A REVIEW OF HERITAGE BUILDING INFORMATION MODELLING (H-BIM)

A case study of the trusses of the main building of Häme Castle

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ABSTRACT

The purpose of this Bachelor's thesis was to demonstrate how to design the 3D model and conduct structural analysis of a historical building (Häme Castle) using Building information modelling (BIM) software. The project was commissioned by Senaatti as a practical/research project. The client was interested in the resistance check of the main castle trusses.The structural design of the building was assigned to a HAMK student who was guided by a supervising teacher at HAMK University of Applied Sciences. This thesis serves as a research example of how design and structural analysis of the castle may be conducted using the modern BIM software.

The 2D floor layout drawings and point clouds of a castle were provided by the client. As there were not enough drawings for the 3D modelling, the design work was started by visiting the castle. The location of the structural components was checked, and dimensions were measured. The first step was to design the fourth floor and the attic of the castle using Tekla Structures - Trimble software (TEKLA) that has later been used for 2D drawings and production drawings such as general arrangement drawings, assembly drawings, section drawings and layouts. Furthermore, the load calculations were done on calculation software (Mathcad) and the building structure was imported in RFEM software from TEKLA where the structural analysis was made. The thesis contains a detailed description of the researched steps of the main castle building such as the 3D modelling of the fourth floor and the attic, calculation of loads, structural analysis, and resistance check of trusses. The design was completed in accordance with Eurocodes, National Annexes, and the requirements of the client.

Keywords Historical buildings, point cloud, H-BIM, 3D heritage modelling

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1 INTRODUCTION

Häme Castle is a medieval castle in Hämeenlinna, Finland. The Castle was most likely built during the late 13th century to serve as military base in the border zone between Sweden and Novgorod. At the end of the Middle ages the castle was governed by some of the most influential Swedish houses, the Tott, the Sture and the Posse. The castle was renovated around the year 1980. This thesis is based on a research on how necessary information of the castle can be preserved for future renovation and reconstruction of the castle by using BIM and the role played by Senaatti for preserving it.

The historical buildings were initially built by engineers using a traditional way of construction such as paperwork, guesswork, and previous engineering work experience. Buildings like castles need renovation more often because the environmental conditions decrease the performance of the structures. Timber is one of the most popular construction materials used in castles. For renovation, the regulations must be followed. European countries must satisfy the requirements of relevant Eurocodes and National Annexes. The thesis demonstrates the way of conducting the 3D modelling of the fourth floor and the attic and the structural analysis of the main castle trusses made of timber elements. The thesis is based on the structural analysis of the timber trusses of Häme Castle, the historical building protected by the Finnish government as cultural heritage of Finland. Historic building components often include irregular shapes because of structural deformation or weathering which is very difficult or impossible to represent accurately using parametric BIM objects. In addition, buildings of certain historic styles typically include organic shapes, which again can be more time consuming or difficult to model accurately using simple solid geometry.

The main aim of the thesis is to present the BIM platform for historical buildings taking Häme Castle as an example. The thesis explains how BIM is useful in the heritage sector and how useful it can be for the preservation of cultural heritages. BIM software preserves necessary information of a historical building by improving the efficiency and effectiveness of the construction phase and providing a better understanding of the future operations and maintenance. Construction projects in heritage sector could benefit from collaborative working processes and the adoption of BIM with better planning, reduced costs, increased efficiency and improved carbon performance for historical buildings and sites.

Häme Castle has an amazing history starting from the Swedish nobility to a museum operated by the National Museum of Finland. If the Häme Castle information model is maintained, it can be an invaluable decision making and management tool for the castle throughout its life cycle.

2 DESCRIPTION OF THE PROJECT

2.1 Häme Castle and Senaatti

Häme castle
Häme Castle is a museum operated by the National Museum of Finland. Being the centrepiece of the city and a popular venue for events, including renaissance fairs, the castle is one of the main tourist attractions of southern Finland. (Finnish Heritage Agency n.d.) The castle was originally located on an island, now sits on the coast of lake Vanajavesi.

The exterior walls of a castle are made up of bricks and reinforcement were used in exterior walls after the renovation in 1980 A.D. The ceilings are made up of reinforced concrete that was casted in site and the castle has load bearing columns inside the building. The castle floor is decorated with wooden layer that makes it look more historical. The main castle has glass windows in exterior walls with a historic design. The attic of the main castle has wooden windows which are closed and are not opened so often.

The castle was renovated around 1980 A.D. and few renovations were done later. There are floor layout drawings modelled by an architect and they were provided by a client for the project. The laser scanning for the whole castle building has been done and the point cloud was provided for the project. The overview of Häme Castle from coastal side is shown in Figure 1 and the map of the castle is shown in Figure 2.

Figure 1. Overview of Häme Castle (Senaatti n.d)

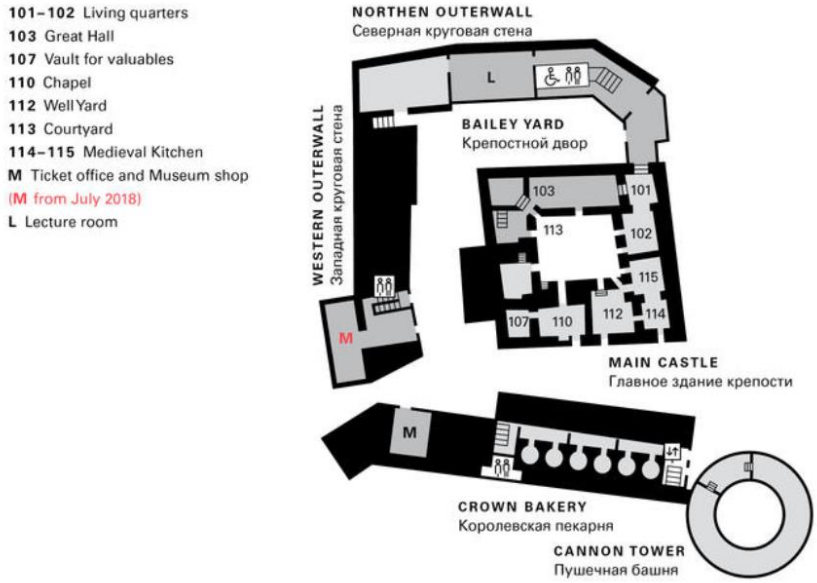

Figure 2. Map of the Häme Castle (Senaatti n.d)

Senaatti

Senattti properties is a state business premises expert and administration work environment partner. Senatti multidisciplinary professionals take care of the real estate assets of the state and their efficient use. The Senatti is responsible for the sale and development of decommissioned properties and accountability is a central part of all Senatti activities. Senaatti serves 10 locations across Finland and the head office is in Helsinki. Senaatti takes care of the common building heritage. Senaatti is committed to its code of conduct and works closely with the National Board of Antiquities. (Senaatti n.d)

Senaatti takes responsibility for sustainable development by considering economic, social, and environmental aspects without forgetting the cultural value of buildings. It builds new premises for the state administration and renovates the older property stock according to customer needs and always finds out working environment and space efficiency through construction and building services measures. Senaatti leases business premises to the state administration and provides the services needed by customers for real estate. The website window of Senaatti is shown in Figure 3.

The goal of Senaatti is to maintain the real estate assets under their control so that the value and usability of the properties are maintained and to implement maintenance costs cost-effectively and achieve the set

consumption targets. In general, Senaatti is a company that takes care of all the historical, cultural, antique, and ancient properties that belongs to Finnish government. Senaatti renovates them, reconstruct it, protect it, and makes sure that it stays valuable.

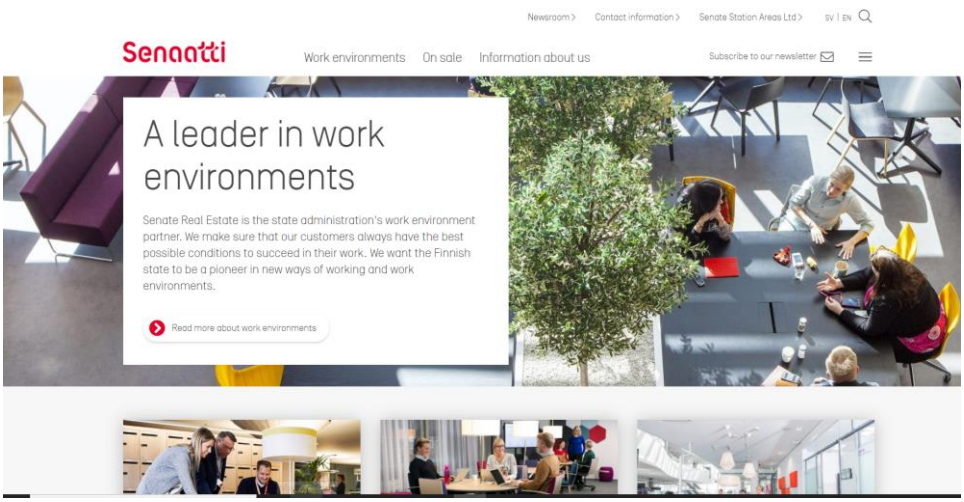

Figure 3. Website window of Senaatti (Senaatti n.d.)

2.2 **Location of the building**

The castle is located at Kustaa III:n katu 6, FI-13100 Hämeenlinna, Finland. It is in Hämeenlinna, the city between Tampere and Helsinki. The castle was originally located on an island and now sits on the coast of lake Vanajavesi. The location of Häme Castle in the google map is shown in Figure 4.

Figure 4. Location of Häme castle in a google map (Google n.d.)

2.3 Structural design

Structural design can be a complicated process with several steps and instruments. Material experts, BIM, fire, and structural engineers and several other professionals might be involved. Figure 5 below shows the flow chart of a typical structural design process.

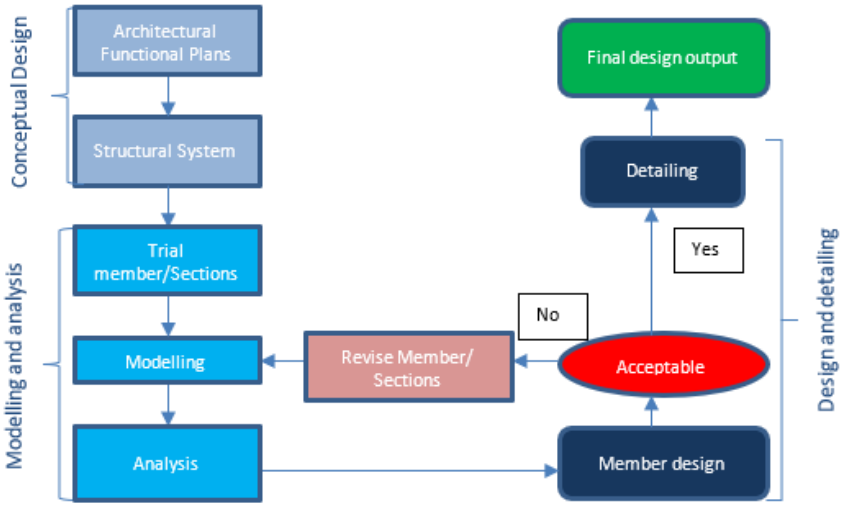

Figure 5. Flow diagram of a structural design process

Structural design is the methodical investigation of the stability, strength, and rigidity of structures. The basic objective in structural analysis and design is to produce a structure capable of resisting all applied loads without failure during its intended life. The primary purpose of a structure is to transmit or support loads. If the structure is improperly designed or fabricated, or if the actual applied loads exceed the design specifications, the device will probably fail to perform its intended function, with possible serious consequences. A well-engineered structure greatly minimizes the possibility of costly failures.

Structural design means artistic invention and dimensioning. Invention is the creation of a structural form, dimensioning is to assign to every structural member adequate dimension for stability, serviceability, suitability, and sustainability (Al Nageim & McGinley, 2005).

As for the Häme Castle project, structural analysis alone was conducted for the attic. Possible changes were considered by designing, checking, and verifying resistance of structural members.
The Häme Castle project consisted of the following steps:
1. Building a BIM model in Tekla Structures
2. Load calculations acting on the structure
3. Structural analysis performance in Dlubal RFEM
4. Resistance check of structural trusses

6. Structural drawings from TEKLA model

2.4 **Architectural design**

Architectural design is based on the function of the building and is developed by the client. The castle consists of a pitched roof structure with an attic space where the insulation is placed on the attic floor with a thick concrete block wall constructed through the centre of an attic for visitors and maintenance people to walk. There are two rooms on the fourth floor, the gate tower, and the garderobe tower. Häme Castle and its curtain walls are seen from the south. The Gate Tower is on the left and the Garderobe Tower is visible behind the round gun tower on the right which is shown in Figure 6. The towers were made for the defence of the castle. Figure7 and Figure 8 show the architectural drawings for a castle and give information on the shape of the castle, main dimensions, and some structural components.

Figure 6. Overview of a Häme Castle (Senaatti n.d)

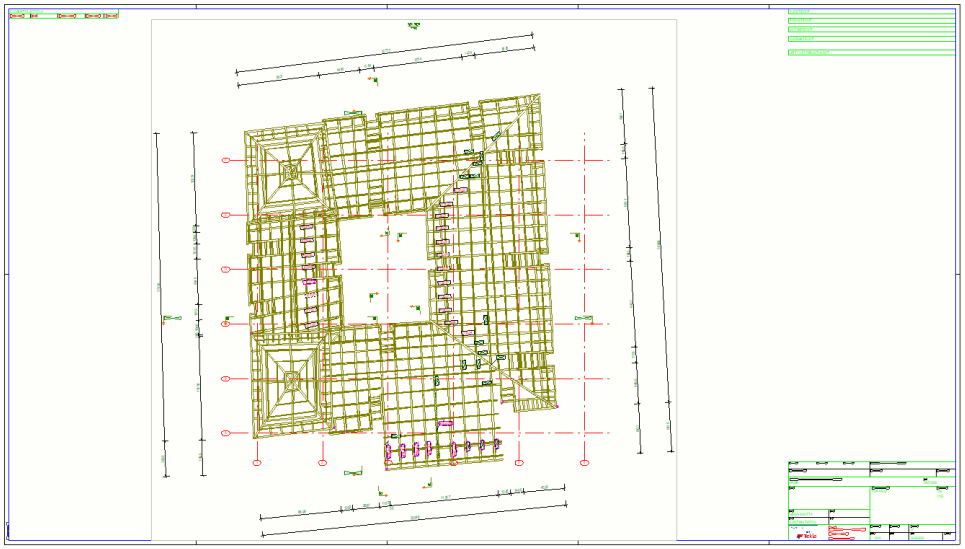

Figure 7. Layout of the trusses

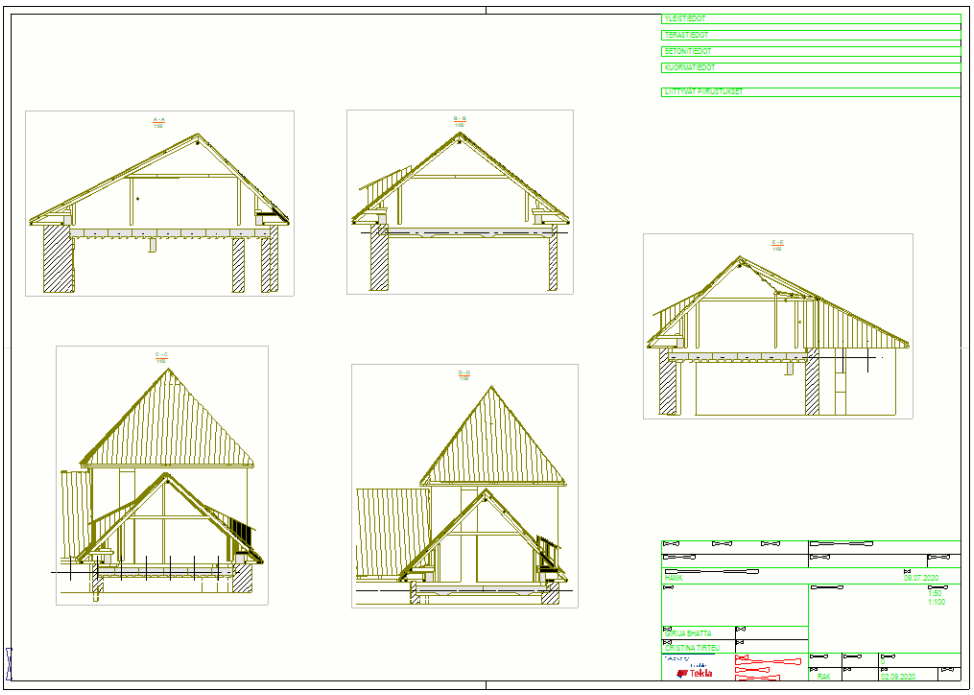

Figure 8. Section drawings of the fourth floor and attic

2.5 **Methodology**

2.5.1 Naming the trusses

The trusses in the attic of a main castle building are not similar in size and shape. There are five different truss arrangements, in five different parts of the building. The areas with the different truss arrangements were

named by using numbers from zero to four. The naming of the trusses is shown in Figure 9.

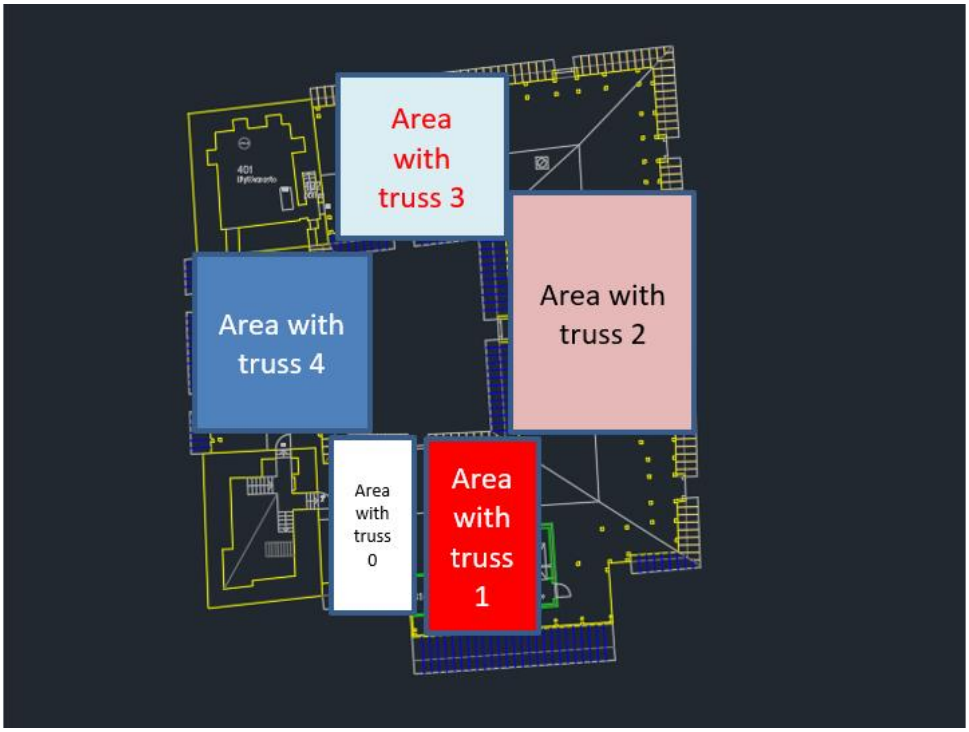

Figure 9. Division of attic areas for truss naming

2.5.2 Codes and standards

Structural calculations in this project are based on the following standards:
Basis of structural design - EUROCODE 0 (SFS EN 1990 + Finnish NA)
Loadings - EUROCODE 1 (SFS EN 1991 + Finnish NA)
Timber Structures - EUROCODE 5 (SFS EN 1995 + Finnish NA)

2.5.3 Software used during the project

All the software used during the project are of the educational institution and provided by HAMK University of Applied sciences.

Tekla Structures

Tekla software for structural engineering and construction is made by Trimble, a technology company with a vision of transforming the way the world works. Tekla structures can analyse and design the building more efficiently and more profitably. Tekla Structures is a BIM software that creates accurate constructible 3D structural models of any material, produces technical drawings, and makes calculations on the number of materials needed for construction.

The 3D modelling of the fourth floor and attic of the main castle was carried out using in Tekla structures and the structural drawings were created from the model.
The website window of the software is shown in Figure 10.

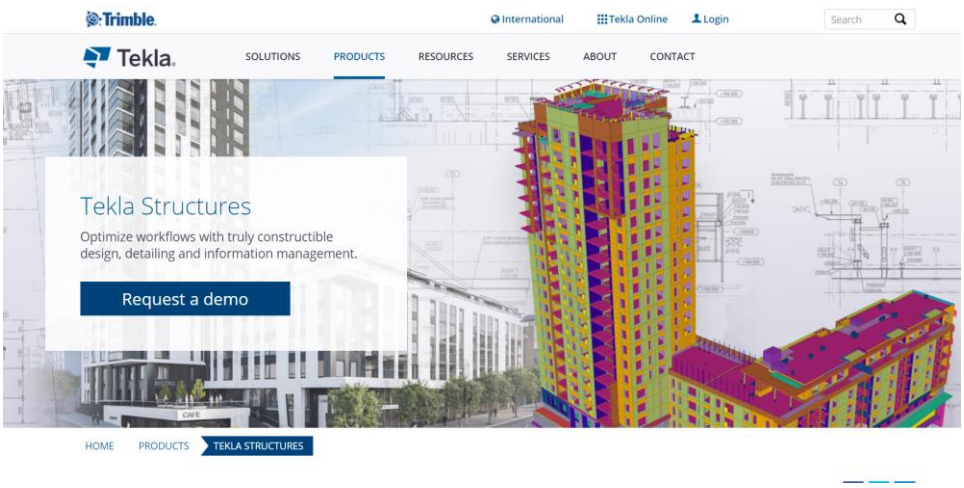

Figure 10. Website window of Tekla Structures

Mathcad

Mathcad is software that is used for mathematical calculations. In this thesis, the software is used for all kinds of calculations such as loads calculations, load combinations and others. It calculates the results automatically after the values are mentioned correctly.
The load calculations like snow load, wind load, live load and dead loads were calculated in Mathcad which were later used for the structural analysis in RFEM. The website window of Mathcad is shown in Figure 11.

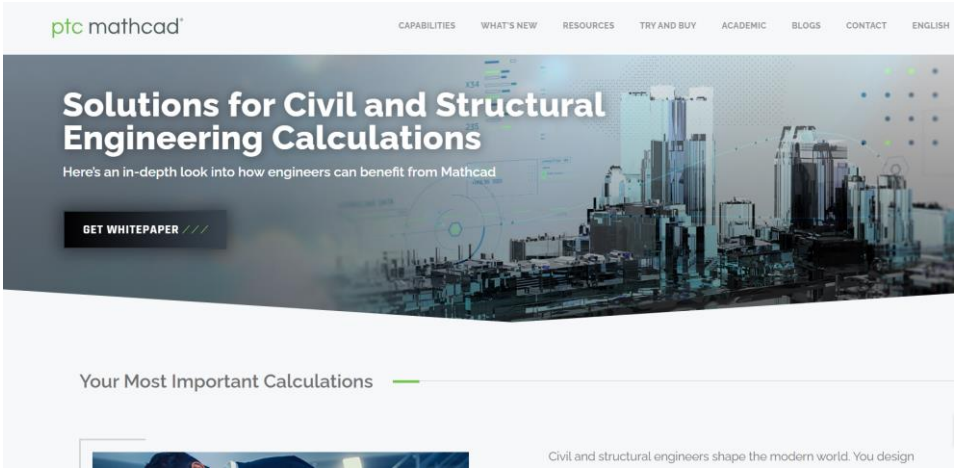

Figure 11. Website window of Mathcad

Dlubal RFEM

Dlubal RFEM is finite element-based software that is used for structural analysis and design of structures made of glass, wood, concrete, steel and other materials. The software can generate reports that include deflections, internal forces, and support reactions of the structures. The building can also be designed based on building regulations like Eurocodes and National Annexes.

The 3D model of the main castle trusses was imported in RFEM from Tekla structures. The connections were modelled as pinned, and the loads calculated with Mathcad were applied on the trusses for the resistance check. The license information of the software is shown in Figure 12.

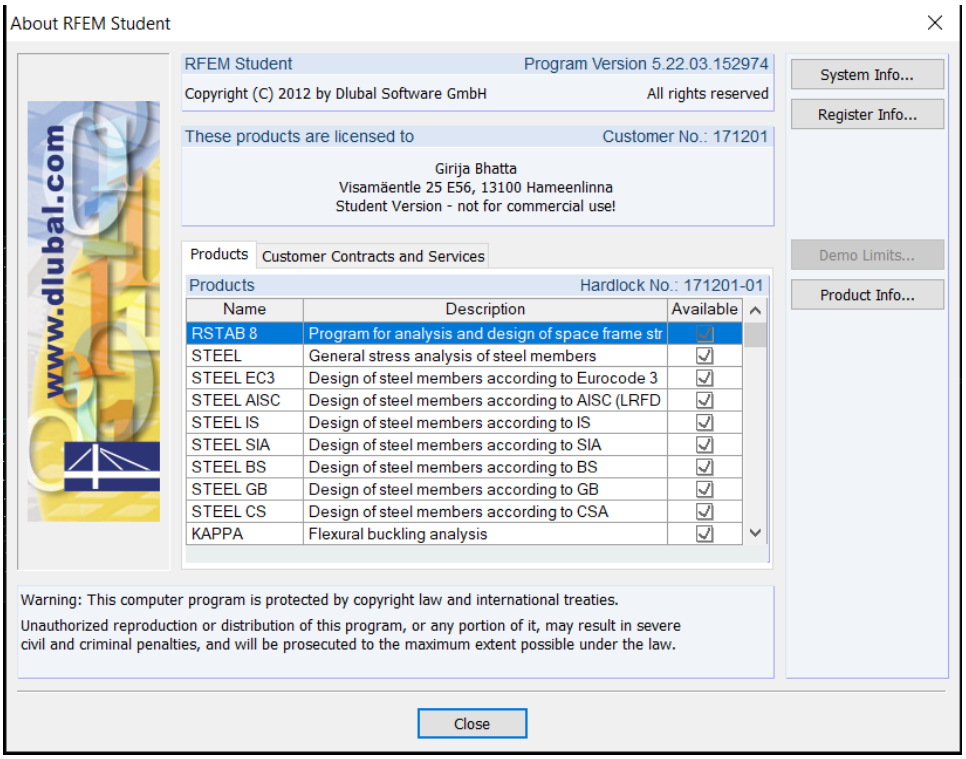

Figure 12. License information window of RFEM

Archicad

Archicad is a professional grade computer-aided program to accommodate everything needed by architects. Students, teachers, entrepreneurs, professionals, and institutions are using this software in the field of architecture and design. The building program provides more streamlined workflows, faster modelling process via raw performance

optimization and reduction of file sizes. It can develop construction details and estimate the number of materials needed. Expert designers can make the documentation to meet any graphical and representation standards and complex models at the same time.

Archicad is easy and faster to open the point cloud files in one or more windows at the same time. Archicad was used to open the point clouds files in the project. The measurement of some of the structural components were measured and the location of the profiles were confirmed from the point cloud.
The website window of the software is shown in Figure 13.

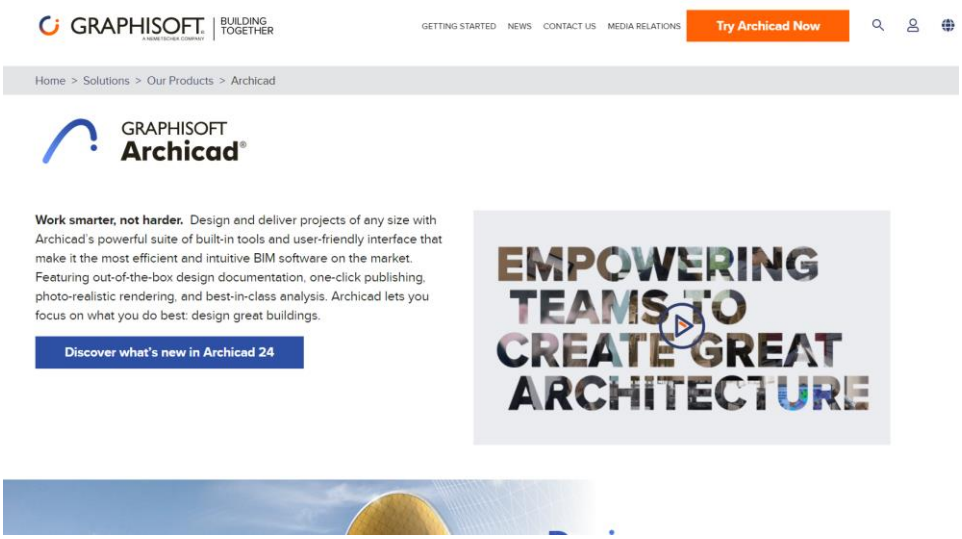

Figure 13. Website window of ARCHICAD

Tekla Structures and Archicad

Tekla Structures is used for structural modelling and Archicad is used for the architectural modelling. The 3D modelling of the project was done by using Tekla structures. But Archicad was used to open the point cloud files. Tekla structures usually showed problems while working with point clouds such as jamming the software and so on. In addition, Tekla structures does not allow students to open more than one window at a time which means either you can design the building, or you can open point cloud to check the information of the building. With the company licences, more than one windows are acceptable by Tekla Structures while Archicad allows students to open more than one window where users can open the point cloud files and design the building at the same time without any problems.

Point Cloud

A point cloud is a set of data points in space that are generally produced by 3D scanners or by photogrammetry software. After a scan, the laser scanner records a huge number of data points returned from the surfaces of the scanned area. These points can include walls, windows, ductwork, steel structures, etc. In the case of Häme castle, Senaatti team scanned data points and even included the flags hanging on the top of a castle.
Point clouds are used for many purposes, including to create 3D CAD models for manufactured parts, animation, for metrology and quality inspection, and for a multitude of visualization, rendering and mass customization applications as the output of 3D scanning processes. Point clouds are often aligned with 3D models or with other point clouds.
Figure 14 below shows the point cloud of the attic of main castle.

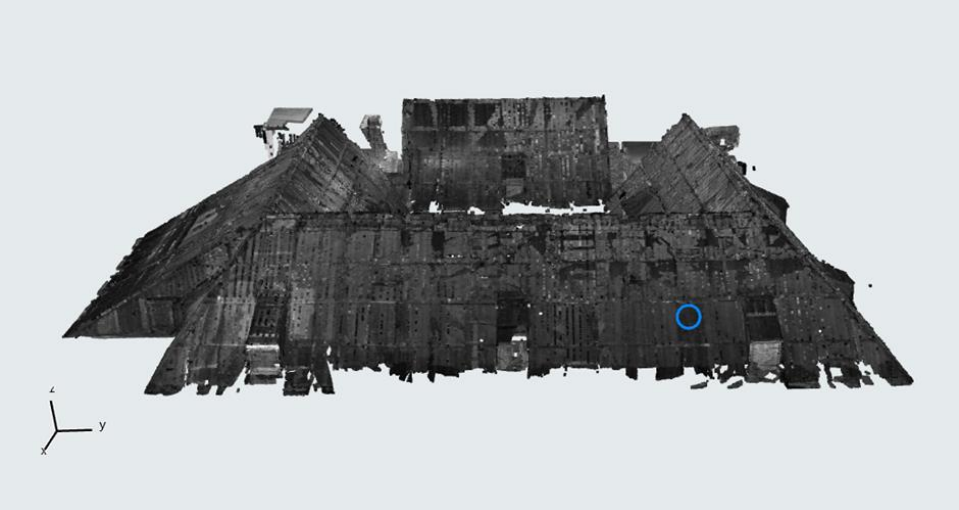

Figure 14. Point cloud of the attic of main castle

3 BUILDING INFORMATION MODELLING (BIM)

Building Information Modelling (BIM) is an intelligent model-based process that connects Architecture, Engineering and Construction (AEC) processors so they can more efficiently design, build, and operate buildings and infrastructure through BIM. With BIM, designers create digital 3D model that include data associated with physical and functional characteristics. The power of BIM is how it allows architects, engineers, and contractors to collaborate on co-ordinated model, giving everyone better insight into

how their work fits into the overall project, ultimately helping them to work more efficiently.

The data in a model defines the design elements and establishes behaviour and relationships between model components. So, when an element in a model is changed, every view is updated with the new change appearing in section, elevation, and sheet views. The information in a model can be used to improve the design before it is built, gain faster approvals with realistic visualization. Convey design intent to the field and most importantly, retain model intelligence from concept to construction. BIM provides insight into the constructability of a design, improving the efficiency and effectiveness of the construction phase and providing a better understanding of the future operations and maintenance of a building.
Owners can use BIM for predictive maintenance, asset tracking and facilities management and for future renovation or deconstruction projects. Working with BIM will experience reduced project risk, improved timelines and cost savings and better project outcomes. And the power of BIM is growing with cloud-connected technologies that let project teams design and work together in all new ways. Driven by global trends, the AEC industry is in a time of transformation. Businesses that want to win more work, deliver projects more efficiently and design better. Thus, the powerful solution of a building is BIM.

3.1 **Historic BIM**

Unlike the modern construction sector, where BIM has been applied extensively for years internationally, BIM for heritage assets (historic sites and buildings) appears less popular in terms of adoption by heritage professionals. The subsidy of BIM for the architectural, engineering, construction, and operation (AECO) industry are well known but how well it functions in the heritage sector is still open to question. This is because of the multiplicity of projects that involve historic buildings and sites, such as adaptive reuse, preventative maintenance, conservation and refurbishment, interpretation, heritage management, documentation, and research. One of the aims of this thesis is to raise awareness of Historic BIM both within the AECO industry and the field of cultural heritage.

3.2 **BIM for historic information management**

Construction projects in the heritage sector such as adaptive reuse, extension, repair, and conservation refurbishment could benefit from the selection of BIM and joint working processes with better planning, reduced costs, increased efficiency and improved carbon performance for historic buildings and sites. As BIM can consolidate both quantitative and qualitative information about a built asset to represent physical and functional characteristics, it can furnish simulations of the development,

appearance, and performance of an asset. Untouchable features, such as heritage importance and values can be combined into the 3D model in a structured and consistent way, which allows easy information uprooting and the production of deliverables. However, a structured approach is needed when deciding at the beginning, what elements are essential to avoid an excessive difficult situation. By absorbing the high-quality digital survey datasets, BIM does not only represent the image of the existing historic framework, but also allows the investigating and complex analysis of proposed involvement in various scenarios. BIM provides a skeleton for collaborative working processes and allocating of coordinated datasets widely across a multi-disciplinary squad, which makes it ideal for heritage management, conservation, and research. BIM processes can be applied to secure the creation of a reputable knowledge base about a heritage asset. If a historic asset information model is maintained, it can be an invaluable decision making and management tool for the asset throughout its life cycle.

4 STRUCTURAL BUILDING COMPONENTS

Structural building components are described in this part of the report. The wood material was chosen by the builders in 13th century and renovation was done in around 1980 A.D. and precisely structural components might have replaced during the renovation. The demand of a client was to design the whole structure as it is in 3D. The timber used for the castle trusses is hardwood timber and the timber profiles used for the castle attic are not similar in shape and size. The assembled structural truss components with their dimensions are shown in Figure 15 and Figure 16.

Profiles of structural components together with their timber size and types used in the project are presented in Table 1.

Table 1. Profiles and dimensions of the structural components

Trusses	160*160	Hardwood Timber
Studs	160*160	Hardwood Timber
Beams on the exterior walls	160*160	Hardwood Timber
Beam at the bottom of a truss	175*255	Hardwood Timber
Beam at the bottom of a truss	230*255	Hardwood Timber
Fourth floor walls	About 1700mm thick	Brick

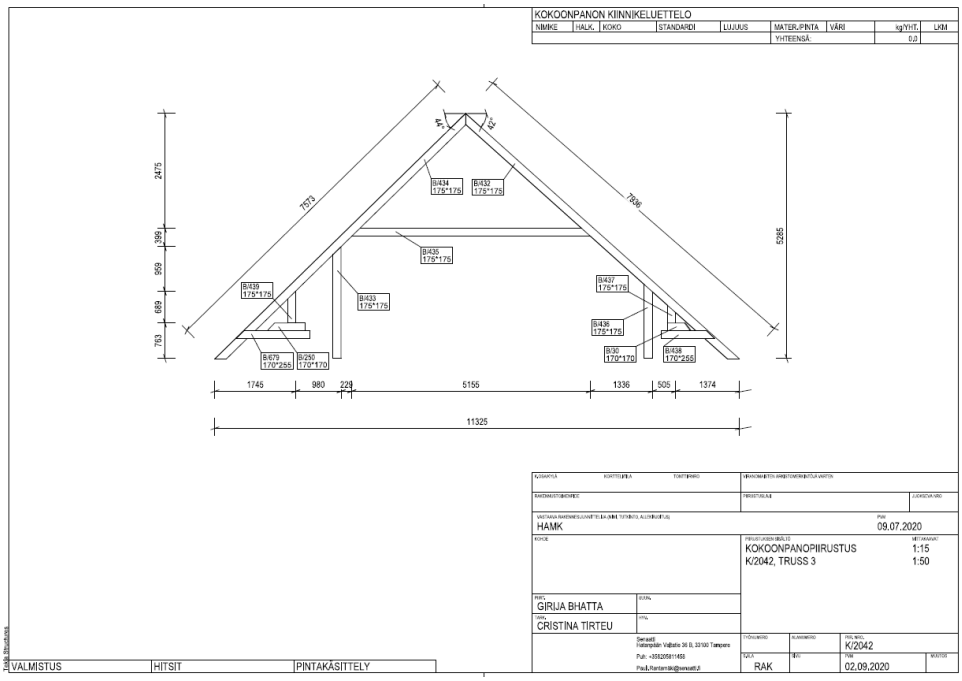

Figure 15. Assembled hardwood timber profiles

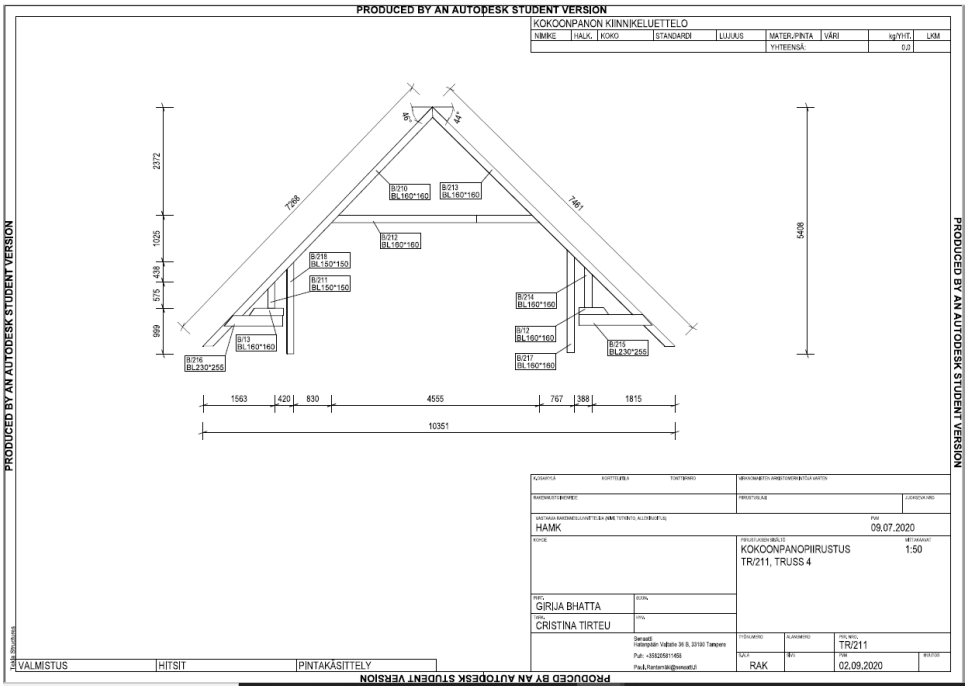

Figure 16. Assembled hardwood timber profiles

4.1 **Beams**

Beams in the structure are connecting roof trusses and ensuring structural stability and integrity. The castle is an old existing building. It does not have the same size of beams in all parts of the building. The average size of the beams is (160*160) millimetres. There are beams lying horizontally on the top of the exterior walls which are probably connected to the wall elements. The purpose of the beams is to create the connection between the trusses and the exterior wall so that the truss load is passed to the exterior wall and to the foundation. Figure 17 shows the beams modelled in Tekla structures.

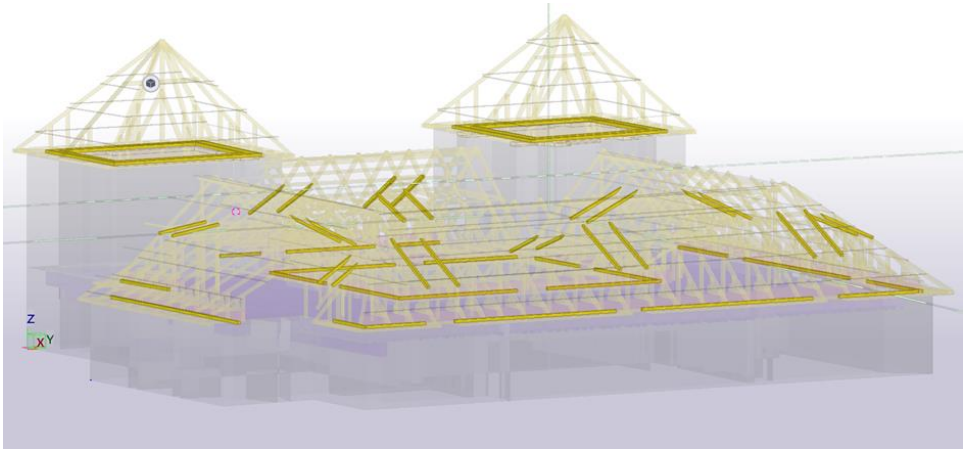

Figure 17. Beams modelled in Tekla

4.2 **Trusses**

A truss is an assembly of elements that creates a rigid structure. In engineering, a truss is a structure that consists of two force members only, where the members are arranged so that the assemblage behaves as a single object. Categorized as two force members, the elements have applied forces only at the ends. The member is said to be in tension if internal force is positive and in compression if it is negative. The method of joints and the method of sections are the main strategies for analysing trusses.

The main castle building has triangular trusses on the roof, and they vary from one part of the roof truss to the other part. The slope is different in each side of the roof trusses. It varies from 27° to 46.3°.
The trusses modelled in Tekla structures are shown in Figure 18.

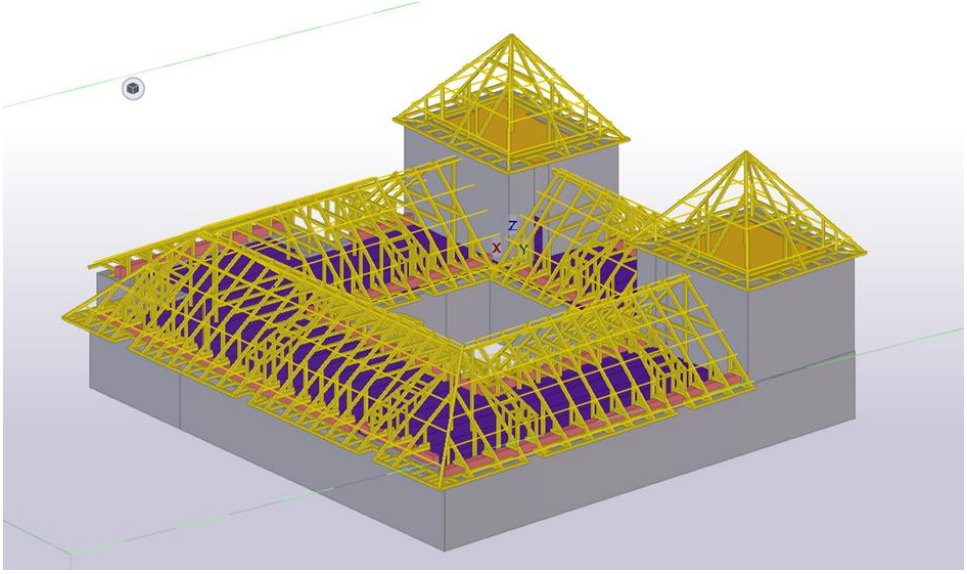

Figure 18. Trusses modelled in Tekla Structures

The trusses have corner studs that are connected to the short coupling beams at the bottom and short beams then are connected to the longer beams lying on the top of the exterior walls. The longer studs on the inner side are connected to the attic ceiling for the truss support which is shown in Figure 19. The trusses are assembled with a pinned connection.
The two different trusses from Tekla structures are shown in Figure 19 and Figure 20.

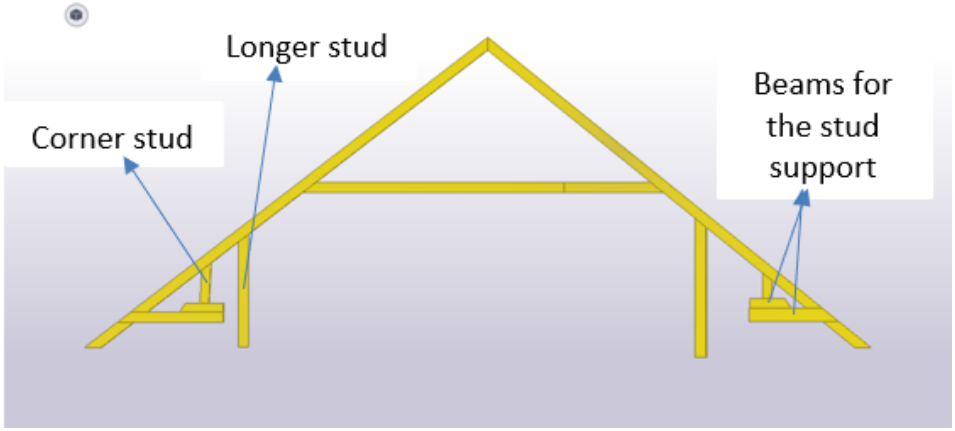

Figure 19. Layout of the truss

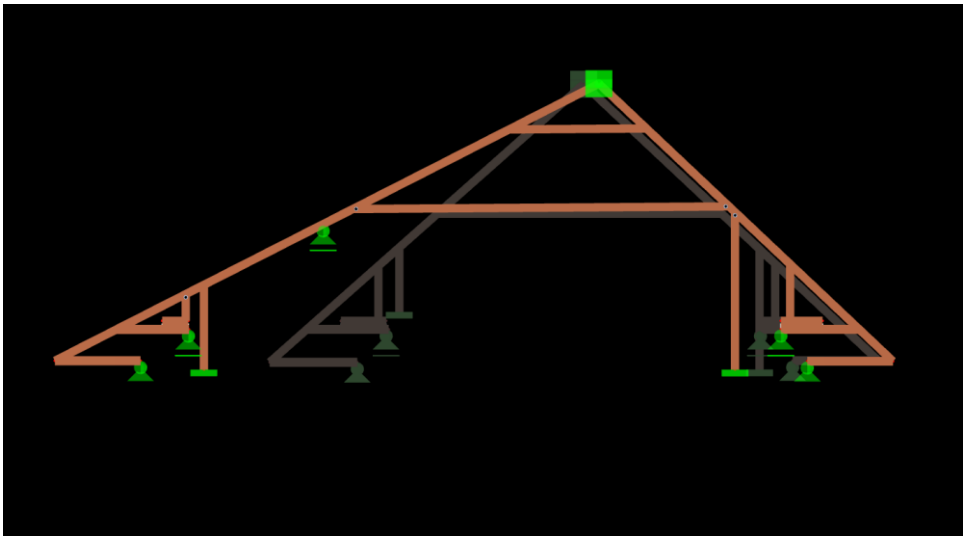

Figure 20. Layout of the truss

More information about the studs and beams assembled in trusses is shown in Appendix 3.

5 LOADS ON THE STRUCTURE

Häme castle is exposed to different external loads. The following loads are considered in the calculations:
1. Wind load
2. Snow load
3. Imposed load (load from the maintenance of the roof)
4. Dead load

Loads acting on the structure are calculated in Mathcad software based on SFS-EN 1991 and Finnish National Annexes. Detailed calculations are presented below in Appendix 1.

5.1 Wind Pressure

Wind pressure on buildings is based on EN 1991-1-4 along with Finnish National Annex. Several steps must be followed to calculate the basic wind pressure

Basic wind velocity
The following formula is used to calculate basic wind velocity.
$V_b = C_{dir} \cdot C_{season} \cdot V_{b,0}$

Where:
$V_{b,0}$ is the fundamental value of the basic wind velocity (m/s)

C_{dir} is the direction factor, recommended value 1.0
C_{season} is the season factor, recommended value 1.0

Therefore
$V_b = V_{b,0}$

It is assumed that the basic wind velocity V_b is 21 m/s, obtained from meteorological data.

Mean wind velocity
The mean wind velocity at height z above the terrain depends on the basic wind velocity, and roughness and orography of the terrain. It can be calculated from the following equation:
$V_m(Z) = V_b \cdot C_r(Z) \cdot C_0(Z)$
Where:
$C_r(Z)$ is the roughness factor of the ground roughness of the terrain upwind of the structure in the wind direction considered
$C_o(Z)$ is terrain orography factor

Terrain roughness factor
The roughness factor at a height z can be calculated using the following equation:
$C_r(Z) = k_r \cdot \ln(Z/Z_0)$
Where:
Z is the height of the structure above ground level (m)
Z_0 is the is the roughness height (m)
k_r is the terrain factor depending on the roughness length Z_0

$k_r = 0.19(Z_0/Z_{0,\,II})^{0.07}$

Where:
$Z_{0,\,II}$ is the roughness height Z_0 at terrain category II

Terrain category III is considered for the project, so according to Table 2 below,
$Z_{0,\,II} = 0.05$ and $Z_0 = 0.3$

Table 2. Terrain parameters and Terrain categories (SFS-EN 1991-1-4: 2005)

	Terrain category	z_0 m	z_{min} m
0	Sea or coastal area exposed to the open sea	0,003	1
I	Lakes or flat and horizontal area with negligible vegetation and without obstacles	0,01	1
II	Area with low vegetation such as grass and isolated obstacles (trees, buildings) with separations of at least 20 obstacle heights	0,05	2
III	Area with regular cover of vegetation or buildings or with isolated obstacles with separations of maximum 20 obstacle heights (such as villages, suburban terrain, permanent forest)	0,3	5
IV	Area in which at least 15 % of the surface is covered with buildings and their average height exceeds 15 m	1,0	10
NOTE: The terrain categories are illustrated in A.1.			

Where the orography (e.g. hills or cliffs) increases the wind velocity by more than 5%, the effects of this should be considered using the orography factor $C_0(Z)$. The terrain is flat in case of Häme castle. So, the orography may be neglected. Therefore, $C_o(Z) = 1$.

