.5*ST3} (0.3*ST2)             | BGT Frequent       |
| 62 | [ST1] {0.2*ST4}                       | BGT Frequent       |
| 63 | [ST1] {0.2*ST4} (0.3*ST2)             | BGT Frequent       |
| 64 | [ST1] {0.2*ST4} (0.3*ST3)             | BGT Frequent       |
| 65 | [ST1] {0.2*ST4} (0.3*ST2+0.3*ST3)     | BGT Frequent       |
| 66 | [ST1] {0.2*ST5}                       | BGT Frequent       |
| 67 | [ST1] {0.2*ST5} (0.3*ST2)             | BGT Frequent       |
| 68 | [ST1] {0.2*ST5} (0.3*ST3)             | BGT Frequent       |
| 69 | [ST1] {0.2*ST5} (0.3*ST2+0.3*ST3)     | BGT Frequent       |
| 70 | [ST1]                                 | BGT Quasi-blijvend |
| 71 | [ST1] (0.3*ST2)                       | BGT Quasi-blijvend |
| 72 | [ST1] (0.3*ST3)                       | BGT Quasi-blijvend |
| 73 | [ST1] (0.3*ST2+0.3*ST3)               | BGT Quasi-blijvend |
| 74 | [ST1]                                 | A1(a,b)            |
| 75 | [ST1] {0.6*ST2}                       | A1(a,b)            |
| 76 | [ST1] {0.6*ST2} (0.6*ST3)             | A1(a,b)            |
| 77 | [ST1] {0.6*ST3}                       | A1(a,b)            |
| 78 | [ST1] {0.6*ST3} (0.6*ST2)             | A1(a,b)            |
| 79 | [ST1]                                 | A1(a,b)            |
| 80 | [ST1] (0.6*ST2)                       | A1(a,b)            |
| 81 | [ST1] (0.6*ST3)                       | A1(a,b)            |
| 82 | [ST1] (0.6*ST2+0.6*ST3)               | A1(a,b)            |
| 83 | [1.35*ST1]                            | A1(a,b)            |
| 84 | [1.35*ST1] {0.6*ST2}                  | A1(a,b)            |
| 85 | [1.35*ST1] {0.6*ST2} (0.6*ST3)        | A1(a,b)            |
| 86 | [1.35*ST1] {0.6*ST3}                  | A1(a,b)            |
| 87 | [1.35*ST1] {0.6*ST3} (0.6*ST2)        | A1(a,b)            |
| 88 | [1.35*ST1]                            | A1(a,b)            |

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Berekende maatgevende combinaties uit belastinggevallen

|     | <i>Kritische combinatie</i>               | <i>Type</i> |
|-----|---|-------------|
| 89  | [1.35*ST1] (0.6*ST2)                      | A1(a,b)     |
| 90  | [1.35*ST1] (0.6*ST3)                      | A1(a,b)     |
| 91  | [1.35*ST1] (0.6*ST2+0.6*ST3)              | A1(a,b)     |
| 92  | [ST1] {1.5*ST2}                           | A1(a,b)     |
| 93  | [ST1] {1.5*ST2} (0.6*ST3)                 | A1(a,b)     |
| 94  | [ST1] {1.5*ST3}                           | A1(a,b)     |
| 95  | [ST1] {1.5*ST3} (0.6*ST2)                 | A1(a,b)     |
| 96  | [ST1] {1.5*ST4}                           | A1(a,b)     |
| 97  | [ST1] {1.5*ST4} (0.6*ST2)                 | A1(a,b)     |
| 98  | [ST1] {1.5*ST4} (0.6*ST3)                 | A1(a,b)     |
| 99  | [ST1] {1.5*ST4} (0.6*ST2+0.6*ST3)         | A1(a,b)     |
| 100 | [ST1] {1.5*ST5}                           | A1(a,b)     |
| 101 | [ST1] {1.5*ST5} (0.6*ST2)                 | A1(a,b)     |
| 102 | [ST1] {1.5*ST5} (0.6*ST3)                 | A1(a,b)     |
| 103 | [ST1] {1.5*ST5} (0.6*ST2+0.6*ST3)         | A1(a,b)     |
| 104 | [1.2*ST1]                                 | A1(a,b)     |
| 105 | [1.2*ST1] {1.5*ST2}                       | A1(a,b)     |
| 106 | [1.2*ST1] {1.5*ST2} (0.6*ST3)             | A1(a,b)     |
| 107 | [1.2*ST1] {1.5*ST3}                       | A1(a,b)     |
| 108 | [1.2*ST1] {1.5*ST3} (0.6*ST2)             | A1(a,b)     |
| 109 | [1.2*ST1] {1.5*ST4}                       | A1(a,b)     |
| 110 | [1.2*ST1] {1.5*ST4} (0.6*ST2)             | A1(a,b)     |
| 111 | [1.2*ST1] {1.5*ST4} (0.6*ST3)             | A1(a,b)     |
| 112 | [1.2*ST1] {1.5*ST4} (0.6*ST2+0.6*ST3)     | A1(a,b)     |
| 113 | [1.2*ST1] {1.5*ST5}                       | A1(a,b)     |
| 114 | [1.2*ST1] {1.5*ST5} (0.6*ST2)             | A1(a,b)     |
| 115 | [1.2*ST1] {1.5*ST5} (0.6*ST3)             | A1(a,b)     |
| 116 | [1.2*ST1] {1.5*ST5} (0.6*ST2+0.6*ST3)     | A1(a,b)     |
| 117 | [ST1]                                     | A2(a,b)     |
| 118 | [ST1] {1.3*ST2}                           | A2(a,b)     |
| 119 | [ST1] {1.3*ST2} (0.52*ST3)                | A2(a,b)     |
| 120 | [ST1] {1.3*ST3}                           | A2(a,b)     |
| 121 | [ST1] {1.3*ST3} (0.52*ST2)                | A2(a,b)     |
| 122 | [ST1] {1.3*ST4}                           | A2(a,b)     |
| 123 | [ST1] {1.3*ST4} (0.52*ST2)                | A2(a,b)     |
| 124 | [ST1] {1.3*ST4} (0.52*ST3)                | A2(a,b)     |
| 125 | [ST1] {1.3*ST4} (0.52*ST2+0.52*ST3)       | A2(a,b)     |
| 126 | [ST1] {1.3*ST5}                           | A2(a,b)     |
| 127 | [ST1] {1.3*ST5} (0.52*ST2)                | A2(a,b)     |
| 128 | [ST1] {1.3*ST5} (0.52*ST3)                | A2(a,b)     |
| 129 | [ST1] {1.3*ST5} (0.52*ST2+0.52*ST3)       | A2(a,b)     |
| 130 | [0.889*ST1]                               | A2(a,b)     |
| 131 | [0.889*ST1] {1.3*ST2}                     | A2(a,b)     |
| 132 | [0.889*ST1] {1.3*ST2} (0.52*ST3)          | A2(a,b)     |
| 133 | [0.889*ST1] {1.3*ST3}                     | A2(a,b)     |
| 134 | [0.889*ST1] {1.3*ST3} (0.52*ST2)          | A2(a,b)     |
| 135 | [0.889*ST1] {1.3*ST4}                     | A2(a,b)     |
| 136 | [0.889*ST1] {1.3*ST4} (0.52*ST2)          | A2(a,b)     |
| 137 | [0.889*ST1] {1.3*ST4} (0.52*ST3)          | A2(a,b)     |
| 138 | [0.889*ST1] {1.3*ST4} (0.52*ST2+0.52*ST3) | A2(a,b)     |
| 139 | [0.889*ST1] {1.3*ST5}                     | A2(a,b)     |
| 140 | [0.889*ST1] {1.3*ST5} (0.52*ST2)          | A2(a,b)     |
| 141 | [0.889*ST1] {1.3*ST5} (0.52*ST3)          | A2(a,b)     |
| 142 | [0.889*ST1] {1.3*ST5} (0.52*ST2+0.52*ST3) | A2(a,b)     |

Type: Combinatietype;

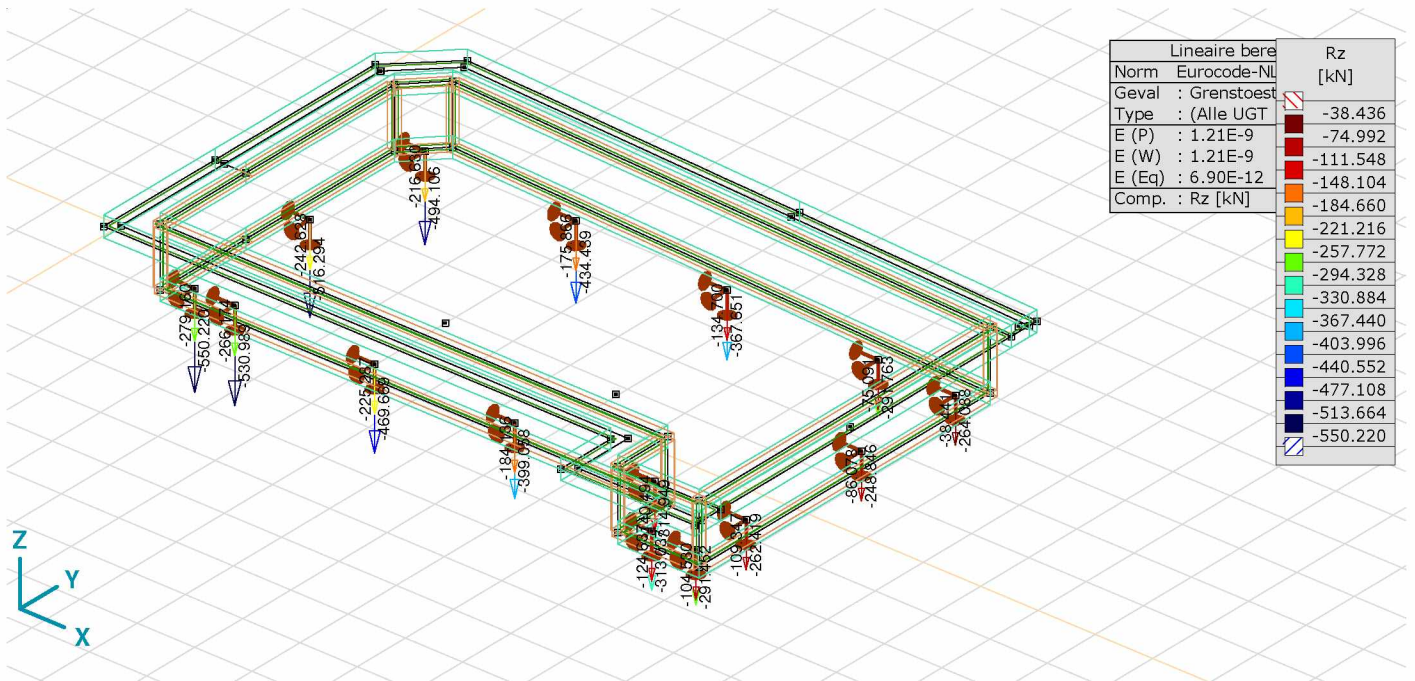
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

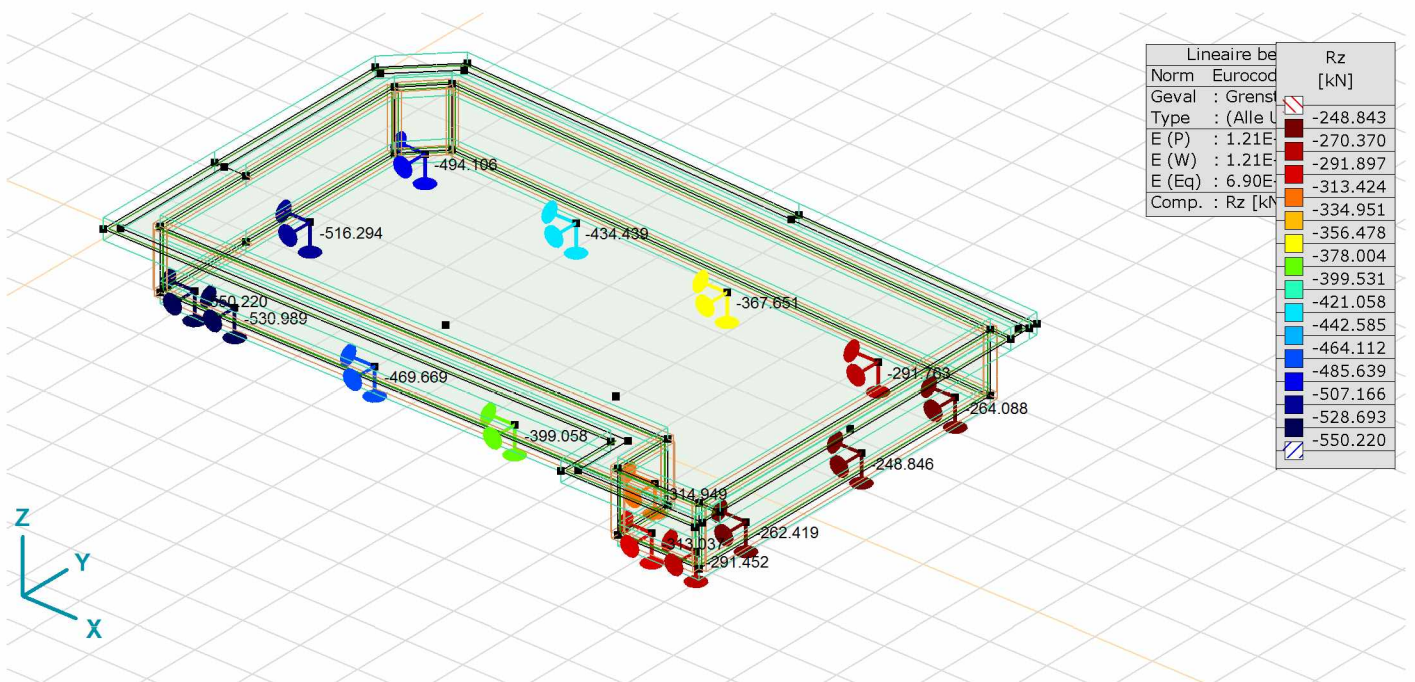
Model: 17021-rev2.axs

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[I], Lineair, (Auto) Grenstoestand, Rz (Interne krachten knoopoplegging), Lijnen



[I], Lineair, (Auto) Grenstoestand Min., Rz (Interne krachten knoopoplegging), Kleuren 2D

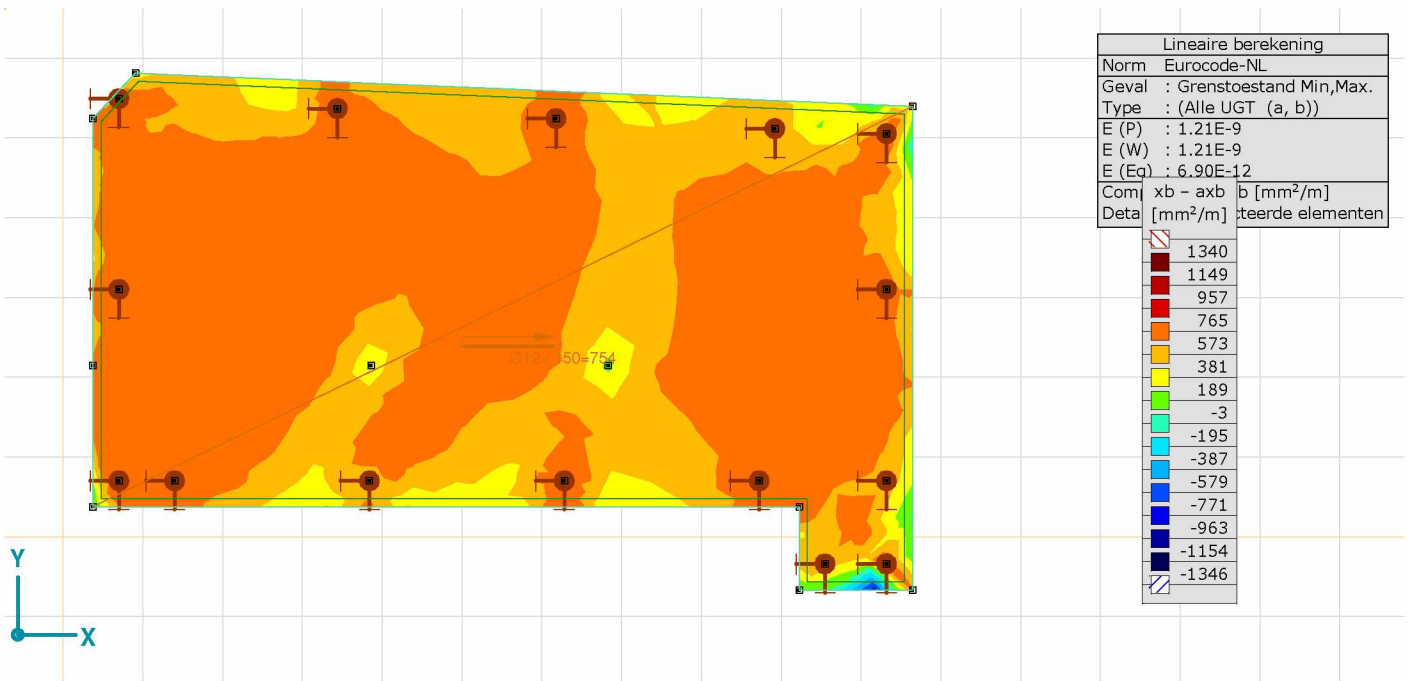
# Project: 17021 Willemsparkweg 220 Amsterdam

Constructeur: Core Constructies

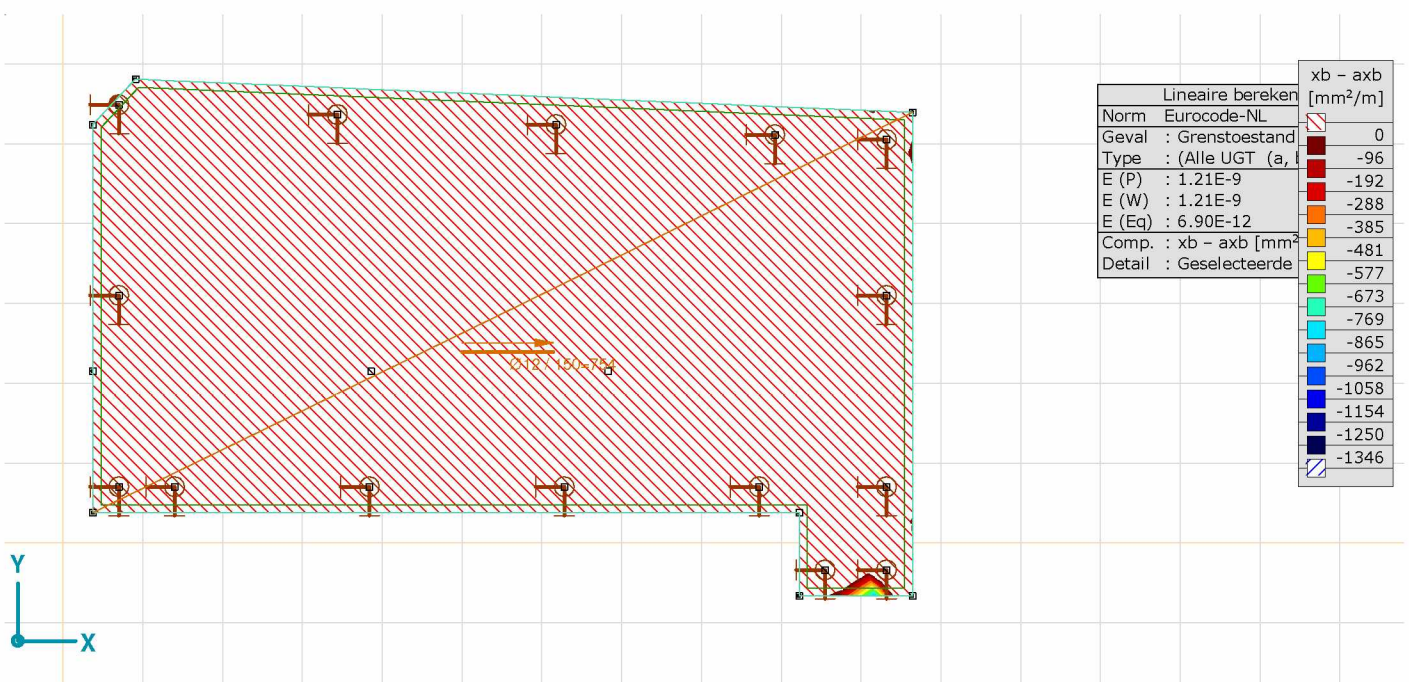
Model: 17021-rev2.axs

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[RI], > ~2, Linear,(Auto) Grenstoestand, xb - axb, Kleuren 2D, Bovenaanzicht



[RI], > ~2, Linear,(Auto) Grenstoestand, xb - axb, Kleuren 2D, Bovenaanzicht 2

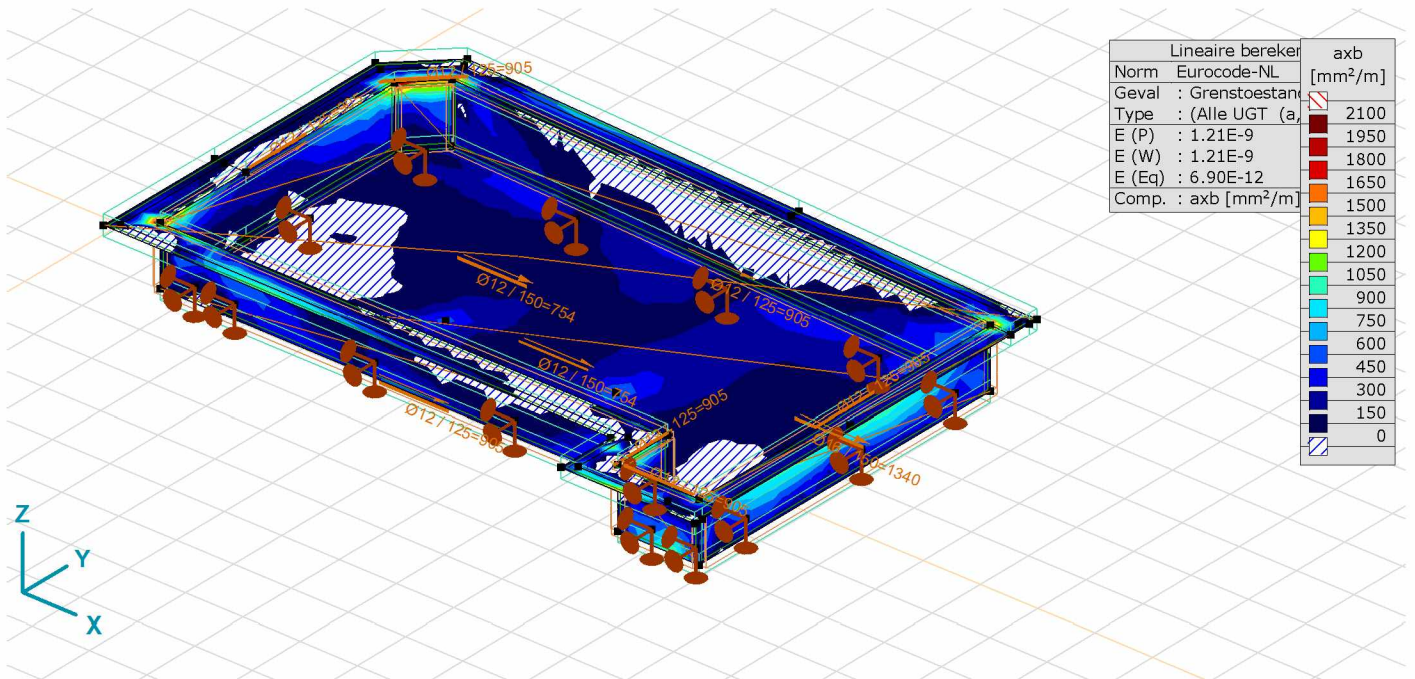
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

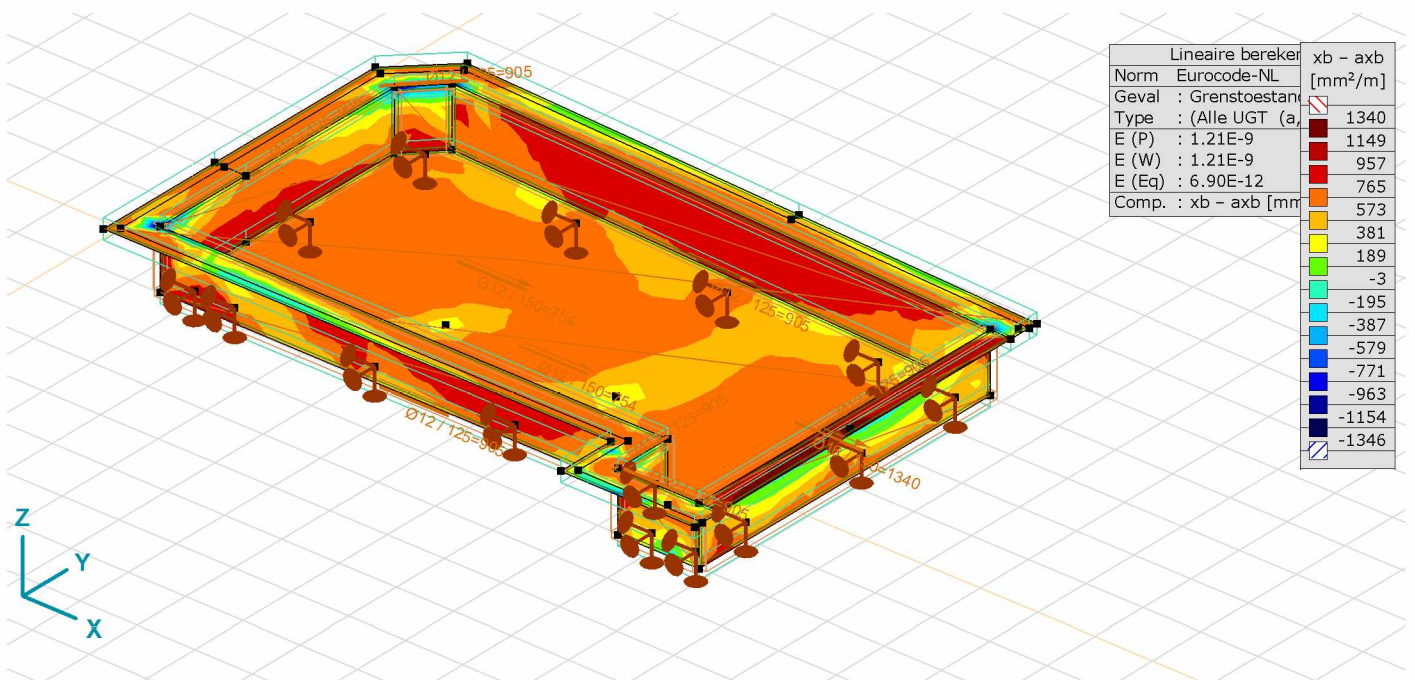
Model: 17021-rev2.axs

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[RI], Linear,(Auto) Grenstoestand, axb, Kleuren 2D



[RI], Linear,(Auto) Grenstoestand, xb - axb, Kleuren 2D

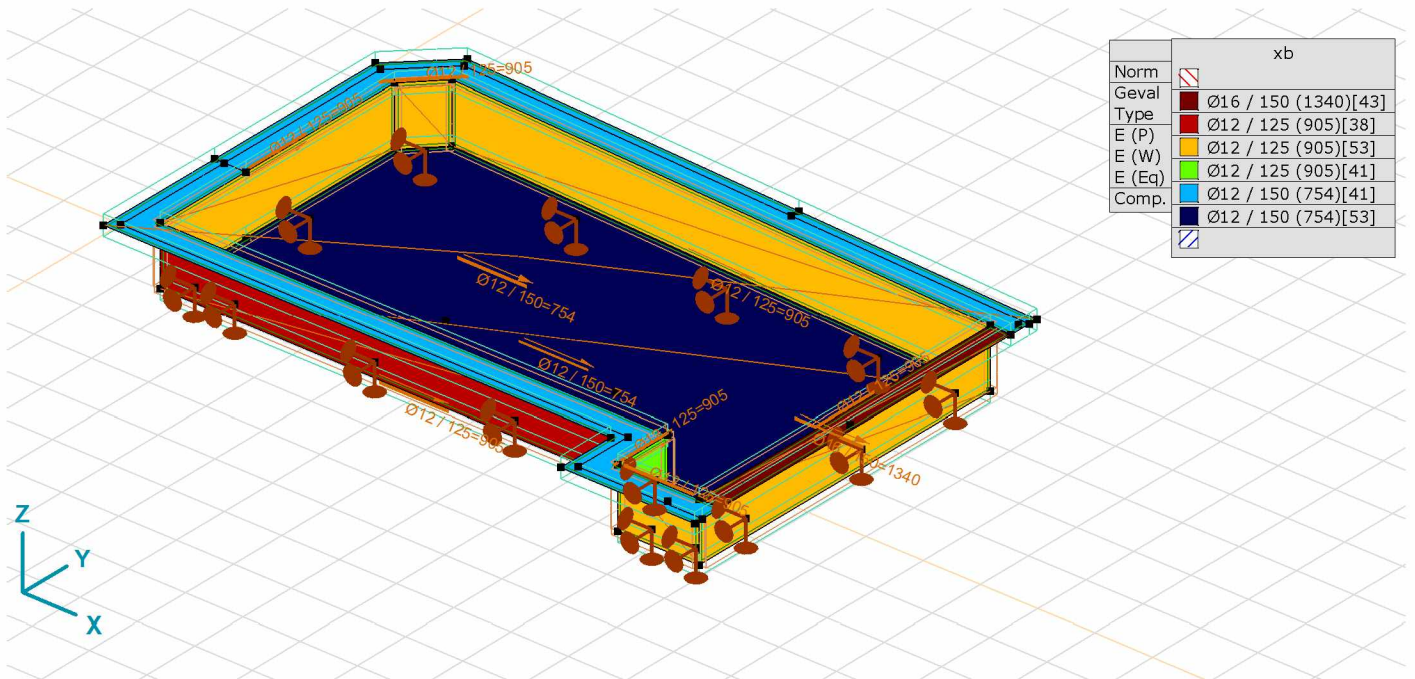
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

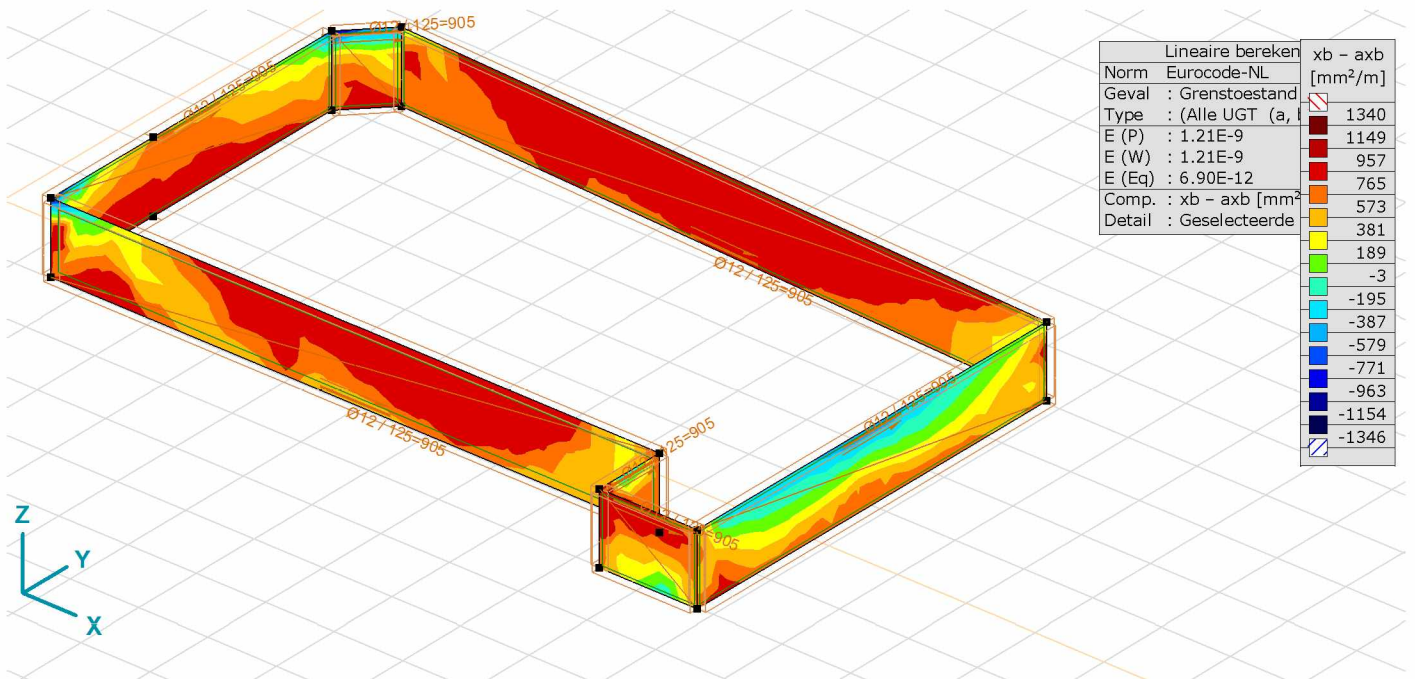
Model: 17021-rev2.axs

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[R], Lineair,(Auto) Grenstoestand, xb, Kleuren 2D



Wanden xb - axb, Kleuren 2D

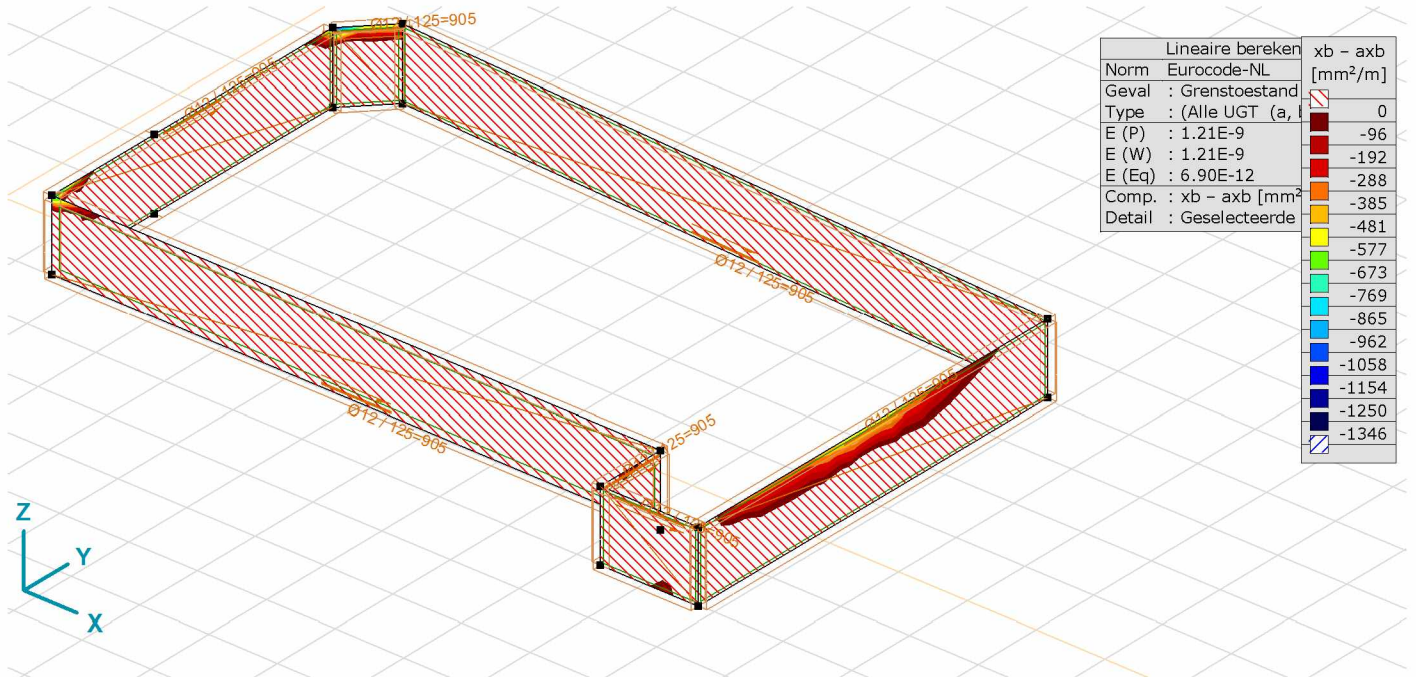
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

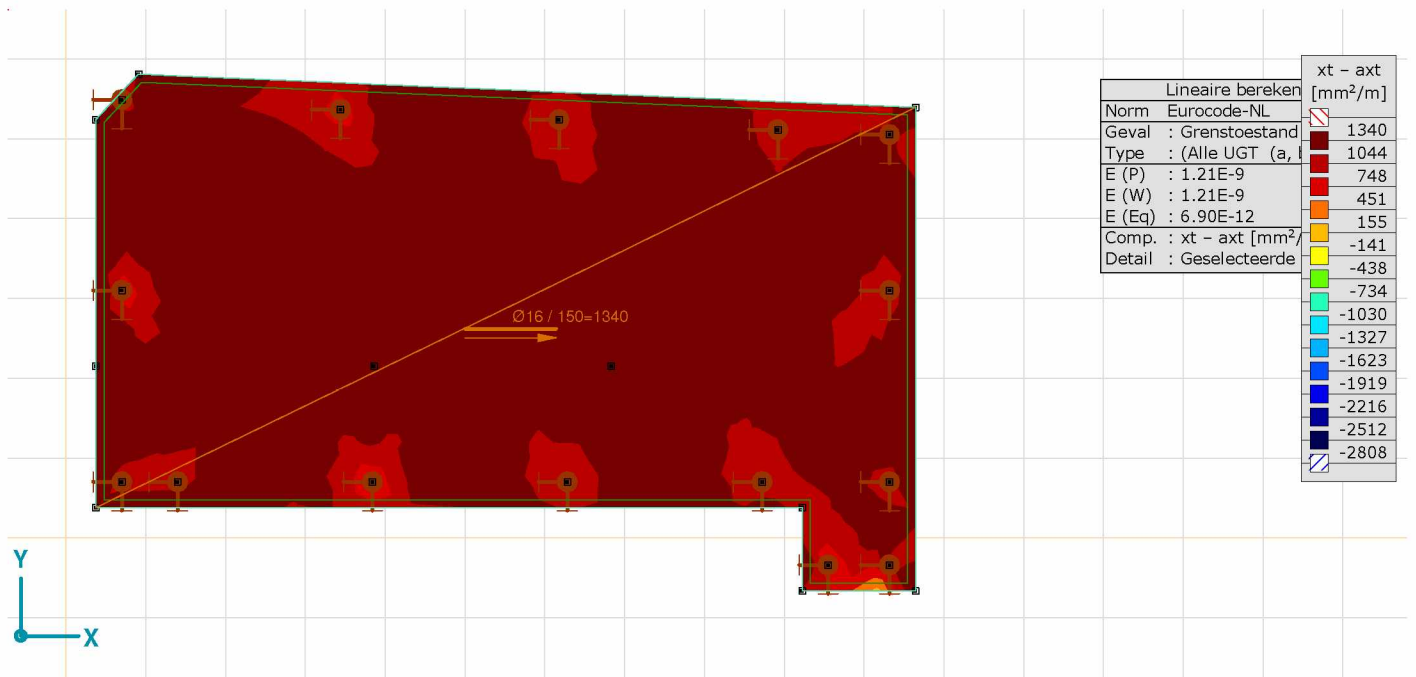
Model: 17021-rev2.axs

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Wanden xb - axb, Kleuren 2D 2



[RI], > ~2, Lineair,(Auto) Grenstoestand, xt - axt, Kleuren 2D, Bovenaanzicht

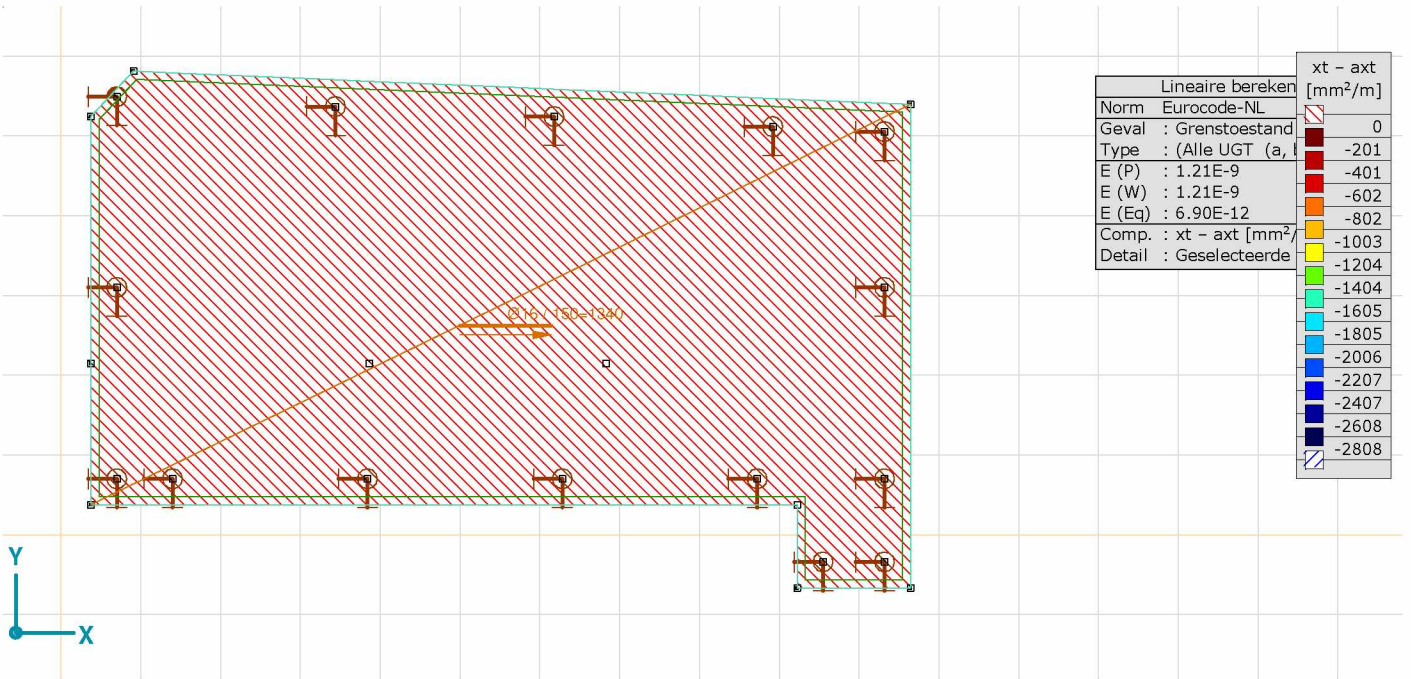
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

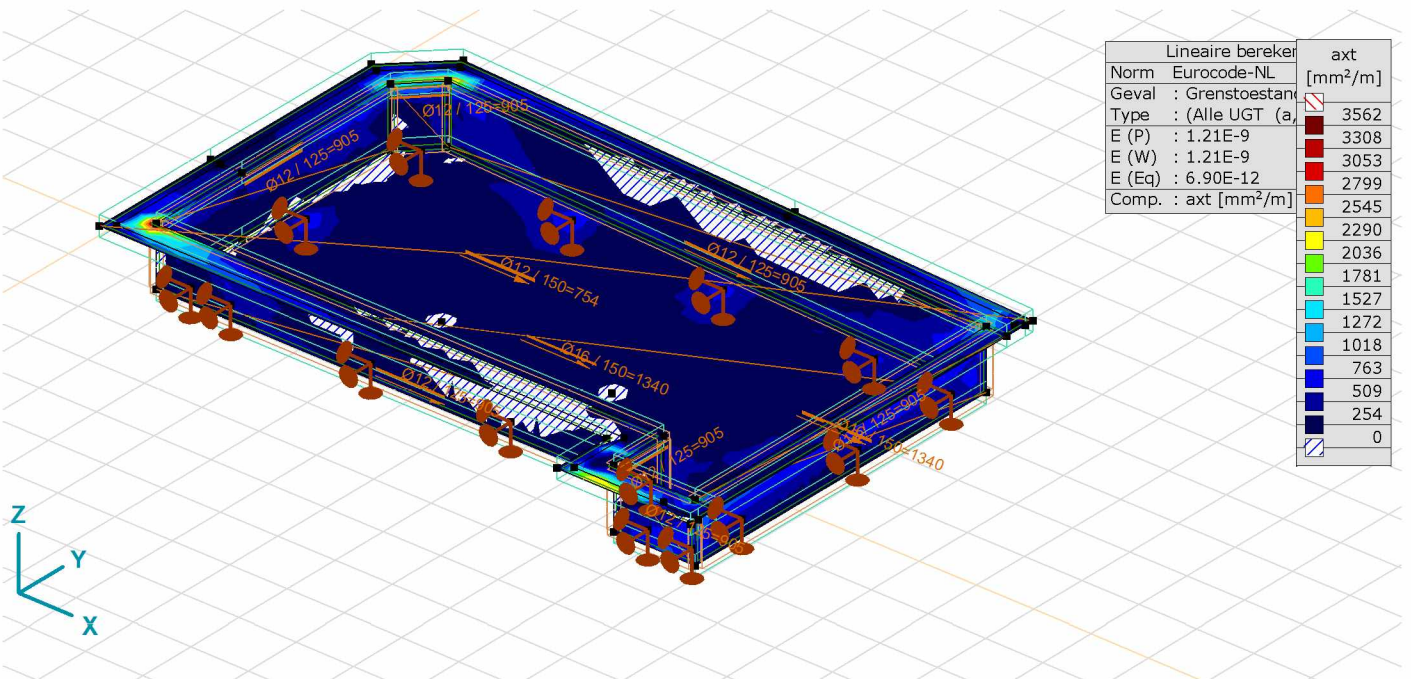
Model: 17021-rev2.axs

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[RI], >~2, Linear,(Auto) Grenstoestand, xt - axt, Kleuren 2D, Bovenaanzicht 2



[RI], Linear,(Auto) Grenstoestand, axt, Kleuren 2D

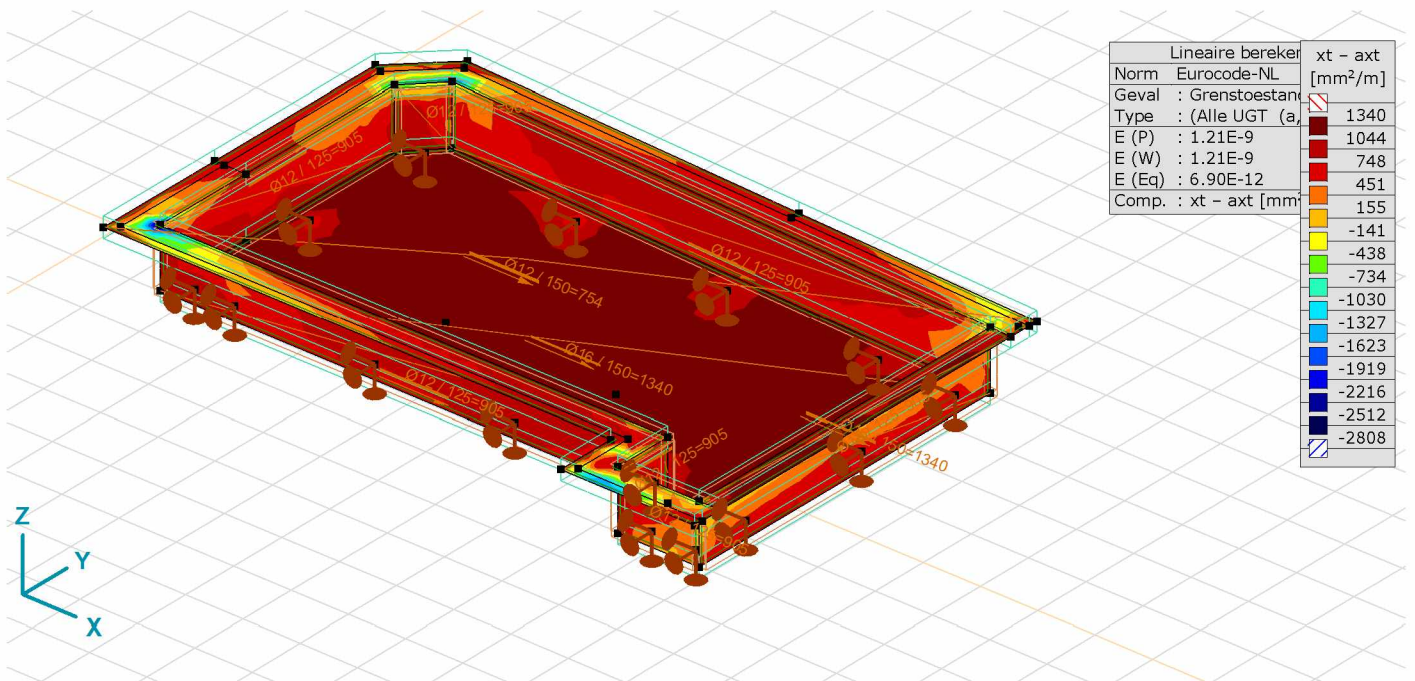
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

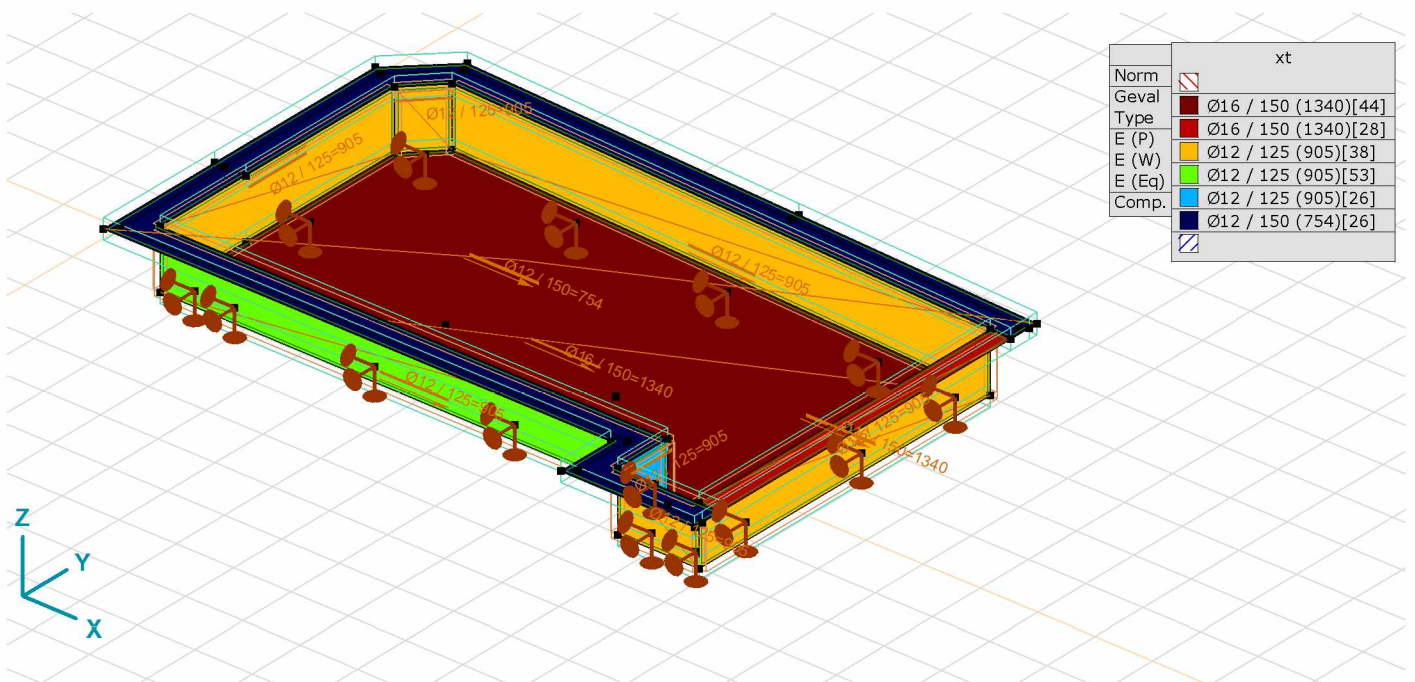
Model: 17021-rev2.axs

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[RI], Lineair,(Auto) Grenstoestand, xt - axt, Kleuren 2D



