




Hornsea 01 220kV Offshore GIS
HOW01Z11

Foundation Loads Report

Z11AAD&CLC001



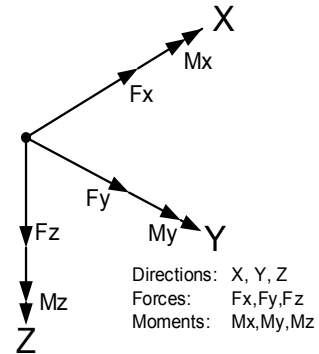
| | | |
|---|---|-------------------|
| A | As Built | |
| Revision | Status | |
|  | Foundation Loads Report | |
| | Z11AAD&CLC001 | |
| | Cover sheet for doc.: E50115-B0344 R102-A | |
| | Project. no. 54PO-01747 | No. of pages 9 |

■ GENERAL DEFINITION

DEFINITION OF LOADS

| | |
|------|----------------------------------|
| LC1 | Dead load |
| LC2 | Load by thermal expansion |
| LC3 | Static conductor tension |
| LC4 | Windload X-direction |
| LC5 | Windload Y-direction |
| LC6 | Short-circuit forces |
| LC7 | Switching forces |
| LC8 | Transportation Loads X-direction |
| LC9 | Transportation Loads Y-direction |
| LC10 | Transportation Loads Z-direction |

ORIENTATION OF FORCES AND MOMENTS



LOADCASES

If not otherwise specified, the following load combinations shall be used:

Loadcombination for Normal Load Case

- Lcomb 1: LC1
- Lcomb 2: LC1 and LC2 and LC3 and LC4
- Lcomb 3: LC1 and LC2 and LC3 and LC5

Loadcombination for Exceptional Load Case

- Lcomb 4: LC1 and LC2 and LC6
- Lcomb 5: LC1 and LC2 and LC3 and LC7
- Lcomb 6: LC1 and LC2 and LC3 and LC8 and LC10
- Lcomb 7: LC1 and LC2 and LC3 and LC9 and LC10

The loads shall be combined in the direction that produces the most severe mechanical stresses at each foundation point.

NOTES

- All loads are working loads without safety factors. For design loads safety factors shall be regarded.
- All foundation loads are given as action loads and refer to top of foundation.
- Loadtype LC2, LC8, LC9 and LC10 shall be considered with the same values in opposite direction too.
- Foundation loads for the circuit breaker (Loadpoints 11-14, 21-24, 31-34, 41-44) shall be considered to act with an eccentricity of 150mm above fastening level (Z-direction).

TRANSPORTATION LOAD

Acceleration at center of gravity:

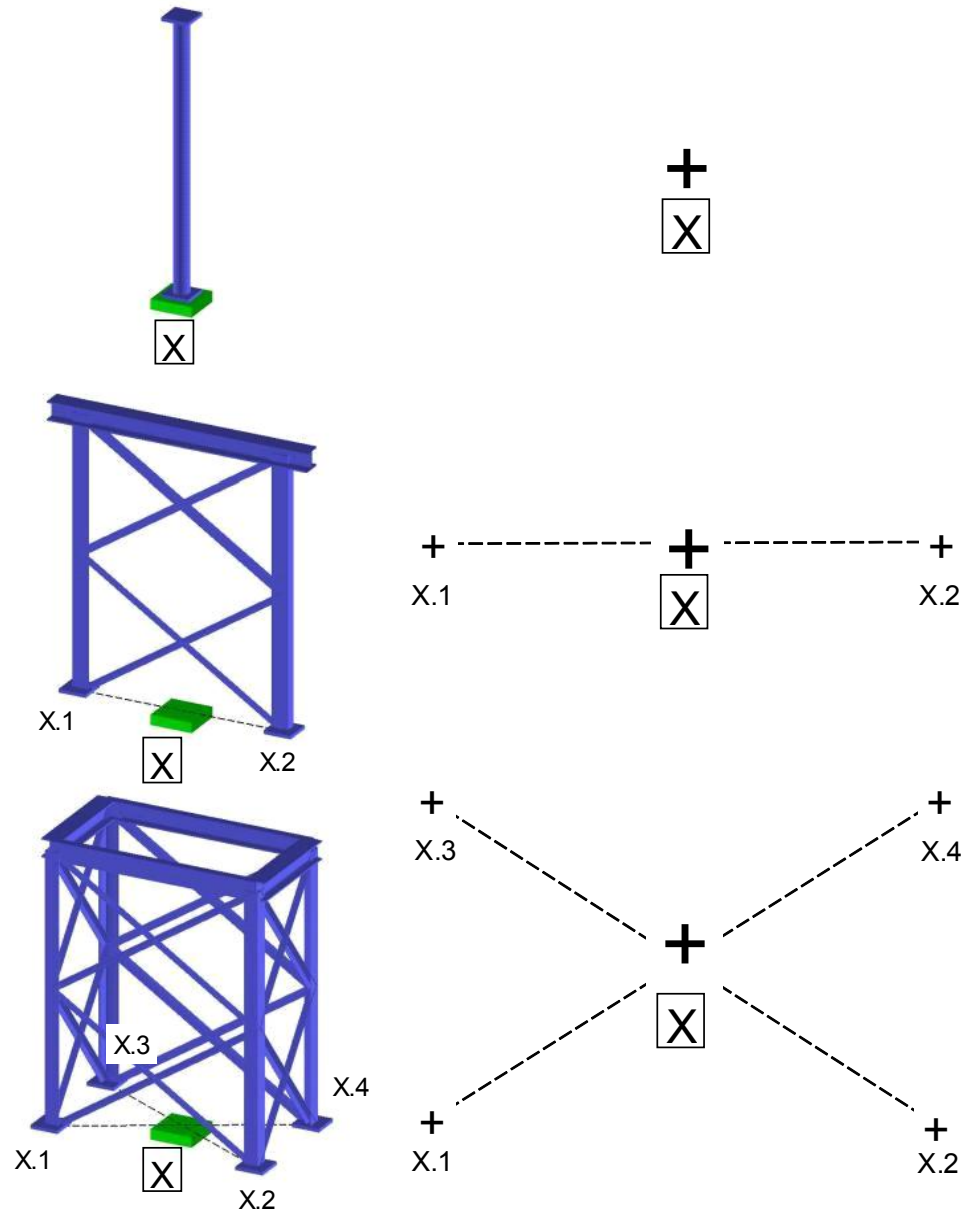
| | | | | |
|------------------------|---------------|----------|---------------|----------------------|
| horizontal X-direction | 0.6 g | vertical | 0.69 g | without gas pressure |
| horizontal Y-direction | 0.38 g | | | |

WIND LOAD

not applicable (indoor)

| Revision | Date | Author | Description |
|----------|------------|--------|--------------------------------------|
| A | 17.10.2016 | med | Gangways are considered LP 101 - 111 |
| | | | |

■ DETAILS OF LOAD POINTS



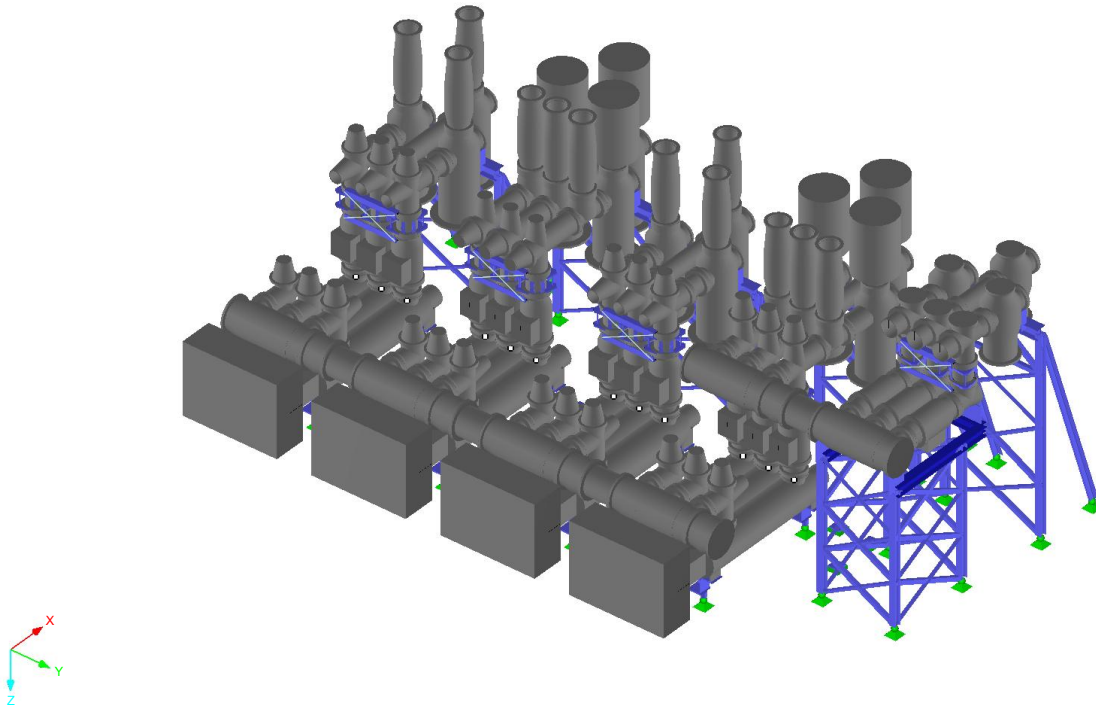
Explanation of load points and fixing points:

Explanation of the application and designation of the load points and fixing points:

1. For steel structures with one fixing point, the load point - designated with a number **X** - is equal to the fixing point.
2. For steel structures with more than one fixing point the following has to be applied:
 - 2.1 These steel structures have one virtual common load point in the centre of the corresponding fixing points, designated with a number **X**.
 - 2.2 The corresponding fixing points are designated with numbers **X.1**, **X.2**, **X.3** and **X.4**.

■ OVERVIEW GIS

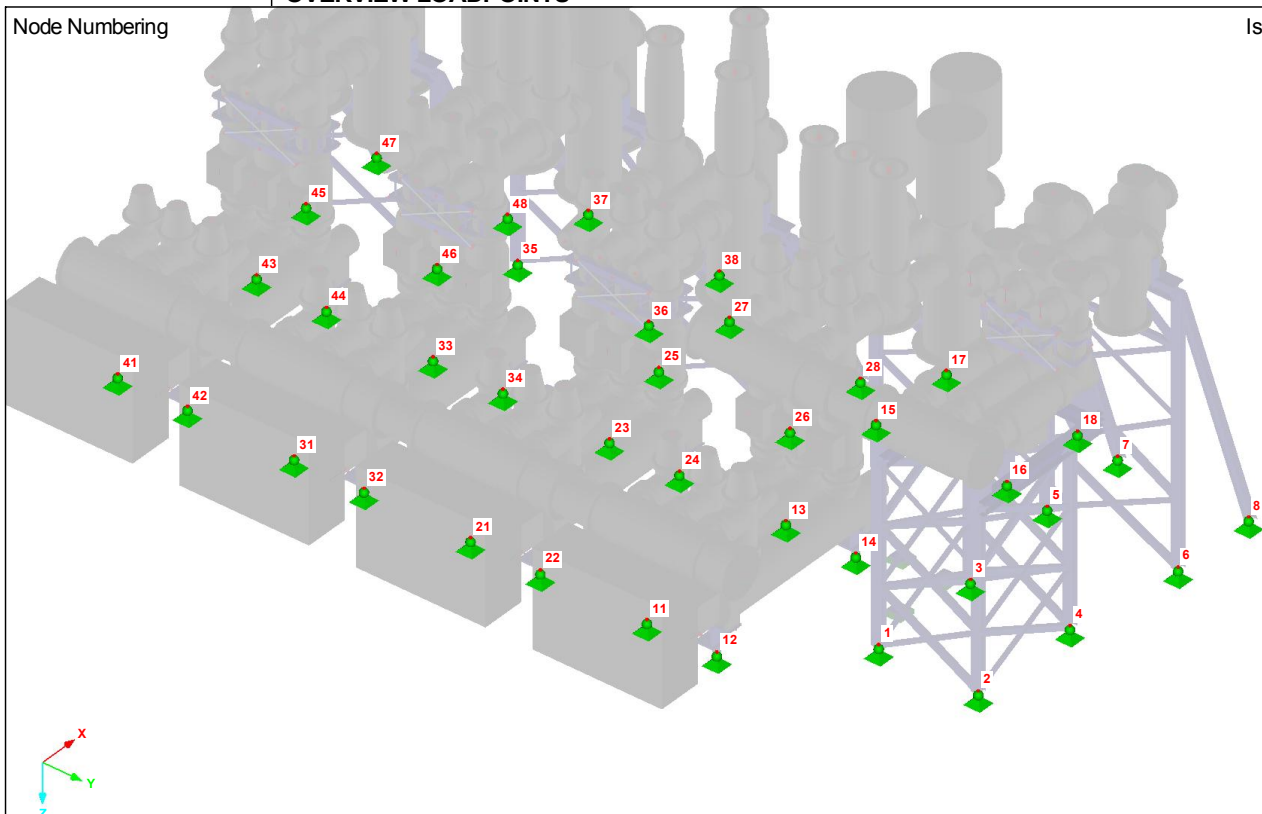
Isometric



■ OVERVIEW LOADPOINTS

Node Numbering

Isometric



■ **NODES - SUPPORT FORCES**

| Node No. | LC/LG | Support forces [kN] | | | Support moments [kNm] | | | |
|----------|-------|---------------------|----------------|----------------|-----------------------|----------------|----------------|--|
| | | P _x | P _y | P _z | M _x | M _y | M _z | |
| 1 | LC1 | -0.2 | -0.1 | 4.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 3.8 | 0.2 | -12.9 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.3 | 1.3 | -4.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 2.7 | 0.0 | 0.0 | 0.0 | |
| 2 | LC1 | -0.2 | 0.1 | 4.8 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | 0.1 | 2.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 3.8 | -0.2 | -12.7 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.3 | 1.3 | 4.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 2.9 | 0.0 | 0.0 | 0.0 | |
| 3 | LC1 | -0.2 | -0.2 | 10.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.8 | 0.0 | -2.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 3.9 | -0.2 | 11.4 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.6 | 3.6 | -14.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | -0.1 | 6.1 | 0.0 | 0.0 | 0.0 | |
| 4 | LC1 | -0.2 | 0.2 | 10.7 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.8 | 0.0 | -2.6 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 3.9 | 0.2 | 11.5 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.6 | 3.6 | 14.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.1 | 6.2 | 0.0 | 0.0 | 0.0 | |
| 5 | LC1 | 0.0 | 0.1 | 4.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | -5.3 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.3 | 0.2 | -10.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 2.6 | -8.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.1 | 3.0 | 0.0 | 0.0 | 0.0 | |