Wind turbulence
Wind turbulence can be calculated using the following equation:

$$I_v(Z) = k_I / C_o(Z) \cdot \ln(Z/Z_0)$$

Where:
k_I is the turbulence factor whose recommended value is 1.0

Peak velocity pressure
The peak velocity pressure $q_p(Z)$ at height Z is given by the following equation:

$$q_p(Z) = [1+7 \cdot I_v(Z)] \cdot 1/2 \cdot 0.5\, \rho \cdot V_m^2(Z)$$

Where:
ρ is the density of air ($\rho = 1.25 kg/m^3$)

External wind pressure
The wind pressure acting on the external surfaces W_e should be obtained from following equation:
$W_e = q_p(Z_e) \cdot C_{pe}$
Where:
$q_p(Z_e)$ is the peak velocity pressure
Z_e is the reference height for the external pressure
C_{pe} is the pressure coefficient for the external pressure

The value of C_{pe} depends on the ratio h/d for the structure, where h is the height of the building up to the apex and d is the depth of the building Zones of wind direction and action for the external wind pressure are shown in Figure 21 and Figure 22 below.

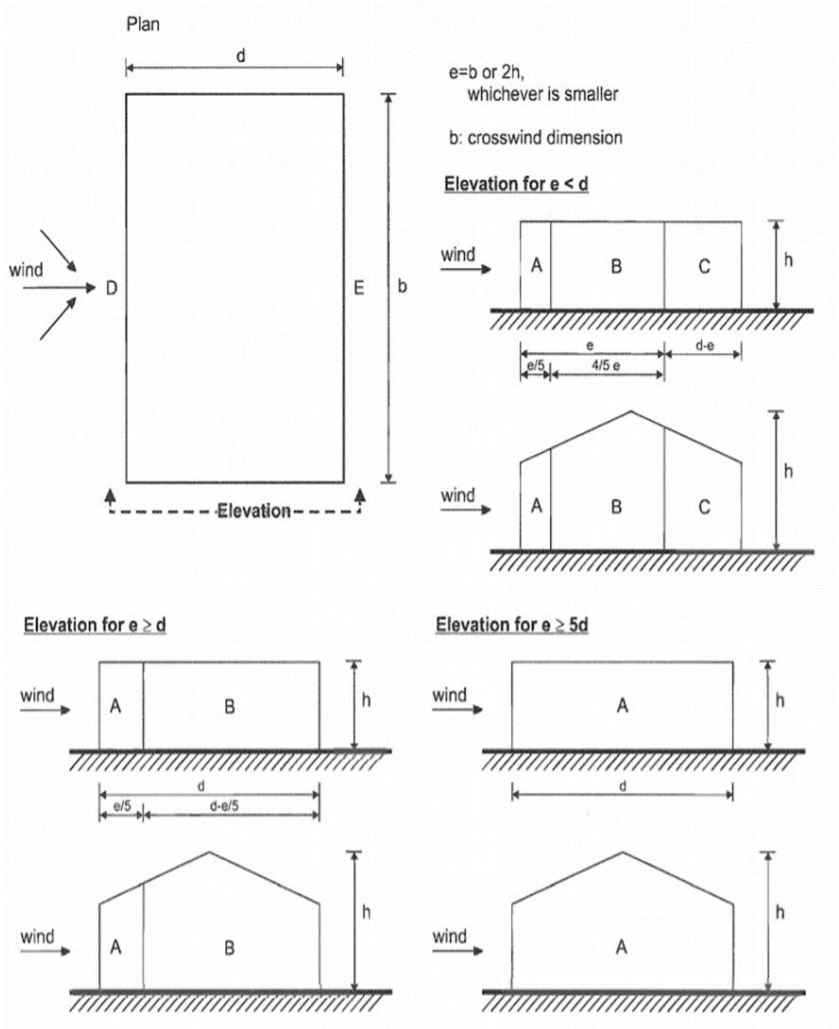

Figure 21. Key for vertical walls (SFS-EN 1991-1-4:2005)

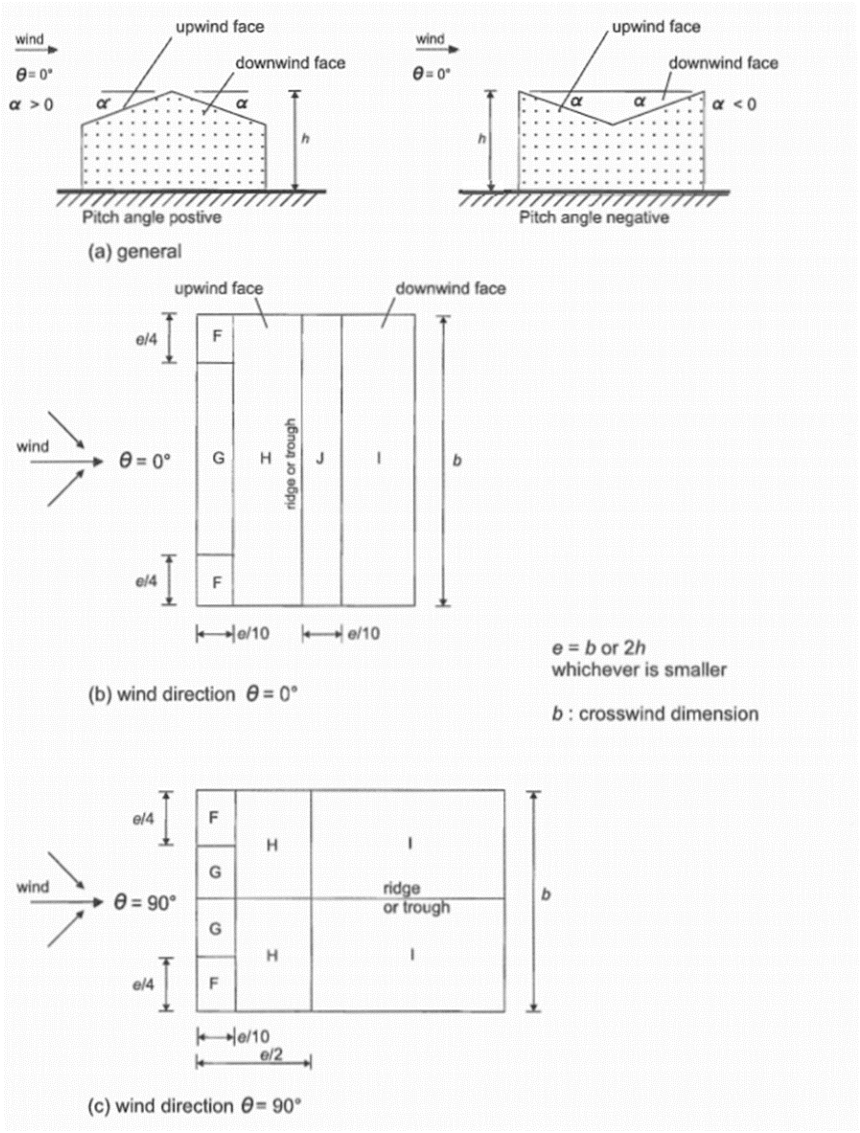

Figure 22. Key for duopitch roofs (SFS-EN 1991-1-4: 2005)

External pressure coefficients can be obtained from Table 3.

Table 3. External pressure coefficients for duopitch roofs (SFS-EN 1991-1-4: 2005)

Pitch Angle α	Zone for wind direction $\theta = 0°$									
	F		G		H		I		J	
	$C_{pe,10}$	$C_{pe,1}$	$C_{pe,10}$	$C_{pe,1}$	$C_{pe,10}$	$C_{pe,1}$	$C_{pe,10}$	$C_{pe,1}$	$C_{pe,10}$	$C_{pe,1}$
-45°	-0,6		-0,6		-0,8		-0,7		-1,0	-1,5
-30°	-1,1	-2,0	-0,8	-1,5	-0,8		-0,6		-0,8	-1,4
-15°	-2,5	-2,8	-1,3	-2,0	-0,9	-1,2	-0,5		-0,7	-1,2
-5°	-2,3	-2,5	-1,2	-2,0	-0,8	-1,2	+0,2		+0,2	
							-0,6		-0,6	
5°	-1,7	-2,5	-1,2	-2,0	-0,6	-1,2	-0,6		+0,2	
	+0,0		+0,0		+0,0				-0,6	
15°	-0,9	-2,0	-0,8	-1,5	-0,3		-0,4		-1,0	-1,5
	+0,2		+0,2		+0,2		+0,0		+0,0	+0,0
30°	-0,5	-1,5	-0,5	-1,5	-0,2		-0,4		-0,5	
	+0,7		+0,7		+0,4		+0,0		+0,0	
45°	-0,0		-0,0		-0,0		-0,2		-0,3	
	+0,7		+0,7		+0,6		+0,0		+0,0	
60°	+0,7		+0,7		+0,7		-0,2		-0,3	
75°	+0,8		+0,8		+0,8		-0,2		-0,3	

NOTE 1 At $\theta = 0°$ the pressure changes rapidly between positive and negative values on the windward face around a pitch angle of $\alpha = -5°$ to +45°, so both positive and negative values are given. For those roofs, four cases should be considered where the largest or smallest values of all areas F, G and H are combined with the largest or smallest values in areas I and J. No mixing of positive and negative values is allowed on the same face.

NOTE 2 Linear interpolation for intermediate pitch angles of the same sign may be used between values of the same sign. (Do not interpolate between $\alpha = +5°$ and $\alpha = -5°$, but use the data for flat roofs in 7.2.3). The values equal to 0,0 are given for interpolation purposes

Internal wind pressure

The internal wind pressure acting on the surfaces is expressed in the following form:

$W_i = q_p(Z_i) \cdot C_{pi}$

Where:

W_i is the internal pressure (N/m^2)

q_p is the peak velocity pressure (N/m^2)

Z_i is the reference height for the internal pressure (m)

C_{pi} is the internal pressure coefficient

The doors and windows openings were not exactly known in the main castle. So, the value of C_{pi} is considered as more onerous of +0.2 and -0.3.

5.2 **Snow load**

The snow load on the roof depends on the importance of building, roof slope, exposure to wind and location of the building. The following formula is used to calculate the snow load:

$S = \mu_1 C_e C_t S_k$

Where:

μ_1 is the snow load shape coefficient

C_e is the exposure coefficient

C_t is the thermal coefficient
S_k is the characteristic value of snow load on the ground (kN/m^2)

The value of C_t recommended by Eurocode and Finnish national annex is 1. As the location of the building is considered as normal topography the value of C_e is taken from the table 4 below which recommends 1.

Table 4. Recommended values of Ce for different topographies (SFS-EN 1991-1-3: 2003)

Topography	C_e
Windswept [a]	0,8
Normal [b]	1,0
Sheltered [c]	1,2

[a] *Windswept topography*: flat unobstructed areas exposed on all sides without, or little shelter afforded by terrain, higher construction works or trees.

[b] *Normal topography*: areas where there is no significant removal of snow by wind on construction work, because of terrain, other construction works or trees.

[c] *Sheltered topography*: areas in which the construction work being considered is considerably lower than the surrounding terrain or surrounded by high trees and/or surrounded by higher construction works.

According to Finnish National Annex and Eurocode 1 (SFS-EN 1991-1-3: 2003), the characteristic value of snow load on the ground in Hämeenlinna area, Sk is 2.5 kN/m2. A map of snow loads in Finland is shown in Figure 23.

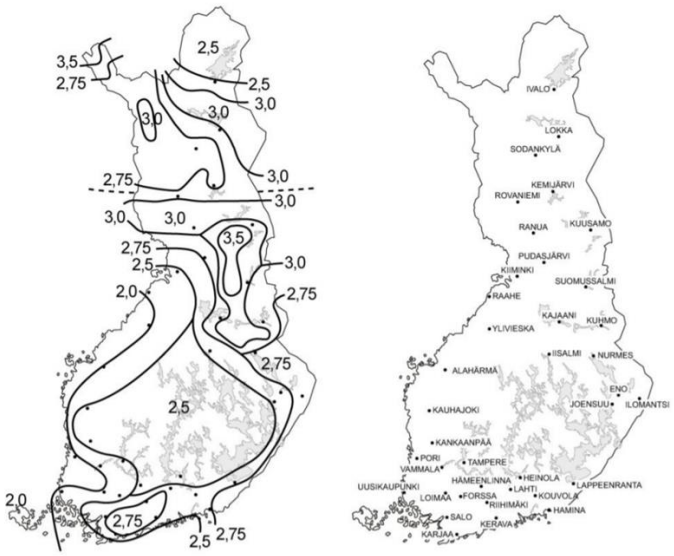

Figure 23. Snow loads on the ground in Finland (SFS-EN 1991-1-3: 2003)

The conditions based on the angle of the roof to determine the snow load shape coefficients is shown in Table 5.

Table 5. Snow load shape coefficients (SFS-EN 1991-1-3:2003)

Angle of pitch of roof α	$0° \le \alpha \le 30°$	$30° < \alpha < 60°$	$\alpha \ge 60°$
μ_1	0,8	$0{,}8(60 - \alpha)/30$	0,0
μ_2	$0{,}8 + 0{,}8\ \alpha/30$	1,6	--

Since the building has a multi-span roof, the load arrangement shown in Figure 24 should be used for the calculation.

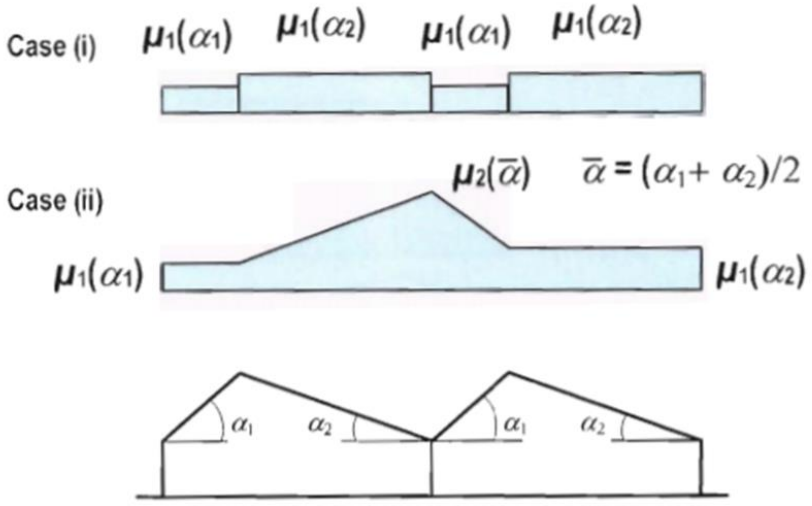

Figure 24. Snow loads shape coefficient – multi-span roof (SFS-EN 1991-1-3: 2003)

5.3 **Imposed load**

Imposed loads can be classified as variable free actions for which the variation in magnitude with time is neither negligible nor monotonic (SFS-EN 1990, 2002), corresponding to the loads related to the furniture movement and the movement of people. Loads coming from the roof maintenance are considered as live load in the project.

Maintenance of the roof
Load from the maintenance of the roof based on EN 1990-1-1 can be calculated using the following equation:
$G_{krf} = g_{krf}\ A_{krf}$

Where:
g_{krf} is the characteristic value for roof maintenance (g_{krf} = 0.4kN/m^2)
A_{krf} is the area of the roof structure (m^2)

5.4 **Dead load**

Dead load calculation is based on Eurocode 1, Part 1-1 (SFS-EN 1991-1-1:2002). Dead load is an intrinsic weight of a structure for which the variation in magnitude with time is negligible, or for which the variation is always monotonic until the action attains a certain limit value (SFS-EN 1990, 2002).

Self-weight of the structure is considered as the dead load acting on the structure. Since Häme castle is an existing building, the load calculations were done after the fourth floor and attic were modelled in Tekla. The weight of the roof (wooden planks and roof sheet metal) was σrf = 0.321kN/m2 and the rest of the structure based on the Tekla model.

Weight of wooden trusses without roof

The self-weight of the structure was automatically calculated by RFEM software based on the profiles obtained from the model in Tekla Structures. The Tekla structures also calculates the self-weight of the structural components. The last column in Figure 25 shows the mass of the wooden trusses calculated by Tekla itself in unit tonne.

Project name:	Implimentation of BIM for the preservation of Häme castle		Project number:	1	Author:	Girija Bhatta
Project address:			List date:	14.09.2020	List number:	1
	Count	Name	Position n Top level / Height / m Length / mm	Width / mn Volume / m	Weight / t	
Profile : 40*80	15		88,706	0.3	0.168	
Profile : 60*100	10		190,784	1.1	0.67	
Profile : 80*40	9		55,363	0.2	0.105	
Profile : 100*60	24		370,480	2.2	1.309	
Profile : 100*100	13		155,627	1.5	0.907	
Profile : 120*120	1		3,560	0	0.029	
Profile : 140*140	18		25,007	0.5	0.293	
Profile : 150*150	146		195,511	4.1	2.442	
Profile : 155*155	10		6,584	0.1	0.085	
Profile : 160*160	102		313,808	7.9	4.715	
Profile : 170*255	29		41,499	1.4	0.863	
Profile : 175*175	204		986,422	28.9	17.365	
Profile : 175*255	13		20,692	0.7	0.414	
Profile : 190*190	12		27,938	0.9	0.538	
Profile : BL150*150	55		65,498	1.4	0.813	
Profile : BL160*160	348		872,169	21.6	12.935	
Profile : BL170*170	3		9,369	0.3	0.151	
Profile : BL175*175	2		20,798	0.6	0.38	
Profile : BL230*255	39		60,453	2.9	1.733	
Total						
			3,661,649	80.7	48.406	
All objects in the table:						
1141						

Figure 25. Weight of the wooden trusses calculated by Tekla

The weight of wooden trusses without the roof can be calculated from following formula:

S_w = 48406 kg × 9.8m/s^2

Weight of the roof:
Weight of the roof is calculated using the following equation:
$q_{rf=} A_{rf} \cdot \sigma_{rf} \cdot 9.8m/s^2$

Where:
A_{rf} is the area of the roof structure (m^2)
σrf is the estimated value for timber roof structure (kg/m^2)

Thus, the weight of the whole structure can be obtained from the following equation:
$S_w = Sws + q_{rf}$

6 DLUBAL RFEM

Dlubal RFEM is a software based on Finite Element Method that can perform the structural analysis. The workflow typically consists of five steps:
1. Geometry of the structure
2. Defining the boundary conditions such as supports and releases
3. Inputting loads and load combinations
4. Conducting structural analysis
5. Design of structural members based on utility ratios

The maximum internal forces in members obtained from the software are later used in resistance checks of joints.
The RFEM structural analysis performed for Häme Castle is described below step by step.

6.1 Geometry of the structure

The analysis was done for trusses in a three-dimensional arrangement. The shape and dimensions of the structure were imported in RFEM from Tekla structures. The structure consists of lines, members, and nodes. The three-dimensional structure modelled in RFEM is shown in Figure 26.

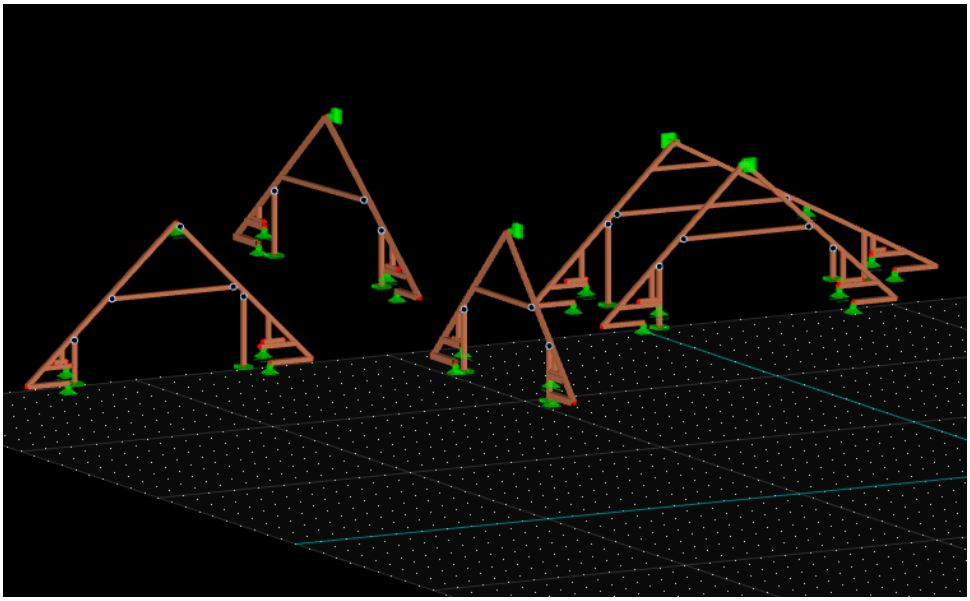

Figure 26. Three-dimensional structure modelled in RFEM

6.2 **Boundary conditions of the structure**

The geometry was modelled in TEKLA and imported to RFEM where the supports and releases were added. The connection between the trusses and exterior wall is considered as moment resistance while the connection between the stud, small beams and the beam that is lying on the top of an external wall is modelled as sliding connection. The fixed support assigned to the structure in RFEM is shown in Figure 27.

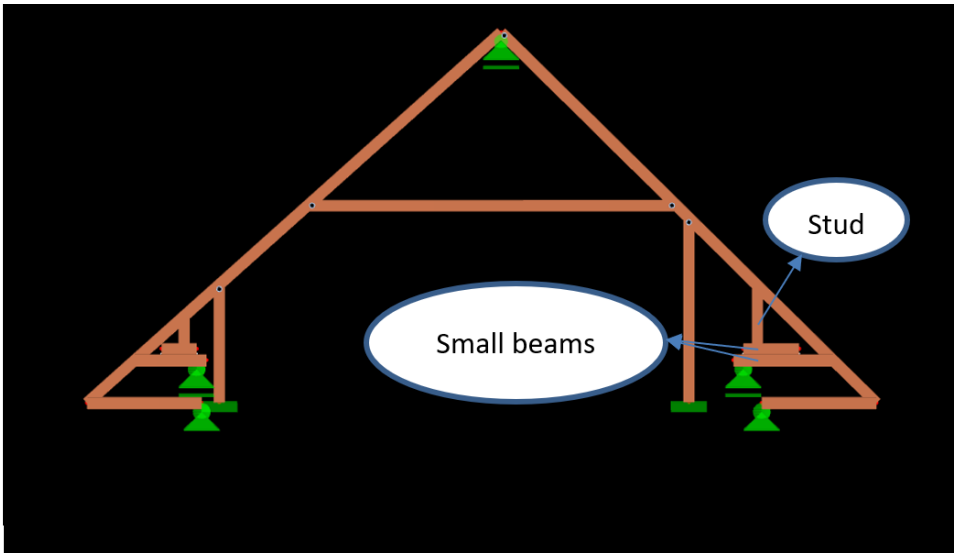

Figure 27. Illustration of fixed connection assigned in RFEM

6.3 **Loads and load combinations**

6.3.1 Load cases

Loads such as snow load, wind load, imposed load and dead load were calculated in Mathcad software. The loads were calculated according to Eurocodes (EN 1991) and Finnish national annexes. The load cases were defined in RFEM software and the calculated loads were applied on the trusses. The loads defined in RFEM are shown in Table 6.

Table 6. Load cases generated in Dlubal RFEM

Load Case	A Load Case Description	B To Solve	C EN 1990 + 1995 | FIN Action Category	D Self-Weight - Factor in Direction Active	E X	F Y	G Z
LC1	SNOW LOAD	☑	Qs Snow - s-k < 2.75 kN/m^2	☐			
LC2	SELF WEIGHT	☑	G Permanent	☑	0.000	0.000	-1.000
LC3	DEAD LOAD	☑	G Permanent	☐			
LC4	WIND LOAD	☑	Qw Wind	☐			
LC5	IMPOSED LOAD	☑	Qi H Imposed - Category H: roofs	☐			

6.3.2 Load combinations

The load combinations can be defined either by the user or they can be generated automatically from RFEM according to EN 1991. In this thesis, total of 27 load combinations were generated automatically in RFEM. The load combinations generated in RFEM are shown in Table 7.

Table 7. Load combinations input in Dlubal RFEM

Load Combin.	A DS	B Load Combination Description	C To Solve	D LC.1 Factor	E LC.1 No.	F LC.2 Factor	G LC.2 No.	H LC.3 Factor	I LC.3 No.	J LC.4 Factor	K LC.4 No.	L LC.5 Factor	M LC.5 No.
CO1	STR	1.35*LC2 + 1.35*LC3	☑	1.35	G LC2	1.35	G LC3						
CO2	STR	1.5*LC1 + 1.15*LC2 + 1.15*LC3	☑	1.50	Qs LC1	1.15	G LC2	1.15	G LC3				
CO3	STR	1.5*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*L	☑	1.50	Qs LC1	1.15	G LC2	1.15	G LC3	0.90	Qw LC4		
CO4	STR	1.15*LC2 + 1.15*LC3 + 1.5*LC4	☑	1.15	G LC2	1.15	G LC3	1.50	Qw LC4				
CO5	STR	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*	☑	1.05	Qs LC1	1.15	G LC2	1.15	G LC3	1.50	Qw LC4		
CO6	STR	1.15*LC2 + 1.15*LC3 + 1.5*LC5	☑	1.15	G LC2	1.15	G LC3	1.50	Qi H LC5				
CO7	STR	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*	☑	1.05	Qs LC1	1.15	G LC2	1.15	G LC3	1.50	Qi H LC5		
CO8	STR	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*	☑	1.05	Qs LC1	1.15	G LC2	1.15	G LC3	0.90	Qw LC4	1.50	Qi H LC5
CO9	STR	1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*L	☑	1.15	G LC2	1.15	G LC3	0.90	Qw LC4	1.50	Qi H LC5		
CO10	S Ch	LC2 + LC3	☑	1.00	G LC2	1.00	G LC3						
CO11	S Ch	LC1 + LC2 + LC3	☑	1.00	Qs LC1	1.00	G LC2	1.00	G LC3				
CO12	S Ch	LC1 + LC2 + LC3 + 0.6*LC4	☑	1.00	Qs LC1	1.00	G LC2	1.00	G LC3	0.60	Qw LC4		
CO13	S Ch	LC2 + LC3 + LC4	☑	1.00	G LC2	1.00	G LC3	1.00	Qw LC4				
CO14	S Ch	0.7*LC1 + LC2 + LC3 + LC4	☑	0.70	Qs LC1	1.00	G LC2	1.00	G LC3	1.00	Qw LC4		
CO15	S Ch	LC2 + LC3 + LC5	☑	1.00	G LC2	1.00	G LC3	1.00	Qi H LC5				
CO16	S Ch	0.7*LC1 + LC2 + LC3 + LC5	☑	0.70	Qs LC1	1.00	G LC2	1.00	G LC3	1.00	Qi H LC5		
CO17	S Ch	0.7*LC1 + LC2 + LC3 + 0.6*LC4 + LC5	☑	0.70	Qs LC1	1.00	G LC2	1.00	G LC3	0.60	Qw LC4	1.00	Qi H LC5
CO18	S Ch	LC2 + LC3 + 0.6*LC4 + LC5	☑	1.00	G LC2	1.00	G LC3	0.60	Qw LC4	1.00	Qi H LC5		
CO19	S Qs	1.8*LC2 + 1.8*LC3	☑	1.80	G LC2	1.80	G LC3						
CO20	S Qs	1.16*LC1 + 1.8*LC2 + 1.8*LC3	☑	1.16	Qs LC1	1.80	G LC2	1.80	G LC3				
CO21	S Qs	1.16*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC	☑	1.16	Qs LC1	1.80	G LC2	1.80	G LC3	0.60	Qw LC4		
CO22	S Qs	1.8*LC2 + 1.8*LC3 + LC4	☑	1.80	G LC2	1.80	G LC3	1.00	Qw LC4				
CO23	S Qs	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC4	☑	0.86	Qs LC1	1.80	G LC2	1.80	G LC3	1.00	Qw LC4		
CO24	S Qs	1.8*LC2 + 1.8*LC3 + LC5	☑	1.80	G LC2	1.80	G LC3	1.00	Qi H LC5				
CO25	S Qs	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC5	☑	0.86	Qs LC1	1.80	G LC2	1.80	G LC3	1.00	Qi H LC5		
CO26	S Qs	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC	☑	0.86	Qs LC1	1.80	G LC2	1.80	G LC3	0.60	Qw LC4	1.00	Qi H LC5
CO27	S Qs	1.8*LC2 + 1.8*LC3 + 0.6*LC4 + LC5	☑	1.80	G LC2	1.80	G LC3	0.60	Qw LC4	1.00	Qi H LC5		
CO28													
CO29													

The loads may be assigned to the structure when the load cases and load combinations are defined. The load distribution and load directions were chosen, and loads were applied to the trusses in RFEM. The load distribution for dead load is uniform and load direction is global ZL. Dead load applied to the structure is shown in Figure 28.

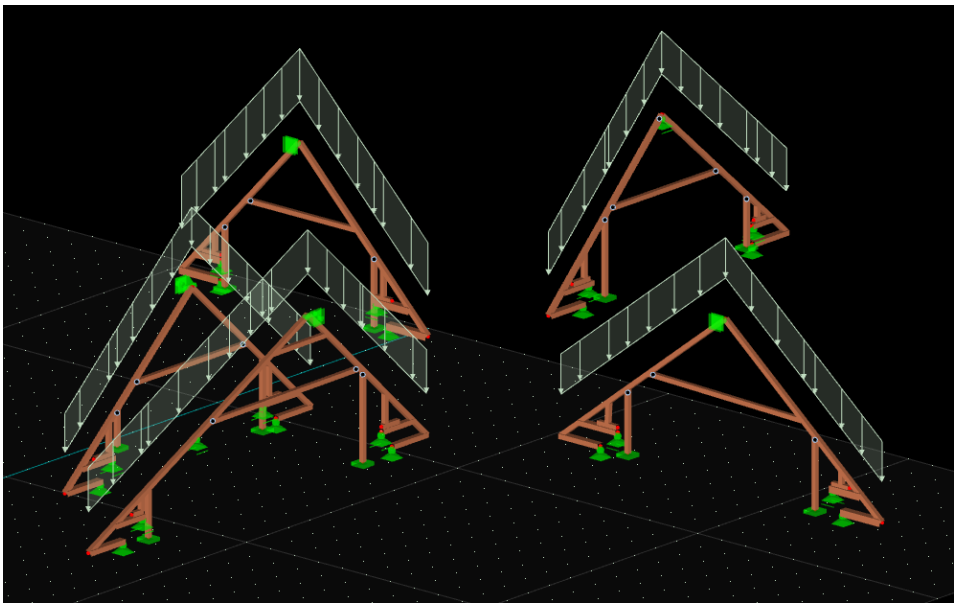

Figure 28. Dead load assigned to the structure in Dlubal RFEM

Similarly, live loads, snow loads, and wind loads were applied on the trusses for the structural analysis.

6.4 **Structural analysis and results**

The structural calculation can be done after the definition of geometry, releases, and loads. The software provides different types of calculation results that may be used for further design. The maximum values of bending moments, shear and axial forces will be later used for resistance check of trusses and joints. The calculation window in the RFEM software is shown in Figure 29.

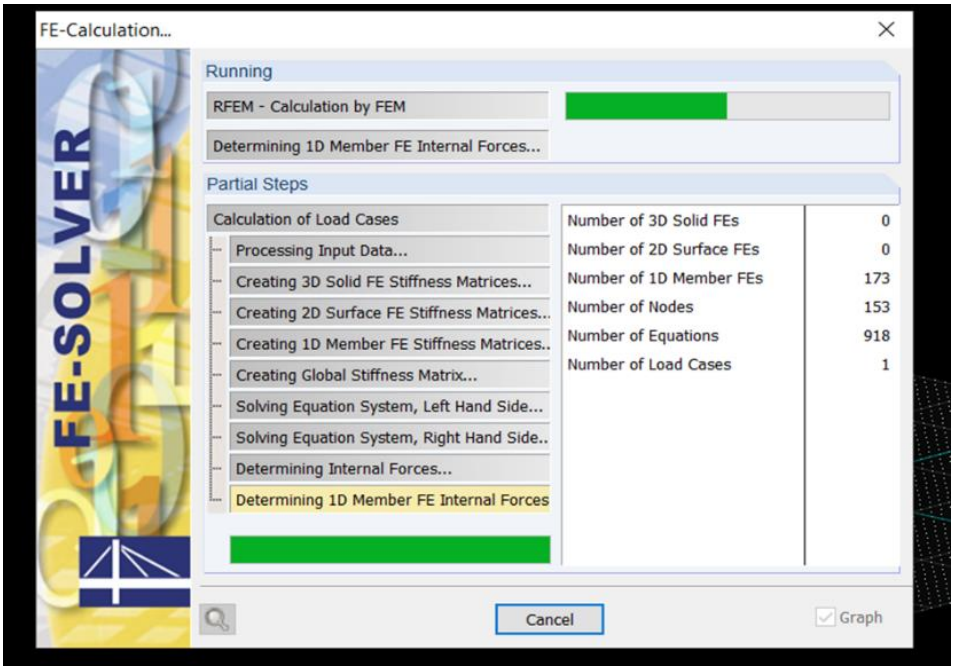

Figure 29. Calculation window in Dlubal RFEM

After the load calculation, the maximum loads in members can be seen depending on the load case. The maximum internal forces in the members of one of the roof trusses are shown in Figure 30. The member with red colours has highest internal forces while the members with blue has the lowest.

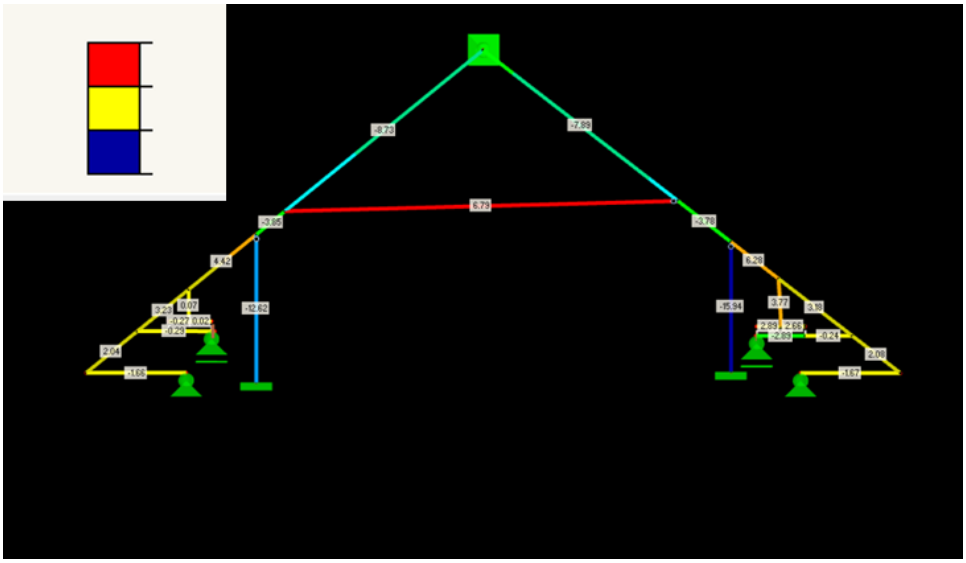

Figure 30. Maximum internal forces in one of the roof truss members

The results from RFEM are presented in the form of report in Appendix 2.

6.5 Design resistance of structural members

The design of timber members in Dlubal RFEM was done according to SFS EN 1995-1-1 and SFS EN 1995-1-2. The member resistance design includes axial compression and combined bending, resistance of the cross-section, lateral torsional buckling under bending or buckling of members under compression and definition of the design ratio of the cross-section. The most critical forces in members are analysed by the software according to Ultimate Limit State and conducts relevant calculations.
Utility ratio is the ratio of actual load on member to the capacity of member, if it exceeds more than 1 then load on member will be greater than its capacity and member gets collapsed. The maximum utility ratio of the members is 0.59. Thus, the design criteria of the structure were satisfied.
The maximum design ratio of the whole structure is illustrated in figure 31.

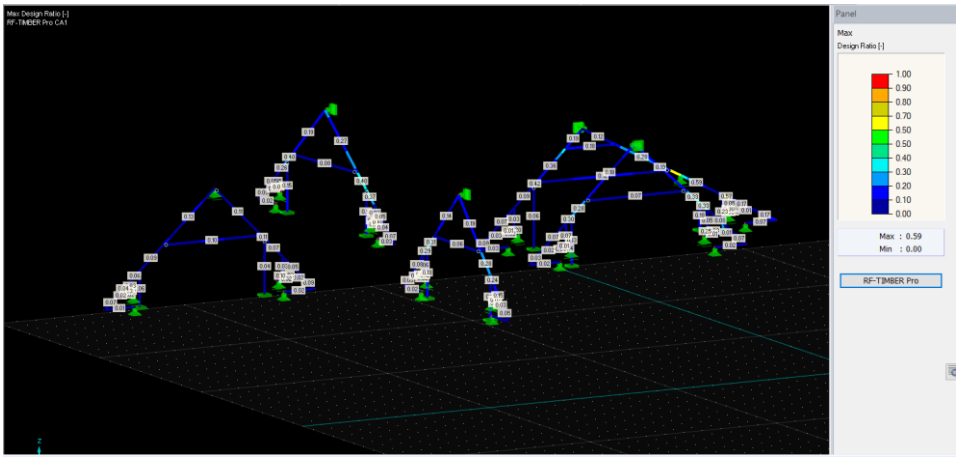

Figure 31. Maximum utility ratio of the structure

The results from RFEM are presented in the form of report in Appendix 2.

7 PRODUCTION DRAWINGS

After the structural design process and the dimensions of the members are defined, technical drawings for production can be made. Based on the three-dimensional model of the structure, the drawings are produced in Tekla Structures software. BIM software system allows to store information about every building component of the modelled structure, its properties, and amounts.

7.1 **Elements of production drawings**

Usually, production drawings are made for later manufacturing of building elements in the shop. But this project represents existing building. So, the production drawings are for the future renovation and reconstruction of the attic of the main castle. Production drawings include assembly and part drawings, and the drawings must contain relevant information for the components to be assembled in a correct way. The main elements of production drawings are as follows:

1. Shapes and size of components
2. Numbering of building components
3. Bill of quantities containing each part
4. Title block

7.2 **Assembly drawings**

Assembly drawings are made to present building components that consist of several parts. The drawings demonstrate size of building parts, their connection and how those parts are placed in the assembly.

Assembly drawings may contain three-dimensional views, elevations, sections, and orthogonal plans. The location of an assembly in the structure may be shown in a general arrangement drawing. The roof truss assembly drawing made for the main castle of Häme castle is shown in Figure 32.

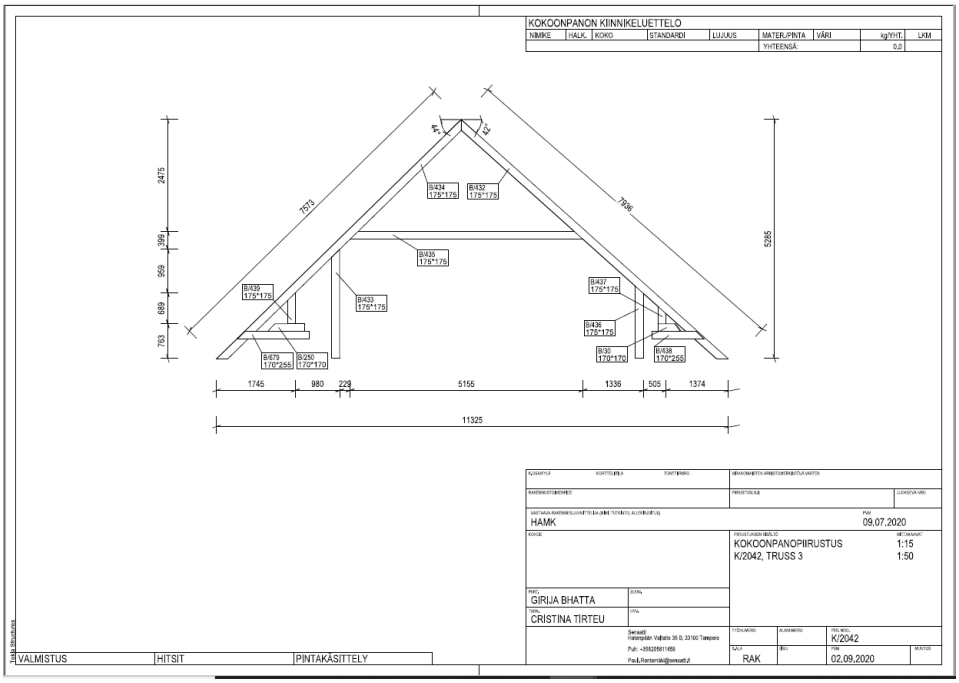

Figure 32. Assembly drawing of the roof truss

8 FACTS AND FINDINGS

Häme castle is a historical building which was built in the 13th century. The main construction materials used in Häme Castle are reinforced concrete, timber, and bricks. Häme castle has an amazing history starting from the Swedish nobility to museum operated by the National Museum of Finland. The point cloud and the architectural drawings provided by the client were helpful for the thesis. But modelling the irregular objects in 3D by looking into a point cloud was time consuming or difficult to model accurately. The 3D modelling of the castle allows easy information uprooting in the future. In this project, the fourth floor and the attic of the castle were studied, and structural analysis was done for the trusses. The thesis study shows that the castle trusses are strong enough to bear any kind of loads.

The main castle attic has plenty of wooden profiles which are structurally unnecessary in the castle. The wooden profiles used in the trusses are quite big (varies from 150mm*150mm – 180mm*180mm). Most of the trusses have irregularity in shapes and sizes of the truss members. There are wooden planks on the top of the timber trusses which are covering the whole attic from all exterior sides. In addition, the exterior walls of the main castle building are very wide (varies from 1m - 2m).
Figure 33 shows the truss members, connection, and irregular timber profiles in the attic of the castle.

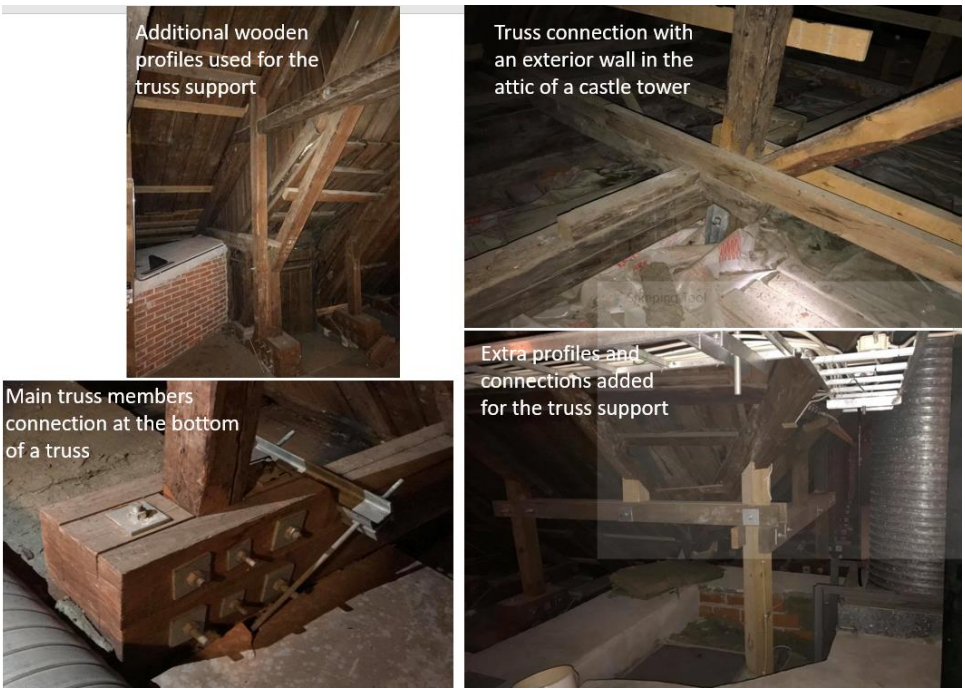

Figure 33. Truss connection and irregular timber profiles in the main castle attic

9 BIM FOR HÄME CASTLE

The attic of Häme Castle has many undefined shapes because of structural deformation or weathering which is very difficult or impossible to represent accurately using parametric BIM objects. The historic styles of Häme Castle include organic shapes, which again can be more time consuming or difficult to model accurately using simple solid geometry.

Häme Castle was scanned in the form of point cloud which was helpful to find the location of the structural components, but the 3D modelling could make it more beneficial. The features, such as heritage importance and values can be combined into the 3D model in a structured and consistent way which allows easy information uprooting and the production of deliverables. BIM offers a robust information management framework that can be highly beneficial for Häme Castle. Häme Castle has one of the oldest building trusses in Europe. It is assumed that the trusses of the main castle are 500 years old. By absorbing high-quality digital survey datasets, BIM does not only represent the image of the existing historic framework, but will also allow the investigating, quality checking and complex analysis of proposed involvement in various scenarios of the castle.

The calculations done by the software are faster, more efficient, and easier to correct than the manual calculations. The amount of material needed for the building could help us to know the amount of money needed for the renovation or reconstruction of the building. The adoption of BIM in Häme Castle may drive by significant gains in terms of efficiency and cost savings during capital and operational stages in terms of spatial coordination and conservation planning through improved visualisation, analysis, and options appraisal. Working with BIM will experience reduced project risk, improved timelines, and better project outcomes.

BIM appears less popular in terms of adoption by heritage professionals. If the information model of the Häme Castle is maintained, it can be an invaluable decision making and management tool for the castle throughout its life cycle.

10 CONCLUSION

In this thesis, a review of the documentation, an accurate modelling, and the structural analysis of the trusses of an architectural heritage has been presented. The focus has been placed on presenting several alternatives to understand how to apply BIM platforms for the future renovation and restoration of an architectural heritage (Häme Castle). The analysis was done for trusses in a three-dimensional arrangement in RFEM software. As the result of the project work, the results were positive which proves that the main castle trusses are strong enough to bear all kind of loads.

The main castle trusses can be modelled, calculated and therefore, a perfect size of the timber can be used in the future. The wooden planks on the top of the main castle trusses are not needed, it causes an extra load on the building. The irregularity of the objects in the castle can be replaced by the regular objects to make the structure stronger and more effective. The exterior walls of the castle are very wide (1m-2m). In the future the material cost can be saved by building a thinner wall which is strong enough to take loads.

However, as the castle has its own historical importance, and the Finnish national antiquities is preserving it, BIM can be useful to preserve the building information for the future use. 3D laser scanners (point clouds) and photogrammetry were helpful in determining the geometry and identity of the analysed building components. The building components were modelled in 3D which provides information about the fourth floor and the attic of the castle. If the castle needs renovation in the future, the calculations done in Mathcad may be useful and edited easily just by replacing the numbers. The exact dimensions of the truss members can be chosen and applied in RFEM to check the exact results. Thus, BIM may improve efficiency and effectiveness of the construction phase and provide a better understanding of the future operations and maintenance of the Häme Castle.

Häme Castle has an amazing history starting from the Swedish nobility to museum operated by the National Museum of Finland. Even though the modern construction sector has been using BIM extensively, BIM for heritage assets appears less popular in terms of adoption by heritage professionals. If the Häme Castle information model is maintained, it can be an invaluable decision making and management tool for the castle throughout its life cycle.