[RI], Lineair,(Auto) Grenstoestand, xt, Kleuren 2D

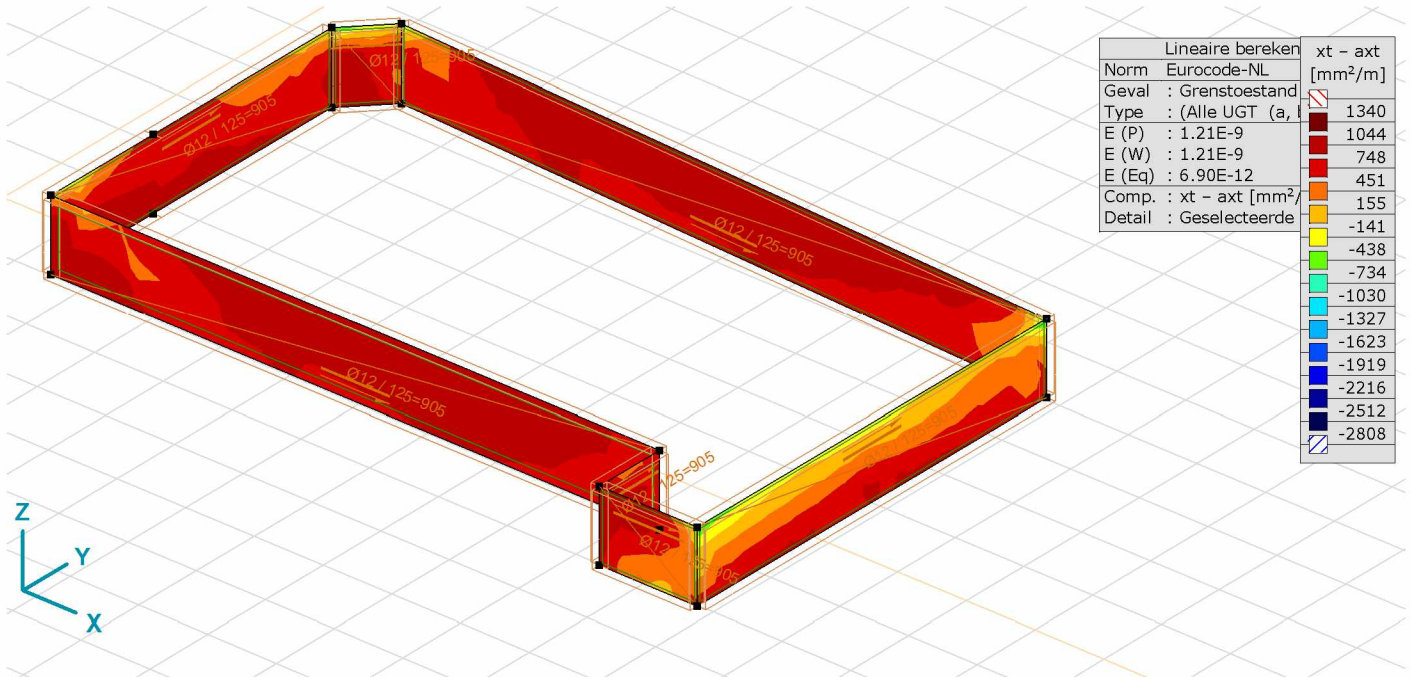
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

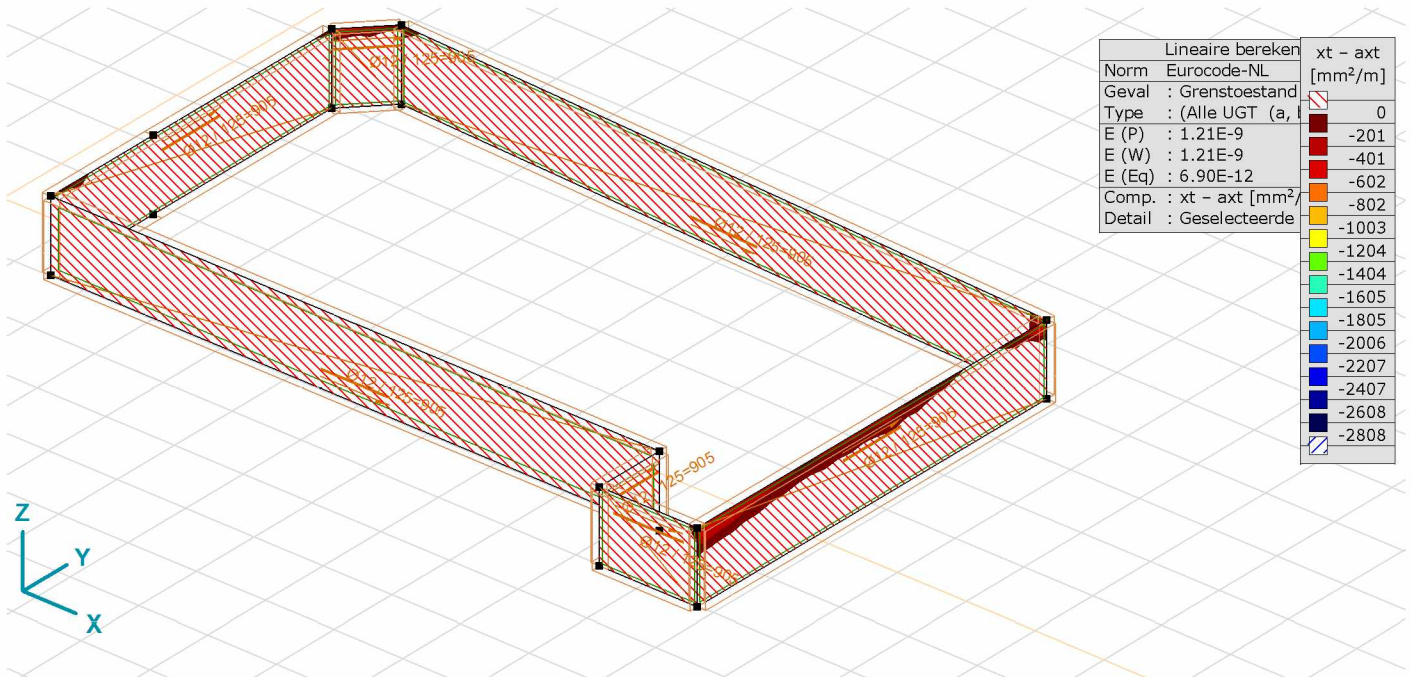
Model: 17021-rev2.axs

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Wanden xt - axt, Kleuren 2D



Wanden xt - axt, Kleuren 2D 2

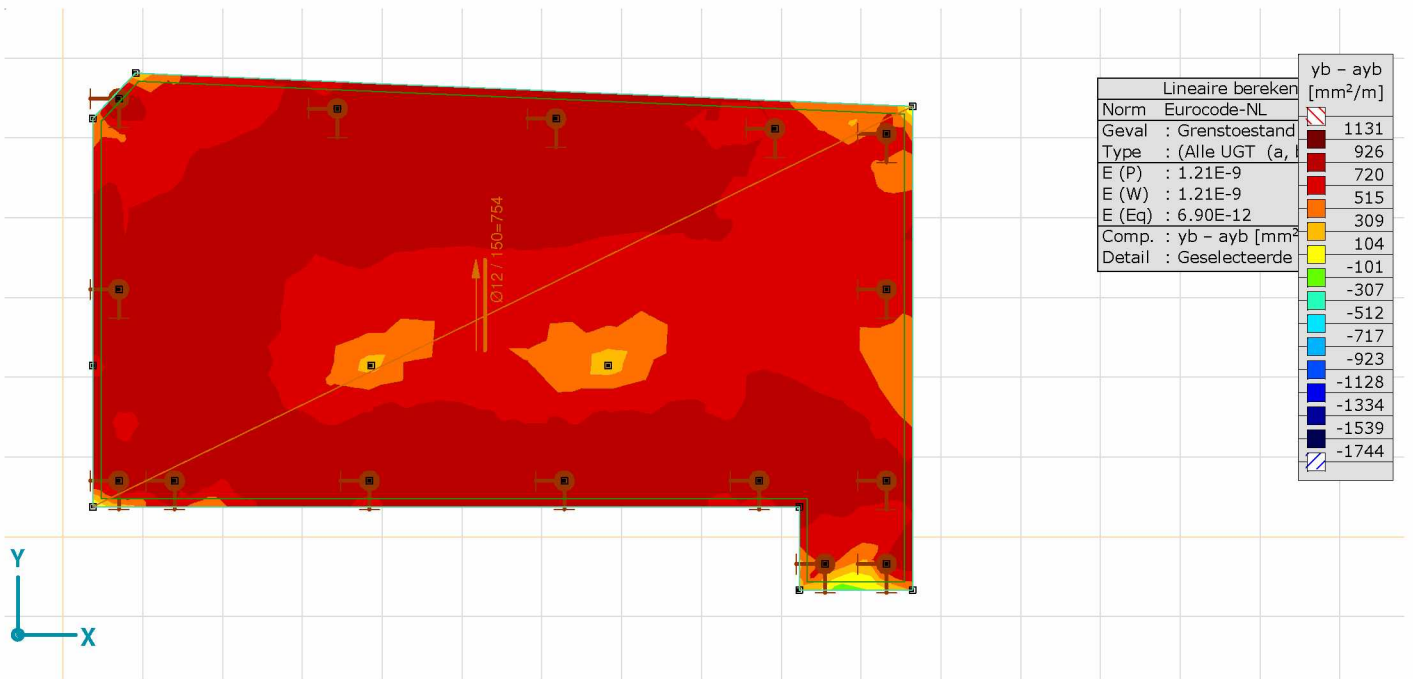
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

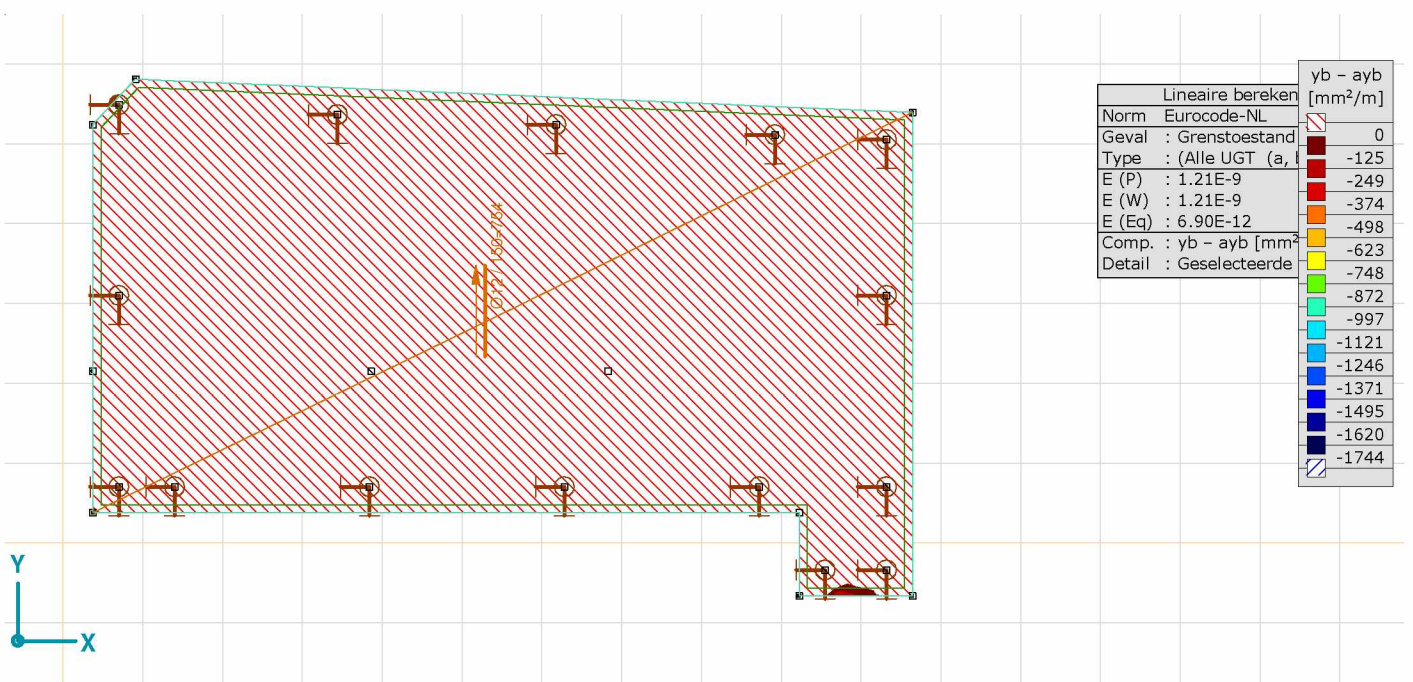
Model: 17021-rev2.axs

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[RI], > ~2, Linear,(Auto) Grenstoestand, yb - ayb, Kleuren 2D, Bovenaanzicht



[RI], > ~2, Linear,(Auto) Grenstoestand, yb - ayb, Kleuren 2D, Bovenaanzicht 2

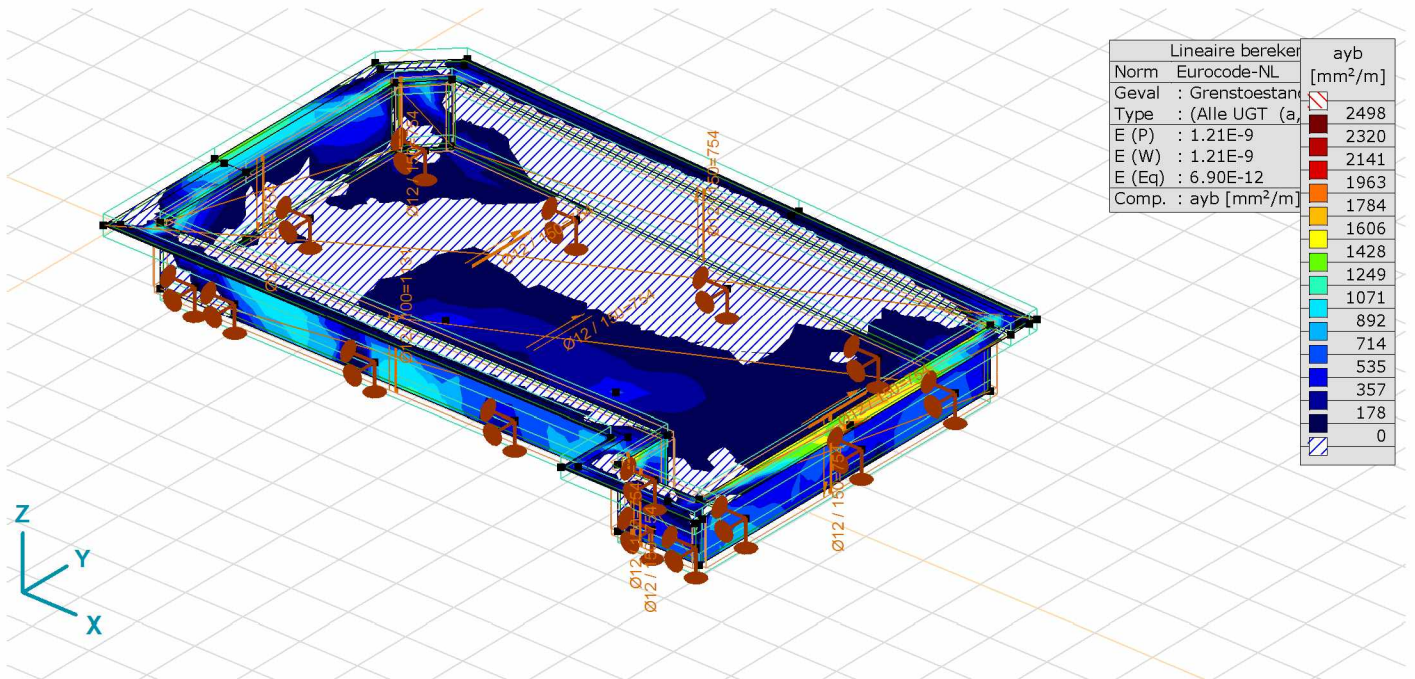
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

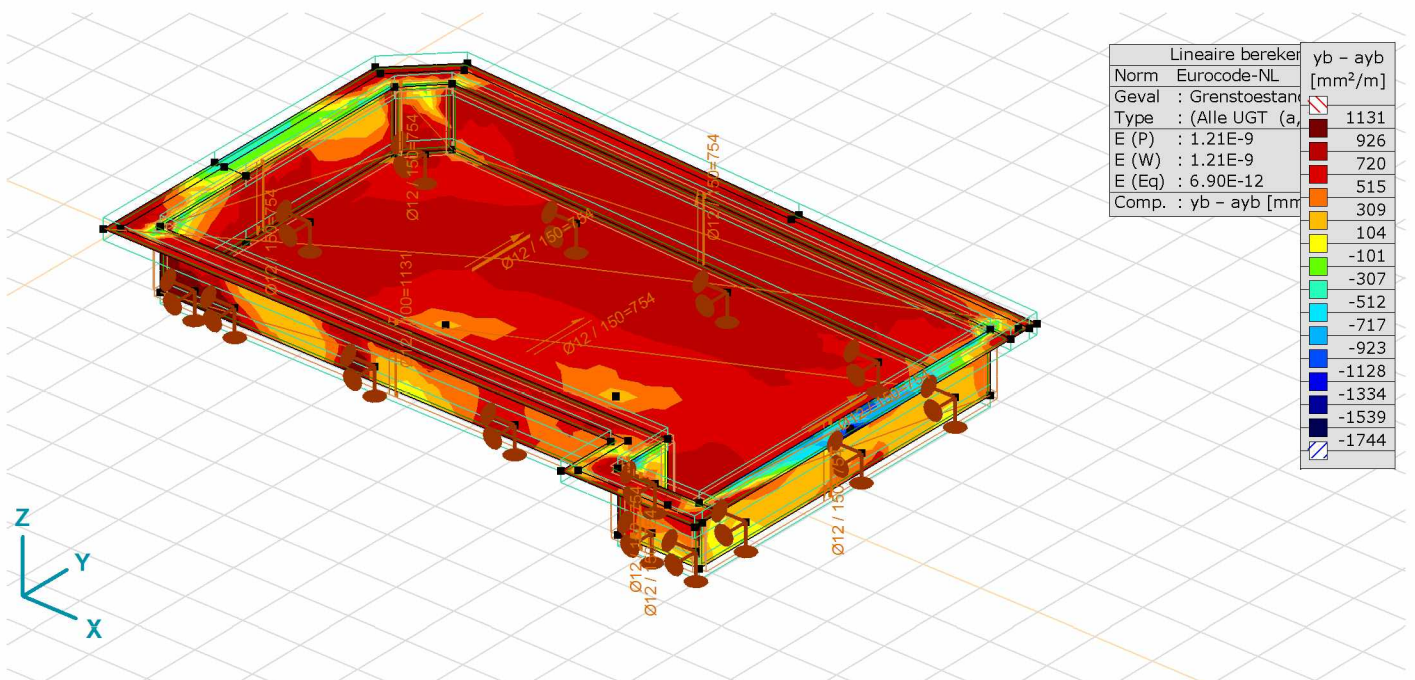
Model: 17021-rev2.axs

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[RI], Lineair,(Auto) Grenstoestand, ayb, Kleuren 2D



[RI], Lineair,(Auto) Grenstoestand, yb - ayb, Kleuren 2D

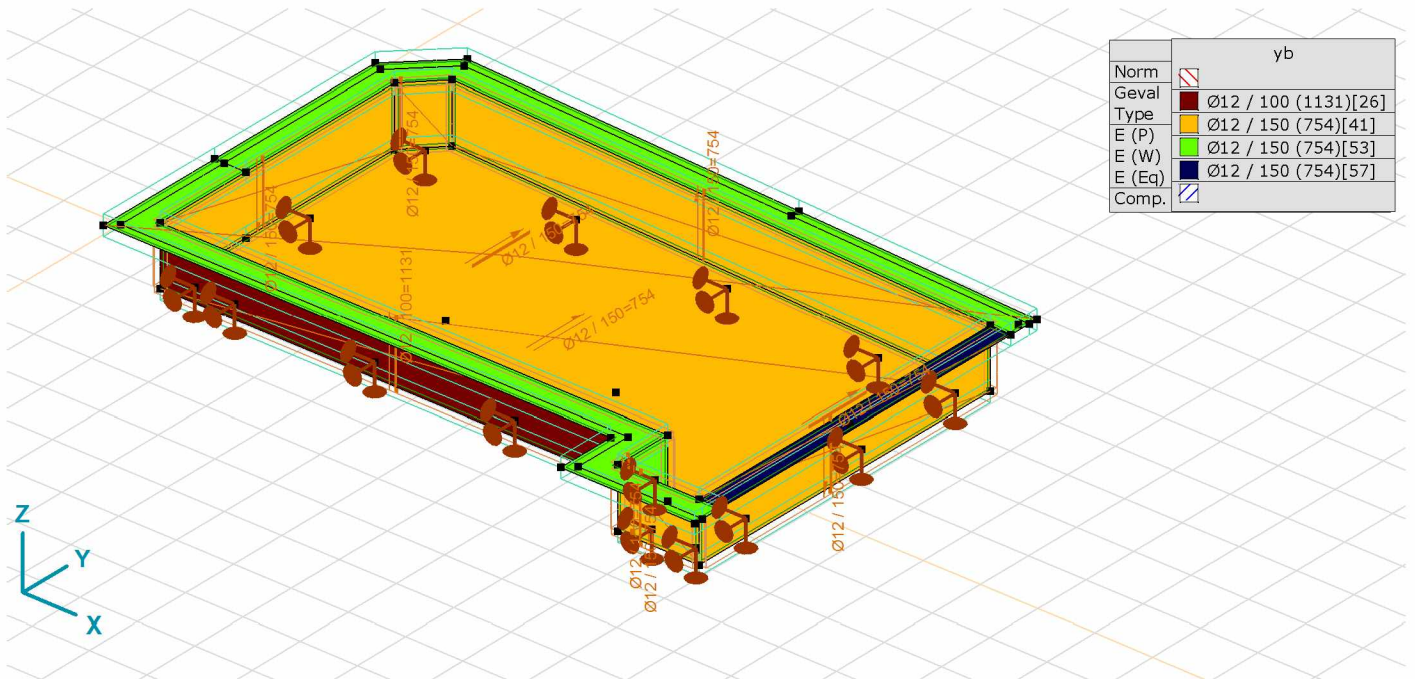
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

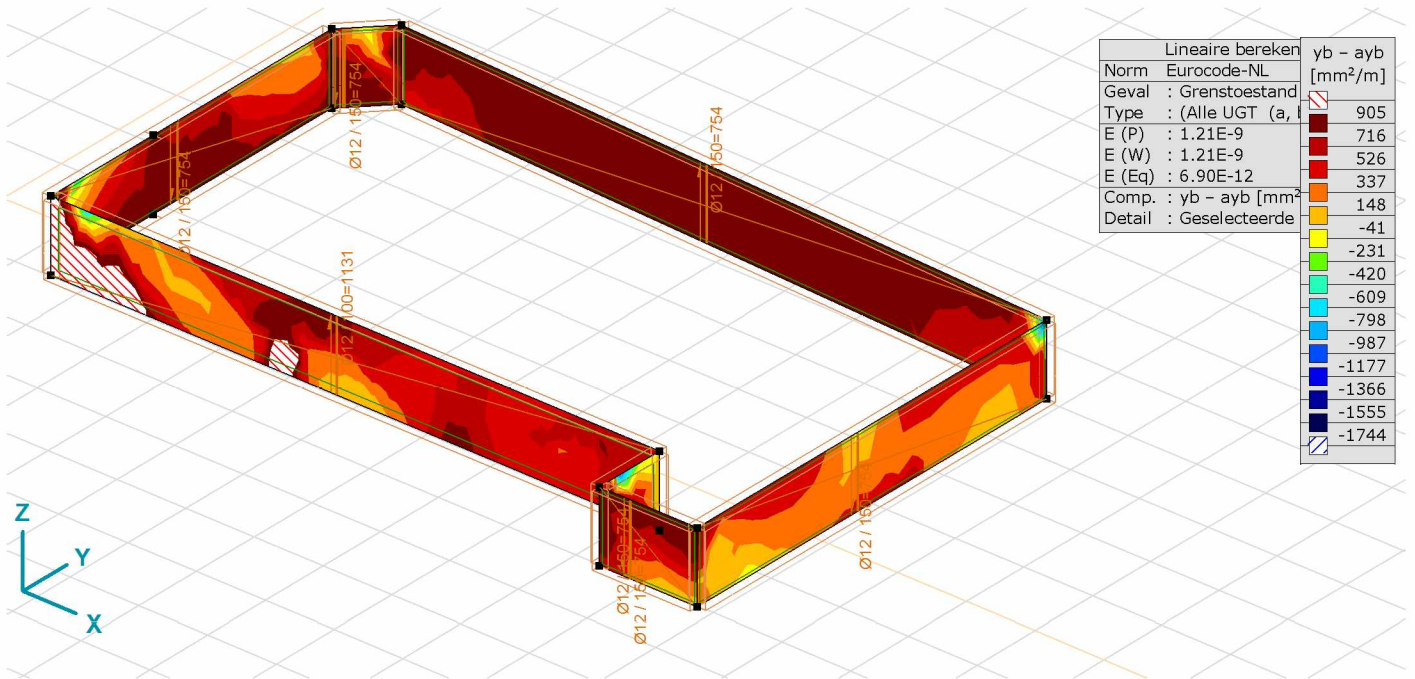
Model: 17021-rev2.axs

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[R], Lineair,(Auto) Grenstoestand, yb, Kleuren 2D



Wanden yb - ayb, Kleuren 2D

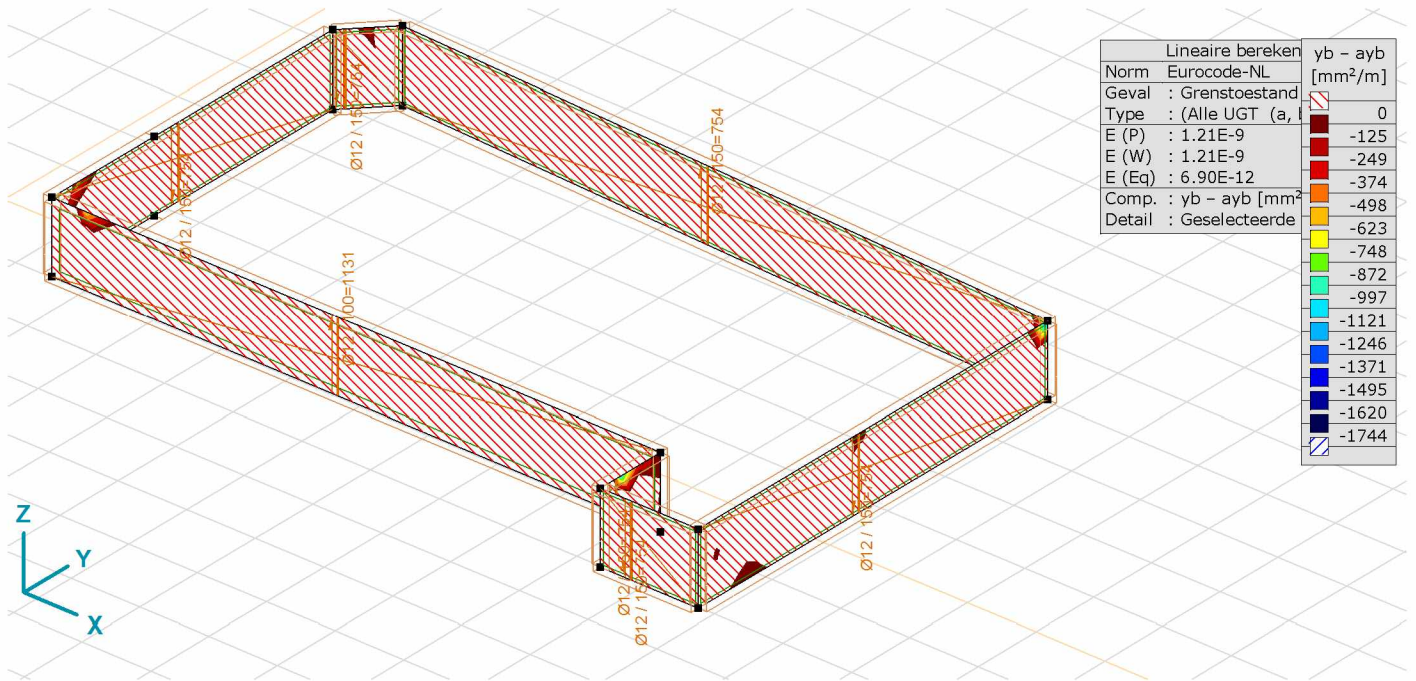
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

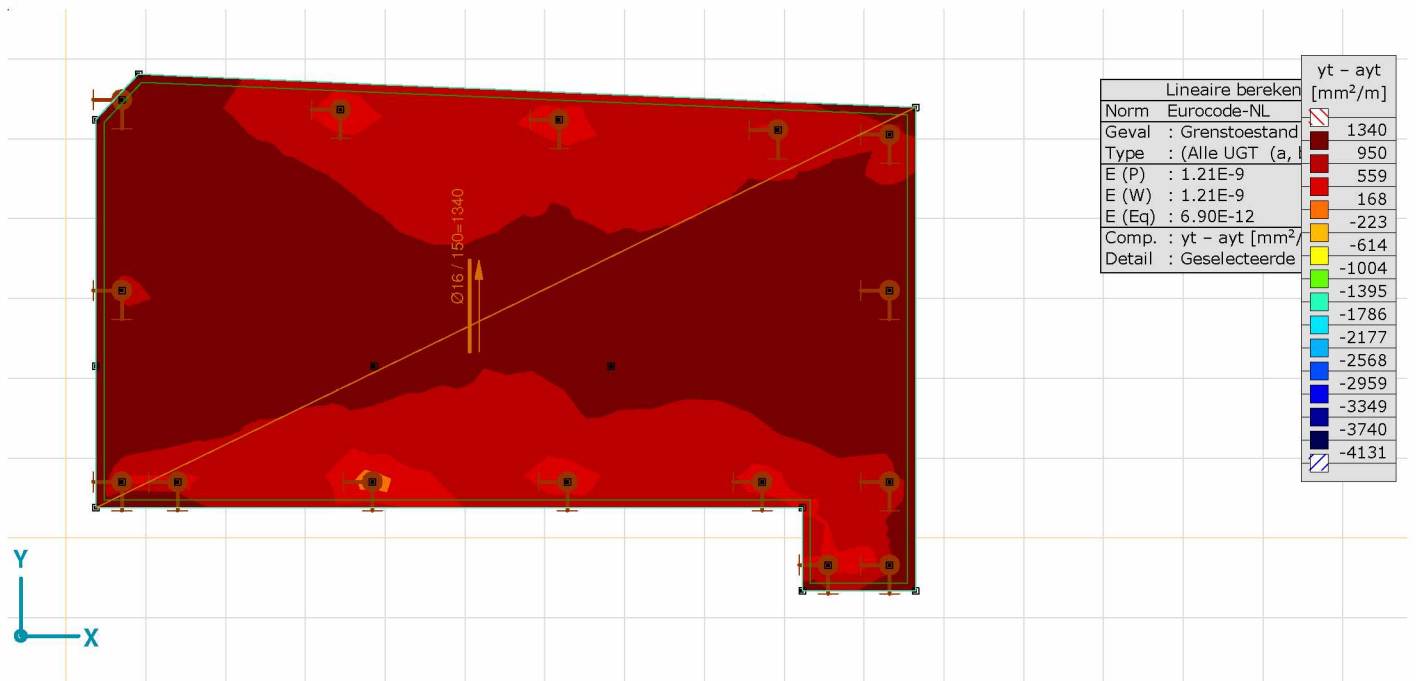
Model: 17021-rev2.axs

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Wanden yb – ayb, Kleuren 2D 2



[RI], > ~2, Lineair, (Auto) Grenstoestand, yt – ayt, Kleuren 2D, Bovenaanzicht

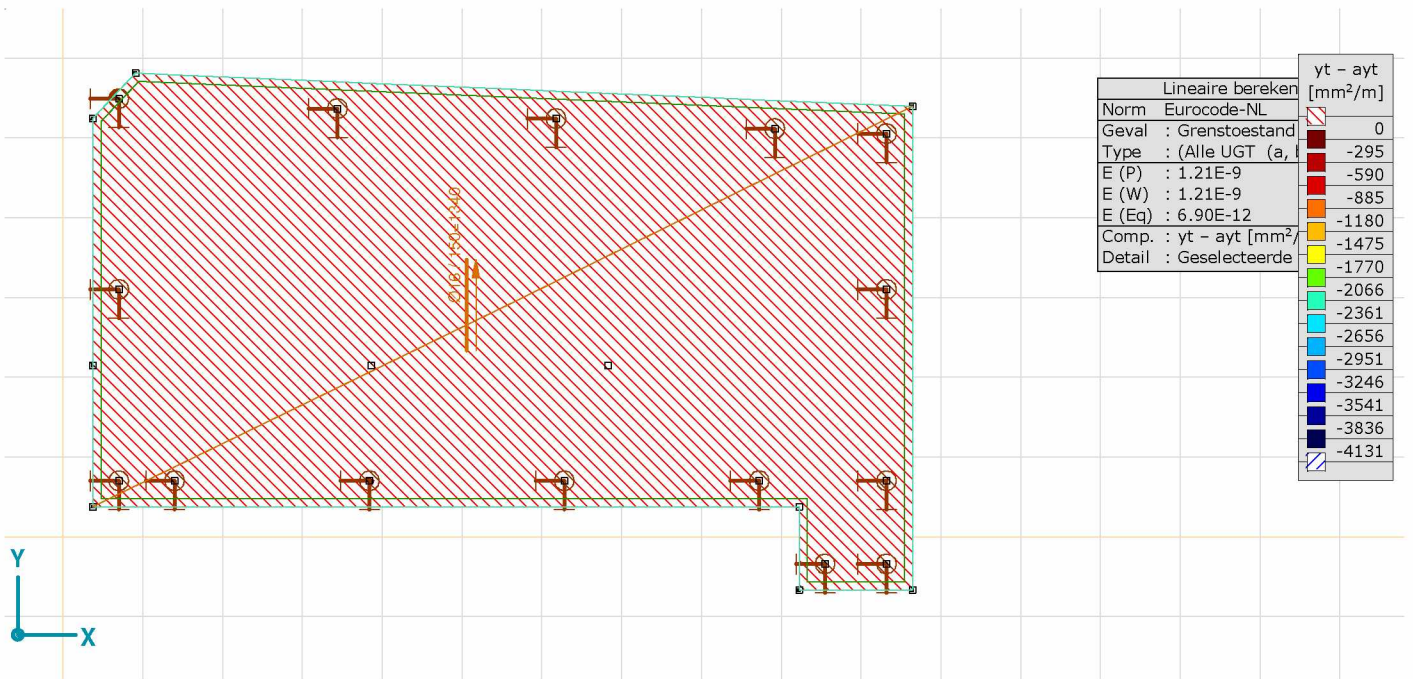
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

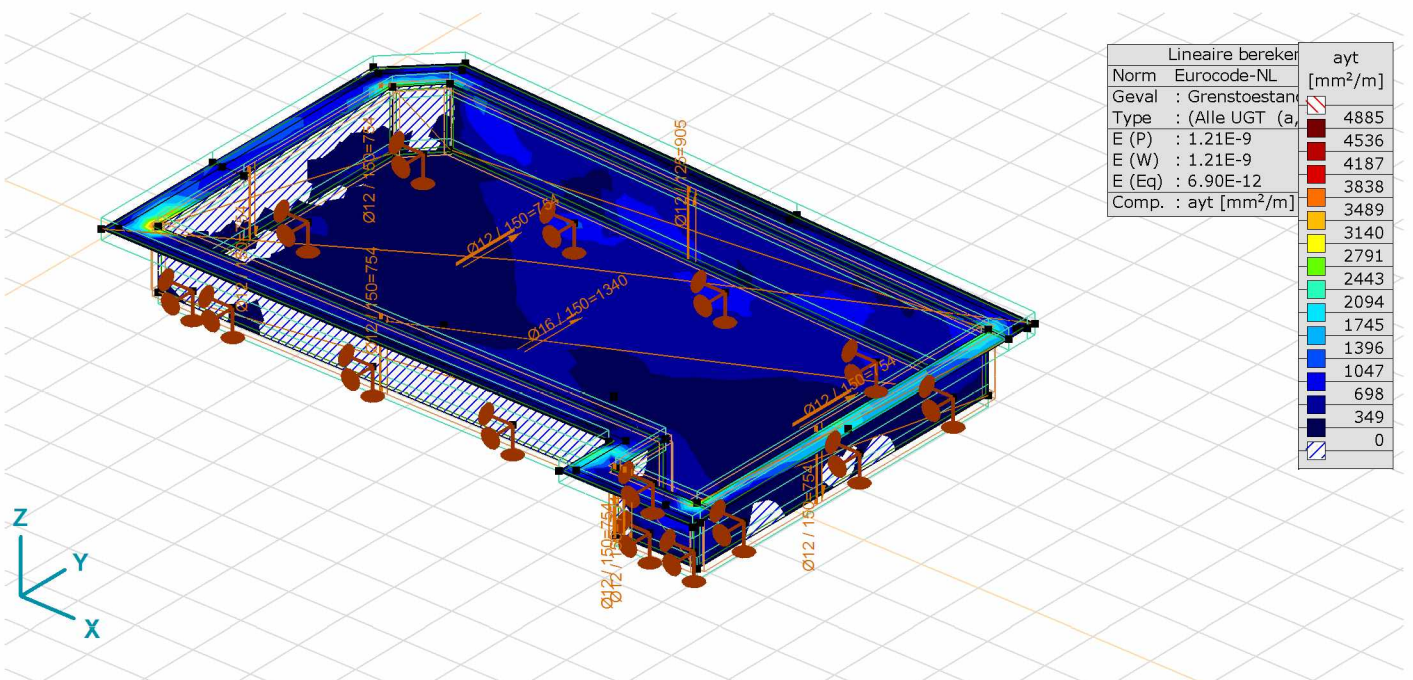
Model: 17021-rev2.axs

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[RI], >~2, Linear,(Auto) Grenstoestand, yt - ayt, Kleuren 2D, Bovenaanzicht 2



[RI], Linear,(Auto) Grenstoestand, ayt, Kleuren 2D

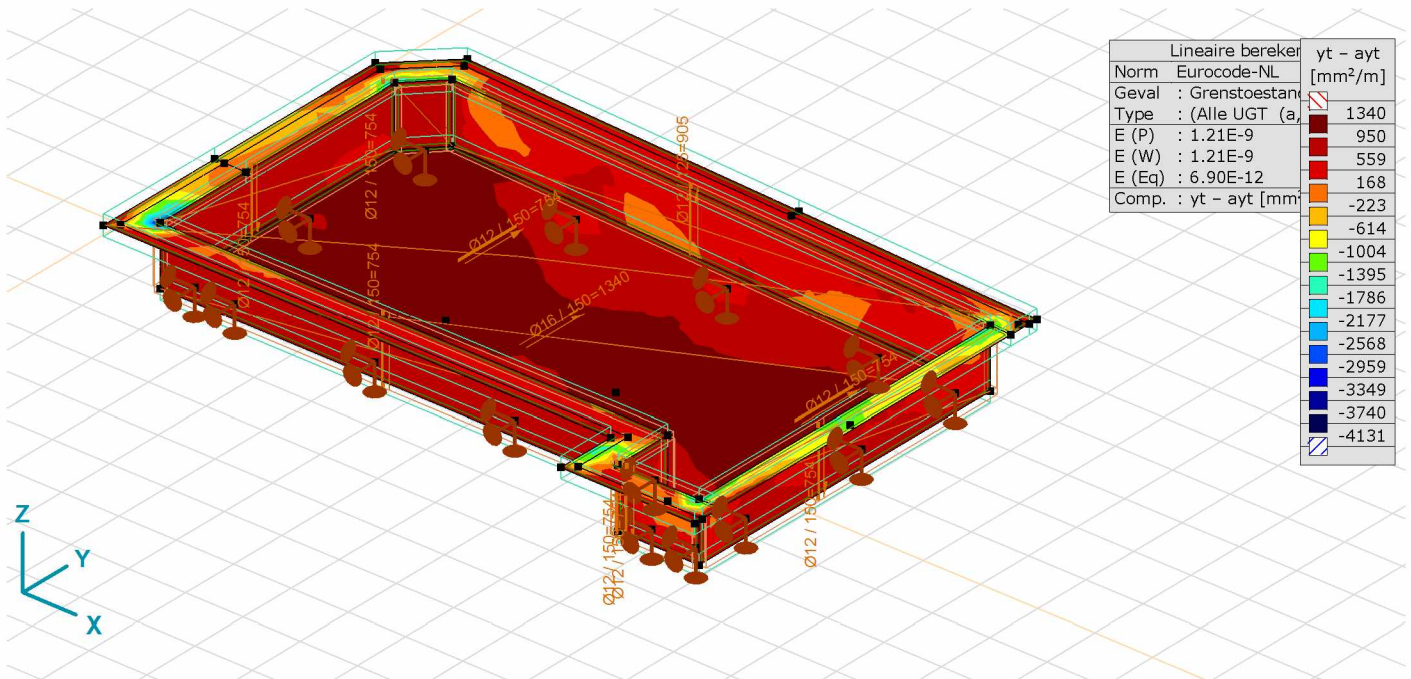
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

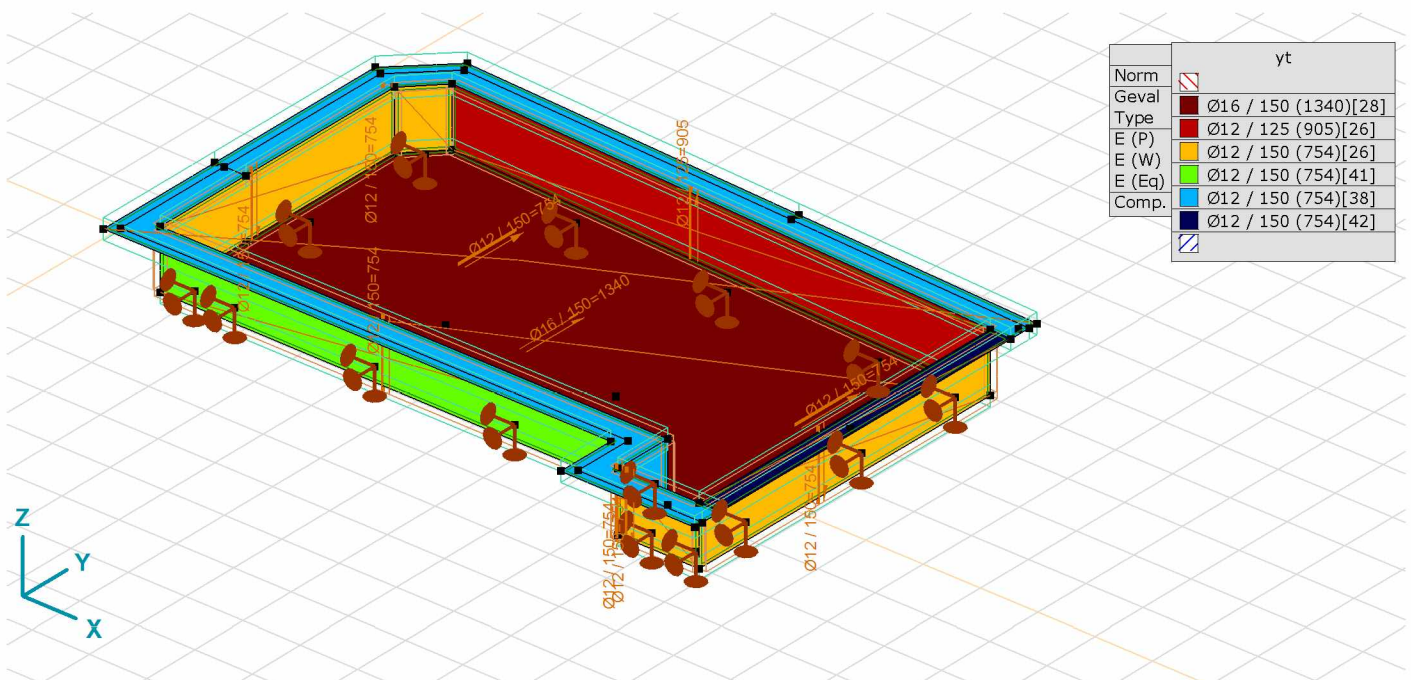
Model: 17021-rev2.axs

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[RI], Lineair,(Auto) Grenstoestand, yt - ayt, Kleuren 2D



[RI], Lineair,(Auto) Grenstoestand, yt, Kleuren 2D

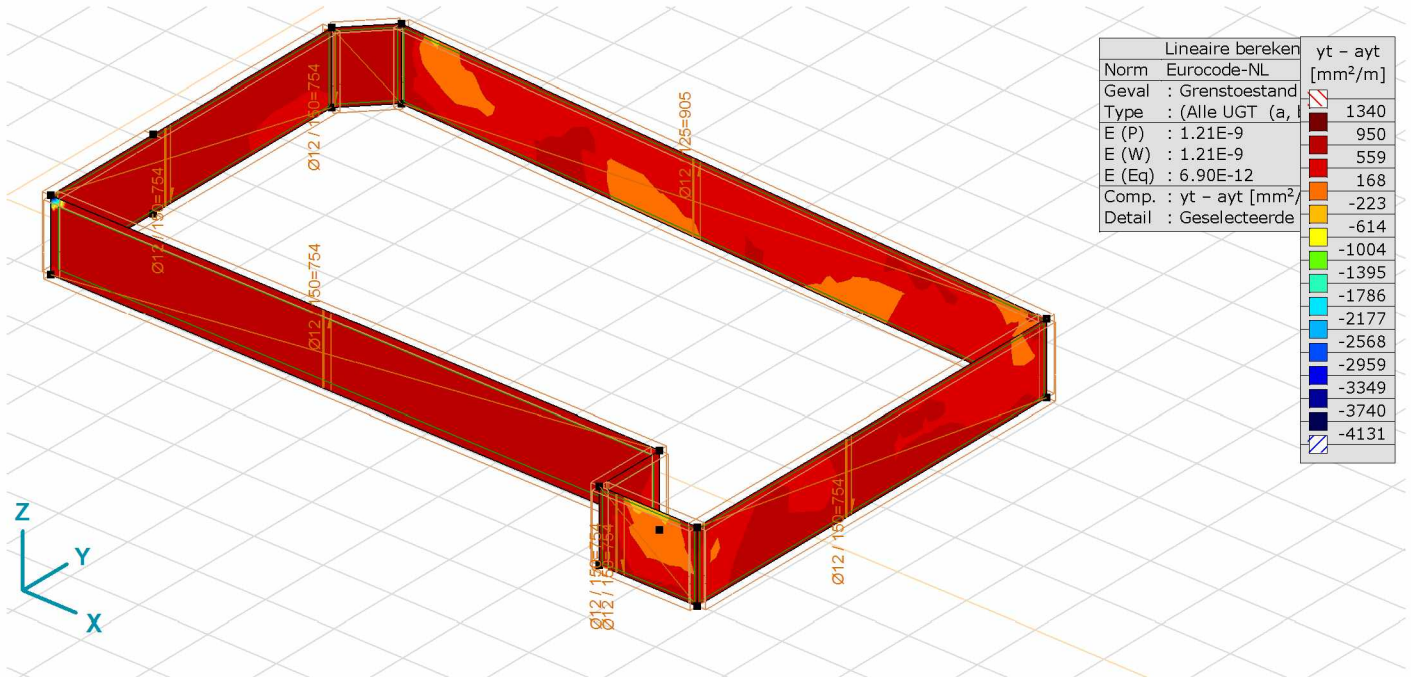
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

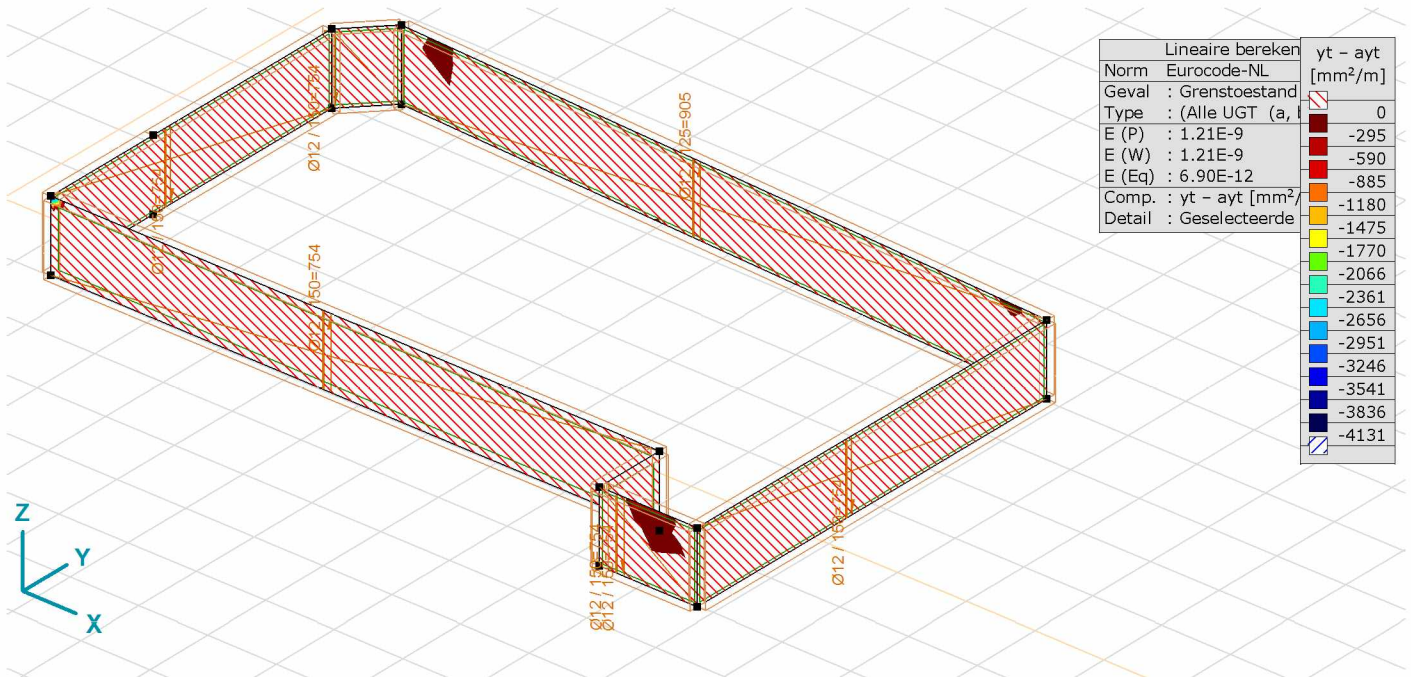
Model: 17021-rev2.axs

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Wanden yt - ayt, Kleuren 2D



Wanden yt - ayt, Kleuren 2D 2

**Modelgegevens**

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**Materialen**

|   | Naam   | Type  | Nationale norm | Materiaalnorm | Model   | $E_x$ [N/mm <sup>2</sup> ] | $E_y$ [N/mm <sup>2</sup> ] | $\nu$ | $\alpha_T$ [1/°C] | $\rho$ [kg/m <sup>3</sup> ] |
|---|--------|-------|----------------|---------------|---------|----------------------------|----------------------------|-------|-------------------|-----------------------------|
| 1 | C30/37 | Beton | Eurocode-NL    | EN 206        | Lineair | 32800                      | 32800                      | 0.20  | 1E-5              | 2500                        |

|   | Naam   | Materiaal kleur | Contour kleur | Structuur  | $P_1$                                 | $P_2$              | $P_3$                | $P_4$           | $P_5$ | $P_6$ | $P_7$ |
|---|--------|-----------------|---------------|------------|---------------------------------------|--------------------|----------------------|-----------------|-------|-------|-------|
| 1 | C30/37 |                 |               | Concrete A | $f_{ck}$ [N/mm <sup>2</sup> ] = 30.00 | $\gamma_c = 1.500$ | $\alpha_{cc} = 1.00$ | $\phi_t = 2.00$ |       |       |       |

|   | Naam   | $P_8$ | $P_9$ | $P_{10}$ | $P_{11}$ | $P_{12}$ |
|---|--------|-------|-------|----------|----------|----------|
| 1 | C30/37 |       |       |          |          |          |