| 6 | LC1 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | -0.1 | -4.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.3 | -0.1 | -10.3 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 2.6 | 8.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | |
| 7 | LC1 | 0.3 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.6 | 0.0 | 4.7 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 4.0 | 0.0 | 11.5 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.7 | 0.1 | -2.2 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.2 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | |
| 8 | LC1 | 0.4 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.5 | 0.0 | 4.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 4.1 | 0.0 | 11.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.7 | 0.1 | 2.2 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.2 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | |
| 11 | LC1 | -0.4 | 0.0 | 12.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | -0.1 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.2 | 0.6 | -6.4 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.1 | 5.5 | -14.3 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.2 | 0.0 | 8.6 | 0.0 | 0.0 | 0.0 | |
| 12 | LC1 | -0.4 | 0.1 | 15.8 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.3 | -0.1 | -6.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.1 | 5.5 | 14.4 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.2 | 0.0 | 10.8 | 0.0 | 0.0 | 0.0 | |
| 13 | LC1 | 0.1 | -0.4 | 13.9 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.6 | 0.1 | 1.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.2 | 4.4 | -16.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | -0.2 | 8.9 | 0.0 | 0.0 | 0.0 | |
| 14 | LC1 | 0.1 | 0.2 | 15.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | 0.0 | -0.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.1 | -0.5 | 0.8 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.2 | 4.0 | 16.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | 0.1 | 10.0 | 0.0 | 0.0 | 0.0 | |
| 15 | LC1 | 0.0 | -2.1 | 12.4 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.1 | -2.8 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