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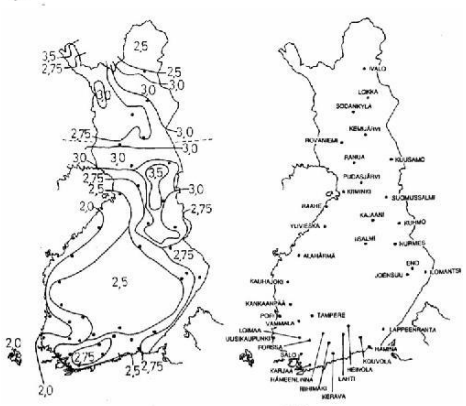
APPENDIX 1. CALCULATION OF LOADS

1.SNOW LOAD

Snow Load on the ground in Hämeenlinna



$Sk := 2.5 \left(\frac{kN}{m^2}\right)$ From Finnish National Annex

Snow Load on the Roof

$C_e := 1$ From table 5.1, SFS EN 1991-1-3

$C_t := 1$ BS EN 1991-1-3:2003 EN 1991-1-3:2003 (E)

Roof zero

$\alpha_{01} := 35$

$\mu_{i01} := 0.8 \frac{(60 - \alpha_{01})}{30} = 0.667$ Outer exterior wall (allain again and see 407-410)

Snow Load on the Roof $S := \mu_{i01} \cdot C_e \cdot C_t \cdot Sk = 1.667 \frac{kN}{m^2}$

$Bay := 1335\ mm$

Line load on truss $S_0 := S \cdot Bay = 2.225 \frac{kN}{m}$

$\alpha_{02} := 43.5$

$\mu_{i2} := 0.8 \frac{(60 - \alpha_{02})}{30} = 0.44$ Inner exterior wall (405)

Snow Load on the Roof $S := \mu_{i2} \cdot C_e \cdot C_t \cdot Sk = 1.1 \frac{kN}{m^2}$

Line load on truss $S_0 := 1.1 \frac{kN}{m^2} \cdot 1335\ mm = 1.469 \frac{kN}{m}$

Roof one

$\alpha_1 := 25.8$

$\mu_{i1} := 0.8$ Outer exterior wall (allain again and see 407-410)

Snow Load on the Roof $S := \mu_{i1} \cdot C_e \cdot C_t \cdot Sk = 2 \frac{kN}{m^2}$

$Bay := 1500\ mm$

Line load on truss $S_l := S \cdot Bay = 3 \frac{kN}{m}$

$\alpha_2 := 43.5$

$\mu_{i2} := 0.8 \frac{(60 - \alpha_2)}{30} = 0.44$ Inner exterior wall (405)

Snow Load on the Roof $S := \mu_{i2} \cdot C_e \cdot C_t \cdot Sk = 1.1 \frac{kN}{m^2}$

Line load on truss $S_l := 1.1 \frac{kN}{m^2} \cdot 1500\ mm = 1.65 \frac{kN}{m}$

Roof two

$\alpha_{11} := 38.7$

$\mu_{i11} := 0.8 \frac{(60 - \alpha_{11})}{30} = 0.568$ Outer exterior wall (other side of 404)

Snow Load on the Roof $S := \mu_{i11} \cdot C_e \cdot C_t \cdot Sk = 1.42 \ \frac{kN}{m^2}$

Line load on truss $S_l := 1.42 \ \frac{kN}{m^2} \cdot 1375 \ mm = 1.953 \ \frac{kN}{m}$

$\alpha_{22} := 38$

$\mu_{i22} := 0.8 \ \frac{(60 - \alpha_{22})}{30} = 0.587$ Inner exterior roof (404)

Snow Load on the Roof $S := \mu_{i22} \cdot C_e \cdot C_t \cdot Sk = 1.467 \ \frac{kN}{m^2}$

Line load on truss $S_l := 1.467 \ \frac{kN}{m^2} \cdot 1375 \ mm = 2.017 \ \frac{kN}{m}$

Roof three

$\alpha_{111} := 41.54$

$\mu_{i111} := 0.8 \ \frac{(60 - \alpha_{111})}{30} = 0.492$ Outer exterior roof (403)

Snow Load on the Roof $S := \mu_{i111} \cdot C_e \cdot C_t \cdot Sk = 1.231 \ \frac{kN}{m^2}$

Line load on truss $S_l := 1.231 \ \frac{kN}{m^2} \cdot 1470 \ mm = 1.81 \ \frac{kN}{m}$

$\alpha_{222} := 43.5$

$\mu_{i222} := 0.8 \ \frac{(60 - \alpha_{222})}{30} = 0.44$ Inner exterior roof (other side of 403)

Snow Load on the Roof $S := \mu_{i222} \cdot C_e \cdot C_t \cdot Sk = 1.1 \ \frac{kN}{m^2}$

Line load on truss $S_l := 1.1 \ \frac{kN}{m^2} \cdot 1470 \ mm = 1.617 \ \frac{kN}{m}$

Roof four

$\alpha_{1111} := 46.3$

$\mu_{i1111} := 0.8 \frac{(60 - \alpha_{1111})}{30} = 0.365$ Outer exterior roof (406)

Snow Load on the Roof $S := \mu_{i1111} \cdot C_e \cdot C_t \cdot Sk = 0.913 \frac{kN}{m^2}$

Line load on truss $S_l := 0.913 \frac{kN}{m^2} \cdot 1800\ mm = 1.643 \frac{kN}{m}$

$\alpha_{2222} := 45$

$\mu_{i2222} := 0.8 \frac{(60 - \alpha_{2222})}{30} = 0.4$ Inner exterior roof (other side of 406)

Snow Load on the Roof $S := \mu_{i2222} \cdot C_e \cdot C_t \cdot Sk = 1 \frac{kN}{m^2}$

Line load on truss $S_l := 1 \frac{kN}{m^2} \cdot 1800\ mm = 1.8 \frac{kN}{m}$

2.DEAD LOAD

1.Wooden Planks

Thickness, $T_1 := 30\ mm$

Density of wood, $\rho_1 := 0.7 \cdot \frac{kN}{m^3}$

Mass per unit area of a wooden planks

$M_{wp} := T_1 \cdot \rho_1 = 0.021 \frac{kN}{m^2}$

Line load on truss zero $D_0 := M_{wp} \cdot 1335\ mm = 0.028 \frac{kN}{m}$

Line load on truss one $D_1 := M_{wp} \cdot 1500\ mm = 0.032 \frac{kN}{m}$

Line load on truss two $D_2 := M_{wp} \cdot 1375\ mm = 0.029 \frac{kN}{m}$

Line load on truss three $D_3 := M_{wp} \cdot 1470\ mm = 0.031\ \frac{kN}{m}$

Line load on truss four $D_4 := M_{wp} \cdot 1800\ mm = 0.038\ \frac{kN}{m}$

3. Metal Sheet

Thickness, $T_3 := 1\ mm$

Dead load of a sheet metal $Dm := 0.3\ \frac{kN}{m^2}$ From Eurocode, we assumed 3

Line load on truss zero $D_0 := Dm \cdot 1335\ mm = 0.401\ \frac{kN}{m}$

Line load on truss one $D_1 := Dm \cdot 1500\ mm = 0.45\ \frac{kN}{m}$

Line load on truss two $D_2 := Dm \cdot 1375\ mm = 0.413\ \frac{kN}{m}$

Line load on truss three $D_3 := Dm \cdot 1470\ mm = 0.441\ \frac{kN}{m}$

Line load on truss four $D_4 := Dm \cdot 1800\ mm = 0.54\ \frac{kN}{m}$

Self weight of the trusses will be calculated by RFEM itself. Therefore:

Total dead Line load on truss zero $DL_0 := 0.028\ \frac{kN}{m} + 0.401\ \frac{kN}{m} = 0.429\ \frac{kN}{m}$

Total dead Line load on truss one $DL_1 := 0.032\ \frac{kN}{m} + 0.45\ \frac{kN}{m} = 0.482\ \frac{kN}{m}$

Total dead Line load on truss two $DL_2 := 0.029\ \frac{kN}{m} + 0.413\ \frac{kN}{m} = 0.442\ \frac{kN}{m}$

Total dead Line load on truss three $DL_3 := 0.031\ \frac{kN}{m} + 0.441\ \frac{kN}{m} = 0.472\ \frac{kN}{m}$

Total dead Line load on truss four $DL_4 := 0.038\ \frac{kN}{m} + 0.54\ \frac{kN}{m} = 0.578\ \frac{kN}{m}$

3. LIVE (IMPOSED) LOAD

Normal Live Load (Imposed Load)

$Qk_n := 4\ \frac{kN}{m^2}$

Live Load for ceiling meintenance

$Qk_m := 2\ \frac{kN}{m^2}$

Live Load for roof maintenance $Qk_a := 0.4\ \frac{kN}{m^2}$ BS EN 1991-1-1:2002

Categories of loaded area	Specific Use
H	Roofs not accessible except for normal maintenance and repair.
I	Roofs accessible with occupancy according to categories A to [AC1] G [AC1]
K	Roofs accessible for special services, such as helicopter landing areas

(2) Imposed loads for roofs of category H should be those given in Table 6.10. Imposed loads for roofs of category I are given in Tables 6.2, 6.4 and 6.8 according to the specific use.

(3) The loads for roofs of category K which provide areas for helicopter landing areas should be for the helicopter classes HC, see Table 6.11.

6.3.4.2 Values of actions

(1) For roofs of category H the minimum characteristic values Q_k and q_k that should be used are given in Table 6.10. They are related to the projected area of the roof under consideration.

NOTE The values for q_k in Table 6.12 may be chosen by the National Annex. The recommended values are underlined.

Table 6.10 - Imposed loads on roofs of category H

Roof	q_k [kN/m^2]	Q_k [kN]
Category H	q_k	Q_k
NOTE 1 For category H q_k may be selected within the range 0,00 kN/m^2 to 1,0 kN/m^2 and Q_k may be selected within the range 0,9 kN to 1,5 kN. Where a range is given the values may be set by the National Annex. The recommended values are: $q_k = 0{,}4$ kN/m^2, $Q_k = 1.0$kN NOTE 2 q_k may be varied by the National Annex dependent upon the roof slope.		

6.3.4.2 Values of actions (roofs)

6.3.4.2 (Table 6.10)

Table 6.10 (FI) provides values to be used in Finland.

Table 6.10 (FI) Imposed loads on roofs of category H

Roof	q_k [kN/m^2]	Q_k [kN]
Category H	0,4	1,0
Note: q_k may be assumed to act on an area not greater than 10 m^2.		

Line load on truss zero $D_0 := Qk_a \cdot 1335\ mm = 0.534\ \frac{kN}{m}$

Line load on truss one $D_1 := Qk_a \cdot 1500\ mm = 0.6\ \frac{kN}{m}$

Line load on truss two $D_2 := Qk_a \cdot 1375\ mm = 0.55\ \frac{kN}{m}$

Line load on truss three $D_3 := Qk_a \cdot 1470\ mm = 0.588\ \frac{kN}{m}$

Line load on truss four $D_4 := Qk_a \cdot 1800\ mm = 0.72\ \frac{kN}{m}$

4.WIND ACTIONS

Characteristics of the structure

Reference height of the structure $z := 23.701\ m$

Basic wind velocity

The basic wind velocity is calculated from the following equation:
(SFS-EN 1991-1-4: 2005)

Fundamental value of basic wind velocity $v_{b.0} := 21\ \frac{m}{s}$

Direction factor $c_{dir} := 1$

Season factor $c_{season} := 1$

Basic wind velocity $v_b := v_{b.0} \cdot c_{dir} \cdot c_{season} = 21\ \frac{m}{s}$

Mean wind velocity

Roughness length $z_0 := 0.3\ m$

Terrain category 3 $z_{0.II} := 0.05\ m$

Terrain factor $k_r := 0.19 \left(\frac{z_0}{z_{0.II}} \right)^{0.07} = 0.215$

Terrain roughness factor $c_r := k_r \cdot \ln\left(\frac{z}{z_0} \right) = 0.941$

Terrain orography factor $c_0 := 1$ SFS-EN 1991-1-4: 2005

Season factor $c_{season} = 1$ SFS-EN 1991-1-4: 2005

Mean wind velocity $v_m := v_b \cdot c_r \cdot c_0 = 19.764\ \frac{m}{s}$

Wind turbulence

Factor $k_I := 1$ SFS-EN 1991-1-4: 2005

Wind turbulence $I_v := \frac{k_I}{c_0 \cdot \ln\left(\frac{z}{z_0} \right)} = 0.229$

Basic velocity pressure

Air density $\rho_{air} := 1.25\ \frac{kg}{m^3}$

$q_b := \frac{1}{2} \cdot \rho_{air} \cdot \left(21\ \frac{m}{s} \right)^2 = 275.625\ \frac{N}{m^2}$

Peak velocity pressure

Density of air $\rho := 1.25\ \frac{kg}{m^3}$

Peak velocity pressure $q_p := \left(1 + 7 \cdot I_v \right) \cdot 0.5 \cdot \rho \cdot {v_m}^2 = 0.635\ \frac{kN}{m^2}$

Wind pressures on surfaces

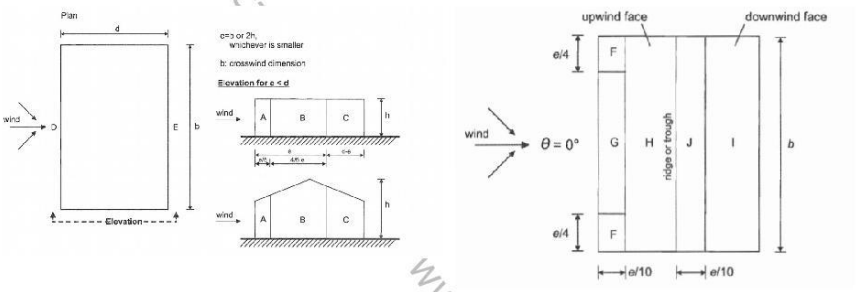
Roof 0, $\theta_{r0} := 0\ deg$

Crosswind dimension	$b := 24.972\ m$
Height of the structure	$h := 23.701\ m$
Depth of the structure	$d := 11.238\ m$
Length parameter	$e := min(b, 2\ h) = 24.972\ m$

Straight length of roof zero from top (d)=11.238m

For e<d,

SFS-EN 1991-1-4: 2005



length of zone A $\frac{e}{5} = 4.994\ m$

length of zone B $\frac{4}{5}\ e = 19.978\ m$

length of zone C $d - e = -13.734\ m$

length of D and E is equal to b

length of zone F $\frac{e}{4} = 6.243\ m$

length of zone G $b - \left(\frac{e}{4} + \frac{e}{4}\right) = 12.486\ m$

length of zone H $H := b = 24.972\ m$

length of zone I $I := b = 24.972\ m$

Width of H $\frac{d-\left(\frac{e}{10}+\frac{e}{10}\right)}{2}=3.122\ m$ Width of H and I are equal

Width of F $\frac{e}{10}=2.497\ m$ Width of F and J are equal

Slope length of region F

$\theta := 41.2\ °$

$b := 2.497\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 3.319\ m$

And slope length of region I

$\theta := 43.5\ °$

$b := 3.122\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 4.304\ m$

Slopes on roof zero are 41.2 ° and 43.5 °. So, lowest value of C_{pe10} from 30 ° and heighest value of C_{pe10} from 45 ° were considered .

SFS-EN 1991-1-4: 2005

NOTE 1 At $\theta = 0°$ the pressure changes rapidly between positive and negative values on the windward face around a pitch angle of $\alpha = -5°$ to $+45°$, so both positive and negative values are given. For those roofs, four cases should be considered where the largest or smallest values of all areas F, G and H are combined with the largest or smallest values in areas I and J. No mixing of positive and negative values is allowed on the same face.

NOTE 2 Linear interpolation for intermediate pitch angles of the same sign may be used between values of the same sign. (Do not interpolate between $\alpha = +5°$ and $\alpha = -5°$, but use the data for flat roofs in 7.2.3). The values equal to 0,0 are given for interpolation purposes

C_{pe10} **values for F** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 41.2°, C_{pe10} for F is 0.7

Therefore at 43.5°, C_{pe10} for F is 0.7

C_{pe10} **values for G** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 41.2°, C_{pe10} for G is 0.7

Therefore at 43.5°, C_{pe10} for G is 0.7

C_{pe10} **values for H** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.4$ At 45°, $C_{pe10} := 0.6$

Linear Interpolation for H

At x=41.2°

$x := 41.2$

$y_0 := 0.4$ $x_0 := 30$

$y_1 := 0.6$ $x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.549$$

Therefore at 41.2°, C_{pe10} for H is 0.549

And at x=43.5°

$x := 43.5$

$y_0 := 0.4$ $x_0 := 30$

$y_1 := 0.6$ $x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.58$$

Therefore at 43.5°, C_{pe10} for H is 0.58

C_{pe10} **values for I** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 41.2°, C_{pe10} for I is 0

Therefore at 43.5°, C_{pe10} for I is 0

C_{pe10} **values for J** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 41.2°, C_{pe10} for J is 0

Therefore at 43.5°, C_{pe10} for J is 0

Internal pressure Calculation SFS-EN 1991-1-4: 2005

Ratio h/d $\frac{h}{d} = 0.383$

NOTE 2 Where it is not possible, or not considered justified, to estimate μ for a particular case then c_{pi} should be taken as the more onerous of +0,2 and -0,3.

$C_{pi} := 0.2$

$Wi := q_p \cdot C_{pi} = 0.127 \ \frac{kN}{m^2}$

line load on truss zero $0.127 \ \frac{kN}{m^2} \cdot 1335 \ mm = 0.17 \ \frac{kN}{m}$

$C_{pi} := -0.3$

$Wi := q_p \cdot C_{pi} = -0.191 \ \frac{kN}{m^2}$

line load on truss zero $-0.191 \ \frac{kN}{m^2} \cdot 1335 \ mm = -0.255 \ \frac{kN}{m}$

External Pressure Calculation (truss zero)

$Bay := 1335\ mm$

External wind pressure (W_e) $W_e := q_p \cdot C_{pe10}$ SFS-EN 1991-1-4: 2005

Line load on the truss (W_{el}) $W_{el} := W_e \cdot Bay$

At x=41.2 ° & x=43.5 °

External pressure on zone F $q_p \cdot (0.7) = 0.445\ \frac{kN}{m^2}$

Line load on zone F $0.445\ \frac{kN}{m^2} \cdot 1335\ mm = 0.594\ \frac{kN}{m}$

At x=41.2 ° & x=43.5 °

External pressure on zone G $q_p \cdot (0.7) = 0.445\ \frac{kN}{m^2}$

Line load on zone G $0.445\ \frac{kN}{m^2} \cdot 1335\ mm = 0.594\ \frac{kN}{m}$

At x=41.2 °

External pressure on zone H $q_p \cdot (0.549) = 0.349\ \frac{kN}{m^2}$

Line load on zone H $0.349\ \frac{kN}{m^2} \cdot 1335\ mm = 0.466\ \frac{kN}{m}$

At 43.5 °

External pressure on zone H $q_p \cdot (0.58) = 0.368\ \frac{kN}{m^2}$

Line load on zone H $0.368\ \frac{kN}{m^2} \cdot 1335\ mm = 0.491\ \frac{kN}{m}$

At x=41.2 ° & x=43.5 °

External pressure on zone I $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

Line load on zone I $0 \ \frac{kN}{m^2} \cdot 1335 \ mm = 0 \ \frac{kN}{m}$

At x=41.2 ° & x=43.5 °

External pressure on zone J $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

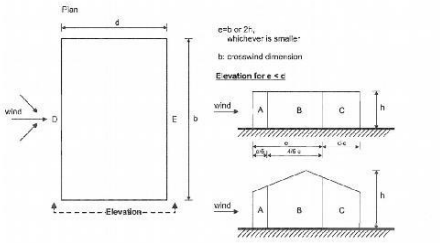
Line load on zone J $0 \ \frac{kN}{m^2} \cdot 1335 \ mm = 0 \ \frac{kN}{m}$

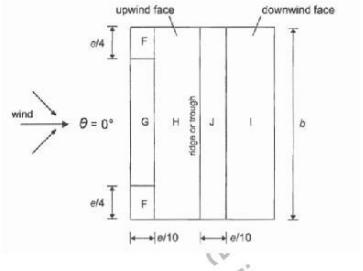
Roof 1, $\theta_{r0} := 0 \ deg$

Crosswind dimension $b := 24.972 \ m$
Height of the structure $h := 23.701 \ m$
Depth of the structure $d := 15.444 \ m$
Length parameter $e := min(b, 2 \ h) = 24.972 \ m$

For e<d,

SFS-EN 1991-1-4: 2005





length of zone A $\frac{e}{5} = 4.994 \ m$

length of zone B $\frac{4}{5} \ e = 19.978 \ m$

length of zone C $d - e = -9.528 \ m$

length of D and E is equal to b

length of zone F $\frac{e}{4}=6.243\ m$

length of zone G $b-\left(\frac{e}{4}+\frac{e}{4}\right)=12.486\ m$

length of zone H $H:=b=24.972\ m$

length of zone I $I:=b=24.972\ m$

Width of H $\frac{d-\left(\frac{e}{10}+\frac{e}{10}\right)}{2}=5.225\ m$ Width of H and I are equal

Width of F $\frac{e}{10}=2.497\ m$

Width of J $\frac{e}{10}=2.497\ m$

Slope of region G

$\theta:=27\ °$

$b:=2.497\ m$

$cos\theta:=\frac{b}{h}$

$h:=\frac{b}{\cos(\theta)}=2.802\ m$

And slope of region I

$\theta:=43.5\ °$

$b:=5.225\ m$

$cos\theta:=\frac{b}{h}$

$h:=\frac{b}{\cos(\theta)}=7.203\ m$

Slopes on roof one are 27° and 43.5°. So, lowest value of C_{pe10} from 30° and heighest value of C_{pe10} from 45° were considered.

SFS-EN 1991-1-4: 2005

NOTE 1 At $\theta = 0°$ the pressure changes rapidly between positive and negative values on the windward face around a pitch angle of $\alpha = -5°$ to $+45°$, so both positive and negative values are given. For those roofs, four cases should be considered where the largest or smallest values of all areas F, G and H are combined with the largest or smallest values in areas I and J. No mixing of positive and negative values is allowed on the same face.

NOTE 2 Linear interpolation for intermediate pitch angles of the same sign may be used between values of the same sign. (Do not interpolate between $\alpha = +5°$ and $\alpha = -5°$, but use the data for flat roofs in 7.2.3). The values equal to 0,0 are given for interpolation purposes

C_{pe10} values for F SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 27°, C_{pe10} for F is 0.7

Therefore at 43.5°, C_{pe10} for F is 0.7

C_{pe10} values for G SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 27°, C_{pe10} for G is 0.7

Therefore at 43.5°, C_{pe10} for G is 0.7

C_{pe10} values for H SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.4$ At 45°, $C_{pe10} := 0.6$

Linear Interpolation for H

At x=27°

$x := 27$

$y_0 := 0.4$ $x_0 := 30$

$y_1 := 0.6$ $x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.36$$

Therefore at 27°, C_{pe10} for H is 0.36

And at x=43.5°

$x := 43.5$

$y_0 := 0.4 \qquad x_0 := 30$

$y_1 := 0.6 \qquad x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.58$$

Therefore at 43.5°, C_{pe10} for H is 0.58

C_{pe10} **values for I** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 27°, C_{pe10} for I is 0

Therefore at 43.5°, C_{pe10} for I is 0

C_{pe10} **values for J** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 27°, C_{pe10} for J is 0

Therefore at 43.5°, C_{pe10} for J is 0

Internal pressure Calculation SFS-EN 1991-1-4: 2005

NOTE 2 Where it is not possible, or not considered justified, to estimate μ for a particular case then c_{pi} should be taken as the more onerous of +0,2 and -0,3.

$C_{pi} := 0.2$

$Wi := q_p \cdot C_{pi} = 0.127 \ \frac{kN}{m^2}$

line load on truss one $0.127 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0.191 \ \frac{kN}{m}$

$C_{pi} := -0.3$

$Wi := q_p \cdot C_{pi} = -0.191 \ \frac{kN}{m^2}$

line load on truss one $-0.191 \ \frac{kN}{m^2} \cdot 1500 \ mm = -0.287 \ \frac{kN}{m}$

External Pressure Calculation (truss one)

$Bay := 1500 \ mm$

External wind pressure (W_e) $W_e := q_p \cdot C_{pe10}$ SFS-EN 1991-1-4: 2005

Line load on the truss (W_{el}) $W_{el} := W_e \cdot Bay$

At x=27° & x=43.5°

External pressure on zone F $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on zone F $0.445 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0.668 \ \frac{kN}{m}$

At x=27° & x=43.5°

External pressure on zone G $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on zone G $0.445 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0.668 \ \frac{kN}{m}$

At x=27°

External pressure on zone H $q_p \cdot (0.4) = 0.254 \ \frac{kN}{m^2}$

Line load on zone H $0.254 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0.381 \ \frac{kN}{m}$

At 43.5 °

External pressure on zone H $q_p \cdot (0.6) = 0.381 \ \frac{kN}{m^2}$

Line load on zone H $0.381 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0.572 \ \frac{kN}{m}$

At x=27 ° & x=43.5 °

External pressure on zone I $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

Line load on zone I $0 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0 \ \frac{kN}{m}$

At x=27 ° & x=43.5 °

External pressure on zone J $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

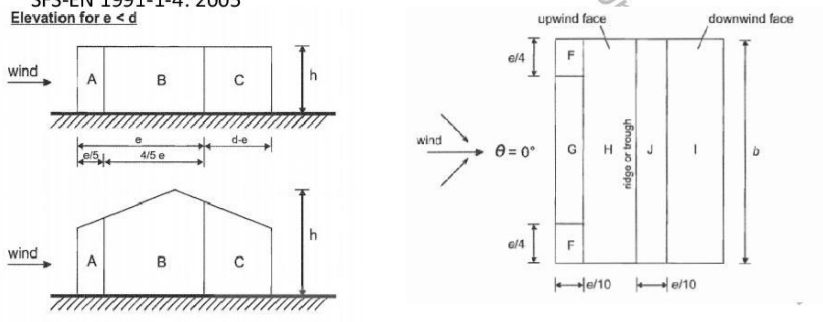
Line load on zone J $0 \ \frac{kN}{m^2} \cdot 1500 \ mm = 0 \ \frac{kN}{m}$

Roof 2, $\theta_{r0} := 0 \ deg$

Crosswind dimension $b := 34.414 \ m$
Height of the structure $h := 23.701 \ m$
Depth of the structure $d := 13.457 \ m$
Length parameter $e := min(b, 2 \ h) = 34.414 \ m$

For e<d,

SFS-EN 1991-1-4: 2005



length of zone A $\frac{e}{5}=6.883\ m$

length of zone B $\frac{4}{5}\ e=27.531\ m$

length of zone C $d-e=-20.957\ m$

length of D and E is equal to b

length of zone F $\frac{e}{4}=8.604\ m$

length of zone G $b-\left(\frac{e}{4}+\frac{e}{4}\right)=17.207\ m$

length of zone H $H:=b=34.414\ m$

length of zone I $I:=b=34.414\ m$

Width of zone H $\frac{d-\left(\frac{e}{10}+\frac{e}{10}\right)}{2}=3.287\ m$

Width of zone F $\frac{e}{10}=3.441\ m$

Width of J $\frac{e}{10}=3.441\ m$

Slope of region G

$\theta:=39\ °$

$b:=3.441\ m$

$cos\theta:=\frac{b}{h}$

$h:=\frac{b}{\cos(\theta)}=4.428\ m$

And slope of region I

$\theta:=38\ °$

$b:=3.287\ m$

$$cos\theta := \frac{b}{h}$$

$$h := \frac{b}{\cos(\theta)} = 4.171\ m$$

Slopes on roof two are 39° and 38°. So, lowest value of C_{pe10} from 30° and heighest value of C_{pe10} from 45° were considered for linear interpolation.

SFS-EN 1991-1-4: 2005

NOTE 1 At $\theta = 0°$ the pressure changes rapidly between positive and negative values on the windward face around a pitch angle of α = -5° to +45°, so both positive and negative values are given. For those roofs, four cases should be considered where the largest or smallest values of all areas F, G and H are combined with the largest or smallest values in areas I and J. No mixing of positive and negative values is allowed on the same face.

NOTE 2 Linear interpolation for intermediate pitch angles of the same sign may be used between values of the same sign. (Do not interpolate between α = +5° and α = -5°, but use the data for flat roofs in 7.2.3). The values equal to 0,0 are given for interpolation purposes

C_{pe10} **values for F** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 39°, C_{pe10} for F is 0.7

Therefore at 38°, C_{pe10} for F is 0.7

C_{pe10} **values for G** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 39°, C_{pe10} for G is 0.7

Therefore at 38°, C_{pe10} for G is 0.7

C_{pe10} **values for H** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.4$ At 45°, $C_{pe10} := 0.6$

Linear Interpolation for H

At x=39°

$x := 39$

$y_0 := 0.4 \qquad x_0 := 30$

$y_1 := 0.6 \qquad x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.52$$

Therefore at 39°, C_{pe10} for H is 0.52

And at x=38°

$x := 38$

$y_0 := 0.4 \qquad x_0 := 30$

$y_1 := 0.6 \qquad x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.507$$

Therefore at 38°, C_{pe10} for H is 0.507

C_{pe10} **values for I** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 39°, C_{pe10} for I is 0

Therefore at 38°, C_{pe10} for I is 0

C_{pe10} **values for J** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 39°, C_{pe10} for J is 0

Therefore at 38°, C_{pe10} for J is 0

Internal pressure Calculation SFS-EN 1991-1-4: 2005

Ratio h/d $\frac{h}{d}=0.31$

NOTE 2 Where it is not possible, or not considered justified, to estimate μ for a particular case then c_{pi} should be taken as the more onerous of +0,2 and -0,3.

$C_{pi}:=0.2$

$Wi:=q_p\cdot C_{pi}=0.127\ \frac{kN}{m^2}$

line load on truss two $0.127\ \frac{kN}{m^2}\cdot 1375\ mm=0.175\ \frac{kN}{m}$

$C_{pi}:=-0.3$

$Wi:=q_p\cdot C_{pi}=-0.191\ \frac{kN}{m^2}$

line load on truss two $-0.191\ \frac{kN}{m^2}\cdot 1375\ mm=-0.263\ \frac{kN}{m}$

External Pressure Calculation (truss two)

$Bay:=1375\ mm$

External wind pressure (W_e) $W_e:=q_p\cdot C_{pe10}$ SFS-EN 1991-1-4: 2005

Line load on the truss (W_{el}) $W_{el}:=W_e\cdot Bay$

At x=39° & x=38°

External pressure on zone F $q_p\cdot(0.7)=0.445\ \frac{kN}{m^2}$

Line load on zone F $0.445\ \frac{kN}{m^2}\cdot 1375\ mm=0.612\ \frac{kN}{m}$

At x=39° & x=38°

External pressure on zone G $q_p\cdot(0.7)=0.445\ \frac{kN}{m^2}$

Line load on zone G $0.445\ \frac{kN}{m^2} \cdot 1375\ mm = 0.612\ \frac{kN}{m}$

At x=39°

External pressure on zone H $q_p \cdot (0.52) = 0.33\ \frac{kN}{m^2}$

Line load on zone H $0.33\ \frac{kN}{m^2} \cdot 1375\ mm = 0.454\ \frac{kN}{m}$

At 38°

External pressure on zone H $q_p \cdot (0.507) = 0.322\ \frac{kN}{m^2}$

Line load on zone H $0.322\ \frac{kN}{m^2} \cdot 1375\ mm = 0.443\ \frac{kN}{m}$

At x=39° & x=38°

External pressure on zone I $q_p \cdot (0) = 0\ \frac{kN}{m^2}$

Line load on zone I $0\ \frac{kN}{m^2} \cdot 1375\ mm = 0\ \frac{kN}{m}$

At x=39° & x=38°

External pressure on zone J $q_p \cdot (0) = 0\ \frac{kN}{m^2}$

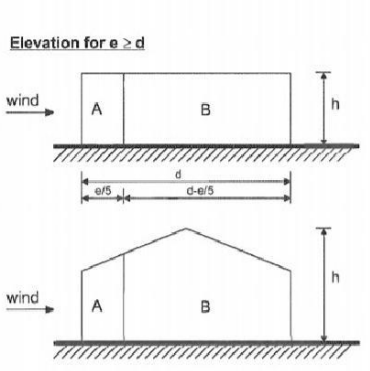
Line load on zone J $0\ \frac{kN}{m^2} \cdot 1375\ mm = 0\ \frac{kN}{m}$

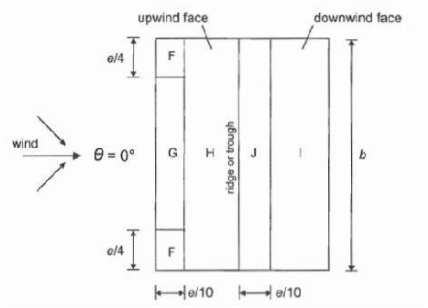
Roof 3, $\theta_{r0} := 0\ deg$

Crosswind dimension $b := 24.057\ m$
Height of the structure $h := 23.701\ m$
Depth of the structure $d := 11.1\ m$

Length parameter $e := min(b, 2\ h) = 24.057\ m$

For e>d,





length of zone A $\frac{e}{5} = 4.811\ m$

length of zone B $\frac{4}{5}\ e = 19.246\ m$

length of zone C $d - e = -12.957\ m$

length of D and E is equal to b

length of zone F $\frac{e}{4} = 6.014\ m$

length of zone G $b - \left(\frac{e}{4} + \frac{e}{4}\right) = 12.029\ m$

length of zone H $H := b = 24.057\ m$

length of zone I $I := b = 24.057\ m$

Width of zone H $\frac{d - \left(\frac{e}{10} + \frac{e}{10}\right)}{2} = 3.144\ m$

Width of zone F $\frac{e}{10} = 2.406\ m$

Width of zone J $\frac{e}{10} = 2.406\ m$

Slope of region G

$\theta := 42\ °$

$b := 2.406\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 3.238\ m$

And slope of region I

$\theta := 45\ °$

$b := 3.144\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 4.446\ m$

Slopes on roof one are 42 ° and 45 °. So, lowest value of C_{pe10} from 30 ° and heighest value of C_{pe10} from 45 ° were considered for linear interpolation.

SFS-EN 1991-1-4: 2005

NOTE 1 At $\theta = 0°$ the pressure changes rapidly between positive and negative values on the windward face around a pitch angle of α = -5° to +45°, so both positive and negative values are given. For those roofs, four cases should be considered where the largest or smallest values of all areas F, G and H are combined with the largest or smallest values in areas I and J. No mixing of positive and negative values is allowed on the same face.

NOTE 2 Linear interpolation for intermediate pitch angles of the same sign may be used between values of the same sign. (Do not interpolate between α = +5° and α = -5°, but use the data for flat roofs in 7.2.3). The values equal to 0,0 are given for interpolation purposes

C_{pe10} values for F SFS-EN 1991-1-4: 2005

At 30 °, $C_{pe10} := 0.7$ At 45 °, $C_{pe10} := 0.7$

Therefore at 42 °, C_{pe10} for F is 0.7

Therefore at 45 °, C_{pe10} for F is 0.7

C_{pe10} **values for G** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.7$ At 45°, $C_{pe10} := 0.7$

Therefore at 42°, C_{pe10} for G is 0.7

Therefore at 45°, C_{pe10} for G is 0.7

C_{pe10} **values for H** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0.4$ At 45°, $C_{pe10} := 0.6$

Linear Interpolation for H

At x=42°

$x := 42$

$y_0 := 0.4$ $x_0 := 30$

$y_1 := 0.6$ $x_1 := 45$

$$y := \frac{y_0 \cdot (x_1 - x) + y_1 \cdot (x - x_0)}{x_1 - x_0} = 0.56$$

Therefore at 42°, C_{pe10} for H is 0.56

Therefore at 45°, C_{pe10} for H is 0.6

C_{pe10} **values for I** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 42°, C_{pe10} for I is 0

Therefore at 45°, C_{pe10} for I is 0

C_{pe10} **values for J** SFS-EN 1991-1-4: 2005

At 30°, $C_{pe10} := 0$ At 45°, $C_{pe10} := 0$

Therefore at 42°, C_{pe10} for J is 0

Therefore at 45°, C_{pe10} for J is 0

Internal pressure Calculation SFS-EN 1991-1-4: 2005

Ratio h/d $\frac{h}{d} = 0.401$

NOTE 2 Where it is not possible, or not considered justified, to estimate μ for a particular case then c_{pi} should be taken as the more onerous of +0,2 and -0,3.

$C_{pi} := 0.2$

$Wi := q_p \cdot C_{pi} = 0.127 \ \frac{kN}{m^2}$

line load on truss three $0.127 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0.187 \ \frac{kN}{m}$

$C_{pi} := -0.3$

$Wi := q_p \cdot C_{pi} = -0.191 \ \frac{kN}{m^2}$

line load on truss three $-0.191 \ \frac{kN}{m^2} \cdot 1470 \ mm = -0.281 \ \frac{kN}{m}$

External Pressure Calculation (truss three)

$Bay := 1470 \ mm$

External wind pressure (W_e) $W_e := q_p \cdot C_{pe10}$ SFS-EN 1991-1-4: 2005

Line load on the truss (W_{el}) $W_{el} := W_e \cdot Bay$

At x=42° & x=45°

External pressure on zone F $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on zone F $0.445 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0.654 \ \frac{kN}{m}$

At x=42° & x=45°

External pressure on zone G $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on zone G $0.445 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0.654 \ \frac{kN}{m}$

At x=42°

External pressure on zone H $q_p \cdot (0.56) = 0.356 \ \frac{kN}{m^2}$

Line load on zone H $0.356 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0.523 \ \frac{kN}{m}$

At 45°

External pressure on zone H $q_p \cdot (0.6) = 0.381 \ \frac{kN}{m^2}$

Line load on zone H $0.381 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0.56 \ \frac{kN}{m}$

At x=42° & x=45°

External pressure on zone I $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

Line load on zone I $0 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0 \ \frac{kN}{m}$

At x=42° & x=45°

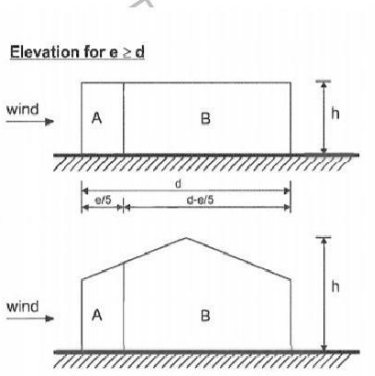
External pressure on zone J $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

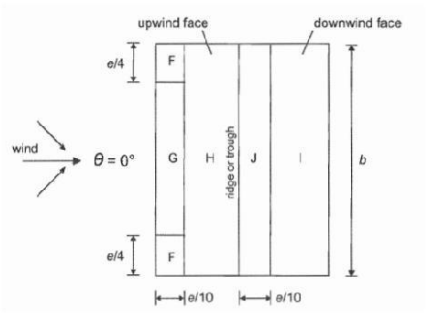
Line load on zone J $0 \ \frac{kN}{m^2} \cdot 1470 \ mm = 0 \ \frac{kN}{m}$

Roof 4, $\theta_{r0} := 0\ deg$

Crosswind dimension	$b := 12.816\ m$
Height of the structure	$h := 23.701\ m$
Depth of the structure	$d := 10.312\ m$
Length parameter	$e := min(b, 2\ h) = 12.816\ m$

For e>d,





length of zone A $\frac{e}{5} = 2.563\ m$

length of zone B $\frac{4}{5}\ e = 10.253\ m$

length of zone C $d - e = -2.504\ m$

length of D and E is equal to b

length of zone F $\frac{e}{4} = 3.204\ m$

length of zone G $b - \left(\frac{e}{4} + \frac{e}{4}\right) = 6.408\ m$

length of zone H $H := b = 12.816\ m$

length of zone I $I := b = 12.816\ m$

Width of zone H $\frac{d - \left(\frac{e}{10} + \frac{e}{10}\right)}{2} = 3.874\ m$

Width of zone F $\frac{e}{10} = 1.282\ m$

Width of J $\frac{e}{10} = 1.282\ m$

Slope of region G

$\theta := 45\ °$

$b := 1.282\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 1.813\ m$

And slope of region I

$\theta := 45\ °$

$b := 3.874\ m$

$cos\theta := \frac{b}{h}$

$h := \frac{b}{\cos(\theta)} = 5.479\ m$

Slopes on roof four is 45°. So, the value of C_{pe10} is taken from 45° from the table.

For F $C_{pe10} := 0.7$

For G $C_{pe10} := 0.7$

For H $C_{pe10} := 0.6$ SFS-EN 1991-1-4: 2005

For I $C_{pe10} := -0.2$

For J $C_{pe10} := -0.3$

Internal pressure Calculation SFS-EN 1991-1-4: 2005

Ratio h/d $\frac{h}{d} = 0.531$

NOTE 2 Where it is not possible, or not considered justified, to estimate μ for a particular case then c_{pi} should be taken as the more onerous of +0.2 and -0,3.

$C_{pi} := 0.2$

$Wi := q_p \cdot C_{pi} = 0.127 \ \frac{kN}{m^2}$

line load on truss four $0.127 \ \frac{kN}{m^2} \cdot 1800 \ mm = 0.229 \ \frac{kN}{m}$

$C_{pi} := -0.3$

$Wi := q_p \cdot C_{pi} = -0.191 \ \frac{kN}{m^2}$

line load on truss four $-0.191 \ \frac{kN}{m^2} \cdot 1800 \ mm = -0.344 \ \frac{kN}{m}$

External Pressures Calculation (truss four)

External pressure on Zone F $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on the truss four $0.445 \ \frac{kN}{m^2} \cdot 1800 \ mm = 0.801 \ \frac{kN}{m}$

External pressure on Zone G $q_p \cdot (0.7) = 0.445 \ \frac{kN}{m^2}$

Line load on the truss four $0.445 \ \frac{kN}{m^2} \cdot 1800 \ mm = 0.801 \ \frac{kN}{m}$

External pressure on Zone H $q_p \cdot (0.6) = 0.381 \ \frac{kN}{m^2}$

Line load on the truss four $0.381 \ \frac{kN}{m^2} \cdot 1800 \ mm = 0.686 \ \frac{kN}{m}$

External pressure on Zone I $q_p \cdot (0) = 0 \ \frac{kN}{m^2}$

Line load on the truss four $0\ \frac{kN}{m^2} \cdot 1800\ mm = 0\ \frac{kN}{m}$

External pressure on Zone J $q_p \cdot (0) = 0\ \frac{kN}{m^2}$

Line load on the truss four $0\ \frac{kN}{m^2} \cdot 1800\ mm = 0\ \frac{kN}{m}$

Appendix 2

APPENDIX 2. Summary of structural analysis in Dlubal RFEM

2.1 Load Cases

Load Case	Load Case Description	Action Category	Self-Weight - Factor in Direction Active	X	Y	Z	EN 1990 + 1995 | FIN Load Duration
LC1	SNOW LOAD	Snow - s-k < 2.75 kN/m^2	-				Short-term
LC2	SELF WEIGHT	Permanent	x	0.000	0.000	-1.000	Permanent
LC3	DEAD LOAD	Permanent	-				Permanent
LC4	WIND LOAD	Wind	-				Short-term
LC5	IMPOSED LOAD	Imposed - Category H: roofs	-				Short-term

2.1.1 Load Cases - Calculation Parameters

Load Case	Load Case Description	Calculation Parameters		
LC1	SNOW LOAD	Method of analysis	: x	Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: x	Newton-Raphson
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
LC2	SELF WEIGHT	Method of analysis	: x	Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: x	Newton-Raphson
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
LC3	DEAD LOAD	Method of analysis	: x	Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: x	Newton-Raphson
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
LC4	WIND LOAD	Method of analysis	: x	Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: x	Newton-Raphson
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
LC5	IMPOSED LOAD	Method of analysis	: x	Geometrically linear analysis
		Method for solving system of nonlinear algebraic equations	: x	Newton-Raphson
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)

2.5 Load Combinations

Load Combin.	Load Combination DS	Description	No.	Factor	Load Case	
CO1	ULS'	1.35*LC2 + 1.35*LC3	1	1.35	LC2	SELF WEIGHT
			2	1.35	LC3	DEAD LOAD
CO2	ULS'	1.5*LC1 + 1.15*LC2 + 1.15*LC3	1	1.50	LC1	SNOW LOAD
			2	1.15	LC2	SELF WEIGHT
			3	1.15	LC3	DEAD LOAD
CO3	ULS'	1.5*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4	1	1.50	LC1	SNOW LOAD
			2	1.15	LC2	SELF WEIGHT
			3	1.15	LC3	DEAD LOAD

2.5 Load Combinations

Load Combin.	DS	Load Combination Description	No.	Factor	Load Case	
			4	0.90	LC4	WIND LOAD
CO4	ULS'	1.15*LC2 + 1.15*LC3 + 1.5*LC4	1	1.15	LC2	SELF WEIGHT
			2	1.15	LC3	DEAD LOAD
			3	1.50	LC4	WIND LOAD
CO5	ULS'	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC4	1	1.05	LC1	SNOW LOAD
			2	1.15	LC2	SELF WEIGHT
			3	1.15	LC3	DEAD LOAD
			4	1.50	LC4	WIND LOAD
CO6	ULS'	1.15*LC2 + 1.15*LC3 + 1.5*LC5	1	1.15	LC2	SELF WEIGHT
			2	1.15	LC3	DEAD LOAD
			3	1.50	LC5	IMPOSED LOAD
CO7	ULS'	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC5	1	1.05	LC1	SNOW LOAD
			2	1.15	LC2	SELF WEIGHT
			3	1.15	LC3	DEAD LOAD
			4	1.50	LC5	IMPOSED LOAD
CO8	ULS'	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5	1	1.05	LC1	SNOW LOAD
			2	1.15	LC2	SELF WEIGHT
			3	1.15	LC3	DEAD LOAD
			4	0.90	LC4	WIND LOAD
			5	1.50	LC5	IMPOSED LOAD
CO9	ULS'	1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5	1	1.15	LC2	SELF WEIGHT
			2	1.15	LC3	DEAD LOAD
			3	0.90	LC4	WIND LOAD
			4	1.50	LC5	IMPOSED LOAD
CO10	S Ch	LC2 + LC3	1	1.00	LC2	SELF WEIGHT
			2	1.00	LC3	DEAD LOAD
CO11	S Ch	LC1 + LC2 + LC3	1	1.00	LC1	SNOW LOAD
			2	1.00	LC2	SELF WEIGHT
			3	1.00	LC3	DEAD LOAD
CO12	S Ch	LC1 + LC2 + LC3 + 0.6*LC4	1	1.00	LC1	SNOW LOAD
			2	1.00	LC2	SELF WEIGHT
			3	1.00	LC3	DEAD LOAD
			4	0.60	LC4	WIND LOAD
CO13	S Ch	LC2 + LC3 + LC4	1	1.00	LC2	SELF WEIGHT
			2	1.00	LC3	DEAD LOAD
			3	1.00	LC4	WIND LOAD
CO14	S Ch	0.7*LC1 + LC2 + LC3 + LC4	1	0.70	LC1	SNOW LOAD
			2	1.00	LC2	SELF WEIGHT
			3	1.00	LC3	DEAD LOAD
			4	1.00	LC4	WIND LOAD
CO15	S Ch	LC2 + LC3 + LC5	1	1.00	LC2	SELF WEIGHT
			2	1.00	LC3	DEAD LOAD
			3	1.00	LC5	IMPOSED LOAD
CO16	S Ch	0.7*LC1 + LC2 + LC3 + LC5	1	0.70	LC1	SNOW LOAD
			2	1.00	LC2	SELF WEIGHT
			3	1.00	LC3	DEAD LOAD
			4	1.00	LC5	IMPOSED LOAD
CO17	S Ch	0.7*LC1 + LC2 + LC3 + 0.6*LC4 + LC5	1	0.70	LC1	SNOW LOAD
			2	1.00	LC2	SELF WEIGHT
			3	1.00	LC3	DEAD LOAD
			4	0.60	LC4	WIND LOAD
			5	1.00	LC5	IMPOSED LOAD
CO18	S Ch	LC2 + LC3 + 0.6*LC4 + LC5	1	1.00	LC2	SELF WEIGHT
			2	1.00	LC3	DEAD LOAD
			3	0.60	LC4	WIND LOAD
			4	1.00	LC5	IMPOSED LOAD
CO19	S Qp	1.8*LC2 + 1.8*LC3	1	1.80	LC2	SELF WEIGHT
			2	1.80	LC3	DEAD LOAD
CO20	S Qp	1.16*LC1 + 1.8*LC2 + 1.8*LC3	1	1.16	LC1	SNOW LOAD
			2	1.80	LC2	SELF WEIGHT
			3	1.80	LC3	DEAD LOAD
CO21	S Qp	1.16*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC4	1	1.16	LC1	SNOW LOAD
			2	1.80	LC2	SELF WEIGHT
			3	1.80	LC3	DEAD LOAD

2.5 Load Combinations

Load Combin.	Load Combination DS	Description	No.	Factor	Load Case	
			4	0.60	LC4	WIND LOAD
CO22	S Qp	1.8*LC2 + 1.8*LC3 + LC4	1	1.80	LC2	SELF WEIGHT
			2	1.80	LC3	DEAD LOAD
			3	1.00	LC4	WIND LOAD
CO23	S Qp	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC4	1	0.86	LC1	SNOW LOAD
			2	1.80	LC2	SELF WEIGHT
			3	1.80	LC3	DEAD LOAD
			4	1.00	LC4	WIND LOAD
CO24	S Qp	1.8*LC2 + 1.8*LC3 + LC5	1	1.80	LC2	SELF WEIGHT
			2	1.80	LC3	DEAD LOAD
			3	1.00	LC5	IMPOSED LOAD
CO25	S Qp	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC5	1	0.86	LC1	SNOW LOAD
			2	1.80	LC2	SELF WEIGHT
			3	1.80	LC3	DEAD LOAD
			4	1.00	LC5	IMPOSED LOAD
CO26	S Qp	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC4 + LC5	1	0.86	LC1	SNOW LOAD
			2	1.80	LC2	SELF WEIGHT
			3	1.80	LC3	DEAD LOAD
			4	0.60	LC4	WIND LOAD
			5	1.00	LC5	IMPOSED LOAD
CO27	S Qp	1.8*LC2 + 1.8*LC3 + 0.6*LC4 + LC5	1	1.80	LC2	SELF WEIGHT
			2	1.80	LC3	DEAD LOAD
			3	0.60	LC4	WIND LOAD
			4	1.00	LC5	IMPOSED LOAD

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
CO1	1.35*LC2 + 1.35*LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO2	1.5*LC1 + 1.15*LC2 + 1.15*LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO3	1.5*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO4	1.15*LC2 + 1.15*LC3 + 1.5*LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO5	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO6	1.15*LC2 + 1.15*LC3 + 1.5*LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO7	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA,

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
				GA_y, GA_z)
CO8	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO9	1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Materials (partial factor γM)
			: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO10	LC2 + LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO11	LC1 + LC2 + LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO12	LC1 + LC2 + LC3 + 0.6*LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO13	LC2 + LC3 + LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO14	0.7*LC1 + LC2 + LC3 + LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO15	LC2 + LC3 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO16	0.7*LC1 + LC2 + LC3 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO17	0.7*LC1 + LC2 + LC3 + 0.6*LC4 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
				system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO18	LC2 + LC3 + 0.6*LC4 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO19	1.8*LC2 + 1.8*LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO20	1.16*LC1 + 1.8*LC2 + 1.8*LC3	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO21	1.16*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO22	1.8*LC2 + 1.8*LC3 + LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
				tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO23	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC4	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO24	1.8*LC2 + 1.8*LC3 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO25	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO26	0.86*LC1 + 1.8*LC2 + 1.8*LC3 + 0.6*LC4 + LC5	Method of analysis	: x	Second order analysis (P-Delta)
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)
CO27	1.8*LC2 + 1.8*LC3 + 0.6*LC4 + LC5	Method of analysis	: x	Second order analysis (P-Delta)

2.5.2 Load Combinations - Calculation Parameters

Load Combin.	Description	Calculation Parameters		
		Method for solving system of nonlinear algebraic equations	: x	Picard
		Options	: x	Consider favorable effects due to tension
			: x	Refer internal forces to deformed system for:
				x Normal forces N
				x Shear forces V_y and V_z
				x Moments M_y, M_z and M_T
		Activate stiffness factors of:	: x	Cross-sections (factor for J, I_y, I_z, A, A_y, A_z)
			: x	Members (factor for GJ, EI_y, EI_z, EA, GA_y, GA_z)

2.7 Result Combinations

Result Combin	Description	Loading
RC1	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b	CO1/p or to CO9
RC2	SLS - Characteristic / Rare	CO10/p or to CO18
RC3	SLS - Quasi-permanent	CO19/p or to CO27

4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN] $P_{X'}$	$P_{Y'}$	$P_{Z'}$	Support Moments [kNm] $M_{X'}$	$M_{Y'}$	$M_{Z'}$	
6	RC1	Max	0.00	0.00	0.00	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	0.00	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
14	RC1	Max	0.00	0.00	-1.47	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-5.02	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
16	RC1	Max	0.00	1.25	0.71	0.20	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-0.12	-3.26	-2.10	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
22	RC1	Max	0.00	0.00	-5.37	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-42.29	0.00	0.00	0.00	ULS (STR/GEO) - Permanent

4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			$P_{X'}$	$P_{Y'}$	$P_{Z'}$	$M_{X'}$	$M_{Y'}$	$M_{Z'}$	
									/ transient - Eq. 6.10a and 6.10b
24	RC1	Max	0.00	0.31	1.56	0.28	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-0.11	-6.20	-0.84	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
27	RC1	Max	0.00	0.00	0.04	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-4.95	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
33	RC1	Max	0.00	0.00	0.00	0.00	2.34	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	0.00	0.00	-2.45	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
36	RC1	Max	-0.11	0.00	-8.03	0.00	-0.22	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-1.57	0.00	-27.76	0.00	-3.38	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
38	RC1	Max	1.51	0.00	-10.76	0.00	3.83	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-0.72	0.00	-34.10	0.00	-1.74	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
41	RC1	Max	0.00	0.00	5.18	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	1.67	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b

4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			$P_{X'}$	$P_{Y'}$	$P_{Z'}$	$M_{X'}$	$M_{Y'}$	$M_{Z'}$	
56	RC1	Max	0.00	0.00	-4.77	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-38.12	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
60	RC1	Max	1.22	0.00	-6.04	0.00	3.13	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.38	0.00	-30.39	0.00	0.96	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
64	RC1	Max	0.54	0.00	-11.95	0.00	1.18	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-0.77	0.00	-37.06	0.00	-1.75	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
70	RC1	Max	0.00	0.00	0.00	0.00	-0.65	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	0.00	0.00	-3.80	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
72	RC1	Max	1.16	0.00	-0.20	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-1.39	0.00	-0.63	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
77	RC1	Max	0.00	4.77	-0.58	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	2.13	-0.99	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
83	RC1	Max	0.00	0.00	-0.21	0.00	0.00	0.00	ULS (STR/GEO) - Permanent