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

**Belastinggevallen**

|   | Naam | Groep | Groepstype   |
|---|------|-------|--------------|
| 1 | ST1  | PERM1 | Permanent    |
| 2 | ST2  | VER1  | Veranderlijk |
| 3 | ST3  | VER2  | Veranderlijk |
| 4 | ST4  | VER3  | Veranderlijk |
| 5 | ST5  | VER3  | Veranderlijk |

**Naam:** Naam belastinggeval; **Groep:** Belastinggroep; **Groepstype:** Belastinggroep type;

**Belastinggroepen (Eurocode-NL)**

|   | Groep | Type         | $\gamma_{G,sup}$ | $\gamma_{G,inf}$ | $\xi$ | $\gamma$ | $\Psi_0$ | $\Psi_1$ | $\Psi_2$ | Additive |
|---|-------|--------------|------------------|------------------|-------|----------|----------|----------|----------|----------|
| 1 | PERM1 | Permanent    | 1.350            | 0.900            | 0.889 |          |          |          |          | 1        |
| 2 | VER1  | Veranderlijk |                  |                  |       | 1.500    | 0.400    | 0.500    | 0.300    | 0        |
| 3 | VER2  | Veranderlijk |                  |                  |       | 1.500    | 0.400    | 0.500    | 0.300    | 0        |
| 4 | VER3  | Veranderlijk |                  |                  |       | 1.500    | 0        | 0.200    | 0        | 0        |

**Groep:** Belastinggroep;  $\gamma_{G,sup}$ : Veiligheidsfactor bovengrens;  $\gamma_{G,inf}$ : Veiligheidsfactor ondergrens;  $\xi$ : Veiligheidsfactor;  $\Psi_0, \Psi_1, \Psi_2$ : Psi factor; **Additive:** Gelijkijdige belastinggevallen;

**Knopen**

|    | X [m]  | Y [m]  | Z [m] | $e_x$ | $e_y$ | $e_z$ | $\theta_x$ | $\theta_y$ | $\theta_z$ |
|----|--------|--------|-------|-------|-------|-------|------------|------------|------------|
| 1  | -0.165 | 5.480  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 2  | -0.165 | -0.165 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 3  | 0.710  | 6.355  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 4  | 11.020 | 5.915  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 5  | 11.020 | 5.375  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 6  | 0.910  | 5.808  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 7  | 0.375  | 5.240  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 8  | 0.375  | 0.375  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 9  | 9.225  | 0.375  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 10 | 9.225  | -0.665 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 11 | 11.020 | -0.665 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 12 | 11.020 | -1.205 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 13 | 8.685  | -1.205 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 14 | 8.685  | -0.165 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 15 | 10.645 | -0.665 | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 16 | 10.645 | 5.391  | 0     | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |

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Constructeur: Core Constructies

Model: 17021-rev2.axs

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## Knopen

|    | $X [m]$ | $Y [m]$ | $Z [m]$ | $e_x$ | $e_y$ | $e_z$ | $\theta_x$ | $\theta_y$ | $\theta_z$ |
|----|---------|---------|---------|-------|-------|-------|------------|------------|------------|
| 17 | -0.165  | 2.150   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 18 | 10.920  | 2.150   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 19 | 0.375   | 2.150   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 20 | 0       | 0       | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 21 | 8.850   | 0       | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 22 | 8.850   | -1.040  | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 23 | 0       | 5.395   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 24 | 0.795   | 6.190   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 25 | 11.020  | 5.750   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 26 | 11.020  | -1.040  | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 27 | 0       | 5.400   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 28 | 0       | 2.150   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 29 | 10.920  | 5.650   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 30 | 0.375   | 0.375   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 31 | 0.375   | 5.240   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 32 | 0.910   | 5.808   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 33 | 10.645  | 5.391   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 34 | 10.645  | -0.665  | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 35 | 9.225   | -0.665  | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 36 | 9.225   | 0.375   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 37 | 3.860   | 2.150   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 38 | 6.832   | 2.150   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 39 | 0.700   | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 40 | 1.400   | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 41 | 3.842   | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 42 | 6.284   | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 43 | 8.725   | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 44 | 10.320  | 3.100   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 45 | 9.550   | -0.340  | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 46 | 10.320  | -0.340  | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 47 | 0.700   | 3.100   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 48 | 0.700   | 5.490   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 49 | 3.440   | 5.365   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 50 | 6.180   | 5.239   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 51 | 8.920   | 5.114   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 52 | 10.320  | 5.050   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 53 | 0.375   | 2.150   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 54 | 6.718   | 6.099   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 55 | 6.718   | 5.935   | 0       | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |
| 56 | 10.320  | 0.700   | -1.020  | Vrij  | Vrij  | Vrij  | Vrij       | Vrij       | Vrij       |

 $e_x$ : Knoopvrijheidsgraden (Verplaatsingsbeperking X);  $e_y$ : Knoopvrijheidsgraden (Verplaatsingsbeperking Y);  $e_z$ : Knoopvrijheidsgraden (Verplaatsingsbeperking Z); $\theta_x$ : Knoopvrijheidsgraden (Rotatiebeperking rond X-as);  $\theta_y$ : Knoopvrijheidsgraden (Rotatiebeperking rond Y-as);  $\theta_z$ : Knoopvrijheidsgraden (Rotatiebeperking rond Z-as);

## Domeinen

|   | Type     | Materiaal | $Ref_x$ | $Ref_z$ | Dikte [mm] | $k$ [] | Oppervlakte [m <sup>2</sup> ] | Gat | Mesh |
|---|----------|-----------|---------|---------|------------|--------|-------------------------------|-----|------|
| 1 | ⊕ Schaal | 1         | Auto    | Auto    | 350        | 1      | 15.343                        | -   | 1    |
| 2 | ⊕ Schaal | 1         | Auto    | Auto    | 350        | 1      | 2.268                         | -   | 1    |
| 3 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 4.962                         | -   | 1    |
| 4 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 0.796                         | -   | 1    |
| 5 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 9.939                         | -   | 1    |
| 6 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 6.177                         | -   | 1    |
| 7 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 1.448                         | -   | 1    |
| 8 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 1.061                         | -   | 1    |
| 9 | ⊕ Schaal | 1         | Auto    | Auto    | 250        | 1      | 9.027                         | -   | 1    |

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## Domeinen

|    | Type     | Materiaal | Ref <sub>x</sub> | Ref <sub>z</sub> | Dikte<br>[mm] | k<br>[] | Oppervlakte<br>[m <sup>2</sup> ] | Gat | Mesh |
|----|----------|-----------|------------------|------------------|---------------|---------|----------------------------------|-----|------|
| 10 | ⊕ Schaal | 1         | Auto             | Auto             | 350           | 1       | 55.092                           | -   | 1    |

Type: Plaatetype; Ref<sub>x</sub>: Referentie voor lokale X-richting; Ref<sub>z</sub>: Referentie voor lokale Z-richting; k: Stijfheids reductie; Oppervlakte: Domein oppervlak; Gat: Aantal gaten in domein; Mesh: Gegeneerde mesh;

## ST1: Knoopbelastingen

|    | Richting | F <sub>x</sub><br>[kN] | F <sub>y</sub><br>[kN] | F <sub>z</sub><br>[kN] | M <sub>x</sub><br>[kNm] | M <sub>y</sub><br>[kNm] | M <sub>z</sub><br>[kNm] |
|----|----------|------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 18 | Globaal  | 0                      | 0                      | -45.80                 | 0                       | 0                       | 0                       |
| 29 | Globaal  | 0                      | 0                      | -10.00                 | 0                       | 0                       | 0                       |
| 37 | Globaal  | 0                      | 0                      | -69.50                 | 0                       | 0                       | 0                       |
| 38 | Globaal  | 0                      | 0                      | -74.10                 | 0                       | 0                       | 0                       |

F<sub>x</sub>, F<sub>y</sub>, F<sub>z</sub>: Belastingkracht component; M<sub>x</sub>, M<sub>y</sub>, M<sub>z</sub>: Belastingsmoment component;

## ST1: Vlak eigen gewicht

|               | Σ [kg]           |
|---------------|------------------|
| 1-1164        | 84497.125        |
| <b>Totaal</b> | <b>84497.125</b> |

Σ: Totale massa;

## ST1: Eigen gewicht van domein

|               | Σ [kg]           |
|---------------|------------------|
| 1-10          | 84497.125        |
| <b>Totaal</b> | <b>84497.125</b> |

Σ: Totale massa;

## ST1: Domein puntlast

|   | Richting | F <sub>x</sub><br>[kN] | F <sub>y</sub><br>[kN] | F <sub>z</sub><br>[kN] | M <sub>x</sub><br>[kNm] | M <sub>y</sub><br>[kNm] | M <sub>z</sub><br>[kNm] | X<br>[m] | Y<br>[m] | Z<br>[m] |
|---|----------|------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|----------|----------|----------|
| 1 | Globaal  | 0                      | 0                      | -45.70                 | 0                       | 0                       | 0                       | 0.375    | 2.150    | 0        |
| 1 | Globaal  | 0                      | 0                      | -85.50                 | 0                       | 0                       | 0                       | 8.685    | -1.205   | 0        |
| 1 | Globaal  | 0                      | 0                      | -100.00                | 0                       | 0                       | 0                       | -0.165   | -0.165   | 0        |

F<sub>x</sub>, F<sub>y</sub>, F<sub>z</sub>: Belastingkracht component; M<sub>x</sub>, M<sub>y</sub>, M<sub>z</sub>: Belastingsmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

## ST1: Domein vlaklast

|  | Domein | Richting | Type     | In gaten | Comp. | Waarde<br>[kN/m <sup>2</sup> ] |
|--|--------|----------|----------|----------|-------|--------------------------------|
|  | 10     | Globaal  | Constant | nee      | pX =  | 0                              |
|  |        |          |          |          | pY =  | 0                              |
|  |        |          |          |          | pZ =  | -1.25                          |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;

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## ST1: Oppervlak lijnlast

|    | Richting | $p_x$<br>[kN/m] | $p_y$<br>[kN/m] | $p_z$<br>[kN/m] | $p_m$<br>[kNm/m] | X<br>[m] | Y<br>[m] | Z<br>[m] | Richting | dL<br>[m] |
|----|----------|-----------------|-----------------|-----------------|------------------|----------|----------|----------|----------|-----------|
| 12 | Globaal  | 0               | 0               | -77.90          | 0                | 0.710    | 6.355    | 0        | -        | 0         |
|    |          | 0               | 0               | -77.90          | 0                | 6.718    | 6.099    | 0        | -        | 6.013     |
| 13 | Globaal  | 0               | 0               | -66.50          | 0                | 6.718    | 6.099    | 0        | -        | 0         |
|    |          | 0               | 0               | -66.50          | 0                | 11.020   | 5.915    | 0        | -        | 4.306     |
| 14 | Globaal  | 0               | 0               | -63.10          | 0                | -0.165   | 5.480    | 0        | -        | 0         |
|    |          | 0               | 0               | -63.10          | 0                | 0.710    | 6.355    | 0        | -        | 1.237     |
| 15 | Globaal  | 0               | 0               | -56.00          | 0                | -0.165   | -0.165   | 0        | -        | 0         |
|    |          | 0               | 0               | -56.00          | 0                | -0.165   | 5.480    | 0        | -        | 5.645     |
| 16 | Globaal  | 0               | 0               | -16.40          | 0                | -0.165   | 2.150    | 0        | -        | 0         |
|    |          | 0               | 0               | -16.40          | 0                | 0.375    | 2.150    | 0        | -        | 0.540     |
| 17 | Globaal  | 0               | 0               | -95.50          | 0                | -0.165   | -0.165   | 0        | -        | 0         |
|    |          | 0               | 0               | -95.50          | 0                | 8.685    | -0.165   | 0        | -        | 8.850     |
| 18 | Globaal  | 0               | 0               | -84.50          | 0                | 8.685    | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -84.50          | 0                | 8.685    | -0.165   | 0        | -        | 1.040     |
| 19 | Globaal  | 0               | 0               | -92.80          | 0                | 8.685    | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -92.80          | 0                | 11.020   | -1.205   | 0        | -        | 2.335     |
| 42 | Globaal  | 0               | 0               | -4.50           | 0                | 11.020   | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -4.50           | 0                | 11.020   | 5.915    | 0        | -        | 7.120     |

$p_x$ ,  $p_y$ ,  $p_z$ : Belastingkracht component;  $p_m$ : Belastingmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

## ST2: Knoopbelastingen

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | -56.60        | 0              | 0              | 0              |
| 37 | Globaal  | 0             | 0             | -102.00       | 0              | 0              | 0              |
| 38 | Globaal  | 0             | 0             | -114.10       | 0              | 0              | 0              |

$F_x$ ,  $F_y$ ,  $F_z$ : Belastingkracht component;  $M_x$ ,  $M_y$ ,  $M_z$ : Belastingmoment component;

## ST2: Domein puntlast

|   | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] | X<br>[m] | Y<br>[m] | Z<br>[m] |
|---|----------|---------------|---------------|---------------|----------------|----------------|----------------|----------|----------|----------|
| 1 | Globaal  | 0             | 0             | -71.00        | 0              | 0              | 0              | 0.375    | 2.150    | 0        |

$F_x$ ,  $F_y$ ,  $F_z$ : Belastingkracht component;  $M_x$ ,  $M_y$ ,  $M_z$ : Belastingmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

## ST2: Domein vlaklast

|  | Domein | Richting | Type     | In gaten | Comp.   | Waarde<br>[kN/m <sup>2</sup> ] |
|--|--------|----------|----------|----------|---------|--------------------------------|
|  | 10     | Globaal  | Constant | nee      | $p_x =$ | 0                              |
|  |        |          |          |          | $p_y =$ | 0                              |
|  |        |          |          |          | $p_z =$ | -2.55                          |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;

## ST2: Oppervlak lijnlast

|    | Richting | $p_x$<br>[kN/m] | $p_y$<br>[kN/m] | $p_z$<br>[kN/m] | $p_m$<br>[kNm/m] | X<br>[m] | Y<br>[m] | Z<br>[m] | Richting | dL<br>[m] |
|----|----------|-----------------|-----------------|-----------------|------------------|----------|----------|----------|----------|-----------|
| 28 | Globaal  | 0               | 0               | -16.30          | 0                | 0.710    | 6.355    | 0        | -        | 0         |

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## ST2: Oppervlak lijnlast

|    | Richting | $p_x$<br>[kN/m] | $p_y$<br>[kN/m] | $p_z$<br>[kN/m] | $p_m$<br>[kNm/m] | X<br>[m] | Y<br>[m] | Z<br>[m] | Richting | dL<br>[m] |
|----|----------|-----------------|-----------------|-----------------|------------------|----------|----------|----------|----------|-----------|
| 29 |          | 0               | 0               | -16.30          | 0                | 11.020   | 5.915    | 0        | -        | 10.319    |
|    | Globaal  | 0               | 0               | -16.30          | 0                | -0.165   | 5.480    | 0        | -        | 0         |
| 30 |          | 0               | 0               | -16.30          | 0                | 0.710    | 6.355    | 0        | -        | 1.237     |
|    | Globaal  | 0               | 0               | -7.40           | 0                | 0        | 2.150    | 0        | -        | 0         |
| 31 |          | 0               | 0               | -7.40           | 0                | 0.375    | 2.150    | 0        | -        | 0.375     |
|    | Globaal  | 0               | 0               | -17.90          | 0                | -0.165   | -0.165   | 0        | -        | 0         |
| 32 |          | 0               | 0               | -17.90          | 0                | 8.685    | -0.165   | 0        | -        | 8.850     |
|    | Globaal  | 0               | 0               | -13.40          | 0                | 8.685    | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -13.40          | 0                | 11.020   | -1.205   | 0        | -        | 2.335     |

$p_x$ ,  $p_y$ ,  $p_z$ : Belastingkracht component;  $p_m$ : Belastingmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

## ST3: Domein vlaklast

|  | Domein | Richting | Type     | In gaten | Comp.   | Waarde<br>[kN/m <sup>2</sup> ] |
|--|--------|----------|----------|----------|---------|--------------------------------|
|  | 10     | Globaal  | Constant | nee      | $p_X =$ | 0                              |
|  |        |          |          |          | $p_Y =$ | 0                              |
|  |        |          |          |          | $p_Z =$ | 9.50                           |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;

## ST4: Knoopbelastingen

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | 165.00        | 0              | 0              | 0              |
| 29 | Globaal  | 0             | 0             | -165.00       | 0              | 0              | 0              |

$F_x$ ,  $F_y$ ,  $F_z$ : Belastingkracht component;  $M_x$ ,  $M_y$ ,  $M_z$ : Belastingmoment component;

## ST5: Knoopbelastingen

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | -165.00       | 0              | 0              | 0              |
| 29 | Globaal  | 0             | 0             | 165.00        | 0              | 0              | 0              |

$F_x$ ,  $F_y$ ,  $F_z$ : Belastingkracht component;  $M_x$ ,  $M_y$ ,  $M_z$ : Belastingmoment component;

**Logische onderdelen****Platen****Domein 1**

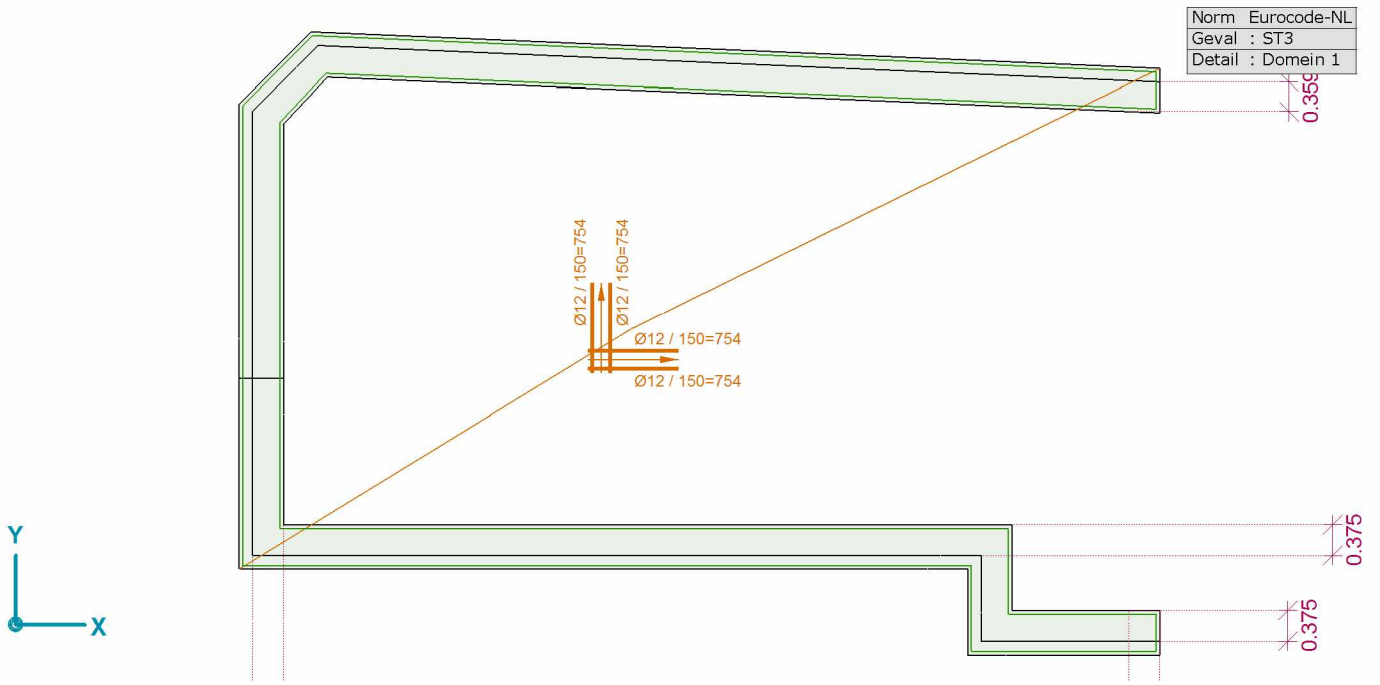
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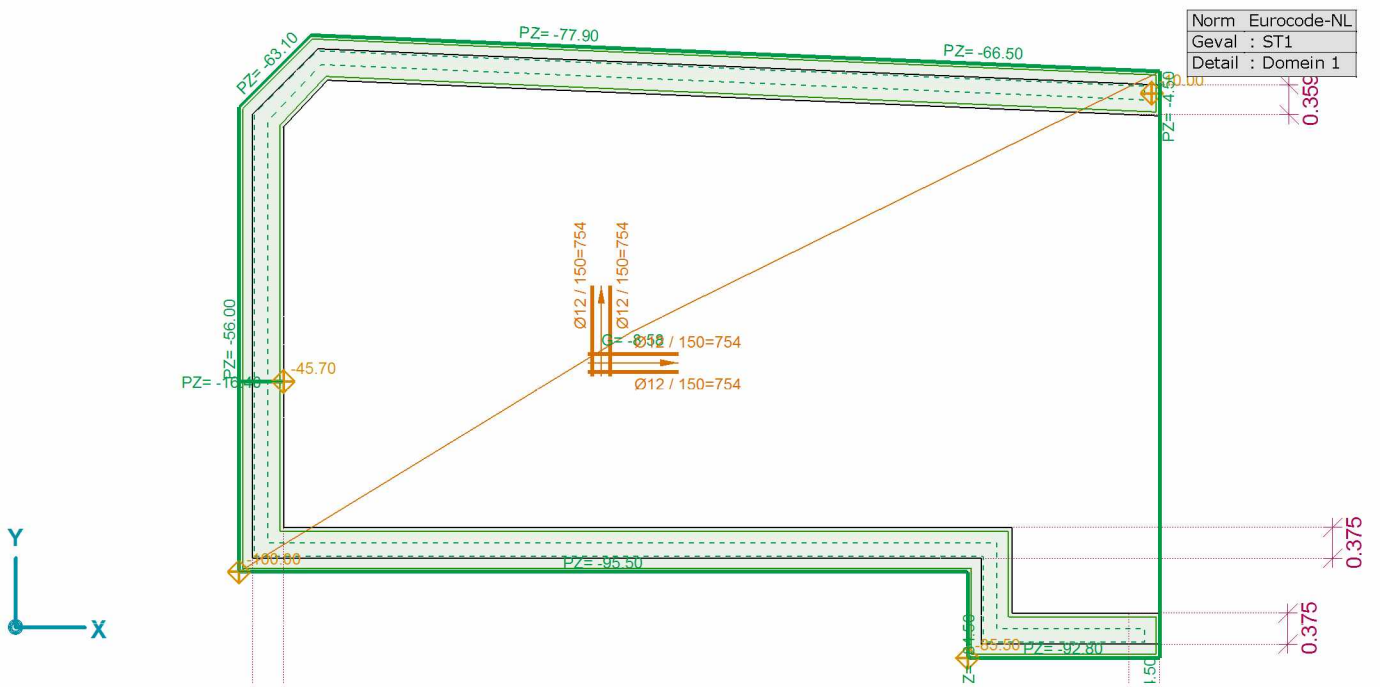
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Rapport Domein 1, Bovenaanzicht



Rapport Domein 1, ST1, Bovenaanzicht

**ST1: Knoopbelastingen [Domein 1]**

|    | Richting | F <sub>x</sub><br>[kN] | F <sub>y</sub><br>[kN] | F <sub>z</sub><br>[kN] | M <sub>x</sub><br>[kNm] | M <sub>y</sub><br>[kNm] | M <sub>z</sub><br>[kNm] |
|----|----------|------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 29 | Globaal  | 0                      | 0                      | -10.00                 | 0                       | 0                       | 0                       |

F<sub>x</sub>, F<sub>y</sub>, F<sub>z</sub>: Belastingkracht component; M<sub>x</sub>, M<sub>y</sub>, M<sub>z</sub>: Belastingsmoment component;

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## ST1: Vlak eigen gewicht [Domein 1]

|               | $\Sigma$ [kg]    |
|---------------|------------------|
| 1-250         | 13425.350        |
| <b>Totaal</b> | <b>13425.350</b> |

Σ: Totale massa;

## ST1: Eigen gewicht van domein [Domein 1]

|               | $\Sigma$ [kg]    |
|---------------|------------------|
| 1             | 13425.350        |
| <b>Totaal</b> | <b>13425.350</b> |

Σ: Totale massa;

## ST1: Domein puntlast [Domein 1]

|   | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] | X<br>[m] | Y<br>[m] | Z<br>[m] |
|---|----------|---------------|---------------|---------------|----------------|----------------|----------------|----------|----------|----------|
| 1 | Globaal  | 0             | 0             | -45.70        | 0              | 0              | 0              | 0.375    | 2.150    | 0        |
| 1 | Globaal  | 0             | 0             | -85.50        | 0              | 0              | 0              | 8.685    | -1.205   | 0        |
| 1 | Globaal  | 0             | 0             | -100.00       | 0              | 0              | 0              | -0.165   | -0.165   | 0        |

Fx, Fy, Fz: Belastingkracht component; Mx, My, Mz: Belastingsmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

## ST1: Oppervlak lijnlast [Domein 1]

|    | Richting | $p_x$<br>[kN/m] | $p_y$<br>[kN/m] | $p_z$<br>[kN/m] | $p_m$<br>[kNm/m] | X<br>[m] | Y<br>[m] | Z<br>[m] | Richting | dL<br>[m] |
|----|----------|-----------------|-----------------|-----------------|------------------|----------|----------|----------|----------|-----------|
| 12 | Globaal  | 0               | 0               | -77.90          | 0                | 0.710    | 6.355    | 0        | -        | 0         |
|    |          | 0               | 0               | -77.90          | 0                | 6.718    | 6.099    | 0        | -        | 6.013     |
| 13 | Globaal  | 0               | 0               | -66.50          | 0                | 6.718    | 6.099    | 0        | -        | 0         |
|    |          | 0               | 0               | -66.50          | 0                | 11.020   | 5.915    | 0        | -        | 4.306     |
| 14 | Globaal  | 0               | 0               | -63.10          | 0                | -0.165   | 5.480    | 0        | -        | 0         |
|    |          | 0               | 0               | -63.10          | 0                | 0.710    | 6.355    | 0        | -        | 1.237     |
| 15 | Globaal  | 0               | 0               | -56.00          | 0                | -0.165   | -0.165   | 0        | -        | 0         |
|    |          | 0               | 0               | -56.00          | 0                | -0.165   | 5.480    | 0        | -        | 5.645     |
| 16 | Globaal  | 0               | 0               | -16.40          | 0                | -0.165   | 2.150    | 0        | -        | 0         |
|    |          | 0               | 0               | -16.40          | 0                | 0.375    | 2.150    | 0        | -        | 0.540     |
| 17 | Globaal  | 0               | 0               | -95.50          | 0                | -0.165   | -0.165   | 0        | -        | 0         |
|    |          | 0               | 0               | -95.50          | 0                | 8.685    | -0.165   | 0        | -        | 8.850     |
| 18 | Globaal  | 0               | 0               | -84.50          | 0                | 8.685    | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -84.50          | 0                | 8.685    | -0.165   | 0        | -        | 1.040     |
| 19 | Globaal  | 0               | 0               | -92.80          | 0                | 8.685    | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -92.80          | 0                | 11.020   | -1.205   | 0        | -        | 2.335     |
| 42 | Globaal  | 0               | 0               | -4.50           | 0                | 11.020   | -1.205   | 0        | -        | 0         |
|    |          | 0               | 0               | -4.50           | 0                | 11.020   | 5.915    | 0        | -        | 7.120     |

px, py, pz: Belastingkracht component; pm: Belastingsmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

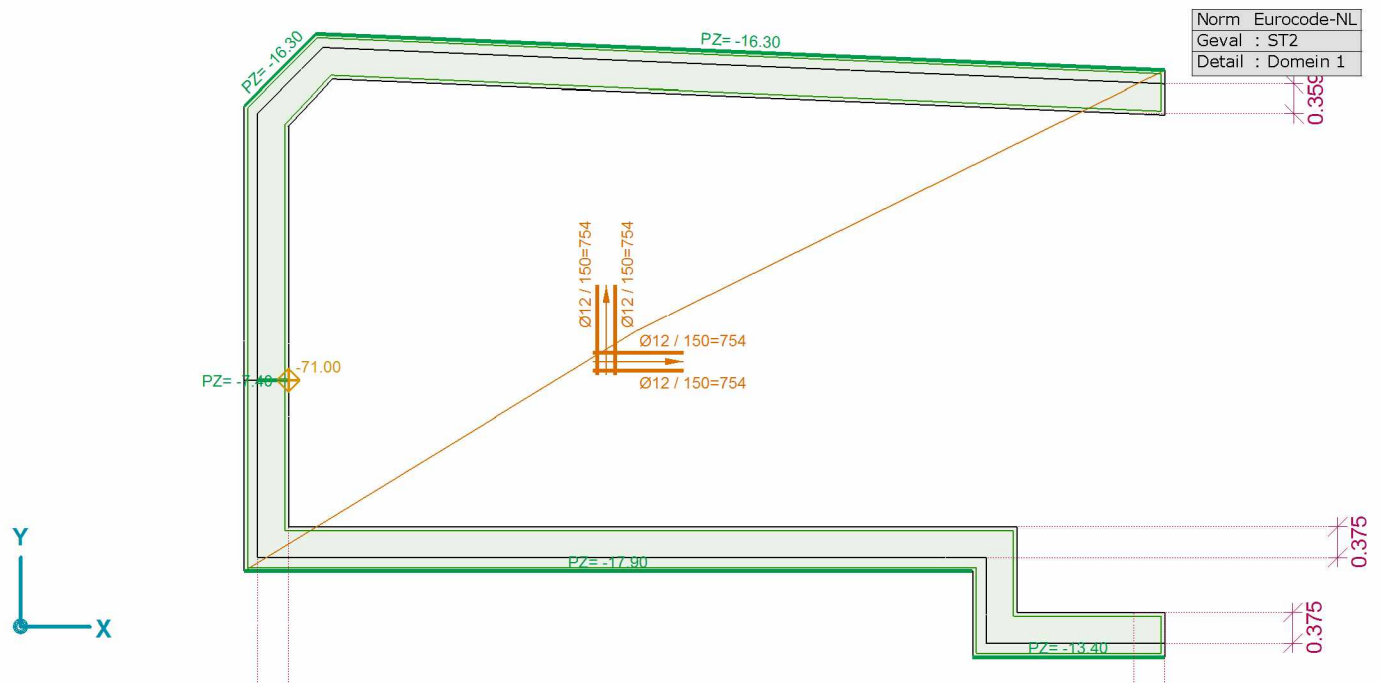
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Rapport Domein 1, ST2, Bovenaanzicht

**ST2: Domein puntlast [Domein 1]**

|   | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] | $X$<br>[m] | $Y$<br>[m] | $Z$<br>[m] |
|---|----------|---------------|---------------|---------------|----------------|----------------|----------------|------------|------------|------------|
| 1 | Globaal  | 0             | 0             | -71.00        | 0              | 0              | 0              | 0.375      | 2.150      | 0          |

Fx, Fy, Fz: Belastingkracht component; Mx, My, Mz: Belastingsmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

**ST2: Oppervlak lijnlast [Domein 1]**

|    | Richting | $p_x$<br>[kN/m] | $p_y$<br>[kN/m] | $p_z$<br>[kN/m] | $p_m$<br>[kNm/m] | $X$<br>[m] | $Y$<br>[m] | $Z$<br>[m] | Richting | $dL$<br>[m] |
|----|----------|-----------------|-----------------|-----------------|------------------|------------|------------|------------|----------|-------------|
| 28 | Globaal  | 0               | 0               | -16.30          | 0                | 0.710      | 6.355      | 0          | -        | 0           |
|    |          | 0               | 0               | -16.30          | 0                | 11.020     | 5.915      | 0          | -        | 10.319      |
| 29 | Globaal  | 0               | 0               | -16.30          | 0                | -0.165     | 5.480      | 0          | -        | 0           |
|    |          | 0               | 0               | -16.30          | 0                | 0.710      | 6.355      | 0          | -        | 1.237       |
| 30 | Globaal  | 0               | 0               | -7.40           | 0                | 0          | 2.150      | 0          | -        | 0           |
|    |          | 0               | 0               | -7.40           | 0                | 0.375      | 2.150      | 0          | -        | 0.375       |
| 31 | Globaal  | 0               | 0               | -17.90          | 0                | -0.165     | -0.165     | 0          | -        | 0           |
|    |          | 0               | 0               | -17.90          | 0                | 8.685      | -0.165     | 0          | -        | 8.850       |
| 32 | Globaal  | 0               | 0               | -13.40          | 0                | 8.685      | -1.205     | 0          | -        | 0           |
|    |          | 0               | 0               | -13.40          | 0                | 11.020     | -1.205     | 0          | -        | 2.335       |

px, py, pz: Belastingkracht component; pm: Belastingsmoment component; X: Belasting in X-richting; Y: Belasting in Y-richting; Z: Belasting in Z-richting;

**ST4: Knoopbelastingen [Domein 1]**

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 29 | Globaal  | 0             | 0             | -165.00       | 0              | 0              | 0              |

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

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## ST5: Knoopbelastingen [Domein 1]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 29 | Globaal  | 0             | 0             | 165.00        | 0              | 0              | 0              |

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

**Verplaatsingen****Knoopverplaatsingen****Grenstoestand Min,Max.**

Knoopverplaatsingen [Lineair,(BGT Quasi-blijvend) Grenstoestand, Domein 1]

|      | C  | min.<br>max. | $eX$<br>[mm]  | $eY$<br>[mm]  | $eZ$<br>[mm]   | $eR$<br>[mm]  | $fX$<br>[rad]   | $fY$<br>[rad] | $fZ$<br>[rad] |
|------|----|--------------|---------------|---------------|----------------|---------------|-----------------|---------------|---------------|
| Ext. |    |              |               |               |                |               |                 |               |               |
| 62   | eX | min          | <b>-1.389</b> | -0.765        | -10.216        | 10.338        | 0.00112         | -0.00150      | 0.00035       |
| 93   |    | max          | <b>-0.818</b> | 0.021         | -14.368        | 14.392        | -0.00037        | -0.00068      | 0.00031       |
| 677  |    | max          | <b>-0.818</b> | 0.108         | -14.183        | 14.207        | -0.00045        | -0.00068      | 0.00029       |
| 152  | eY | min          | -1.091        | <b>-1.709</b> | -16.611        | 16.734        | 0.00232         | -0.00102      | 0.00001       |
| 741  |    | min          | -1.094        | <b>-1.708</b> | -16.859        | 16.980        | 0.00232         | -0.00100      | -0.00002      |
| 762  |    | min          | -1.091        | <b>-1.710</b> | -16.307        | 16.433        | 0.00231         | -0.00101      | 0             |
| 851  |    | min          | -1.092        | <b>-1.709</b> | -16.583        | 16.707        | 0.00232         | -0.00101      | -0.00001      |
| 852  |    | min          | -1.091        | <b>-1.708</b> | -16.333        | 16.458        | 0.00232         | -0.00103      | 0.00002       |
| 903  |    | min          | -1.088        | <b>-1.709</b> | -15.932        | 16.060        | 0.00227         | -0.00101      | -0.00002      |
| 129  |    | max          | -0.965        | <b>0.780</b>  | -13.490        | 13.547        | -0.00131        | -0.00093      | 0             |
| 206  |    | max          | -0.948        | <b>0.780</b>  | -12.637        | 12.696        | -0.00129        | -0.00091      | 0             |
| 1016 |    | max          | -0.949        | <b>0.780</b>  | -12.714        | 12.773        | -0.00130        | -0.00091      | 0             |
| 2    | eZ | min          | -1.181        | -0.561        | <b>-21.948</b> | 21.986        | 0.00166         | -0.00176      | -0.00018      |
| 5    |    | max          | -1.085        | -0.390        | <b>-5.670</b>  | 5.786         | 0               | -0.00111      | -0.00021      |
| 5    | eR | min          | -1.085        | -0.390        | -5.670         | <b>5.786</b>  | 0               | -0.00111      | -0.00021      |
| 627  |    | min          | -1.034        | -0.399        | -5.680         | <b>5.788</b>  | -0.00009        | -0.00111      | -0.00029      |
| 2    |    | max          | -1.181        | -0.561        | -21.948        | <b>21.986</b> | 0.00166         | -0.00176      | -0.00018      |
| 129  | fX | min          | -0.965        | 0.780         | -13.490        | 13.547        | <b>-0.00131</b> | -0.00093      | 0             |

|      | C  | min.<br>max. | $fR$<br>[rad] | Maatgevende combinatie    |
|------|----|--------------|---------------|---------------------------|
| Ext. |    |              |               |                           |
| 62   | eX | min          | 0.00191       | [ST1] {0.3*ST2}           |
| 93   |    | max          | 0.00083       | [ST1] {0.3*ST3}           |
| 677  |    | max          | 0.00087       | [ST1] {0.3*ST3}           |
| 152  | eY | min          | 0.00254       | [ST1] {0.3*ST2} (0.3*ST3) |
| 741  |    | min          | 0.00252       | [ST1] {0.3*ST2} (0.3*ST3) |
| 762  |    | min          | 0.00252       | [ST1] {0.3*ST2} (0.3*ST3) |
| 851  |    | min          | 0.00253       | [ST1] {0.3*ST2} (0.3*ST3) |
| 852  |    | min          | 0.00254       | [ST1] {0.3*ST2} (0.3*ST3) |
| 903  |    | min          | 0.00248       | [ST1] {0.3*ST2} (0.3*ST3) |
| 129  |    | max          | 0.00161       | [ST1] {0.3*ST2}           |
| 206  |    | max          | 0.00158       | [ST1] {0.3*ST2} (0.3*ST3) |
| 1016 |    | max          | 0.00159       | [ST1] {0.3*ST2} (0.3*ST3) |
| 2    | eZ | min          | 0.00242       | [ST1] {0.3*ST2}           |
| 5    |    | max          | 0.00113       | [ST1] {0.3*ST3}           |
| 5    | eR | min          | 0.00113       | [ST1] {0.3*ST3}           |
| 627  |    | min          | 0.00115       | [ST1] {0.3*ST3}           |
| 2    |    | max          | 0.00242       | [ST1] {0.3*ST2}           |
| 129  | fX | min          | 0.00161       | [ST1] {0.3*ST2}           |

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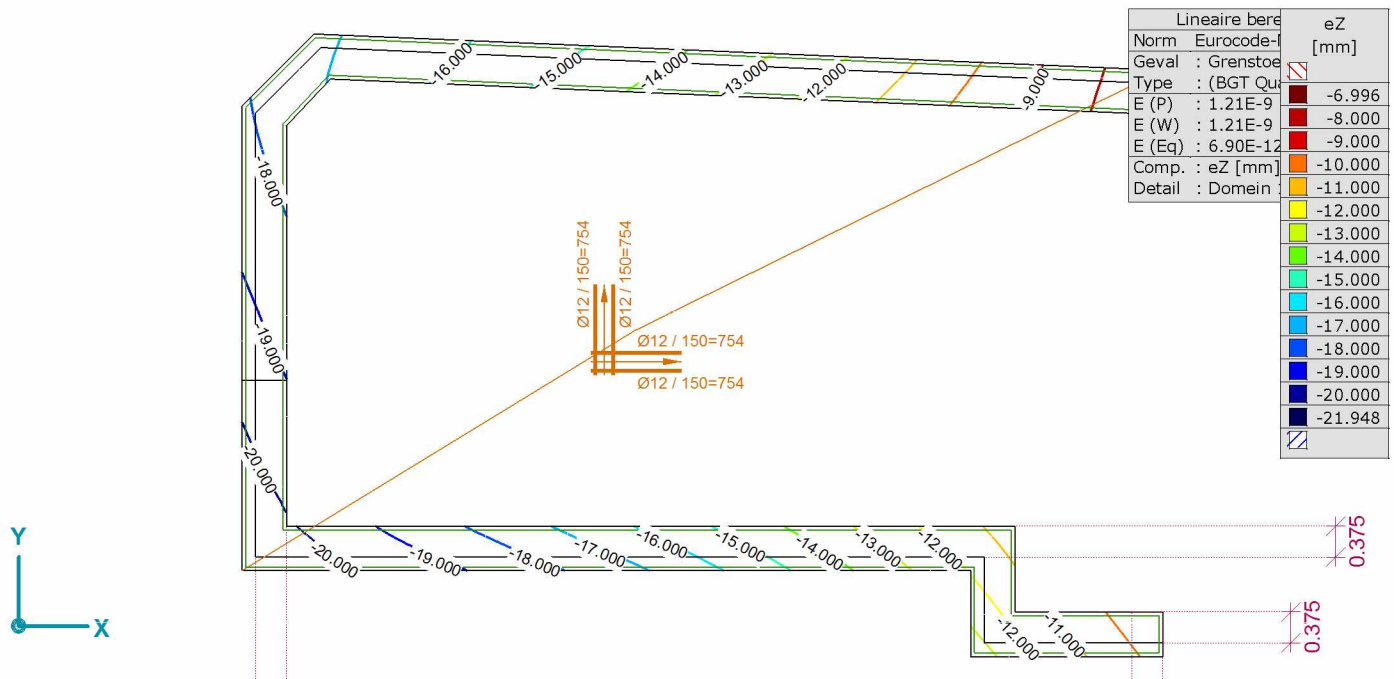
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## Knoopverplaatsingen [Linear,(BGT Quasi-blijvend) Grenstoestand, Domein 1]

|      | C  | min.<br>max. | eX<br>[mm] | eY<br>[mm] | eZ<br>[mm] | eR<br>[mm] | fX<br>[rad]    | fY<br>[rad]     | fZ<br>[rad]     |
|------|----|--------------|------------|------------|------------|------------|----------------|-----------------|-----------------|
| 152  |    | max          | -1.091     | -1.709     | -16.611    | 16.734     | <b>0.00232</b> | -0.00102        | 0.00001         |
| 13   | fY | min          | -1.279     | -1.080     | -13.714    | 13.816     | 0.00186        | <b>-0.00213</b> | 0.00005         |
| 1029 |    | max          | -0.975     | 0.128      | -14.386    | 14.419     | -0.00055       | <b>-0.00062</b> | 0.00035         |
| 1032 |    | max          | -0.982     | 0.041      | -14.536    | 14.569     | -0.00047       | <b>-0.00062</b> | 0.00036         |
| 914  | fZ | min          | -1.075     | -1.073     | -18.841    | 18.903     | 0.00159        | -0.00089        | <b>-0.00038</b> |
| 58   |    | max          | -1.074     | -0.909     | -10.245    | 10.342     | 0.00136        | -0.00145        | <b>0.00041</b>  |
| 676  | fR | min          | -0.821     | -0.069     | -14.552    | 14.575     | -0.00029       | -0.00068        | 0.00032         |
| 13   |    | max          | -1.279     | -1.080     | -13.714    | 13.816     | 0.00186        | -0.00213        | 0.00005         |

|      | C  | min.<br>max. | fR<br>[rad]    | Maatgevende combinatie    |
|------|----|--------------|----------------|---------------------------|
| 152  |    | max          | 0.00254        | [ST1] {0.3*ST2} (0.3*ST3) |
| 13   | fY | min          | 0.00283        | [ST1] {0.3*ST2}           |
| 1029 |    | max          | 0.00090        | [ST1] {0.3*ST3}           |
| 1032 |    | max          | 0.00086        | [ST1] {0.3*ST3}           |
| 914  | fZ | min          | 0.00186        | [ST1] {0.3*ST2} (0.3*ST3) |
| 58   |    | max          | 0.00202        | [ST1] {0.3*ST3}           |
| 676  | fR | min          | <b>0.00081</b> | [ST1] {0.3*ST3}           |
| 13   |    | max          | <b>0.00283</b> | [ST1] {0.3*ST2}           |

C: Extreme component; min. max.: Extreme type; 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;



Rapport [I], > C30/37, Linear,(BGT Quasi-blijvend) Grenstoestand Min., eZ, Isolijnen, Bovenaanzicht

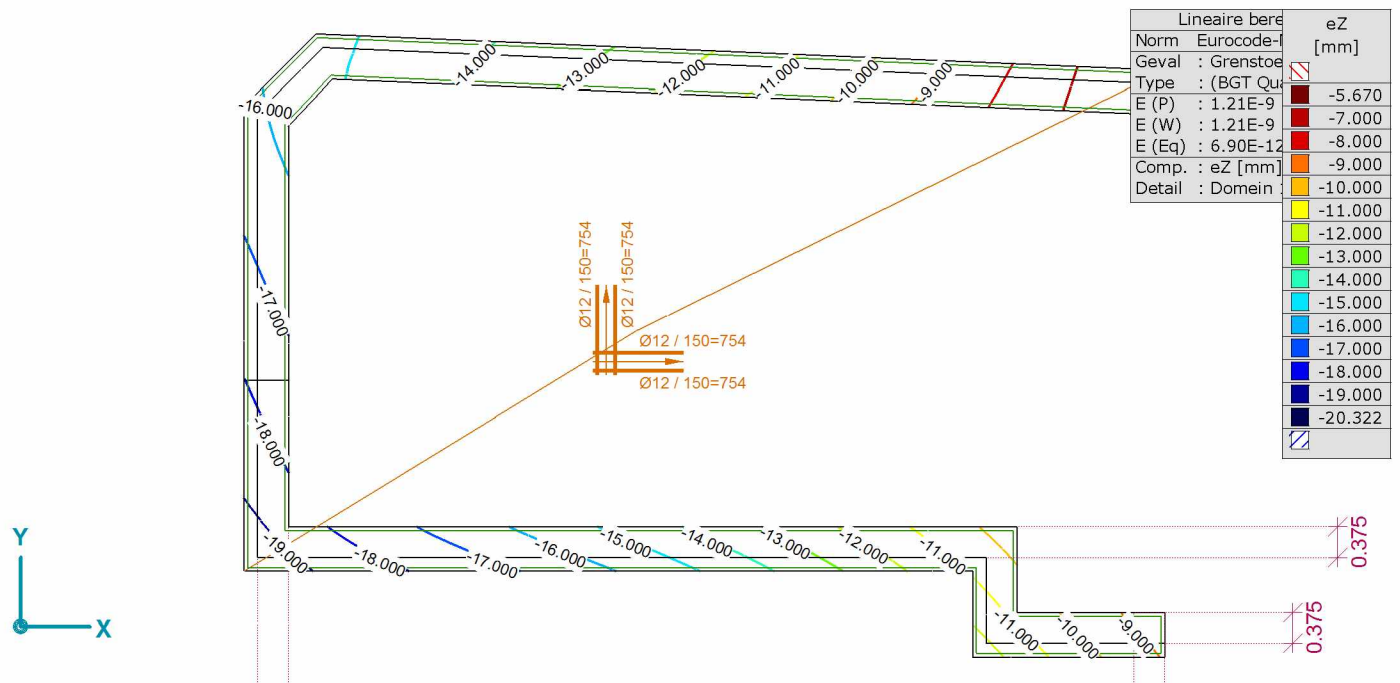
**Project: 17021 Willemsparkweg 220 Amsterdam**

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Model: 17021-rev2.axs

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Rapport [I], &gt; C30/37, Lineair, (BGT Quasi-blijvend) Grenstoestand Max., eZ, Isolijnen, Boveaanzicht

**Interne krachten****Vlakkrachten****Grenstoestand Min,Max.**

Vlakkrachten [Lineair, (Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | $n_x$<br>[kN/m]  | $n_y$<br>[kN/m]  | $n_{xy}$<br>[kN/m] | $m_x$<br>[kNm/m] | $m_y$<br>[kNm/m] | $m_{xy}$<br>[kNm/m] | $v_{Sz}$<br>[kN/m] |
|-------|-----|--------------|-----------|------------------|------------------|--------------------|------------------|------------------|---------------------|--------------------|
| Ext.  |     |              |           |                  |                  |                    |                  |                  |                     |                    |
| 14    | nx  | min          | Sch 17    | <b>-2261.160</b> | -1008.842        | 822.306            | -47.923          | -7.611           | 34.216              | 345.438            |
| 59    |     | max          | Sch 6     | <b>1539.742</b>  | 15.079           | 61.826             | 61.511           | 0.419            | 7.921               | 360.198            |
| 5     | ny  | min          | Sch 1     | 106.700          | <b>-1791.838</b> | 77.975             | 3.243            | 37.526           | -20.392             | 612.983            |
| 82    |     | max          | Sch 85    | -208.496         | <b>1384.733</b>  | -152.814           | 68.432           | 112.592          | 24.525              | 577.044            |
| 8     | nxy | min          | Sch 84    | 1101.241         | 1193.552         | <b>-611.035</b>    | 177.661          | 236.304          | -24.109             | 591.533            |
| 183   |     | max          | Sch 16    | -217.795         | -18.268          | <b>851.746</b>     | 12.963           | 73.939           | 75.644              | 184.060            |
| 14    | mx  | min          | Sch 17    | -1697.681        | -609.934         | 599.645            | <b>-57.595</b>   | -2.670           | 35.853              | 344.093            |
| 8     |     | max          | Sch 84    | 1101.241         | 1193.552         | -611.035           | <b>177.661</b>   | 236.304          | -24.109             | 591.533            |
| 29    | my  | min          | Sch 1     | 0.415            | 126.531          | -73.035            | -13.174          | <b>-15.790</b>   | 8.237               | 190.906            |

| Knoop | C   | min.<br>max. | Oppervlak | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|--|
| Ext.  |     |              |           |  |
| 14    | nx  | min          | Sch 17    | [1.35*0.889*ST1] {1.5*ST4} {1.5*0.4*ST2}             |
| 59    |     | max          | Sch 6     | [1.35*0.889*ST1] {1.5*ST4} {1.5*0.4*ST2}             |
| 5     | ny  | min          | Sch 1     | [1.35*0.889*ST1] {1.5*ST5} {1.5*0.4*ST2+1.5*0.4*ST3} |
| 82    |     | max          | Sch 85    | [1.35*0.889*ST1] {1.5*ST5} {1.5*0.4*ST2+1.5*0.4*ST3} |
| 8     | nxy | min          | Sch 84    | [1.35*ST1] {1.5*0.4*ST2} {1.5*0.4*ST3}               |
| 183   |     | max          | Sch 16    | [1.35*0.889*ST1] {1.5*ST4} {1.5*0.4*ST2}             |
| 14    | mx  | min          | Sch 17    | [1.35*ST1]   |
| 8     |     | max          | Sch 84    | [1.35*ST1] {1.5*0.4*ST2} {1.5*0.4*ST3}               |
| 29    | my  | min          | Sch 1     | [0.9*ST1] {1.5*ST4}                                  |