■ NODES - SUPPORT FORCES

| Node No. | LC/LG | Support forces [kN] | | | Support moments [kNm] | | | |
|----------|-------|---------------------|----------------|----------------|-----------------------|----------------|----------------|--|
| | | P _x | P _y | P _z | M _x | M _y | M _z | |
| 15 | LC8 | 0.2 | -0.4 | -17.3 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 5.3 | -18.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | -1.3 | 7.8 | 0.0 | 0.0 | 0.0 | |
| 16 | LC1 | 0.0 | 2.2 | 12.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | -3.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | 0.2 | -17.8 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 5.3 | 18.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 1.4 | 8.0 | 0.0 | 0.0 | 0.0 | |
| 17 | LC1 | 0.3 | -0.1 | 0.8 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.0 | -0.1 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 11.0 | -0.2 | 22.7 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -1.2 | 0.1 | -2.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | -0.1 | 0.5 | 0.0 | 0.0 | 0.0 | |
| 18 | LC1 | 0.4 | 0.1 | 1.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.7 | 0.1 | 3.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 11.3 | 0.2 | 23.2 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 1.2 | 0.1 | 2.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.2 | 0.1 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 21 | LC1 | -0.2 | 0.0 | 11.7 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.5 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.4 | 0.6 | -5.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.1 | 5.4 | -11.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 8.1 | 0.0 | 0.0 | 0.0 | |
| 22 | LC1 | -0.2 | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.5 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.5 | 0.0 | -4.7 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.1 | 5.4 | 11.7 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 11.0 | 0.0 | 0.0 | 0.0 | |
| 23 | LC1 | 0.2 | -0.2 | 9.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.5 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.8 | 0.0 | 3.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.3 | 2.9 | -10.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | -0.2 | 6.6 | 0.0 | 0.0 | 0.0 | |
| 24 | LC1 | 0.2 | 0.2 | 9.7 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.5 | -0.1 | 1.3 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.4 | -0.4 | 2.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.3 | 2.7 | 9.9 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | 0.1 | 6.7 | 0.0 | 0.0 | 0.0 | |
| 25 | LC1 | 0.0 | -0.9 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.3 | -2.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | 0.0 | -11.5 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 3.0 | -9.1 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | -0.6 | 4.2 | 0.0 | 0.0 | 0.0 | |
| 26 | LC1 | 0.0 | 1.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | -0.1 | -4.1 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | -0.1 | -11.4 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 3.0 | 9.1 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.7 | 4.1 | 0.0 | 0.0 | 0.0 | |
| 27 | LC1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.9 | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.7 | -0.1 | 13.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.5 | 0.1 | -1.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| 28 | LC1 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.2 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.6 | 0.1 | 13.4 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.5 | 0.1 | 1.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | |
| 31 | LC1 | -0.4 | 0.0 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | -0.1 | 0.7 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.2 | 0.5 | -6.3 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.1 | 5.4 | -13.7 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.3 | 0.0 | 8.5 | 0.0 | 0.0 | 0.0 | |

■ NODES - SUPPORT FORCES

| Node No. | LC/LG | Support forces [kN] | | | Support moments [kNm] | | | |
|----------|-------|---------------------|----------------|----------------|-----------------------|----------------|----------------|--|
| | | P _x | P _y | P _z | M _x | M _y | M _z | |
| 32 | LC1 | -0.4 | 0.0 | 15.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.3 | -0.1 | -6.2 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.1 | 5.4 | 13.6 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.3 | 0.0 | 10.4 | 0.0 | 0.0 | 0.0 | |
| 33 | LC1 | 0.0 | -0.3 | 12.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | 0.1 | -0.3 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.6 | 0.1 | 1.3 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.2 | 4.1 | -14.7 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | -0.2 | 7.5 | 0.0 | 0.0 | 0.0 | |
| 34 | LC1 | 0.0 | 0.2 | 12.2 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.1 | -0.4 | 0.4 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.2 | 3.7 | 15.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.2 | 7.7 | 0.0 | 0.0 | 0.0 | |
| 35 | LC1 | 0.0 | -2.3 | 13.2 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.1 | -2.4 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | -0.4 | -16.8 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 5.4 | -20.5 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | -1.5 | 8.5 | 0.0 | 0.0 | 0.0 | |
| 36 | LC1 | 0.0 | 2.3 | 12.8 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | -4.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | 0.3 | -15.9 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 5.3 | 20.3 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 1.5 | 8.2 | 0.0 | 0.0 | 0.0 | |
| 37 | LC1 | 0.3 | -0.1 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.9 | -0.1 | 1.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 10.7 | -0.2 | 22.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.4 | 0.1 | -0.8 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.2 | -0.1 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 38 | LC1 | 0.5 | 0.1 | 1.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.5 | 0.1 | 3.2 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 10.5 | 0.2 | 21.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.4 | 0.1 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.3 | 0.1 | 0.9 | 0.0 | 0.0 | 0.0 | |
| 41 | LC1 | -0.2 | 0.0 | 12.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | -0.1 | 0.7 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.4 | 0.5 | -5.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.1 | 5.4 | -11.7 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 8.7 | 0.0 | 0.0 | 0.0 | |
| 42 | LC1 | -0.2 | 0.0 | 15.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | -12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.5 | -0.1 | -4.8 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.1 | 5.5 | 11.8 | 0.0 | 0.0 | 0.0 | |
| | LC10 | -0.1 | 0.0 | 10.5 | 0.0 | 0.0 | 0.0 | |
| 43 | LC1 | 0.2 | -0.2 | 9.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.7 | -0.2 | 0.8 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.8 | 0.1 | 3.1 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.3 | 2.9 | -10.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | -0.2 | 6.6 | 0.0 | 0.0 | 0.0 | |
| 44 | LC1 | 0.2 | 0.2 | 9.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | -0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 7.5 | 3.3 | 12.5 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 5.4 | -0.4 | 2.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.3 | 2.7 | 9.9 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | 0.1 | 6.6 | 0.0 | 0.0 | 0.0 | |
| 45 | LC1 | 0.0 | -0.9 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.4 | -3.6 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 0.2 | 0.0 | -11.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 3.0 | -9.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | -0.6 | 4.2 | 0.0 | 0.0 | 0.0 | |
| 46 | LC1 | 0.0 | 1.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | -4.7 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