4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN] $P_{X'}$	$P_{Y'}$	$P_{Z'}$	Support Moments [kNm] $M_{X'}$	$M_{Y'}$	$M_{Z'}$	
									/ transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-0.70	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
85	RC1	Max	0.00	0.95	-12.93	-0.77	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.32	-33.01	-2.36	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
91	RC1	Max	0.00	0.00	7.58	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	2.57	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
93	RC1	Max	0.00	-0.07	-12.90	4.06	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-3.23	-37.58	0.09	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
94	RC1	Max	0.00	0.00	0.00	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	0.00	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
97	RC1	Max	0.00	-1.32	18.82	6.76	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-6.84	3.67	1.37	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
105	RC1	Max	0.00	0.00	6.76	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b

4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			$P_{X'}$	$P_{Y'}$	$P_{Z'}$	$M_{X'}$	$M_{Y'}$	$M_{Z'}$	
		Min	0.00	0.00	1.79	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
107	RC1	Max	0.00	0.03	-8.87	0.34	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-0.10	-23.92	-0.09	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
109	RC1	Max	0.00	0.00	-5.46	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-32.55	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
117	RC1	Max	0.00	0.00	2.02	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	0.26	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
122	RC1	Max	0.00	0.00	9.85	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	1.80	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
125	RC1	Max	0.00	0.00	-1.86	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.00	-8.92	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
127	RC1	Max	0.00	11.18	-0.61	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	0.21	-2.65	0.00	0.00	0.00	ULS (STR/GEO) - Permanent

4.1 Nodes - Support Forces

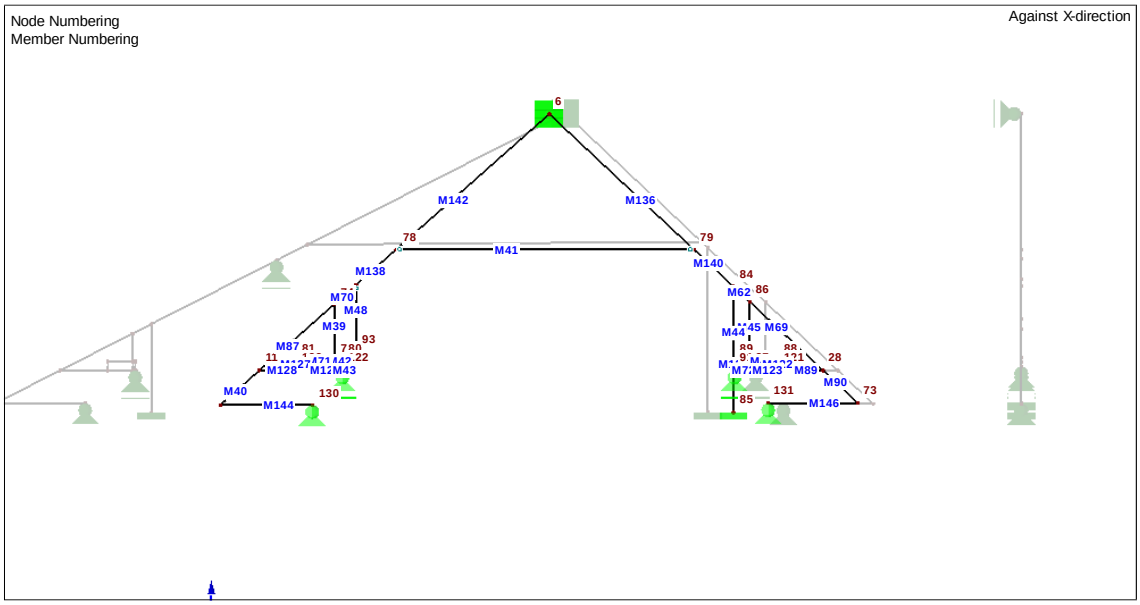
Result Combinations

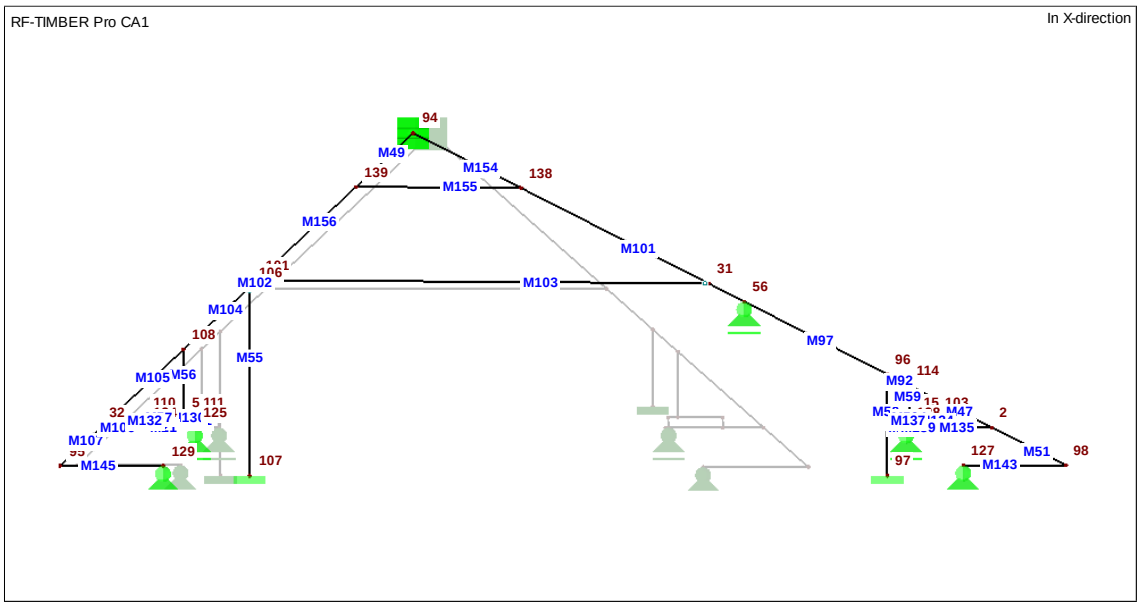
Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			$P_{X'}$	$P_{Y'}$	$P_{Z'}$	$M_{X'}$	$M_{Y'}$	$M_{Z'}$	
									/ transient - Eq. 6.10a and 6.10b
129	RC1	Max	0.00	-2.04	-0.53	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-5.14	-0.98	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
130	RC1	Max	0.00	3.91	-0.26	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-0.53	-1.05	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
131	RC1	Max	0.00	-0.62	-0.54	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-1.54	-0.74	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
132	RC1	Max	-1.41	0.00	-0.47	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-3.02	0.00	-1.52	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
133	RC1	Max	0.00	0.75	-0.21	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	0.00	-4.29	-0.82	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
134	RC1	Max	4.59	0.00	-0.36	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	1.97	0.00	-1.18	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b

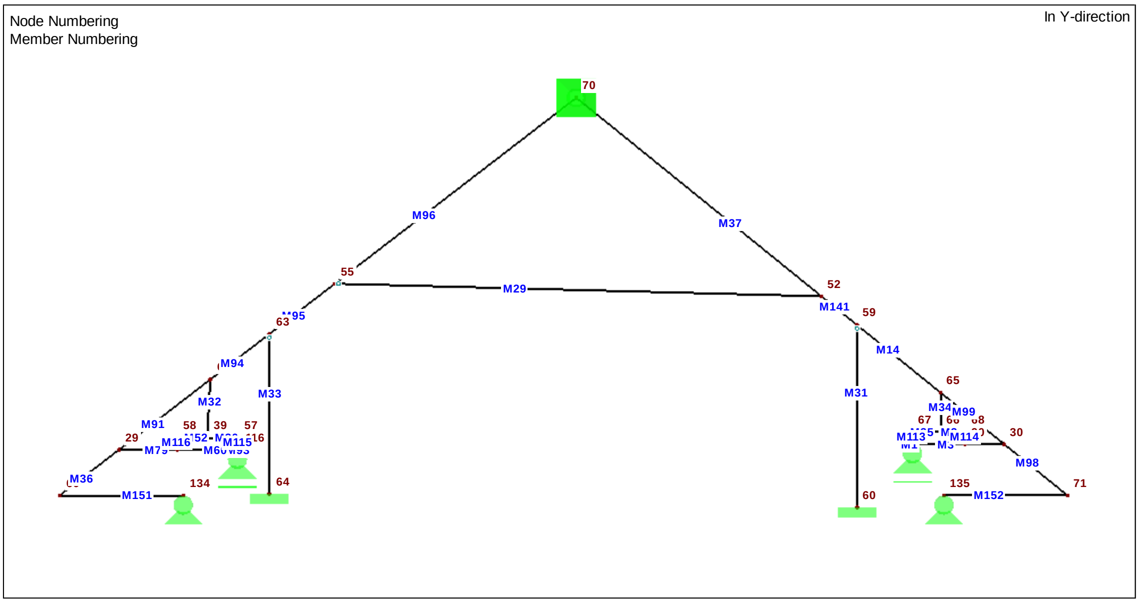
4.1 Nodes - Support Forces

Result Combinations

Node No.	RC		Support Forces [kN]			Support Moments [kNm]			
			$P_{X'}$	$P_{Y'}$	$P_{Z'}$	$M_{X'}$	$M_{Y'}$	$M_{Z'}$	
135	RC1	Max	0.60	0.00	-0.81	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b
		Min	-4.41	0.00	-1.62	0.00	0.00	0.00	ULS (STR/GEO) - Permanent / transient - Eq. 6.10a and 6.10b



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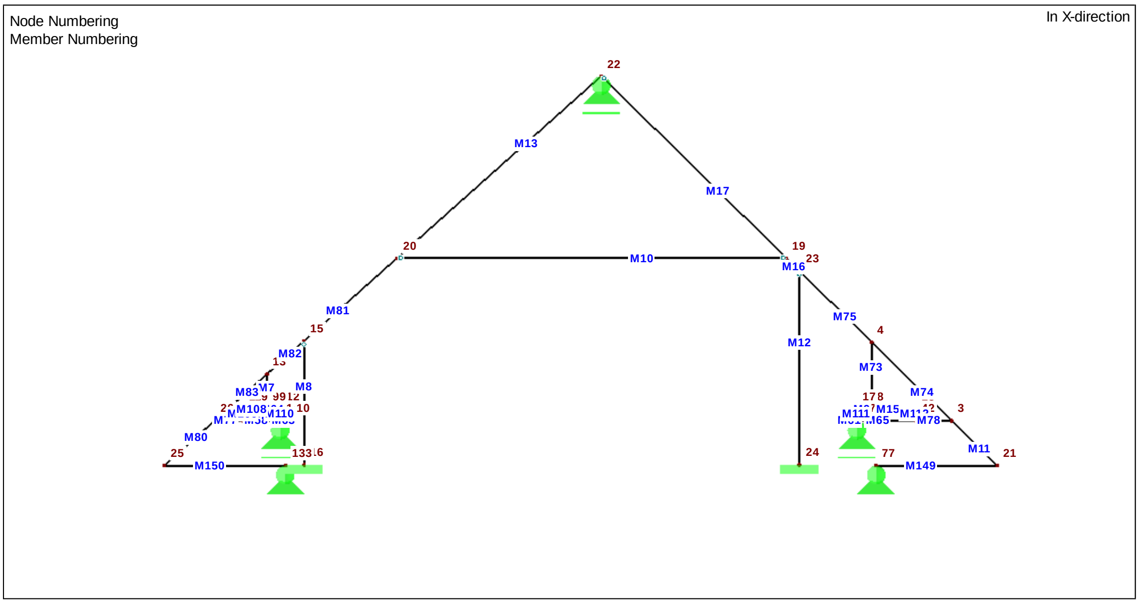
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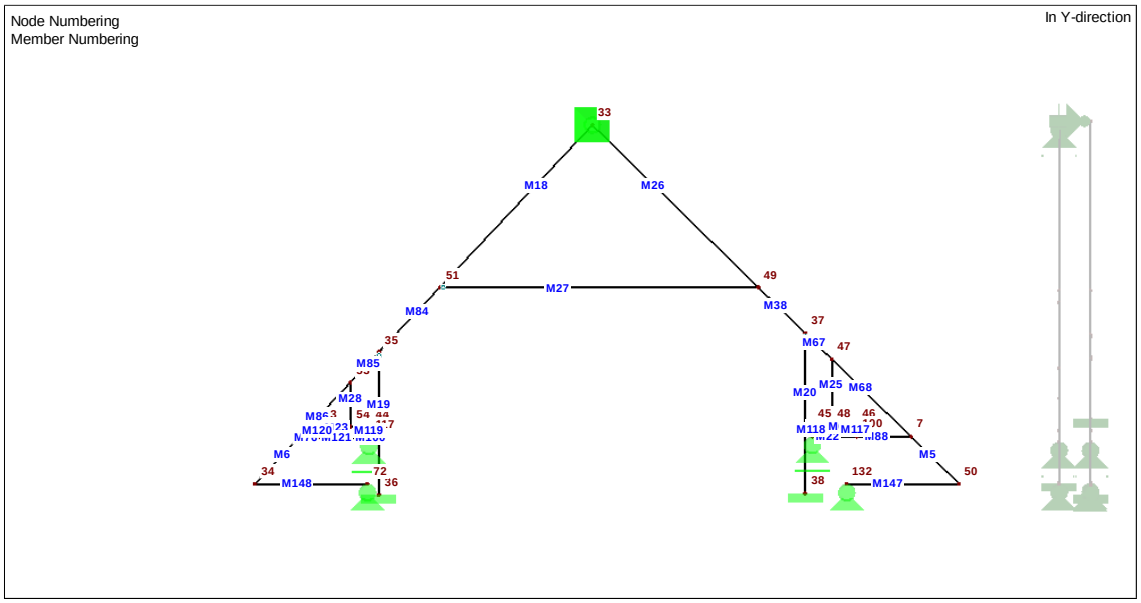


4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
1	RC1	1	0.000	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
		83	0.054	Max N	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Min N	-0.00	0.04	-0.00	0.00	-0.00	-0.00	CO 8
				Max V_y	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Min V_y	-0.00	0.04	-0.00	0.00	-0.00	-0.00	CO 8
				Max V_z	-0.00	0.04	-0.00	0.00	-0.00	-0.00	CO 2
				Min V_z	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Max M_T	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Min M_T	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Max M_y	-0.00	0.04	-0.00	0.00	-0.00	-0.00	CO 2
				Min M_y	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
				Max M_z	-0.00	0.04	-0.00	0.00	-0.00	-0.00	CO 2
				Min M_z	-0.00	0.05	-0.00	0.00	-0.00	-0.00	CO 1
2	RC1	66	0.000	Max N	-0.22	-0.52	-0.00	-0.00	-0.00	-0.08	CO 1
				Min N	-1.59	0.64	-0.00	-0.00	-0.00	0.04	CO 5
				Max V_y	-1.26	0.70	-0.00	-0.00	-0.00	0.06	CO 4
				Min V_y	-0.63	-0.56	0.00	-0.00	-0.00	-0.11	CO 2
				Max V_z	-0.63	-0.56	0.00	-0.00	-0.00	-0.11	CO 2
				Min V_z	-1.26	0.70	-0.00	-0.00	-0.00	0.06	CO 4
				Max M_T	-0.22	-0.52	-0.00	-0.00	-0.00	-0.08	CO 1
				Min M_T	-1.59	0.64	-0.00	-0.00	-0.00	0.04	CO 5
				Max M_y	-1.26	0.70	-0.00	-0.00	-0.00	0.06	CO 4
				Min M_y	-1.37	0.18	-0.00	-0.00	-0.00	-0.02	CO 8
				Max M_z	-1.26	0.70	-0.00	-0.00	-0.00	0.06	CO 4
				Min M_z	-0.63	-0.56	0.00	-0.00	-0.00	-0.11	CO 2
		68	0.325	Max N	-0.22	-0.40	-0.00	-0.00	-0.00	0.07	CO 1
				Min N	-1.59	0.75	-0.00	-0.00	-0.00	-0.18	CO 5
				Max V_y	-1.26	0.80	-0.00	-0.00	-0.00	-0.18	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	-0.63	-0.45	0.00	-0.00	-0.00	0.06	CO 2
				Max V_z	-0.63	-0.45	0.00	-0.00	-0.00	0.06	CO 2
				Min V_z	-1.26	0.80	-0.00	-0.00	-0.00	-0.18	CO 4
				Max M_T	-0.22	-0.40	-0.00	-0.00	-0.00	0.07	CO 1
				Min M_T	-1.59	0.75	-0.00	-0.00	-0.00	-0.18	CO 5
				Max M_y	-0.22	-0.40	-0.00	-0.00	-0.00	0.07	CO 1
				Min M_y	-1.37	0.28	-0.00	-0.00	-0.00	-0.10	CO 8
				Max M_z	-0.22	-0.40	-0.00	-0.00	-0.00	0.07	CO 1
				Min M_z	-1.59	0.75	-0.00	-0.00	-0.00	-0.18	CO 5
3	RC1	83	0.000	Max N	0.02	-0.34	0.01	-0.00	-0.00	-0.05	CO 6
				Min N	-0.33	0.08	-0.00	-0.00	0.00	0.11	CO 5
				Max V_y	-0.33	0.11	-0.00	-0.00	0.00	0.12	CO 4
				Min V_y	-0.00	-0.37	0.01	-0.00	-0.00	-0.05	CO 1
				Max V_z	0.01	-0.37	0.01	-0.00	-0.00	-0.05	CO 7
				Min V_z	-0.33	0.11	-0.00	-0.00	0.00	0.12	CO 4
				Max M_T	-0.00	-0.37	0.01	-0.00	-0.00	-0.05	CO 1
				Min M_T	-0.33	0.08	-0.00	-0.00	0.00	0.11	CO 5
				Max M_y	-0.33	0.11	-0.00	-0.00	0.00	0.12	CO 4
				Min M_y	-0.02	-0.36	0.01	-0.00	-0.00	-0.05	CO 2
				Max M_z	-0.33	0.11	-0.00	-0.00	0.00	0.12	CO 4
				Min M_z	-0.00	-0.37	0.01	-0.00	-0.00	-0.05	CO 1
		30	1.217	Max N	-0.22	0.26	-0.00	-0.00	0.00	0.08	CO 1
				Min N	-1.93	1.71	-0.03	-0.00	-0.01	-0.84	CO 5
				Max V_y	-1.59	1.80	-0.03	-0.00	-0.02	-0.96	CO 4
				Min V_y	-0.65	0.07	-0.00	-0.00	0.00	0.25	CO 2
				Max V_z	-0.65	0.07	-0.00	-0.00	0.00	0.25	CO 2
				Min V_z	-1.59	1.80	-0.03	-0.00	-0.02	-0.96	CO 4
				Max M_T	-0.22	0.26	-0.00	-0.00	0.00	0.08	CO 1
				Min M_T	-1.93	1.71	-0.03	-0.00	-0.01	-0.84	CO 5
				Max M_y	-0.70	0.09	-0.00	-0.00	0.00	0.25	CO 7
				Min M_y	-1.59	1.80	-0.03	-0.00	-0.02	-0.96	CO 4
				Max M_z	-0.70	0.09	-0.00	-0.00	0.00	0.25	CO 7
				Min M_z	-1.59	1.80	-0.03	-0.00	-0.02	-0.96	CO 4
4	RC1	115	0.000	Max N	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Min N	-1.98	0.00	-0.06	0.00	-0.05	0.00	CO 3
				Max V_y	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Min V_y	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Max V_z	-1.60	0.00	0.02	0.00	-0.06	0.00	CO 5
				Min V_z	-0.62	0.00	-0.25	0.00	0.03	0.00	CO 6
				Max M_T	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Min M_T	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Max M_y	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Min M_y	-1.60	0.00	0.02	0.00	-0.06	0.00	CO 5
				Max M_z	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
				Min M_z	-0.49	0.00	-0.24	0.00	0.03	0.00	CO 1
		103	0.451	Max N	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Min N	-1.98	0.00	0.09	0.00	-0.04	0.00	CO 3
				Max V_y	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Min V_y	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Max V_z	-1.60	0.00	0.16	0.00	-0.02	0.00	CO 5
				Min V_z	-0.62	0.00	-0.11	0.00	-0.05	0.00	CO 6
				Max M_T	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Min M_T	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Max M_y	-0.56	0.00	0.14	0.00	0.01	0.00	CO 4
				Min M_y	-1.66	0.00	-0.08	0.00	-0.08	0.00	CO 7
				Max M_z	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
				Min M_z	-0.49	0.00	-0.08	0.00	-0.04	0.00	CO 1
5	RC1	7	0.000	Max N	4.47	0.00	-0.23	0.00	0.15	0.00	CO 8
				Min N	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Max V_y	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Min V_y	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Max V_z	2.62	0.00	0.20	0.00	-0.75	0.00	CO 4
				Min V_z	3.92	0.00	-0.39	0.00	0.75	-0.00	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Min M_T	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Max M_y	3.92	0.00	-0.39	0.00	0.75	-0.00	CO 7
				Min M_y	2.62	0.00	0.20	0.00	-0.75	0.00	CO 4
				Max M_z	2.04	0.00	-0.06	0.00	0.26	0.00	CO 1
				Min M_z	3.92	0.00	-0.39	0.00	0.75	-0.00	CO 7
		50	0.986	Max N	2.25	0.00	1.68	0.00	0.36	0.00	CO 5
				Min N	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Max V_y	1.46	0.00	1.74	0.00	1.34	-0.00	CO 2
				Min V_y	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Max V_z	2.10	0.00	2.17	0.00	1.10	0.00	CO 8
				Min V_z	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Max M_T	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Min M_T	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Max M_y	1.55	0.00	2.00	0.00	1.54	0.00	CO 7
				Min M_y	1.95	0.00	0.89	0.00	-0.21	0.00	CO 4
				Max M_z	1.24	0.00	0.75	0.00	0.60	0.00	CO 1
				Min M_z	1.46	0.00	1.74	0.00	1.34	-0.00	CO 2
6	RC1	9	0.000	Max N	3.52	0.00	-1.71	0.00	0.39	0.00	CO 7
				Min N	0.40	-0.00	-1.17	0.00	0.74	-0.00	CO 4
				Max V_y	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Min V_y	3.04	-0.00	-1.42	0.00	0.32	0.00	CO 2
				Max V_z	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Min V_z	2.76	0.00	-2.12	0.00	0.78	0.00	CO 8
				Max M_T	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Min M_T	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Max M_y	1.36	0.00	-1.81	0.00	0.90	0.00	CO 5
				Min M_y	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Max M_z	1.95	0.00	-0.60	0.00	0.11	0.00	CO 1
				Min M_z	2.28	-0.00	-1.82	0.00	0.71	-0.00	CO 3
		34	0.924	Max N	1.34	0.00	0.34	0.00	-0.24	0.00	CO 7
				Min N	-0.26	0.00	-1.66	0.00	-0.57	0.00	CO 4
				Max V_y	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
				Min V_y	0.48	-0.00	-0.81	0.00	-0.50	0.00	CO 3
				Max V_z	1.34	0.00	0.34	0.00	-0.24	0.00	CO 7
				Min V_z	-0.26	0.00	-1.66	0.00	-0.57	0.00	CO 4
				Max M_T	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
				Min M_T	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
				Max M_y	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
				Min M_y	-0.10	0.00	-1.56	0.00	-0.66	0.00	CO 5
				Max M_z	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
				Min M_z	1.17	0.00	0.13	0.00	-0.11	0.00	CO 1
7	RC1	13	0.000	Max N	-0.31	0.00	0.40	0.00	-0.08	0.00	CO 1
				Min N	-5.35	-0.00	-1.10	0.00	0.97	-0.00	CO 5
				Max V_y	-1.88	0.00	0.77	0.00	-0.09	0.00	CO 7
				Min V_y	-4.21	-0.00	-1.32	0.00	0.95	-0.00	CO 4
				Max V_z	-1.88	0.00	0.77	0.00	-0.09	0.00	CO 7
				Min V_z	-4.21	-0.00	-1.32	0.00	0.95	-0.00	CO 4
				Max M_T	-0.31	0.00	0.40	0.00	-0.08	0.00	CO 1
				Min M_T	-0.31	0.00	0.40	0.00	-0.08	0.00	CO 1
				Max M_y	-5.35	-0.00	-1.10	0.00	0.97	-0.00	CO 5
				Min M_y	-0.74	0.00	0.56	0.00	-0.11	0.00	CO 6
				Max M_z	-0.31	0.00	0.40	0.00	-0.08	0.00	CO 1
				Min M_z	-4.21	-0.00	-1.32	0.00	0.95	-0.00	CO 4
		99	0.468	Max N	-0.48	0.00	0.40	0.00	0.11	0.00	CO 1
				Min N	-5.50	-0.00	-1.10	0.00	0.45	-0.00	CO 5
				Max V_y	-2.03	0.00	0.77	0.00	0.27	-0.00	CO 7
				Min V_y	-4.36	-0.00	-1.32	0.00	0.33	-0.00	CO 4
				Max V_z	-2.03	0.00	0.77	0.00	0.27	-0.00	CO 7
				Min V_z	-4.36	-0.00	-1.32	0.00	0.33	-0.00	CO 4
				Max M_T	-0.48	0.00	0.40	0.00	0.11	0.00	CO 1
				Min M_T	-0.48	0.00	0.40	0.00	0.11	0.00	CO 1
				Max M_y	-5.50	-0.00	-1.10	0.00	0.45	-0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-0.48	0.00	0.40	0.00	0.11	0.00	CO 1
				Max M_z	-0.48	0.00	0.40	0.00	0.11	0.00	CO 1
				Min M_z	-4.41	-0.00	-0.34	0.00	0.41	-0.00	CO 3
8	RC1	15	0.000	Max N	1.25	-0.00	-1.21	0.00	0.00	0.00	CO 4
				Min N	-2.73	0.00	0.08	0.00	0.00	0.00	CO 7
				Max V_y	-1.58	0.00	0.12	0.00	0.00	0.00	CO 6
				Min V_y	1.25	-0.00	-1.21	0.00	0.00	0.00	CO 4
				Max V_z	-1.58	0.00	0.12	0.00	0.00	0.00	CO 6
				Min V_z	0.14	-0.00	-1.25	0.00	0.00	0.00	CO 5
				Max M_T	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
				Min M_T	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
				Max M_y	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
				Min M_y	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
				Max M_z	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
				Min M_z	-1.04	0.00	0.09	0.00	0.00	0.00	CO 1
		16	1.682	Max N	0.71	-0.00	-1.21	0.00	-2.04	0.00	CO 4
				Min N	-3.26	0.00	0.08	0.00	0.13	-0.00	CO 7
				Max V_y	-1.67	0.00	0.09	0.00	0.15	-0.00	CO 1
				Min V_y	0.71	-0.00	-1.21	0.00	-2.04	0.00	CO 4
				Max V_z	-2.12	0.00	0.12	0.00	0.20	-0.00	CO 6
				Min V_z	-0.39	-0.00	-1.25	0.00	-2.10	0.00	CO 5
				Max M_T	-1.67	0.00	0.09	0.00	0.15	-0.00	CO 1
				Min M_T	-1.67	0.00	0.09	0.00	0.15	-0.00	CO 1
				Max M_y	-2.12	0.00	0.12	0.00	0.20	-0.00	CO 6
				Min M_y	-0.39	-0.00	-1.25	0.00	-2.10	0.00	CO 5
				Max M_z	-0.39	-0.00	-1.25	0.00	-2.10	0.00	CO 5
				Min M_z	-1.67	0.00	0.09	0.00	0.15	-0.00	CO 1
9	RC1	17	0.000	Max N	-0.65	0.00	0.87	0.00	-0.12	0.00	CO 4
				Min N	-3.28	0.00	-3.88	0.00	0.32	0.00	CO 7
				Max V_y	-0.65	0.00	0.87	0.00	-0.12	0.00	CO 4
				Min V_y	-2.97	-0.00	-3.45	0.00	0.28	0.00	CO 2
				Max V_z	-0.65	0.00	0.87	0.00	-0.12	0.00	CO 4
				Min V_z	-3.28	0.00	-3.88	0.00	0.32	0.00	CO 7
				Max M_T	-1.70	-0.00	-1.84	0.00	0.15	0.00	CO 1
				Min M_T	-1.70	-0.00	-1.84	0.00	0.15	0.00	CO 1
				Max M_y	-3.28	0.00	-3.88	0.00	0.32	0.00	CO 7
				Min M_y	-0.65	0.00	0.87	0.00	-0.12	0.00	CO 4
				Max M_z	-1.70	-0.00	-1.84	0.00	0.15	0.00	CO 1
				Min M_z	-1.70	-0.00	-1.84	0.00	0.15	0.00	CO 1
		8	0.202	Max N	-0.65	0.00	0.93	0.00	0.06	0.00	CO 4
				Min N	-3.28	-0.00	-3.81	0.00	-0.46	0.00	CO 7
				Max V_y	-0.65	0.00	0.93	0.00	0.06	0.00	CO 4
				Min V_y	-3.28	-0.00	-3.81	0.00	-0.46	0.00	CO 7
				Max V_z	-0.65	0.00	0.93	0.00	0.06	0.00	CO 4
				Min V_z	-3.28	-0.00	-3.81	0.00	-0.46	0.00	CO 7
				Max M_T	-1.70	-0.00	-1.76	0.00	-0.21	0.00	CO 1
				Min M_T	-1.70	-0.00	-1.76	0.00	-0.21	0.00	CO 1
				Max M_y	-0.65	0.00	0.93	0.00	0.06	0.00	CO 4
				Min M_y	-3.28	-0.00	-3.81	0.00	-0.46	0.00	CO 7
				Max M_z	-1.70	-0.00	-1.76	0.00	-0.21	0.00	CO 1
				Min M_z	-1.70	-0.00	-1.76	0.00	-0.21	0.00	CO 1
10	RC1	19	0.000	Max N	0.33	0.00	-0.84	0.00	0.00	0.00	CO 4
				Min N	-13.21	-0.00	-0.87	0.00	0.00	0.00	CO 7
				Max V_y	-9.38	0.00	-0.86	0.00	0.00	0.00	CO 3
				Min V_y	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Max V_z	0.33	0.00	-0.84	0.00	0.00	0.00	CO 4
				Min V_z	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_T	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_T	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_y	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_y	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_z	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_z	-4.98	-0.00	-1.00	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		20	5.275	Max N	0.33	0.00	0.84	0.00	0.00	0.00	CO 4
				Min N	-13.21	0.00	0.87	0.00	0.00	0.00	CO 7
				Max V_y	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Min V_y	-12.10	0.00	0.87	0.00	0.00	0.00	CO 2
				Max V_z	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Min V_z	0.33	0.00	0.84	0.00	0.00	0.00	CO 4
				Max M_T	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_T	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Max M_y	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_y	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Max M_z	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_z	-4.98	0.00	1.00	0.00	0.00	0.00	CO 1
11	RC1	21	0.000	Max N	3.34	0.00	-3.41	0.00	0.86	0.00	CO 8
				Min N	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Max V_y	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Min V_y	2.81	-0.00	-2.65	0.00	0.58	0.00	CO 5
				Max V_z	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Min V_z	3.34	0.00	-3.41	0.00	0.86	0.00	CO 8
				Max M_T	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Min M_T	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Max M_y	3.11	-0.00	-3.22	0.00	0.90	-0.00	CO 7
				Min M_y	1.86	0.00	-1.41	0.00	0.23	0.00	CO 4
				Max M_z	1.73	0.00	-1.28	0.00	0.35	0.00	CO 1
				Min M_z	3.11	-0.00	-3.22	0.00	0.90	-0.00	CO 7
		3	0.868	Max N	5.14	0.00	-1.59	0.00	-1.31	0.00	CO 8
				Min N	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Max V_y	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Min V_y	4.42	-0.00	-1.27	0.00	-1.00	0.00	CO 2
				Max V_z	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Min V_z	5.14	0.00	-1.59	0.00	-1.31	0.00	CO 8
				Max M_T	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Min M_T	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Max M_y	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
				Min M_y	5.14	0.00	-1.59	0.00	-1.31	0.00	CO 8
				Max M_z	4.42	-0.00	-1.27	0.00	-1.00	0.00	CO 2
				Min M_z	2.35	0.00	-0.65	0.00	-0.49	0.00	CO 1
12	RC1	23	0.000	Max N	2.40	0.00	0.08	0.00	0.00	0.00	CO 2
				Min N	-5.37	-0.00	-0.32	0.00	0.00	0.00	CO 4
				Max V_y	2.25	0.00	0.11	0.00	0.00	0.00	CO 7
				Min V_y	-1.07	-0.00	-0.14	0.00	0.00	0.00	CO 3
				Max V_z	2.25	0.00	0.11	0.00	0.00	0.00	CO 7
				Min V_z	-5.37	-0.00	-0.32	0.00	0.00	0.00	CO 4
				Max M_T	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
				Min M_T	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
				Max M_y	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
				Min M_y	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
				Max M_z	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
				Min M_z	0.55	0.00	0.06	0.00	0.00	0.00	CO 1
		24	2.636	Max N	1.56	0.00	0.08	0.00	0.22	-0.00	CO 2
				Min N	-6.20	-0.00	-0.31	0.00	-0.84	0.00	CO 4
				Max V_y	-0.44	0.00	0.06	0.00	0.15	-0.00	CO 1
				Min V_y	-1.91	-0.00	-0.14	0.00	-0.36	0.00	CO 3
				Max V_z	1.41	0.00	0.11	0.00	0.28	-0.00	CO 7
				Min V_z	-6.20	-0.00	-0.31	0.00	-0.84	0.00	CO 4
				Max M_T	-0.44	0.00	0.06	0.00	0.15	-0.00	CO 1
				Min M_T	-0.44	0.00	0.06	0.00	0.15	-0.00	CO 1
				Max M_y	1.41	0.00	0.11	0.00	0.28	-0.00	CO 7
				Min M_y	-6.20	-0.00	-0.31	0.00	-0.84	0.00	CO 4
				Max M_z	-6.20	-0.00	-0.31	0.00	-0.84	0.00	CO 4
				Min M_z	-0.44	0.00	0.06	0.00	0.15	-0.00	CO 1
13	RC1	22	0.000	Max N	26.93	0.00	-3.60	0.00	0.00	0.00	CO 7
				Min N	2.88	0.00	0.21	0.00	0.00	0.00	CO 4
				Max V_y	20.96	0.00	-2.58	0.00	0.00	0.00	CO 3

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	24.58	-0.00	-3.29	0.00	0.00	0.00	CO 2
				Max V_z	2.88	0.00	0.21	0.00	0.00	0.00	CO 4
				Min V_z	26.93	0.00	-3.60	0.00	0.00	0.00	CO 7
				Max M_T	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
				Min M_T	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
				Max M_y	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
				Min M_y	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
				Max M_z	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
				Min M_z	10.52	-0.00	-1.18	0.00	0.00	0.00	CO 1
		20	3.713	Max N	19.10	0.00	5.00	0.00	2.47	-0.00	CO 7
				Min N	0.75	0.00	-0.32	0.00	-0.19	0.00	CO 4
				Max V_y	19.10	0.00	5.00	0.00	2.47	-0.00	CO 7
				Min V_y	17.44	0.00	4.56	0.00	2.25	0.00	CO 2
				Max V_z	19.10	0.00	5.00	0.00	2.47	-0.00	CO 7
				Min V_z	0.75	0.00	-0.32	0.00	-0.19	0.00	CO 4
				Max M_T	8.02	0.00	1.60	0.00	0.77	-0.00	CO 1
				Min M_T	8.02	0.00	1.60	0.00	0.77	-0.00	CO 1
				Max M_y	19.10	0.00	5.00	0.00	2.47	-0.00	CO 7
				Min M_y	0.75	0.00	-0.32	0.00	-0.19	0.00	CO 4
				Max M_z	17.44	0.00	4.56	0.00	2.25	0.00	CO 2
				Min M_z	19.10	0.00	5.00	0.00	2.47	-0.00	CO 7
14	RC1	59	0.000	Max N	11.09	0.00	-6.75	-0.00	8.17	-0.00	CO 7
				Min N	2.11	0.00	-0.24	-0.00	2.18	-0.00	CO 4
				Max V_y	9.86	0.00	-5.50	-0.00	7.72	-0.00	CO 8
				Min V_y	2.11	0.00	-0.24	-0.00	2.18	-0.00	CO 4
				Max V_z	2.11	0.00	-0.24	-0.00	2.18	-0.00	CO 4
				Min V_z	11.09	0.00	-6.75	-0.00	8.17	-0.00	CO 7
				Max M_T	4.86	0.00	-2.69	-0.00	3.44	-0.00	CO 1
				Min M_T	9.86	0.00	-5.50	-0.00	7.72	-0.00	CO 8
				Max M_y	11.09	0.00	-6.75	-0.00	8.17	-0.00	CO 7
				Min M_y	2.11	0.00	-0.24	-0.00	2.18	-0.00	CO 4
				Max M_z	2.11	0.00	-0.24	-0.00	2.18	-0.00	CO 4
				Min M_z	9.86	0.00	-5.50	-0.00	7.72	-0.00	CO 8
		65	1.432	Max N	8.20	0.00	-3.07	-0.00	1.16	-0.00	CO 7
				Min N	1.36	0.00	-0.63	-0.00	1.56	-0.00	CO 4
				Max V_y	6.96	0.00	-2.62	-0.00	1.93	-0.00	CO 8
				Min V_y	1.36	0.00	-0.63	-0.00	1.56	-0.00	CO 4
				Max V_z	1.36	0.00	-0.63	-0.00	1.56	-0.00	CO 4
				Min V_z	8.20	0.00	-3.07	-0.00	1.16	-0.00	CO 7
				Max M_T	3.99	0.00	-1.60	-0.00	0.38	-0.00	CO 1
				Min M_T	6.96	0.00	-2.62	-0.00	1.93	-0.00	CO 8
				Max M_y	4.53	0.00	-1.76	-0.00	2.12	-0.00	CO 5
				Min M_y	3.99	0.00	-1.60	-0.00	0.38	-0.00	CO 1
				Max M_z	1.36	0.00	-0.63	-0.00	1.56	-0.00	CO 4
				Min M_z	6.96	0.00	-2.62	-0.00	1.93	-0.00	CO 8
15	RC1	8	0.000	Max N	0.41	-0.00	-0.87	0.00	0.25	0.00	CO 4
				Min N	-2.71	0.00	-0.07	0.00	-0.06	0.00	CO 7
				Max V_y	-1.47	0.00	-0.12	0.00	-0.02	0.00	CO 1
				Min V_y	0.41	-0.00	-0.87	0.00	0.25	0.00	CO 4
				Max V_z	-2.71	0.00	-0.07	0.00	-0.06	0.00	CO 7
				Min V_z	0.41	-0.00	-0.87	0.00	0.25	0.00	CO 4
				Max M_T	-1.47	0.00	-0.12	0.00	-0.02	0.00	CO 1
				Min M_T	-1.47	0.00	-0.12	0.00	-0.02	0.00	CO 1
				Max M_y	0.41	-0.00	-0.87	0.00	0.25	0.00	CO 4
				Min M_y	-2.71	0.00	-0.07	0.00	-0.06	0.00	CO 7
				Max M_z	-1.47	0.00	-0.12	0.00	-0.02	0.00	CO 1
				Min M_z	-1.47	0.00	-0.12	0.00	-0.02	0.00	CO 1
		18	0.597	Max N	0.41	-0.00	-0.68	0.00	-0.22	0.00	CO 4
				Min N	-2.71	0.00	0.12	0.00	-0.04	0.00	CO 7
				Max V_y	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min V_y	0.41	-0.00	-0.68	0.00	-0.22	0.00	CO 4
				Max V_z	-2.71	0.00	0.12	0.00	-0.04	0.00	CO 7
				Min V_z	0.41	-0.00	-0.68	0.00	-0.22	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min M_T	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
				Max M_y	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min M_y	-0.41	0.00	-0.68	0.00	-0.23	0.00	CO 5
				Max M_z	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min M_z	-1.47	0.00	0.10	0.00	-0.03	0.00	CO 1
16	RC1	23	0.000	Max N	9.86	0.00	3.79	0.00	1.43	-0.00	CO 7
				Min N	1.54	-0.00	-2.18	0.00	0.93	-0.00	CO 4
				Max V_y	9.09	0.00	3.60	0.00	1.22	-0.00	CO 2
				Min V_y	1.54	-0.00	-2.18	0.00	0.93	-0.00	CO 4
				Max V_z	9.86	0.00	3.79	0.00	1.43	-0.00	CO 7
				Min V_z	1.54	-0.00	-2.18	0.00	0.93	-0.00	CO 4
				Max M_T	4.01	0.00	1.12	0.00	0.53	0.00	CO 1
				Min M_T	4.01	0.00	1.12	0.00	0.53	0.00	CO 1
				Max M_y	8.76	0.00	1.93	0.00	1.72	-0.00	CO 8
				Min M_y	4.01	0.00	1.12	0.00	0.53	0.00	CO 1
				Max M_z	4.01	0.00	1.12	0.00	0.53	0.00	CO 1
				Min M_z	9.09	0.00	3.60	0.00	1.22	-0.00	CO 2
		19	0.248	Max N	10.37	0.00	4.31	0.00	2.44	0.00	CO 7
				Min N	1.69	0.00	-2.02	0.00	0.41	0.00	CO 4
				Max V_y	9.54	0.00	4.06	0.00	2.16	-0.00	CO 2
				Min V_y	8.43	0.00	2.20	0.00	1.99	0.00	CO 3
				Max V_z	10.37	0.00	4.31	0.00	2.44	0.00	CO 7
				Min V_z	1.69	0.00	-2.02	0.00	0.41	0.00	CO 4
				Max M_T	4.19	0.00	1.30	0.00	0.83	-0.00	CO 1
				Min M_T	4.19	0.00	1.30	0.00	0.83	-0.00	CO 1
				Max M_y	10.37	0.00	4.31	0.00	2.44	0.00	CO 7
				Min M_y	1.69	0.00	-2.02	0.00	0.41	0.00	CO 4
				Max M_z	8.43	0.00	2.20	0.00	1.99	0.00	CO 3
				Min M_z	9.54	0.00	4.06	0.00	2.16	-0.00	CO 2
17	RC1	19	0.000	Max N	20.38	0.00	-4.37	0.00	2.44	0.00	CO 7
				Min N	2.04	0.00	-1.19	0.00	0.41	0.00	CO 4
				Max V_y	15.71	0.00	-3.79	0.00	1.99	0.00	CO 3
				Min V_y	18.75	-0.00	-3.84	0.00	2.16	-0.00	CO 2
				Max V_z	2.04	0.00	-1.19	0.00	0.41	0.00	CO 4
				Min V_z	20.38	0.00	-4.37	0.00	2.44	0.00	CO 7
				Max M_T	8.42	-0.00	-1.50	0.00	0.83	-0.00	CO 1
				Min M_T	8.42	-0.00	-1.50	0.00	0.83	-0.00	CO 1
				Max M_y	20.38	0.00	-4.37	0.00	2.44	0.00	CO 7
				Min M_y	2.04	0.00	-1.19	0.00	0.41	0.00	CO 4
				Max M_z	15.71	0.00	-3.79	0.00	1.99	0.00	CO 3
				Min M_z	18.75	-0.00	-3.84	0.00	2.16	-0.00	CO 2
		22	3.523	Max N	27.69	0.00	2.93	0.00	0.00	0.00	CO 7
				Min N	4.17	0.00	0.96	0.00	0.00	0.00	CO 4
				Max V_y	27.69	0.00	2.93	0.00	0.00	0.00	CO 7
				Min V_y	25.16	0.00	2.57	0.00	0.00	0.00	CO 2
				Max V_z	24.64	0.00	2.99	0.00	0.00	0.00	CO 8
				Min V_z	4.17	0.00	0.96	0.00	0.00	0.00	CO 4
				Max M_T	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
				Min M_T	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
				Max M_y	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
				Min M_y	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
				Max M_z	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
				Min M_z	10.92	0.00	1.02	0.00	0.00	0.00	CO 1
18	RC1	33	0.000	Max N	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Min N	-5.50	0.00	-5.17	0.00	4.33	0.00	CO 8
				Max V_y	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Min V_y	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Max V_z	-2.22	0.00	0.53	0.00	-0.41	0.00	CO 4
				Min V_z	-5.16	0.00	-6.81	0.00	5.71	0.00	CO 7
				Max M_T	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Min M_T	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Max M_y	-5.16	0.00	-6.81	0.00	5.71	0.00	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-2.22	0.00	0.53	0.00	-0.41	0.00	CO 4
				Max M_z	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
				Min M_z	-1.94	0.00	-2.57	0.00	2.19	0.00	CO 1
		51	3.252	Max N	-4.55	0.00	-0.63	0.00	-0.58	0.00	CO 4
				Min N	-13.19	0.00	0.10	0.00	-4.03	0.00	CO 8
				Max V_y	-4.67	0.00	0.01	0.00	-2.00	0.00	CO 1
				Min V_y	-4.67	0.00	0.01	0.00	-2.00	0.00	CO 1
				Max V_z	-12.85	0.00	0.48	0.00	-4.72	0.00	CO 7
				Min V_z	-4.55	0.00	-0.63	0.00	-0.58	0.00	CO 4
				Max M_T	-4.67	0.00	0.01	0.00	-2.00	0.00	CO 1
				Min M_T	-4.67	0.00	0.01	0.00	-2.00	0.00	CO 1
				Max M_y	-4.55	0.00	-0.63	0.00	-0.58	0.00	CO 4
				Min M_y	-12.85	0.00	0.48	0.00	-4.72	0.00	CO 7
				Max M_z	-12.85	0.00	0.48	0.00	-4.72	0.00	CO 7
				Min M_z	-10.76	0.00	0.32	0.00	-4.03	0.00	CO 2
19	RC1	35	0.000	Max N	-7.36	-1.60	0.00	0.00	0.00	0.00	CO 4
				Min N	-27.09	-0.16	0.00	0.00	0.00	0.00	CO 7
				Max V_y	-22.79	-0.10	0.00	0.00	0.00	0.00	CO 2
				Min V_y	-16.60	-1.64	0.00	0.00	0.00	0.00	CO 5
				Max V_z	-7.36	-1.60	0.00	0.00	0.00	0.00	CO 4
				Min V_z	-22.79	-0.10	0.00	0.00	0.00	0.00	CO 2
				Max M_T	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
				Min M_T	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
				Max M_y	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
				Min M_y	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
				Max M_z	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
				Min M_z	-11.27	-0.12	0.00	0.00	0.00	0.00	CO 1
		36	2.091	Max N	-8.03	-1.57	0.00	0.00	0.00	3.33	CO 4
				Min N	-27.76	-0.15	0.00	0.00	0.00	0.33	CO 7
				Max V_y	-23.46	-0.10	0.00	0.00	0.00	0.22	CO 2
				Min V_y	-8.03	-1.57	0.00	0.00	0.00	3.33	CO 4
				Max V_z	-8.03	-1.57	0.00	0.00	0.00	3.33	CO 4
				Min V_z	-12.05	-0.11	0.00	0.00	0.00	0.24	CO 1
				Max M_T	-12.05	-0.11	0.00	0.00	0.00	0.24	CO 1
				Min M_T	-12.05	-0.11	0.00	0.00	0.00	0.24	CO 1
				Max M_y	-8.03	-1.57	0.00	0.00	0.00	3.33	CO 4
				Min M_y	-12.05	-0.11	0.00	0.00	0.00	0.24	CO 1
				Max M_z	-17.28	-1.57	0.00	0.00	0.00	3.38	CO 5
				Min M_z	-23.46	-0.10	0.00	0.00	0.00	0.22	CO 2
20	RC1	37	0.000	Max N	-10.01	-0.75	0.00	0.00	0.00	0.00	CO 4
				Min N	-33.34	1.69	-0.00	0.00	0.00	0.00	CO 7
				Max V_y	-33.34	1.69	-0.00	0.00	0.00	0.00	CO 7
				Min V_y	-10.01	-0.75	0.00	0.00	0.00	0.00	CO 4
				Max V_z	-10.01	-0.75	0.00	0.00	0.00	0.00	CO 4
				Min V_z	-33.34	1.69	-0.00	0.00	0.00	0.00	CO 7
				Max M_T	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
				Min M_T	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
				Max M_y	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
				Min M_y	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
				Max M_z	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
				Min M_z	-13.94	0.67	-0.00	0.00	0.00	0.00	CO 1
		38	2.343	Max N	-10.76	-0.72	0.00	0.00	0.00	1.74	CO 4
				Min N	-34.10	1.51	-0.00	0.00	-0.00	-3.83	CO 7
				Max V_y	-34.10	1.51	-0.00	0.00	-0.00	-3.83	CO 7
				Min V_y	-10.76	-0.72	0.00	0.00	0.00	1.74	CO 4
				Max V_z	-10.76	-0.72	0.00	0.00	0.00	1.74	CO 4
				Min V_z	-34.10	1.51	-0.00	0.00	-0.00	-3.83	CO 7
				Max M_T	-14.82	0.64	-0.00	0.00	-0.00	-1.54	CO 1
				Min M_T	-14.82	0.64	-0.00	0.00	-0.00	-1.54	CO 1
				Max M_y	-10.76	-0.72	0.00	0.00	0.00	1.74	CO 4
				Min M_y	-34.10	1.51	-0.00	0.00	-0.00	-3.83	CO 7
				Max M_z	-10.76	-0.72	0.00	0.00	0.00	1.74	CO 4
				Min M_z	-34.10	1.51	-0.00	0.00	-0.00	-3.83	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
21	RC1	124	0.000	Max N	4.64	0.00	0.65	0.00	-0.45	0.00	CO 7
				Min N	1.17	0.00	0.19	0.00	-0.16	0.00	CO 4
				Max V_y	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Min V_y	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Max V_z	4.37	0.00	0.67	0.00	-0.45	0.00	CO 8
				Min V_z	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Max M_T	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Min M_T	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Max M_y	1.17	0.00	0.19	0.00	-0.16	0.00	CO 4
				Min M_y	4.64	0.00	0.65	0.00	-0.45	0.00	CO 7
				Max M_z	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
				Min M_z	1.89	0.00	0.19	0.00	-0.19	0.00	CO 1
		125	0.798	Max N	4.64	0.00	0.98	0.00	0.20	0.00	CO 7
				Min N	1.17	0.00	0.53	0.00	0.14	0.00	CO 4
				Max V_y	3.12	0.00	0.84	0.00	0.20	0.00	CO 5
				Min V_y	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
				Max V_z	4.37	0.00	1.00	0.00	0.22	0.00	CO 8
				Min V_z	1.17	0.00	0.53	0.00	0.14	0.00	CO 4
				Max M_T	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
				Min M_T	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
				Max M_y	4.37	0.00	1.00	0.00	0.22	0.00	CO 8
				Min M_y	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
				Max M_z	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
				Min M_z	1.89	0.00	0.59	0.00	0.12	0.00	CO 1
22	RC1	41	0.000	Max N	-0.86	-0.31	0.00	0.00	0.00	-0.13	CO 4
				Min N	-3.39	0.89	0.00	0.00	0.00	0.12	CO 7
				Max V_y	-3.39	0.89	0.00	0.00	0.00	0.12	CO 7
				Min V_y	-0.86	-0.31	0.00	0.00	0.00	-0.13	CO 4
				Max V_z	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Min V_z	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Max M_T	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Min M_T	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Max M_y	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Min M_y	-1.22	0.06	0.00	0.00	0.00	0.00	CO 1
				Max M_z	-3.39	0.89	0.00	0.00	0.00	0.12	CO 7
				Min M_z	-0.86	-0.31	0.00	0.00	0.00	-0.13	CO 4
		100	0.649	Max N	-0.86	0.17	0.00	0.00	0.00	-0.09	CO 4
				Min N	-3.40	1.36	-0.00	0.00	0.00	-0.61	CO 7
				Max V_y	-3.40	1.36	-0.00	0.00	0.00	-0.61	CO 7
				Min V_y	-0.86	0.17	0.00	0.00	0.00	-0.09	CO 4
				Max V_z	-1.22	0.62	0.00	0.00	0.00	-0.22	CO 1
				Min V_z	-2.85	1.17	-0.00	0.00	0.00	-0.51	CO 2
				Max M_T	-1.22	0.62	0.00	0.00	0.00	-0.22	CO 1
				Min M_T	-1.22	0.62	0.00	0.00	0.00	-0.22	CO 1
				Max M_y	-1.22	0.62	0.00	0.00	0.00	-0.22	CO 1
				Min M_y	-1.22	0.62	0.00	0.00	0.00	-0.22	CO 1
				Max M_z	-0.86	0.17	0.00	0.00	0.00	-0.09	CO 4
				Min M_z	-3.40	1.36	-0.00	0.00	0.00	-0.61	CO 7
23	RC1	43	0.000	Max N	3.21	-0.71	0.00	0.00	0.00	-0.30	CO 8
				Min N	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Max V_y	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Min V_y	3.21	-0.71	0.00	0.00	0.00	-0.30	CO 8
				Max V_z	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Min V_z	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Max M_T	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Min M_T	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Max M_y	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Min M_y	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Max M_z	0.85	-0.32	0.00	0.00	0.00	-0.10	CO 1
				Min M_z	3.21	-0.71	0.00	0.00	0.00	-0.30	CO 8
		44	0.748	Max N	3.22	-0.47	0.00	0.00	0.00	0.14	CO 8
				Min N	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Max V_y	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	3.22	-0.47	0.00	0.00	0.00	0.14	CO 8
				Max V_z	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Min V_z	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Max M_T	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Min M_T	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Max M_y	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Min M_y	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
				Max M_z	3.22	-0.47	0.00	0.00	0.00	0.14	CO 8
				Min M_z	0.85	-0.04	0.00	0.00	0.00	0.03	CO 1
24	RC1	45	0.000	Max N	3.37	4.27	0.00	0.00	0.00	0.42	CO 7
				Min N	0.86	1.98	0.00	0.00	0.00	0.27	CO 4
				Max V_y	3.26	4.52	0.00	0.00	0.00	0.49	CO 8
				Min V_y	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Max V_z	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Min V_z	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Max M_T	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Min M_T	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Max M_y	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Min M_y	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
				Max M_z	3.26	4.52	0.00	0.00	0.00	0.49	CO 8
				Min M_z	1.22	1.84	0.00	0.00	0.00	0.19	CO 1
		48	0.283	Max N	3.37	4.36	0.00	0.00	0.00	-0.80	CO 7
				Min N	0.86	2.07	0.00	0.00	0.00	-0.30	CO 4
				Max V_y	3.26	4.61	-0.00	0.00	-0.00	-0.80	CO 8
				Min V_y	1.22	1.94	0.00	0.00	0.00	-0.34	CO 1
				Max V_z	1.22	1.94	0.00	0.00	0.00	-0.34	CO 1
				Min V_z	3.26	4.61	-0.00	0.00	-0.00	-0.80	CO 8
				Max M_T	1.22	1.94	0.00	0.00	0.00	-0.34	CO 1
				Min M_T	1.22	1.94	0.00	0.00	0.00	-0.34	CO 1
				Max M_y	1.22	1.94	0.00	0.00	0.00	-0.34	CO 1
				Min M_y	3.26	4.61	-0.00	0.00	-0.00	-0.80	CO 8
				Max M_z	0.86	2.07	0.00	0.00	0.00	-0.30	CO 4
				Min M_z	3.26	4.61	-0.00	0.00	-0.00	-0.80	CO 8
25	RC1	47	0.000	Max N	6.92	1.77	-0.00	0.00	0.00	1.24	CO 8
				Min N	3.14	0.98	-0.00	0.00	0.00	0.73	CO 1
				Max V_y	6.14	2.43	-0.00	0.00	0.00	1.76	CO 7
				Min V_y	3.96	-0.23	0.00	0.00	-0.00	-0.23	CO 4
				Max V_z	3.96	-0.23	0.00	0.00	-0.00	-0.23	CO 4
				Min V_z	5.33	2.09	-0.00	0.00	0.00	1.52	CO 2
				Max M_T	3.14	0.98	-0.00	0.00	0.00	0.73	CO 1
				Min M_T	3.14	0.98	-0.00	0.00	0.00	0.73	CO 1
				Max M_y	5.33	2.09	-0.00	0.00	0.00	1.52	CO 2
				Min M_y	3.96	-0.23	0.00	0.00	-0.00	-0.23	CO 4
				Max M_z	6.14	2.43	-0.00	0.00	0.00	1.76	CO 7
				Min M_z	3.96	-0.23	0.00	0.00	-0.00	-0.23	CO 4
		48	0.974	Max N	6.61	1.77	-0.00	0.00	-0.00	-0.48	CO 8
				Min N	2.78	0.98	-0.00	0.00	-0.00	-0.23	CO 1
				Max V_y	5.83	2.43	-0.00	0.00	-0.00	-0.60	CO 7
				Min V_y	3.65	-0.23	0.00	0.00	0.00	0.00	CO 4
				Max V_z	3.65	-0.23	0.00	0.00	0.00	0.00	CO 4
				Min V_z	5.83	2.43	-0.00	0.00	-0.00	-0.60	CO 7
				Max M_T	2.78	0.98	-0.00	0.00	-0.00	-0.23	CO 1
				Min M_T	2.78	0.98	-0.00	0.00	-0.00	-0.23	CO 1
				Max M_y	3.65	-0.23	0.00	0.00	0.00	0.00	CO 4
				Min M_y	5.83	2.43	-0.00	0.00	-0.00	-0.60	CO 7
				Max M_z	3.65	-0.23	0.00	0.00	0.00	0.00	CO 4
				Min M_z	5.83	2.43	-0.00	0.00	-0.00	-0.60	CO 7
26	RC1	33	0.000	Max N	0.58	0.00	-2.20	0.00	1.93	0.00	CO 4
				Min N	-6.69	0.00	-5.31	0.00	3.26	0.00	CO 7
				Max V_y	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Min V_y	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Max V_z	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Min V_z	-5.05	0.00	-5.61	0.00	3.76	0.00	CO 8