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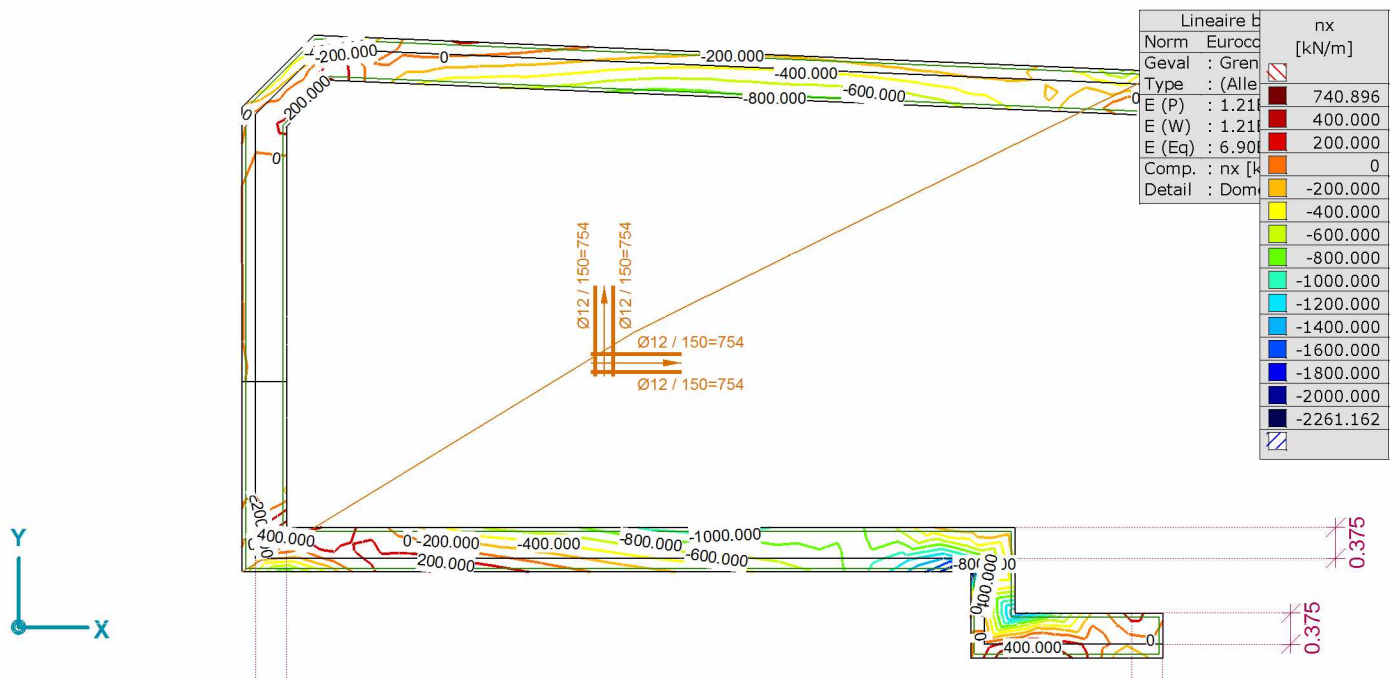
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## Vlakkrachten [Linear,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | nx<br>[kN/m] | ny<br>[kN/m] | nxy<br>[kN/m] | mx<br>[kNm/m] | my<br>[kNm/m]  | mxy<br>[kNm/m] | vSz<br>[kN/m]   |
|-------|-----|--------------|-----------|--------------|--------------|---------------|---------------|----------------|----------------|-----------------|
| 8     |     | max          | Sch 84    | 1101.241     | 1193.552     | -611.035      | 177.661       | <b>236.304</b> | -24.109        | 591.533         |
| 209   | mxy | min          | Sch 144   | -260.636     | -19.024      | -122.479      | -24.629       | 16.617         | <b>-66.209</b> | 129.860         |
| 183   |     | max          | Sch 16    | -156.136     | 119.295      | 689.678       | 12.141        | 80.760         | <b>83.610</b>  | 185.086         |
| 11    | vSz | min          | Sch 248   | 35.301       | -915.276     | -108.595      | -4.406        | 75.860         | -1.472         | <b>11.680</b>   |
| 2     |     | max          | Sch 43    | -57.233      | -23.008      | 94.737        | 12.094        | 16.458         | 27.090         | <b>1500.493</b> |
| 14    | nxD | min          | Sch 17    | -2261.160    | -1008.842    | 822.306       | -47.923       | -7.611         | 34.216         | 345.438         |
| 8     |     | max          | Sch 84    | 1177.314     | 1264.871     | -557.976      | 164.491       | 217.790        | -26.592        | 550.359         |
| 5     | nyD | min          | Sch 1     | 106.700      | -1791.838    | 77.975        | 3.243         | 37.526         | -20.392        | 612.983         |
| 7     |     | max          | Sch 123   | 596.586      | 1317.466     | 529.891       | 58.967        | 88.033         | 11.261         | 216.525         |

| Knoop | C   | min.<br>max. | Oppervlak | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|--|
| 8     |     | max          | Sch 84    | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 209   | mxy | min          | Sch 144   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 183   |     | max          | Sch 16    | [1.35*ST1]   |
| 11    | vSz | min          | Sch 248   | [0.9*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3)        |
| 2     |     | max          | Sch 43    | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 14    | nxD | min          | Sch 17    | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 8     |     | max          | Sch 84    | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 5     | nyD | min          | Sch 1     | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 7     |     | max          | Sch 123   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |

Knoop: Index; C: Extreme component; min. max.: Extreme type; Oppervlak: Vlak behorend bij knoop; nx: Normaalkracht in lokale X-richting; ny: Normaalkracht in lokale Y-richting; nxy: Membraan afschuifkracht; mx: Specifiek buigmoment om de lokale y-as; my: Specifiek buigmoment om de lokale x-as; mxy: Specifiek draaimoment; vSz: Resulterende specifieke afschuivingskracht;



Rapport [I], > C30/37, Linear,(Alle UGT (a, b)) Grenstoestand Min., nx, Isolijnen, Bovenaanzicht

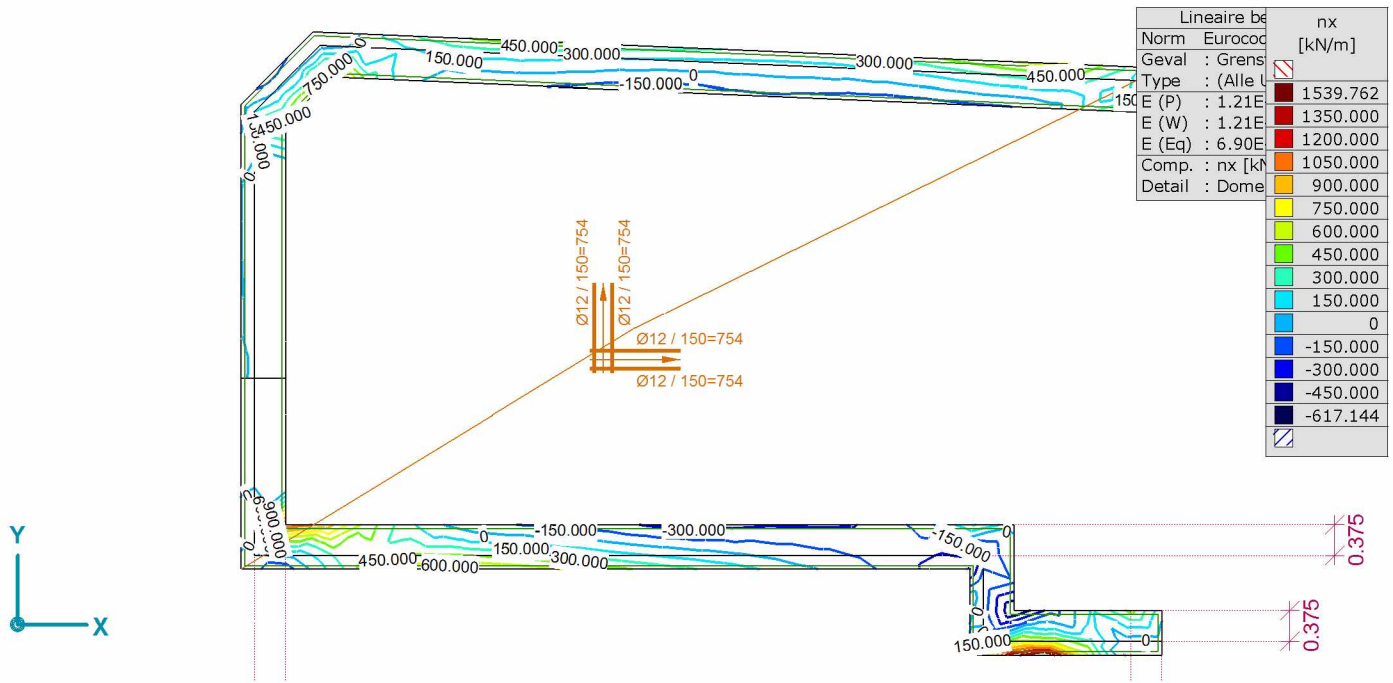
# Project: 17021 Willemsparkweg 220 Amsterdam

Constructeur: Core Constructies

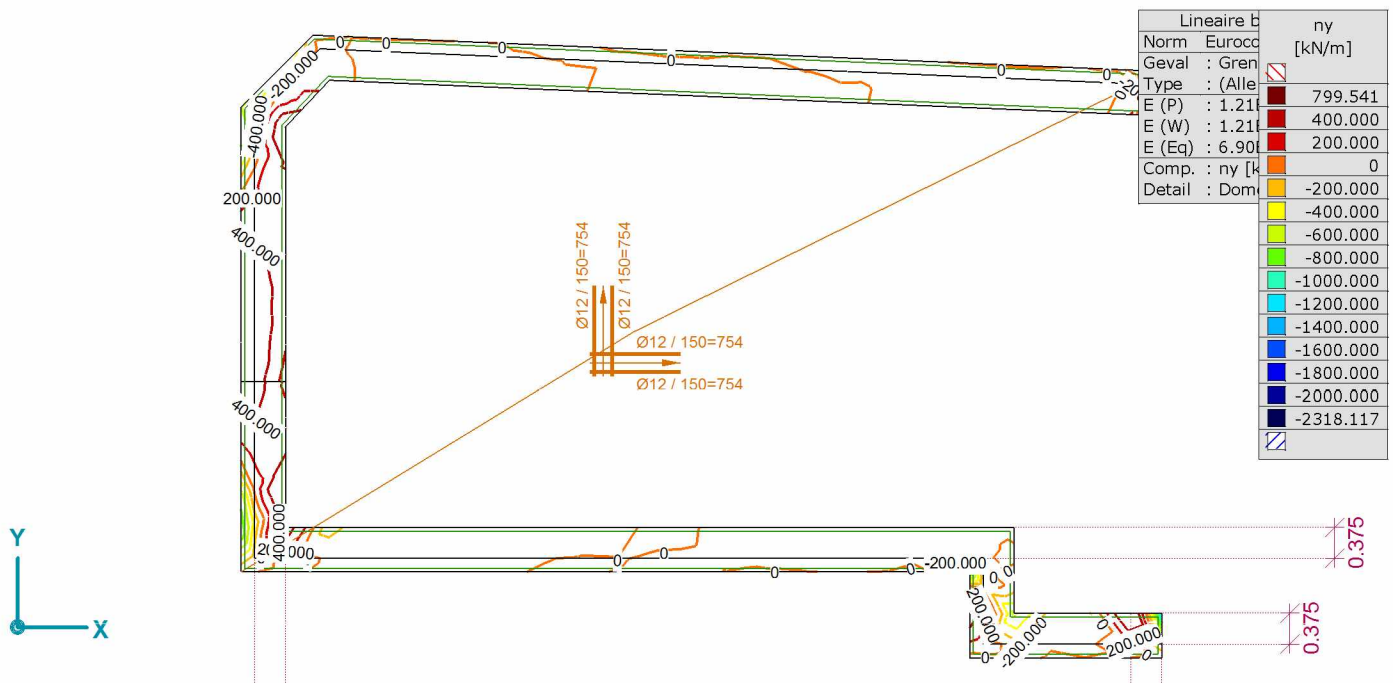
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Linear,(Alle UGT (a, b)) Grenstoestand Max., nx, Isolijnen, Bovenaanzicht



Rapport [I], > C30/37, Linear,(Alle UGT (a, b)) Grenstoestand Min., ny, Isolijnen, Bovenaanzicht

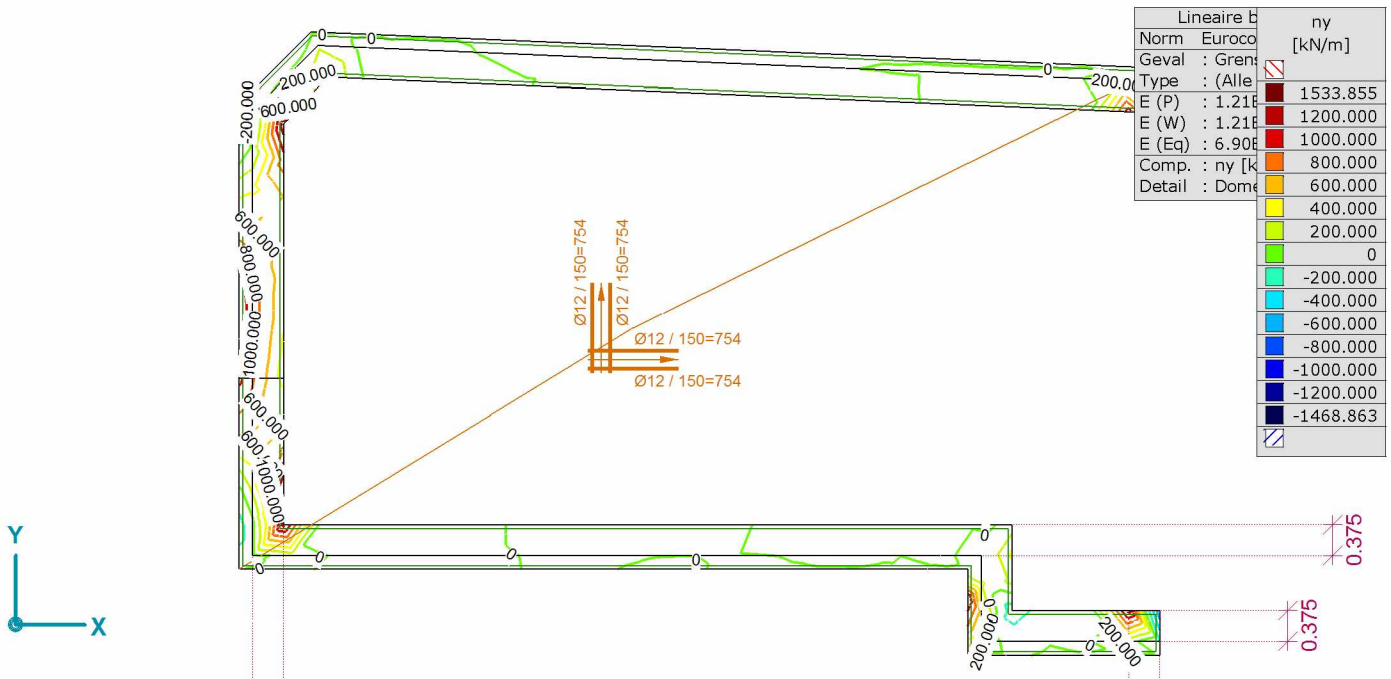
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

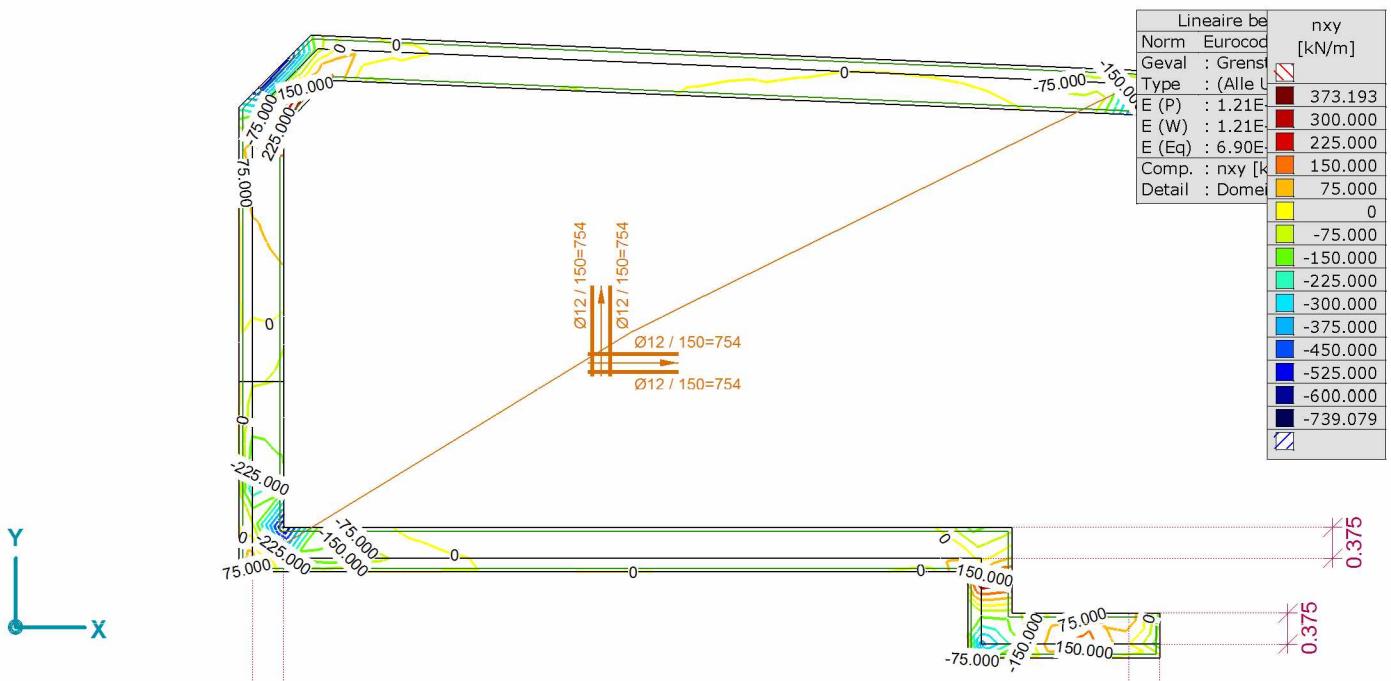
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Max., ny, Isolijnen, Boveanaanzicht



Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Min., nxy, Isolijnen, Boveanaanzicht

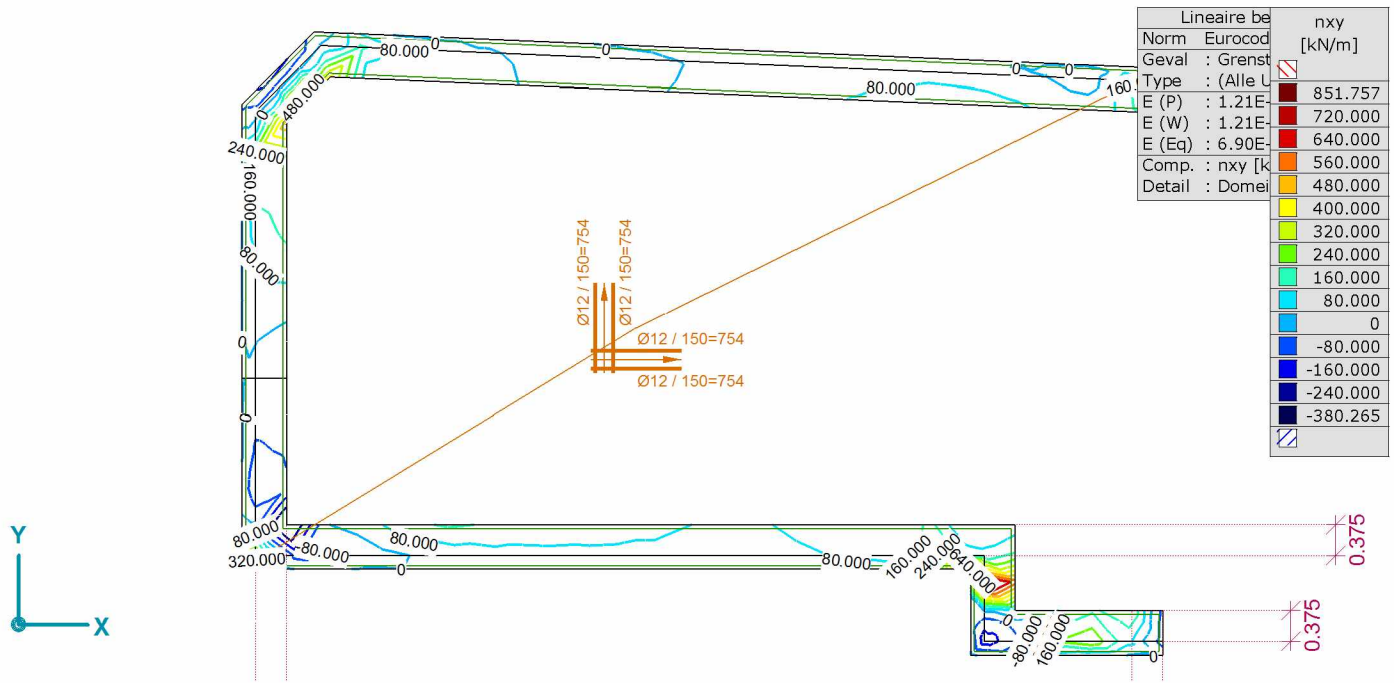
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

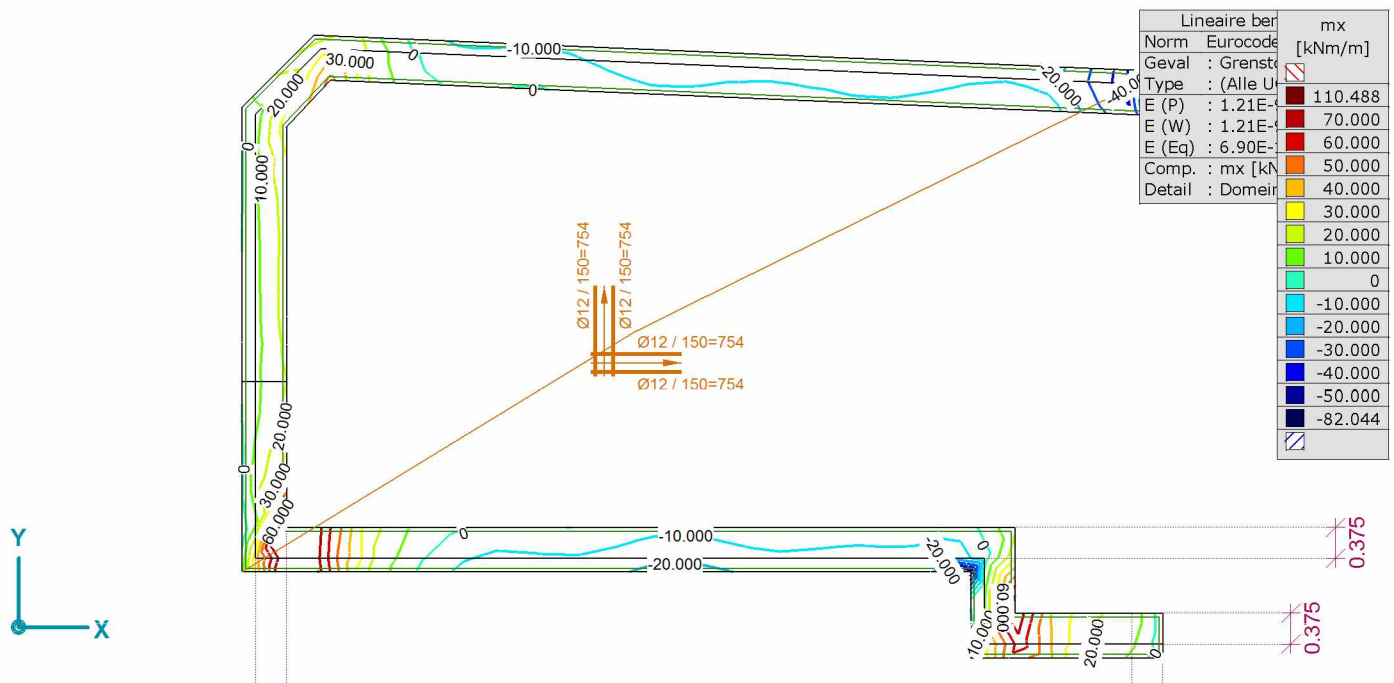
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Max., nxy, Isolijnen, Bovenaanzicht



Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Min., mx, Isolijnen, Bovenaanzicht

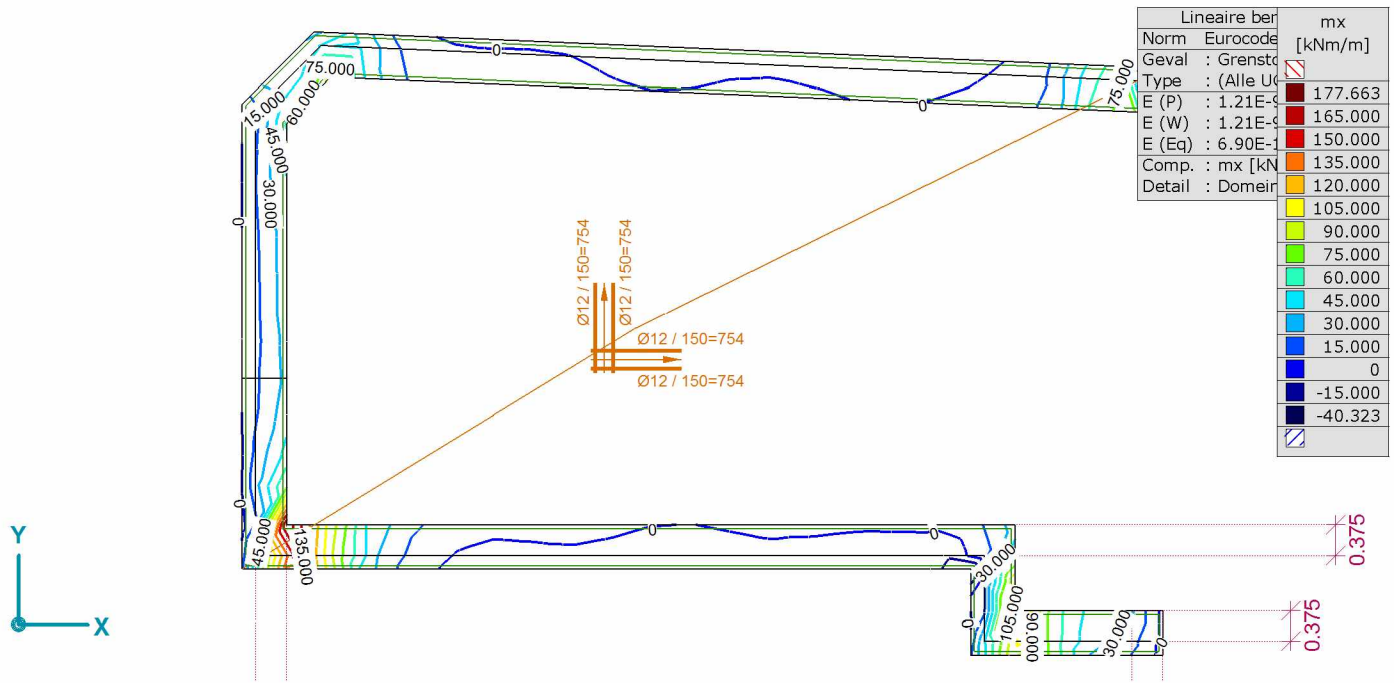
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

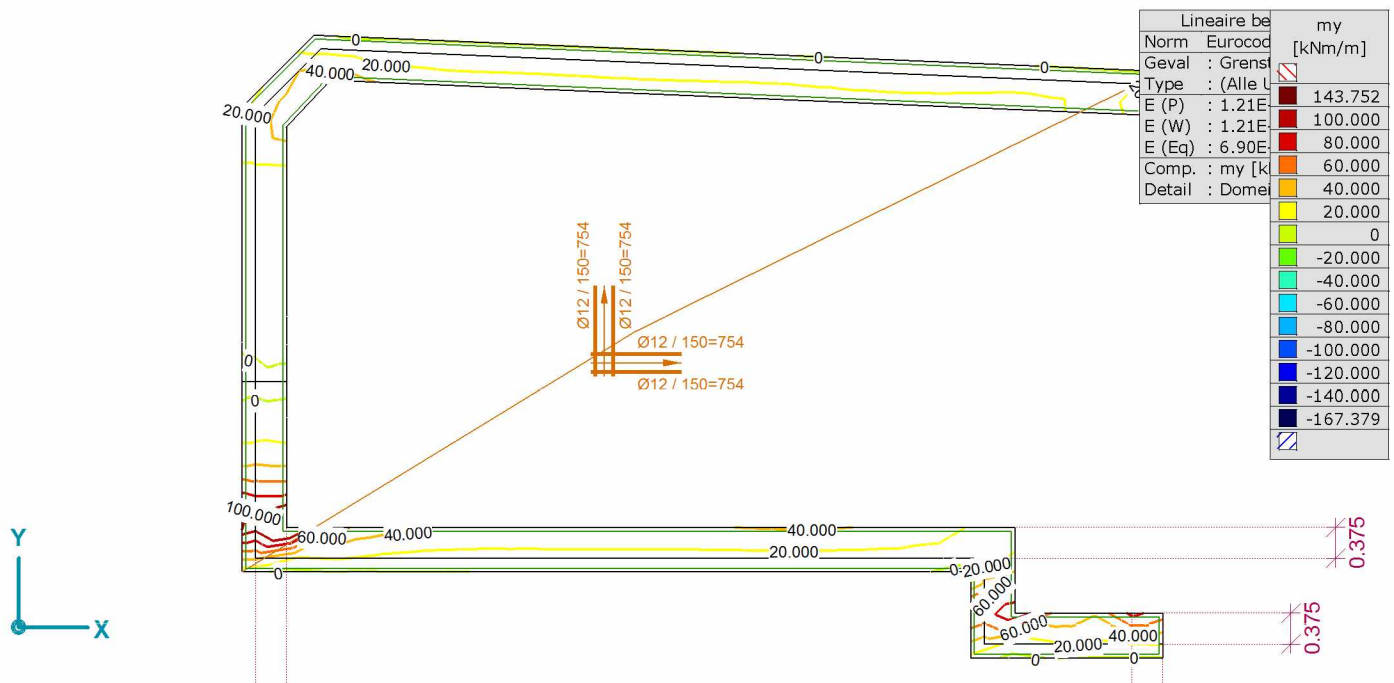
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Max., mx, Isolijnen, Boveanzicht



Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Min., my, Isolijnen, Boveanzicht

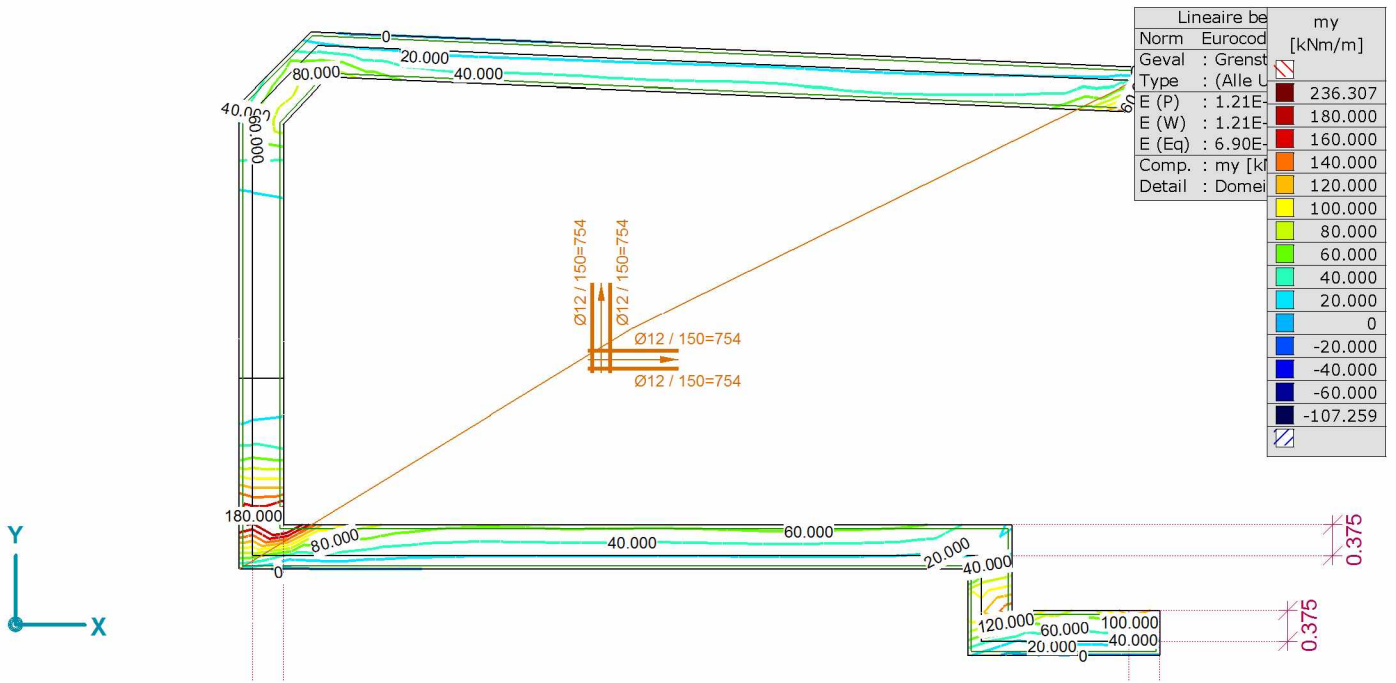
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

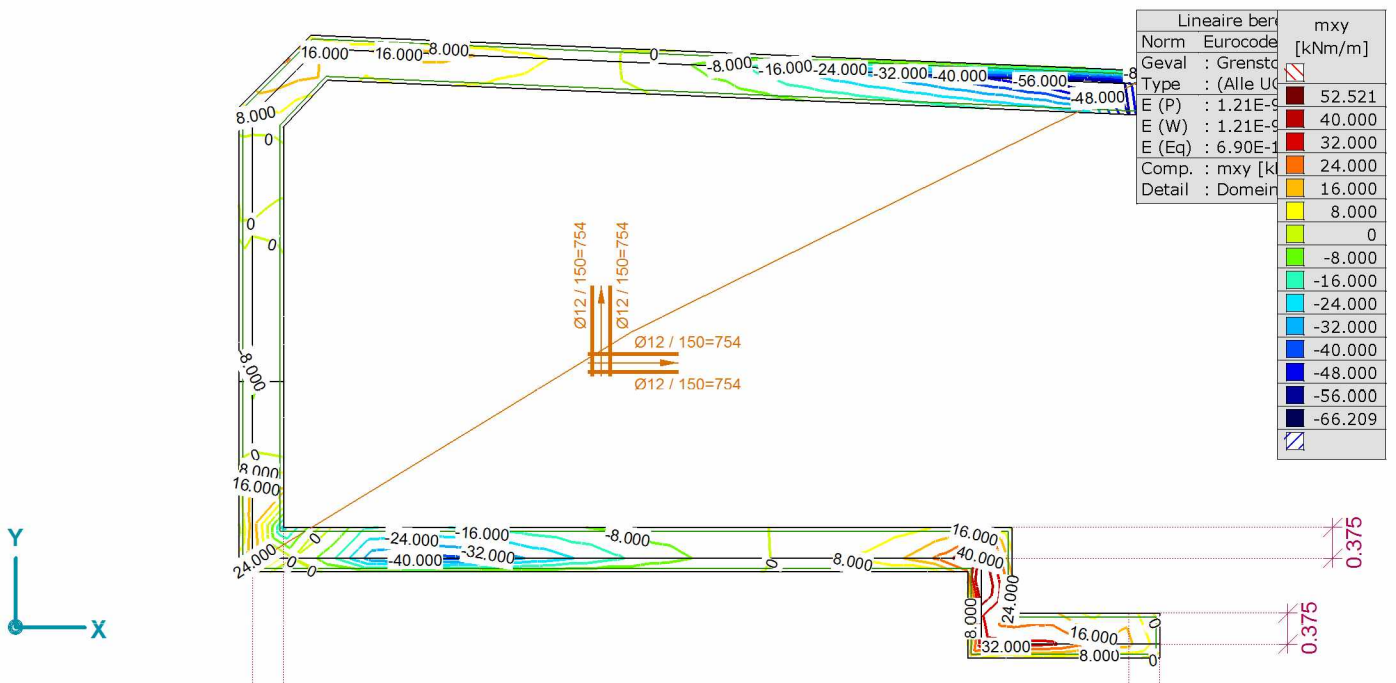
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Max., my, Isolijnen, Boveanaanzicht



Rapport [I], > C30/37, Lineair, (Alle UGT (a, b)) Grenstoestand Min., mxy, Isolijnen, Boveanaanzicht

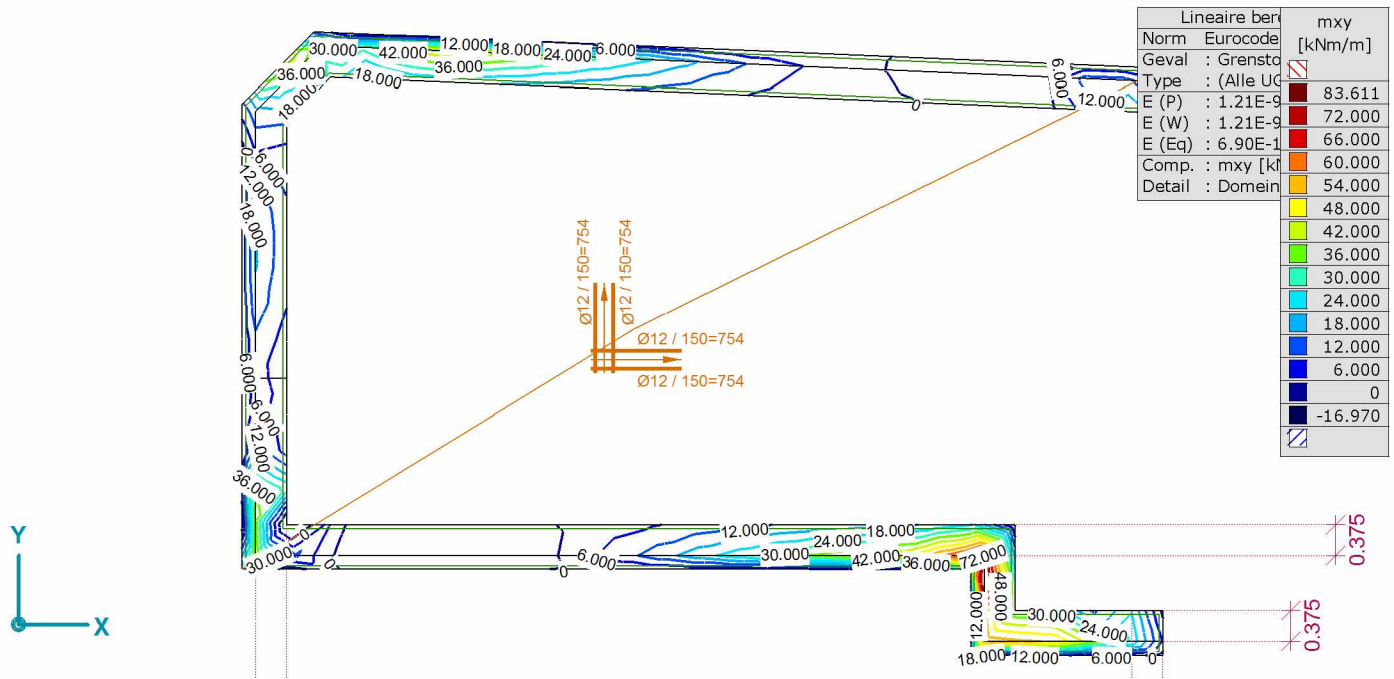
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

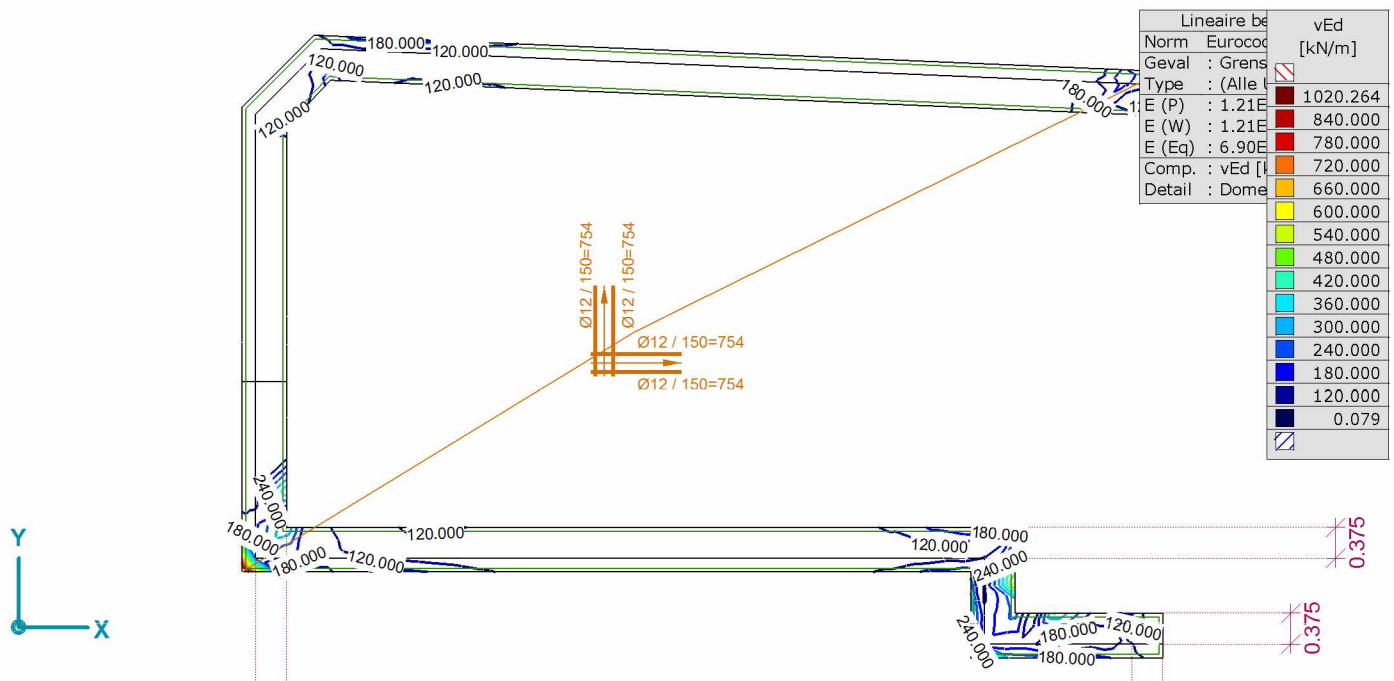
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Linear, (Alle UGT (a, b)) Grenstoestand Max., mxy, Isolijnen, Bovenaanzicht



Rapport [I], > C30/37, Linear, (Alle UGT (a, b)) Grenstoestand Min., vEd, Isolijnen, Bovenaanzicht

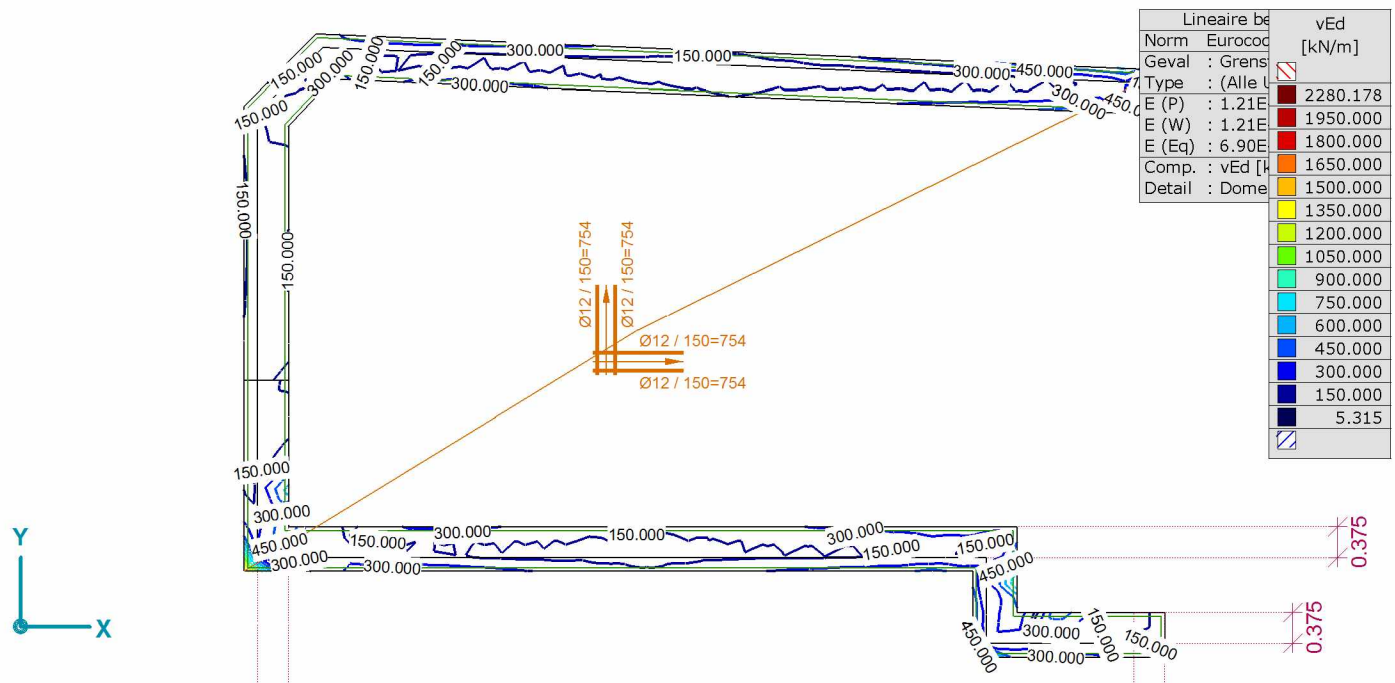
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

Model: 17021-rev2.axs

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Rapport [I], &gt; C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand Max., vEd, Isolijnen, Boveanzicht

**Spanningen****Vlakspanningen****Grenstoestand Min,Max.**

Vlakspanningen [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop    | C   | min.<br>max. | Oppervlak        | Pos.   | Sxx<br>[N/mm <sup>2</sup> ]   | Syy<br>[N/mm <sup>2</sup> ]   | Sxy<br>[N/mm <sup>2</sup> ] | Sxz<br>[N/mm <sup>2</sup> ] | Syz<br>[N/mm <sup>2</sup> ] | SVM<br>[N/mm <sup>2</sup> ] |
|----------|-----|--------------|------------------|--------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Ext.     |     |              |                  |        |                               |                               |                             |                             |                             |                             |
| 10<br>8  | Sxx | min<br>max   | Sch 66<br>Sch 84 | B<br>T | <b>-10.55</b><br><b>11.85</b> | -9.29<br>14.98                | -1.51<br>-2.93              | 0<br>0                      | 0<br>0                      | 10.32<br>14.60              |
| 139<br>8 | Syy | min<br>max   | Sch 36<br>Sch 84 | B<br>T | 0.42<br><b>11.85</b>          | <b>-10.46</b><br><b>14.98</b> | 0.16<br>-2.93               | 0<br>0                      | 0<br>0                      | 10.68<br>14.60              |
| 22       | Sxy | min          | Sch 5            | B      | -1.60                         | -1.65                         | <b>-3.95</b>                | 0                           | 0                           | 7.03                        |

| Knoop    | C   | min.<br>max. | Oppervlak        | Pos.   | Sxx<br>[N/mm <sup>2</sup> ]   | S1<br>[N/mm <sup>2</sup> ] | S2<br>[N/mm <sup>2</sup> ] | aS<br>[°]        |
|----------|-----|--------------|------------------|--------|-------------------------------|----------------------------|----------------------------|------------------|
| Ext.     |     |              |                  |        |                               |                            |                            |                  |
| 10<br>8  | Sxx | min<br>max   | Sch 66<br>Sch 84 | B<br>T | <b>-10.55</b><br><b>11.85</b> | -8.29<br>16.74             | -11.56<br>10.10            | -56.38<br>-59.09 |
| 139<br>8 | Syy | min<br>max   | Sch 36<br>Sch 84 | B<br>T | 0.42<br><b>11.85</b>          | 0.42<br>16.74              | -10.47<br>10.10            | 0.82<br>-59.09   |
| 22       | Sxy | min          | Sch 5            | B      | -1.60                         | 2.32                       | -5.57                      | -44.80           |

| Knoop    | C   | min.<br>max. | Oppervlak        | Pos.   | Sxx<br>[N/mm <sup>2</sup> ]   | Maatgevende combinatie                 |
|----------|-----|--------------|------------------|--------|-------------------------------|--|
| Ext.     |     |              |                  |        |                               |  |
| 10<br>8  | Sxx | min<br>max   | Sch 66<br>Sch 84 | B<br>T | <b>-10.55</b><br><b>11.85</b> | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3) |
| 139<br>8 | Syy | min<br>max   | Sch 36<br>Sch 84 | B<br>T | 0.42<br><b>11.85</b>          | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3) |
| 22       | Sxy | min          | Sch 5            | B      | -1.60                         | [1.35*ST1] {1.5*0.4*ST3}               |

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Constructeur: Core Constructies

Model: 17021-rev2.axs

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## Vlakspanningen [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Syy<br>[N/mm <sup>2</sup> ] | Sxy<br>[N/mm <sup>2</sup> ] | Sxz<br>[N/mm <sup>2</sup> ] | Syz<br>[N/mm <sup>2</sup> ] | SVM<br>[N/mm <sup>2</sup> ] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 183   |     | max          | Sch 16    | T    | 0.15                        | 4.34                        | <b>6.14</b>                 | 0                           | 0                           | 11.46                       |
| 110   | Sxz | min          | Sch 144   | C    | 0.58                        | -0.31                       | -0.03                       | <b>-2.53</b>                | -0.21                       | 4.46                        |
| 2     |     | max          | Sch 43    | C    | -0.16                       | -0.06                       | 0.26                        | <b>4.31</b>                 | 4.73                        | 11.09                       |
| 64    | Syz | min          | Sch 67    | C    | -0.81                       | 0.47                        | 1.56                        | 0.89                        | <b>-3.72</b>                | 7.25                        |
| 2     |     | max          | Sch 43    | C    | -0.16                       | -0.07                       | 0.27                        | 4.29                        | <b>4.79</b>                 | 11.15                       |
| 1     | SVM | min          | Sch 201   | T    | -0.01                       | 0                           | 0                           | 0                           | 0                           | <b>0.01</b>                 |
| 8     |     | max          | Sch 84    | T    | 11.85                       | 14.98                       | -2.93                       | 0                           | 0                           | <b>14.60</b>                |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | S1<br>[N/mm <sup>2</sup> ] | S2<br>[N/mm <sup>2</sup> ] | aS<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|----------------------------|----------------------------|-----------|
| 183   |     | max          | Sch 16    | T    | 0.15                        | 8.73                       | -4.25                      | 54.41     |
| 110   | Sxz | min          | Sch 144   | C    | 0.58                        | 0.58                       | -0.31                      | -1.62     |
| 2     |     | max          | Sch 43    | C    | -0.16                       | 0.15                       | -0.37                      | 50.04     |
| 64    | Syz | min          | Sch 67    | C    | -0.81                       | 1.52                       | -1.86                      | 56.17     |
| 2     |     | max          | Sch 43    | C    | -0.16                       | 0.16                       | -0.39                      | 50.12     |
| 1     | SVM | min          | Sch 201   | T    | -0.01                       | 0                          | -0.01                      | 61.33     |
| 8     |     | max          | Sch 84    | T    | 11.85                       | 16.74                      | 10.10                      | -59.09    |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|------|-----------------------------|--|
| 183   |     | max          | Sch 16    | T    | 0.15                        | [1.35*ST1] {1.5*0.4*ST2}                             |
| 110   | Sxz | min          | Sch 144   | C    | 0.58                        | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 2     |     | max          | Sch 43    | C    | -0.16                       | [1.35*ST1]   |
| 64    | Syz | min          | Sch 67    | C    | -0.81                       | [1.35*ST1] {1.5*0.4*ST2}                             |
| 2     |     | max          | Sch 43    | C    | -0.16                       | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 1     | SVM | min          | Sch 201   | T    | -0.01                       | [0.9*ST1] {1.5*ST5} (1.5*0.4*ST2)                    |
| 8     |     | max          | Sch 84    | T    | 11.85                       | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **Pos.:** Punt voor spanningsberekening; **Sxx:** Normaalspanning in lokale X-richting; **Syy:** Normaalspanning in lokale Y-richting; **Sxy:** Torsie-/Schuifspanning; **Sxz, Syz:** Draai/afschuivingsspanning; **SVM:** Von Mises spanning; **S1:** Primaire spanning 1; **S2:** Primaire spanning 2; **aS:** Richting primaire spanning;