■ NODES - SUPPORT FORCES

| Node No. | LC/LG | Support forces [kN] | | | Support moments [kNm] | | | |
|----------|-------|---------------------|----------------|----------------|-----------------------|----------------|----------------|--|
| | | P _x | P _y | P _z | M _x | M _y | M _z | |
| 46 | LC8 | 0.2 | -0.1 | -11.3 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 3.0 | 9.1 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.7 | 4.1 | 0.0 | 0.0 | 0.0 | |
| 47 | LC1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.1 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.7 | -0.1 | 13.6 | 0.0 | 0.0 | 0.0 | |
| | LC9 | -0.5 | 0.1 | -1.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| 48 | LC1 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 1.7 | 0.0 | 3.6 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 6.6 | 0.1 | 13.5 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.5 | 0.1 | 1.0 | 0.0 | 0.0 | 0.0 | |
| | LC10 | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | |
| 101 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | -6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 102 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 103 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 104 | LC1 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.2 | 0.0 | -7.2 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.8 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | |
| 105 | LC1 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.2 | 0.0 | 7.2 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.8 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | |
| 106 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | -6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 107 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 108 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | -6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 109 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| 110 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | -6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |

■ NODES - SUPPORT FORCES

| Node No. | LC/LG | Support forces [kN] | | | Support moments [kNm] | | | |
|----------|-------|---------------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--|
| | | P _{x'} | P _{y'} | P _{z'} | M _{x'} | M _{y'} | M _{z'} | |
| 111 | LC1 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | |
| | LC2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | LC8 | 1.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | |
| | LC9 | 0.0 | 0.5 | 0.8 | 1.3 | 0.0 | 0.0 | |
| | LC10 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| Σ Suppo | LC1 | 0.0 | 0.0 | 349.6 | | | | |
| Σ Loads | | 0.0 | 0.0 | 349.6 | | | | |
| Σ Suppo | LC2 | 0.0 | 0.0 | 0.0 | | | | |
| Σ Loads | | 0.0 | 0.0 | 0.0 | | | | |
| Σ Suppo | LC7 | 120.0 | 52.0 | 0.0 | | | | |
| Σ Loads | | 120.0 | 52.0 | 0.0 | | | | |
| Σ Suppo | LC8 | 202.1 | 0.0 | 0.0 | | | | |
| Σ Loads | | 202.1 | 0.0 | 0.0 | | | | |
| Σ Suppo | LC9 | 0.0 | 126.5 | 8.4 | | | | |
| Σ Loads | | 0.0 | 126.5 | 8.4 | | | | |
| Σ Suppo | LC10 | 0.0 | 0.0 | 221.9 | | | | |
| Σ Loads | | 0.0 | 0.0 | 221.9 | | | | |