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Min M_T	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Max M_y	-5.05	0.00	-5.61	0.00	3.76	0.00	CO 8
				Min M_y	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Max M_z	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
				Min M_z	-2.53	0.00	-1.99	0.00	1.31	0.00	CO 1
		49	3.389	Max N	-1.75	0.00	0.18	0.00	-1.51	0.00	CO 4
				Min N	-14.78	0.00	3.02	0.00	-0.70	0.00	CO 7
				Max V_y	-10.82	0.00	2.23	0.00	-1.21	0.00	CO 3
				Min V_y	-5.26	0.00	0.81	0.00	-0.71	0.00	CO 1
				Max V_z	-14.78	0.00	3.02	0.00	-0.70	0.00	CO 7
				Min V_z	-1.75	0.00	0.18	0.00	-1.51	0.00	CO 4
				Max M_T	-5.26	0.00	0.81	0.00	-0.71	0.00	CO 1
				Min M_T	-5.26	0.00	0.81	0.00	-0.71	0.00	CO 1
				Max M_y	-9.18	0.00	1.71	0.00	-0.66	0.00	CO 6
				Min M_y	-7.34	0.00	1.46	0.00	-1.56	0.00	CO 5
				Max M_z	-10.82	0.00	2.23	0.00	-1.21	0.00	CO 3
				Min M_z	-5.26	0.00	0.81	0.00	-0.71	0.00	CO 1
27	RC1	51	0.000	Max N	9.78	-0.00	-1.00	0.00	0.00	0.00	CO 8
				Min N	3.87	0.00	-0.80	0.00	0.00	0.00	CO 4
				Max V_y	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Min V_y	8.11	-0.00	-0.91	0.00	0.00	0.00	CO 2
				Max V_z	3.87	0.00	-0.80	0.00	0.00	0.00	CO 4
				Min V_z	9.78	-0.00	-1.00	0.00	0.00	0.00	CO 8
				Max M_T	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Min M_T	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Max M_y	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Min M_y	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Max M_z	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
				Min M_z	3.98	0.00	-0.85	0.00	0.00	0.00	CO 1
		49	4.646	Max N	9.78	0.00	0.41	0.00	-1.36	0.00	CO 8
				Min N	3.87	0.00	0.66	0.00	-0.32	0.00	CO 4
				Max V_y	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Min V_y	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Max V_z	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Min V_z	9.78	0.00	0.41	0.00	-1.36	0.00	CO 8
				Max M_T	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Min M_T	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Max M_y	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
				Min M_y	9.78	0.00	0.41	0.00	-1.36	0.00	CO 8
				Max M_z	8.39	0.00	0.47	0.00	-1.09	0.00	CO 3
				Min M_z	3.98	0.00	0.87	0.00	0.06	0.00	CO 1
28	RC1	53	0.000	Max N	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.20	0.00	0.00	0.00	0.00	0.00	CO 2
				Max V_y	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.20	-0.00	0.00	0.00	0.00	-0.00	CO 4
				Max V_z	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.24	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.20	-0.00	0.00	0.00	0.00	-0.00	CO 4
		54	0.644	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
29	RC1	55	0.000	Max N	15.64	-0.00	-1.03	-0.00	0.00	0.00	CO 8
				Min N	4.89	-0.00	-0.84	-0.00	0.00	0.00	CO 4
				Max V_y	5.63	-0.00	-1.05	-0.00	0.00	0.00	CO 1
				Min V_y	12.05	-0.00	-0.95	-0.00	0.00	0.00	CO 5
				Max V_z	4.89	-0.00	-0.84	-0.00	0.00	0.00	CO 4
				Min V_z	15.58	-0.00	-1.06	-0.00	0.00	0.00	CO 7
				Max M_T	4.89	-0.00	-0.84	-0.00	0.00	0.00	CO 4
				Min M_T	15.64	-0.00	-1.03	-0.00	0.00	0.00	CO 8
				Max M_y	5.63	-0.00	-1.05	-0.00	0.00	0.00	CO 1
				Min M_y	5.63	-0.00	-1.05	-0.00	0.00	0.00	CO 1
				Max M_z	5.63	-0.00	-1.05	-0.00	0.00	0.00	CO 1
				Min M_z	5.63	-0.00	-1.05	-0.00	0.00	0.00	CO 1
		52	6.462	Max N	15.59	-0.00	0.88	-0.00	-0.46	0.00	CO 8
				Min N	4.84	-0.00	1.19	-0.00	1.10	0.00	CO 4
				Max V_y	5.57	-0.00	1.33	-0.00	0.88	0.00	CO 1
				Min V_y	12.00	-0.00	1.01	-0.00	0.18	0.00	CO 5
				Max V_z	5.57	-0.00	1.33	-0.00	0.88	0.00	CO 1
				Min V_z	15.53	-0.00	0.84	-0.00	-0.68	0.00	CO 7
				Max M_T	4.84	-0.00	1.19	-0.00	1.10	0.00	CO 4
				Min M_T	15.59	-0.00	0.88	-0.00	-0.46	0.00	CO 8
				Max M_y	4.84	-0.00	1.19	-0.00	1.10	0.00	CO 4
				Min M_y	15.53	-0.00	0.84	-0.00	-0.68	0.00	CO 7
				Max M_z	12.00	-0.00	1.01	-0.00	0.18	0.00	CO 5
				Min M_z	5.57	-0.00	1.33	-0.00	0.88	0.00	CO 1
30	RC1	57	0.000	Max N	6.82	-0.00	6.07	-0.00	-1.01	0.00	CO 8
				Min N	1.88	-0.00	1.84	-0.00	-0.32	0.00	CO 1
				Max V_y	2.49	-0.00	2.54	-0.00	-0.44	0.00	CO 4
				Min V_y	6.56	-0.00	5.85	-0.00	-0.97	0.00	CO 3
				Max V_z	6.82	-0.00	6.07	-0.00	-1.01	0.00	CO 8
				Min V_z	1.88	-0.00	1.84	-0.00	-0.32	0.00	CO 1
				Max M_T	1.88	-0.00	1.84	-0.00	-0.32	0.00	CO 1
				Min M_T	6.56	-0.00	5.85	-0.00	-0.97	0.00	CO 3
				Max M_y	1.88	-0.00	1.84	-0.00	-0.32	0.00	CO 1
				Min M_y	6.82	-0.00	6.07	-0.00	-1.01	0.00	CO 8
				Max M_z	6.82	-0.00	6.07	-0.00	-1.01	0.00	CO 8
				Min M_z	1.88	-0.00	1.84	-0.00	-0.32	0.00	CO 1
		39	0.404	Max N	6.82	-0.00	6.20	-0.00	1.47	0.00	CO 8
				Min N	1.88	-0.00	1.99	-0.00	0.46	0.00	CO 1
				Max V_y	2.49	-0.00	2.67	-0.00	0.61	0.00	CO 4
				Min V_y	6.82	-0.00	6.20	-0.00	1.47	0.00	CO 8
				Max V_z	6.82	-0.00	6.20	-0.00	1.47	0.00	CO 8
				Min V_z	1.88	-0.00	1.99	-0.00	0.46	0.00	CO 1
				Max M_T	1.88	-0.00	1.99	-0.00	0.46	0.00	CO 1
				Min M_T	6.56	-0.00	5.98	-0.00	1.42	0.00	CO 3
				Max M_y	6.82	-0.00	6.20	-0.00	1.47	0.00	CO 8
				Min M_y	1.88	-0.00	1.99	-0.00	0.46	0.00	CO 1
				Max M_z	6.82	-0.00	6.20	-0.00	1.47	0.00	CO 8
				Min M_z	1.88	-0.00	1.99	-0.00	0.46	0.00	CO 1
31	RC1	59	0.000	Max N	-5.26	0.86	-0.00	0.00	0.00	0.00	CO 4
				Min N	-29.61	1.00	-0.00	0.00	-0.00	0.00	CO 7
				Max V_y	-26.97	1.33	-0.00	0.00	-0.00	0.00	CO 8
				Min V_y	-11.29	0.40	-0.00	0.00	0.00	0.00	CO 1
				Max V_z	-5.26	0.86	-0.00	0.00	0.00	0.00	CO 4
				Min V_z	-26.97	1.33	-0.00	0.00	-0.00	0.00	CO 8
				Max M_T	-26.97	1.33	-0.00	0.00	-0.00	0.00	CO 8
				Min M_T	-11.29	0.40	-0.00	0.00	0.00	0.00	CO 1
				Max M_y	-11.29	0.40	-0.00	0.00	0.00	0.00	CO 1
				Min M_y	-28.53	0.96	-0.00	0.00	-0.00	0.00	CO 2
				Max M_z	-11.29	0.40	-0.00	0.00	0.00	0.00	CO 1
				Min M_z	-11.29	0.40	-0.00	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		60	2.430	Max N	-6.04	0.84	-0.00	0.00	-0.00	-2.08	CO 4
				Min N	-30.39	0.90	-0.00	0.00	-0.00	-2.36	CO 7
				Max V_y	-19.25	1.22	-0.00	0.00	-0.00	-3.10	CO 5
				Min V_y	-12.19	0.38	-0.00	0.00	-0.00	-0.96	CO 1
				Max V_z	-12.19	0.38	-0.00	0.00	-0.00	-0.96	CO 1
				Min V_z	-27.75	1.20	-0.00	0.00	-0.00	-3.13	CO 8
				Max M_T	-27.75	1.20	-0.00	0.00	-0.00	-3.13	CO 8
				Min M_T	-12.19	0.38	-0.00	0.00	-0.00	-0.96	CO 1
				Max M_y	-6.04	0.84	-0.00	0.00	-0.00	-2.08	CO 4
				Min M_y	-27.75	1.20	-0.00	0.00	-0.00	-3.13	CO 8
				Max M_z	-12.19	0.38	-0.00	0.00	-0.00	-0.96	CO 1
				Min M_z	-27.75	1.20	-0.00	0.00	-0.00	-3.13	CO 8
32	RC1	61	0.000	Max N	10.52	0.35	0.00	0.00	-0.00	-0.33	CO 8
				Min N	3.75	0.19	0.00	0.00	-0.00	-0.01	CO 1
				Max V_y	9.30	0.87	0.00	0.00	-0.00	0.07	CO 7
				Min V_y	5.19	-0.67	0.00	0.00	-0.00	-0.66	CO 4
				Max V_z	10.52	0.35	0.00	0.00	-0.00	-0.33	CO 8
				Min V_z	5.19	-0.67	0.00	0.00	-0.00	-0.66	CO 4
				Max M_T	8.94	0.85	0.00	0.00	-0.00	0.08	CO 2
				Min M_T	5.19	-0.67	0.00	0.00	-0.00	-0.66	CO 4
				Max M_y	5.19	-0.67	0.00	0.00	-0.00	-0.66	CO 4
				Min M_y	10.52	0.35	0.00	0.00	-0.00	-0.33	CO 8
				Max M_z	8.94	0.85	0.00	0.00	-0.00	0.08	CO 2
				Min M_z	5.19	-0.67	0.00	0.00	-0.00	-0.66	CO 4
		39	0.783	Max N	10.28	0.35	0.00	0.00	-0.00	-0.60	CO 8
				Min N	3.45	0.18	0.00	0.00	-0.00	-0.16	CO 1
				Max V_y	9.05	0.86	0.00	0.00	-0.00	-0.61	CO 7
				Min V_y	4.95	-0.68	0.00	0.00	-0.00	-0.13	CO 4
				Max V_z	10.28	0.35	0.00	0.00	-0.00	-0.60	CO 8
				Min V_z	4.95	-0.68	0.00	0.00	-0.00	-0.13	CO 4
				Max M_T	8.69	0.84	0.00	0.00	-0.00	-0.58	CO 2
				Min M_T	4.95	-0.68	0.00	0.00	-0.00	-0.13	CO 4
				Max M_y	3.45	0.18	0.00	0.00	-0.00	-0.16	CO 1
				Min M_y	9.92	0.33	0.00	0.00	-0.00	-0.58	CO 3
				Max M_z	4.95	-0.68	0.00	0.00	-0.00	-0.13	CO 4
				Min M_z	9.05	0.86	0.00	0.00	-0.00	-0.61	CO 7
33	RC1	63	0.000	Max N	-11.27	0.56	0.00	0.00	0.00	0.00	CO 4
				Min N	-36.39	-0.35	0.00	0.00	0.00	0.00	CO 8
				Max V_y	-11.27	0.56	0.00	0.00	0.00	0.00	CO 4
				Min V_y	-36.25	-0.85	0.00	0.00	0.00	0.00	CO 7
				Max V_z	-28.07	0.16	0.00	0.00	0.00	0.00	CO 5
				Min V_z	-12.98	-0.28	0.00	0.00	0.00	0.00	CO 1
				Max M_T	-36.39	-0.35	0.00	0.00	0.00	0.00	CO 8
				Min M_T	-11.27	0.56	0.00	0.00	0.00	0.00	CO 4
				Max M_y	-12.98	-0.28	0.00	0.00	0.00	0.00	CO 1
				Min M_y	-12.98	-0.28	0.00	0.00	0.00	0.00	CO 1
				Max M_z	-12.98	-0.28	0.00	0.00	0.00	0.00	CO 1
				Min M_z	-12.98	-0.28	0.00	0.00	0.00	0.00	CO 1
		64	2.130	Max N	-11.95	0.54	0.00	0.00	0.00	-1.18	CO 4
				Min N	-37.06	-0.32	0.00	0.00	0.00	0.73	CO 8
				Max V_y	-11.95	0.54	0.00	0.00	0.00	-1.18	CO 4
				Min V_y	-36.93	-0.77	0.00	0.00	0.00	1.75	CO 7
				Max V_z	-28.74	0.15	0.00	0.00	0.00	-0.33	CO 5
				Min V_z	-13.77	-0.27	0.00	0.00	0.00	0.58	CO 1
				Max M_T	-37.06	-0.32	0.00	0.00	0.00	0.73	CO 8
				Min M_T	-11.95	0.54	0.00	0.00	0.00	-1.18	CO 4
				Max M_y	-28.74	0.15	0.00	0.00	0.00	-0.33	CO 5
				Min M_y	-13.77	-0.27	0.00	0.00	0.00	0.58	CO 1
				Max M_z	-36.93	-0.77	0.00	0.00	0.00	1.75	CO 7
				Min M_z	-11.95	0.54	0.00	0.00	0.00	-1.18	CO 4
34	RC1	65	0.000	Max N	1.07	0.22	0.00	0.00	0.00	0.15	CO 1
				Min N	-1.10	1.93	0.00	0.00	-0.00	1.16	CO 5
				Max V_y	-1.10	1.93	0.00	0.00	-0.00	1.16	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	1.07	0.22	0.00	0.00	0.00	0.15	CO 1
				Max V_z	-1.09	1.59	0.00	0.00	-0.00	0.93	CO 4
				Min V_z	0.95	0.65	0.00	0.00	0.00	0.44	CO 2
				Max M_T	-1.10	1.93	0.00	0.00	-0.00	1.16	CO 5
				Min M_T	1.07	0.22	0.00	0.00	0.00	0.15	CO 1
				Max M_y	0.87	0.69	0.00	0.00	0.00	0.47	CO 7
				Min M_y	-1.09	1.59	0.00	0.00	-0.00	0.93	CO 4
				Max M_z	-1.10	1.93	0.00	0.00	-0.00	1.16	CO 5
				Min M_z	1.07	0.22	0.00	0.00	0.00	0.15	CO 1
		66	0.523	Max N	0.87	0.22	0.00	0.00	0.00	0.03	CO 1
				Min N	-1.27	1.93	0.00	0.00	0.00	0.15	CO 5
				Max V_y	-1.27	1.93	0.00	0.00	0.00	0.15	CO 5
				Min V_y	0.87	0.22	0.00	0.00	0.00	0.03	CO 1
				Max V_z	-1.26	1.59	0.00	0.00	0.00	0.10	CO 4
				Min V_z	0.78	0.65	0.00	0.00	0.00	0.10	CO 2
				Max M_T	-1.27	1.93	0.00	0.00	0.00	0.15	CO 5
				Min M_T	0.87	0.22	0.00	0.00	0.00	0.03	CO 1
				Max M_y	-1.27	1.93	0.00	0.00	0.00	0.15	CO 5
				Min M_y	0.87	0.22	0.00	0.00	0.00	0.03	CO 1
				Max M_z	-0.53	1.55	0.00	0.00	0.00	0.16	CO 8
				Min M_z	0.87	0.22	0.00	0.00	0.00	0.03	CO 1
35	RC1	67	0.000	Max N	0.33	-0.74	0.00	0.00	-0.00	-0.06	CO 5
				Min N	-0.02	0.11	0.00	0.00	-0.00	0.04	CO 6
				Max V_y	0.00	0.21	0.00	0.00	-0.00	0.05	CO 1
				Min V_y	0.33	-0.74	0.00	0.00	-0.00	-0.06	CO 5
				Max V_z	0.33	-0.74	0.00	0.00	-0.00	-0.06	CO 5
				Min V_z	0.00	0.21	0.00	0.00	-0.00	0.05	CO 1
				Max M_T	0.33	-0.74	0.00	0.00	-0.00	-0.06	CO 5
				Min M_T	0.00	0.21	0.00	0.00	-0.00	0.05	CO 1
				Max M_y	0.00	0.21	0.00	0.00	-0.00	0.05	CO 1
				Min M_y	0.18	-0.47	0.00	0.00	-0.00	-0.02	CO 8
				Max M_z	0.00	0.21	0.00	0.00	-0.00	0.05	CO 1
				Min M_z	0.33	-0.67	0.00	0.00	-0.00	-0.06	CO 4
		66	0.374	Max N	0.33	-0.63	0.00	0.00	-0.00	0.19	CO 5
				Min N	-0.02	0.23	0.00	0.00	-0.00	-0.02	CO 6
				Max V_y	0.00	0.35	0.00	0.00	-0.00	-0.05	CO 1
				Min V_y	0.33	-0.63	0.00	0.00	-0.00	0.19	CO 5
				Max V_z	0.33	-0.63	0.00	0.00	-0.00	0.19	CO 5
				Min V_z	0.00	0.35	0.00	0.00	-0.00	-0.05	CO 1
				Max M_T	0.33	-0.63	0.00	0.00	-0.00	0.19	CO 5
				Min M_T	0.00	0.35	0.00	0.00	-0.00	-0.05	CO 1
				Max M_y	0.33	-0.55	0.00	0.00	-0.00	0.17	CO 4
				Min M_y	0.18	-0.36	0.00	0.00	-0.00	0.13	CO 8
				Max M_z	0.33	-0.63	0.00	0.00	-0.00	0.19	CO 5
				Min M_z	0.00	0.35	0.00	0.00	-0.00	-0.05	CO 1
36	RC1	69	0.000	Max N	3.55	0.00	-2.90	0.00	0.94	0.00	CO 8
				Min N	1.72	0.00	-0.99	0.00	0.41	0.00	CO 1
				Max V_y	3.22	0.00	-2.28	0.00	0.46	0.00	CO 5
				Min V_y	1.72	0.00	-0.99	0.00	0.41	0.00	CO 1
				Max V_z	2.05	0.00	-0.92	0.00	-0.14	0.00	CO 4
				Min V_z	3.55	0.00	-2.90	0.00	0.94	0.00	CO 8
				Max M_T	3.47	0.00	-2.82	0.00	0.91	0.00	CO 3
				Min M_T	1.72	0.00	-0.99	0.00	0.41	0.00	CO 1
				Max M_y	3.19	0.00	-2.86	0.00	1.24	0.00	CO 7
				Min M_y	2.05	0.00	-0.92	0.00	-0.14	0.00	CO 4
				Max M_z	3.47	0.00	-2.82	0.00	0.91	0.00	CO 3
				Min M_z	1.72	0.00	-0.99	0.00	0.41	0.00	CO 1
		29	0.998	Max N	5.59	0.00	-0.28	0.00	-0.65	-0.00	CO 8
				Min N	2.32	0.00	-0.23	0.00	-0.20	-0.00	CO 1
				Max V_y	4.74	0.00	-0.30	0.00	-0.83	-0.00	CO 5
				Min V_y	2.32	0.00	-0.23	0.00	-0.20	-0.00	CO 1
				Max V_z	3.05	0.00	-0.21	0.00	-0.22	-0.00	CO 6
				Min V_z	4.74	0.00	-0.30	0.00	-0.83	-0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	5.44	0.00	-0.28	0.00	-0.64	-0.00	CO 3
				Min M_T	2.32	0.00	-0.23	0.00	-0.20	-0.00	CO 1
				Max M_y	2.32	0.00	-0.23	0.00	-0.20	-0.00	CO 1
				Min M_y	4.74	0.00	-0.30	0.00	-0.83	-0.00	CO 5
				Max M_z	2.32	0.00	-0.23	0.00	-0.20	-0.00	CO 1
				Min M_z	4.74	0.00	-0.30	0.00	-0.83	-0.00	CO 5
37	RC1	52	0.000	Max N	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
			Left	Min N	-18.72	0.00	-4.10	-0.00	-0.23	0.00	CO 7
				Max V_y	-18.57	0.00	-3.37	-0.00	-0.40	0.00	CO 8
				Min V_y	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
				Max V_z	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
				Min V_z	-18.72	0.00	-4.10	-0.00	-0.23	0.00	CO 7
				Max M_T	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
				Min M_T	-18.57	0.00	-3.37	-0.00	-0.40	0.00	CO 8
				Max M_y	-18.72	0.00	-4.10	-0.00	-0.23	0.00	CO 7
				Min M_y	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
				Max M_z	-18.57	0.00	-3.37	-0.00	-0.40	0.00	CO 8
				Min M_z	-4.65	0.00	0.41	-0.00	-0.98	0.00	CO 4
		70	4.193	Max N	-2.47	0.00	0.35	-0.00	0.21	-0.00	CO 4
				Min N	-10.17	0.00	6.58	-0.00	5.16	-0.00	CO 7
				Max V_y	-10.01	0.00	5.65	-0.00	4.31	-0.00	CO 8
				Min V_y	-2.47	0.00	0.35	-0.00	0.21	-0.00	CO 4
				Max V_z	-10.17	0.00	6.58	-0.00	5.16	-0.00	CO 7
				Min V_z	-2.47	0.00	0.35	-0.00	0.21	-0.00	CO 4
				Max M_T	-3.21	0.00	2.23	-0.00	1.90	-0.00	CO 1
				Min M_T	-10.01	0.00	5.65	-0.00	4.31	-0.00	CO 8
				Max M_y	-10.17	0.00	6.58	-0.00	5.16	-0.00	CO 7
				Min M_y	-2.47	0.00	0.35	-0.00	0.21	-0.00	CO 4
				Max M_z	-2.47	0.00	0.35	-0.00	0.21	-0.00	CO 4
				Min M_z	-10.01	0.00	5.65	-0.00	4.31	-0.00	CO 8
38	RC1	49	0.000	Max N	0.55	0.00	3.36	0.00	-1.83	0.00	CO 4
				Min N	-8.32	0.00	10.00	0.00	-1.82	0.00	CO 7
				Max V_y	-5.16	0.00	8.44	0.00	-2.31	0.00	CO 3
				Min V_y	-3.03	0.00	4.22	0.00	-0.65	0.00	CO 1
				Max V_z	-8.32	0.00	10.00	0.00	-1.82	0.00	CO 7
				Min V_z	0.55	0.00	3.36	0.00	-1.83	0.00	CO 4
				Max M_T	-3.03	0.00	4.22	0.00	-0.65	0.00	CO 1
				Min M_T	-3.03	0.00	4.22	0.00	-0.65	0.00	CO 1
				Max M_y	-3.03	0.00	4.22	0.00	-0.65	0.00	CO 1
				Min M_y	-6.43	0.00	9.84	0.00	-2.60	0.00	CO 8
				Max M_z	-5.16	0.00	8.44	0.00	-2.31	0.00	CO 3
				Min M_z	-3.03	0.00	4.22	0.00	-0.65	0.00	CO 1
		37	0.955	Max N	-0.10	0.00	4.03	0.00	1.70	-0.00	CO 4
				Min N	-10.64	0.00	12.29	0.00	8.84	-0.00	CO 7
				Max V_y	-10.64	0.00	12.29	0.00	8.84	-0.00	CO 7
				Min V_y	-4.14	0.00	8.43	0.00	4.77	0.00	CO 5
				Max V_z	-10.64	0.00	12.29	0.00	8.84	-0.00	CO 7
				Min V_z	-0.10	0.00	4.03	0.00	1.70	-0.00	CO 4
				Max M_T	-3.81	0.00	5.00	0.00	3.76	-0.00	CO 1
				Min M_T	-3.81	0.00	5.00	0.00	3.76	-0.00	CO 1
				Max M_y	-10.64	0.00	12.29	0.00	8.84	-0.00	CO 7
				Min M_y	-0.10	0.00	4.03	0.00	1.70	-0.00	CO 4
				Max M_z	-4.14	0.00	8.43	0.00	4.77	0.00	CO 5
				Min M_z	-10.64	0.00	12.29	0.00	8.84	-0.00	CO 7
39	RC1	74	0.000	Max N	11.26	0.00	1.68	0.00	-1.23	0.00	CO 8
				Min N	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
				Max V_y	10.82	0.00	1.66	0.00	-1.22	0.00	CO 3
				Min V_y	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
				Max V_z	11.26	0.00	1.68	0.00	-1.23	0.00	CO 8
				Min V_z	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
				Max M_T	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
				Min M_T	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
				Max M_y	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	11.26	0.00	1.68	0.00	-1.23	0.00	CO 8
				Max M_z	10.82	0.00	1.66	0.00	-1.22	0.00	CO 3
				Min M_z	3.20	0.00	0.48	0.00	-0.42	0.00	CO 1
		75	1.048	Max N	10.93	0.00	1.68	0.00	0.53	-0.00	CO 8
				Min N	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Max V_y	10.49	0.00	1.65	0.00	0.51	-0.00	CO 3
				Min V_y	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Max V_z	10.93	0.00	1.68	0.00	0.53	-0.00	CO 8
				Min V_z	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Max M_T	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Min M_T	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Max M_y	10.93	0.00	1.47	0.00	0.53	-0.00	CO 5
				Min M_y	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Max M_z	2.81	0.00	0.48	0.00	0.09	0.00	CO 1
				Min M_z	10.49	0.00	1.65	0.00	0.51	-0.00	CO 3
40	RC1	76	0.000	Max N	2.84	-0.00	-2.68	0.00	0.99	-0.00	CO 7
				Min N	0.05	0.00	0.85	0.00	-0.34	0.00	CO 4
				Max V_y	0.05	0.00	0.85	0.00	-0.34	0.00	CO 4
				Min V_y	2.84	-0.00	-2.68	0.00	0.99	-0.00	CO 7
				Max V_z	0.05	0.00	0.85	0.00	-0.34	0.00	CO 4
				Min V_z	2.84	-0.00	-2.68	0.00	0.99	-0.00	CO 7
				Max M_T	1.55	-0.00	-0.91	0.00	0.33	0.00	CO 1
				Min M_T	1.55	-0.00	-0.91	0.00	0.33	0.00	CO 1
				Max M_y	2.81	0.00	-2.66	0.00	0.99	0.00	CO 2
				Min M_y	0.05	0.00	0.85	0.00	-0.34	0.00	CO 4
				Max M_z	1.55	-0.00	-0.91	0.00	0.33	0.00	CO 1
				Min M_z	2.84	-0.00	-2.68	0.00	0.99	-0.00	CO 7
		11	0.951	Max N	4.96	0.00	-0.29	0.00	-0.42	0.00	CO 7
				Min N	0.56	0.00	0.58	0.00	0.34	0.00	CO 4
				Max V_y	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
				Min V_y	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
				Max V_z	0.56	0.00	0.58	0.00	0.34	0.00	CO 4
				Min V_z	4.90	0.00	-0.31	0.00	-0.42	0.00	CO 2
				Max M_T	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
				Min M_T	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
				Max M_y	0.56	0.00	0.58	0.00	0.34	0.00	CO 4
				Min M_y	4.96	0.00	-0.29	0.00	-0.42	0.00	CO 7
				Max M_z	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
				Min M_z	2.15	0.00	-0.23	0.00	-0.21	0.00	CO 1
41	RC1	78	0.000	Max N	10.18	-0.00	-0.84	0.00	0.00	0.00	CO 8
				Min N	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Max V_y	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Min V_y	9.07	-0.00	-0.84	0.00	0.00	0.00	CO 2
				Max V_z	10.18	-0.00	-0.84	0.00	0.00	0.00	CO 8
				Min V_z	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_T	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_T	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_y	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_y	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Max M_z	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
				Min M_z	3.56	0.00	-1.00	0.00	0.00	0.00	CO 1
		79	5.433	Max N	10.18	0.00	0.84	0.00	0.00	0.00	CO 8
				Min N	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Max V_y	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Min V_y	9.07	0.00	0.84	0.00	0.00	0.00	CO 2
				Max V_z	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Min V_z	10.18	0.00	0.84	0.00	0.00	0.00	CO 8
				Max M_T	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_T	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Max M_y	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_y	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Max M_z	3.56	0.00	1.00	0.00	0.00	0.00	CO 1
				Min M_z	3.56	0.00	1.00	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
42	RC1	80	0.000	Max N	3.21	0.00	9.95	0.00	-0.59	0.00	CO 5
				Min N	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Max V_y	2.74	0.00	9.47	0.00	-0.55	0.00	CO 3
				Min V_y	2.27	0.00	6.65	0.00	-0.41	0.00	CO 4
				Max V_z	3.21	0.00	9.95	0.00	-0.59	0.00	CO 5
				Min V_z	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Max M_T	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Min M_T	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Max M_y	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Min M_y	3.21	0.00	9.95	0.00	-0.59	0.00	CO 5
				Max M_z	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
				Min M_z	0.10	0.00	2.29	0.00	-0.13	0.00	CO 1
		75	0.147	Max N	3.21	0.00	10.00	0.00	0.87	0.00	CO 5
				Min N	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Max V_y	2.74	0.00	9.52	0.00	0.85	-0.00	CO 3
				Min V_y	2.27	0.00	6.70	0.00	0.57	0.00	CO 4
				Max V_z	3.21	0.00	10.00	0.00	0.87	0.00	CO 5
				Min V_z	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Max M_T	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Min M_T	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Max M_y	2.88	0.00	9.93	0.00	0.88	0.00	CO 8
				Min M_y	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Max M_z	0.10	0.00	2.35	0.00	0.21	0.00	CO 1
				Min M_z	2.74	0.00	9.52	0.00	0.85	-0.00	CO 3
43	RC1	82	0.000	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
		122	0.050	Max N	0.00	0.00	0.03	0.00	0.00	0.00	CO 4
				Min N	-0.00	0.00	0.03	0.00	0.00	0.00	CO 2
				Max V_y	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Min V_y	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Max V_z	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Min V_z	-0.00	0.00	0.03	0.00	0.00	0.00	CO 2
				Max M_T	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Min M_T	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Max M_y	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Min M_y	-0.00	0.00	0.03	0.00	0.00	0.00	CO 2
				Max M_z	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
				Min M_z	-0.00	0.00	0.03	0.00	0.00	0.00	CO 1
44	RC1	84	0.000	Max N	-12.20	-0.00	-0.56	0.00	0.00	0.00	CO 4
				Min N	-32.27	-0.00	-1.06	0.00	0.00	0.00	CO 8
				Max V_y	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Min V_y	-32.27	-0.00	-1.06	0.00	0.00	0.00	CO 8
				Max V_z	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Min V_z	-32.27	-0.00	-1.06	0.00	0.00	0.00	CO 8
				Max M_T	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Min M_T	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Max M_y	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Min M_y	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Max M_z	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
				Min M_z	-12.87	-0.00	-0.34	0.00	0.00	0.00	CO 1
		85	2.301	Max N	-12.93	-0.00	-0.54	0.00	-1.27	0.00	CO 4
				Min N	-33.01	-0.00	-0.95	0.00	-2.36	0.00	CO 8
				Max V_y	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	-30.09	-0.00	-0.88	0.00	-2.16	0.00	CO 3
				Max V_z	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1
				Min V_z	-33.01	-0.00	-0.95	0.00	-2.36	0.00	CO 8
				Max M_T	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1
				Min M_T	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1
				Max M_y	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1
				Min M_y	-33.01	-0.00	-0.95	0.00	-2.36	0.00	CO 8
				Max M_z	-33.01	-0.00	-0.95	0.00	-2.36	0.00	CO 8
				Min M_z	-13.73	-0.00	-0.32	0.00	-0.77	0.00	CO 1
45	RC1	86	0.000	Max N	9.28	-0.00	-2.18	0.00	1.75	-0.00	CO 8
				Min N	3.76	-0.00	-0.83	0.00	0.68	-0.00	CO 4
				Max V_y	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Min V_y	9.28	-0.00	-2.18	0.00	1.75	-0.00	CO 8
				Max V_z	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Min V_z	9.28	-0.00	-2.18	0.00	1.75	-0.00	CO 8
				Max M_T	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Min M_T	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Max M_y	9.28	-0.00	-2.18	0.00	1.75	-0.00	CO 8
				Min M_y	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Max M_z	4.04	-0.00	-0.76	0.00	0.64	-0.00	CO 1
				Min M_z	9.28	-0.00	-2.18	0.00	1.75	-0.00	CO 8
		87	1.251	Max N	8.89	-0.00	-2.17	0.00	-0.97	0.00	CO 8
				Min N	3.36	-0.00	-0.83	0.00	-0.35	0.00	CO 4
				Max V_y	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
				Min V_y	7.89	-0.00	-1.87	0.00	-0.83	0.00	CO 2
				Max V_z	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
				Min V_z	8.89	-0.00	-2.17	0.00	-0.97	0.00	CO 8
				Max M_T	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
				Min M_T	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
				Max M_y	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
				Min M_y	8.89	-0.00	-2.17	0.00	-0.97	0.00	CO 8
				Max M_z	7.89	-0.00	-1.87	0.00	-0.83	0.00	CO 2
				Min M_z	3.57	-0.00	-0.76	0.00	-0.32	0.00	CO 1
46	RC1	88	0.000	Max N	4.30	0.00	-0.50	0.00	0.28	0.00	CO 8
				Min N	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Max V_y	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Min V_y	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Max V_z	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Min V_z	4.30	0.00	-0.50	0.00	0.28	0.00	CO 8
				Max M_T	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Min M_T	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Max M_y	4.30	0.00	-0.50	0.00	0.28	0.00	CO 8
				Min M_y	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Max M_z	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
				Min M_z	1.37	0.00	-0.22	0.00	0.09	0.00	CO 1
		89	0.798	Max N	4.30	0.00	-0.25	0.00	-0.02	0.00	CO 8
				Min N	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Max V_y	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Min V_y	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Max V_z	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Min V_z	4.30	0.00	-0.25	0.00	-0.02	0.00	CO 8
				Max M_T	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Min M_T	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Max M_y	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Min M_y	4.30	0.00	-0.25	0.00	-0.02	0.00	CO 8
				Max M_z	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
				Min M_z	1.37	0.00	0.07	0.00	0.03	0.00	CO 1
47	RC1	2	0.000	Max N	10.53	0.00	0.31	0.00	-0.89	0.00	CO 2
			Left	Min N	1.08	0.00	0.72	0.00	-0.19	0.00	CO 4
				Max V_y	1.08	0.00	0.72	0.00	-0.19	0.00	CO 4
				Min V_y	3.37	0.00	0.20	0.00	-0.29	0.00	CO 1
				Max V_z	6.44	0.00	0.82	0.00	-0.64	0.00	CO 5
				Min V_z	4.65	0.00	0.06	0.00	-0.36	0.00	CO 6

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	3.37	0.00	0.20	0.00	-0.29	0.00	CO 1
				Min M_T	3.37	0.00	0.20	0.00	-0.29	0.00	CO 1
				Max M_y	1.08	0.00	0.72	0.00	-0.19	0.00	CO 4
				Min M_y	10.53	0.00	0.31	0.00	-0.89	0.00	CO 2
				Max M_z	10.02	0.00	0.16	0.00	-0.81	0.00	CO 7
				Min M_z	3.37	0.00	0.20	0.00	-0.29	0.00	CO 1
		114	1.486	Max N	13.84	0.00	6.78	0.00	4.36	0.00	CO 2
			Right	Min N	1.67	0.00	0.39	0.00	0.64	0.00	CO 4
				Max V_y	12.76	0.00	6.22	0.00	4.22	-0.00	CO 3
				Min V_y	13.84	0.00	6.78	0.00	4.36	0.00	CO 2
				Max V_z	13.84	0.00	6.78	0.00	4.36	0.00	CO 2
				Min V_z	1.67	0.00	0.39	0.00	0.64	0.00	CO 4
				Max M_T	4.06	0.00	1.55	0.00	1.01	-0.00	CO 1
				Min M_T	4.06	0.00	1.55	0.00	1.01	-0.00	CO 1
				Max M_y	13.84	0.00	6.78	0.00	4.36	0.00	CO 2
				Min M_y	1.67	0.00	0.39	0.00	0.64	0.00	CO 4
				Max M_z	13.84	0.00	6.78	0.00	4.36	0.00	CO 2
				Min M_z	12.76	0.00	6.22	0.00	4.22	-0.00	CO 3
48	RC1	92	0.000	Max N	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Min N	-37.18	0.00	2.72	0.00	0.00	0.00	CO 8
				Max V_y	-33.89	0.00	3.33	0.00	0.00	0.00	CO 2
				Min V_y	-14.31	0.00	0.07	0.00	0.00	0.00	CO 4
				Max V_z	-33.89	0.00	3.33	0.00	0.00	0.00	CO 2
				Min V_z	-14.31	0.00	0.07	0.00	0.00	0.00	CO 4
				Max M_T	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Min M_T	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Max M_y	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Min M_y	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Max M_z	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
				Min M_z	-12.44	0.00	1.16	0.00	0.00	0.00	CO 1
		93	1.231	Max N	-12.90	0.00	1.15	0.00	1.42	-0.00	CO 1
				Min N	-37.58	0.00	2.62	0.00	3.31	-0.00	CO 8
				Max V_y	-34.29	0.00	3.23	0.00	4.06	-0.00	CO 2
				Min V_y	-14.70	0.00	0.07	0.00	0.09	0.00	CO 4
				Max V_z	-34.29	0.00	3.23	0.00	4.06	-0.00	CO 2
				Min V_z	-14.70	0.00	0.07	0.00	0.09	0.00	CO 4
				Max M_T	-12.90	0.00	1.15	0.00	1.42	-0.00	CO 1
				Min M_T	-12.90	0.00	1.15	0.00	1.42	-0.00	CO 1
				Max M_y	-34.29	0.00	3.23	0.00	4.06	-0.00	CO 2
				Min M_y	-14.70	0.00	0.07	0.00	0.09	0.00	CO 4
				Max M_z	-14.70	0.00	0.07	0.00	0.09	0.00	CO 4
				Min M_z	-34.29	0.00	3.23	0.00	4.06	-0.00	CO 2
49	RC1	94	0.000	Max N	-0.18	0.00	-0.14	0.00	0.02	0.00	CO 4
				Min N	-2.33	0.00	3.68	0.00	0.07	0.00	CO 2
				Max V_y	-2.33	0.00	3.68	0.00	0.07	0.00	CO 2
				Min V_y	-0.57	0.00	0.55	0.00	0.04	0.00	CO 1
				Max V_z	-2.33	0.00	3.68	0.00	0.07	0.00	CO 2
				Min V_z	-0.18	0.00	-0.14	0.00	0.02	0.00	CO 4
				Max M_T	-0.57	0.00	0.55	0.00	0.04	0.00	CO 1
				Min M_T	-0.57	0.00	0.55	0.00	0.04	0.00	CO 1
				Max M_y	-2.23	0.00	3.18	0.00	0.07	0.00	CO 7
				Min M_y	-0.18	0.00	-0.14	0.00	0.02	0.00	CO 4
				Max M_z	-0.57	0.00	0.55	0.00	0.04	0.00	CO 1
				Min M_z	-0.57	0.00	0.55	0.00	0.04	0.00	CO 1
		139	1.248	Max N	-0.92	0.00	0.65	0.00	0.33	0.00	CO 4
				Min N	-4.83	0.00	5.93	0.00	5.77	0.00	CO 7
				Max V_y	-4.66	0.00	5.55	0.00	5.28	-0.00	CO 8
				Min V_y	-1.44	0.00	1.48	0.00	1.31	0.00	CO 1
				Max V_z	-4.63	0.00	6.11	0.00	6.19	0.00	CO 2
				Min V_z	-0.92	0.00	0.65	0.00	0.33	0.00	CO 4
				Max M_T	-1.44	0.00	1.48	0.00	1.31	0.00	CO 1
				Min M_T	-1.44	0.00	1.48	0.00	1.31	0.00	CO 1
				Max M_y	-4.63	0.00	6.11	0.00	6.19	0.00	CO 2