**Betonontwerp****Wapeningshoeveelheden, Eurocode-NL****Grenstoestand Min,Max.**

Wapeningshoeveelheden, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | axb<br>[mm <sup>2</sup> /m] | ayb<br>[mm <sup>2</sup> /m] |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|
| Ext.  |     |              |           |                             |                             |
| 8     | axb | max          | Sch 84    | <b>2100</b>                 |                             |
| 16    | ayb | max          | Sch 2     |                             | <b>1496</b>                 |
| 8     | axt | max          | Sch 84    |                             |                             |

| Knoop | C   | min.<br>max. | Oppervlak | axt<br>[mm <sup>2</sup> /m] | ayt<br>[mm <sup>2</sup> /m] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|--|
| Ext.  |     |              |           |                             |                             |  |
| 8     | axb | max          | Sch 84    |                             |                             | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 16    | ayb | max          | Sch 2     |                             |                             | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST3)             |
| 8     | axt | max          | Sch 84    | <b>3562</b>                 |                             | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |

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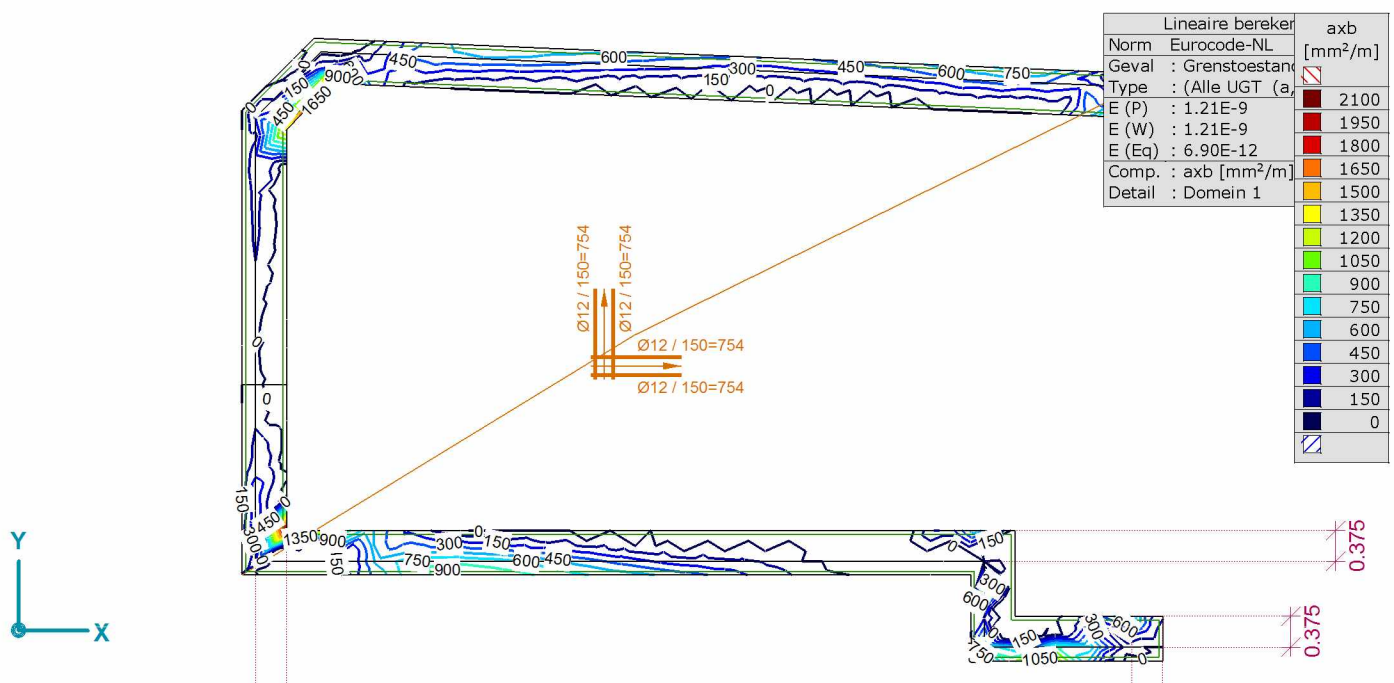
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Wapeningshoeveelheden, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | axb<br>[mm <sup>2</sup> /m] | ayb<br>[mm <sup>2</sup> /m] |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|
| 8     | ayt | max          | Sch 84    |                             |                             |

| Knoop | C   | min.<br>max. | Oppervlak | axt<br>[mm <sup>2</sup> /m] | ayt<br>[mm <sup>2</sup> /m] | Maatgevende combinatie                 |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|--|
| 8     | ayt | max          | Sch 84    |                             | 4246                        | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3) |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **axb:** Onderwapening in lokale X-richting; **ayb:** Onderwapening in lokale Y-richting; **axt:** Bovenwapening in lokale X-richting; **ayt:** Bovenwapening in lokale Y-richting;



Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand, axb, Isolijnen, Bovenaanzicht

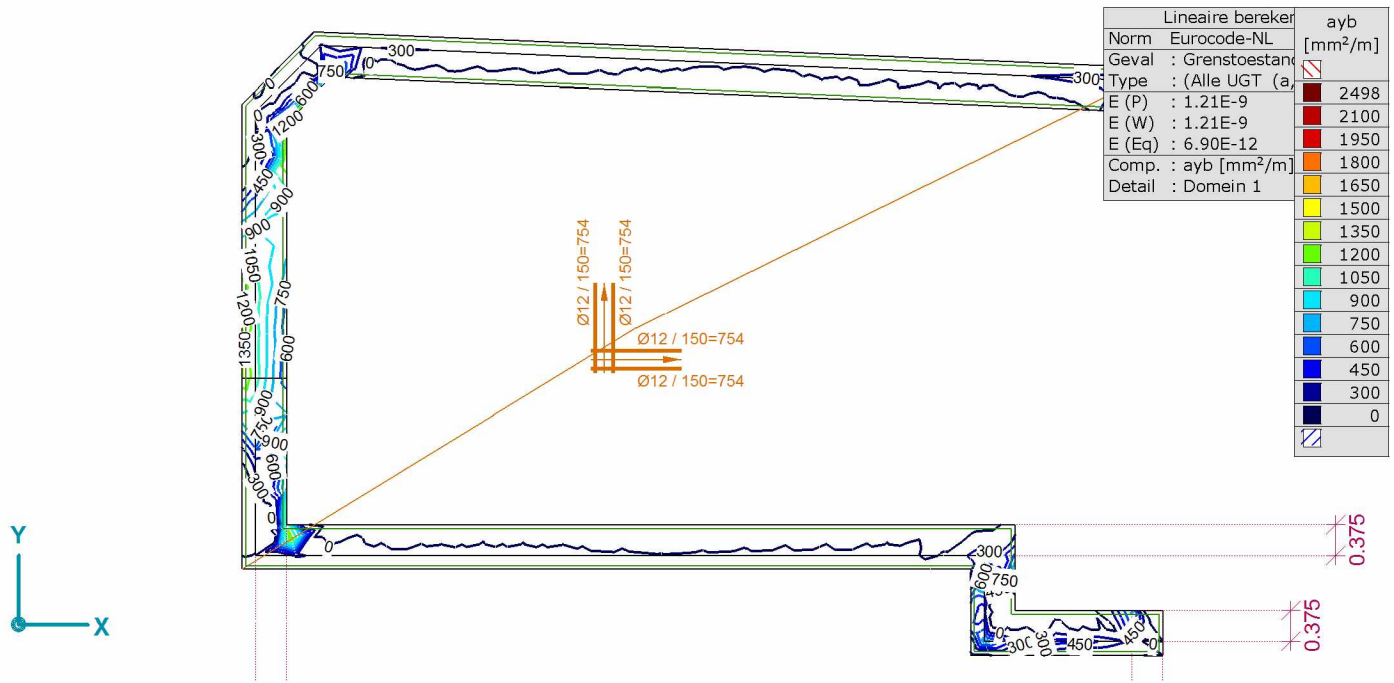
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

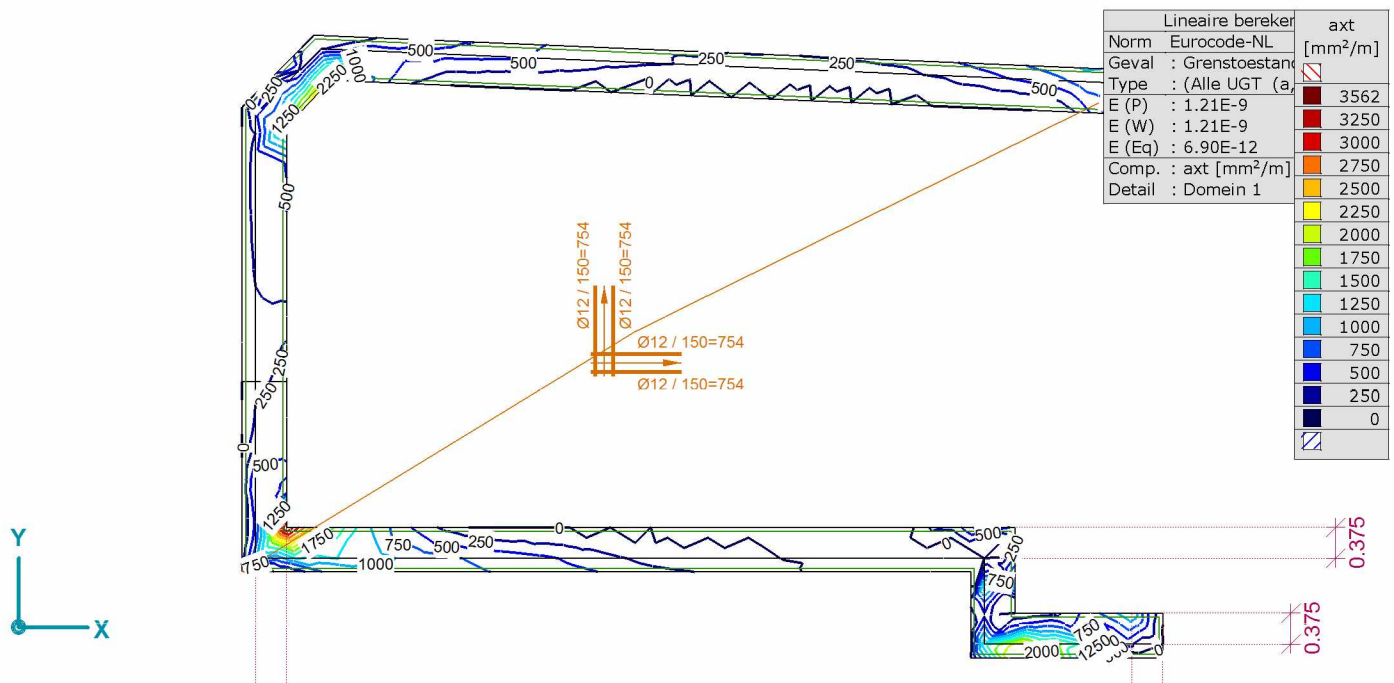
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand, ayb, Isolijnen, Bovenaanzicht



Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand, axt, Isolijnen, Bovenaanzicht

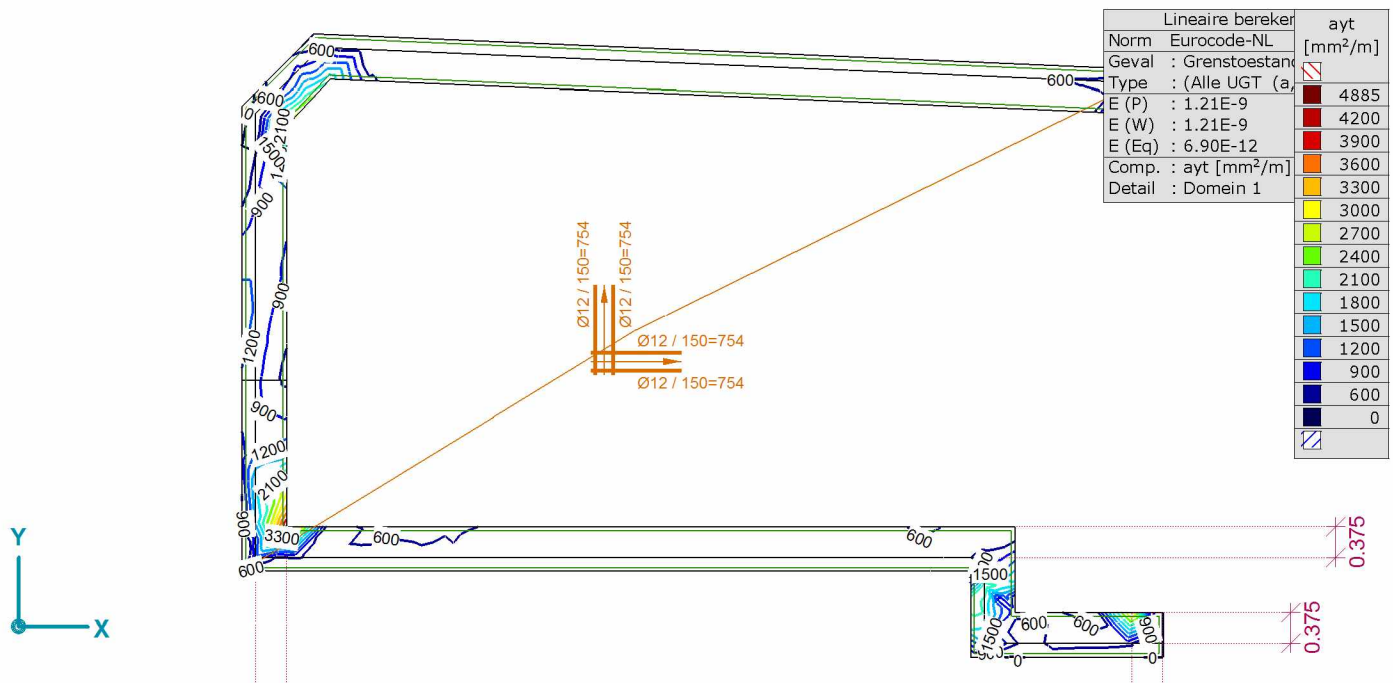
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand, ayt, Isolijnen, Bovenaanzicht

**Scheurwijdte, Eurocode-NL****Grenstoestand Min,Max.**

Scheurwijdte, Eurocode-NL [Lineair,(BGT Frequent) Grenstoestand, Domein 1]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Aax<br>[mm <sup>2</sup> /m] | Aay<br>[mm <sup>2</sup> /m] | wk<br>[mm]  | wk2<br>[mm] | x <sub>s2</sub><br>[mm] | σ <sub>s2</sub><br>[N/mm <sup>2</sup> ] | wR<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-------------|-------------|-------------------------|---|-----------|
| Ext.  |     |              |           |      |                             |                             |             |             |                         |   |           |
| 8     | wk  | max          | Sch 84    | ↑    | 754                         | 754                         | <b>2.41</b> | 2.70        | 24                      | 1669.17                                 | 31.48     |
| 8     | wk2 | max          | Sch 84    | ↑    | 754                         | 754                         | 2.41        | <b>2.70</b> | 24                      | 1669.17                                 | 31.48     |

| Knoop | C   | min.<br>max. | Oppervlak | nx<br>[kN/m] | ny<br>[kN/m] | nxy<br>[kN/m] |
|-------|-----|--------------|-----------|--------------|--------------|---------------|
| Ext.  |     |              |           |              |              |               |
| 8     | wk  | max          | Sch 84    | 830.450      | 893.453      | -448.919      |
| 8     | wk2 | max          | Sch 84    | 830.450      | 893.453      | -448.919      |

| Knoop | C   | min.<br>max. | Oppervlak | mx<br>[kNm/m] | my<br>[kNm/m] | mxy<br>[kNm/m] | Maatgevende combinatie            |
|-------|-----|--------------|-----------|---------------|---------------|----------------|-----------------------------------|
| Ext.  |     |              |           |               |               |                |                                   |
| 8     | wk  | max          | Sch 84    | 131.829       | 173.277       | -18.024        | [ST1] {0.2*ST5} (0.3*ST2+0.3*ST3) |
| 8     | wk2 | max          | Sch 84    | 131.829       | 173.277       | -18.024        | [ST1] {0.2*ST5} (0.3*ST2+0.3*ST3) |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **Pos.:** Punt voor spanningsberekening; **Aax:** Toegepaste wapening in X-richting;

**Aay:** Toegepaste wapening in Y-richting; **wk:** Scheurwijdte ter plaatse van hart wapeningsstaaf; **wk2:** Scheurwijdte ter plaatse van het betonoppervlak; **x<sub>s2</sub>:** Afstand tussen neutrale as en uiterste gedrukte vezel;

**σ<sub>s2</sub>:** Spanning in wapeningsstaal; **wR:** Scheur hoek; **nx:** Normaalkracht in lokale X-richting; **ny:** Normaalkracht in lokale Y-richting; **nxy:** Membraam afschuifkracht; **mx:** Specifiek buigmoment om de lokale y-as;

**my:** Specifiek buigmoment om de lokale x-as; **mxy:** Specifiek draaimoment;

**Afschuifweerstand, Eurocode-NL****Grenstoestand Min,Max.**

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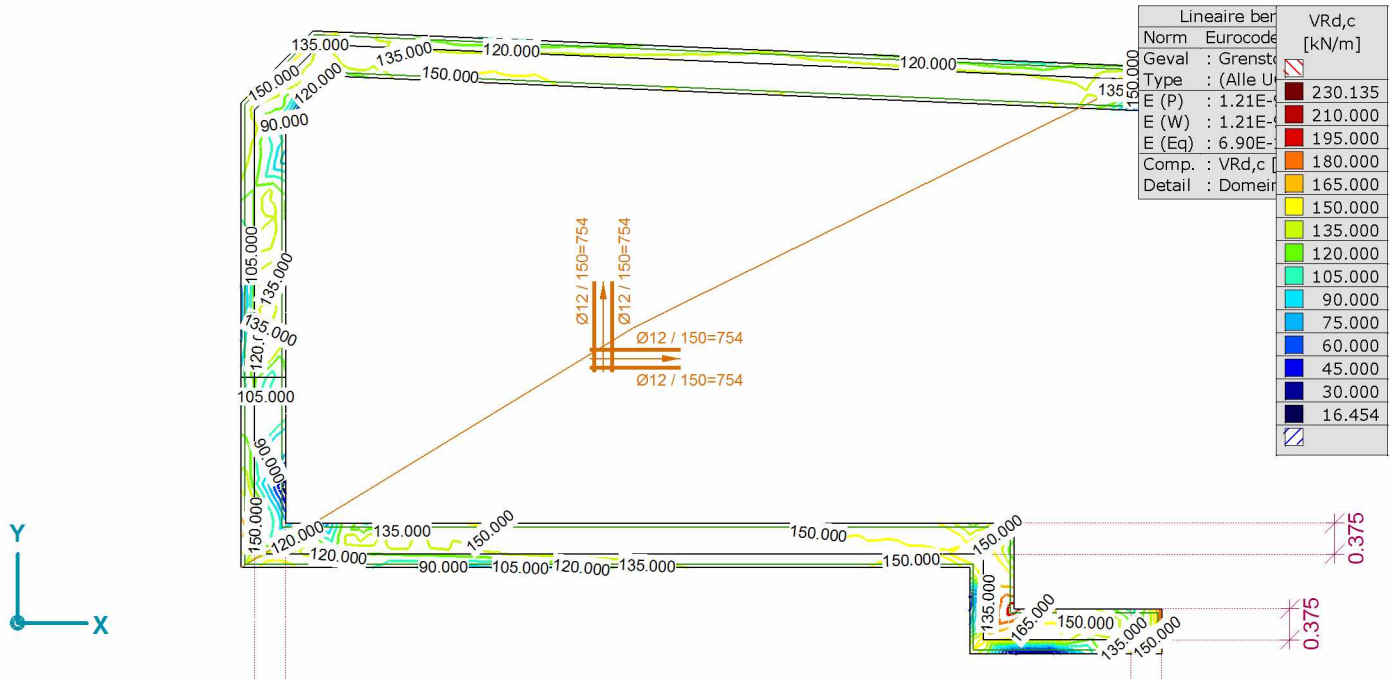
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## Afschuifweerstand, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 1]

| Knoop | C           | min.<br>max. | Oppervlak | VRd,c<br>[kN/m] | (vEd-vRd,c)<br>[kN/m] | Maatgevende combinatie                   |
|-------|-------------|--------------|-----------|-----------------|-----------------------|--|
| Ext.  |             |              |           |                 |                       |  |
| 11    | (vEd-vRd,c) | min          | Sch 248   | 189.878         | -219.398              | [1.35*0.889*ST1] {1.5*ST3} (1.5*0.4*ST2) |
| 2     |             | max          | Sch 43    | 144.404         | 1359.205              | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)   |

Knoop: Index; C: Extreme component; min. max.: Extreme type; Oppervlak: Vlak behorend bij knoop; VRd,c: Afschuifweerstand;



Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand Min., VRd,c, Isolijnen, Bovenaanzicht

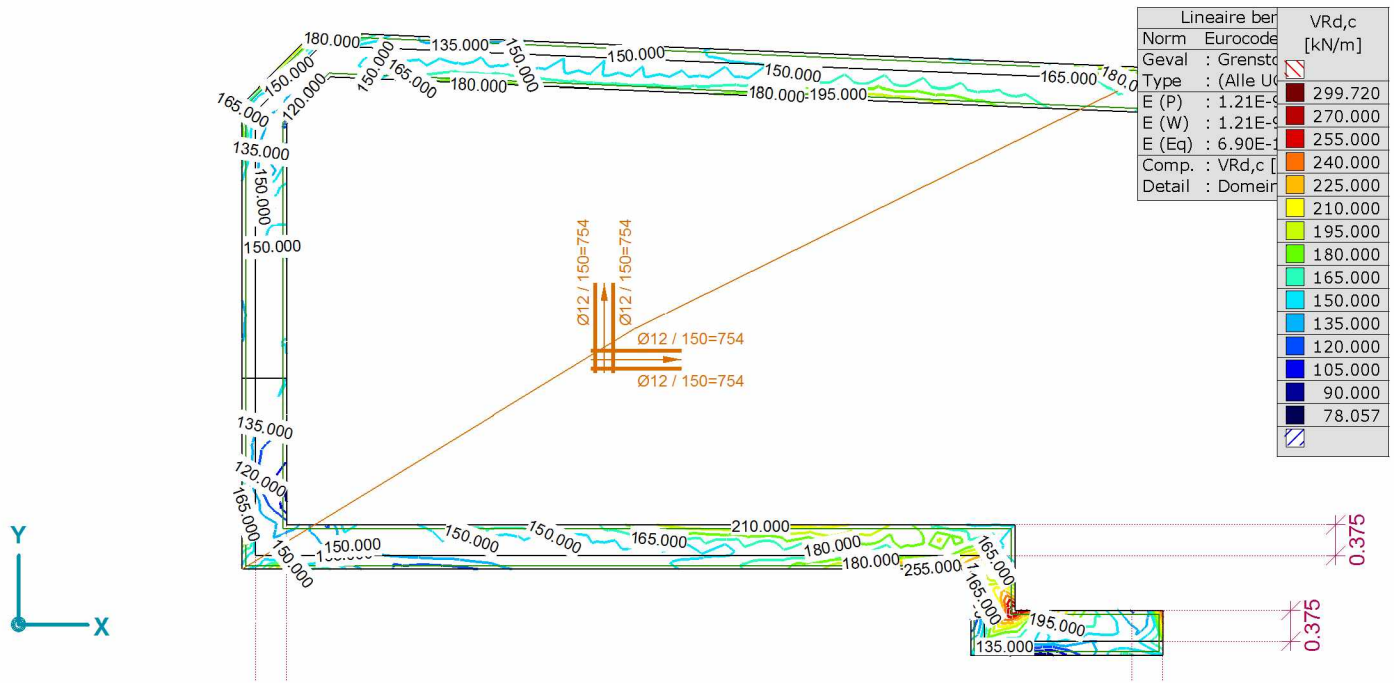
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Constructeur: Core Constructies

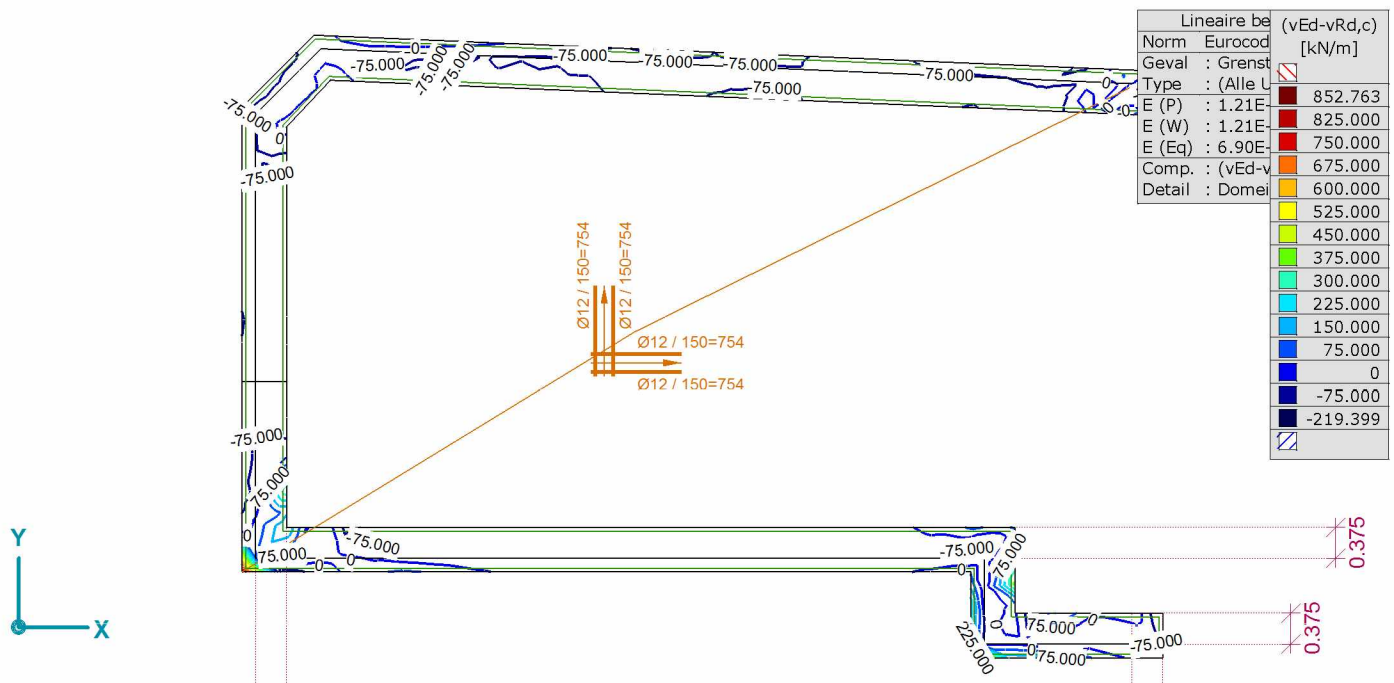
Model: 17021-rev2.axs

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Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand Max., VRd,c, Isolijnen, Bovenaanzicht



Rapport [I], > C30/37, Lineair,(Alle UGT (a, b)) Grenstoestand Min., (vEd-vRd,c), Isolijnen, Bovenaanzicht

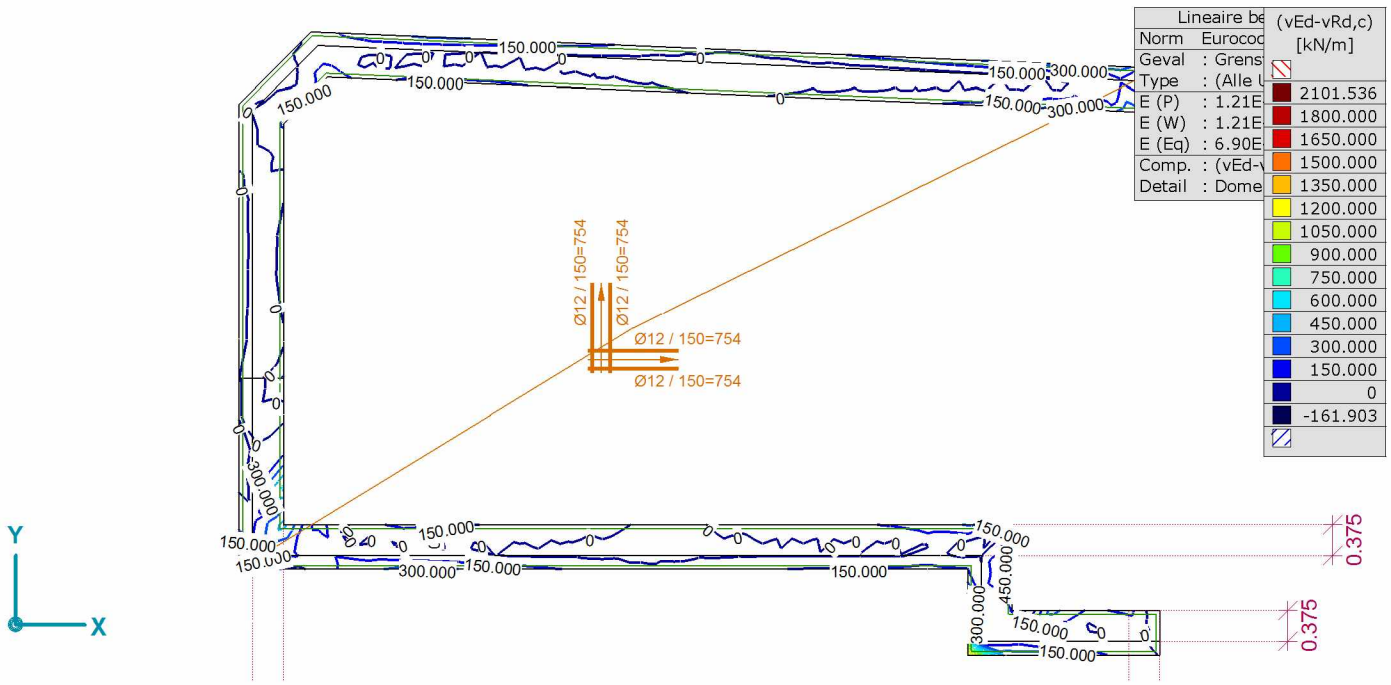
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Constructeur: Core Constructies

Model: 17021-rev2.axs

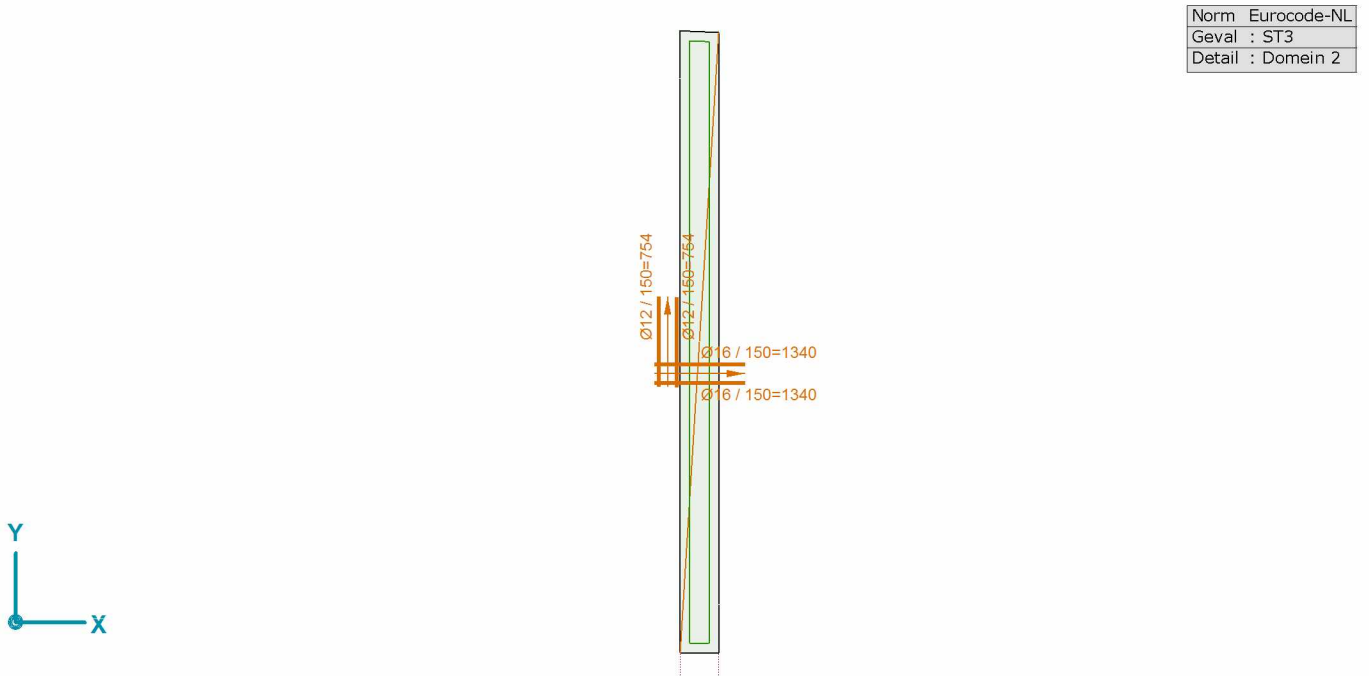
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Rapport [I], > C30/37, Linear, (Alle UGT (a, b)) Grenstoestand Max., (vEd-vRd,c), Isolijnen, Bovenaanzicht

**Domein 2**



Rapport Domein 2, Bovenaanzicht

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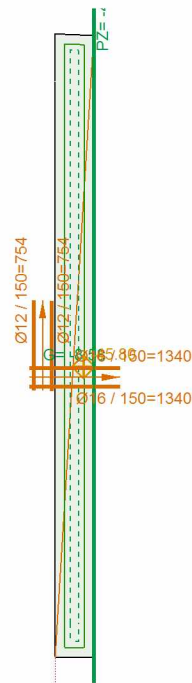
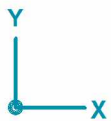
Constructeur: Core Constructies

Model: 17021-rev2.axs

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|        |             |
|--------|-------------|
| Norm   | Eurocode-NL |
| Geval  | ST1         |
| Detail | Domein 2    |



Rapport Domein 2, ST1, Bovenanzicht

## ST1: Knoopbelastingen [Domein 2]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | -45.80        | 0              | 0              | 0              |

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

## ST1: Vlak eigen gewicht [Domein 2]

|               | $\Sigma$ [kg]   |
|---------------|-----------------|
| 251-278       | 1984.510        |
| <b>Totaal</b> | <b>1984.510</b> |

Σ: Totale massa;

## ST1: Eigen gewicht van domein [Domein 2]

|               | $\Sigma$ [kg]   |
|---------------|-----------------|
| 2             | 1984.510        |
| <b>Totaal</b> | <b>1984.510</b> |

Σ: Totale massa;

## ST2: Knoopbelastingen [Domein 2]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | -56.60        | 0              | 0              | 0              |

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

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## ST4: Knoopbelastingen [Domein 2]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | 165.00        | 0              | 0              | 0              |

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

## ST5: Knoopbelastingen [Domein 2]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 18 | Globaal  | 0             | 0             | -165.00       | 0              | 0              | 0              |

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

**Verplaatsingen****Knoopverplaatsingen****Grenstoestand Min,Max.**

Knoopverplaatsingen [Lineair,(BGT Quasi-blijvend) Grenstoestand, Domein 2]

|      | C  | min.<br>max. | $eX$<br>[mm]  | $eY$<br>[mm]  | $eZ$<br>[mm]  | $eR$<br>[mm] | $fX$<br>[rad]   | $fY$<br>[rad]   | $fZ$<br>[rad] |
|------|----|--------------|---------------|---------------|---------------|--------------|-----------------|-----------------|---------------|
| Ext. |    |              |               |               |               |              |                 |                 |               |
| 227  | eX | min          | <b>-1.427</b> | -0.496        | -8.701        | 8.831        | 0.00063         | -0.00145        | 0.00001       |
| 1096 |    | min          | <b>-1.427</b> | -0.502        | -8.970        | 9.097        | 0.00062         | -0.00143        | 0.00003       |
| 234  |    | max          | <b>-1.063</b> | -0.450        | -6.955        | 7.050        | 0.00044         | -0.00105        | 0             |
| 15   | eY | min          | -1.271        | <b>-0.666</b> | -8.794        | 8.910        | 0.00102         | -0.00130        | 0.00028       |
| 16   |    | max          | -1.151        | <b>-0.202</b> | -7.426        | 7.517        | -0.00015        | -0.00114        | -0.00024      |
| 15   | eZ | min          | -1.379        | -0.561        | <b>-9.554</b> | 9.669        | 0.00092         | -0.00141        | 0.00027       |
| 5    |    | max          | -1.085        | -0.390        | <b>-5.670</b> | 5.786        | 0               | -0.00111        | -0.00021      |
| 5    | eR | min          | -1.085        | -0.390        | -5.670        | <b>5.786</b> | 0               | -0.00111        | -0.00021      |
| 15   |    | max          | -1.379        | -0.561        | -9.554        | <b>9.669</b> | 0.00092         | -0.00141        | 0.00027       |
| 16   | fX | min          | -1.151        | -0.202        | -7.426        | 7.517        | <b>-0.00015</b> | -0.00114        | -0.00024      |
| 15   |    | max          | -1.271        | -0.666        | -8.794        | 8.910        | <b>0.00102</b>  | -0.00130        | 0.00028       |
| 227  | fY | min          | -1.427        | -0.496        | -8.701        | 8.831        | 0.00063         | <b>-0.00145</b> | 0.00001       |
| 1068 |    | max          | -1.072        | -0.472        | -6.672        | 6.774        | 0.00045         | <b>-0.00104</b> | -0.00003      |
| 1089 |    | max          | -1.071        | -0.470        | -6.718        | 6.819        | 0.00045         | <b>-0.00104</b> | -0.00003      |

|      | C  | min.<br>max. | $fR$<br>[rad] | Maatgevende combinatie |
|------|----|--------------|---------------|------------------------|
| Ext. |    |              |               |                        |
| 227  | eX | min          | 0.00158       | [ST1] {0.3*ST2}        |
| 1096 |    | min          | 0.00156       | [ST1] {0.3*ST2}        |
| 234  |    | max          | 0.00114       | [ST1] {0.3*ST3}        |
| 15   | eY | min          | 0.00168       | [ST1] {0.3*ST3}        |
| 16   |    | max          | 0.00118       | [ST1] {0.3*ST2}        |
| 15   | eZ | min          | 0.00170       | [ST1] {0.3*ST2}        |
| 5    |    | max          | 0.00113       | [ST1] {0.3*ST3}        |
| 5    | eR | min          | 0.00113       | [ST1] {0.3*ST3}        |
| 15   |    | max          | 0.00170       | [ST1] {0.3*ST2}        |
| 16   | fX | min          | 0.00118       | [ST1] {0.3*ST2}        |
| 15   |    | max          | 0.00168       | [ST1] {0.3*ST3}        |
| 227  | fY | min          | 0.00158       | [ST1] {0.3*ST2}        |
| 1068 |    | max          | 0.00113       | [ST1] {0.3*ST3}        |
| 1089 |    | max          | 0.00113       | [ST1] {0.3*ST3}        |

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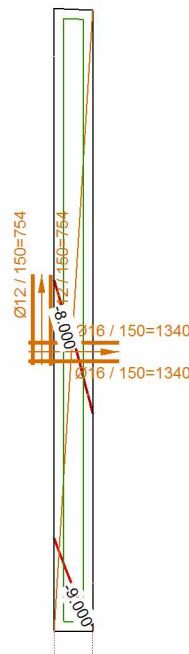
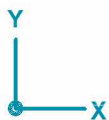
**Knoopverplaatsingen [Lineair,(BGT Quasi-blijvend) Grenstoestand, Domein 2]**

|      | C  | min.<br>max. | eX<br>[mm] | eY<br>[mm] | eZ<br>[mm] | eR<br>[mm] | fX<br>[rad] | fY<br>[rad]     | fZ<br>[rad]     |
|------|----|--------------|------------|------------|------------|------------|-------------|-----------------|-----------------|
| 1094 |    | max          | -1.068     | -0.464     | -6.910     | 7.008      | 0.00044     | <b>-0.00104</b> | -0.00003        |
| 625  | fZ | min          | -1.129     | -0.302     | -6.634     | 6.736      | -0.00006    | -0.00113        | <b>-0.00025</b> |
| 15   |    | max          | -1.271     | -0.666     | -8.794     | 8.910      | 0.00102     | -0.00130        | <b>0.00028</b>  |
| 1087 | fR | min          | -1.124     | -0.320     | -6.094     | 6.205      | 0.00012     | -0.00109        | -0.00011        |
| 11   |    | max          | -1.370     | -0.464     | -9.039     | 9.154      | 0.00088     | -0.00144        | 0.00024         |
| 15   |    | max          | -1.379     | -0.561     | -9.554     | 9.669      | 0.00092     | -0.00141        | 0.00027         |

|      | C  | min.<br>max. | fR<br>[rad]    | Maatgevende combinatie    |
|------|----|--------------|----------------|---------------------------|
| 1094 |    | max          | 0.00113        | [ST1] {0.3*ST3}           |
| 625  | fZ | min          | 0.00116        | [ST1] {0.3*ST2} (0.3*ST3) |
| 15   |    | max          | 0.00168        | [ST1] {0.3*ST3}           |
| 1087 | fR | min          | <b>0.00110</b> | [ST1] {0.3*ST3}           |
| 11   |    | max          | <b>0.00170</b> | [ST1] {0.3*ST2}           |
| 15   |    | max          | <b>0.00170</b> | [ST1] {0.3*ST2}           |

C: Extreme component; min. max.: Extreme type; 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;

| Lineaire bere     | eZ<br>[mm] |
|-------------------|------------|
| Norm Eurocode-f   |            |
| Geval : Grenstoe  |            |
| Type : (BGT Qu    |            |
| E (P) : 1.21E-9   | -6.996     |
| E (W) : 1.21E-9   | -8.000     |
| E (Eq) : 6.90E-12 | -9.000     |
| Comp. : eZ [mm]   | -10.000    |
| Detail : Domein   | -11.000    |
|                   | -12.000    |
|                   | -13.000    |
|                   | -14.000    |
|                   | -15.000    |
|                   | -16.000    |
|                   | -17.000    |
|                   | -18.000    |
|                   | -19.000    |
|                   | -20.000    |
|                   | -21.948    |



Rapport [I], > 350 mm, Lineair,(BGT Quasi-blijvend) Grenstoestand Min., eZ, Isolijnen, Boveaanzicht

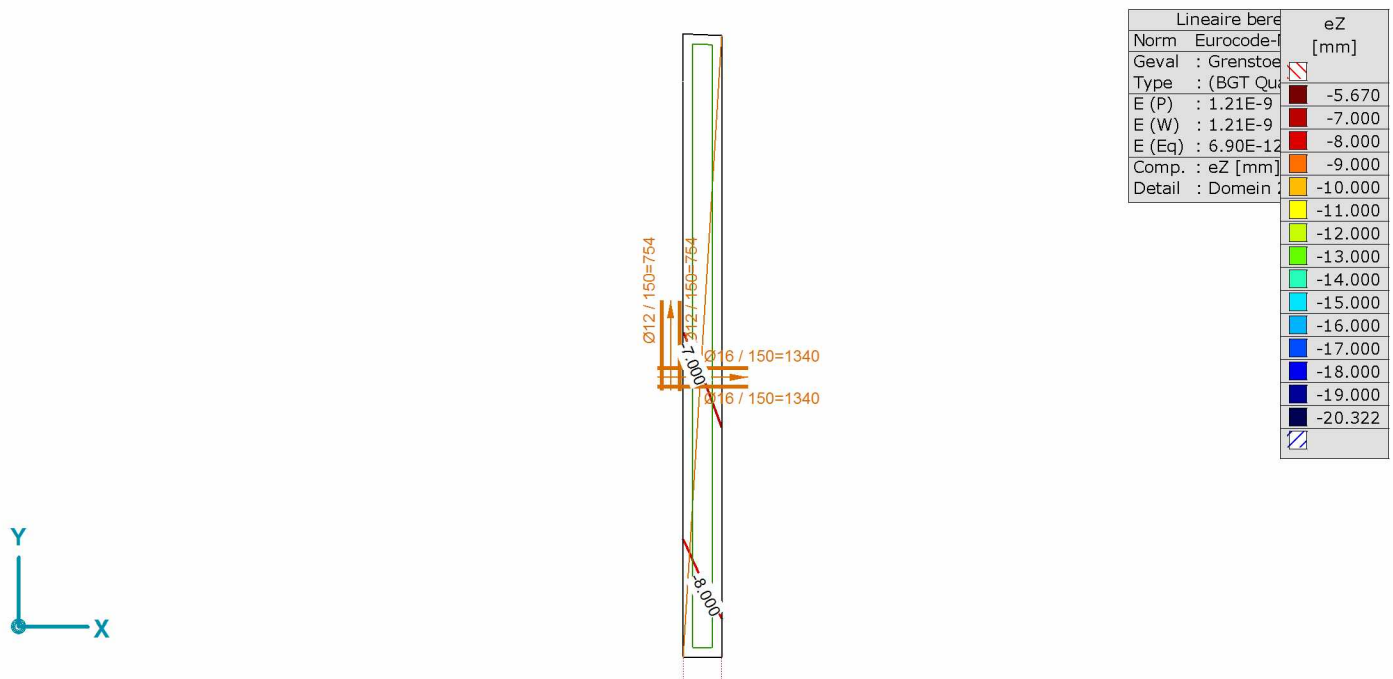
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Constructeur: Core Constructies

Model: 17021-rev2.axs

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Rapport [I], &gt; 350 mm, Lineair,(BGT Quasi-blijvend) Grenstoestand Max., eZ, Isolijnen, Bovenaanzicht

**Interne krachten****Vlakkrachten****Grenstoestand Min,Max.**

Vlakkrachten [Linear,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | $n_x$<br>[kN/m] | $n_y$<br>[kN/m]  | $n_{xy}$<br>[kN/m] | $m_x$<br>[kNm/m] | $m_y$<br>[kNm/m] | $m_{xy}$<br>[kNm/m] | $vS_z$<br>[kN/m] |
|-------|-----|--------------|-----------|-----------------|------------------|--------------------|------------------|------------------|---------------------|------------------|
| Ext.  |     |              |           |                 |                  |                    |                  |                  |                     |                  |
| 227   | nx  | min          | Sch 257   | <b>-92.712</b>  | -805.657         | 125.294            | -4.533           | 57.046           | -9.323              | 63.346           |
| 16    |     | max          | Sch 271   | <b>668.837</b>  | 1093.406         | 106.074            | -31.048          | 50.970           | -55.221             | 137.997          |
| 5     | ny  | min          | Sch 270   | 106.700         | <b>-1791.838</b> | 77.975             | 3.243            | 37.526           | -20.392             | 612.983          |
| 233   |     | max          | Sch 254   | 13.793          | <b>1533.827</b>  | 19.639             | -36.076          | 59.571           | 2.382               | 281.336          |
| 16    | nxy | min          | Sch 271   | 182.528         | 477.712          | <b>-399.193</b>    | 84.993           | 160.357          | 16.030              | 556.691          |
| 228   |     | max          | Sch 257   | -31.625         | 1330.384         | <b>288.553</b>     | 3.011            | 45.681           | -6.122              | 173.688          |
| 233   | mx  | min          | Sch 254   | 18.814          | 1394.860         | 22.598             | <b>-38.366</b>   | 61.066           | 1.980               | 286.472          |
| 16    |     | max          | Sch 271   | 182.528         | 477.712          | -399.193           | <b>84.993</b>    | 160.357          | 16.030              | 556.691          |
| 18    | my  | min          | Sch 251   | -17.169         | 809.833          | -11.931            | -25.974          | <b>-105.027</b>  | -2.937              | 127.002          |

| Knoop | C   | min.<br>max. | Oppervlak | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|--|
| Ext.  |     |              |           |  |
| 227   | nx  | min          | Sch 257   | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 16    |     | max          | Sch 271   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST3)             |
| 5     | ny  | min          | Sch 270   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 233   |     | max          | Sch 254   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST3)             |
| 16    | nxy | min          | Sch 271   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 228   |     | max          | Sch 257   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST3)             |
| 233   | mx  | min          | Sch 254   | [0.9*ST1] {1.5*ST4} (1.5*0.4*ST3)                    |
| 16    |     | max          | Sch 271   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 18    | my  | min          | Sch 251   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2)             |