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-0.92	0.00	0.65	0.00	0.33	0.00	CO 4
				Max M_z	-1.44	0.00	1.48	0.00	1.31	0.00	CO 1
				Min M_z	-4.66	0.00	5.55	0.00	5.28	-0.00	CO 8
50	RC1	96	0.000	Max N	19.35	0.00	6.46	0.00	-3.95	0.00	CO 2
				Min N	4.19	0.00	1.69	0.00	-1.10	0.00	CO 4
				Max V_y	19.19	0.00	6.80	0.00	-4.22	0.00	CO 3
				Min V_y	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
				Max V_z	19.19	0.00	6.80	0.00	-4.22	0.00	CO 3
				Min V_z	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
				Max M_T	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
				Min M_T	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
				Max M_y	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
				Min M_y	19.19	0.00	6.80	0.00	-4.22	0.00	CO 3
				Max M_z	19.19	0.00	6.80	0.00	-4.22	0.00	CO 3
				Min M_z	5.17	0.00	1.32	0.00	-0.76	0.00	CO 1
		97	1.619	Max N	18.82	0.00	6.51	0.00	6.48	-0.00	CO 2
				Min N	3.67	0.00	1.69	0.00	1.64	-0.00	CO 4
				Max V_y	18.66	0.00	6.84	0.00	6.76	-0.00	CO 3
				Min V_y	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Max V_z	18.66	0.00	6.84	0.00	6.76	-0.00	CO 3
				Min V_z	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Max M_T	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Min M_T	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Max M_y	18.66	0.00	6.84	0.00	6.76	-0.00	CO 3
				Min M_y	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Max M_z	4.57	0.00	1.32	0.00	1.37	-0.00	CO 1
				Min M_z	18.66	0.00	6.84	0.00	6.76	-0.00	CO 3
51	RC1	98	0.000	Max N	9.14	-0.00	-6.67	0.00	3.71	-0.00	CO 2
				Min N	0.32	0.00	0.17	0.00	0.25	0.00	CO 4
				Max V_y	7.72	0.00	-5.75	0.00	3.42	0.00	CO 3
				Min V_y	9.14	-0.00	-6.67	0.00	3.71	-0.00	CO 2
				Max V_z	0.32	0.00	0.17	0.00	0.25	0.00	CO 4
				Min V_z	9.14	-0.00	-6.67	0.00	3.71	-0.00	CO 2
				Max M_T	3.15	-0.00	-1.60	0.00	0.87	-0.00	CO 1
				Min M_T	3.15	-0.00	-1.60	0.00	0.87	-0.00	CO 1
				Max M_y	9.14	-0.00	-6.67	0.00	3.71	-0.00	CO 2
				Min M_y	0.32	0.00	0.17	0.00	0.25	0.00	CO 4
				Max M_z	7.72	0.00	-5.75	0.00	3.42	0.00	CO 3
				Min M_z	9.14	-0.00	-6.67	0.00	3.71	-0.00	CO 2
		2	1.322	Max N	12.10	0.00	-0.92	0.00	-1.29	0.00	CO 2
				Min N	0.85	0.00	-0.13	0.00	0.28	0.00	CO 4
				Max V_y	3.77	0.00	-0.39	0.00	-0.45	0.00	CO 1
				Min V_y	11.55	-0.00	-0.89	0.00	-1.32	0.00	CO 7
				Max V_z	0.85	0.00	-0.13	0.00	0.28	0.00	CO 4
				Min V_z	12.10	0.00	-0.92	0.00	-1.29	0.00	CO 2
				Max M_T	3.77	0.00	-0.39	0.00	-0.45	0.00	CO 1
				Min M_T	3.77	0.00	-0.39	0.00	-0.45	0.00	CO 1
				Max M_y	0.85	0.00	-0.13	0.00	0.28	0.00	CO 4
				Min M_y	11.55	-0.00	-0.89	0.00	-1.32	0.00	CO 7
				Max M_z	11.55	-0.00	-0.89	0.00	-1.32	0.00	CO 7
				Min M_z	3.77	0.00	-0.39	0.00	-0.45	0.00	CO 1
52	RC1	39	0.000	Max N	7.06	0.00	-4.08	0.00	0.87	0.00	CO 8
				Min N	1.90	0.00	-1.47	0.00	0.30	0.00	CO 1
				Max V_y	7.06	0.00	-4.08	0.00	0.87	0.00	CO 8
				Min V_y	3.45	0.00	-2.23	0.00	0.48	0.00	CO 4
				Max V_z	1.90	0.00	-1.47	0.00	0.30	0.00	CO 1
				Min V_z	7.06	0.00	-4.08	0.00	0.87	0.00	CO 8
				Max M_T	6.79	0.00	-3.94	0.00	0.84	0.00	CO 3
				Min M_T	1.90	0.00	-1.47	0.00	0.30	0.00	CO 1
				Max M_y	7.06	0.00	-4.08	0.00	0.87	0.00	CO 8
				Min M_y	1.90	0.00	-1.47	0.00	0.30	0.00	CO 1
				Max M_z	6.79	0.00	-3.94	0.00	0.84	0.00	CO 3
				Min M_z	1.90	0.00	-1.47	0.00	0.30	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		58	0.395	Max N	7.06	0.00	-3.95	0.00	-0.71	0.00	CO 8
				Min N	1.90	0.00	-1.32	0.00	-0.25	0.00	CO 1
				Max V_y	7.06	0.00	-3.95	0.00	-0.71	0.00	CO 8
				Min V_y	3.45	0.00	-2.10	0.00	-0.38	0.00	CO 4
				Max V_z	1.90	0.00	-1.32	0.00	-0.25	0.00	CO 1
				Min V_z	7.06	0.00	-3.95	0.00	-0.71	0.00	CO 8
				Max M_T	6.79	0.00	-3.82	0.00	-0.69	0.00	CO 3
				Min M_T	1.90	0.00	-1.32	0.00	-0.25	0.00	CO 1
				Max M_y	1.90	0.00	-1.32	0.00	-0.25	0.00	CO 1
				Min M_y	7.06	0.00	-3.95	0.00	-0.71	0.00	CO 8
				Max M_z	6.31	0.00	-3.58	0.00	-0.64	0.00	CO 5
				Min M_z	5.67	0.00	-3.22	0.00	-0.59	0.00	CO 2
53	RC1	102	0.000	Max N	-0.60	0.00	-1.99	0.00	0.04	0.00	CO 4
				Min N	-3.57	0.00	-11.85	0.00	0.23	0.00	CO 2
				Max V_y	-3.57	0.00	-11.85	0.00	0.23	0.00	CO 2
				Min V_y	-3.45	-0.00	-11.48	0.00	0.22	0.00	CO 3
				Max V_z	-0.60	0.00	-1.99	0.00	0.04	0.00	CO 4
				Min V_z	-3.57	0.00	-11.85	0.00	0.23	0.00	CO 2
				Max M_T	-0.92	-0.00	-3.04	0.00	0.06	0.00	CO 1
				Min M_T	-0.92	-0.00	-3.04	0.00	0.06	0.00	CO 1
				Max M_y	-3.57	0.00	-11.85	0.00	0.23	0.00	CO 2
				Min M_y	-0.60	0.00	-1.99	0.00	0.04	0.00	CO 4
				Max M_z	-0.92	-0.00	-3.04	0.00	0.06	0.00	CO 1
				Min M_z	-0.92	-0.00	-3.04	0.00	0.06	0.00	CO 1
		115	0.051	Max N	-0.60	-0.00	-1.97	0.00	-0.06	0.00	CO 4
				Min N	-3.57	0.00	-11.84	0.00	-0.37	0.00	CO 2
				Max V_y	-3.57	0.00	-11.84	0.00	-0.37	0.00	CO 2
				Min V_y	-3.24	-0.00	-10.75	0.00	-0.34	0.00	CO 7
				Max V_z	-0.60	-0.00	-1.97	0.00	-0.06	0.00	CO 4
				Min V_z	-3.57	0.00	-11.84	0.00	-0.37	0.00	CO 2
				Max M_T	-0.92	-0.00	-3.02	0.00	-0.10	0.00	CO 1
				Min M_T	-0.92	-0.00	-3.02	0.00	-0.10	0.00	CO 1
				Max M_y	-0.60	-0.00	-1.97	0.00	-0.06	0.00	CO 4
				Min M_y	-3.57	0.00	-11.84	0.00	-0.37	0.00	CO 2
				Max M_z	-0.92	-0.00	-3.02	0.00	-0.10	0.00	CO 1
				Min M_z	-0.92	-0.00	-3.02	0.00	-0.10	0.00	CO 1
54	RC1	104	0.000	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
		109	0.011	Max N	-0.00	0.00	0.01	0.00	0.00	0.00	CO 4
				Min N	-0.00	0.00	0.01	0.00	0.00	0.00	CO 2
				Max V_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min V_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Max V_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min V_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 2
				Max M_T	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_T	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Max M_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 2
				Max M_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
55	RC1	106	0.000	Max N	-7.91	0.00	0.06	0.00	0.00	0.00	CO 4
				Min N	-22.97	0.00	0.07	0.00	0.00	0.00	CO 8
				Max V_y	-17.35	0.00	0.12	0.00	0.00	0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Max V_z	-17.35	0.00	0.12	0.00	0.00	0.00	CO 5
				Min V_z	-13.57	0.00	-0.03	0.00	0.00	0.00	CO 6
				Max M_T	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Min M_T	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Max M_y	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Min M_y	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Max M_z	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
				Min M_z	-9.26	0.00	-0.01	0.00	0.00	0.00	CO 1
		107	3.009	Max N	-8.87	0.00	0.06	0.00	0.17	-0.00	CO 4
				Min N	-23.92	0.00	0.06	0.00	0.20	-0.00	CO 8
				Max V_y	-10.38	0.00	-0.01	0.00	-0.03	0.00	CO 1
				Min V_y	-10.38	0.00	-0.01	0.00	-0.03	0.00	CO 1
				Max V_z	-18.30	0.00	0.10	0.00	0.34	-0.00	CO 5
				Min V_z	-14.52	0.00	-0.03	0.00	-0.09	0.00	CO 6
				Max M_T	-10.38	0.00	-0.01	0.00	-0.03	0.00	CO 1
				Min M_T	-10.38	0.00	-0.01	0.00	-0.03	0.00	CO 1
				Max M_y	-18.30	0.00	0.10	0.00	0.34	-0.00	CO 5
				Min M_y	-14.52	0.00	-0.03	0.00	-0.09	0.00	CO 6
				Max M_z	-10.38	0.00	-0.01	0.00	-0.03	0.00	CO 1
				Min M_z	-22.25	0.00	0.06	0.00	0.21	-0.00	CO 2
56	RC1	108	0.000	Max N	-0.56	0.00	0.50	0.00	-0.28	0.00	CO 4
				Min N	-7.77	0.00	0.64	0.00	-0.02	0.00	CO 7
				Max V_y	-6.61	0.00	0.80	0.00	-0.21	0.00	CO 3
				Min V_y	-2.18	0.00	0.29	0.00	-0.03	0.00	CO 1
				Max V_z	-6.61	0.00	0.80	0.00	-0.21	0.00	CO 3
				Min V_z	-2.18	0.00	0.29	0.00	-0.03	0.00	CO 1
				Max M_T	-2.18	0.00	0.29	0.00	-0.03	0.00	CO 1
				Min M_T	-2.18	0.00	0.29	0.00	-0.03	0.00	CO 1
				Max M_y	-3.87	0.00	0.36	0.00	-0.00	0.00	CO 6
				Min M_y	-4.40	0.00	0.78	0.00	-0.31	0.00	CO 5
				Max M_z	-6.61	0.00	0.80	0.00	-0.21	0.00	CO 3
				Min M_z	-2.18	0.00	0.29	0.00	-0.03	0.00	CO 1
		5	1.082	Max N	-0.91	0.00	0.50	0.00	0.26	-0.00	CO 4
				Min N	-8.12	0.00	0.64	0.00	0.67	-0.00	CO 7
				Max V_y	-6.96	0.00	0.80	0.00	0.65	-0.00	CO 3
				Min V_y	-2.58	0.00	0.29	0.00	0.28	-0.00	CO 1
				Max V_z	-6.96	0.00	0.80	0.00	0.65	-0.00	CO 3
				Min V_z	-2.58	0.00	0.29	0.00	0.28	-0.00	CO 1
				Max M_T	-2.58	0.00	0.29	0.00	0.28	-0.00	CO 1
				Min M_T	-2.58	0.00	0.29	0.00	0.28	-0.00	CO 1
				Max M_y	-7.32	0.00	0.79	0.00	0.68	-0.00	CO 8
				Min M_y	-0.91	0.00	0.50	0.00	0.26	-0.00	CO 4
				Max M_z	-2.58	0.00	0.29	0.00	0.28	-0.00	CO 1
				Min M_z	-7.32	0.00	0.79	0.00	0.68	-0.00	CO 8
57	RC1	110	0.000	Max N	-0.67	0.00	0.16	0.00	-0.08	0.00	CO 4
				Min N	-4.00	0.00	-0.44	0.00	0.03	0.00	CO 7
				Max V_y	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
				Min V_y	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
				Max V_z	-0.67	0.00	0.16	0.00	-0.08	0.00	CO 4
				Min V_z	-4.00	0.00	-0.44	0.00	0.03	0.00	CO 7
				Max M_T	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
				Min M_T	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
				Max M_y	-3.79	0.00	-0.43	0.00	0.03	0.00	CO 2
				Min M_y	-0.67	0.00	0.16	0.00	-0.08	0.00	CO 4
				Max M_z	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
				Min M_z	-1.60	0.00	-0.11	0.00	-0.03	0.00	CO 1
		5	0.620	Max N	-0.67	0.00	0.36	0.00	0.08	0.00	CO 4
				Min N	-4.00	0.00	-0.24	0.00	-0.18	0.00	CO 7
				Max V_y	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
				Min V_y	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
				Max V_z	-0.67	0.00	0.36	0.00	0.08	0.00	CO 4
				Min V_z	-4.00	0.00	-0.24	0.00	-0.18	0.00	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
				Min M_T	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
				Max M_y	-0.67	0.00	0.36	0.00	0.08	0.00	CO 4
				Min M_y	-4.00	0.00	-0.24	0.00	-0.18	0.00	CO 7
				Max M_z	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
				Min M_z	-1.60	0.00	0.12	0.00	-0.02	0.00	CO 1
58	RC1	120	0.000	Max N	1.94	0.00	0.84	0.00	-0.30	0.00	CO 7
				Min N	0.63	0.00	-0.09	0.00	-0.05	0.00	CO 4
				Max V_y	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
				Min V_y	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
				Max V_z	1.94	0.00	0.84	0.00	-0.30	0.00	CO 7
				Min V_z	0.63	0.00	-0.09	0.00	-0.05	0.00	CO 4
				Max M_T	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
				Min M_T	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
				Max M_y	0.63	0.00	-0.09	0.00	-0.05	0.00	CO 4
				Min M_y	1.94	0.00	0.84	0.00	-0.30	0.00	CO 7
				Max M_z	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
				Min M_z	0.85	0.00	0.29	0.00	-0.13	0.00	CO 1
		14	0.503	Max N	1.94	0.00	1.11	0.00	0.19	0.00	CO 7
				Min N	0.63	0.00	0.18	0.00	-0.02	0.00	CO 4
				Max V_y	1.76	0.00	0.84	0.00	0.11	0.00	CO 3
				Min V_y	0.85	0.00	0.61	0.00	0.10	0.00	CO 1
				Max V_z	1.94	0.00	1.11	0.00	0.19	0.00	CO 7
				Min V_z	0.63	0.00	0.18	0.00	-0.02	0.00	CO 4
				Max M_T	0.85	0.00	0.61	0.00	0.10	0.00	CO 1
				Min M_T	0.85	0.00	0.61	0.00	0.10	0.00	CO 1
				Max M_y	1.94	0.00	1.11	0.00	0.19	0.00	CO 7
				Min M_y	0.63	0.00	0.18	0.00	-0.02	0.00	CO 4
				Max M_z	0.85	0.00	0.61	0.00	0.10	0.00	CO 1
				Min M_z	0.85	0.00	0.61	0.00	0.10	0.00	CO 1
59	RC1	114	0.000	Max N	-5.23	-0.00	-0.17	0.00	0.00	0.00	CO 4
				Min N	-31.84	-0.00	-1.82	0.00	0.00	0.00	CO 2
				Max V_y	-5.23	-0.00	-0.17	0.00	0.00	0.00	CO 4
				Min V_y	-31.84	-0.00	-1.82	0.00	0.00	0.00	CO 2
				Max V_z	-5.23	-0.00	-0.17	0.00	0.00	0.00	CO 4
				Min V_z	-31.84	-0.00	-1.82	0.00	0.00	0.00	CO 2
				Max M_T	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
				Min M_T	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
				Max M_y	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
				Min M_y	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
				Max M_z	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
				Min M_z	-7.42	-0.00	-0.61	0.00	0.00	0.00	CO 1
		115	0.510	Max N	-5.40	-0.00	-0.17	0.00	-0.09	0.00	CO 4
				Min N	-32.00	-0.00	-1.81	0.00	-0.93	0.00	CO 2
				Max V_y	-5.40	-0.00	-0.17	0.00	-0.09	0.00	CO 4
				Min V_y	-28.88	-0.00	-1.73	0.00	-0.89	0.00	CO 7
				Max V_z	-5.40	-0.00	-0.17	0.00	-0.09	0.00	CO 4
				Min V_z	-32.00	-0.00	-1.81	0.00	-0.93	0.00	CO 2
				Max M_T	-7.61	-0.00	-0.61	0.00	-0.31	0.00	CO 1
				Min M_T	-7.61	-0.00	-0.61	0.00	-0.31	0.00	CO 1
				Max M_y	-5.40	-0.00	-0.17	0.00	-0.09	0.00	CO 4
				Min M_y	-32.00	-0.00	-1.81	0.00	-0.93	0.00	CO 2
				Max M_z	-32.00	-0.00	-1.81	0.00	-0.93	0.00	CO 2
				Min M_z	-5.40	-0.00	-0.17	0.00	-0.09	0.00	CO 4
60	RC1	105	0.000	Max N	-1.88	0.00	-0.04	0.00	0.03	0.00	CO 1
				Min N	-6.82	0.00	0.69	0.00	-0.04	0.00	CO 8
				Max V_y	-5.58	0.00	0.46	0.00	0.00	0.00	CO 5
				Min V_y	-1.88	0.00	-0.04	0.00	0.03	0.00	CO 1
				Max V_z	-6.82	0.00	0.69	0.00	-0.04	0.00	CO 8
				Min V_z	-1.88	0.00	-0.04	0.00	0.03	0.00	CO 1
				Max M_T	-2.49	0.00	-0.00	0.00	0.06	0.00	CO 4
				Min M_T	-1.88	0.00	-0.04	0.00	0.03	0.00	CO 1
				Max M_y	-2.49	0.00	-0.00	0.00	0.06	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-6.28	0.00	0.67	0.00	-0.07	0.00	CO 7
				Max M_z	-6.82	0.00	0.69	0.00	-0.04	0.00	CO 8
				Min M_z	-1.88	0.00	-0.04	0.00	0.03	0.00	CO 1
		112	0.799	Max N	-1.88	0.00	0.46	0.00	0.20	0.00	CO 1
				Min N	-6.82	0.00	1.12	0.00	0.68	0.00	CO 8
				Max V_y	-5.58	0.00	0.89	0.00	0.54	0.00	CO 5
				Min V_y	-1.88	0.00	0.46	0.00	0.20	0.00	CO 1
				Max V_z	-6.82	0.00	1.12	0.00	0.68	0.00	CO 8
				Min V_z	-2.49	0.00	0.43	0.00	0.23	0.00	CO 4
				Max M_T	-2.49	0.00	0.43	0.00	0.23	0.00	CO 4
				Min M_T	-1.88	0.00	0.46	0.00	0.20	0.00	CO 1
				Max M_y	-6.82	0.00	1.12	0.00	0.68	0.00	CO 8
				Min M_y	-1.88	0.00	0.46	0.00	0.20	0.00	CO 1
				Max M_z	-6.82	0.00	1.12	0.00	0.68	0.00	CO 8
				Min M_z	-1.88	0.00	0.46	0.00	0.20	0.00	CO 1
61	RC1	118	0.000	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
		27	0.141	Max N	0.00	0.00	0.08	0.00	0.01	0.00	CO 4
				Min N	-0.00	0.00	0.08	0.00	0.01	0.00	CO 7
				Max V_y	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Min V_y	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Max V_z	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Min V_z	0.00	0.00	0.08	0.00	0.01	0.00	CO 4
				Max M_T	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Min M_T	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Max M_y	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Min M_y	-0.00	0.00	0.08	0.00	0.01	0.00	CO 2
				Max M_z	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
				Min M_z	-0.00	0.00	0.09	0.00	0.01	0.00	CO 1
62	RC1	84	0.000	Max N	12.93	0.00	-11.73	0.00	8.08	0.00	CO 8
				Min N	4.97	0.00	-4.39	0.00	3.05	0.00	CO 4
				Max V_y	5.73	0.00	-4.74	0.00	3.18	0.00	CO 1
				Min V_y	12.88	-0.00	-11.51	0.00	7.88	-0.00	CO 7
				Max V_z	4.97	0.00	-4.39	0.00	3.05	0.00	CO 4
				Min V_z	12.93	0.00	-11.73	0.00	8.08	0.00	CO 8
				Max M_T	5.73	0.00	-4.74	0.00	3.18	0.00	CO 1
				Min M_T	5.73	0.00	-4.74	0.00	3.18	0.00	CO 1
				Max M_y	12.93	0.00	-11.73	0.00	8.08	0.00	CO 8
				Min M_y	4.97	0.00	-4.39	0.00	3.05	0.00	CO 4
				Max M_z	5.73	0.00	-4.74	0.00	3.18	0.00	CO 1
				Min M_z	12.88	-0.00	-11.51	0.00	7.88	-0.00	CO 7
		86	0.411	Max N	12.19	-0.00	-10.87	0.00	3.44	-0.00	CO 8
				Min N	4.75	-0.00	-4.15	0.00	1.29	-0.00	CO 4
				Max V_y	10.96	0.00	-9.65	0.00	3.00	0.00	CO 2
				Min V_y	12.19	-0.00	-10.87	0.00	3.44	-0.00	CO 8
				Max V_z	4.75	-0.00	-4.15	0.00	1.29	-0.00	CO 4
				Min V_z	12.19	-0.00	-10.87	0.00	3.44	-0.00	CO 8
				Max M_T	5.47	-0.00	-4.45	0.00	1.29	-0.00	CO 1
				Min M_T	5.47	-0.00	-4.45	0.00	1.29	-0.00	CO 1
				Max M_y	12.19	-0.00	-10.87	0.00	3.44	-0.00	CO 8
				Min M_y	5.47	-0.00	-4.45	0.00	1.29	-0.00	CO 1
				Max M_z	10.96	0.00	-9.65	0.00	3.00	0.00	CO 2
				Min M_z	12.19	-0.00	-10.87	0.00	3.44	-0.00	CO 8

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
63	RC1	14	0.000	Max N	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Min N	-0.00	0.00	-0.08	0.00	0.01	0.00	CO 5
				Max V_y	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Min V_y	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Max V_z	-0.00	0.00	-0.08	0.00	0.01	0.00	CO 5
				Min V_z	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Max M_T	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Min M_T	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Max M_y	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Min M_y	-0.00	0.00	-0.08	0.00	0.01	0.00	CO 2
				Max M_z	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
				Min M_z	-0.00	0.00	-0.09	0.00	0.01	0.00	CO 1
		10	0.140	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
64	RC1	99	0.000	Max N	-0.62	0.00	3.26	0.00	-0.46	0.00	CO 4
				Min N	-1.94	0.00	2.18	0.00	-0.27	0.00	CO 7
				Max V_y	-1.76	0.00	3.73	0.00	-0.50	0.00	CO 3
				Min V_y	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Max V_z	-1.39	0.00	4.34	0.00	-0.59	0.00	CO 5
				Min V_z	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Max M_T	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Min M_T	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Max M_y	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Min M_y	-1.39	0.00	4.34	0.00	-0.59	0.00	CO 5
				Max M_z	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
				Min M_z	-0.85	0.00	0.71	0.00	-0.09	0.00	CO 1
		12	0.180	Max N	-0.62	0.00	3.31	0.00	0.13	0.00	CO 4
				Min N	-1.94	0.00	2.23	0.00	0.13	0.00	CO 7
				Max V_y	-1.76	0.00	3.79	0.00	0.18	0.00	CO 3
				Min V_y	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Max V_z	-1.39	0.00	4.39	0.00	0.19	0.00	CO 5
				Min V_z	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Max M_T	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Min M_T	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Max M_y	-1.39	0.00	4.39	0.00	0.19	0.00	CO 5
				Min M_y	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Max M_z	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
				Min M_z	-0.85	0.00	0.77	0.00	0.05	0.00	CO 1
65	RC1	27	0.000	Max N	3.28	0.00	-1.00	0.00	0.22	0.00	CO 7
				Min N	0.65	-0.00	-0.75	0.00	0.24	0.00	CO 4
				Max V_y	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Min V_y	2.97	-0.00	-0.94	0.00	0.21	0.00	CO 2
				Max V_z	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Min V_z	2.80	0.00	-1.12	0.00	0.30	0.00	CO 8
				Max M_T	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Min M_T	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Max M_y	1.71	0.00	-1.01	0.00	0.30	0.00	CO 5
				Min M_y	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Max M_z	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
				Min M_z	1.71	0.00	-0.66	0.00	0.13	0.00	CO 1
		42	0.799	Max N	3.28	0.00	-0.57	0.00	-0.41	0.00	CO 7
				Min N	0.65	0.00	-0.32	0.00	-0.19	0.00	CO 4
				Max V_y	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	2.80	-0.00	-0.69	0.00	-0.42	0.00	CO 8
				Max V_z	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1
				Min V_z	2.80	-0.00	-0.69	0.00	-0.42	0.00	CO 8
				Max M_T	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1
				Min M_T	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1
				Max M_y	0.65	0.00	-0.32	0.00	-0.19	0.00	CO 4
				Min M_y	2.80	-0.00	-0.69	0.00	-0.42	0.00	CO 8
				Max M_z	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1
				Min M_z	1.71	0.00	-0.15	0.00	-0.19	0.00	CO 1
66	RC1	48	0.000	Max N	1.49	-2.00	0.00	0.00	0.00	-0.33	CO 8
				Min N	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Max V_y	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Min V_y	1.49	-2.00	0.00	0.00	0.00	-0.33	CO 8
				Max V_z	1.49	-2.00	0.00	0.00	0.00	-0.33	CO 8
				Min V_z	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Max M_T	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Min M_T	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Max M_y	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Min M_y	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Max M_z	0.24	-0.84	0.00	0.00	0.00	-0.12	CO 1
				Min M_z	1.49	-1.99	0.00	0.00	0.00	-0.36	CO 5
		46	0.365	Max N	1.49	-1.89	0.00	0.00	0.00	0.39	CO 8
				Min N	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Max V_y	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Min V_y	1.49	-1.89	0.00	0.00	0.00	0.39	CO 8
				Max V_z	0.75	-1.17	0.00	0.00	0.00	0.28	CO 2
				Min V_z	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Max M_T	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Min M_T	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Max M_y	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Min M_y	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
				Max M_z	1.49	-1.89	0.00	0.00	0.00	0.39	CO 8
				Min M_z	0.24	-0.70	0.00	0.00	0.00	0.16	CO 1
67	RC1	37	0.000	Max N	14.34	-0.00	-10.34	0.00	7.91	-0.00	CO 8
				Min N	6.37	-0.00	-3.63	0.00	1.70	-0.00	CO 4
				Max V_y	10.97	0.00	-7.25	0.00	4.77	0.00	CO 5
				Min V_y	13.78	-0.00	-10.48	0.00	8.84	-0.00	CO 7
				Max V_z	6.37	-0.00	-3.63	0.00	1.70	-0.00	CO 4
				Min V_z	13.78	-0.00	-10.48	0.00	8.84	-0.00	CO 7
				Max M_T	6.40	-0.00	-4.51	0.00	3.76	-0.00	CO 1
				Min M_T	6.40	-0.00	-4.51	0.00	3.76	-0.00	CO 1
				Max M_y	13.78	-0.00	-10.48	0.00	8.84	-0.00	CO 7
				Min M_y	6.37	-0.00	-3.63	0.00	1.70	-0.00	CO 4
				Max M_z	10.97	0.00	-7.25	0.00	4.77	0.00	CO 5
				Min M_z	13.78	-0.00	-10.48	0.00	8.84	-0.00	CO 7
		47	0.542	Max N	13.07	0.00	-8.97	0.00	2.68	0.00	CO 8
				Min N	5.97	0.00	-4.05	0.00	1.44	0.00	CO 1
				Max V_y	5.97	0.00	-4.05	0.00	1.44	0.00	CO 1
				Min V_y	10.94	-0.00	-7.86	0.00	3.05	-0.00	CO 2
				Max V_z	6.00	0.00	-3.25	0.00	-0.16	0.00	CO 4
				Min V_z	12.52	0.00	-9.10	0.00	3.54	0.00	CO 7
				Max M_T	5.97	0.00	-4.05	0.00	1.44	0.00	CO 1
				Min M_T	5.97	0.00	-4.05	0.00	1.44	0.00	CO 1
				Max M_y	12.52	0.00	-9.10	0.00	3.54	0.00	CO 7
				Min M_y	6.00	0.00	-3.25	0.00	-0.16	0.00	CO 4
				Max M_z	5.97	0.00	-4.05	0.00	1.44	0.00	CO 1
				Min M_z	10.94	-0.00	-7.86	0.00	3.05	-0.00	CO 2
68	RC1	47	0.000	Max N	9.96	0.00	-3.02	0.00	1.77	0.00	CO 7
				Min N	3.06	0.00	-0.59	0.00	0.06	0.00	CO 4
				Max V_y	4.47	0.00	-1.12	0.00	0.71	0.00	CO 1
				Min V_y	8.69	-0.00	-2.59	0.00	1.53	-0.00	CO 2
				Max V_z	3.06	0.00	-0.59	0.00	0.06	0.00	CO 4
				Min V_z	9.96	0.00	-3.02	0.00	1.77	0.00	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	4.47	0.00	-1.12	0.00	0.71	0.00	CO 1
				Min M_T	4.47	0.00	-1.12	0.00	0.71	0.00	CO 1
				Max M_y	9.96	0.00	-3.02	0.00	1.77	0.00	CO 7
				Min M_y	3.06	0.00	-0.59	0.00	0.06	0.00	CO 4
				Max M_z	4.47	0.00	-1.12	0.00	0.71	0.00	CO 1
				Min M_z	8.69	-0.00	-2.59	0.00	1.53	-0.00	CO 2
		7	1.619	Max N	6.08	0.00	0.91	0.00	0.07	0.00	CO 7
				Min N	1.95	0.00	0.55	0.00	0.03	0.00	CO 4
				Max V_y	5.38	0.00	0.76	0.00	0.05	0.00	CO 2
				Min V_y	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Max V_z	5.62	0.00	1.14	0.00	0.11	0.00	CO 8
				Min V_z	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Max M_T	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Min M_T	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Max M_y	5.62	0.00	1.14	0.00	0.11	0.00	CO 8
				Min M_y	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Max M_z	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
				Min M_z	3.16	0.00	0.21	0.00	-0.03	0.00	CO 1
69	RC1	86	0.000	Max N	7.43	-0.00	-2.61	0.00	1.69	-0.00	CO 8
				Min N	2.78	-0.00	-0.84	0.00	0.61	0.00	CO 4
				Max V_y	6.66	0.00	-2.33	0.00	1.49	0.00	CO 2
				Min V_y	7.43	-0.00	-2.61	0.00	1.69	-0.00	CO 8
				Max V_z	2.78	-0.00	-0.84	0.00	0.61	0.00	CO 4
				Min V_z	7.43	-0.00	-2.61	0.00	1.69	-0.00	CO 8
				Max M_T	3.26	-0.00	-0.98	0.00	0.65	0.00	CO 1
				Min M_T	3.26	-0.00	-0.98	0.00	0.65	0.00	CO 1
				Max M_y	7.43	-0.00	-2.61	0.00	1.69	-0.00	CO 8
				Min M_y	2.78	-0.00	-0.84	0.00	0.61	0.00	CO 4
				Max M_z	3.26	-0.00	-0.98	0.00	0.65	0.00	CO 1
				Min M_z	7.43	-0.00	-2.61	0.00	1.69	-0.00	CO 8
		28	1.830	Max N	4.00	0.00	1.04	0.00	0.26	0.00	CO 8
				Min N	1.77	0.00	0.24	0.00	0.06	0.00	CO 4
				Max V_y	3.62	0.00	0.90	0.00	0.20	0.00	CO 2
				Min V_y	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
				Max V_z	3.99	0.00	1.04	0.00	0.23	0.00	CO 7
				Min V_z	1.77	0.00	0.24	0.00	0.06	0.00	CO 4
				Max M_T	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
				Min M_T	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
				Max M_y	4.00	0.00	1.04	0.00	0.26	0.00	CO 8
				Min M_y	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
				Max M_z	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
				Min M_z	2.07	0.00	0.29	0.00	0.02	0.00	CO 1
70	RC1	74	0.000	Max N	15.65	0.00	12.12	0.00	2.66	0.00	CO 8
				Min N	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Max V_y	15.26	0.00	11.73	0.00	2.64	-0.00	CO 3
				Min V_y	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Max V_z	15.65	0.00	12.12	0.00	2.66	0.00	CO 8
				Min V_z	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Max M_T	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Min M_T	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Max M_y	14.41	0.00	10.35	0.00	2.84	-0.00	CO 7
				Min M_y	6.87	0.00	6.08	0.00	0.54	0.00	CO 4
				Max M_z	5.65	0.00	3.72	0.00	0.99	0.00	CO 1
				Min M_z	15.26	0.00	11.73	0.00	2.64	-0.00	CO 3
		92	0.533	Max N	16.79	0.00	13.24	0.00	9.40	0.00	CO 8
				Min N	5.98	0.00	4.11	0.00	3.07	-0.00	CO 1
				Max V_y	15.55	0.00	11.75	0.00	8.72	-0.00	CO 7
				Min V_y	16.38	0.00	12.82	0.00	9.17	0.00	CO 3
				Max V_z	16.79	0.00	13.24	0.00	9.40	0.00	CO 8
				Min V_z	5.98	0.00	4.11	0.00	3.07	-0.00	CO 1
				Max M_T	5.98	0.00	4.11	0.00	3.07	-0.00	CO 1
				Min M_T	5.98	0.00	4.11	0.00	3.07	-0.00	CO 1
				Max M_y	16.79	0.00	13.24	0.00	9.40	0.00	CO 8

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	5.98	0.00	4.11	0.00	3.07	-0.00	CO 1
				Max M_z	16.38	0.00	12.82	0.00	9.17	0.00	CO 3
				Min M_z	15.15	0.00	11.34	0.00	8.48	-0.00	CO 2
71	RC1	75	0.000	Max N	1.74	0.00	-0.93	0.00	0.34	0.00	CO 5
				Min N	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Max V_y	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Min V_y	-0.03	-0.00	-0.82	0.00	0.26	0.00	CO 2
				Max V_z	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Min V_z	1.20	0.00	-1.00	0.00	0.35	0.00	CO 8
				Max M_T	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Min M_T	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Max M_y	1.20	0.00	-1.00	0.00	0.35	0.00	CO 8
				Min M_y	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Max M_z	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
				Min M_z	-0.38	0.00	-0.47	0.00	0.12	0.00	CO 1
		81	0.718	Max N	1.74	0.00	-0.71	0.00	-0.25	0.00	CO 5
				Min N	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Max V_y	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Min V_y	1.09	-0.00	-0.74	0.00	-0.28	0.00	CO 3
				Max V_z	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Min V_z	1.20	0.00	-0.78	0.00	-0.29	0.00	CO 8
				Max M_T	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Min M_T	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Max M_y	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Min M_y	1.20	0.00	-0.78	0.00	-0.29	0.00	CO 8
				Max M_z	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
				Min M_z	-0.38	0.00	-0.20	0.00	-0.12	0.00	CO 1
72	RC1	87	0.000	Max N	-1.37	-0.00	-2.78	0.00	0.51	0.00	CO 1
				Min N	-4.31	0.00	-7.45	0.00	1.39	0.00	CO 8
				Max V_y	-3.89	0.00	-6.77	0.00	1.27	0.00	CO 3
				Min V_y	-3.76	-0.00	-6.55	0.00	1.22	-0.00	CO 2
				Max V_z	-1.39	-0.00	-2.73	0.00	0.51	0.00	CO 4
				Min V_z	-4.31	0.00	-7.45	0.00	1.39	0.00	CO 8
				Max M_T	-1.37	-0.00	-2.78	0.00	0.51	0.00	CO 1
				Min M_T	-1.37	-0.00	-2.78	0.00	0.51	0.00	CO 1
				Max M_y	-4.31	0.00	-7.45	0.00	1.39	0.00	CO 8
				Min M_y	-1.39	-0.00	-2.73	0.00	0.51	0.00	CO 4
				Max M_z	-1.37	-0.00	-2.78	0.00	0.51	0.00	CO 1
				Min M_z	-3.76	-0.00	-6.55	0.00	1.22	-0.00	CO 2
		91	0.281	Max N	-1.37	-0.00	-2.64	0.00	-0.25	0.00	CO 1
				Min N	-4.31	-0.00	-7.33	0.00	-0.68	0.00	CO 8
				Max V_y	-3.89	0.00	-6.65	0.00	-0.62	0.00	CO 3
				Min V_y	-3.76	-0.00	-6.44	0.00	-0.60	0.00	CO 2
				Max V_z	-1.39	0.00	-2.61	0.00	-0.24	0.00	CO 4
				Min V_z	-4.31	-0.00	-7.33	0.00	-0.68	0.00	CO 8
				Max M_T	-1.37	-0.00	-2.64	0.00	-0.25	0.00	CO 1
				Min M_T	-1.37	-0.00	-2.64	0.00	-0.25	0.00	CO 1
				Max M_y	-1.39	0.00	-2.61	0.00	-0.24	0.00	CO 4
				Min M_y	-4.31	-0.00	-7.33	0.00	-0.68	0.00	CO 8
				Max M_z	-4.31	-0.00	-7.33	0.00	-0.68	0.00	CO 8
				Min M_z	-1.37	-0.00	-2.64	0.00	-0.25	0.00	CO 1
73	RC1	4	0.000	Max N	2.10	-0.00	-1.06	0.00	0.77	-0.00	CO 4
				Min N	-3.45	-0.00	-0.57	0.00	0.12	-0.00	CO 7
				Max V_y	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Min V_y	0.77	-0.00	-1.29	0.00	0.84	-0.00	CO 5
				Max V_z	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Min V_z	0.77	-0.00	-1.29	0.00	0.84	-0.00	CO 5
				Max M_T	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Min M_T	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Max M_y	0.77	-0.00	-1.29	0.00	0.84	-0.00	CO 5
				Min M_y	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Max M_z	-1.30	-0.00	-0.23	0.00	0.02	0.00	CO 1
				Min M_z	0.77	-0.00	-1.29	0.00	0.84	-0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		8	0.907	Max N	1.81	-0.00	-1.06	0.00	-0.19	0.00	CO 4
				Min N	-3.74	-0.00	-0.57	0.00	-0.40	0.00	CO 7
				Max V_y	-1.64	-0.00	-0.23	0.00	-0.19	0.00	CO 1
				Min V_y	0.48	-0.00	-1.29	0.00	-0.33	0.00	CO 5
				Max V_z	-1.64	-0.00	-0.23	0.00	-0.19	0.00	CO 1
				Min V_z	0.48	-0.00	-1.29	0.00	-0.33	0.00	CO 5
				Max M_T	-1.64	-0.00	-0.23	0.00	-0.19	0.00	CO 1
				Min M_T	-1.64	-0.00	-0.23	0.00	-0.19	0.00	CO 1
				Max M_y	1.81	-0.00	-1.06	0.00	-0.19	0.00	CO 4
				Min M_y	-1.82	-0.00	-1.09	0.00	-0.42	0.00	CO 8
				Max M_z	-3.30	-0.00	-0.54	0.00	-0.36	0.00	CO 2
				Min M_z	-1.64	-0.00	-0.23	0.00	-0.19	0.00	CO 1
74	RC1	3	0.000	Max N	4.37	-0.00	-1.13	0.00	-0.05	0.00	CO 7
				Min N	1.11	0.00	-0.66	0.00	0.00	0.00	CO 4
				Max V_y	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Min V_y	3.93	-0.00	-0.99	0.00	-0.06	0.00	CO 2
				Max V_z	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Min V_z	3.83	0.00	-1.37	0.00	-0.01	0.00	CO 8
				Max M_T	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Min M_T	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Max M_y	2.45	-0.00	-1.17	0.00	0.01	0.00	CO 5
				Min M_y	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Max M_z	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
				Min M_z	2.36	0.00	-0.31	0.00	-0.08	0.00	CO 1
		4	1.523	Max N	7.53	0.00	2.07	0.00	0.66	0.00	CO 7
				Min N	2.03	0.00	0.27	0.00	-0.29	0.00	CO 4
				Max V_y	7.53	0.00	2.07	0.00	0.66	0.00	CO 7
				Min V_y	3.44	0.00	0.79	0.00	0.29	0.00	CO 1
				Max V_z	7.53	0.00	2.07	0.00	0.66	0.00	CO 7
				Min V_z	2.03	0.00	0.27	0.00	-0.29	0.00	CO 4
				Max M_T	3.44	0.00	0.79	0.00	0.29	0.00	CO 1
				Min M_T	3.44	0.00	0.79	0.00	0.29	0.00	CO 1
				Max M_y	7.53	0.00	2.07	0.00	0.66	0.00	CO 7
				Min M_y	2.03	0.00	0.27	0.00	-0.29	0.00	CO 4
				Max M_z	3.44	0.00	0.79	0.00	0.29	0.00	CO 1
				Min M_z	3.44	0.00	0.79	0.00	0.29	0.00	CO 1
75	RC1	4	0.000	Max N	6.68	0.00	-0.03	0.00	-0.23	0.00	CO 8
				Min N	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
				Max V_y	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
				Min V_y	4.97	-0.00	-0.71	0.00	0.45	0.00	CO 2
				Max V_z	4.25	0.00	1.02	0.00	-1.06	0.00	CO 4
				Min V_z	5.51	-0.00	-0.79	0.00	0.54	0.00	CO 7
				Max M_T	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
				Min M_T	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
				Max M_y	5.51	-0.00	-0.79	0.00	0.54	0.00	CO 7
				Min M_y	4.25	0.00	1.02	0.00	-1.06	0.00	CO 4
				Max M_z	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
				Min M_z	2.69	0.00	-0.30	0.00	0.27	0.00	CO 1
		23	1.376	Max N	9.53	0.00	2.87	0.00	1.72	-0.00	CO 8
				Min N	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Max V_y	8.64	0.00	2.60	0.00	1.50	-0.00	CO 3
				Min V_y	5.32	0.00	1.23	0.00	0.90	0.00	CO 6
				Max V_z	9.53	0.00	2.87	0.00	1.72	-0.00	CO 8
				Min V_z	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Max M_T	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Min M_T	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Max M_y	9.53	0.00	2.87	0.00	1.72	-0.00	CO 8
				Min M_y	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Max M_z	3.67	0.00	0.69	0.00	0.53	0.00	CO 1
				Min M_z	7.47	0.00	1.83	0.00	1.22	-0.00	CO 2
76	RC1	9	0.000	Max N	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1
				Min N	-0.01	-2.53	0.00	0.00	0.00	-2.13	CO 5
				Max V_y	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	-0.01	-3.04	0.00	0.00	0.00	-2.65	CO 8
				Max V_z	-0.00	-2.40	0.00	0.00	-0.00	-2.00	CO 2
				Min V_z	-0.01	-2.69	0.00	0.00	0.00	-2.29	CO 3
				Max M_T	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1
				Min M_T	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1
				Max M_y	-0.01	-2.69	0.00	0.00	0.00	-2.29	CO 3
				Min M_y	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1
				Max M_z	-0.00	-1.46	0.00	0.00	-0.00	-0.95	CO 1
				Min M_z	-0.01	-3.04	0.00	0.00	0.00	-2.65	CO 8
		62	0.281	Max N	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Min N	-0.01	-2.33	0.00	0.00	0.00	-1.45	CO 5
				Max V_y	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Min V_y	-0.01	-2.84	0.00	0.00	0.00	-1.83	CO 8
				Max V_z	-0.00	-2.55	0.00	0.00	-0.00	-1.61	CO 7
				Min V_z	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Max M_T	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Min M_T	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Max M_y	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Min M_y	-0.00	-1.52	0.00	0.00	-0.00	-0.84	CO 4
				Max M_z	-0.00	-1.22	0.00	0.00	0.00	-0.57	CO 1
				Min M_z	-0.01	-2.84	0.00	0.00	0.00	-1.83	CO 8
77	RC1	26	0.000	Max N	0.77	0.00	0.68	0.00	-0.82	0.00	CO 7
				Min N	-1.32	0.00	-1.49	0.00	0.41	0.00	CO 4
				Max V_y	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
				Min V_y	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
				Max V_z	0.77	0.00	0.68	0.00	-0.82	0.00	CO 7
				Min V_z	-1.32	0.00	-1.49	0.00	0.41	0.00	CO 4
				Max M_T	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
				Min M_T	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
				Max M_y	-1.32	0.00	-1.49	0.00	0.41	0.00	CO 4
				Min M_y	0.77	0.00	0.68	0.00	-0.82	0.00	CO 7
				Max M_z	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
				Min M_z	0.40	0.00	0.15	0.00	-0.34	0.00	CO 1
		120	0.383	Max N	0.77	0.00	0.89	0.00	-0.52	0.00	CO 7
				Min N	-1.32	-0.00	-1.29	0.00	-0.12	0.00	CO 4
				Max V_y	0.40	0.00	0.40	0.00	-0.23	0.00	CO 1
				Min V_y	-1.32	-0.00	-1.29	0.00	-0.12	0.00	CO 4
				Max V_z	0.77	0.00	0.89	0.00	-0.52	0.00	CO 7
				Min V_z	-1.32	-0.00	-1.29	0.00	-0.12	0.00	CO 4
				Max M_T	0.40	0.00	0.40	0.00	-0.23	0.00	CO 1
				Min M_T	0.40	0.00	0.40	0.00	-0.23	0.00	CO 1
				Max M_y	-1.32	-0.00	-1.29	0.00	-0.12	0.00	CO 4
				Min M_y	0.77	0.00	0.89	0.00	-0.52	0.00	CO 7
				Max M_z	0.40	0.00	0.40	0.00	-0.23	0.00	CO 1
				Min M_z	0.40	0.00	0.40	0.00	-0.23	0.00	CO 1
78	RC1	42	0.000	Max N	1.29	0.00	-1.26	0.00	-0.63	0.00	CO 5
				Min N	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
				Max V_y	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
				Min V_y	1.06	-0.00	-1.00	0.00	-0.34	0.00	CO 4
				Max V_z	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
				Min V_z	1.29	0.00	-1.26	0.00	-0.63	0.00	CO 5
				Max M_T	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
				Min M_T	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
				Max M_y	1.06	-0.00	-1.00	0.00	-0.34	0.00	CO 4
				Min M_y	0.58	0.00	-0.45	0.00	-0.89	0.00	CO 7
				Max M_z	1.09	-0.00	-1.03	0.00	-0.86	0.00	CO 8
				Min M_z	0.23	0.00	-0.05	0.00	-0.46	0.00	CO 1
		3	0.487	Max N	1.29	-0.00	-0.99	0.00	-1.18	0.00	CO 5
				Min N	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Max V_y	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Min V_y	1.06	-0.00	-0.74	0.00	-0.77	0.00	CO 4
				Max V_z	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Min V_z	1.29	-0.00	-0.99	0.00	-1.18	0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Min M_T	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Max M_y	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
				Min M_y	1.09	0.00	-0.76	0.00	-1.30	0.00	CO 8
				Max M_z	0.54	0.00	-0.14	0.00	-0.94	0.00	CO 2
				Min M_z	0.23	0.00	0.25	0.00	-0.41	0.00	CO 1
79	RC1	112	0.000	Max N	0.96	0.00	-1.67	0.00	0.38	0.00	CO 4
				Min N	-0.35	0.00	-2.16	-0.00	0.90	0.00	CO 2
				Max V_y	0.23	0.00	-2.83	-0.00	1.05	0.00	CO 8
				Min V_y	0.02	0.00	-0.86	0.00	0.24	0.00	CO 1
				Max V_z	0.02	0.00	-0.86	0.00	0.24	0.00	CO 1
				Min V_z	0.23	0.00	-2.83	-0.00	1.05	0.00	CO 8
				Max M_T	0.96	0.00	-1.67	0.00	0.38	0.00	CO 4
				Min M_T	-0.35	0.00	-2.16	-0.00	0.90	0.00	CO 2
				Max M_y	0.23	0.00	-2.83	-0.00	1.05	0.00	CO 8
				Min M_y	0.02	0.00	-0.86	0.00	0.24	0.00	CO 1
				Max M_z	0.23	0.00	-2.83	-0.00	1.05	0.00	CO 8
				Min M_z	0.02	0.00	-0.86	0.00	0.24	0.00	CO 1
		29	0.773	Max N	0.96	0.00	-1.26	0.00	-0.75	-0.00	CO 4
				Min N	-0.35	0.00	-1.74	-0.00	-0.61	-0.00	CO 2
				Max V_y	0.23	0.00	-2.41	-0.00	-0.97	-0.00	CO 8
				Min V_y	0.02	0.00	-0.37	0.00	-0.24	-0.00	CO 1
				Max V_z	0.02	0.00	-0.37	0.00	-0.24	-0.00	CO 1
				Min V_z	0.23	0.00	-2.41	-0.00	-0.97	-0.00	CO 8
				Max M_T	0.96	0.00	-1.26	0.00	-0.75	-0.00	CO 4
				Min M_T	-0.35	0.00	-1.74	-0.00	-0.61	-0.00	CO 2
				Max M_y	0.02	0.00	-0.37	0.00	-0.24	-0.00	CO 1
				Min M_y	0.73	0.00	-2.27	0.00	-1.04	-0.00	CO 5
				Max M_z	0.02	0.00	-0.37	0.00	-0.24	-0.00	CO 1
				Min M_z	-0.35	0.00	-1.84	-0.00	-0.64	-0.00	CO 7
80	RC1	26	0.000	Max N	5.17	0.00	0.66	0.00	-0.97	0.00	CO 7
				Min N	0.42	0.00	-0.69	0.00	0.39	0.00	CO 4
				Max V_y	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
				Min V_y	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
				Max V_z	5.17	0.00	0.66	0.00	-0.97	0.00	CO 7
				Min V_z	0.42	0.00	-0.69	0.00	0.39	0.00	CO 4
				Max M_T	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
				Min M_T	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
				Max M_y	0.42	0.00	-0.69	0.00	0.39	0.00	CO 4
				Min M_y	5.17	0.00	0.66	0.00	-0.97	0.00	CO 7
				Max M_z	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
				Min M_z	2.36	0.00	0.34	0.00	-0.42	0.00	CO 1
		25	0.915	Max N	3.24	0.00	2.82	0.00	0.63	0.00	CO 7
				Min N	-0.11	-0.00	-1.00	0.00	-0.38	0.00	CO 4
				Max V_y	3.24	0.00	2.82	0.00	0.63	0.00	CO 7
				Min V_y	-0.11	-0.00	-1.00	0.00	-0.38	0.00	CO 4
				Max V_z	3.24	0.00	2.82	0.00	0.63	0.00	CO 7
				Min V_z	-0.11	-0.00	-1.00	0.00	-0.38	0.00	CO 4
				Max M_T	1.74	0.00	1.03	0.00	0.20	0.00	CO 1
				Min M_T	1.74	0.00	1.03	0.00	0.20	0.00	CO 1
				Max M_y	3.24	0.00	2.82	0.00	0.63	0.00	CO 7
				Min M_y	-0.11	-0.00	-1.00	0.00	-0.38	0.00	CO 4
				Max M_z	1.74	0.00	1.03	0.00	0.20	0.00	CO 1
				Min M_z	1.74	0.00	1.03	0.00	0.20	0.00	CO 1
81	RC1	15	0.000	Max N	5.12	0.00	-0.83	0.00	0.51	0.00	CO 7
			Left	Min N	-0.53	0.00	-0.15	0.00	0.45	0.00	CO 4
				Max V_y	2.51	0.00	-0.29	0.00	0.19	0.00	CO 1
				Min V_y	3.01	-0.00	-0.72	0.00	0.67	-0.00	CO 3
				Max V_z	-0.53	0.00	-0.15	0.00	0.45	0.00	CO 4
				Min V_z	5.12	0.00	-0.83	0.00	0.51	0.00	CO 7
				Max M_T	2.51	0.00	-0.29	0.00	0.19	0.00	CO 1
				Min M_T	2.51	0.00	-0.29	0.00	0.19	0.00	CO 1
				Max M_y	1.20	0.00	-0.51	0.00	0.69	0.00	CO 5

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	2.51	0.00	-0.29	0.00	0.19	0.00	CO 1
				Max M_z	2.51	0.00	-0.29	0.00	0.19	0.00	CO 1
				Min M_z	3.01	-0.00	-0.72	0.00	0.67	-0.00	CO 3
		20	1.691	Max N	8.67	0.00	3.17	0.00	2.47	-0.00	CO 7
			Right	Min N	0.44	0.00	-0.53	0.00	-0.19	0.00	CO 4
				Max V_y	8.67	0.00	3.17	0.00	2.47	-0.00	CO 7
				Min V_y	7.84	0.00	2.86	0.00	2.25	0.00	CO 2
				Max V_z	8.67	0.00	3.17	0.00	2.47	-0.00	CO 7
				Min V_z	0.44	0.00	-0.53	0.00	-0.19	0.00	CO 4
				Max M_T	3.65	0.00	0.98	0.00	0.77	-0.00	CO 1
				Min M_T	3.65	0.00	0.98	0.00	0.77	-0.00	CO 1
				Max M_y	8.67	0.00	3.17	0.00	2.47	-0.00	CO 7
				Min M_y	0.44	0.00	-0.53	0.00	-0.19	0.00	CO 4
				Max M_z	7.84	0.00	2.86	0.00	2.25	0.00	CO 2
				Min M_z	8.67	0.00	3.17	0.00	2.47	-0.00	CO 7
82	RC1	15	0.000	Max N	6.88	0.00	-1.25	0.00	0.51	0.00	CO 7
				Min N	-0.46	0.00	1.89	0.00	0.45	0.00	CO 4
				Max V_y	-0.46	0.00	1.89	0.00	0.45	0.00	CO 4
				Min V_y	3.14	0.00	-0.54	0.00	0.19	0.00	CO 1
				Max V_z	-0.46	0.00	1.89	0.00	0.45	0.00	CO 4
				Min V_z	6.88	0.00	-1.25	0.00	0.51	0.00	CO 7
				Max M_T	3.14	0.00	-0.54	0.00	0.19	0.00	CO 1
				Min M_T	3.14	0.00	-0.54	0.00	0.19	0.00	CO 1
				Max M_y	2.04	0.00	1.45	0.00	0.69	0.00	CO 5
				Min M_y	3.14	0.00	-0.54	0.00	0.19	0.00	CO 1
				Max M_z	3.14	0.00	-0.54	0.00	0.19	0.00	CO 1
				Min M_z	4.37	0.00	0.32	0.00	0.67	-0.00	CO 3
		13	0.676	Max N	5.46	0.00	0.34	0.00	0.20	0.00	CO 7
				Min N	-0.85	0.00	1.66	0.00	1.65	-0.00	CO 4
				Max V_y	3.07	0.00	1.38	0.00	1.25	-0.00	CO 3
				Min V_y	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Max V_z	1.01	0.00	1.94	0.00	1.83	0.00	CO 5
				Min V_z	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Max M_T	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Min M_T	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Max M_y	1.01	0.00	1.94	0.00	1.83	0.00	CO 5
				Min M_y	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Max M_z	2.69	0.00	-0.03	0.00	-0.00	0.00	CO 1
				Min M_z	3.07	0.00	1.38	0.00	1.25	-0.00	CO 3
83	RC1	13	0.000	Max N	6.57	-0.00	-1.67	0.00	0.67	0.00	CO 8
				Min N	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Max V_y	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Min V_y	5.73	-0.00	-1.48	0.00	0.30	0.00	CO 2
				Max V_z	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Min V_z	6.57	-0.00	-1.67	0.00	0.67	0.00	CO 8
				Max M_T	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Min M_T	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Max M_y	5.40	0.00	-1.32	0.00	0.86	0.00	CO 5
				Min M_y	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Max M_z	2.60	0.00	-0.52	0.00	0.08	0.00	CO 1
				Min M_z	6.16	-0.00	-1.57	0.00	0.68	-0.00	CO 3
		26	0.948	Max N	4.57	0.00	0.01	0.00	-0.12	0.00	CO 8
				Min N	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Max V_y	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Min V_y	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Max V_z	4.13	0.00	0.66	0.00	-0.15	0.00	CO 7
				Min V_z	2.40	0.00	-0.92	0.00	-0.02	0.00	CO 4
				Max M_T	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Min M_T	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Max M_y	2.40	0.00	-0.92	0.00	-0.02	0.00	CO 4
				Min M_y	4.13	0.00	0.66	0.00	-0.15	0.00	CO 7
				Max M_z	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1
				Min M_z	1.96	0.00	0.19	0.00	-0.08	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
84	RC1	51	0.000	Max N	-2.48	0.00	2.75	0.00	-0.58	0.00	CO 4
				Min N	-7.21	0.00	7.91	0.00	-4.03	0.00	CO 8
				Max V_y	-7.02	0.00	8.04	0.00	-4.72	0.00	CO 7
				Min V_y	-5.86	0.00	6.84	0.00	-4.03	0.00	CO 2
				Max V_z	-7.02	0.00	8.04	0.00	-4.72	0.00	CO 7
				Min V_z	-2.48	0.00	2.75	0.00	-0.58	0.00	CO 4
				Max M_T	-2.57	0.00	3.49	0.00	-2.00	0.00	CO 1
				Min M_T	-2.57	0.00	3.49	0.00	-2.00	0.00	CO 1
				Max M_y	-2.48	0.00	2.75	0.00	-0.58	0.00	CO 4
				Min M_y	-7.02	0.00	8.04	0.00	-4.72	0.00	CO 7
				Max M_z	-7.02	0.00	8.04	0.00	-4.72	0.00	CO 7
				Min M_z	-5.86	0.00	6.84	0.00	-4.03	0.00	CO 2
		35	1.295	Max N	-3.42	0.00	2.28	0.00	2.68	0.00	CO 4
				Min N	-10.29	0.00	9.97	0.00	7.57	0.00	CO 8
				Max V_y	-10.08	0.00	10.91	0.00	7.57	-0.00	CO 7
				Min V_y	-3.66	0.00	4.51	0.00	3.18	0.00	CO 1
				Max V_z	-10.08	0.00	10.91	0.00	7.57	-0.00	CO 7
				Min V_z	-3.42	0.00	2.28	0.00	2.68	0.00	CO 4
				Max M_T	-3.66	0.00	4.51	0.00	3.18	0.00	CO 1
				Min M_T	-3.66	0.00	4.51	0.00	3.18	0.00	CO 1
				Max M_y	-10.08	0.00	10.91	0.00	7.57	-0.00	CO 7
				Min M_y	-3.42	0.00	2.28	0.00	2.68	0.00	CO 4
				Max M_z	-3.66	0.00	4.51	0.00	3.18	0.00	CO 1
				Min M_z	-10.08	0.00	10.91	0.00	7.57	-0.00	CO 7
85	RC1	35	0.000	Max N	9.71	-0.00	-7.59	0.00	7.57	-0.00	CO 7
				Min N	3.03	0.00	-1.60	0.00	2.68	0.00	CO 4
				Max V_y	4.63	0.00	-3.13	0.00	3.18	0.00	CO 1
				Min V_y	9.71	-0.00	-7.59	0.00	7.57	-0.00	CO 7
				Max V_z	3.03	0.00	-1.60	0.00	2.68	0.00	CO 4
				Min V_z	9.71	-0.00	-7.59	0.00	7.57	-0.00	CO 7
				Max M_T	4.63	0.00	-3.13	0.00	3.18	0.00	CO 1
				Min M_T	4.63	0.00	-3.13	0.00	3.18	0.00	CO 1
				Max M_y	9.71	-0.00	-7.59	0.00	7.57	-0.00	CO 7
				Min M_y	3.03	0.00	-1.60	0.00	2.68	0.00	CO 4
				Max M_z	4.63	0.00	-3.13	0.00	3.18	0.00	CO 1
				Min M_z	9.71	-0.00	-7.59	0.00	7.57	-0.00	CO 7
		53	0.612	Max N	8.30	0.00	-6.19	0.00	3.36	0.00	CO 7
				Min N	2.60	0.00	-1.82	0.00	1.63	0.00	CO 4
				Max V_y	4.12	0.00	-2.64	0.00	1.42	0.00	CO 1
				Min V_y	6.55	-0.00	-4.97	0.00	3.09	-0.00	CO 3
				Max V_z	2.60	0.00	-1.82	0.00	1.63	0.00	CO 4
				Min V_z	8.30	0.00	-6.19	0.00	3.36	0.00	CO 7
				Max M_T	4.12	0.00	-2.64	0.00	1.42	0.00	CO 1
				Min M_T	4.12	0.00	-2.64	0.00	1.42	0.00	CO 1
				Max M_y	7.75	-0.00	-5.94	0.00	3.63	-0.00	CO 8
				Min M_y	4.12	0.00	-2.64	0.00	1.42	0.00	CO 1
				Max M_z	4.12	0.00	-2.64	0.00	1.42	0.00	CO 1
				Min M_z	7.75	-0.00	-5.94	0.00	3.63	-0.00	CO 8
86	RC1	9	0.000	Max N	5.53	0.00	3.59	0.00	-1.96	0.00	CO 7
			Left	Min N	1.66	0.00	2.34	0.00	-0.56	0.00	CO 4
				Max V_y	4.25	0.00	3.66	0.00	-1.58	0.00	CO 3
				Min V_y	3.21	0.00	3.54	0.00	-1.23	0.00	CO 5
				Max V_z	4.99	0.00	4.19	0.00	-1.87	0.00	CO 8
				Min V_z	3.02	0.00	1.60	0.00	-0.84	0.00	CO 1
				Max M_T	3.02	0.00	1.60	0.00	-0.84	0.00	CO 1
				Min M_T	3.02	0.00	1.60	0.00	-0.84	0.00	CO 1
				Max M_y	1.66	0.00	2.34	0.00	-0.56	0.00	CO 4
				Min M_y	5.53	0.00	3.59	0.00	-1.96	0.00	CO 7
				Max M_z	3.02	0.00	1.60	0.00	-0.84	0.00	CO 1
				Min M_z	1.66	0.00	2.34	0.00	-0.56	0.00	CO 4
		53	1.106	Max N	8.15	0.00	6.05	0.00	3.36	0.00	CO 7
			Right	Min N	2.45	0.00	1.68	0.00	1.63	0.00	CO 4
				Max V_y	6.40	0.00	4.83	0.00	3.09	-0.00	CO 3

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	3.95	0.00	2.48	0.00	1.42	0.00	CO 1
				Max V_z	8.15	0.00	6.05	0.00	3.36	0.00	CO 7
				Min V_z	2.45	0.00	1.68	0.00	1.63	0.00	CO 4
				Max M_T	3.95	0.00	2.48	0.00	1.42	0.00	CO 1
				Min M_T	3.95	0.00	2.48	0.00	1.42	0.00	CO 1
				Max M_y	7.60	0.00	5.80	0.00	3.63	-0.00	CO 8
				Min M_y	3.95	0.00	2.48	0.00	1.42	0.00	CO 1
				Max M_z	3.95	0.00	2.48	0.00	1.42	0.00	CO 1
				Min M_z	7.60	0.00	5.80	0.00	3.63	-0.00	CO 8
87	RC1	11	0.000	Max N	5.96	0.00	-1.42	0.00	0.06	0.00	CO 7
				Min N	1.35	0.00	0.36	0.00	-0.07	0.00	CO 4
				Max V_y	2.73	0.00	-0.30	0.00	-0.07	0.00	CO 1
				Min V_y	5.32	-0.00	-1.02	0.00	0.05	0.00	CO 3
				Max V_z	1.35	0.00	0.36	0.00	-0.07	0.00	CO 4
				Min V_z	5.96	0.00	-1.42	0.00	0.06	0.00	CO 7
				Max M_T	2.73	0.00	-0.30	0.00	-0.07	0.00	CO 1
				Min M_T	2.73	0.00	-0.30	0.00	-0.07	0.00	CO 1
				Max M_y	5.96	0.00	-1.42	0.00	0.06	0.00	CO 7
				Min M_y	1.35	0.00	0.36	0.00	-0.07	0.00	CO 4
				Max M_z	2.73	0.00	-0.30	0.00	-0.07	0.00	CO 1
				Min M_z	2.73	0.00	-0.30	0.00	-0.07	0.00	CO 1
		74	1.828	Max N	10.03	0.00	3.18	0.00	1.66	-0.00	CO 7
				Min N	2.34	0.00	-0.16	0.00	0.11	0.00	CO 4
				Max V_y	9.33	0.00	2.53	0.00	1.42	-0.00	CO 3
				Min V_y	3.89	0.00	1.00	0.00	0.57	0.00	CO 1
				Max V_z	10.03	0.00	3.18	0.00	1.66	-0.00	CO 7
				Min V_z	2.34	0.00	-0.16	0.00	0.11	0.00	CO 4
				Max M_T	3.89	0.00	1.00	0.00	0.57	0.00	CO 1
				Min M_T	3.89	0.00	1.00	0.00	0.57	0.00	CO 1
				Max M_y	10.03	0.00	3.18	0.00	1.66	-0.00	CO 7
				Min M_y	2.34	0.00	-0.16	0.00	0.11	0.00	CO 4
				Max M_z	3.89	0.00	1.00	0.00	0.57	0.00	CO 1
				Min M_z	9.33	0.00	2.53	0.00	1.42	-0.00	CO 3
88	RC1	100	0.000	Max N	0.24	-1.29	0.00	0.00	0.00	-0.01	CO 4
				Min N	-2.45	0.01	0.00	0.00	0.00	-0.45	CO 7
				Max V_y	-2.45	0.01	0.00	0.00	0.00	-0.45	CO 7
				Min V_y	0.24	-1.29	0.00	0.00	0.00	-0.01	CO 4
				Max V_z	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Min V_z	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Max M_T	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Min M_T	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Max M_y	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Min M_y	-0.99	-0.08	0.00	0.00	0.00	-0.09	CO 1
				Max M_z	0.24	-1.29	0.00	0.00	0.00	-0.01	CO 4
				Min M_z	-2.45	0.01	0.00	0.00	0.00	-0.45	CO 7
		7	0.790	Max N	0.24	-0.72	0.00	0.00	0.00	0.78	CO 4
				Min N	-2.45	0.58	0.00	0.00	0.00	-0.68	CO 7
				Max V_y	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Min V_y	0.24	-0.72	0.00	0.00	0.00	0.78	CO 4
				Max V_z	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Min V_z	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Max M_T	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Min M_T	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Max M_y	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Min M_y	-0.99	0.59	0.00	0.00	0.00	-0.29	CO 1
				Max M_z	0.24	-0.72	0.00	0.00	0.00	0.78	CO 4
				Min M_z	-2.45	0.58	0.00	0.00	0.00	-0.68	CO 7
89	RC1	28	0.000	Max N	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Min N	-2.19	0.00	0.37	0.00	0.27	0.00	CO 8
				Max V_y	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Min V_y	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Max V_z	-2.08	0.00	0.42	0.00	0.19	0.00	CO 7
				Min V_z	-0.83	0.00	-0.17	0.00	0.21	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Min M_T	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Max M_y	-1.70	0.00	0.13	0.00	0.29	0.00	CO 5
				Min M_y	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Max M_z	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
				Min M_z	-0.76	0.00	-0.10	0.00	0.08	0.00	CO 1
		121	0.818	Max N	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Min N	-2.19	0.00	0.71	0.00	0.72	0.00	CO 8
				Max V_y	-2.08	0.00	0.77	0.00	0.67	-0.00	CO 7
				Min V_y	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Max V_z	-2.08	0.00	0.77	0.00	0.67	-0.00	CO 7
				Min V_z	-0.83	0.00	0.18	0.00	0.21	0.00	CO 4
				Max M_T	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Min M_T	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Max M_y	-2.19	0.00	0.71	0.00	0.72	0.00	CO 8
				Min M_y	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Max M_z	-0.76	0.00	0.31	0.00	0.16	0.00	CO 1
				Min M_z	-2.08	0.00	0.77	0.00	0.67	-0.00	CO 7
90	RC1	28	0.000	Max N	2.76	0.00	-0.69	0.00	0.41	0.00	CO 7
				Min N	1.05	0.00	-0.21	0.00	0.27	0.00	CO 4
				Max V_y	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Min V_y	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Max V_z	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Min V_z	2.65	0.00	-0.73	0.00	0.53	0.00	CO 8
				Max M_T	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Min M_T	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Max M_y	2.65	0.00	-0.73	0.00	0.53	0.00	CO 8
				Min M_y	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Max M_z	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
				Min M_z	1.44	0.00	-0.16	0.00	0.09	0.00	CO 1
		73	0.875	Max N	1.12	0.00	1.05	0.00	0.57	0.00	CO 7
				Min N	0.56	0.00	0.31	0.00	0.31	0.00	CO 4
				Max V_y	1.03	0.00	0.91	0.00	0.50	0.00	CO 2
				Min V_y	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
				Max V_z	1.12	0.00	1.05	0.00	0.57	0.00	CO 7
				Min V_z	0.56	0.00	0.31	0.00	0.31	0.00	CO 4
				Max M_T	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
				Min M_T	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
				Max M_y	1.01	0.00	1.01	0.00	0.65	0.00	CO 8
				Min M_y	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
				Max M_z	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
				Min M_z	0.87	0.00	0.44	0.00	0.22	0.00	CO 1
91	RC1	29	0.000	Max N	4.38	-0.00	-1.90	0.00	0.34	-0.00	CO 7
				Min N	1.02	-0.00	-0.68	0.00	0.02	-0.00	CO 4
				Max V_y	2.07	-0.00	-0.51	0.00	0.04	-0.00	CO 1
				Min V_y	3.93	-0.00	-2.05	0.00	0.32	-0.00	CO 8
				Max V_z	2.07	-0.00	-0.51	0.00	0.04	-0.00	CO 1
				Min V_z	3.93	-0.00	-2.05	0.00	0.32	-0.00	CO 8
				Max M_T	4.30	-0.00	-1.83	0.00	0.32	-0.00	CO 2
				Min M_T	2.07	-0.00	-0.51	0.00	0.04	-0.00	CO 1
				Max M_y	4.38	-0.00	-1.90	0.00	0.34	-0.00	CO 7
				Min M_y	1.02	-0.00	-0.68	0.00	0.02	-0.00	CO 4
				Max M_z	2.07	-0.00	-0.51	0.00	0.04	-0.00	CO 1
				Min M_z	3.84	-0.00	-1.98	0.00	0.31	-0.00	CO 3
		61	1.531	Max N	7.51	-0.00	2.13	0.00	0.51	0.00	CO 7
				Min N	1.80	-0.00	0.32	0.00	-0.25	0.00	CO 4
				Max V_y	1.80	-0.00	0.32	0.00	-0.25	0.00	CO 4
				Min V_y	7.04	-0.00	1.98	0.00	0.27	0.00	CO 8
				Max V_z	7.51	-0.00	2.13	0.00	0.51	0.00	CO 7
				Min V_z	1.80	-0.00	0.32	0.00	-0.25	0.00	CO 4
				Max M_T	7.32	-0.00	2.07	0.00	0.51	0.00	CO 2
				Min M_T	2.98	-0.00	0.66	0.00	0.16	0.00	CO 1
				Max M_y	7.51	-0.00	2.13	0.00	0.51	0.00	CO 7

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	1.80	-0.00	0.32	0.00	-0.25	0.00	CO 4
				Max M_z	7.51	-0.00	2.13	0.00	0.51	0.00	CO 7
				Min M_z	1.80	-0.00	0.32	0.00	-0.25	0.00	CO 4
92	RC1	114	0.000	Max N	1.68	0.00	-7.63	0.00	1.47	0.00	CO 6
				Min N	-0.55	-0.00	-4.35	0.00	0.64	0.00	CO 4
				Max V_y	1.06	0.00	-22.44	0.00	4.36	0.00	CO 2
				Min V_y	0.10	-0.00	-22.30	0.00	4.22	-0.00	CO 3
				Max V_z	-0.55	-0.00	-4.35	0.00	0.64	0.00	CO 4
				Min V_z	1.06	0.00	-22.44	0.00	4.36	0.00	CO 2
				Max M_T	1.24	-0.00	-5.34	0.00	1.01	-0.00	CO 1
				Min M_T	1.24	-0.00	-5.34	0.00	1.01	-0.00	CO 1
				Max M_y	1.06	0.00	-22.44	0.00	4.36	0.00	CO 2
				Min M_y	-0.55	-0.00	-4.35	0.00	0.64	0.00	CO 4
				Max M_z	1.06	0.00	-22.44	0.00	4.36	0.00	CO 2
				Min M_z	0.10	-0.00	-22.30	0.00	4.22	-0.00	CO 3
		96	0.389	Max N	2.49	-0.00	-18.57	0.00	-3.63	0.00	CO 7
				Min N	-0.39	-0.00	-4.27	0.00	-1.04	0.00	CO 4
				Max V_y	1.93	0.00	-20.75	0.00	-4.05	0.00	CO 2
				Min V_y	0.97	-0.00	-20.74	0.00	-4.16	0.00	CO 3
				Max V_z	-0.39	-0.00	-4.27	0.00	-1.04	0.00	CO 4
				Min V_z	1.93	0.00	-20.75	0.00	-4.05	0.00	CO 2
				Max M_T	1.42	-0.00	-4.99	0.00	-1.00	0.00	CO 1
				Min M_T	1.42	-0.00	-4.99	0.00	-1.00	0.00	CO 1
				Max M_y	1.42	-0.00	-4.99	0.00	-1.00	0.00	CO 1
				Min M_y	0.97	-0.00	-20.74	0.00	-4.16	0.00	CO 3
				Max M_z	0.97	-0.00	-20.74	0.00	-4.16	0.00	CO 3
				Min M_z	1.93	0.00	-20.75	0.00	-4.05	0.00	CO 2
93	RC1	116	0.000	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
		105	0.016	Max N	0.00	0.00	0.01	0.00	0.00	0.00	CO 4
				Min N	-0.00	0.00	0.01	0.00	0.00	0.00	CO 7
				Max V_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min V_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Max V_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min V_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 2
				Max M_T	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_T	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Max M_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_y	-0.00	0.00	0.01	0.00	0.00	0.00	CO 2
				Max M_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
				Min M_z	-0.00	0.00	0.01	0.00	0.00	0.00	CO 1
94	RC1	61	0.000	Max N	13.67	0.00	10.16	0.00	-0.06	-0.00	CO 8
				Min N	5.29	0.00	3.62	0.00	0.15	-0.00	CO 1
				Max V_y	12.94	0.00	9.72	0.00	0.58	0.00	CO 7
				Min V_y	5.70	0.00	3.81	0.00	-0.91	-0.00	CO 4
				Max V_z	13.67	0.00	10.16	0.00	-0.06	-0.00	CO 8
				Min V_z	5.29	0.00	3.62	0.00	0.15	-0.00	CO 1
				Max M_T	13.67	0.00	10.16	0.00	-0.06	-0.00	CO 8
				Min M_T	5.70	0.00	3.81	0.00	-0.91	-0.00	CO 4
				Max M_y	12.54	0.00	9.38	0.00	0.58	0.00	CO 2
				Min M_y	5.70	0.00	3.81	0.00	-0.91	-0.00	CO 4
				Max M_z	12.94	0.00	9.72	0.00	0.58	0.00	CO 7
				Min M_z	5.70	0.00	3.81	0.00	-0.91	-0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		63	0.988	Max N	15.60	0.00	12.86	0.00	11.29	-0.00	CO 8
				Min N	5.87	0.00	4.39	0.00	4.10	-0.00	CO 1
				Max V_y	15.60	0.00	12.86	0.00	11.29	-0.00	CO 8
				Min V_y	6.20	0.00	4.46	0.00	3.17	-0.00	CO 4
				Max V_z	15.60	0.00	12.86	0.00	11.29	-0.00	CO 8
				Min V_z	5.87	0.00	4.39	0.00	4.10	-0.00	CO 1
				Max M_T	15.60	0.00	12.86	0.00	11.29	-0.00	CO 8
				Min M_T	6.20	0.00	4.46	0.00	3.17	-0.00	CO 4
				Max M_y	14.87	0.00	12.42	0.00	11.49	-0.00	CO 7
				Min M_y	6.20	0.00	4.46	0.00	3.17	-0.00	CO 4
				Max M_z	6.20	0.00	4.46	0.00	3.17	-0.00	CO 4
				Min M_z	15.60	0.00	12.86	0.00	11.29	-0.00	CO 8
95	RC1	63	0.000	Max N	-0.24	-0.00	-4.80	0.00	3.17	-0.00	CO 4
				Min N	-7.75	-0.00	-15.91	0.00	11.49	-0.00	CO 7
				Max V_y	-3.87	-0.00	-8.55	0.00	6.14	-0.00	CO 6
				Min V_y	-4.15	-0.00	-12.14	0.00	8.49	-0.00	CO 5
				Max V_z	-0.24	-0.00	-4.80	0.00	3.17	-0.00	CO 4
				Min V_z	-7.75	-0.00	-15.91	0.00	11.49	-0.00	CO 7
				Max M_T	-6.74	-0.00	-15.85	0.00	11.29	-0.00	CO 8
				Min M_T	-0.24	-0.00	-4.80	0.00	3.17	-0.00	CO 4
				Max M_y	-7.75	-0.00	-15.91	0.00	11.49	-0.00	CO 7
				Min M_y	-0.24	-0.00	-4.80	0.00	3.17	-0.00	CO 4
				Max M_z	-2.26	-0.00	-5.73	0.00	4.10	-0.00	CO 1
				Min M_z	-6.74	-0.00	-15.85	0.00	11.29	-0.00	CO 8
		55	1.098	Max N	0.31	-0.00	-4.08	0.00	-1.70	0.00	CO 4
				Min N	-5.48	-0.00	-13.03	0.00	-4.42	0.00	CO 7
				Max V_y	-1.60	-0.00	-4.89	0.00	-1.73	0.00	CO 1
				Min V_y	-4.29	-0.00	-12.54	0.00	-4.41	0.00	CO 3
				Max V_z	0.31	-0.00	-4.08	0.00	-1.70	0.00	CO 4
				Min V_z	-5.48	-0.00	-13.03	0.00	-4.42	0.00	CO 7
				Max M_T	-4.47	-0.00	-12.97	0.00	-4.56	0.00	CO 8
				Min M_T	0.31	-0.00	-4.08	0.00	-1.70	0.00	CO 4
				Max M_y	0.31	-0.00	-4.08	0.00	-1.70	0.00	CO 4
				Min M_y	-4.47	-0.00	-12.97	0.00	-4.56	0.00	CO 8
				Max M_z	-2.45	-0.00	-9.97	0.00	-3.66	0.00	CO 5
				Min M_z	-5.29	-0.00	-12.60	0.00	-4.27	0.00	CO 2
96	RC1	55	0.000	Max N	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Min N	-16.95	-0.00	-2.42	0.00	-4.42	-0.00	CO 7
				Max V_y	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Min V_y	-16.00	-0.00	-2.36	0.00	-4.56	-0.00	CO 8
				Max V_z	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Min V_z	-16.95	-0.00	-2.42	0.00	-4.42	-0.00	CO 7
				Max M_T	-16.00	-0.00	-2.36	0.00	-4.56	-0.00	CO 8
				Min M_T	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Max M_y	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Min M_y	-16.00	-0.00	-2.36	0.00	-4.56	-0.00	CO 8
				Max M_z	-2.95	-0.00	-0.33	0.00	-1.70	0.00	CO 4
				Min M_z	-16.95	-0.00	-2.42	0.00	-4.42	-0.00	CO 7
		70	4.050	Max N	-0.91	-0.00	2.32	0.00	2.34	0.00	CO 4
				Min N	-8.73	0.00	8.40	0.00	8.02	0.00	CO 7
				Max V_y	-7.79	0.00	8.45	0.00	8.12	0.00	CO 8
				Min V_y	-2.91	-0.00	2.61	0.00	2.55	0.00	CO 1
				Max V_z	-7.79	0.00	8.45	0.00	8.12	0.00	CO 8
				Min V_z	-0.91	-0.00	2.32	0.00	2.34	0.00	CO 4
				Max M_T	-7.79	0.00	8.45	0.00	8.12	0.00	CO 8
				Min M_T	-0.91	-0.00	2.32	0.00	2.34	0.00	CO 4
				Max M_y	-7.79	0.00	8.45	0.00	8.12	0.00	CO 8
				Min M_y	-0.91	-0.00	2.32	0.00	2.34	0.00	CO 4
				Max M_z	-7.79	0.00	8.45	0.00	8.12	0.00	CO 8
				Min M_z	-2.91	-0.00	2.61	0.00	2.55	0.00	CO 1
97	RC1	96	0.000	Max N	5.49	0.00	-0.41	0.00	-0.26	0.00	CO 7
				Min N	-0.00	0.00	0.23	0.00	0.06	0.00	CO 4
				Max V_y	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1
				Max V_z	-0.00	0.00	0.23	0.00	0.06	0.00	CO 4
				Min V_z	4.96	0.00	-0.57	0.00	-0.10	0.00	CO 2
				Max M_T	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1
				Min M_T	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1
				Max M_y	1.90	0.00	-0.32	0.00	0.15	0.00	CO 5
				Min M_y	3.57	0.00	0.12	0.00	-0.34	0.00	CO 6
				Max M_z	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1
				Min M_z	2.60	0.00	0.22	0.00	-0.25	0.00	CO 1
		31	3.197	Max N	-0.71	-0.00	-6.33	0.00	-0.93	0.00	CO 1
				Min N	-5.18	0.00	-19.47	0.00	-1.50	0.00	CO 3
				Max V_y	-4.98	0.00	-20.69	0.00	-1.43	0.00	CO 2
				Min V_y	-1.18	-0.00	-9.31	0.00	-1.14	0.00	CO 6
				Max V_z	-0.90	-0.00	-3.36	0.00	-0.88	0.00	CO 4
				Min V_z	-4.98	0.00	-20.69	0.00	-1.43	0.00	CO 2
				Max M_T	-0.71	-0.00	-6.33	0.00	-0.93	0.00	CO 1
				Min M_T	-0.71	-0.00	-6.33	0.00	-0.93	0.00	CO 1
				Max M_y	-0.90	-0.00	-3.36	0.00	-0.88	0.00	CO 4
				Min M_y	-4.41	0.00	-18.80	0.00	-1.65	0.00	CO 8
				Max M_z	-0.71	-0.00	-6.33	0.00	-0.93	0.00	CO 1
				Min M_z	-4.98	0.00	-20.69	0.00	-1.43	0.00	CO 2
98	RC1	30	0.000	Max N	5.36	-0.00	0.40	0.00	-0.20	-0.00	CO 7
				Min N	0.35	-0.00	-0.38	0.00	0.91	-0.00	CO 4
				Max V_y	0.35	-0.00	-0.38	0.00	0.91	-0.00	CO 4
				Min V_y	4.29	-0.00	0.04	0.00	0.40	-0.00	CO 8
				Max V_z	5.36	-0.00	0.40	0.00	-0.20	-0.00	CO 7
				Min V_z	0.35	-0.00	-0.38	0.00	0.91	-0.00	CO 4
				Max M_T	4.29	-0.00	0.04	0.00	0.40	-0.00	CO 8
				Min M_T	2.49	-0.00	0.25	0.00	-0.09	-0.00	CO 1
				Max M_y	0.35	-0.00	-0.38	0.00	0.91	-0.00	CO 4
				Min M_y	5.18	-0.00	0.39	0.00	-0.20	-0.00	CO 2
				Max M_z	0.35	-0.00	-0.38	0.00	0.91	-0.00	CO 4
				Min M_z	4.29	-0.00	0.04	0.00	0.40	-0.00	CO 8
		71	1.081	Max N	3.14	-0.00	3.12	0.00	1.70	-0.00	CO 7
				Min N	-0.22	-0.00	-0.68	0.00	0.34	-0.00	CO 4
				Max V_y	-0.22	-0.00	-0.68	0.00	0.34	-0.00	CO 4
				Min V_y	2.07	-0.00	2.16	0.00	1.59	-0.00	CO 8
				Max V_z	3.14	-0.00	3.12	0.00	1.70	-0.00	CO 7
				Min V_z	-0.22	-0.00	-0.68	0.00	0.34	-0.00	CO 4
				Max M_T	2.07	-0.00	2.16	0.00	1.59	-0.00	CO 8
				Min M_T	1.82	-0.00	1.07	0.00	0.62	-0.00	CO 1
				Max M_y	3.14	-0.00	3.12	0.00	1.70	-0.00	CO 7
				Min M_y	-0.22	-0.00	-0.68	0.00	0.34	-0.00	CO 4
				Max M_z	1.82	-0.00	1.07	0.00	0.62	-0.00	CO 1
				Min M_z	2.07	-0.00	2.16	0.00	1.59	-0.00	CO 8
99	RC1	65	0.000	Max N	8.40	-0.00	-1.93	-0.00	0.96	-0.00	CO 8
				Min N	3.29	-0.00	-0.47	-0.00	0.63	-0.00	CO 4
				Max V_y	8.19	0.00	-1.96	0.00	0.69	-0.00	CO 7
				Min V_y	3.29	-0.00	-0.47	-0.00	0.63	-0.00	CO 4
				Max V_z	3.29	-0.00	-0.47	-0.00	0.63	-0.00	CO 4
				Min V_z	8.19	0.00	-1.96	0.00	0.69	-0.00	CO 7
				Max M_T	8.19	0.00	-1.96	0.00	0.69	-0.00	CO 7
				Min M_T	3.29	-0.00	-0.47	-0.00	0.63	-0.00	CO 4
				Max M_y	8.40	-0.00	-1.93	-0.00	0.96	-0.00	CO 8
				Min M_y	3.49	0.00	-0.63	0.00	0.23	-0.00	CO 1
				Max M_z	3.49	0.00	-0.63	0.00	0.23	-0.00	CO 1
				Min M_z	8.40	-0.00	-1.93	-0.00	0.96	-0.00	CO 8
		30	1.087	Max N	6.17	-0.00	0.20	-0.00	0.03	-0.00	CO 8
				Min N	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4
				Max V_y	5.96	0.00	0.77	0.00	0.05	-0.00	CO 7
				Min V_y	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4
				Max V_z	5.96	0.00	0.77	0.00	0.05	-0.00	CO 7
				Min V_z	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	5.96	0.00	0.77	0.00	0.05	-0.00	CO 7
				Min M_T	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4
				Max M_y	5.96	0.00	0.77	0.00	0.05	-0.00	CO 7
				Min M_y	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4
				Max M_z	2.72	-0.00	-0.77	-0.00	-0.05	0.00	CO 4
				Min M_z	5.96	0.00	0.77	0.00	0.05	-0.00	CO 7
100	RC1	117	0.000	Max N	-0.00	-0.03	0.00	0.00	0.00	-0.00	CO 2
				Min N	-0.00	-0.03	0.00	0.00	0.00	-0.00	CO 5
				Max V_y	-0.00	-0.03	0.00	0.00	0.00	-0.00	CO 5
				Min V_y	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Max V_z	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Min V_z	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Max M_T	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Min M_T	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Max M_y	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Min M_y	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
				Max M_z	-0.00	-0.03	0.00	0.00	0.00	-0.00	CO 2
				Min M_z	-0.00	-0.04	0.00	0.00	0.00	-0.00	CO 1
		40	0.046	Max N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min N	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min V_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_T	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_y	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Max M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
				Min M_z	0.00	0.00	0.00	0.00	0.00	0.00	CO 1
101	RC1	31	0.000	Max N	-5.12	0.00	0.02	0.00	-0.88	0.00	CO 4
				Min N	-29.98	0.00	-7.36	0.00	-1.43	0.00	CO 2
				Max V_y	-29.98	0.00	-7.36	0.00	-1.43	0.00	CO 2
				Min V_y	-12.80	-0.00	-2.30	0.00	-1.14	0.00	CO 6
				Max V_z	-5.12	0.00	0.02	0.00	-0.88	0.00	CO 4
				Min V_z	-29.98	0.00	-7.36	0.00	-1.43	0.00	CO 2
				Max M_T	-7.97	-0.00	-1.23	0.00	-0.93	0.00	CO 1
				Min M_T	-7.97	-0.00	-1.23	0.00	-0.93	0.00	CO 1
				Max M_y	-5.12	0.00	0.02	0.00	-0.88	0.00	CO 4
				Min M_y	-28.04	0.00	-6.08	0.00	-1.65	0.00	CO 8
				Max M_z	-7.97	-0.00	-1.23	0.00	-0.93	0.00	CO 1
				Min M_z	-29.98	0.00	-7.36	0.00	-1.43	0.00	CO 2
		138	3.351	Max N	-3.80	0.00	0.72	0.00	0.37	0.00	CO 4
				Min N	-22.60	0.00	7.79	0.00	-0.55	0.00	CO 2
				Max V_y	-22.60	0.00	7.79	0.00	-0.55	0.00	CO 2
				Min V_y	-6.41	0.00	1.86	0.00	0.15	0.00	CO 1
				Max V_z	-22.60	0.00	7.79	0.00	-0.55	0.00	CO 2
				Min V_z	-3.80	0.00	0.72	0.00	0.37	0.00	CO 4
				Max M_T	-6.41	0.00	1.86	0.00	0.15	0.00	CO 1
				Min M_T	-6.41	0.00	1.86	0.00	0.15	0.00	CO 1
				Max M_y	-3.80	0.00	0.72	0.00	0.37	0.00	CO 4
				Min M_y	-22.60	0.00	7.79	0.00	-0.55	0.00	CO 2
				Max M_z	-6.41	0.00	1.86	0.00	0.15	0.00	CO 1
				Min M_z	-6.41	0.00	1.86	0.00	0.15	0.00	CO 1
102	RC1	101	0.000	Max N	-1.64	0.00	4.79	0.00	-0.22	0.00	CO 4
				Min N	-8.57	0.00	16.45	0.00	-3.96	0.00	CO 7
				Max V_y	-7.97	0.00	15.40	0.00	-3.98	0.00	CO 3
				Min V_y	-2.92	0.00	6.32	0.00	-0.98	0.00	CO 1
				Max V_z	-8.57	0.00	16.45	0.00	-3.96	0.00	CO 7
				Min V_z	-1.64	0.00	4.79	0.00	-0.22	0.00	CO 4
				Max M_T	-2.92	0.00	6.32	0.00	-0.98	0.00	CO 1
				Min M_T	-2.92	0.00	6.32	0.00	-0.98	0.00	CO 1
				Max M_y	-1.64	0.00	4.79	0.00	-0.22	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-8.48	0.00	15.75	0.00	-4.37	0.00	CO 2
				Max M_z	-7.97	0.00	15.40	0.00	-3.98	0.00	CO 3
				Min M_z	-2.92	0.00	6.32	0.00	-0.98	0.00	CO 1
		106	0.159	Max N	-1.74	0.00	4.89	0.00	0.55	0.00	CO 4
				Min N	-8.89	0.00	16.80	0.00	-1.31	0.00	CO 7
				Max V_y	-8.89	0.00	16.80	0.00	-1.31	0.00	CO 7
				Min V_y	-3.03	0.00	6.44	0.00	0.04	0.00	CO 1
				Max V_z	-8.89	0.00	16.80	0.00	-1.31	0.00	CO 7
				Min V_z	-1.74	0.00	4.89	0.00	0.55	0.00	CO 4
				Max M_T	-3.03	0.00	6.44	0.00	0.04	0.00	CO 1
				Min M_T	-3.03	0.00	6.44	0.00	0.04	0.00	CO 1
				Max M_y	-1.74	0.00	4.89	0.00	0.55	0.00	CO 4
				Min M_y	-8.76	0.00	16.06	0.00	-1.83	0.00	CO 2
				Max M_z	-8.76	0.00	16.06	0.00	-1.83	0.00	CO 2
				Min M_z	-3.03	0.00	6.44	0.00	0.04	0.00	CO 1
103	RC1	31	0.000	Max N	28.32	0.00	-1.00	0.00	0.00	0.00	CO 2
				Min N	5.30	-0.00	-1.11	0.00	0.00	0.00	CO 4
				Max V_y	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Min V_y	27.00	-0.00	-1.01	0.00	0.00	0.00	CO 3
				Max V_z	28.32	0.00	-1.00	0.00	0.00	0.00	CO 2
				Min V_z	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Max M_T	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Min M_T	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Max M_y	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Min M_y	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Max M_z	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
				Min M_z	8.77	0.00	-1.28	0.00	0.00	0.00	CO 1
		101	7.190	Max N	28.34	0.00	1.00	0.00	0.00	0.00	CO 2
				Min N	5.32	0.00	1.11	0.00	0.00	0.00	CO 4
				Max V_y	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Min V_y	28.34	0.00	1.00	0.00	0.00	0.00	CO 2
				Max V_z	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Min V_z	28.34	0.00	1.00	0.00	0.00	0.00	CO 2
				Max M_T	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Min M_T	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Max M_y	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Min M_y	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Max M_z	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
				Min M_z	8.79	0.00	1.28	0.00	0.00	0.00	CO 1
104	RC1	106	0.000	Max N	7.34	0.00	-0.29	0.00	-0.99	0.00	CO 8
				Min N	3.33	0.00	-0.29	0.00	0.04	0.00	CO 1
				Max V_y	3.33	0.00	-0.29	0.00	0.04	0.00	CO 1
				Min V_y	3.65	-0.00	-0.90	0.00	0.55	0.00	CO 4
				Max V_z	5.82	0.00	0.55	0.00	-1.83	0.00	CO 2
				Min V_z	3.65	-0.00	-0.90	0.00	0.55	0.00	CO 4
				Max M_T	3.33	0.00	-0.29	0.00	0.04	0.00	CO 1
				Min M_T	3.33	0.00	-0.29	0.00	0.04	0.00	CO 1
				Max M_y	3.65	-0.00	-0.90	0.00	0.55	0.00	CO 4
				Min M_y	5.82	0.00	0.55	0.00	-1.83	0.00	CO 2
				Max M_z	5.82	0.00	0.55	0.00	-1.83	0.00	CO 2
				Min M_z	3.33	0.00	-0.29	0.00	0.04	0.00	CO 1
		108	1.448	Max N	4.32	0.00	2.90	0.00	0.91	0.00	CO 8
				Min N	2.32	0.00	0.79	0.00	0.40	0.00	CO 1
				Max V_y	2.32	0.00	0.79	0.00	0.40	0.00	CO 1
				Min V_y	3.17	0.00	3.36	0.00	1.00	0.00	CO 2
				Max V_z	3.17	0.00	3.36	0.00	1.00	0.00	CO 2
				Min V_z	2.78	0.00	0.02	0.00	-0.09	0.00	CO 4
				Max M_T	2.32	0.00	0.79	0.00	0.40	0.00	CO 1
				Min M_T	2.32	0.00	0.79	0.00	0.40	0.00	CO 1
				Max M_y	3.83	0.00	3.31	0.00	1.17	0.00	CO 7
				Min M_y	2.78	0.00	0.02	0.00	-0.09	0.00	CO 4
				Max M_z	2.32	0.00	0.79	0.00	0.40	0.00	CO 1
				Min M_z	2.32	0.00	0.79	0.00	0.40	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
105	RC1	108	0.000	Max N	8.70	0.00	-2.78	0.00	1.19	0.00	CO 7
				Min N	2.81	0.00	-0.73	0.00	0.19	0.00	CO 4
				Max V_y	7.78	0.00	-2.47	0.00	1.05	0.00	CO 2
				Min V_y	3.60	-0.00	-0.99	0.00	0.43	0.00	CO 1
				Max V_z	2.81	0.00	-0.73	0.00	0.19	0.00	CO 4
				Min V_z	8.70	0.00	-2.78	0.00	1.19	0.00	CO 7
				Max M_T	3.60	-0.00	-0.99	0.00	0.43	0.00	CO 1
				Min M_T	3.60	-0.00	-0.99	0.00	0.43	0.00	CO 1
				Max M_y	8.70	0.00	-2.78	0.00	1.19	0.00	CO 7
				Min M_y	2.81	0.00	-0.73	0.00	0.19	0.00	CO 4
				Max M_z	3.60	-0.00	-0.99	0.00	0.43	0.00	CO 1
				Min M_z	3.60	-0.00	-0.99	0.00	0.43	0.00	CO 1
		32	1.815	Max N	4.92	0.00	1.22	0.00	-0.23	0.00	CO 7
				Min N	1.72	0.00	0.42	0.00	-0.09	0.00	CO 4
				Max V_y	4.30	0.00	1.12	0.00	-0.22	0.00	CO 3
				Min V_y	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
				Max V_z	4.76	0.00	1.29	0.00	-0.21	0.00	CO 8
				Min V_z	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
				Max M_T	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
				Min M_T	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
				Max M_y	1.72	0.00	0.42	0.00	-0.09	0.00	CO 4
				Min M_y	4.46	0.00	1.05	0.00	-0.23	0.00	CO 2
				Max M_z	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
				Min M_z	2.32	0.00	0.36	0.00	-0.14	0.00	CO 1
106	RC1	32	0.000	Max N	0.80	0.00	0.06	0.00	-1.13	0.00	CO 3
				Min N	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Max V_y	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Min V_y	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Max V_z	0.78	0.00	0.15	0.00	-0.98	0.00	CO 5
				Min V_z	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Max M_T	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Min M_T	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Max M_y	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
				Min M_y	0.79	0.00	0.09	0.00	-1.21	0.00	CO 8
				Max M_z	0.80	0.00	0.06	0.00	-1.13	0.00	CO 3
				Min M_z	0.29	0.00	-0.27	0.00	-0.41	0.00	CO 1
		124	0.701	Max N	0.80	0.00	0.36	0.00	-0.98	0.00	CO 3
				Min N	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Max V_y	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Min V_y	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Max V_z	0.78	0.00	0.45	0.00	-0.77	0.00	CO 5
				Min V_z	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Max M_T	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Min M_T	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
				Max M_y	0.50	0.00	0.36	0.00	-0.35	0.00	CO 4
				Min M_y	0.64	0.00	0.21	0.00	-1.08	0.00	CO 7
				Max M_z	0.78	0.00	0.45	0.00	-0.77	0.00	CO 5
				Min M_z	0.29	0.00	0.08	0.00	-0.48	0.00	CO 1
107	RC1	32	0.000	Max N	5.40	0.00	1.76	0.00	-1.42	0.00	CO 8
				Min N	2.13	0.00	0.71	0.00	-0.59	0.00	CO 4
				Max V_y	4.92	0.00	1.62	0.00	-1.35	0.00	CO 3
				Min V_y	2.35	0.00	0.75	0.00	-0.55	0.00	CO 1
				Max V_z	5.40	0.00	1.76	0.00	-1.42	0.00	CO 8
				Min V_z	2.13	0.00	0.71	0.00	-0.59	0.00	CO 4
				Max M_T	2.35	0.00	0.75	0.00	-0.55	0.00	CO 1
				Min M_T	2.35	0.00	0.75	0.00	-0.55	0.00	CO 1
				Max M_y	2.35	0.00	0.75	0.00	-0.55	0.00	CO 1
				Min M_y	5.40	0.00	1.76	0.00	-1.42	0.00	CO 8
				Max M_z	4.92	0.00	1.62	0.00	-1.35	0.00	CO 3
				Min M_z	2.35	0.00	0.75	0.00	-0.55	0.00	CO 1
		95	0.889	Max N	3.55	0.00	3.72	0.00	1.02	0.00	CO 8
				Min N	1.59	0.00	1.28	0.00	0.30	0.00	CO 4
				Max V_y	3.22	0.00	3.31	0.00	0.89	-0.00	CO 2