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Model: 17021-rev2.ans

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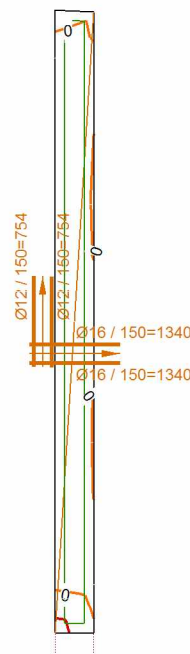
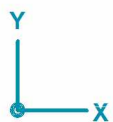
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Vlakkrachten [Linear,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | $n_x$<br>[kN/m] | $n_y$<br>[kN/m] | $n_{xy}$<br>[kN/m] | $m_x$<br>[kNm/m] | $m_y$<br>[kNm/m] | $m_{xy}$<br>[kNm/m] | $v_{Sz}$<br>[kN/m] |
|-------|-----|--------------|-----------|-----------------|-----------------|--------------------|------------------|------------------|---------------------|--------------------|
| 16    |     | max          | Sch 271   | 182.528         | 477.712         | -399.193           | 84.993           | <b>160.357</b>   | 16.030              | 556.691            |
| 16    | mxy | min          | Sch 271   | 667.341         | 1114.552        | 96.226             | -29.296          | 59.548           | <b>-56.433</b>      | 148.684            |
| 239   |     | max          | Sch 270   | -61.337         | 867.999         | -147.126           | 28.167           | 86.152           | <b>40.579</b>       | 784.906            |
| 225   | vSz | min          | Sch 258   | 1.038           | 522.592         | 9.127              | 0.240            | 13.044           | -0.380              | <b>5.311</b>       |
| 239   |     | max          | Sch 270   | -61.337         | 867.999         | -147.126           | 28.167           | 86.152           | 40.579              | <b>784.906</b>     |
| 227   | nxD | min          | Sch 257   | -92.712         | -805.657        | 125.294            | -4.533           | 57.046           | -9.323              | 63.346             |
| 16    |     | max          | Sch 271   | 668.837         | 1093.406        | 106.074            | -31.048          | 50.970           | -55.221             | 137.997            |
| 5     | nyD | min          | Sch 270   | 106.700         | -1791.838       | 77.975             | 3.243            | 37.526           | -20.392             | 612.983            |
| 228   |     | max          | Sch 257   | -42.005         | 1393.298        | 273.370            | 7.160            | 55.320           | -1.912              | 125.244            |

| Knoop | C   | min.<br>max. | Oppervlak | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|--|
| 16    |     | max          | Sch 271   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 16    | mxy | min          | Sch 271   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 239   |     | max          | Sch 270   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 225   | vSz | min          | Sch 258   | [0.9*ST1] {1.5*ST4}                                  |
| 239   |     | max          | Sch 270   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 227   | nxD | min          | Sch 257   | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 16    |     | max          | Sch 271   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST3)             |
| 5     | nyD | min          | Sch 270   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 228   |     | max          | Sch 257   | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop;  **$n_x$ :** Normaalkracht in lokale X-richting;  **$n_y$ :** Normaalkracht in lokale Y-richting;  **$n_{xy}$ :** Membraam afschuifkracht;  **$m_x$ :** Specifiek buigmoment om de lokale y-as;  **$m_y$ :** Specifiek buigmoment om de lokale x-as;  **$m_{xy}$ :** Specifiek draaimoment;  **$v_{Sz}$ :** Resulterende specifieke afschuivingskracht;



| Lineaire b    | $n_x$<br>[kN/m] |
|---------------|-----------------|
| Norm Eurocc   |                 |
| Geval : Gren  |                 |
| Type : (Alle) |                 |
| E (P) : 1.21  | 740.896         |
| E (W) : 1.21  | 400.000         |
| E (Eq) : 6.90 | 200.000         |
| Comp. : nx [k | 0               |
| Detail : Dom  |                 |
|               | -200.000        |
|               | -400.000        |
|               | -600.000        |
|               | -800.000        |
|               | -1000.000       |
|               | -1200.000       |
|               | -1400.000       |
|               | -1600.000       |
|               | -1800.000       |
|               | -2000.000       |
|               | -2261.162       |

Rapport [I], > 350 mm, Linear,(Alle UGT (a, b)) Grenstoestand Min.,  $n_x$ , Isolijnen, Bovenaanzicht

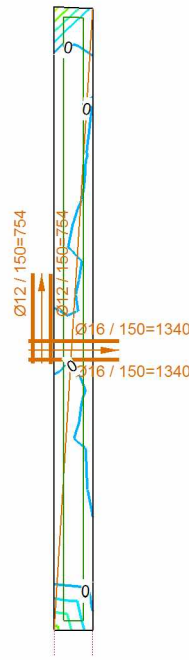
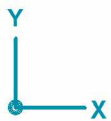
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Constructeur: Core Constructies

Model: 17021-rev2.axs

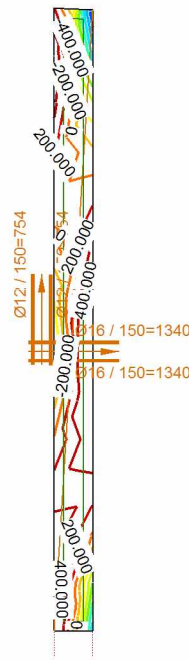
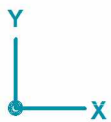
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| Lineaire be    | nx       |
|----------------|----------|
| Norm Eurocod   | [kN/m]   |
| Geval : Grens  |          |
| Type : (Alle U |          |
| E (P) : 1.21E  | 1539.762 |
| E (W) : 1.21E  | 1350.000 |
| E (Eq) : 6.90E | 1200.000 |
| Comp. : nx [kN | 1050.000 |
| Detail : Dome  | 900.000  |
|                | 750.000  |
|                | 600.000  |
|                | 450.000  |
|                | 300.000  |
|                | 150.000  |
|                | 0        |
|                | -150.000 |
|                | -300.000 |
|                | -450.000 |
|                | -617.144 |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b) Grenstoestand Max., nx, Isolijnen, Bovenaanzicht



| Lineaire b     | ny        |
|----------------|-----------|
| Norm Eurocod   | [kN/m]    |
| Geval : Grens  |           |
| Type : (Alle   |           |
| E (P) : 1.21E  | 799.541   |
| E (W) : 1.21E  | 400.000   |
| E (Eq) : 6.90E | 200.000   |
| Comp. : ny [k  | 0         |
| Detail : Dome  | -200.000  |
|                | -400.000  |
|                | -600.000  |
|                | -800.000  |
|                | -1000.000 |
|                | -1200.000 |
|                | -1400.000 |
|                | -1600.000 |
|                | -1800.000 |
|                | -2000.000 |
|                | -2318.117 |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b) Grenstoestand Min., ny, Isolijnen, Bovenaanzicht

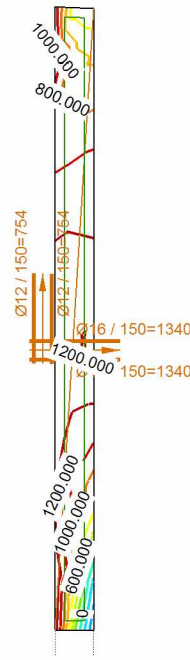
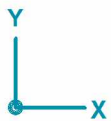
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

Model: 17021-rev2.axs

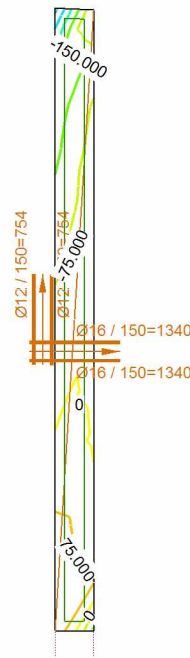
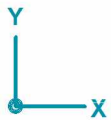
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| Lineaire be    | ny        |
|----------------|-----------|
| Norm Eurocod   | [kN/m]    |
| Geval : Grens  |           |
| Type : (Alle U |           |
| E (P) : 1.21E  | 1533.855  |
| E (W) : 1.21E  | 1200.000  |
| E (Eq) : 6.90E | 1000.000  |
| Comp. : ny [k  | 800.000   |
| Detail : Dome  | 600.000   |
|                | 400.000   |
|                | 200.000   |
|                | 0         |
|                | -200.000  |
|                | -400.000  |
|                | -600.000  |
|                | -800.000  |
|                | -1000.000 |
|                | -1200.000 |
|                | -1468.863 |
|                |           |

Rapport [I], > 350 mm, Linear,(Alle UGT (a, b) Grenstoestand Max., ny, Isolijnen, Bovenaanzicht



| Lineaire be    | nxy      |
|----------------|----------|
| Norm Eurocod   | [kN/m]   |
| Geval : Grens  |          |
| Type : (Alle U |          |
| E (P) : 1.21E  | 373.193  |
| E (W) : 1.21E  | 300.000  |
| E (Eq) : 6.90E | 225.000  |
| Comp. : nxy [k | 150.000  |
| Detail : Dome  | 75.000   |
|                | 0        |
|                | -75.000  |
|                | -150.000 |
|                | -225.000 |
|                | -300.000 |
|                | -375.000 |
|                | -450.000 |
|                | -525.000 |
|                | -600.000 |
|                | -739.079 |
|                |          |

Rapport [I], > 350 mm, Linear,(Alle UGT (a, b) Grenstoestand Min., nxy, Isolijnen, Bovenaanzicht

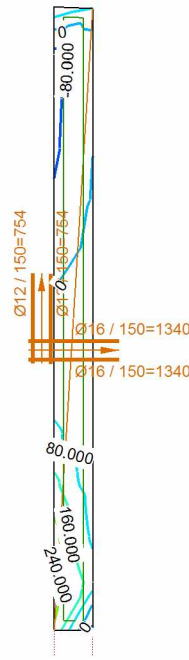
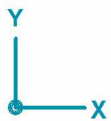
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Constructeur: Core Constructies

Model: 17021-rev2.axs

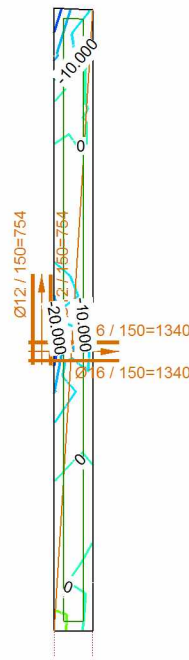
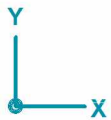
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| Lineaire be    |          | nxy      |
|----------------|----------|----------|
| Norm           | Eurocod  | [kN/m]   |
| Geval : Grenst |          |          |
| Type : (Alle U |          |          |
| E (P)          | : 1.21E- | 851.757  |
| E (W)          | : 1.21E- | 720.000  |
| E (Eq)         | : 6.90E- | 640.000  |
| Comp.          | : nxy [k | 560.000  |
| Detail         | : Domei  | 480.000  |
|                |          | 400.000  |
|                |          | 320.000  |
|                |          | 240.000  |
|                |          | 160.000  |
|                |          | 80.000   |
|                |          | 0        |
|                |          | -80.000  |
|                |          | -160.000 |
|                |          | -240.000 |
|                |          | -380.265 |
|                |          |          |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., nxy, Isolijnen, Bovenaanzicht



| Lineaire ber   |          | mx      |
|----------------|----------|---------|
| Norm           | Eurocode | [kNm/m] |
| Geval : Grenst |          |         |
| Type : (Alle U |          |         |
| E (P)          | : 1.21E- | 110.488 |
| E (W)          | : 1.21E- | 70.000  |
| E (Eq)         | : 6.90E- | 60.000  |
| Comp.          | : mx [kN | 50.000  |
| Detail         | : Domeir | 40.000  |
|                |          | 30.000  |
|                |          | 20.000  |
|                |          | 10.000  |
|                |          | 0       |
|                |          | -10.000 |
|                |          | -20.000 |
|                |          | -30.000 |
|                |          | -40.000 |
|                |          | -50.000 |
|                |          | -82.044 |
|                |          |         |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., mx, Isolijnen, Bovenaanzicht

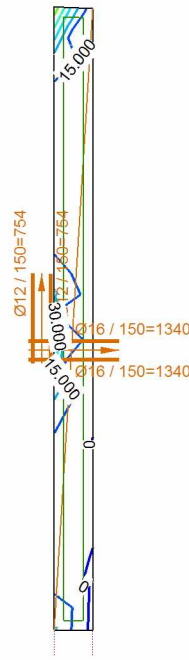
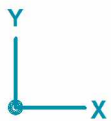
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Constructeur: Core Constructies

Model: 17021-rev2.axs

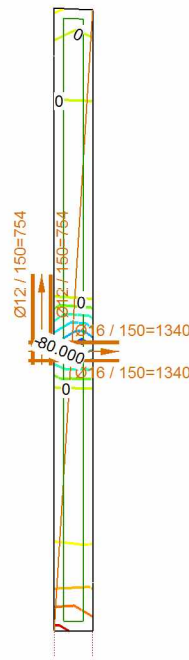
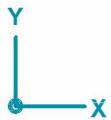
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| Lineaire be      | mx      |
|------------------|---------|
| Norm Eurocode    | [kNm/m] |
| Geval : Grenst   |         |
| Type : (Alle U   |         |
| E (P) : 1.21E-9  | 177.663 |
| E (W) : 1.21E-9  | 165.000 |
| E (Eq) : 6.90E-1 | 150.000 |
| Comp. : mx [kN   | 135.000 |
| Detail : Domeir  | 120.000 |
|                  | 105.000 |
|                  | 90.000  |
|                  | 75.000  |
|                  | 60.000  |
|                  | 45.000  |
|                  | 30.000  |
|                  | 15.000  |
|                  | 0       |
|                  | -15.000 |
|                  | -40.323 |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b) Grenstoestand Max., mx, Isolijnen, Bovenaanzicht



| Lineaire be      | my       |
|------------------|----------|
| Norm Eurocod     | [kNm/m]  |
| Geval : Grenst   |          |
| Type : (Alle U   |          |
| E (P) : 1.21E-9  | 143.752  |
| E (W) : 1.21E-9  | 100.000  |
| E (Eq) : 6.90E-1 | 80.000   |
| Comp. : my [k    | 60.000   |
| Detail : Domeir  | 40.000   |
|                  | 20.000   |
|                  | 0        |
|                  | -20.000  |
|                  | -40.000  |
|                  | -60.000  |
|                  | -80.000  |
|                  | -100.000 |
|                  | -120.000 |
|                  | -140.000 |
|                  | -167.379 |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b) Grenstoestand Min., my, Isolijnen, Bovenaanzicht

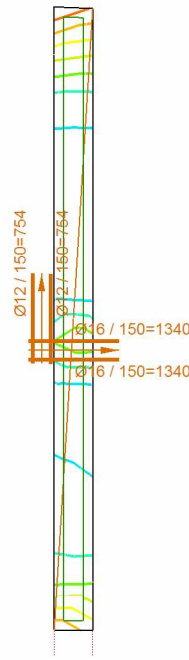
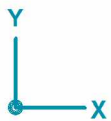
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Constructeur: Core Constructies

Model: 17021-rev2.axs

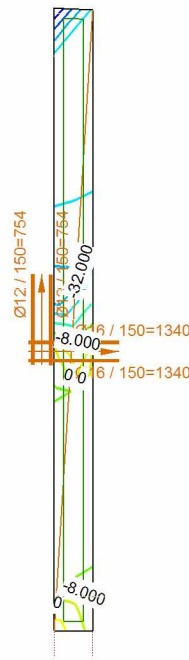
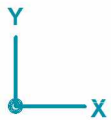
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| Lineaire be     | my       |
|-----------------|----------|
| Norm Eurocod    | [kNm/m]  |
| Geval : Grenst  |          |
| Type : (Alle U  |          |
| E (P) : 1.21E-  | 236.307  |
| E (W) : 1.21E-  | 180.000  |
| E (Eq) : 6.90E- | 160.000  |
| Comp. : my [k   | 140.000  |
| Detail : Domei  | 120.000  |
|                 | 100.000  |
|                 | 80.000   |
|                 | 60.000   |
|                 | 40.000   |
|                 | 20.000   |
|                 | 0        |
|                 | -20.000  |
|                 | -40.000  |
|                 | -60.000  |
|                 | -107.259 |
|                 |          |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., my, Isolijnen, Bovenaanzicht



| Lineaire ber     | mxy     |
|------------------|---------|
| Norm Eurocode    | [kNm/m] |
| Geval : Grenst   |         |
| Type : (Alle U   |         |
| E (P) : 1.21E-9  | 52.521  |
| E (W) : 1.21E-9  | 40.000  |
| E (Eq) : 6.90E-1 | 32.000  |
| Comp. : mxy [k   | 24.000  |
| Detail : Domein  | 16.000  |
|                  | 8.000   |
|                  | 0       |
|                  | -8.000  |
|                  | -16.000 |
|                  | -24.000 |
|                  | -32.000 |
|                  | -40.000 |
|                  | -48.000 |
|                  | -56.000 |
|                  | -66.209 |
|                  |         |

Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., mxy, Isolijnen, Bovenaanzicht



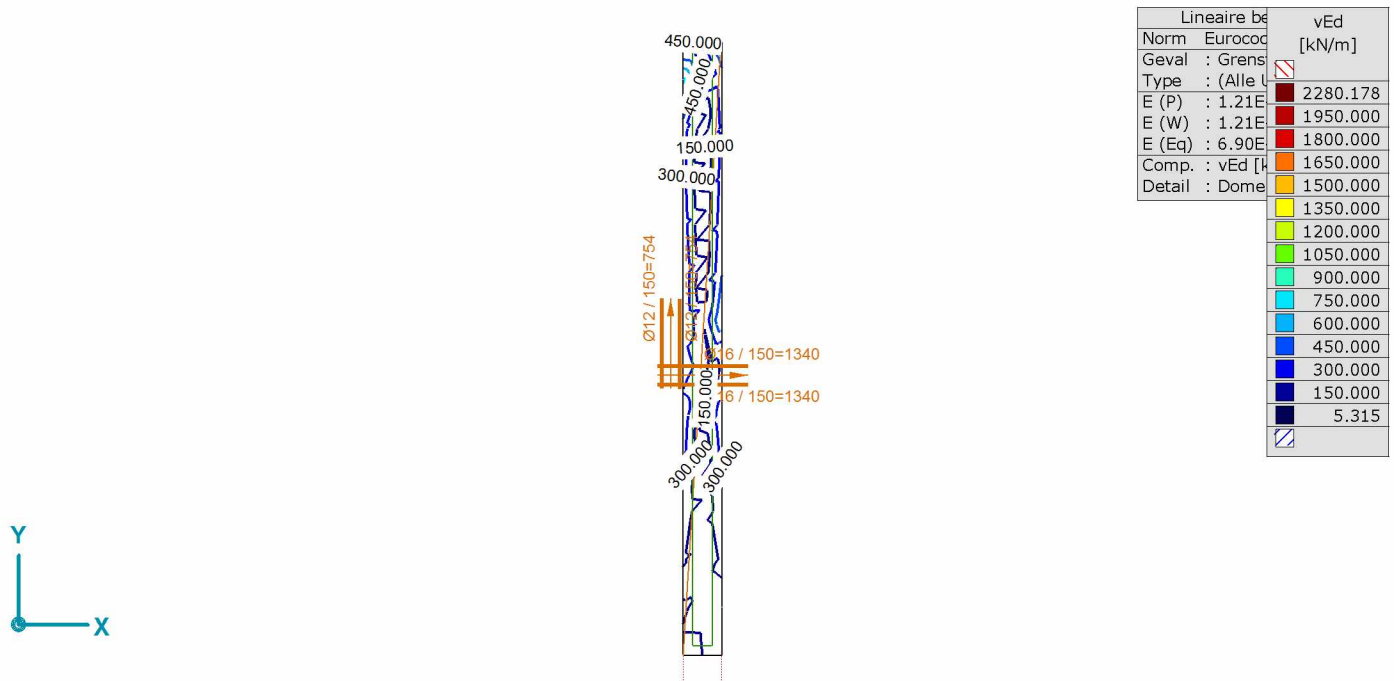
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Constructeur: Core Constructies

Model: 17021-rev2.axs

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Rapport [l], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Max., vEd, Isolijnen, Bovenaanzicht

**Spanningen**

**Vlakspanningen**

**Grenstoestand Min,Max.**

Vlakspanningen [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Syy<br>[N/mm <sup>2</sup> ] | Sxy<br>[N/mm <sup>2</sup> ] | Sxz<br>[N/mm <sup>2</sup> ] | Syz<br>[N/mm <sup>2</sup> ] | SVM<br>[N/mm <sup>2</sup> ] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Ext.  |     |              |           |      |                             |                             |                             |                             |                             |                             |
| 16    | Sxx | min          | Sch 271   | B    | <b>-3.74</b>                | -6.58                       | -1.97                       | 0                           | 0                           | 6.65                        |
| 16    |     | max          | Sch 271   | T    | <b>4.68</b>                 | 9.22                        | -0.36                       | 0                           | 0                           | 8.01                        |
| 11    | Syy | min          | Sch 278   | B    | 0.47                        | <b>-9.16</b>                | -0.33                       | 0                           | 0                           | 9.43                        |
| 15    |     | max          | Sch 277   | T    | 3.00                        | <b>10.39</b>                | 1.82                        | 0                           | 0                           | 9.78                        |
| 16    | Sxy | min          | Sch 271   | T    | 0.47                        | 6.10                        | <b>-2.49</b>                | 0                           | 0                           | 7.29                        |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | S1<br>[N/mm <sup>2</sup> ] | S2<br>[N/mm <sup>2</sup> ] | aS<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|----------------------------|----------------------------|-----------|
| Ext.  |     |              |           |      |                             |                            |                            |           |
| 16    | Sxx | min          | Sch 271   | B    | <b>-3.74</b>                | -2.74                      | -7.59                      | -27.08    |
| 16    |     | max          | Sch 271   | T    | <b>4.68</b>                 | 9.25                       | 4.66                       | -85.55    |
| 11    | Syy | min          | Sch 278   | B    | 0.47                        | 0.49                       | -9.18                      | -1.96     |
| 15    |     | max          | Sch 277   | T    | 3.00                        | 10.81                      | 2.57                       | 76.93     |
| 16    | Sxy | min          | Sch 271   | T    | 0.47                        | 7.04                       | -0.47                      | -69.26    |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|------|-----------------------------|--|
| Ext.  |     |              |           |      |                             |  |
| 16    | Sxx | min          | Sch 271   | B    | <b>-3.74</b>                | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 16    |     | max          | Sch 271   | T    | <b>4.68</b>                 | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 11    | Syy | min          | Sch 278   | B    | 0.47                        | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 15    |     | max          | Sch 277   | T    | 3.00                        | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |
| 16    | Sxy | min          | Sch 271   | T    | 0.47                        | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |

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Model: 17021-rev2.axs

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## Vlakspanningen [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Syy<br>[N/mm <sup>2</sup> ] | Sxy<br>[N/mm <sup>2</sup> ] | Sxz<br>[N/mm <sup>2</sup> ] | Syz<br>[N/mm <sup>2</sup> ] | SVM<br>[N/mm <sup>2</sup> ] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 16    |     | max          | Sch 271   | B    | 3.34                        | 0.27                        | <b>3.04</b>                 | 0                           | 0                           | 6.17                        |
| 16    | Sxz | min          | Sch 271   | C    | 0.52                        | 1.36                        | -1.14                       | <b>-2.24</b>                | -0.81                       | 4.73                        |
| 233   |     | max          | Sch 254   | C    | 0.05                        | 3.99                        | 0.06                        | <b>1.05</b>                 | 0.63                        | 4.50                        |
| 5     | Syz | min          | Sch 270   | C    | 0.08                        | 0.16                        | 0.02                        | -0.82                       | <b>-3.11</b>                | 5.58                        |
| 239   |     | max          | Sch 270   | C    | -0.18                       | 2.48                        | -0.42                       | 0.09                        | <b>3.36</b>                 | 6.41                        |
| 217   | SVM | min          | Sch 268   | B    | -0.02                       | -0.23                       | -0.03                       | 0                           | 0                           | <b>0.23</b>                 |
| 15    |     | max          | Sch 277   | T    | 3.00                        | 10.39                       | 1.82                        | 0                           | 0                           | <b>9.78</b>                 |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | S1<br>[N/mm <sup>2</sup> ] | S2<br>[N/mm <sup>2</sup> ] | aS<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|----------------------------|----------------------------|-----------|
| 16    |     | max          | Sch 271   | B    | 3.34                        | 5.21                       | -1.60                      | 31.59     |
| 16    | Sxz | min          | Sch 271   | C    | 0.52                        | 2.16                       | -0.27                      | -55.15    |
| 233   |     | max          | Sch 254   | C    | 0.05                        | 3.99                       | 0.05                       | 89.06     |
| 5     | Syz | min          | Sch 270   | C    | 0.08                        | 0.17                       | 0.08                       | 77.65     |
| 239   |     | max          | Sch 270   | C    | -0.18                       | 2.54                       | -0.24                      | -81.22    |
| 217   | SVM | min          | Sch 268   | B    | -0.02                       | -0.02                      | -0.23                      | -8.91     |
| 15    |     | max          | Sch 277   | T    | 3.00                        | 10.81                      | 2.57                       | 76.93     |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|------|-----------------------------|--|
| 16    |     | max          | Sch 271   | B    | 3.34                        | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 16    | Sxz | min          | Sch 271   | C    | 0.52                        | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 233   |     | max          | Sch 254   | C    | 0.05                        | [0.9*ST1] {1.5*ST4} (1.5*0.4*ST3)                    |
| 5     | Syz | min          | Sch 270   | C    | 0.08                        | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 239   |     | max          | Sch 270   | C    | -0.18                       | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2)             |
| 217   | SVM | min          | Sch 268   | B    | -0.02                       | [0.9*ST1]  |
| 15    |     | max          | Sch 277   | T    | 3.00                        | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3)               |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **Pos.:** Punt voor spanningsberekening; **Sxx:** Normaalspanning in lokale X-richting; **Syy:** Normaalspanning in lokale Y-richting; **Sxy:** Torsie-/Schuifspanning; **Sxz, Syz:** Draai/afschuivingsspanning; **SVM:** Von Mises spanning; **S1:** Primaire spanning 1; **S2:** Primaire spanning 2; **aS:** Richting primaire spanning;

**Betonontwerp****Wapeningshoeveelheden, Eurocode-NL****Grenstoestand Min,Max.**

## Wapeningshoeveelheden, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | axb<br>[mm <sup>2</sup> /m] | ayb<br>[mm <sup>2</sup> /m] |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|
| Ext.  |     |              |           |                             |                             |
| 16    | axb | max          | Sch 271   | <b>1651</b>                 |                             |
| 222   | ayb | max          | Sch 251   |                             | <b>2498</b>                 |
| 16    | axt | max          | Sch 271   |                             |                             |

| Knoop | C   | min.<br>max. | Oppervlak | axt<br>[mm <sup>2</sup> /m] | ayt<br>[mm <sup>2</sup> /m] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|--|
| Ext.  |     |              |           |                             |                             |  |
| 16    | axb | max          | Sch 271   |                             |                             | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST3)             |
| 222   | ayb | max          | Sch 251   |                             |                             | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 16    | axt | max          | Sch 271   | <b>1439</b>                 |                             | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |

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Constructeur: Core Constructies

Model: 17021-rev2.ans

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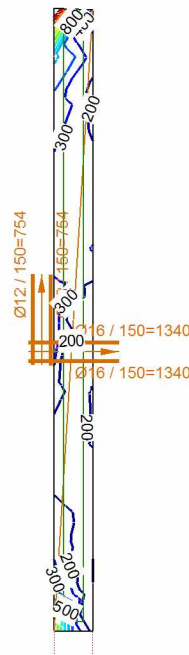
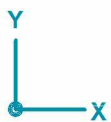
Wapeningshoeveelheden, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | axb<br>[mm <sup>2</sup> /m] | ayb<br>[mm <sup>2</sup> /m] |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|
| 15    | ayt | max          | Sch 277   |                             |                             |

| Knoop | C   | min.<br>max. | Oppervlak | axt<br>[mm <sup>2</sup> /m] | ayt<br>[mm <sup>2</sup> /m] | Maatgevende combinatie                 |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|--|
| 15    | ayt | max          | Sch 277   |                             | <b>3075</b>                 | [1.35*ST1] {1.5*0.4*ST2} (1.5*0.4*ST3) |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **axb:** Onderwapening in lokale X-richting; **ayb:** Onderwapening in lokale Y-richting; **axt:** Bovenwapening in lokale X-richting; **ayt:** Bovenwapening in lokale Y-richting;

| Lineaire bereker                 | axb<br>[mm <sup>2</sup> /m] |
|----------------------------------|-----------------------------|
| Norm Eurocode-NL                 |                             |
| Geval : Grenstoestand            |                             |
| Type : (Alle UGT (a, b))         |                             |
| E (P) : 1.21E-9                  | 1651                        |
| E (W) : 1.21E-9                  | 1400                        |
| E (Eq) : 6.90E-12                | 1300                        |
| Comp. : axb [mm <sup>2</sup> /m] | 1200                        |
| Detail : Domein 2                | 1100                        |
|                                  | 1000                        |
|                                  | 900                         |
|                                  | 800                         |
|                                  | 700                         |
|                                  | 600                         |
|                                  | 500                         |
|                                  | 400                         |
|                                  | 300                         |
|                                  | 200                         |
|                                  | 0                           |



Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand, axb, Isolijnen, Bovenaanzicht

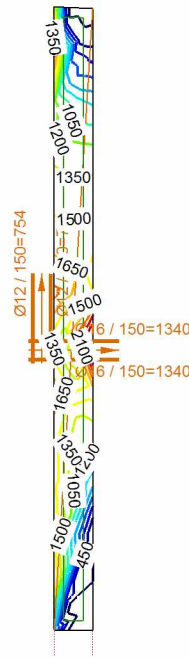
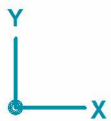
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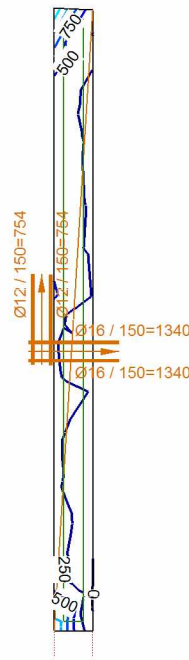
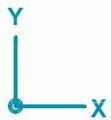
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| Lineaire bereker |                            | ayb                  |
|------------------|----------------------------|----------------------|
| Norm             | Eurocode-NL                | [mm <sup>2</sup> /m] |
| Geval            | : Grenstoestand            |                      |
| Type             | : (Alle UGT (a, b))        |                      |
| E (P)            | : 1.21E-9                  | 2498                 |
| E (W)            | : 1.21E-9                  | 2100                 |
| E (Eq)           | : 6.90E-12                 | 1950                 |
| Comp.            | : ayb [mm <sup>2</sup> /m] | 1800                 |
| Detail           | : Domein 2                 | 1650                 |
|                  |                            | 1500                 |
|                  |                            | 1350                 |
|                  |                            | 1200                 |
|                  |                            | 1050                 |
|                  |                            | 900                  |
|                  |                            | 750                  |
|                  |                            | 600                  |
|                  |                            | 450                  |
|                  |                            | 300                  |
|                  |                            | 0                    |
|                  |                            |                      |

Rapport [I], > 350 mm, Lineair, (Alle UGT (a, b)) Grenstoestand, ayb, Isolijnen, Bovenaanzicht



| Lineaire bereker |                            | axt                  |
|------------------|----------------------------|----------------------|
| Norm             | Eurocode-NL                | [mm <sup>2</sup> /m] |
| Geval            | : Grenstoestand            |                      |
| Type             | : (Alle UGT (a, b))        |                      |
| E (P)            | : 1.21E-9                  | 3562                 |
| E (W)            | : 1.21E-9                  | 3250                 |
| E (Eq)           | : 6.90E-12                 | 3000                 |
| Comp.            | : axt [mm <sup>2</sup> /m] | 2750                 |
| Detail           | : Domein 2                 | 2500                 |
|                  |                            | 2250                 |
|                  |                            | 2000                 |
|                  |                            | 1750                 |
|                  |                            | 1500                 |
|                  |                            | 1250                 |
|                  |                            | 1000                 |
|                  |                            | 750                  |
|                  |                            | 500                  |
|                  |                            | 250                  |
|                  |                            | 0                    |
|                  |                            |                      |

Rapport [I], > 350 mm, Lineair, (Alle UGT (a, b)) Grenstoestand, axt, Isolijnen, Bovenaanzicht

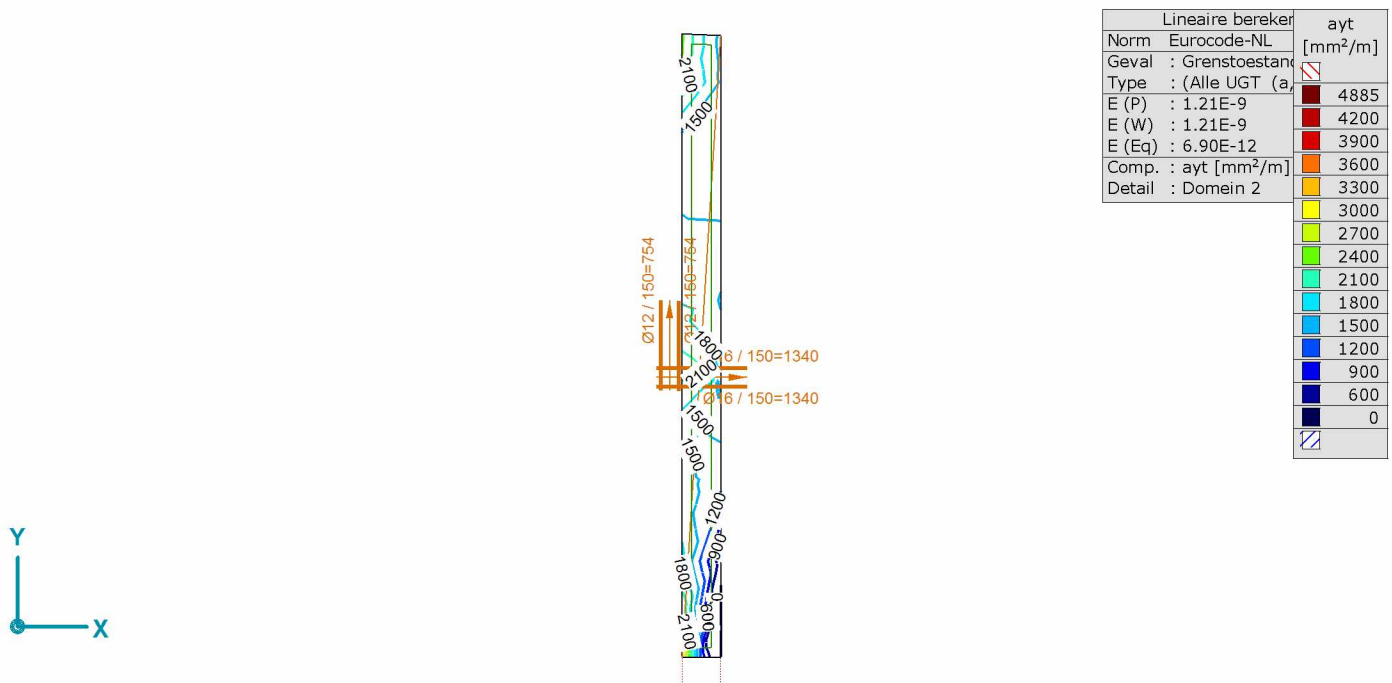
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Rapport [l], > 350 mm, Linear, (Alle UGT (a, b)) Grenstoestand, ayt, Isolijnen, Bovenaanzicht

**Scheurwijdte, Eurocode-NL****Grenstoestand Min,Max.**

Scheurwijdte, Eurocode-NL [Lineair, (BGT Frequent) Grenstoestand, Domein 2]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Aax<br>[mm <sup>2</sup> /m] | Aay<br>[mm <sup>2</sup> /m] | wk<br>[mm]  | wk2<br>[mm] | x <sub>s2</sub><br>[mm] | σ <sub>s2</sub><br>[N/mm <sup>2</sup> ] | wR<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-------------|-------------|-------------------------|---|-----------|
| Ext.  |     |              |           |      |                             |                             |             |             |                         |   |           |
| 222   | wk  | max          | Sch 251   | ↓    | 1340                        | 754                         | <b>2.24</b> | 2.43        | -380                    | 816.12                                  | 0.04      |
| 222   | wk2 | max          | Sch 251   | ↓    | 1340                        | 754                         | 2.24        | <b>2.43</b> | -380                    | 816.12                                  | 0.04      |

| Knoop | C   | min.<br>max. | Oppervlak | nx<br>[kN/m] | ny<br>[kN/m] | nxy<br>[kN/m] |
|-------|-----|--------------|-----------|--------------|--------------|---------------|
| Ext.  |     |              |           |              |              |               |
| 222   | wk  | max          | Sch 251   | -1.554       | 1001.089     | 0.794         |
| 222   | wk2 | max          | Sch 251   | -1.554       | 1001.089     | 0.794         |

| Knoop | C   | min.<br>max. | Oppervlak | mx<br>[kNm/m] | my<br>[kNm/m] | mxy<br>[kNm/m] | Maatgevende combinatie            |
|-------|-----|--------------|-----------|---------------|---------------|----------------|-----------------------------------|
| Ext.  |     |              |           |               |               |                |                                   |
| 222   | wk  | max          | Sch 251   | -0.808        | -21.307       | 0.104          | [ST1] {0.2*ST5} (0.3*ST2+0.3*ST3) |
| 222   | wk2 | max          | Sch 251   | -0.808        | -21.307       | 0.104          | [ST1] {0.2*ST5} (0.3*ST2+0.3*ST3) |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **Pos.:** Punt voor spanningsberekening; **Aax:** Toegepaste wapening in X-richting;

**Aay:** Toegepaste wapening in Y-richting; **wk:** Scheurwijdte ter plaatse van hart wapeningsstaaf; **wk2:** Scheurwijdte ter plaatse van het betonoppervlak; **x<sub>s2</sub>:** Afstand tussen neutrale as en uiterste gedrukte vezel;

**σ<sub>s2</sub>:** Spanning in wapeningsstaaf; **wR:** Scheur hoek; **nx:** Normaalkracht in lokale X-richting; **ny:** Normaalkracht in lokale Y-richting; **nxy:** Membraan afschuifkracht; **mx:** Specifiek buigmoment om de lokale y-as;

**my:** Specifiek buigmoment om de lokale x-as; **mxy:** Specifiek draaimoment;

**Afschuifweerstand, Eurocode-NL****Grenstoestand Min,Max.**

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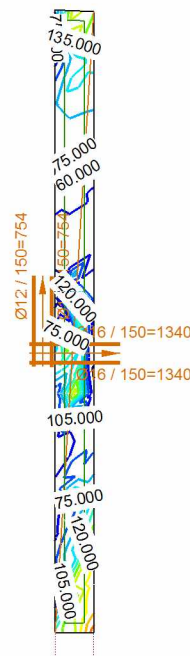
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Afschuifweerstand, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 2]

| Knoop | C           | min.<br>max. | Oppervlak | VRd,c<br>[kN/m] | (vEd-vRd,c)<br>[kN/m] | Maatgevende combinatie                               |
|-------|-------------|--------------|-----------|-----------------|-----------------------|--|
| Ext.  |             |              |           |                 |                       |  |
| 11    | (vEd-vRd,c) | min          | Sch 278   | 188.507         | <b>-217.383</b>       | [1.35*0.889*ST1] {1.5*ST3} (1.5*0.4*ST2)             |
| 239   |             | max          | Sch 270   | 92.567          | <b>721.560</b>        | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |

Knoop: Index; C: Extreme component; min. max.: Extreme type; Oppervlak: Vlak behorend bij knoop; VRd,c: Afschuifweerstand;

| Lineaire ber    | VRd,c<br>[kN/m] |
|-----------------|-----------------|
| Norm Eurocode   |                 |
| Geval : Grenst  |                 |
| Type : (Alle U  |                 |
| E (P) : 1.21E-  | 230.135         |
| E (W) : 1.21E-  | 210.000         |
| E (Eq) : 6.90E- | 195.000         |
| Comp. : VRd,c   | 180.000         |
| Detail : Domeir | 165.000         |
|                 | 150.000         |
|                 | 135.000         |
|                 | 120.000         |
|                 | 105.000         |
|                 | 90.000          |
|                 | 75.000          |
|                 | 60.000          |
|                 | 45.000          |
|                 | 30.000          |
|                 | 16.454          |



Rapport [I], > 350 mm, Lineair,(Alle UGT (a, b)) Grenstoestand Min., VRd,c, Isolijnen, Bovenaanzicht

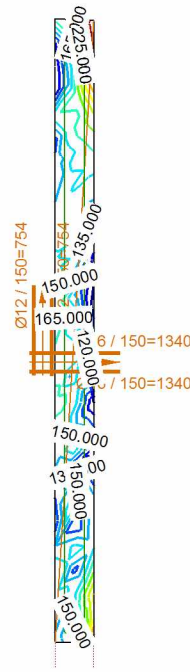
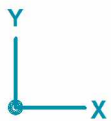
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Constructeur: Core Constructies

Model: 17021-rev2.axs

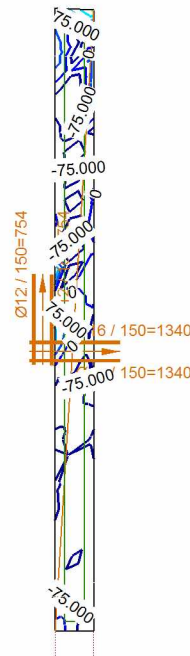
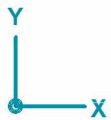
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| Lineaire be      | VRd,c   |
|------------------|---------|
| Norm Eurocode    | [kN/m]  |
| Geval : Grensto  |         |
| Type : (Alle U   |         |
| E (P) : 1.21E-9  | 299.720 |
| E (W) : 1.21E-9  | 270.000 |
| E (Eq) : 6.90E-1 | 255.000 |
| Comp. : VRd,c    | 240.000 |
| Detail : Domein  | 225.000 |
|                  | 210.000 |
|                  | 195.000 |
|                  | 180.000 |
|                  | 165.000 |
|                  | 150.000 |
|                  | 135.000 |
|                  | 120.000 |
|                  | 105.000 |
|                  | 90.000  |
|                  | 78.057  |

Rapport [I], > 350 mm, Lineair, (Alle UGT (a, b) Grenstoestand Max., VRd,c, Isolijnen, Boveanzicht



| Lineaire be      | (vEd-vRd,c) |
|------------------|-------------|
| Norm Eurocode    | [kN/m]      |
| Geval : Grensto  |             |
| Type : (Alle U   |             |
| E (P) : 1.21E-9  | 852.763     |
| E (W) : 1.21E-9  | 825.000     |
| E (Eq) : 6.90E-1 | 750.000     |
| Comp. : (vEd-v   | 675.000     |
| Detail : Domein  | 600.000     |
|                  | 525.000     |
|                  | 450.000     |
|                  | 375.000     |
|                  | 300.000     |
|                  | 225.000     |
|                  | 150.000     |
|                  | 75.000      |
|                  | 0           |
|                  | -75.000     |
|                  | -219.399    |

Rapport [I], > 350 mm, Lineair, (Alle UGT (a, b) Grenstoestand Min., (vEd-vRd,c), Isolijnen, Boveanzicht

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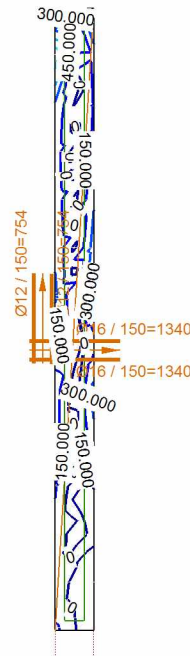
Constructeur: Core Constructies

Model: 17021-rev2.axs

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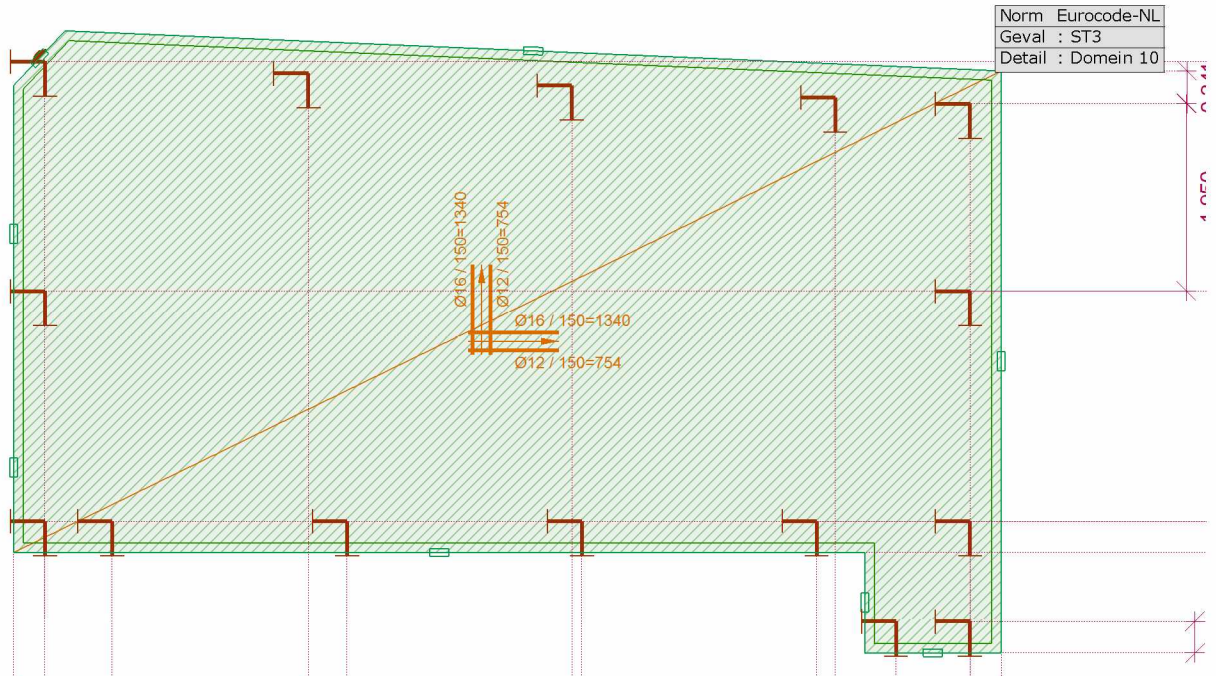
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| Lineaire be |           | (vEd-vRd,c) |
|-------------|-----------|-------------|
| Norm        | Eurocod   | [kN/m]      |
| Geval       | : Grens   |             |
| Type        | : (Alle U |             |
| E (P)       | : 1.21E   | 2101.536    |
| E (W)       | : 1.21E   | 1800.000    |
| E (Eq)      | : 6.90E   | 1650.000    |
| Comp.       | : (vEd-v  | 1500.000    |
| Detail      | : Dome    | 1350.000    |
|             |           | 1200.000    |
|             |           | 1050.000    |
|             |           | 900.000     |
|             |           | 750.000     |
|             |           | 600.000     |
|             |           | 450.000     |
|             |           | 300.000     |
|             |           | 150.000     |
|             |           | 0           |
|             |           | -161.903    |



Rapport [I], > 350 mm, Linear, (Alle UGT (a, b)) Grenstoestand Max., (vEd-vRd,c), Isolijnen, Bovenaanzicht

**Domein 10**



Rapport Domein 10, Bovenaanzicht

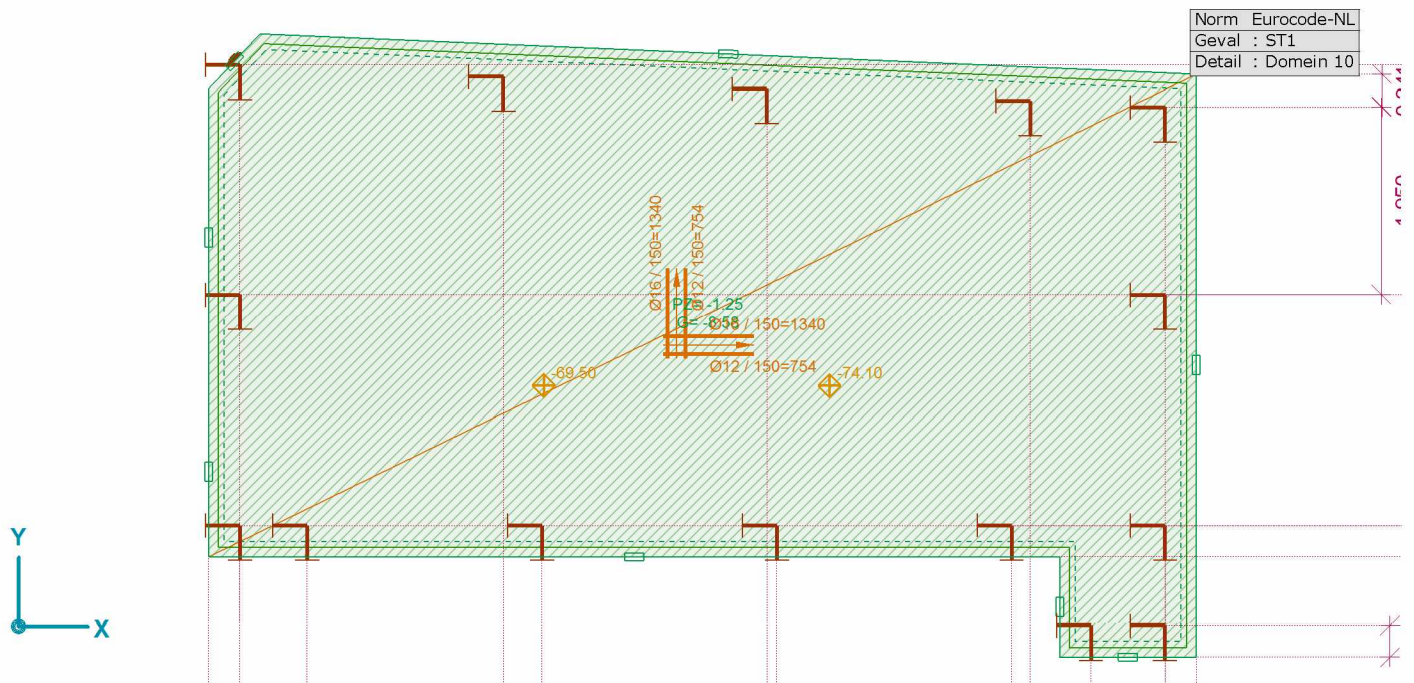
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Rapport Domein 10, ST1, Bovenaanzicht

## ST1: Knoopbelastingen [Domein 10]

|    | Richting | $F_x$<br>[kN] | $F_y$<br>[kN] | $F_z$<br>[kN] | $M_x$<br>[kNm] | $M_y$<br>[kNm] | $M_z$<br>[kNm] |
|----|----------|---------------|---------------|---------------|----------------|----------------|----------------|
| 37 | Globaal  | 0             | 0             | -69.50        | 0              | 0              | 0              |
| 38 | Globaal  | 0             | 0             | -74.10        | 0              | 0              | 0              |

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

## ST1: Vlak eigen gewicht [Domein 10]

|               | $\Sigma$ [kg]    |
|---------------|------------------|
| 613-1164      | 48205.778        |
| <b>Totaal</b> | <b>48205.778</b> |

Σ: Totale massa;

## ST1: Eigen gewicht van domein [Domein 10]

|               | $\Sigma$ [kg]    |
|---------------|------------------|
| 10            | 48205.778        |
| <b>Totaal</b> | <b>48205.778</b> |

Σ: Totale massa;

## ST1: Domein vlaklast [Domein 10]

|  | Domein | Richting | Type     | In gaten | Comp. | Waarde<br>[kN/m <sup>2</sup> ] |
|--|--------|----------|----------|----------|-------|--------------------------------|
|  | 10     | Globaal  | Constant | nee      | pX =  | 0                              |
|  |        |          |          |          | pY =  | 0                              |

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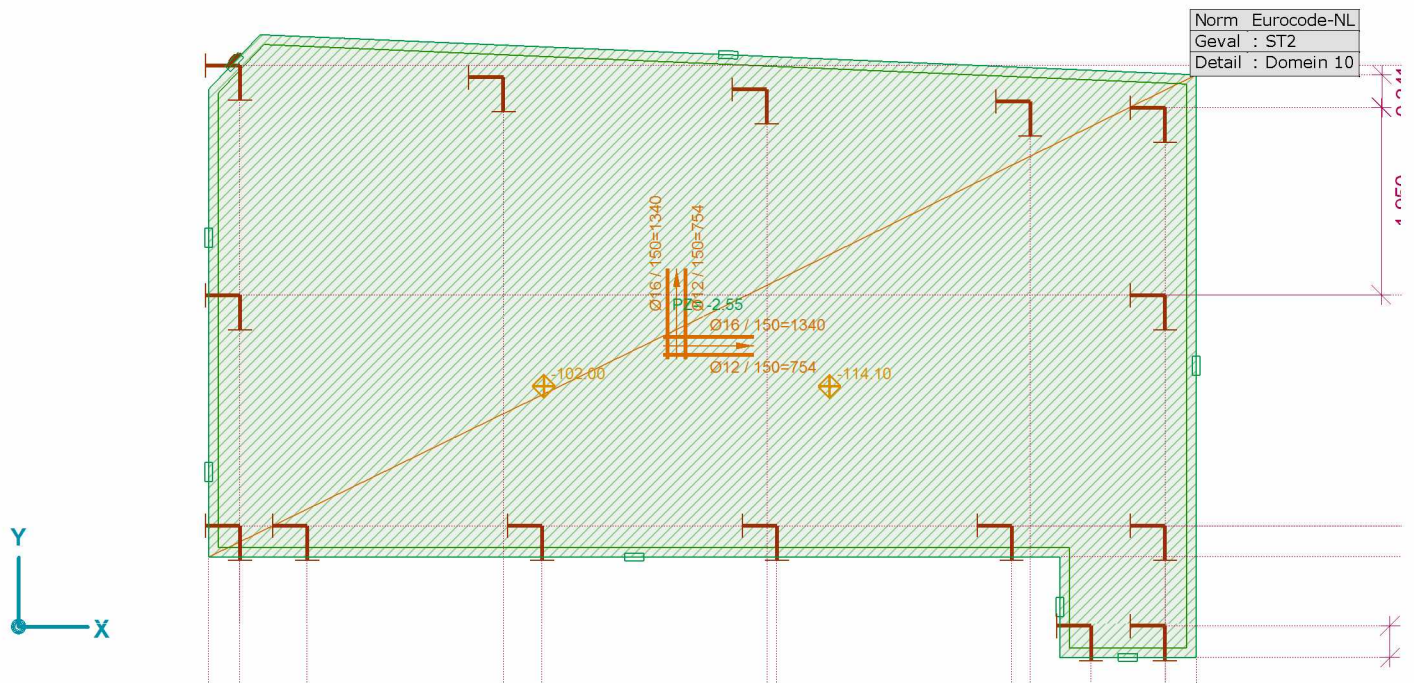
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## ST1: Domein vlaklast [Domein 10]

| Domein | Richting | Type | In gaten | Comp. | Waarde<br>[kN/m <sup>2</sup> ] |
|--------|----------|------|----------|-------|--------------------------------|
|        |          |      |          | pZ =  | -1.25                          |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;



Rapport Domein 10, ST2, Bovenaanzicht

## ST2: Knoopbelastingen [Domein 10]

|    | Richting | F <sub>x</sub><br>[kN] | F <sub>y</sub><br>[kN] | F <sub>z</sub><br>[kN] | M <sub>x</sub><br>[kNm] | M <sub>y</sub><br>[kNm] | M <sub>z</sub><br>[kNm] |
|----|----------|------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 37 | Globaal  | 0                      | 0                      | -102.00                | 0                       | 0                       | 0                       |
| 38 | Globaal  | 0                      | 0                      | -114.10                | 0                       | 0                       | 0                       |

F<sub>x</sub>, F<sub>y</sub>, F<sub>z</sub>: Belastingkracht component; M<sub>x</sub>, M<sub>y</sub>, M<sub>z</sub>: Belastingsmoment component;

## ST2: Domein vlaklast [Domein 10]

| Domein | Richting | Type     | In gaten | Comp. | Waarde<br>[kN/m <sup>2</sup> ] |
|--------|----------|----------|----------|-------|--------------------------------|
| 10     | Globaal  | Constant | nee      | pX =  | 0                              |
|        |          |          |          | pY =  | 0                              |
|        |          |          |          | pZ =  | -2.55                          |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;

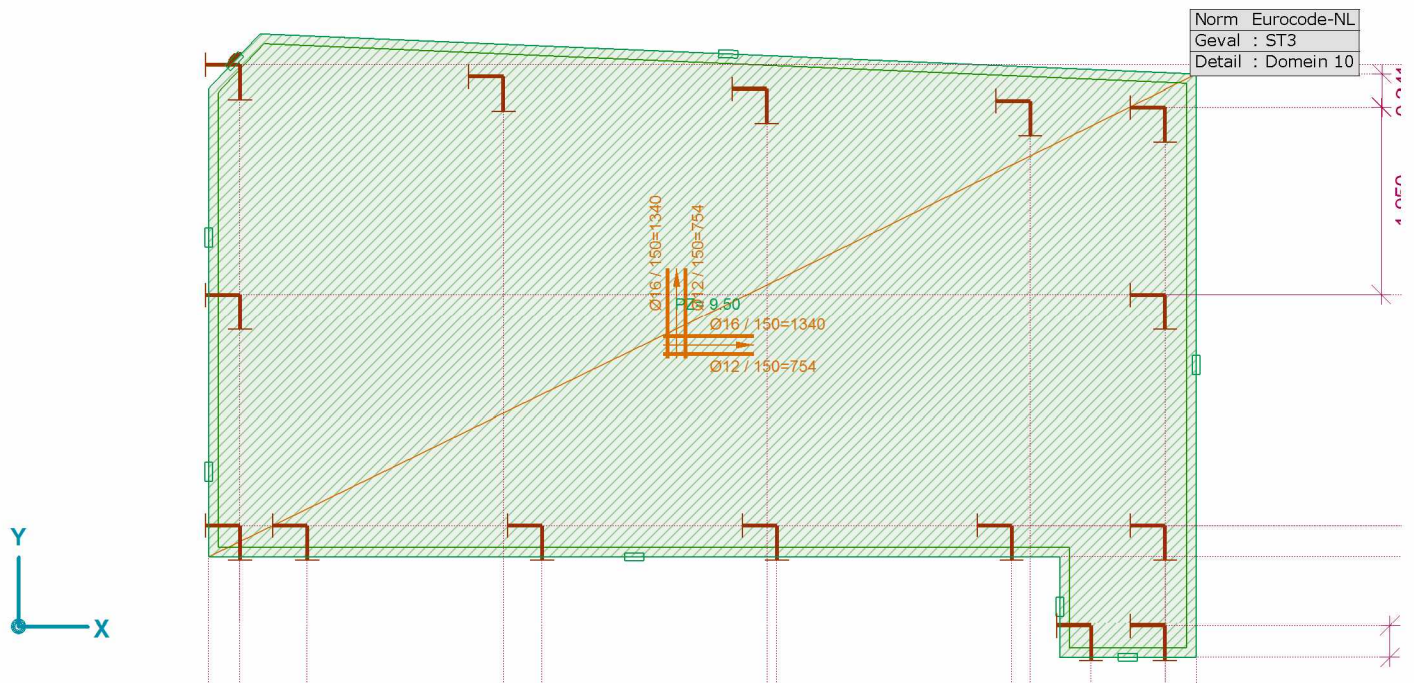
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Rapport Domein 10, ST3, Bovenaanzicht

## ST3: Domein vlaklast [Domein 10]

| Domein | Richting | Type     | In gaten | Comp. | Waarde<br>[kN/m <sup>2</sup> ] |
|--------|----------|----------|----------|-------|--------------------------------|
| 10     | Globaal  | Constant | nee      | pX =  | 0                              |
|        |          |          |          | pY =  | 0                              |
|        |          |          |          | pZ =  | 9.50                           |

In gaten: Belasting op openingen toestaan; Comp.: Resultaatonderdeel; Waarde: waarde van de lastcomponent;

**Verplaatsingen****Knoopverplaatsingen****Grenstoestand Min,Max.**

Knoopverplaatsingen [Lineair,(BGT Quasi-blijvend) Grenstoestand, Domein 10]

|      | C  | min.<br>max. | eX<br>[mm]    | eY<br>[mm]    | eZ<br>[mm] | eR<br>[mm] | fX<br>[rad] | fY<br>[rad] | fZ<br>[rad] |
|------|----|--------------|---------------|---------------|------------|------------|-------------|-------------|-------------|
| Ext. |    |              |               |               |            |            |             |             |             |
| 365  | eX | min          | <b>-0.025</b> | 0.002         | -18.180    | 18.180     | 0.00093     | -0.00092    | -0.00002    |
| 34   |    | max          | <b>0.045</b>  | 0.051         | -9.272     | 9.272      | 0.00071     | -0.00134    | 0.00011     |
| 33   | eY | min          | 0.031         | <b>-0.041</b> | -6.802     | 6.802      | 0.00019     | -0.00115    | -0.00008    |
| 34   |    | max          | 0.045         | <b>0.051</b>  | -9.272     | 9.272      | 0.00071     | -0.00134    | 0.00011     |

|      | C  | min.<br>max. | fR<br>[rad] | Maatgevende combinatie    |
|------|----|--------------|-------------|---------------------------|
| Ext. |    |              |             |                           |
| 365  | eX | min          | 0.00131     | [ST1] {0.3*ST2}           |
| 34   |    | max          | 0.00152     | [ST1] {0.3*ST2} (0.3*ST3) |
| 33   | eY | min          | 0.00117     | [ST1] {0.3*ST2} (0.3*ST3) |
| 34   |    | max          | 0.00152     | [ST1] {0.3*ST2} (0.3*ST3) |

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## Knoopverplaatsingen [Lineair,(BGT Quasi-blijvend) Grenstoestand, Domein 10]

|      | C  | min.<br>max. | eX<br>[mm] | eY<br>[mm] | eZ<br>[mm]     | eR<br>[mm]    | fX<br>[rad]     | fY<br>[rad]     | fZ<br>[rad]     |
|------|----|--------------|------------|------------|----------------|---------------|-----------------|-----------------|-----------------|
| 30   | eZ | min          | -0.010     | 0.027      | <b>-20.060</b> | 20.060        | 0.00068         | -0.00106        | -0.00005        |
| 33   |    | max          | 0.030      | -0.040     | <b>-6.033</b>  | 6.033         | 0.00024         | -0.00110        | -0.00008        |
| 33   | eR | min          | 0.030      | -0.040     | -6.033         | <b>6.033</b>  | 0.00024         | -0.00110        | -0.00008        |
| 30   |    | max          | -0.010     | 0.027      | -20.060        | <b>20.060</b> | 0.00068         | -0.00106        | -0.00005        |
| 281  | fX | min          | 0.001      | 0.001      | -11.623        | 11.623        | <b>-0.00033</b> | -0.00096        | 0               |
| 368  |    | max          | -0.017     | 0.001      | -15.276        | 15.276        | <b>0.00121</b>  | -0.00095        | -0.00002        |
| 1701 | fY | min          | 0.016      | -0.006     | -11.154        | 11.154        | 0.00099         | <b>-0.00139</b> | 0.00006         |
| 32   |    | max          | -0.021     | -0.012     | -15.825        | 15.825        | 0.00030         | <b>-0.00075</b> | 0.00003         |
| 1201 |    | max          | -0.014     | -0.011     | -15.962        | 15.962        | 0.00030         | <b>-0.00075</b> | 0.00004         |
| 1776 | fZ | min          | 0.017      | -0.023     | -7.602         | 7.603         | 0.00011         | -0.00115        | <b>-0.00010</b> |
| 1713 |    | max          | 0.024      | 0.027      | -9.371         | 9.371         | 0.00075         | -0.00131        | <b>0.00013</b>  |
| 1739 | fR | min          | -0.005     | 0.001      | -12.837        | 12.837        | -0.00006        | -0.00080        | 0.00001         |
| 1701 |    | max          | 0.017      | -0.006     | -10.844        | 10.844        | 0.00106         | -0.00136        | 0.00006         |

|      | C  | min.<br>max. | fR<br>[rad]    | Maatgevende combinatie    |
|------|----|--------------|----------------|---------------------------|
| 30   | eZ | min          | 0.00126        | [ST1] {0.3*ST2}           |
| 33   |    | max          | 0.00113        | [ST1] {0.3*ST3}           |
| 33   | eR | min          | 0.00113        | [ST1] {0.3*ST3}           |
| 30   |    | max          | 0.00126        | [ST1] {0.3*ST2}           |
| 281  | fX | min          | 0.00101        | [ST1] {0.3*ST2} (0.3*ST3) |
| 368  |    | max          | 0.00153        | [ST1] {0.3*ST3}           |
| 1701 | fY | min          | 0.00171        | [ST1] {0.3*ST2}           |
| 32   |    | max          | 0.00081        | [ST1]                     |
| 1201 |    | max          | 0.00081        | [ST1]                     |
| 1776 | fZ | min          | 0.00116        | [ST1] {0.3*ST2}           |
| 1713 |    | max          | 0.00152        | [ST1] {0.3*ST2} (0.3*ST3) |
| 1739 | fR | min          | <b>0.00080</b> | [ST1] {0.3*ST3}           |
| 1701 |    | max          | <b>0.00172</b> | [ST1] {0.3*ST2} (0.3*ST3) |

C: Extreme component; min. max.: Extreme type; 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;

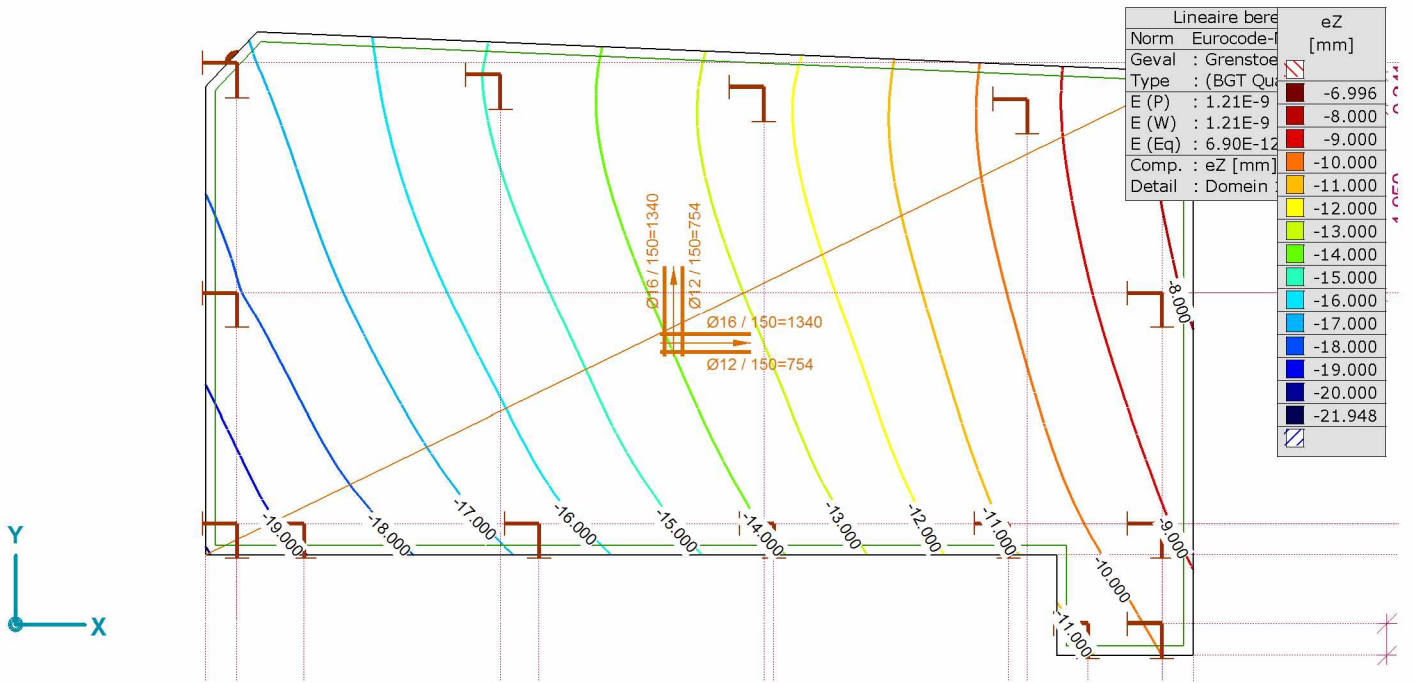
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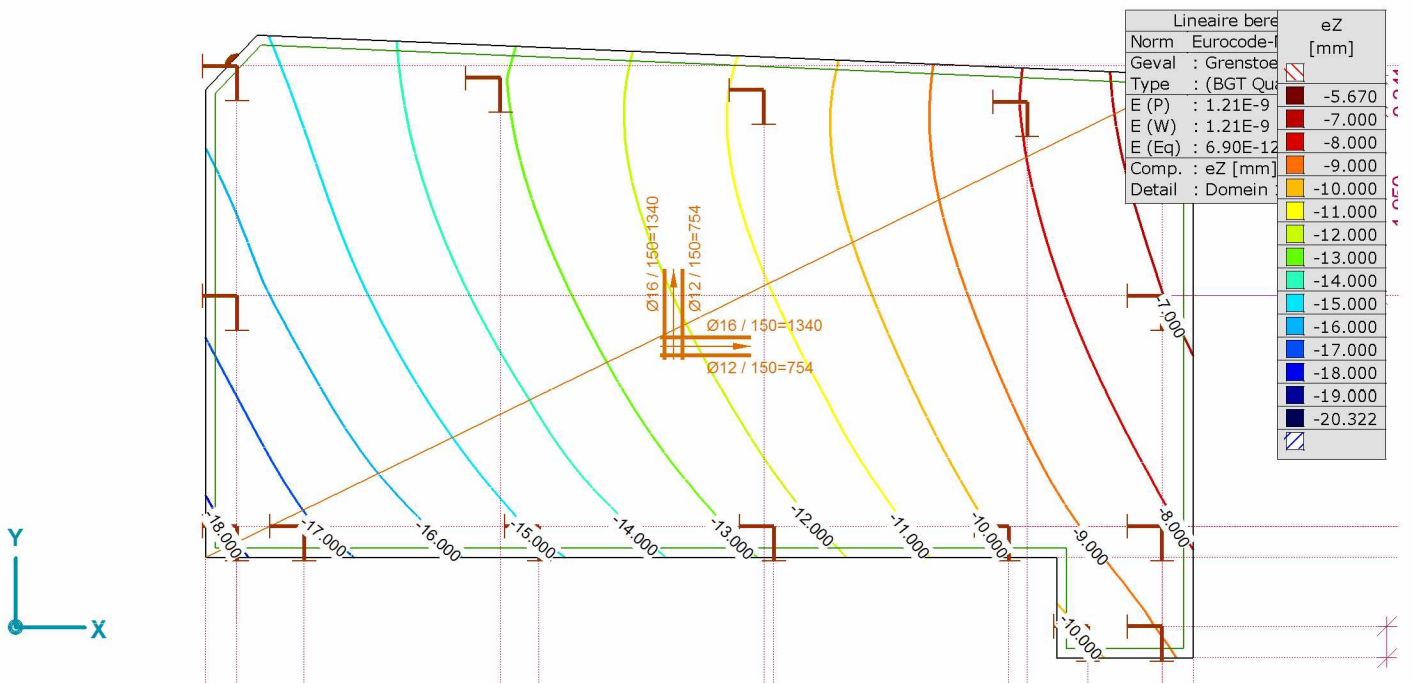
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Rapport [I], >, Linear,(BGT Quasi-blijvend) Grenstoestand Min., eZ, Isolijnen, Bovenaanzicht



Rapport [I], >, Linear,(BGT Quasi-blijvend) Grenstoestand Max., eZ, Isolijnen, Bovenaanzicht

**Interne krachten**

**Vlakkrachten**

**Grenstoestand Min,Max.**

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Constructeur: Core Constructies

Model: 17021-rev2.axs

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## Vlakkrachten [Linear,(Alle UGT (a, b)) Grenstoestand, Domein 10]

| Knoop | C   | min.<br>max. | Oppervlak | $n_x$<br>[kN/m] | $n_y$<br>[kN/m] | $n_{xy}$<br>[kN/m] | $m_x$<br>[kNm/m] | $m_y$<br>[kNm/m] | $m_{xy}$<br>[kNm/m] | $v_{Sz}$<br>[kN/m] |
|-------|-----|--------------|-----------|-----------------|-----------------|--------------------|------------------|------------------|---------------------|--------------------|
| Ext.  |     |              |           |                 |                 |                    |                  |                  |                     |                    |
| 363   | nx  | min          | Sch 716   | <b>-328.412</b> | -159.724        | 142.812            | 48.161           | -34.364          | -2.258              | 547.592            |
| 343   |     | max          | Sch 668   | <b>558.239</b>  | -262.523        | -603.628           | -13.671          | -36.445          | 10.135              | 360.248            |
| 268   | ny  | min          | Sch 682   | 467.537         | <b>-961.919</b> | -78.093            | 26.666           | 34.449           | 47.879              | 1551.377           |
| 354   |     | max          | Sch 661   | -143.870        | <b>431.524</b>  | -106.703           | -29.365          | 21.313           | 5.667               | 342.217            |
| 343   | nxy | min          | Sch 668   | 558.239         | -262.523        | <b>-603.628</b>    | -13.671          | -36.445          | 10.135              | 360.248            |
| 325   |     | max          | Sch 666   | 81.301          | -708.508        | <b>521.807</b>     | -17.957          | 23.984           | 4.243               | 236.329            |
| 38    | mx  | min          | Sch 619   | 13.247          | 31.604          | -0.186             | <b>-76.211</b>   | -66.609          | 2.684               | 21.851             |
| 47    |     | max          | Sch 671   | -64.011         | -170.505        | 3.740              | <b>109.401</b>   | 99.489           | 10.127              | 1067.270           |
| 38    | my  | min          | Sch 619   | 13.247          | 31.604          | -0.186             | -76.211          | <b>-66.609</b>   | 2.684               | 21.851             |
| 41    |     | max          | Sch 632   | 54.707          | -28.002         | 138.005            | 77.605           | <b>159.716</b>   | 4.579               | 991.919            |
| 447   | mxy | min          | Sch 696   | 56.657          | -47.638         | 137.245            | -8.103           | 19.340           | <b>-35.374</b>      | 41.317             |
| 431   |     | max          | Sch 665   | -123.116        | 58.090          | -123.599           | 2.807            | 45.854           | <b>50.658</b>       | 35.721             |
| 554   | vSz | min          | Sch 931   | 5.299           | 14.241          | 0.539              | 4.052            | 17.647           | -9.464              | <b>0.440</b>       |
| 48    |     | max          | Sch 683   | -30.440         | -369.639        | -102.358           | 55.938           | 70.291           | 22.481              | <b>2280.157</b>    |
| 363   | nxD | min          | Sch 716   | -328.412        | -159.724        | 142.812            | 48.161           | -34.364          | -2.258              | 547.592            |
| 343   |     | max          | Sch 668   | 558.239         | -262.523        | -603.628           | -13.671          | -36.445          | 10.135              | 360.248            |
| 325   | nyD | min          | Sch 666   | 81.301          | -708.508        | 521.807            | -17.957          | 23.984           | 4.243               | 236.329            |
| 344   |     | max          | Sch 660   | 93.324          | 75.505          | -461.281           | -2.145           | -17.953          | 16.684              | 312.012            |

| Knoop | C   | min.<br>max. | Oppervlak | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|--|
| Ext.  |     |              |           |  |
| 363   | nx  | min          | Sch 716   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 343   |     | max          | Sch 668   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 268   | ny  | min          | Sch 682   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 354   |     | max          | Sch 661   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 343   | nxy | min          | Sch 668   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 325   |     | max          | Sch 666   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 38    | mx  | min          | Sch 619   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 47    |     | max          | Sch 671   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 38    | my  | min          | Sch 619   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 41    |     | max          | Sch 632   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 447   | mxy | min          | Sch 696   | [1.35*0.889*ST1] {1.5*ST5} (1.5*0.4*ST3)             |
| 431   |     | max          | Sch 665   | [1.35*ST1] {1.5*0.4*ST3}                             |
| 554   | vSz | min          | Sch 931   | [0.9*ST1] {1.5*ST5} (1.5*0.4*ST3)                    |
| 48    |     | max          | Sch 683   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 363   | nxD | min          | Sch 716   | [1.35*0.889*ST1] {1.5*ST2}                           |
| 343   |     | max          | Sch 668   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 325   | nyD | min          | Sch 666   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 344   |     | max          | Sch 660   | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop;  **$n_x$ :** Normaalkracht in lokale X-richting;  **$n_y$ :** Normaalkracht in lokale Y-richting;  **$n_{xy}$ :** Membraam afschuifkracht;  **$m_x$ :** Specifiek buigmoment om de lokale y-as;  **$m_y$ :** Specifiek buigmoment om de lokale x-as;  **$m_{xy}$ :** Specifiek draaimoment;  **$v_{Sz}$ :** Resulterende specifieke afschuivingskracht;

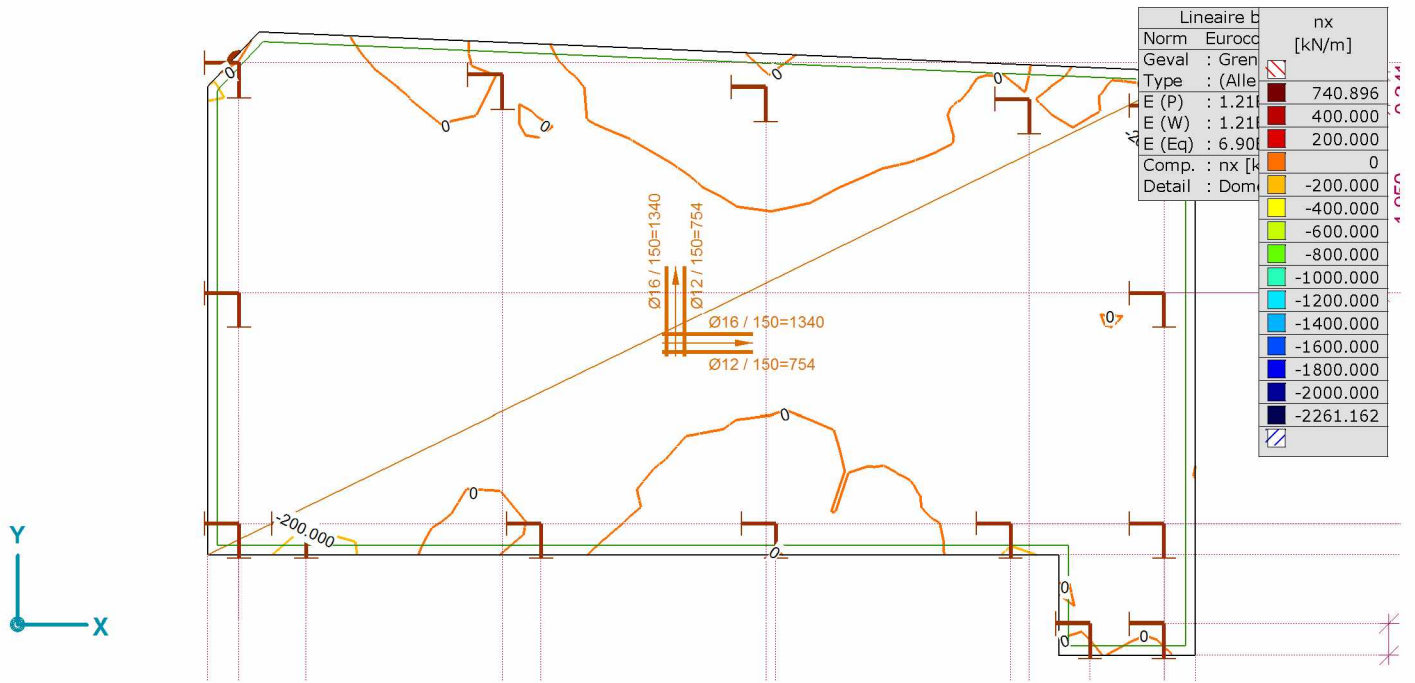
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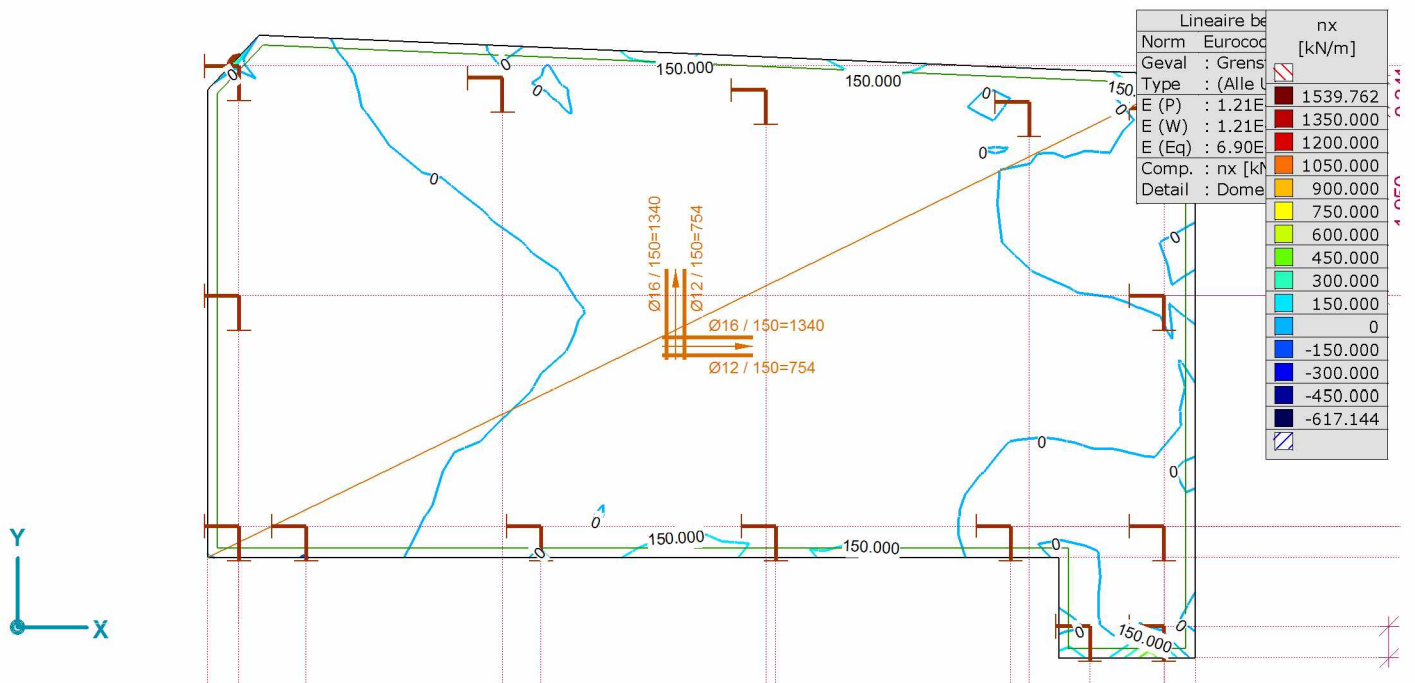
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Rapport [I], >, Lineair,(Alle UGT (a, b) Grenstoestand Min., nx, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair,(Alle UGT (a, b) Grenstoestand Max., nx, Isolijnen, Bovenaanzicht

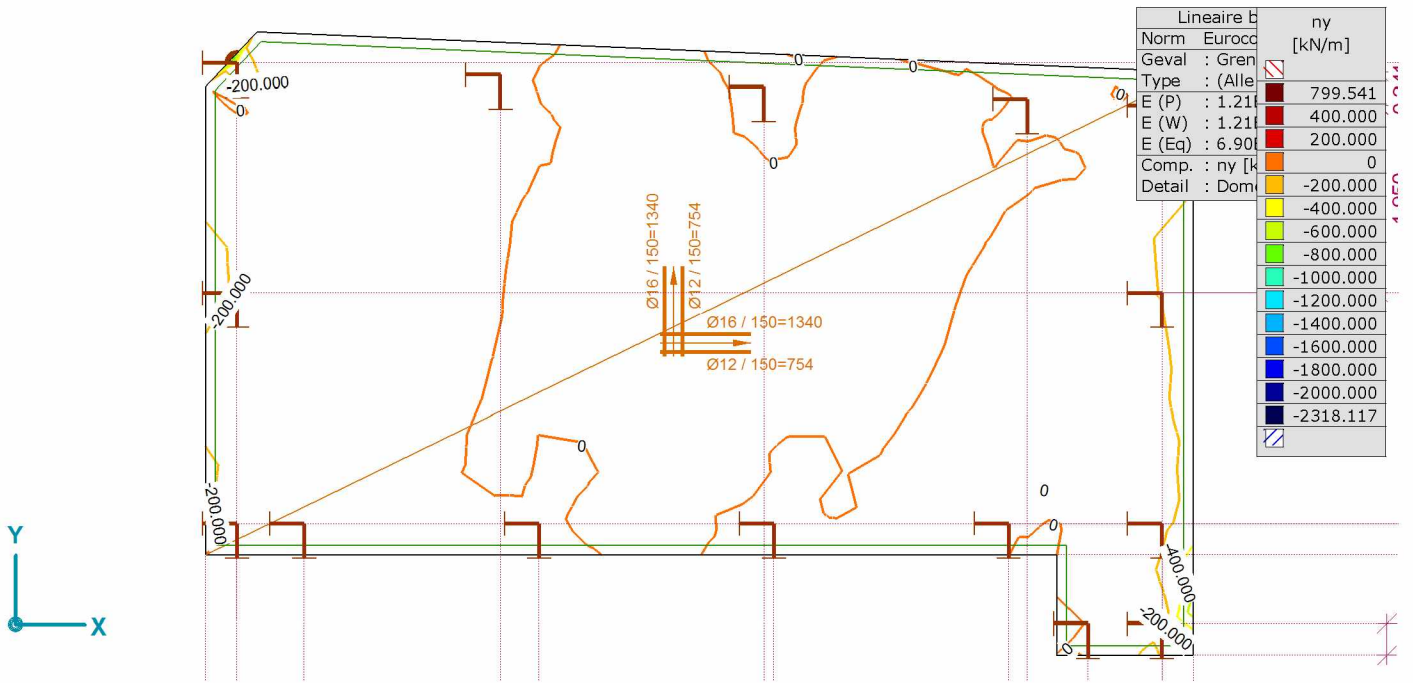
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Constructeur: Core Constructies

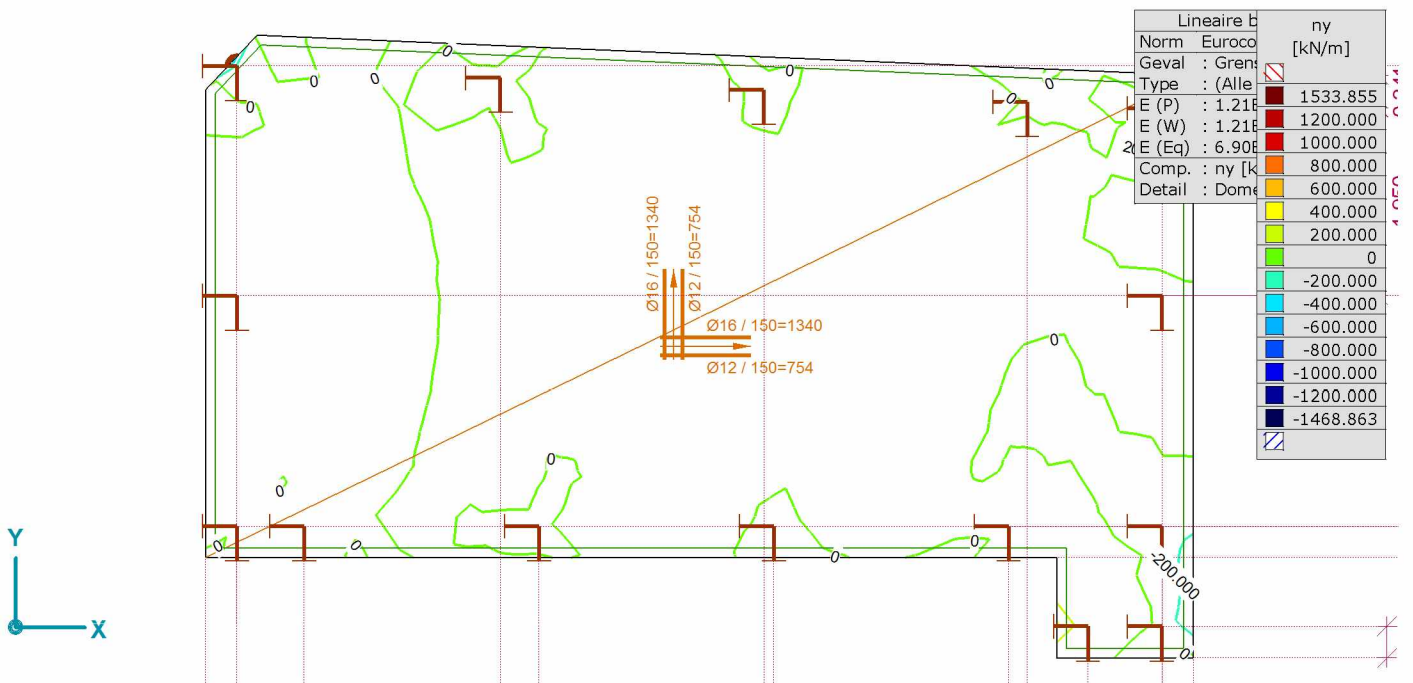
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Rapport [l], >, Lineair,(Alle UGT (a, b) Grenstoestand Min., ny, Isolijnen, Bovenaanzicht



Rapport [l], >, Lineair,(Alle UGT (a, b) Grenstoestand Max., ny, Isolijnen, Bovenaanzicht

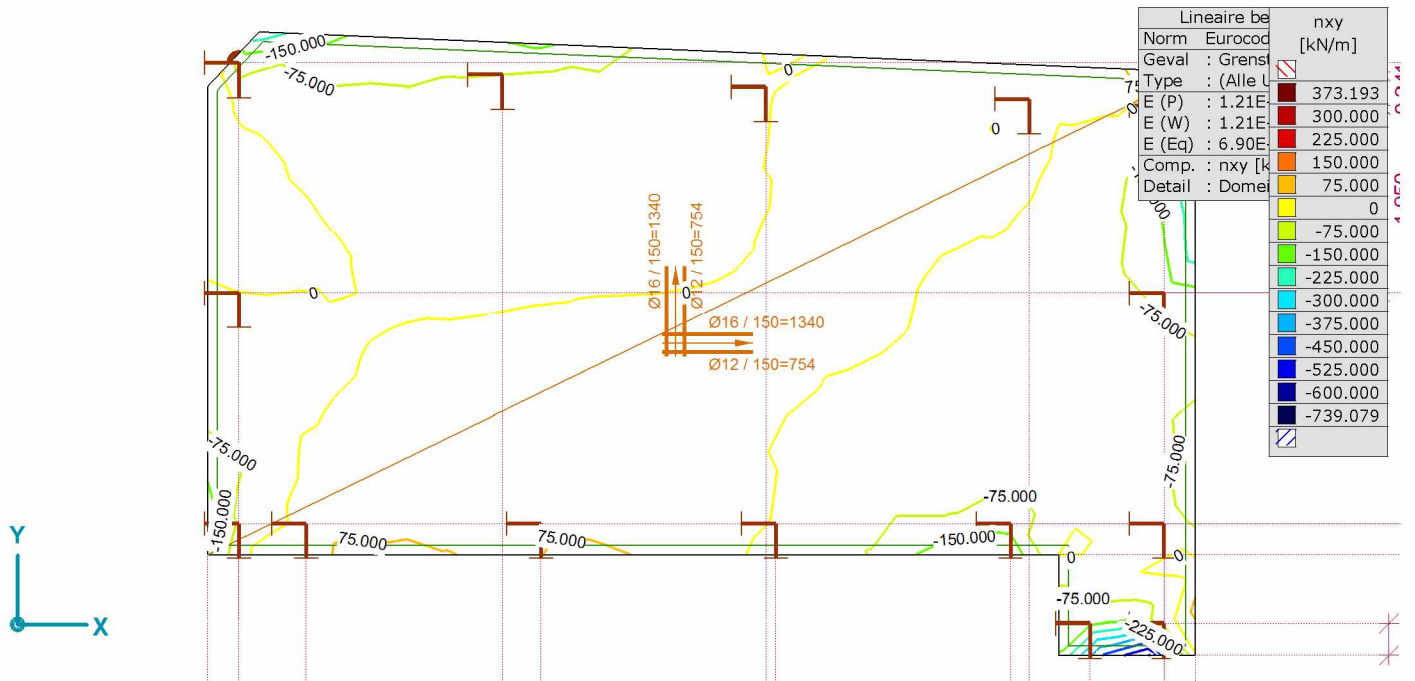
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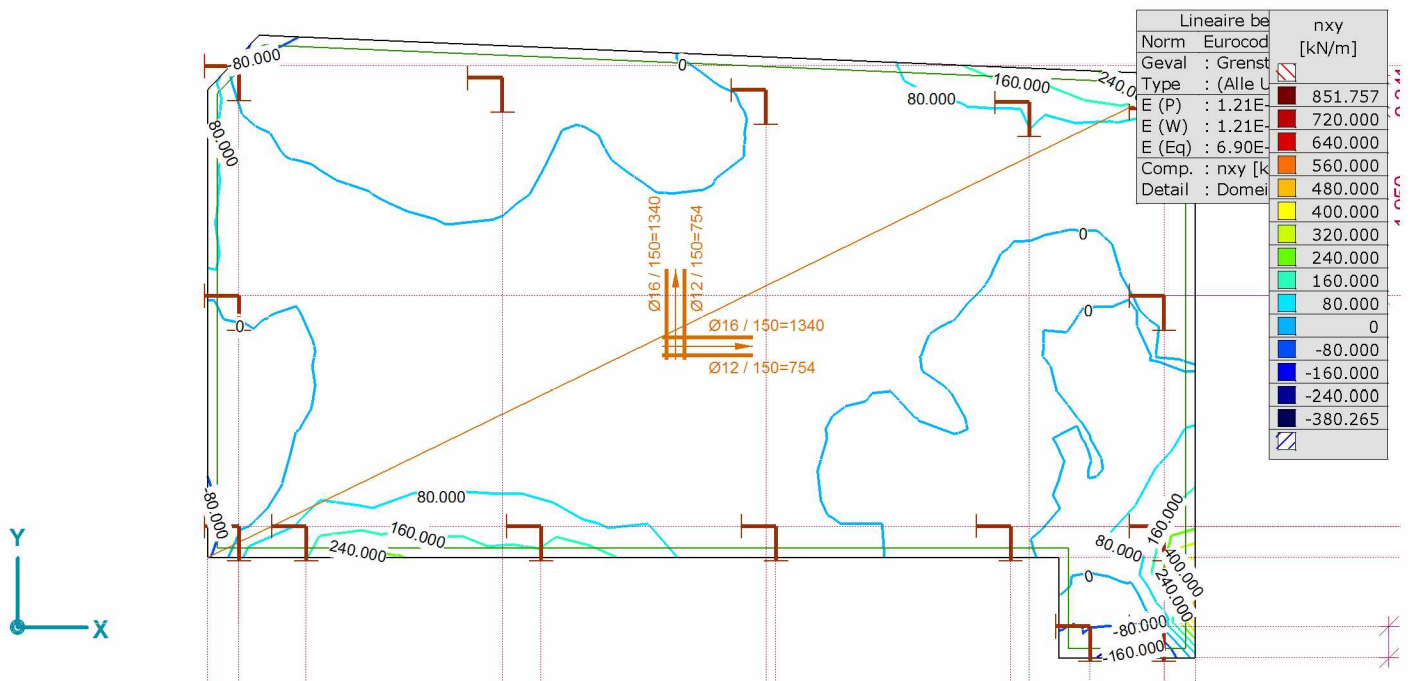
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Rapport [I], >, Lineair, (Alle UGT (a, b)) Grenstoestand Min., nxy, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair, (Alle UGT (a, b)) Grenstoestand Max., nxy, Isolijnen, Bovenaanzicht

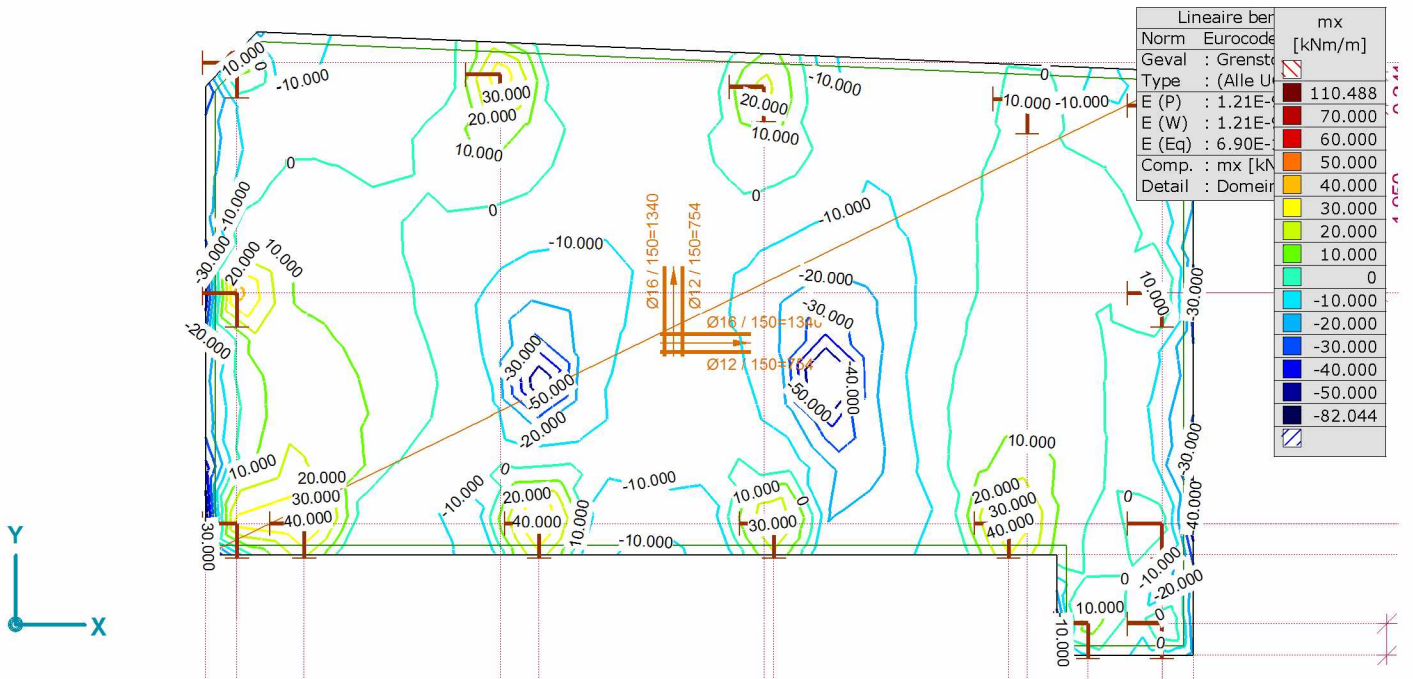
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Constructeur: Core Constructies

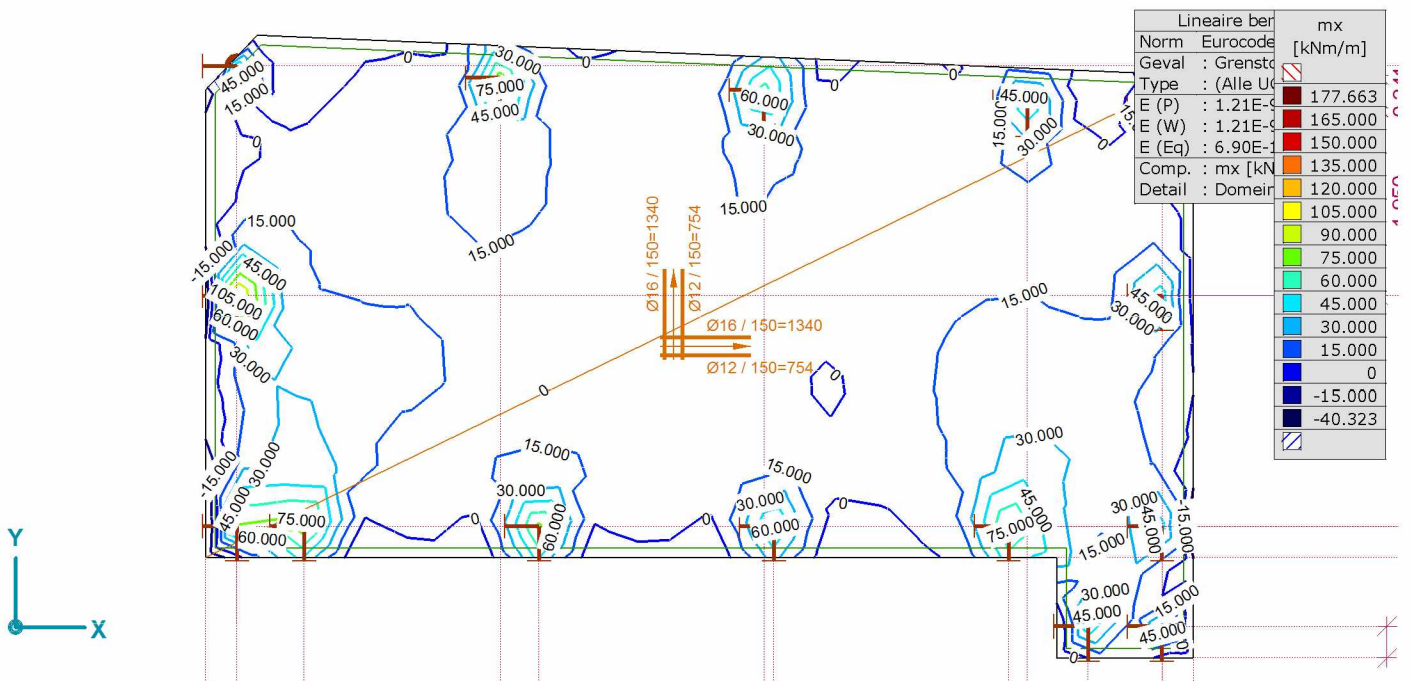
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Rapport [I], >, Linear,(Alle UGT (a, b)) Grenstoestand Min., mx, Isolijnen, Bovenaanzicht



Rapport [I], >, Linear,(Alle UGT (a, b)) Grenstoestand Max., mx, Isolijnen, Bovenaanzicht

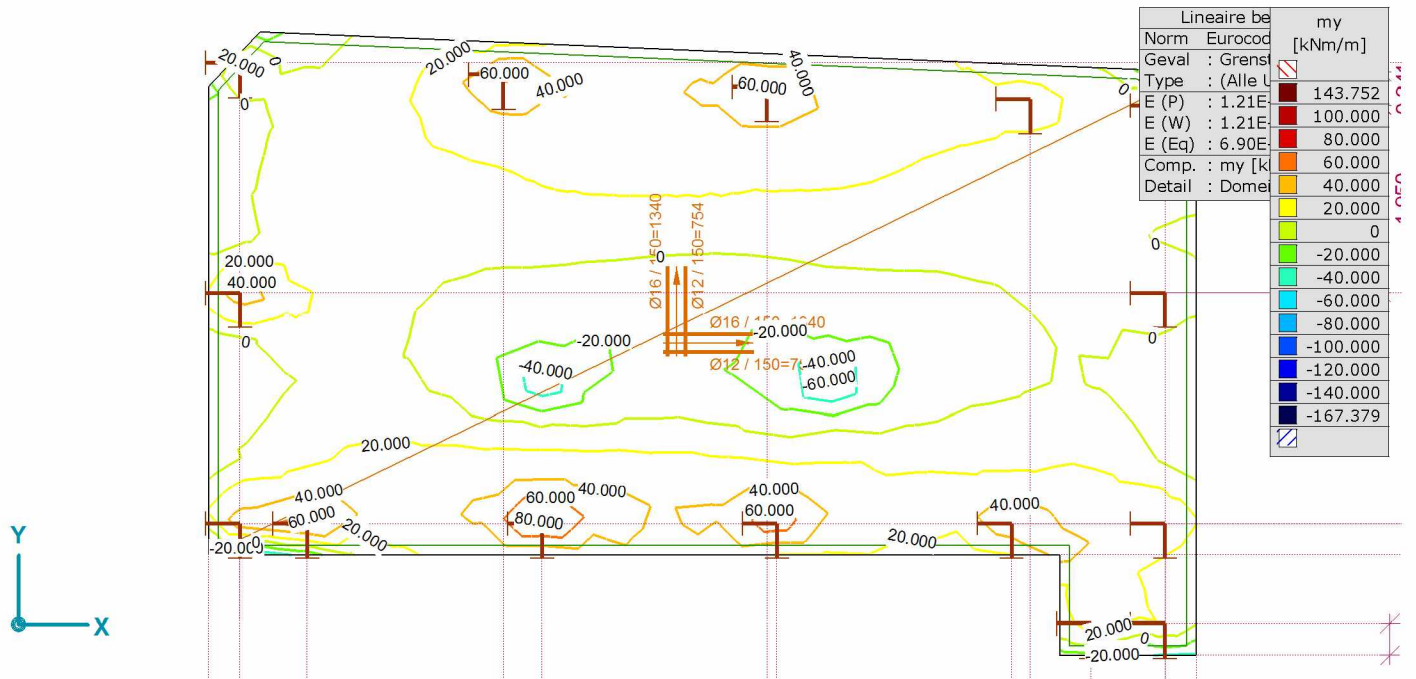
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Constructeur: Core Constructies

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Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., my, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., my, Isolijnen, Bovenaanzicht

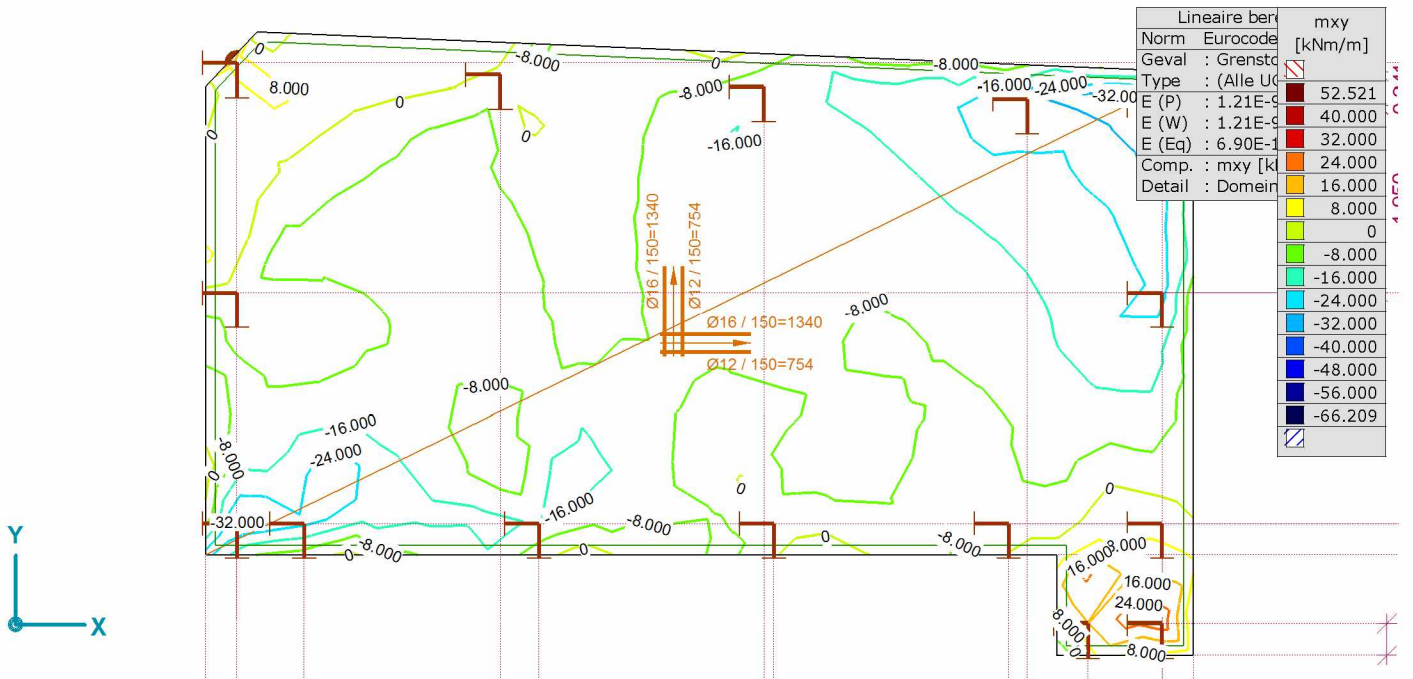
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

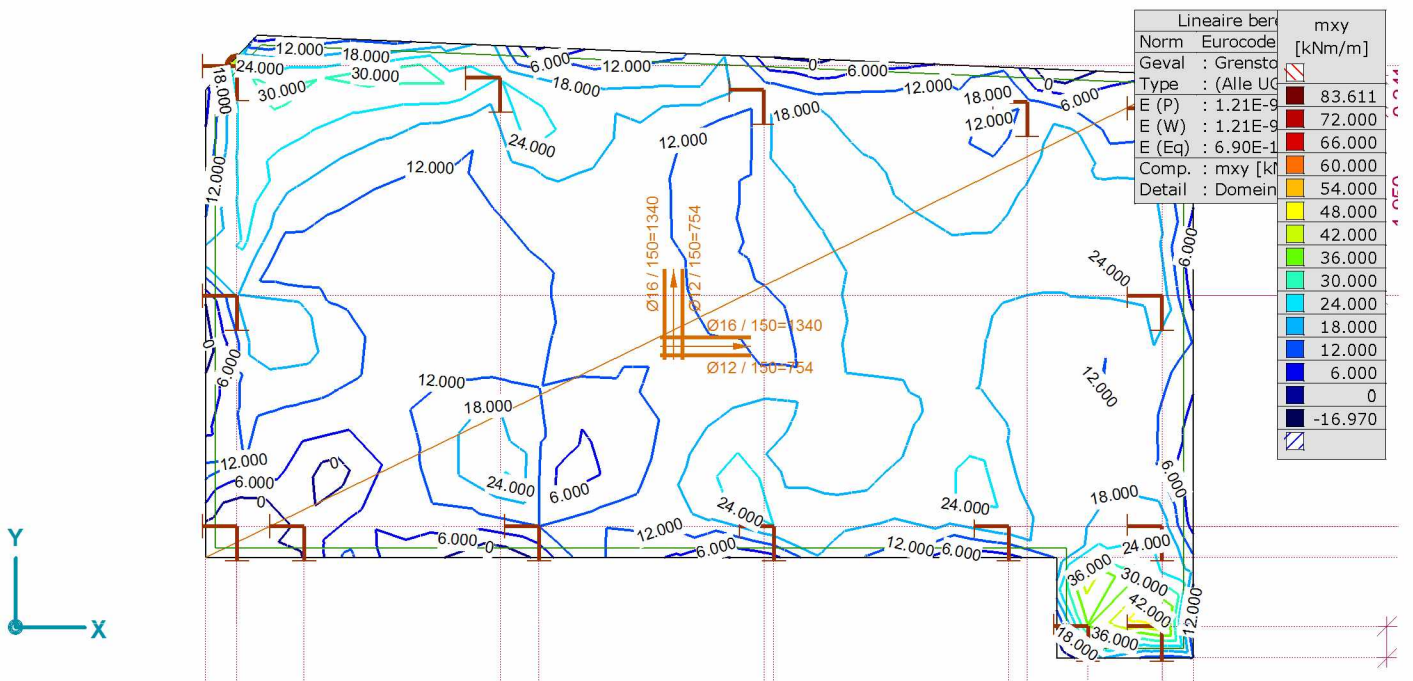
Model: 17021-rev2.axs

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Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., mxy, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., mxy, Isolijnen, Bovenaanzicht

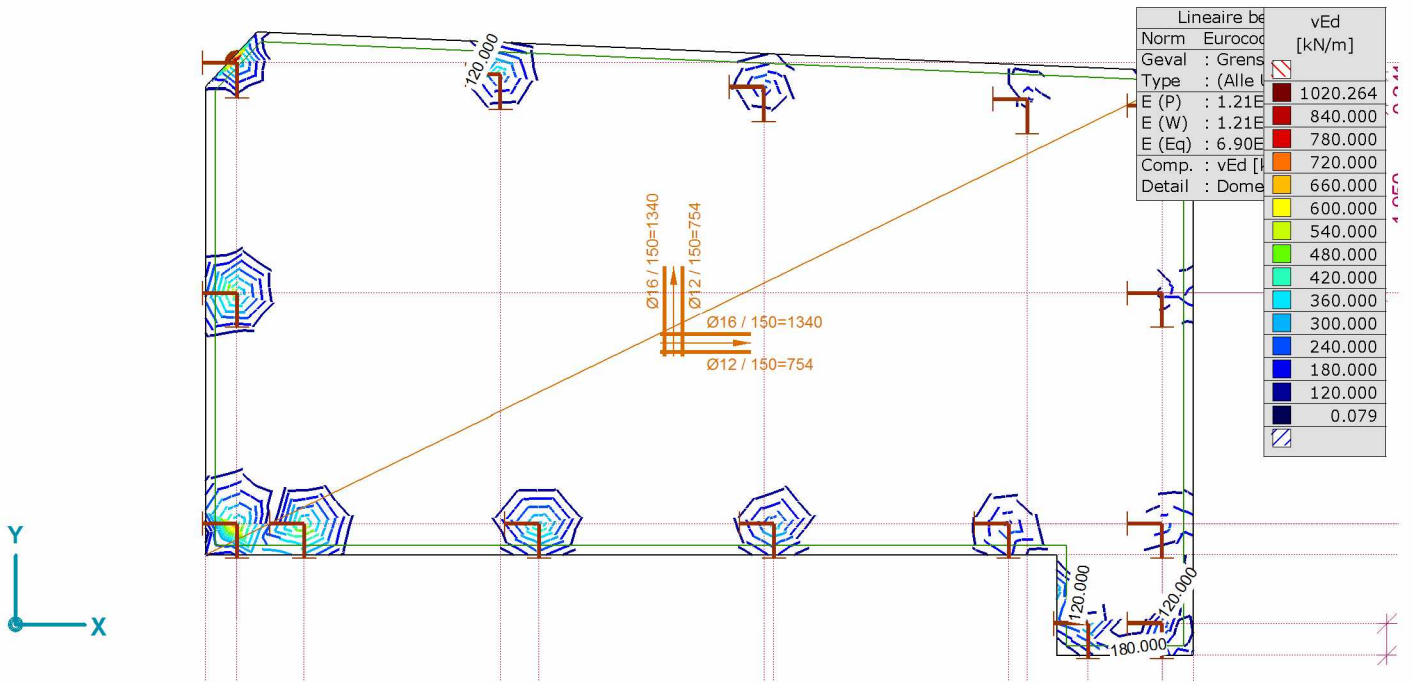
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

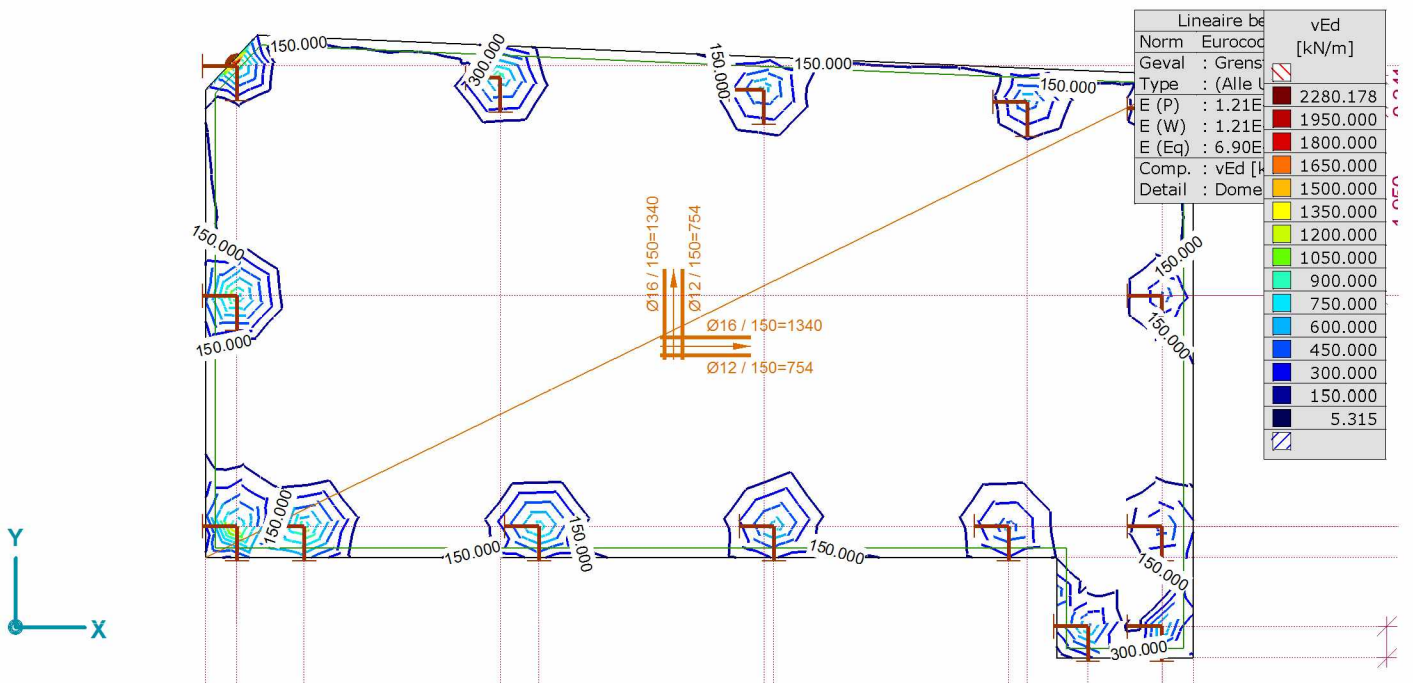
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Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., vEd, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., vEd, Isolijnen, Bovenaanzicht

**Spanningen**

**Vlakspanningen**

**Grenstoestand Min,Max.**

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Vlakspanningen [Linear,(Alle UGT (a, b)) Grenstoestand, Domein 10]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Syy<br>[N/mm <sup>2</sup> ] | Sxy<br>[N/mm <sup>2</sup> ] | Sxz<br>[N/mm <sup>2</sup> ] | Syz<br>[N/mm <sup>2</sup> ] | SVM<br>[N/mm <sup>2</sup> ] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Ext.  |     |              |           |      |                             |                             |                             |                             |                             |                             |
| 47    | Sxx | min          | Sch 671   | B    | <b>-5.54</b>                | -5.36                       | -0.49                       | 0                           | 0                           | 5.52                        |
| 47    |     | max          | Sch 671   | T    | <b>5.18</b>                 | 4.39                        | 0.51                        | 0                           | 0                           | 4.91                        |
| 41    | Syy | min          | Sch 632   | B    | -3.64                       | <b>-7.90</b>                | 0.17                        | 0                           | 0                           | 6.86                        |
| 41    |     | max          | Sch 632   | T    | 3.96                        | <b>7.74</b>                 | 0.62                        | 0                           | 0                           | 6.79                        |
| 431   | Sxy | min          | Sch 665   | B    | -0.49                       | -2.08                       | <b>-2.83</b>                | 0                           | 0                           | 5.26                        |
| 268   |     | max          | Sch 682   | T    | 1.42                        | -1.15                       | <b>2.48</b>                 | 0                           | 0                           | 4.85                        |
| 39    | Sxz | min          | Sch 631   | C    | -0.48                       | -0.16                       | -0.08                       | <b>-3.81</b>                | 0.03                        | 6.62                        |
| 48    |     | max          | Sch 682   | C    | -0.09                       | -1.06                       | -0.29                       | <b>7.83</b>                 | -2.32                       | 14.19                       |
| 48    | Syz | min          | Sch 683   | C    | -0.09                       | -1.06                       | -0.29                       | 4.06                        | <b>-8.89</b>                | 16.96                       |
| 39    |     | max          | Sch 626   | C    | -0.48                       | -0.16                       | -0.08                       | 2.26                        | <b>5.72</b>                 | 10.66                       |
| 533   | SVM | min          | Sch 884   | C    | -0.02                       | 0                           | -0.01                       | -0.01                       | 0.01                        | <b>0.03</b>                 |
| 48    |     | max          | Sch 683   | C    | -0.09                       | -1.06                       | -0.29                       | 4.06                        | -8.89                       | <b>16.96</b>                |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | S1<br>[N/mm <sup>2</sup> ] | S2<br>[N/mm <sup>2</sup> ] | aS<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|----------------------------|----------------------------|-----------|
| Ext.  |     |              |           |      |                             |                            |                            |           |
| 47    | Sxx | min          | Sch 671   | B    | <b>-5.54</b>                | -4.96                      | -5.94                      | -50.29    |
| 47    |     | max          | Sch 671   | T    | <b>5.18</b>                 | 5.42                       | 4.14                       | 26.03     |
| 41    | Syy | min          | Sch 632   | B    | -3.64                       | -3.64                      | -7.91                      | 2.28      |
| 41    |     | max          | Sch 632   | T    | 3.96                        | 7.84                       | 3.86                       | 80.95     |
| 431   | Sxy | min          | Sch 665   | B    | -0.49                       | 1.66                       | -4.23                      | -37.16    |
| 268   |     | max          | Sch 682   | T    | 1.42                        | 2.93                       | -2.66                      | 31.31     |
| 39    | Sxz | min          | Sch 631   | C    | -0.48                       | -0.15                      | -0.50                      | -76.40    |
| 48    |     | max          | Sch 682   | C    | -0.09                       | -0.01                      | -1.14                      | -15.56    |
| 48    | Syz | min          | Sch 683   | C    | -0.09                       | -0.01                      | -1.14                      | -15.56    |
| 39    |     | max          | Sch 626   | C    | -0.48                       | -0.15                      | -0.50                      | -76.40    |
| 533   | SVM | min          | Sch 884   | C    | -0.02                       | 0.01                       | -0.02                      | -68.32    |
| 48    |     | max          | Sch 683   | C    | -0.09                       | -0.01                      | -1.14                      | -15.56    |

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Sxx<br>[N/mm <sup>2</sup> ] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|------|-----------------------------|--|
| Ext.  |     |              |           |      |                             |  |
| 47    | Sxx | min          | Sch 671   | B    | <b>-5.54</b>                | [1.35*0.889*ST1] {1.5*ST2}                           |
| 47    |     | max          | Sch 671   | T    | <b>5.18</b>                 | [1.35*0.889*ST1] {1.5*ST2}                           |
| 41    | Syy | min          | Sch 632   | B    | -3.64                       | [1.35*0.889*ST1] {1.5*ST2}                           |
| 41    |     | max          | Sch 632   | T    | 3.96                        | [1.35*0.889*ST1] {1.5*ST2}                           |
| 431   | Sxy | min          | Sch 665   | B    | -0.49                       | [1.35*ST1] {1.5*0.4*ST3}                             |
| 268   |     | max          | Sch 682   | T    | 1.42                        | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 39    | Sxz | min          | Sch 631   | C    | -0.48                       | [1.35*0.889*ST1] {1.5*ST2}                           |
| 48    |     | max          | Sch 682   | C    | -0.09                       | [1.35*0.889*ST1] {1.5*ST2}                           |
| 48    | Syz | min          | Sch 683   | C    | -0.09                       | [1.35*0.889*ST1] {1.5*ST2}                           |
| 39    |     | max          | Sch 626   | C    | -0.48                       | [1.35*0.889*ST1] {1.5*ST2}                           |
| 533   | SVM | min          | Sch 884   | C    | -0.02                       | [0.9*ST1] {1.5*ST3}                                  |
| 48    |     | max          | Sch 683   | C    | -0.09                       | [1.35*0.889*ST1] {1.5*ST2}                           |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **Pos.:** Punt voor spanningsberekening; **Sxx:** Normalspanning in lokale X-richting; **Syy:** Normalspanning in lokale Y-richting; **Sxy:** Torsie-/Schuifspanning; **Sxz, Syz:** Draai/afschuivingsspanning; **SVM:** Von Mises spanning; **S1:** Primaire spanning 1; **S2:** Primaire spanning 2; **aS:** Richting primaire spanning;

**Betonontwerp****Wapeningshoeveelheden, Eurocode-NL****Grenstoestand Min,Max.**

# Project: 17021 Willemsparkweg 220 Amsterdam

Constructeur: Core Constructies

Model: 17021-rev2.ass

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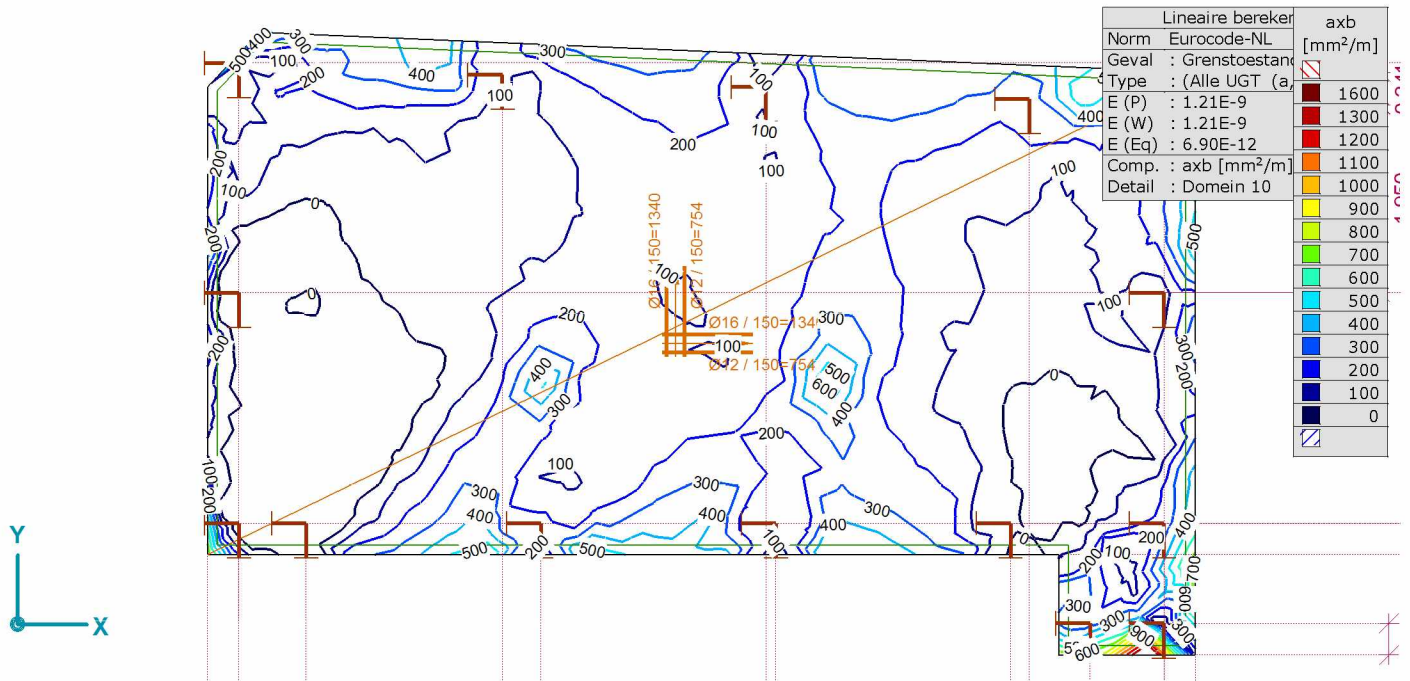
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Wapeningshoeveelheden, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 10]

| Knoop | C   | min.<br>max. | Oppervlak | axb<br>[mm <sup>2</sup> /m] | ayb<br>[mm <sup>2</sup> /m] |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|
| Ext.  |     |              |           |                             |                             |
| 343   | axb | max          | Sch 668   | 1600                        |                             |
| 344   | ayb | max          | Sch 660   |                             | 960                         |
| 343   | axt | max          | Sch 668   |                             |                             |
| 41    | ayt | max          | Sch 632   |                             |                             |

| Knoop | C   | min.<br>max. | Oppervlak | axt<br>[mm <sup>2</sup> /m] | ayt<br>[mm <sup>2</sup> /m] | Maatgevende combinatie                               |
|-------|-----|--------------|-----------|-----------------------------|-----------------------------|--|
| Ext.  |     |              |           |                             |                             |  |
| 343   | axb | max          | Sch 668   |                             |                             | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 344   | ayb | max          | Sch 660   |                             |                             | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 343   | axt | max          | Sch 668   | 1265                        |                             | [1.35*0.889*ST1] {1.5*ST4} (1.5*0.4*ST2+1.5*0.4*ST3) |
| 41    | ayt | max          | Sch 632   |                             | 1398                        | [1.35*0.889*ST1] {1.5*ST2}                           |

**Knoop:** Index; **C:** Extreme component; **min. max.:** Extreme type; **Oppervlak:** Vlak behorend bij knoop; **axb:** Onderwapening in lokale X-richting; **ayb:** Onderwapening in lokale Y-richting; **axt:** Bovenwapening in lokale X-richting; **ayt:** Bovenwapening in lokale Y-richting;



Rapport [l, >, Lineair,(Alle UGT (a, b)) Grenstoestand, axb, Isolijnen, Bovenaanzicht

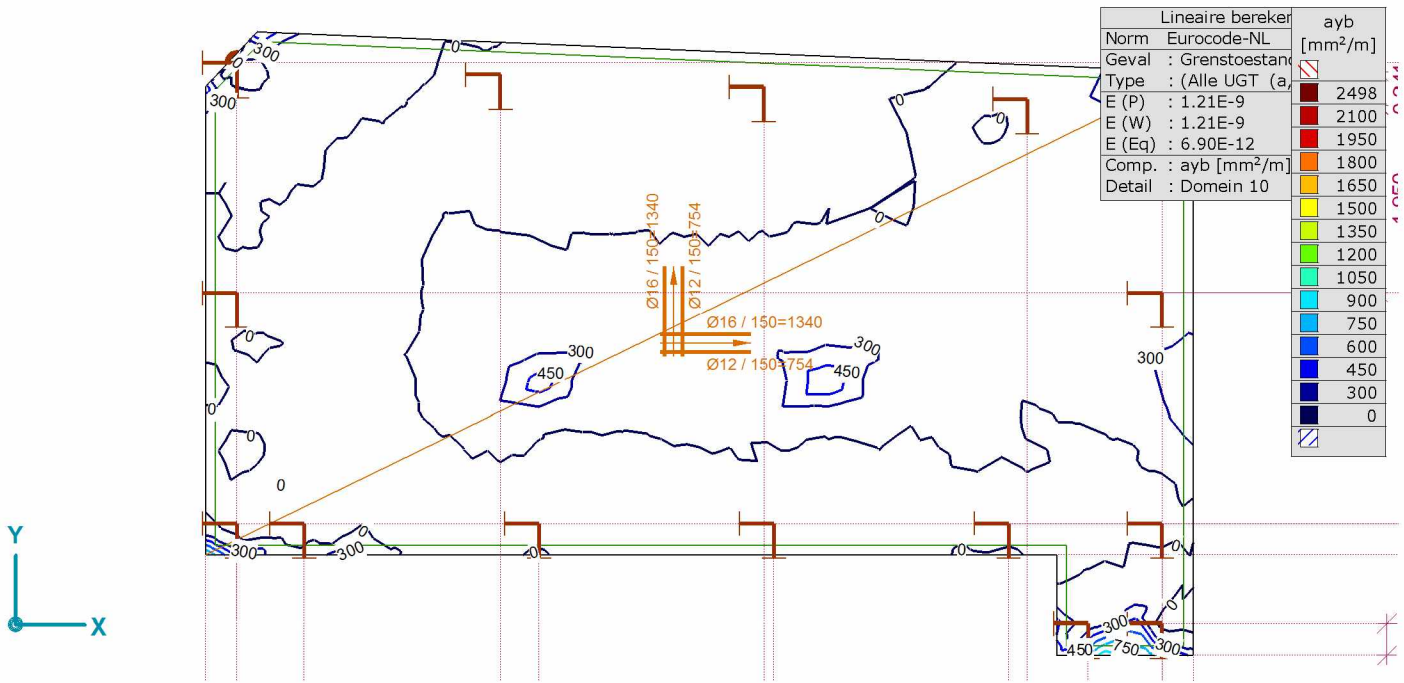
**Project: 17021 Willemsparkweg 220 Amsterdam**

Constructeur: Core Constructies

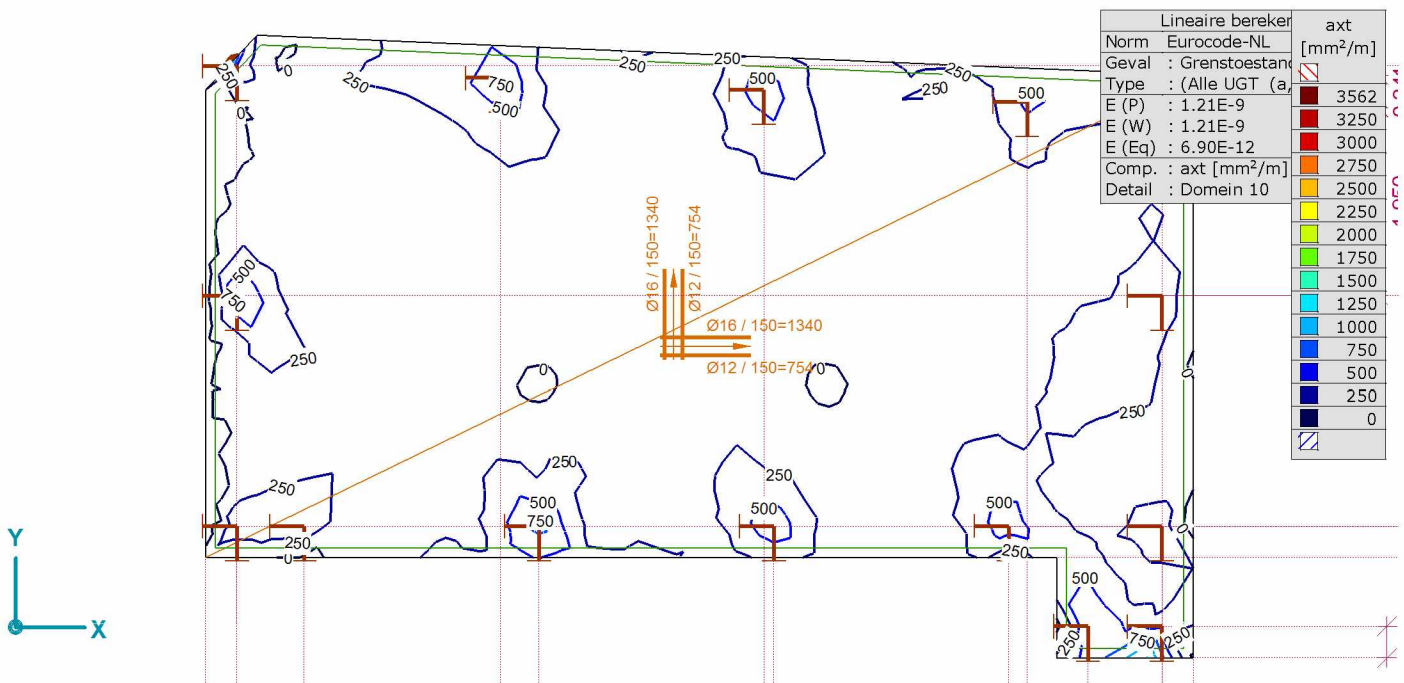
Model: 17021-rev2.axs

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Rapport [l], >, Lineair, (Alle UGT (a, b)) Grenstoestand, ayb, Isolijnen, Bovenaanzicht



Rapport [l], >, Lineair, (Alle UGT (a, b)) Grenstoestand, axt, Isolijnen, Bovenaanzicht

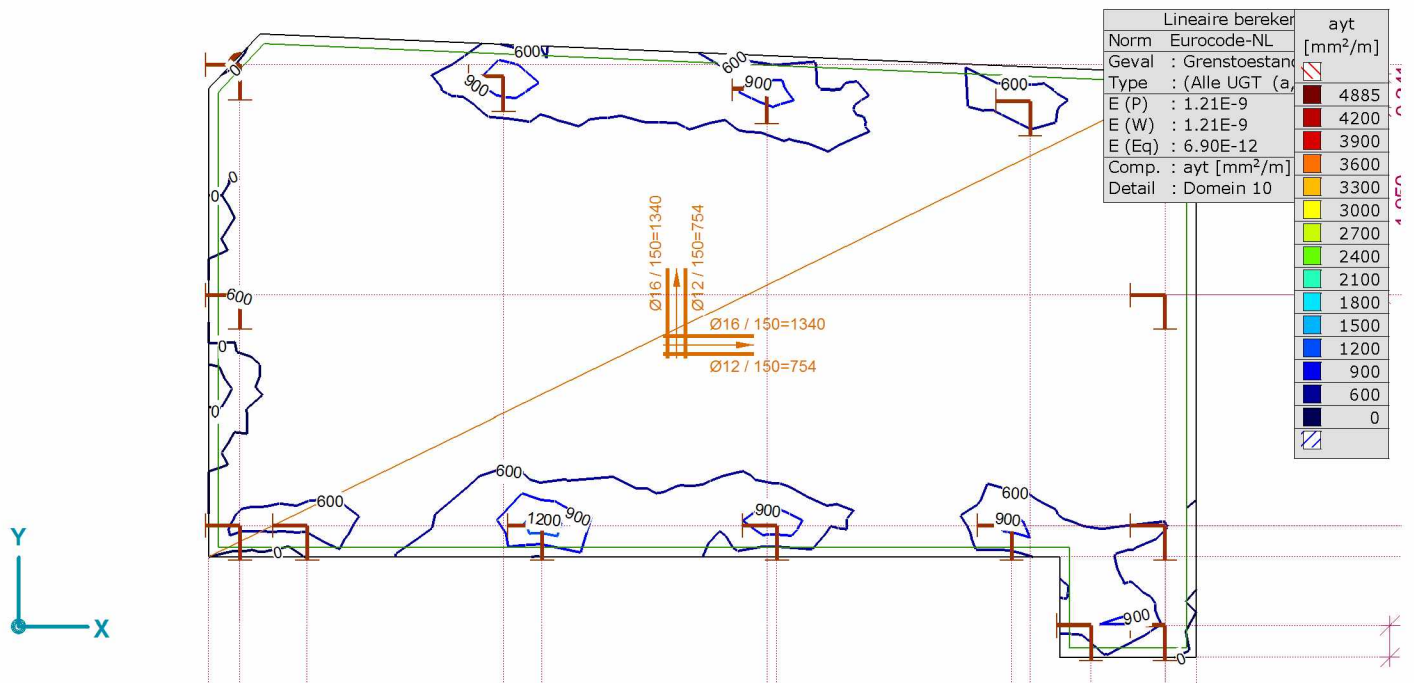
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Constructeur: Core Constructies

Model: 17021-rev2.axs

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Rapport [l], &gt;, Linear,(Alle UGT (a, b)) Grenstoestand, ayt, Isolijnen, Bovenaanzicht

**Scheurwijdte, Eurocode-NL****Grenstoestand Min,Max.**

Scheurwijdte, Eurocode-NL [Linear,(BGT Frequent) Grenstoestand, Domein 10]

| Knoop | C   | min.<br>max. | Oppervlak | Pos. | Aax<br>[mm <sup>2</sup> /m] | Aay<br>[mm <sup>2</sup> /m] | wk<br>[mm]  | wk2<br>[mm] | x <sub>s2</sub><br>[mm] | σ <sub>s2</sub><br>[N/mm <sup>2</sup> ] | wR<br>[°] |
|-------|-----|--------------|-----------|------|-----------------------------|-----------------------------|-------------|-------------|-------------------------|---|-----------|
| Ext.  |     |              |           |      |                             |                             |             |             |                         |   |           |
| 343   | wk  | max          | Sch 668   | ↓    | 754                         | 754                         | <b>0.52</b> | 0.60        | -49                     | 464.52                                  | 48.55     |
| 343   | wk2 | max          | Sch 668   | ↓    | 754                         | 754                         | 0.52        | <b>0.60</b> | -49                     | 464.52                                  | 48.55     |

| Knoop | C   | min.<br>max. | Oppervlak | nx<br>[kN/m] | ny<br>[kN/m] | nxy<br>[kN/m] |
|-------|-----|--------------|-----------|--------------|--------------|---------------|
| Ext.  |     |              |           |              |              |               |
| 343   | wk  | max          | Sch 668   | 327.941      | -186.851     | -403.057      |
| 343   | wk2 | max          | Sch 668   | 327.941      | -186.851     | -403.057      |

| Knoop | C   | min.<br>max. | Oppervlak | mx<br>[kNm/m] | my<br>[kNm/m] | mxy<br>[kNm/m] | Maatgevende combinatie            |
|-------|-----|--------------|-----------|---------------|---------------|----------------|-----------------------------------|
| Ext.  |     |              |           |               |               |                |                                   |
| 343   | wk  | max          | Sch 668   | -6.650        | -29.024       | 7.179          | [ST1] {0.2*ST4} (0.3*ST2+0.3*ST3) |
| 343   | wk2 | max          | Sch 668   | -6.650        | -29.024       | 7.179          | [ST1] {0.2*ST4} (0.3*ST2+0.3*ST3) |

Knoop: Index; C: Extreme component; min. max.: Extreme type; Oppervlak: Vlak behorend bij knoop; Pos.: Punt voor spanningsberekening; Aax: Toegepaste wapening in X-richting;

Aay: Toegepaste wapening in Y-richting; wk: Scheurwijdte ter plaatse van hart wapeningsstaaf; wk2: Scheurwijdte ter plaatse van het betonoppervlak; x<sub>s2</sub>: Afstand tussen neutrale as en uiterste gedrukte vezel;σ<sub>s2</sub>: Spanning in wapeningsstaaf; wR: Scheur hoek; nx: Normaalkracht in lokale X-richting; ny: Normaalkracht in lokale Y-richting; nxy: Membraan afschuifkracht; mx: Specifiek buigmoment om de lokale y-as;

my: Specifiek buigmoment om de lokale x-as; mxy: Specifiek draaimoment;

**Afschuifweerstand, Eurocode-NL****Grenstoestand Min,Max.**

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Constructeur: Core Constructies

Model: 17021-rev2.axs

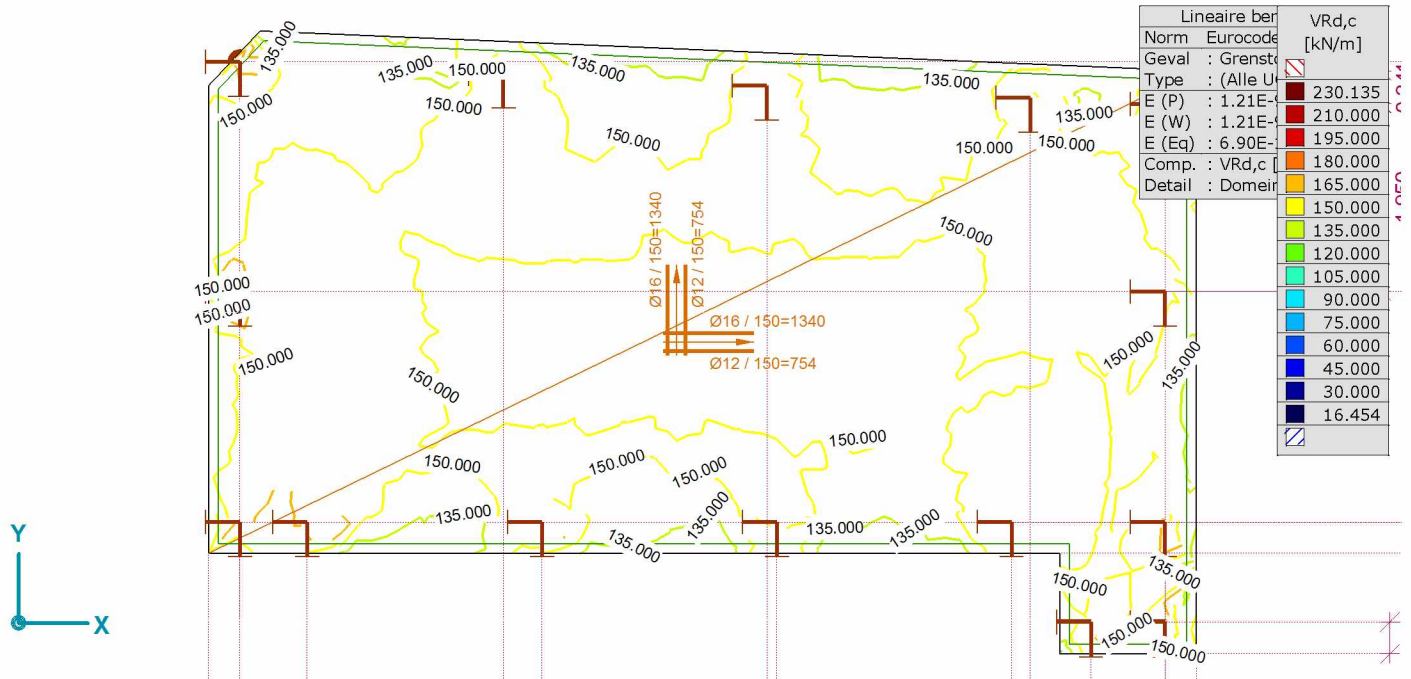
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Afschuifweerstand, Eurocode-NL [Lineair,(Alle UGT (a, b)) Grenstoestand, Domein 10]

| Knoop | C           | min.<br>max. | Oppervlak | VRd,c<br>[kN/m] | (vEd-vRd,c)<br>[kN/m] | Maatgevende combinatie            |
|-------|-------------|--------------|-----------|-----------------|-----------------------|-----------------------------------|
| Ext.  |             |              |           |                 |                       |                                   |
| 452   | (vEd-vRd,c) | min          | Sch 704   | 137.602         | -164.623              | [0.9*ST1] {1.5*ST5} (1.5*0.4*ST2) |
| 48    |             | max          | Sch 683   | 178.642         | 2101.515              | [1.35*0.889*ST1] {1.5*ST2}        |

Knoop: Index; C: Extreme component; min. max.: Extreme type; Oppervlak: Vlak behorend bij knoop; VRd,c: Afschuifweerstand;



Rapport [l], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., VRd,c, Isolijnen, Bovenaanzicht

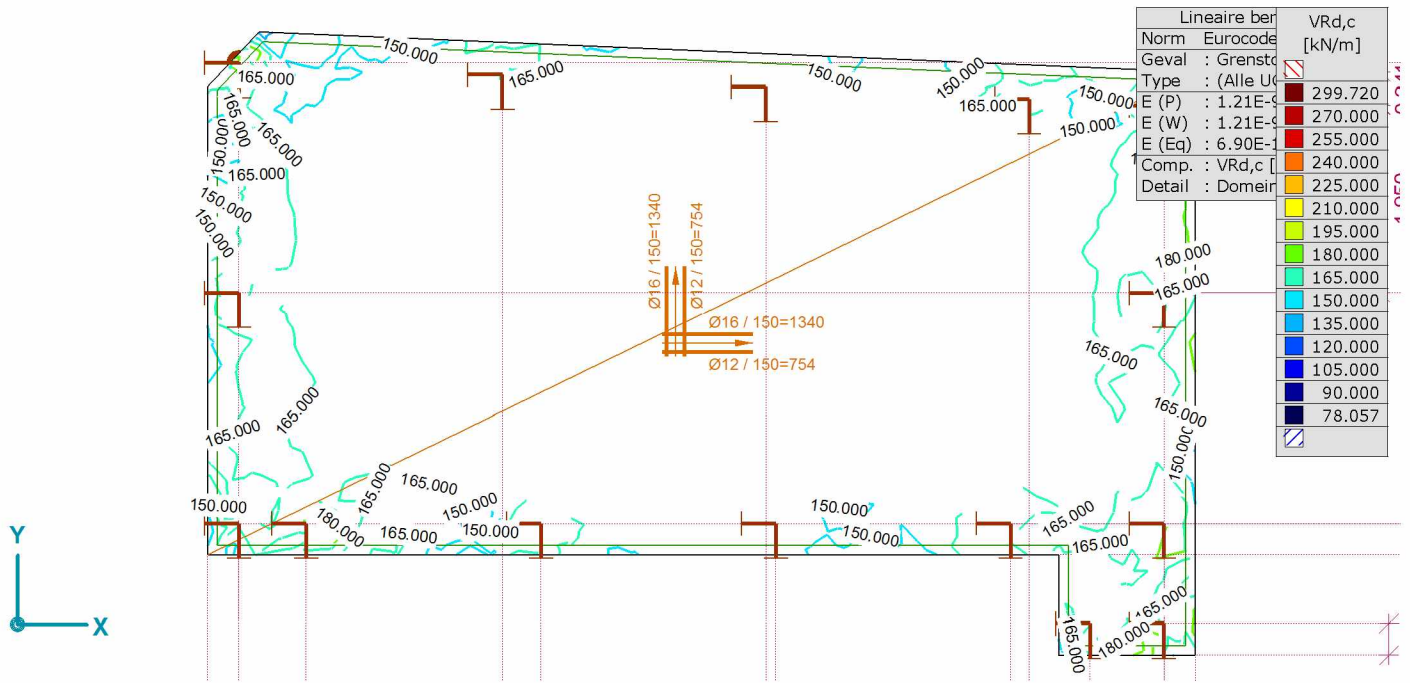
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Constructeur: Core Constructies

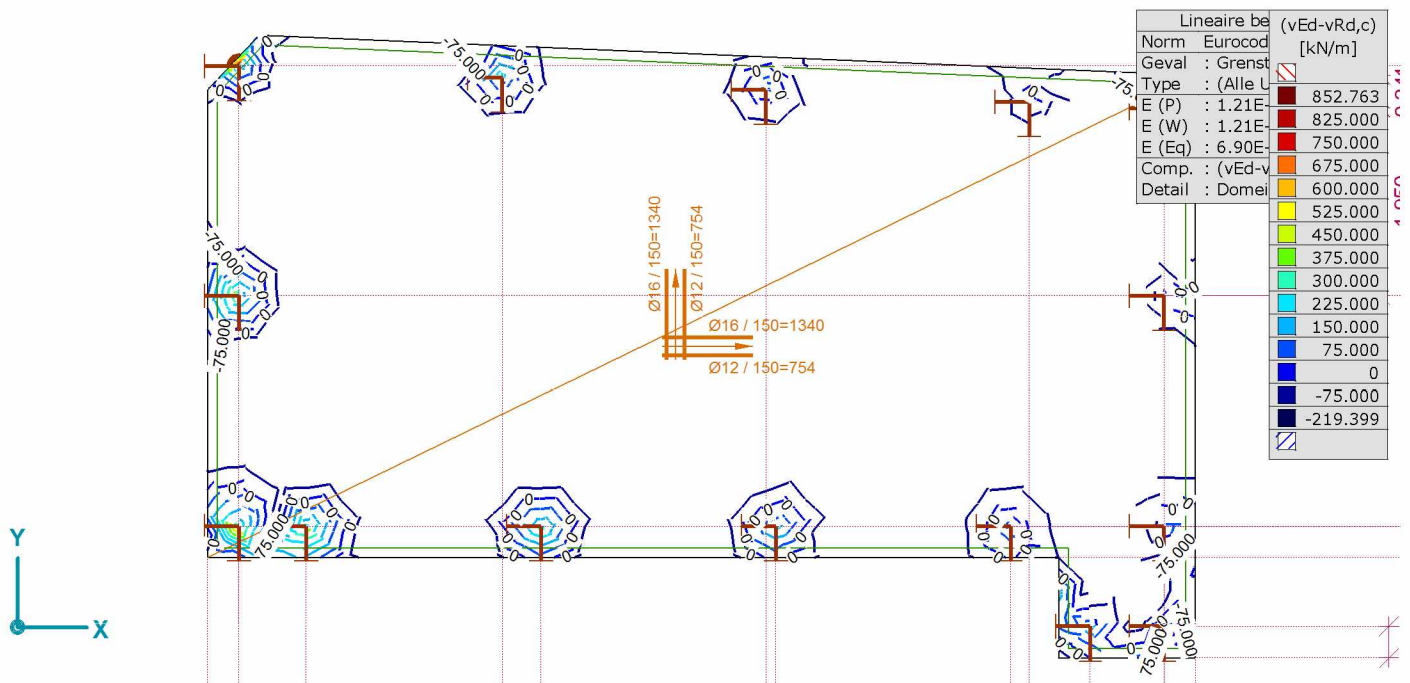
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Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Max., VRd,c, Isolijnen, Bovenaanzicht



Rapport [I], >, Lineair,(Alle UGT (a, b)) Grenstoestand Min., (vEd-vRd,c), Isolijnen, Bovenaanzicht

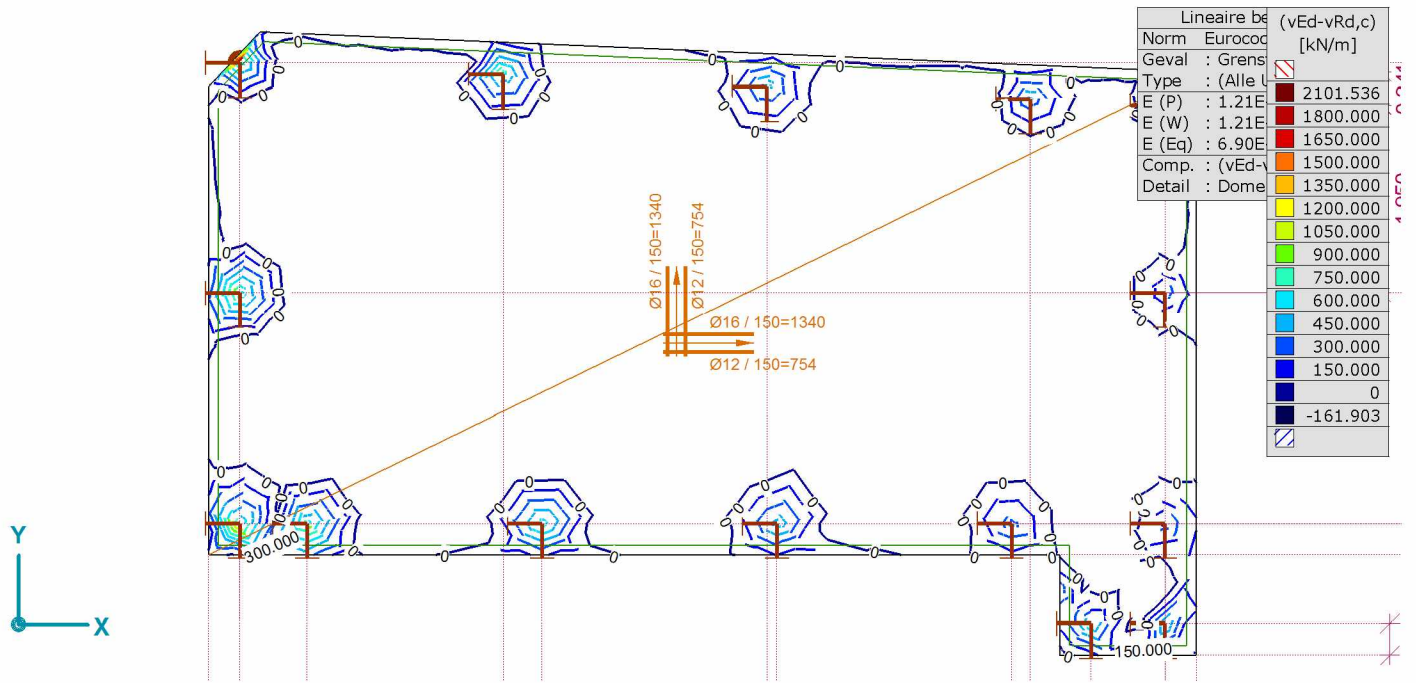
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Constructeur: Core Constructies

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Rapport [I], >, Linear, (Alle UGT (a, b)) Grenstoestand Max., (vEd-vRd,c), Isolijnen, Boveraanzicht