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	1.73	0.00	1.41	0.00	0.41	0.00	CO 1
				Max V_z	3.55	0.00	3.72	0.00	1.02	0.00	CO 8
				Min V_z	1.59	0.00	1.28	0.00	0.30	0.00	CO 4
				Max M_T	1.73	0.00	1.41	0.00	0.41	0.00	CO 1
				Min M_T	1.73	0.00	1.41	0.00	0.41	0.00	CO 1
				Max M_y	3.48	0.00	3.68	0.00	1.05	0.00	CO 7
				Min M_y	1.59	0.00	1.28	0.00	0.30	0.00	CO 4
				Max M_z	1.73	0.00	1.41	0.00	0.41	0.00	CO 1
				Min M_z	3.22	0.00	3.31	0.00	0.89	-0.00	CO 2
108	RC1	119	0.000	Max N	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min N	-2.49	-0.00	-1.27	0.00	0.25	0.00	CO 5
				Max V_y	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min V_y	-1.94	-0.00	-1.20	0.00	0.24	0.00	CO 4
				Max V_z	-0.62	0.00	0.11	0.00	-0.04	0.00	CO 6
				Min V_z	-2.49	-0.00	-1.27	0.00	0.25	0.00	CO 5
				Max M_T	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min M_T	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
				Max M_y	-2.49	-0.00	-1.27	0.00	0.25	0.00	CO 5
				Min M_y	-0.62	0.00	0.11	0.00	-0.04	0.00	CO 6
				Max M_z	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
				Min M_z	-0.45	0.00	0.10	0.00	-0.03	0.00	CO 1
		99	0.323	Max N	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min N	-2.49	0.00	-1.17	0.00	-0.14	0.00	CO 5
				Max V_y	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min V_y	-2.10	-0.00	-0.68	0.00	-0.09	0.00	CO 3
				Max V_z	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min V_z	-2.49	0.00	-1.17	0.00	-0.14	0.00	CO 5
				Max M_T	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min M_T	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Max M_y	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min M_y	-2.49	0.00	-1.17	0.00	-0.14	0.00	CO 5
				Max M_z	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
				Min M_z	-0.45	0.00	0.22	0.00	0.02	0.00	CO 1
121	RC1	62	0.000	Max N	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Min N	-3.22	-2.13	0.00	0.00	0.00	-1.02	CO 8
				Max V_y	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Min V_y	-3.22	-2.13	0.00	0.00	0.00	-1.02	CO 8
				Max V_z	-1.39	-1.13	0.00	0.00	0.00	-0.48	CO 4
				Min V_z	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Max M_T	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Min M_T	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Max M_y	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Min M_y	-2.82	-1.91	0.00	0.00	-0.00	-0.90	CO 7
				Max M_z	-0.85	-0.90	0.00	0.00	0.00	-0.33	CO 1
				Min M_z	-3.22	-2.13	0.00	0.00	0.00	-1.02	CO 8
		117	0.748	Max N	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Min N	-3.22	-1.58	0.00	0.00	0.00	0.37	CO 8
				Max V_y	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Min V_y	-3.22	-1.58	0.00	0.00	0.00	0.37	CO 8
				Max V_z	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Min V_z	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Max M_T	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Min M_T	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Max M_y	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Min M_y	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
				Max M_z	-3.22	-1.58	0.00	0.00	0.00	0.37	CO 8
				Min M_z	-0.85	-0.26	0.00	0.00	0.00	0.10	CO 1
123	RC1	121	0.000	Max N	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
				Min N	-6.49	0.00	1.22	0.00	-0.27	0.00	CO 8
				Max V_y	-6.24	0.00	1.24	0.00	-0.27	0.00	CO 7
				Min V_y	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
				Max V_z	-6.24	0.00	1.24	0.00	-0.27	0.00	CO 7
				Min V_z	-2.22	0.00	0.41	0.00	-0.11	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
				Min M_T	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
				Max M_y	-2.22	0.00	0.41	0.00	-0.11	0.00	CO 4
				Min M_y	-6.24	0.00	1.24	0.00	-0.27	0.00	CO 7
				Max M_z	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
				Min M_z	-2.13	0.00	0.53	0.00	-0.15	0.00	CO 1
		87	0.517	Max N	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
				Min N	-6.49	0.00	1.43	0.00	0.42	0.00	CO 8
				Max V_y	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
				Min V_y	-5.87	0.00	1.31	0.00	0.38	0.00	CO 3
				Max V_z	-6.24	0.00	1.46	0.00	0.43	0.00	CO 7
				Min V_z	-2.22	0.00	0.63	0.00	0.16	0.00	CO 4
				Max M_T	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
				Min M_T	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
				Max M_y	-6.24	0.00	1.46	0.00	0.43	0.00	CO 7
				Min M_y	-2.22	0.00	0.63	0.00	0.16	0.00	CO 4
				Max M_z	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
				Min M_z	-2.13	0.00	0.79	0.00	0.20	0.00	CO 1
126	RC1	122	0.000	Max N	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Min N	-3.21	0.00	-0.08	0.00	0.07	0.00	CO 5
				Max V_y	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Min V_y	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Max V_z	-2.27	0.00	-0.07	0.00	0.04	0.00	CO 4
				Min V_z	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Max M_T	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Min M_T	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Max M_y	-1.57	0.00	-0.40	0.00	0.14	0.00	CO 7
				Min M_y	-2.27	0.00	-0.07	0.00	0.04	0.00	CO 4
				Max M_z	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
				Min M_z	-0.11	0.00	-0.46	0.00	0.11	0.00	CO 1
		123	0.865	Max N	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Min N	-3.21	0.00	0.40	0.00	0.21	0.00	CO 5
				Max V_y	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Min V_y	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Max V_z	-2.27	0.00	0.41	0.00	0.19	0.00	CO 4
				Min V_z	-1.44	0.00	0.08	0.00	-0.01	0.00	CO 2
				Max M_T	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Min M_T	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Max M_y	-3.21	0.00	0.40	0.00	0.21	0.00	CO 5
				Min M_y	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Max M_z	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
				Min M_z	-0.11	0.00	0.10	0.00	-0.04	0.00	CO 1
128	RC1	123	0.000	Max N	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Min N	-1.69	0.00	-0.50	0.00	0.04	0.00	CO 8
				Max V_y	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Min V_y	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Max V_z	-0.74	0.00	0.00	0.00	0.29	0.00	CO 4
				Min V_z	-1.49	0.00	-0.55	0.00	-0.25	0.00	CO 7
				Max M_T	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Min M_T	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Max M_y	-0.74	0.00	0.00	0.00	0.29	0.00	CO 4
				Min M_y	-1.46	0.00	-0.51	0.00	-0.26	0.00	CO 2
				Max M_z	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
				Min M_z	-0.48	0.00	-0.10	0.00	-0.22	0.00	CO 1
		11	0.651	Max N	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Min N	-1.69	0.00	-0.14	0.00	-0.16	0.00	CO 8
				Max V_y	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Min V_y	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Max V_z	-0.74	0.00	0.36	0.00	0.41	0.00	CO 4
				Min V_z	-1.49	0.00	-0.19	0.00	-0.48	0.00	CO 7
				Max M_T	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Min M_T	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Max M_y	-0.74	0.00	0.36	0.00	0.41	0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-1.49	0.00	-0.19	0.00	-0.48	0.00	CO 7
				Max M_z	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
				Min M_z	-0.49	0.00	0.33	0.00	-0.14	0.00	CO 1
129	RC1	109	0.000	Max N	3.71	0.00	-20.69	0.00	0.37	0.00	CO 2
				Min N	0.61	0.00	-3.47	0.00	0.06	0.00	CO 4
				Max V_y	3.71	0.00	-20.69	0.00	0.37	0.00	CO 2
				Min V_y	3.59	-0.00	-20.04	0.00	0.36	0.00	CO 3
				Max V_z	0.61	0.00	-3.47	0.00	0.06	0.00	CO 4
				Min V_z	3.71	0.00	-20.69	0.00	0.37	0.00	CO 2
				Max M_T	0.93	-0.00	-5.31	0.00	0.09	0.00	CO 1
				Min M_T	0.93	-0.00	-5.31	0.00	0.09	0.00	CO 1
				Max M_y	3.71	0.00	-20.69	0.00	0.37	0.00	CO 2
				Min M_y	0.61	0.00	-3.47	0.00	0.06	0.00	CO 4
				Max M_z	0.93	-0.00	-5.31	0.00	0.09	0.00	CO 1
				Min M_z	0.93	-0.00	-5.31	0.00	0.09	0.00	CO 1
		128	0.051	Max N	3.71	0.00	-20.66	0.00	-0.68	0.00	CO 2
				Min N	0.61	-0.00	-3.44	0.00	-0.11	0.00	CO 4
				Max V_y	3.71	0.00	-20.66	0.00	-0.68	0.00	CO 2
				Min V_y	3.36	-0.00	-18.76	0.00	-0.61	0.00	CO 7
				Max V_z	0.61	-0.00	-3.44	0.00	-0.11	0.00	CO 4
				Min V_z	3.71	0.00	-20.66	0.00	-0.68	0.00	CO 2
				Max M_T	0.93	-0.00	-5.28	0.00	-0.17	0.00	CO 1
				Min M_T	0.93	-0.00	-5.28	0.00	-0.17	0.00	CO 1
				Max M_y	0.61	-0.00	-3.44	0.00	-0.11	0.00	CO 4
				Min M_y	3.71	0.00	-20.66	0.00	-0.68	0.00	CO 2
				Max M_z	0.93	-0.00	-5.28	0.00	-0.17	0.00	CO 1
				Min M_z	0.93	-0.00	-5.28	0.00	-0.17	0.00	CO 1
130	RC1	5	0.000	Max N	-1.17	0.00	1.27	0.00	-0.18	0.00	CO 4
				Min N	-4.64	0.00	7.88	0.00	-0.85	0.00	CO 7
				Max V_y	-4.37	0.00	7.24	0.00	-0.80	0.00	CO 8
				Min V_y	-4.43	0.00	7.53	0.00	-0.81	0.00	CO 2
				Max V_z	-4.64	0.00	7.88	0.00	-0.85	0.00	CO 7
				Min V_z	-1.17	0.00	1.27	0.00	-0.18	0.00	CO 4
				Max M_T	-1.89	0.00	2.70	0.00	-0.30	0.00	CO 1
				Min M_T	-1.89	0.00	2.70	0.00	-0.30	0.00	CO 1
				Max M_y	-1.17	0.00	1.27	0.00	-0.18	0.00	CO 4
				Min M_y	-4.64	0.00	7.88	0.00	-0.85	0.00	CO 7
				Max M_z	-4.37	0.00	7.24	0.00	-0.80	0.00	CO 8
				Min M_z	-1.89	0.00	2.70	0.00	-0.30	0.00	CO 1
		111	0.179	Max N	-1.17	0.00	1.33	0.00	0.06	0.00	CO 4
				Min N	-4.64	0.00	7.93	0.00	0.56	0.00	CO 7
				Max V_y	-3.12	0.00	4.94	0.00	0.31	0.00	CO 5
				Min V_y	-4.43	0.00	7.58	0.00	0.54	0.00	CO 2
				Max V_z	-4.64	0.00	7.93	0.00	0.56	0.00	CO 7
				Min V_z	-1.17	0.00	1.33	0.00	0.06	0.00	CO 4
				Max M_T	-1.89	0.00	2.77	0.00	0.19	0.00	CO 1
				Min M_T	-1.89	0.00	2.77	0.00	0.19	0.00	CO 1
				Max M_y	-4.64	0.00	7.93	0.00	0.56	0.00	CO 7
				Min M_y	-1.17	0.00	1.33	0.00	0.06	0.00	CO 4
				Max M_z	-1.89	0.00	2.77	0.00	0.19	0.00	CO 1
				Min M_z	-1.89	0.00	2.77	0.00	0.19	0.00	CO 1
135	RC1	113	0.000	Max N	1.95	0.00	-0.10	0.00	-0.53	0.00	CO 2
				Min N	0.18	0.00	0.38	0.00	-0.07	0.00	CO 4
				Max V_y	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1
				Min V_y	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1
				Max V_z	1.15	0.00	0.44	0.00	-0.32	0.00	CO 5
				Min V_z	0.84	0.00	-0.31	0.00	-0.26	0.00	CO 6
				Max M_T	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1
				Min M_T	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1
				Max M_y	0.18	0.00	0.38	0.00	-0.07	0.00	CO 4
				Min M_y	1.95	0.00	-0.10	0.00	-0.53	0.00	CO 2
				Max M_z	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1
				Min M_z	0.62	0.00	-0.22	0.00	-0.21	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
		2	0.873	Max N	1.95	0.00	0.38	0.00	-0.40	0.00	CO 2
				Min N	0.18	0.00	0.87	0.00	0.47	0.00	CO 4
				Max V_y	0.18	0.00	0.87	0.00	0.47	0.00	CO 4
				Min V_y	0.62	0.00	0.34	0.00	-0.16	0.00	CO 1
				Max V_z	1.15	0.00	0.93	0.00	0.28	0.00	CO 5
				Min V_z	0.84	0.00	0.18	0.00	-0.32	0.00	CO 6
				Max M_T	0.62	0.00	0.34	0.00	-0.16	0.00	CO 1
				Min M_T	0.62	0.00	0.34	0.00	-0.16	0.00	CO 1
				Max M_y	0.18	0.00	0.87	0.00	0.47	0.00	CO 4
				Min M_y	1.84	0.00	0.24	0.00	-0.50	0.00	CO 7
				Max M_z	0.62	0.00	0.34	0.00	-0.16	0.00	CO 1
				Min M_z	0.62	0.00	0.34	0.00	-0.16	0.00	CO 1
136	RC1	79	0.000	Max N	-4.56	0.00	-0.58	0.00	-0.88	0.00	CO 1
				Min N	-14.80	0.00	-1.66	0.00	-2.05	0.00	CO 8
				Max V_y	-4.56	0.00	-0.58	0.00	-0.88	0.00	CO 1
				Min V_y	-12.85	-0.00	-1.45	0.00	-1.94	0.00	CO 2
				Max V_z	-5.42	0.00	-0.30	0.00	-0.77	0.00	CO 4
				Min V_z	-13.88	0.00	-1.78	0.00	-2.04	0.00	CO 7
				Max M_T	-4.56	0.00	-0.58	0.00	-0.88	0.00	CO 1
				Min M_T	-4.56	0.00	-0.58	0.00	-0.88	0.00	CO 1
				Max M_y	-5.42	0.00	-0.30	0.00	-0.77	0.00	CO 4
				Min M_y	-14.80	0.00	-1.66	0.00	-2.05	0.00	CO 8
				Max M_z	-4.56	0.00	-0.58	0.00	-0.88	0.00	CO 1
				Min M_z	-11.70	0.00	-0.97	0.00	-1.60	0.00	CO 5
		6	3.617	Max N	-2.21	0.00	1.94	0.00	1.61	-0.00	CO 1
				Min N	-8.04	0.00	5.61	0.00	5.21	0.00	CO 8
				Max V_y	-6.88	0.00	4.98	0.00	4.54	-0.00	CO 2
				Min V_y	-7.81	0.00	5.08	0.00	4.93	0.00	CO 3
				Max V_z	-8.04	0.00	5.61	0.00	5.21	0.00	CO 8
				Min V_z	-3.42	0.00	1.84	0.00	2.02	-0.00	CO 4
				Max M_T	-2.21	0.00	1.94	0.00	1.61	-0.00	CO 1
				Min M_T	-2.21	0.00	1.94	0.00	1.61	-0.00	CO 1
				Max M_y	-8.04	0.00	5.61	0.00	5.21	0.00	CO 8
				Min M_y	-2.21	0.00	1.94	0.00	1.61	-0.00	CO 1
				Max M_z	-7.81	0.00	5.08	0.00	4.93	0.00	CO 3
				Min M_z	-7.12	0.00	5.50	0.00	4.82	-0.00	CO 7
138	RC1	92	0.000	Max N	-2.38	-0.00	-4.75	0.00	3.74	-0.00	CO 4
			Left	Min N	-9.92	-0.00	-12.37	0.00	8.72	-0.00	CO 7
				Max V_y	-9.51	0.00	-12.54	0.00	9.17	0.00	CO 3
				Min V_y	-9.68	-0.00	-11.97	0.00	8.48	-0.00	CO 2
				Max V_z	-3.12	-0.00	-4.46	0.00	3.07	-0.00	CO 1
				Min V_z	-9.74	0.00	-12.95	0.00	9.40	0.00	CO 8
				Max M_T	-3.12	-0.00	-4.46	0.00	3.07	-0.00	CO 1
				Min M_T	-3.12	-0.00	-4.46	0.00	3.07	-0.00	CO 1
				Max M_y	-9.74	0.00	-12.95	0.00	9.40	0.00	CO 8
				Min M_y	-3.12	-0.00	-4.46	0.00	3.07	-0.00	CO 1
				Max M_z	-9.51	0.00	-12.54	0.00	9.17	0.00	CO 3
				Min M_z	-9.68	-0.00	-11.97	0.00	8.48	-0.00	CO 2
		78	0.975	Max N	-1.85	-0.00	-4.84	0.00	-0.94	0.00	CO 4
				Min N	-7.72	0.00	-9.94	0.00	-2.18	0.00	CO 7
				Max V_y	-7.51	0.00	-9.57	0.00	-2.03	0.00	CO 2
				Min V_y	-7.33	-0.00	-10.55	0.00	-2.11	0.00	CO 3
				Max V_z	-2.50	-0.00	-3.77	0.00	-0.95	0.00	CO 1
				Min V_z	-7.53	-0.00	-10.93	0.00	-2.25	0.00	CO 8
				Max M_T	-2.50	-0.00	-3.77	0.00	-0.95	0.00	CO 1
				Min M_T	-2.50	-0.00	-3.77	0.00	-0.95	0.00	CO 1
				Max M_y	-1.85	-0.00	-4.84	0.00	-0.94	0.00	CO 4
				Min M_y	-7.53	-0.00	-10.93	0.00	-2.25	0.00	CO 8
				Max M_z	-7.33	-0.00	-10.55	0.00	-2.11	0.00	CO 3
				Min M_z	-7.51	0.00	-9.57	0.00	-2.03	0.00	CO 2
139	RC1	128	0.000	Max N	3.85	0.00	-0.32	0.00	-0.06	0.00	CO 2
				Min N	0.73	0.00	-0.01	0.00	-0.04	0.00	CO 4
				Max V_y	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
				Max V_z	2.75	0.00	0.03	0.00	-0.11	0.00	CO 5
				Min V_z	1.46	0.00	-0.45	0.00	0.04	0.00	CO 6
				Max M_T	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
				Min M_T	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
				Max M_y	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
				Min M_y	2.75	0.00	0.03	0.00	-0.11	0.00	CO 5
				Max M_z	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
				Min M_z	1.11	0.00	-0.44	0.00	0.05	0.00	CO 1
		113	0.451	Max N	3.85	0.00	-0.07	0.00	-0.15	0.00	CO 2
				Min N	0.73	0.00	0.24	0.00	0.01	0.00	CO 4
				Max V_y	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
				Min V_y	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
				Max V_z	2.75	0.00	0.28	0.00	-0.04	0.00	CO 5
				Min V_z	1.46	0.00	-0.20	0.00	-0.10	0.00	CO 6
				Max M_T	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
				Min M_T	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
				Max M_y	0.73	0.00	0.24	0.00	0.01	0.00	CO 4
				Min M_y	3.50	0.00	-0.16	0.00	-0.15	0.00	CO 7
				Max M_z	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
				Min M_z	1.11	0.00	-0.15	0.00	-0.09	0.00	CO 1
140	RC1	79	0.000	Max N	-2.66	0.00	3.74	0.00	-0.88	0.00	CO 1
				Min N	-7.93	0.00	9.23	0.00	-2.05	0.00	CO 8
				Max V_y	-6.80	0.00	8.26	0.00	-1.94	0.00	CO 2
				Min V_y	-6.39	0.00	7.10	0.00	-1.60	0.00	CO 5
				Max V_z	-7.93	0.00	9.23	0.00	-2.05	0.00	CO 8
				Min V_z	-3.21	0.00	3.55	0.00	-0.77	0.00	CO 4
				Max M_T	-2.66	0.00	3.74	0.00	-0.88	0.00	CO 1
				Min M_T	-2.66	0.00	3.74	0.00	-0.88	0.00	CO 1
				Max M_y	-3.21	0.00	3.55	0.00	-0.77	0.00	CO 4
				Min M_y	-7.93	0.00	9.23	0.00	-2.05	0.00	CO 8
				Max M_z	-2.66	0.00	3.74	0.00	-0.88	0.00	CO 1
				Min M_z	-6.39	0.00	7.10	0.00	-1.60	0.00	CO 5
		84	0.991	Max N	-3.31	0.00	4.43	0.00	3.18	0.00	CO 1
				Min N	-9.82	0.00	11.18	0.00	8.08	0.00	CO 8
				Max V_y	-9.25	0.00	10.96	0.00	7.88	-0.00	CO 7
				Min V_y	-3.31	0.00	4.43	0.00	3.18	0.00	CO 1
				Max V_z	-9.82	0.00	11.18	0.00	8.08	0.00	CO 8
				Min V_z	-3.77	0.00	4.14	0.00	3.05	0.00	CO 4
				Max M_T	-3.31	0.00	4.43	0.00	3.18	0.00	CO 1
				Min M_T	-3.31	0.00	4.43	0.00	3.18	0.00	CO 1
				Max M_y	-9.82	0.00	11.18	0.00	8.08	0.00	CO 8
				Min M_y	-3.77	0.00	4.14	0.00	3.05	0.00	CO 4
				Max M_z	-3.31	0.00	4.43	0.00	3.18	0.00	CO 1
				Min M_z	-9.25	0.00	10.96	0.00	7.88	-0.00	CO 7
141	RC1	52	0.000	Max N	-1.54	0.00	3.49	-0.00	0.12	-0.00	CO 4
				Min N	-6.92	0.00	14.24	-0.00	-0.91	-0.00	CO 7
				Max V_y	-6.75	0.00	13.57	-0.00	-0.86	-0.00	CO 8
				Min V_y	-1.54	0.00	3.49	-0.00	0.12	-0.00	CO 4
				Max V_z	-6.92	0.00	14.24	-0.00	-0.91	-0.00	CO 7
				Min V_z	-1.54	0.00	3.49	-0.00	0.12	-0.00	CO 4
				Max M_T	-2.16	0.00	5.39	-0.00	0.04	-0.00	CO 1
				Min M_T	-6.75	0.00	13.57	-0.00	-0.86	-0.00	CO 8
				Max M_y	-1.54	0.00	3.49	-0.00	0.12	-0.00	CO 4
				Min M_y	-6.92	0.00	14.24	-0.00	-0.91	-0.00	CO 7
				Max M_z	-1.54	0.00	3.49	-0.00	0.12	-0.00	CO 4
				Min M_z	-6.75	0.00	13.57	-0.00	-0.86	-0.00	CO 8
		59	0.605	Max N	-1.86	0.00	3.32	-0.00	2.18	-0.00	CO 4
				Min N	-8.19	0.00	15.75	-0.00	8.17	-0.00	CO 7
				Max V_y	-8.02	0.00	14.75	-0.00	7.72	-0.00	CO 8
				Min V_y	-1.86	0.00	3.32	-0.00	2.18	-0.00	CO 4
				Max V_z	-8.19	0.00	15.75	-0.00	8.17	-0.00	CO 7
				Min V_z	-1.86	0.00	3.32	-0.00	2.18	-0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-2.54	0.00	5.84	-0.00	3.44	-0.00	CO 1
				Min M_T	-8.02	0.00	14.75	-0.00	7.72	-0.00	CO 8
				Max M_y	-8.19	0.00	15.75	-0.00	8.17	-0.00	CO 7
				Min M_y	-1.86	0.00	3.32	-0.00	2.18	-0.00	CO 4
				Max M_z	-1.86	0.00	3.32	-0.00	2.18	-0.00	CO 4
				Min M_z	-8.02	0.00	14.75	-0.00	7.72	-0.00	CO 8
142	RC1	78	0.000	Max N	-4.15	0.00	1.66	0.00	0.94	-0.00	CO 4
				Min N	-14.64	0.00	3.58	0.00	2.25	-0.00	CO 8
				Max V_y	-13.96	0.00	3.62	0.00	2.11	-0.00	CO 3
				Min V_y	-4.50	0.00	0.65	0.00	0.95	-0.00	CO 1
				Max V_z	-13.96	0.00	3.62	0.00	2.11	-0.00	CO 3
				Min V_z	-4.50	0.00	0.65	0.00	0.95	-0.00	CO 1
				Max M_T	-4.50	0.00	0.65	0.00	0.95	-0.00	CO 1
				Min M_T	-4.50	0.00	0.65	0.00	0.95	-0.00	CO 1
				Max M_y	-14.64	0.00	3.58	0.00	2.25	-0.00	CO 8
				Min M_y	-4.15	0.00	1.66	0.00	0.94	-0.00	CO 4
				Max M_z	-13.77	0.00	2.95	0.00	2.03	0.00	CO 2
				Min M_z	-13.96	0.00	3.62	0.00	2.11	-0.00	CO 3
		6	3.732	Max N	-2.14	-0.00	-2.02	0.00	-1.61	0.00	CO 1
				Min N	-6.33	0.00	-7.49	0.00	-5.21	0.00	CO 8
				Max V_y	-5.79	0.00	-7.30	0.00	-4.93	0.00	CO 3
				Min V_y	-5.59	-0.00	-6.39	0.00	-4.54	0.00	CO 2
				Max V_z	-2.14	-0.00	-2.02	0.00	-1.61	0.00	CO 1
				Min V_z	-6.33	0.00	-7.49	0.00	-5.21	0.00	CO 8
				Max M_T	-2.14	-0.00	-2.02	0.00	-1.61	0.00	CO 1
				Min M_T	-2.14	-0.00	-2.02	0.00	-1.61	0.00	CO 1
				Max M_y	-2.14	-0.00	-2.02	0.00	-1.61	0.00	CO 1
				Min M_y	-6.33	0.00	-7.49	0.00	-5.21	0.00	CO 8
				Max M_z	-6.14	-0.00	-6.58	0.00	-4.82	0.00	CO 7
				Min M_z	-5.79	0.00	-7.30	0.00	-4.93	0.00	CO 3
143	RC1	127	0.000	Max N	-0.21	0.00	-0.61	0.00	0.00	0.00	CO 4
				Min N	-11.16	-0.00	-2.73	0.00	0.00	0.00	CO 2
				Max V_y	-9.47	0.00	-2.55	0.00	0.00	0.00	CO 3
				Min V_y	-11.16	-0.00	-2.73	0.00	0.00	0.00	CO 2
				Max V_z	-0.21	0.00	-0.61	0.00	0.00	0.00	CO 4
				Min V_z	-11.16	-0.00	-2.73	0.00	0.00	0.00	CO 2
				Max M_T	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
				Min M_T	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
				Max M_y	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
				Min M_y	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
				Max M_z	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
				Min M_z	-3.53	-0.00	-1.06	0.00	0.00	0.00	CO 1
		98	1.639	Max N	-0.21	0.00	0.30	0.00	-0.25	0.00	CO 4
				Min N	-11.17	-0.00	-1.80	0.00	-3.71	0.00	CO 2
				Max V_y	-3.53	0.00	0.01	0.00	-0.87	0.00	CO 1
				Min V_y	-11.17	-0.00	-1.80	0.00	-3.71	0.00	CO 2
				Max V_z	-0.21	0.00	0.30	0.00	-0.25	0.00	CO 4
				Min V_z	-11.17	-0.00	-1.80	0.00	-3.71	0.00	CO 2
				Max M_T	-3.53	0.00	0.01	0.00	-0.87	0.00	CO 1
				Min M_T	-3.53	0.00	0.01	0.00	-0.87	0.00	CO 1
				Max M_y	-0.21	0.00	0.30	0.00	-0.25	0.00	CO 4
				Min M_y	-11.17	-0.00	-1.80	0.00	-3.71	0.00	CO 2
				Max M_z	-11.17	-0.00	-1.80	0.00	-3.71	0.00	CO 2
				Min M_z	-9.48	0.00	-1.62	0.00	-3.42	0.00	CO 3
144	RC1	130	0.000	Max N	0.53	0.00	-0.26	0.00	0.00	0.00	CO 4
				Min N	-3.90	-0.00	-1.06	0.00	0.00	0.00	CO 7
				Max V_y	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
				Min V_y	-3.87	-0.00	-1.06	0.00	0.00	0.00	CO 2
				Max V_z	0.53	0.00	-0.26	0.00	0.00	0.00	CO 4
				Min V_z	-3.87	-0.00	-1.06	0.00	0.00	0.00	CO 2
				Max M_T	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
				Min M_T	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
				Max M_y	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
				Max M_z	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
				Min M_z	-1.76	0.00	-0.74	0.00	0.00	0.00	CO 1
		76	1.676	Max N	0.53	0.00	0.67	0.00	0.34	0.00	CO 4
				Min N	-3.91	0.00	-0.13	0.00	-0.99	0.00	CO 7
				Max V_y	-1.76	0.00	0.35	0.00	-0.33	0.00	CO 1
				Min V_y	-1.76	0.00	0.35	0.00	-0.33	0.00	CO 1
				Max V_z	0.53	0.00	0.67	0.00	0.34	0.00	CO 4
				Min V_z	-3.87	0.00	-0.13	0.00	-0.99	0.00	CO 2
				Max M_T	-1.76	0.00	0.35	0.00	-0.33	0.00	CO 1
				Min M_T	-1.76	0.00	0.35	0.00	-0.33	0.00	CO 1
				Max M_y	0.53	0.00	0.67	0.00	0.34	0.00	CO 4
				Min M_y	-3.87	0.00	-0.13	0.00	-0.99	0.00	CO 2
				Max M_z	-3.91	0.00	-0.13	0.00	-0.99	0.00	CO 7
				Min M_z	-1.76	0.00	0.35	0.00	-0.33	0.00	CO 1
145	RC1	95	0.000	Max N	-2.04	0.00	-0.16	0.00	-0.30	0.00	CO 4
				Min N	-5.14	0.00	0.27	0.00	-1.02	0.00	CO 8
				Max V_y	-2.23	0.00	-0.16	0.00	-0.41	0.00	CO 1
				Min V_y	-2.23	0.00	-0.16	0.00	-0.41	0.00	CO 1
				Max V_z	-5.05	0.00	0.29	0.00	-1.05	0.00	CO 7
				Min V_z	-2.04	0.00	-0.16	0.00	-0.30	0.00	CO 4
				Max M_T	-2.23	0.00	-0.16	0.00	-0.41	0.00	CO 1
				Min M_T	-2.23	0.00	-0.16	0.00	-0.41	0.00	CO 1
				Max M_y	-2.04	0.00	-0.16	0.00	-0.30	0.00	CO 4
				Min M_y	-5.05	0.00	0.29	0.00	-1.05	0.00	CO 7
				Max M_z	-4.61	0.00	0.20	0.00	-0.89	0.00	CO 2
				Min M_z	-2.23	0.00	-0.16	0.00	-0.41	0.00	CO 1
		129	1.640	Max N	-2.04	0.00	0.53	0.00	0.00	0.00	CO 4
				Min N	-5.14	0.00	0.97	0.00	0.00	0.00	CO 8
				Max V_y	-4.69	0.00	0.87	0.00	0.00	0.00	CO 3
				Min V_y	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Max V_z	-5.05	0.00	0.99	0.00	0.00	0.00	CO 7
				Min V_z	-2.04	0.00	0.53	0.00	0.00	0.00	CO 4
				Max M_T	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Min M_T	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Max M_y	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Min M_y	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Max M_z	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
				Min M_z	-2.23	0.00	0.66	0.00	0.00	0.00	CO 1
146	RC1	73	0.000	Max N	-0.62	0.00	-0.16	0.00	-0.31	0.00	CO 4
				Min N	-1.54	0.00	0.00	0.00	-0.57	0.00	CO 7
				Max V_y	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Min V_y	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Max V_z	-1.43	0.00	0.05	0.00	-0.65	0.00	CO 8
				Min V_z	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Max M_T	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Min M_T	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Max M_y	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Min M_y	-1.43	0.00	0.05	0.00	-0.65	0.00	CO 8
				Max M_z	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
				Min M_z	-0.94	0.00	-0.27	0.00	-0.22	0.00	CO 1
		131	1.640	Max N	-0.62	0.00	0.54	0.00	0.00	0.00	CO 4
				Min N	-1.54	0.00	0.70	0.00	0.00	0.00	CO 7
				Max V_y	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Min V_y	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Max V_z	-1.42	0.00	0.74	0.00	0.00	0.00	CO 8
				Min V_z	-0.62	0.00	0.54	0.00	0.00	0.00	CO 4
				Max M_T	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Min M_T	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Max M_y	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Min M_y	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Max M_z	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1
				Min M_z	-0.94	0.00	0.54	0.00	0.00	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
147	RC1	132	0.000	Max N	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Min N	-3.02	-1.27	0.00	0.00	0.00	0.00	CO 8
				Max V_y	-2.02	-0.47	0.00	0.00	0.00	0.00	CO 4
				Min V_y	-2.50	-1.54	0.00	0.00	0.00	0.00	CO 7
				Max V_z	-2.76	-1.15	0.00	0.00	0.00	0.00	CO 3
				Min V_z	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Max M_T	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Min M_T	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Max M_y	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Min M_y	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Max M_z	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
				Min M_z	-1.41	-1.07	0.00	0.00	0.00	0.00	CO 1
		50	1.640	Max N	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Min N	-3.02	-0.07	0.00	0.00	0.00	1.10	CO 8
				Max V_y	-2.02	0.73	0.00	0.00	0.00	-0.21	CO 4
				Min V_y	-2.51	-0.34	0.00	0.00	0.00	1.54	CO 7
				Max V_z	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Min V_z	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Max M_T	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Min M_T	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Max M_y	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Min M_y	-1.41	0.34	0.00	0.00	0.00	0.60	CO 1
				Max M_z	-2.51	-0.34	0.00	0.00	0.00	1.54	CO 7
				Min M_z	-2.02	0.73	0.00	0.00	0.00	-0.21	CO 4
148	RC1	34	0.000	Max N	1.39	-0.95	0.00	0.00	0.00	-0.57	CO 4
				Min N	-1.16	-0.75	0.00	0.00	0.00	-0.24	CO 7
				Max V_y	-0.97	-0.69	0.00	0.00	0.00	-0.16	CO 6
				Min V_y	1.20	-1.00	0.00	0.00	0.00	-0.66	CO 5
				Max V_z	-1.04	-0.73	0.00	0.00	0.00	-0.21	CO 2
				Min V_z	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Max M_T	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Min M_T	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Max M_y	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Min M_y	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Max M_z	-0.89	-0.77	0.00	0.00	0.00	-0.11	CO 1
				Min M_z	1.20	-1.00	0.00	0.00	0.00	-0.66	CO 5
		72	1.639	Max N	1.40	0.25	0.00	0.00	0.00	0.00	CO 4
				Min N	-1.16	0.45	0.00	0.00	0.00	0.00	CO 7
				Max V_y	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Min V_y	1.21	0.20	0.00	0.00	0.00	0.00	CO 5
				Max V_z	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Min V_z	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Max M_T	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Min M_T	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Max M_y	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Min M_y	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Max M_z	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
				Min M_z	-0.89	0.63	0.00	0.00	0.00	0.00	CO 1
149	RC1	77	0.000	Max N	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Min N	-4.77	0.00	-0.97	0.00	0.00	0.00	CO 8
				Max V_y	-4.03	0.00	-0.93	0.00	0.00	0.00	CO 2
				Min V_y	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Max V_z	-2.31	0.00	-0.58	0.00	0.00	0.00	CO 4
				Min V_z	-4.48	0.00	-0.99	0.00	0.00	0.00	CO 7
				Max M_T	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Min M_T	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Max M_y	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Min M_y	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Max M_z	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
				Min M_z	-2.13	-0.00	-0.73	0.00	0.00	0.00	CO 1
		21	1.641	Max N	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
				Min N	-4.77	0.00	-0.08	0.00	-0.86	0.00	CO 8
				Max V_y	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1

4.6 Members – Internal Forces

Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min V_y	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
				Max V_z	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
				Min V_z	-4.48	0.00	-0.11	0.00	-0.90	0.00	CO 7
				Max M_T	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
				Min M_T	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
				Max M_y	-2.31	0.00	0.30	0.00	-0.23	0.00	CO 4
				Min M_y	-4.48	0.00	-0.11	0.00	-0.90	0.00	CO 7
				Max M_z	-4.48	0.00	-0.11	0.00	-0.90	0.00	CO 7
				Min M_z	-2.13	0.00	0.31	0.00	-0.35	0.00	CO 1
150	RC1	25	0.000	Max N	0.74	-0.00	-0.67	0.00	0.38	0.00	CO 4
				Min N	-4.29	0.00	-0.06	0.00	-0.63	0.00	CO 7
				Max V_y	-1.98	0.00	-0.39	0.00	-0.20	0.00	CO 1
				Min V_y	0.74	-0.00	-0.67	0.00	0.38	0.00	CO 4
				Max V_z	-4.29	0.00	-0.06	0.00	-0.63	0.00	CO 7
				Min V_z	0.74	-0.00	-0.67	0.00	0.38	0.00	CO 4
				Max M_T	-1.98	0.00	-0.39	0.00	-0.20	0.00	CO 1
				Min M_T	-1.98	0.00	-0.39	0.00	-0.20	0.00	CO 1
				Max M_y	0.74	-0.00	-0.67	0.00	0.38	0.00	CO 4
				Min M_y	-4.29	0.00	-0.06	0.00	-0.63	0.00	CO 7
				Max M_z	-1.98	0.00	-0.39	0.00	-0.20	0.00	CO 1
				Min M_z	-1.98	0.00	-0.39	0.00	-0.20	0.00	CO 1
		133	1.640	Max N	0.75	0.00	0.21	0.00	0.00	0.00	CO 4
				Min N	-4.29	0.00	0.82	0.00	0.00	0.00	CO 7
				Max V_y	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Min V_y	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Max V_z	-4.29	0.00	0.82	0.00	0.00	0.00	CO 7
				Min V_z	0.75	0.00	0.21	0.00	0.00	0.00	CO 4
				Max M_T	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Min M_T	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Max M_y	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Min M_y	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Max M_z	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
				Min M_z	-1.98	0.00	0.64	0.00	0.00	0.00	CO 1
151	RC1	134	0.000	Max N	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Min N	-4.59	-0.00	-1.01	0.00	0.00	-0.00	CO 8
				Max V_y	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Min V_y	-3.94	-0.00	-0.72	0.00	0.00	-0.00	CO 5
				Max V_z	-2.19	-0.00	-0.36	0.00	0.00	-0.00	CO 4
				Min V_z	-4.27	-0.00	-1.20	0.00	0.00	-0.00	CO 7
				Max M_T	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Min M_T	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Max M_y	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Min M_y	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Max M_z	-1.97	-0.00	-0.77	0.00	0.00	-0.00	CO 1
				Min M_z	-3.94	-0.00	-0.72	0.00	0.00	-0.00	CO 5
		69	1.640	Max N	-1.97	-0.00	0.27	0.00	-0.41	0.00	CO 1
				Min N	-4.59	-0.00	-0.13	0.00	-0.94	0.00	CO 8
				Max V_y	-1.97	-0.00	0.27	0.00	-0.41	0.00	CO 1
				Min V_y	-3.94	-0.00	0.16	0.00	-0.46	0.00	CO 5
				Max V_z	-2.19	-0.00	0.53	0.00	0.14	0.00	CO 4
				Min V_z	-4.27	-0.00	-0.31	0.00	-1.24	0.00	CO 7
				Max M_T	-1.97	-0.00	0.27	0.00	-0.41	0.00	CO 1
				Min M_T	-1.97	-0.00	0.27	0.00	-0.41	0.00	CO 1
				Max M_y	-2.19	-0.00	0.53	0.00	0.14	0.00	CO 4
				Min M_y	-4.27	-0.00	-0.31	0.00	-1.24	0.00	CO 7
				Max M_z	-3.94	-0.00	0.16	0.00	-0.46	0.00	CO 5
				Min M_z	-1.97	-0.00	0.27	0.00	-0.41	0.00	CO 1
152	RC1	135	0.000	Max N	0.60	-0.81	0.01	-0.00	0.00	-0.00	CO 4
				Min N	-4.40	-1.64	0.03	-0.00	0.00	-0.00	CO 7
				Max V_y	0.60	-0.81	0.01	-0.00	0.00	-0.00	CO 4
				Min V_y	-4.40	-1.64	0.03	-0.00	0.00	-0.00	CO 7
				Max V_z	-4.40	-1.64	0.03	-0.00	0.00	-0.00	CO 7
				Min V_z	0.60	-0.81	0.01	-0.00	0.00	-0.00	CO 4

4.6 Members – Internal Forces

Result Combinations

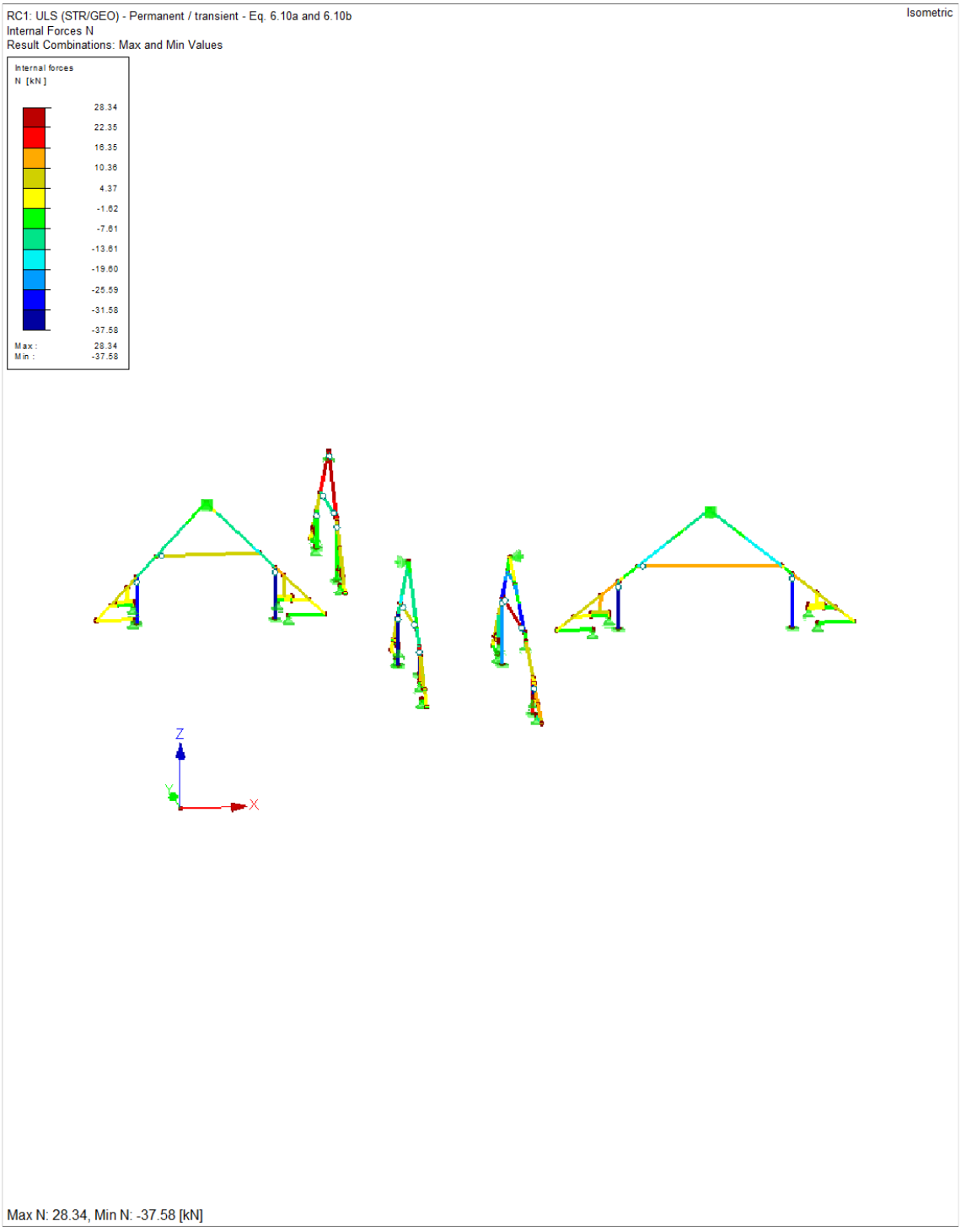
Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Max M_T	-2.09	-1.08	0.02	-0.00	0.00	-0.00	CO 1
				Min M_T	-2.96	-1.57	0.03	-0.00	0.00	-0.00	CO 8
				Max M_y	-2.96	-1.57	0.03	-0.00	0.00	-0.00	CO 8
				Min M_y	0.60	-0.81	0.01	-0.00	0.00	-0.00	CO 4
				Max M_z	0.60	-0.81	0.01	-0.00	0.00	-0.00	CO 4
				Min M_z	-2.96	-1.57	0.03	-0.00	0.00	-0.00	CO 8
		71	1.640	Max N	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
				Min N	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Max V_y	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
				Min V_y	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Max V_z	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Min V_z	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
				Max M_T	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Min M_T	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
				Max M_y	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Min M_y	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
				Max M_z	-4.40	-0.44	0.01	0.00	0.03	1.70	CO 7
				Min M_z	0.59	0.39	-0.01	-0.00	0.01	0.34	CO 4
154	RC1	138	0.000	Max N	-0.57	0.00	-1.04	0.00	0.34	0.00	CO 1
				Min N	-2.11	-0.00	-4.30	0.00	1.43	-0.00	CO 8
				Max V_y	-0.57	0.00	-1.04	0.00	0.34	0.00	CO 1
				Min V_y	-1.65	-0.00	-4.92	0.00	1.49	-0.00	CO 2
				Max V_z	-0.96	0.00	-0.28	0.00	0.17	0.00	CO 4
				Min V_z	-1.65	-0.00	-4.92	0.00	1.49	-0.00	CO 2
				Max M_T	-0.57	0.00	-1.04	0.00	0.34	0.00	CO 1
				Min M_T	-0.57	0.00	-1.04	0.00	0.34	0.00	CO 1
				Max M_y	-1.82	0.00	-4.66	0.00	1.51	0.00	CO 7
				Min M_y	-0.96	0.00	-0.28	0.00	0.17	0.00	CO 4
				Max M_z	-0.57	0.00	-1.04	0.00	0.34	0.00	CO 1
				Min M_z	-1.65	-0.00	-4.92	0.00	1.49	-0.00	CO 2
		94	1.927	Max N	2.68	0.00	3.43	0.00	0.07	0.00	CO 2
				Min N	-0.20	0.00	0.12	0.00	0.02	0.00	CO 4
				Max V_y	2.68	0.00	3.43	0.00	0.07	0.00	CO 2
				Min V_y	0.33	0.00	0.72	0.00	0.04	0.00	CO 1
				Max V_z	2.68	0.00	3.43	0.00	0.07	0.00	CO 2
				Min V_z	-0.20	0.00	0.12	0.00	0.02	0.00	CO 4
				Max M_T	0.33	0.00	0.72	0.00	0.04	0.00	CO 1
				Min M_T	0.33	0.00	0.72	0.00	0.04	0.00	CO 1
				Max M_y	2.24	0.00	3.17	0.00	0.07	0.00	CO 7
				Min M_y	-0.20	0.00	0.12	0.00	0.02	0.00	CO 4
				Max M_z	0.33	0.00	0.72	0.00	0.04	0.00	CO 1
				Min M_z	0.33	0.00	0.72	0.00	0.04	0.00	CO 1
155	RC1	138	0.000	Max N	-2.98	0.00	-0.38	0.00	0.20	0.00	CO 4
				Min N	-24.42	0.00	1.99	0.00	-2.04	0.00	CO 2
				Max V_y	-24.42	0.00	1.99	0.00	-2.04	0.00	CO 2
				Min V_y	-6.52	0.00	-0.02	0.00	-0.20	0.00	CO 1
				Max V_z	-24.42	0.00	1.99	0.00	-2.04	0.00	CO 2
				Min V_z	-2.98	0.00	-0.38	0.00	0.20	0.00	CO 4
				Max M_T	-6.52	0.00	-0.02	0.00	-0.20	0.00	CO 1
				Min M_T	-6.52	0.00	-0.02	0.00	-0.20	0.00	CO 1
				Max M_y	-2.98	0.00	-0.38	0.00	0.20	0.00	CO 4
				Min M_y	-24.42	0.00	1.99	0.00	-2.04	0.00	CO 2
				Max M_z	-24.42	0.00	1.99	0.00	-2.04	0.00	CO 2
				Min M_z	-6.52	0.00	-0.02	0.00	-0.20	0.00	CO 1
		139	2.626	Max N	-2.98	0.00	0.46	0.00	0.30	0.00	CO 4
				Min N	-24.42	0.00	2.75	0.00	4.28	0.00	CO 2
				Max V_y	-22.00	0.00	2.30	0.00	3.55	-0.00	CO 8
				Min V_y	-6.51	0.00	0.96	0.00	1.04	0.00	CO 1
				Max V_z	-24.42	0.00	2.75	0.00	4.28	0.00	CO 2
				Min V_z	-2.98	0.00	0.46	0.00	0.30	0.00	CO 4
				Max M_T	-6.51	0.00	0.96	0.00	1.04	0.00	CO 1
				Min M_T	-6.51	0.00	0.96	0.00	1.04	0.00	CO 1
				Max M_y	-24.42	0.00	2.75	0.00	4.28	0.00	CO 2

4.6 Members – Internal Forces

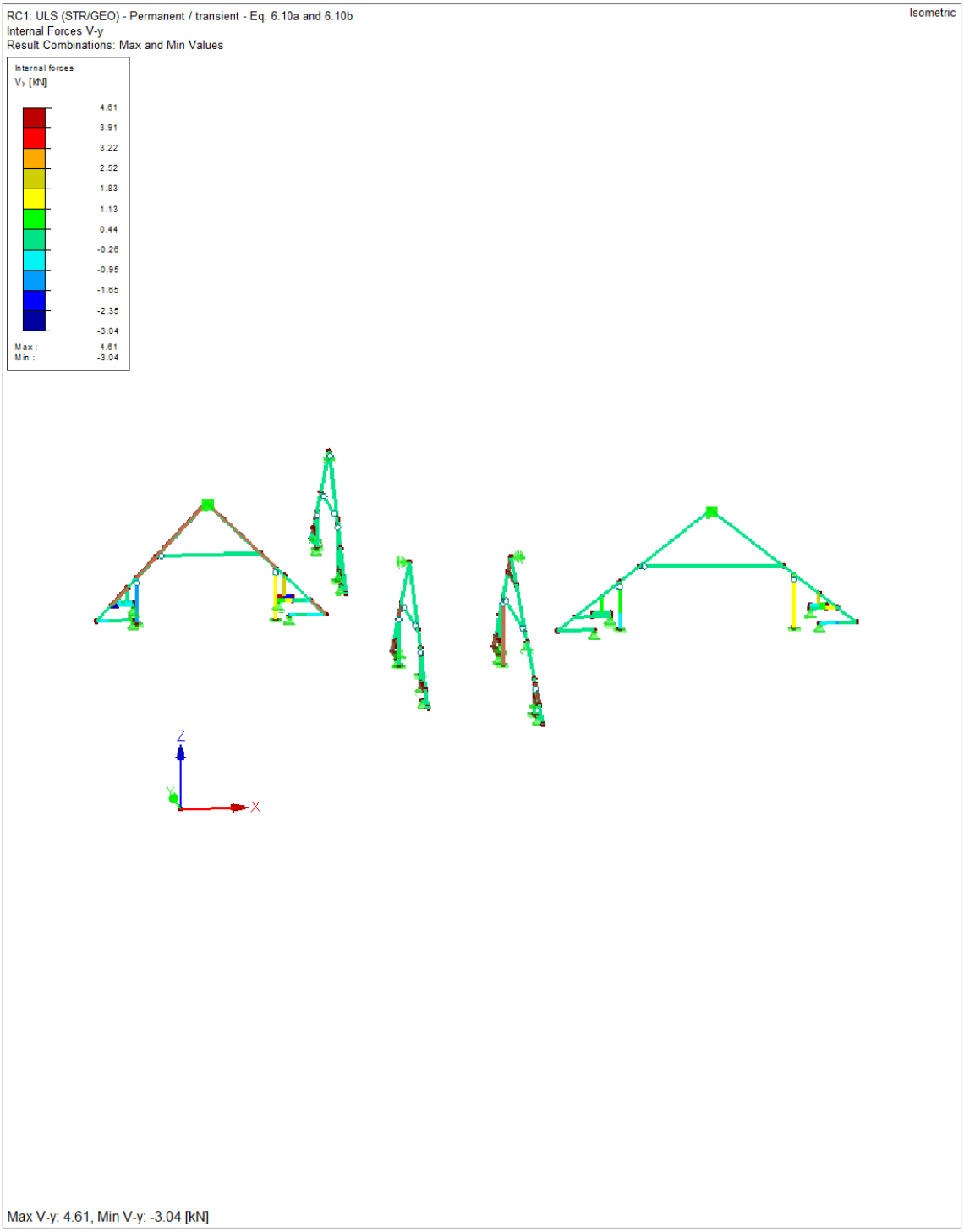
Result Combinations

Member No.	RC	Node No.	Location x [m]		Forces [kN] N	V_y	V_z	Moments [kNm] M_T	M_y	M_z	Corresponding Load Cases
				Min M_y	-2.98	0.00	0.46	0.00	0.30	0.00	CO 4
				Max M_z	-6.51	0.00	0.96	0.00	1.04	0.00	CO 1
				Min M_z	-22.00	0.00	2.30	0.00	3.55	-0.00	CO 8
156	RC1	139	0.000	Max N	-3.39	0.00	-1.08	0.00	0.63	0.00	CO 4
				Min N	-24.17	0.00	-8.78	0.00	10.47	0.00	CO 2
				Max V_y	-6.81	0.00	-2.33	0.00	2.34	0.00	CO 1
				Min V_y	-22.14	-0.00	-7.99	0.00	8.83	-0.00	CO 8
				Max V_z	-3.39	0.00	-1.08	0.00	0.63	0.00	CO 4
				Min V_z	-24.17	0.00	-8.78	0.00	10.47	0.00	CO 2
				Max M_T	-6.81	0.00	-2.33	0.00	2.34	0.00	CO 1
				Min M_T	-6.81	0.00	-2.33	0.00	2.34	0.00	CO 1
				Max M_y	-24.17	0.00	-8.78	0.00	10.47	0.00	CO 2
				Min M_y	-3.39	0.00	-1.08	0.00	0.63	0.00	CO 4
				Max M_z	-6.81	0.00	-2.33	0.00	2.34	0.00	CO 1
				Min M_z	-22.14	-0.00	-7.99	0.00	8.83	-0.00	CO 8
		101	2.170	Max N	-4.69	0.00	0.30	0.00	-0.22	0.00	CO 4
				Min N	-28.11	0.00	-4.71	0.00	-4.37	0.00	CO 2
				Max V_y	-8.33	0.00	-0.72	0.00	-0.98	0.00	CO 1
				Min V_y	-26.66	-0.00	-4.15	0.00	-3.98	0.00	CO 3
				Max V_z	-4.69	0.00	0.30	0.00	-0.22	0.00	CO 4
				Min V_z	-28.11	0.00	-4.71	0.00	-4.37	0.00	CO 2
				Max M_T	-8.33	0.00	-0.72	0.00	-0.98	0.00	CO 1
				Min M_T	-8.33	0.00	-0.72	0.00	-0.98	0.00	CO 1
				Max M_y	-4.69	0.00	0.30	0.00	-0.22	0.00	CO 4
				Min M_y	-28.11	0.00	-4.71	0.00	-4.37	0.00	CO 2
				Max M_z	-26.66	-0.00	-4.15	0.00	-3.98	0.00	CO 3
				Min M_z	-8.33	0.00	-0.72	0.00	-0.98	0.00	CO 1

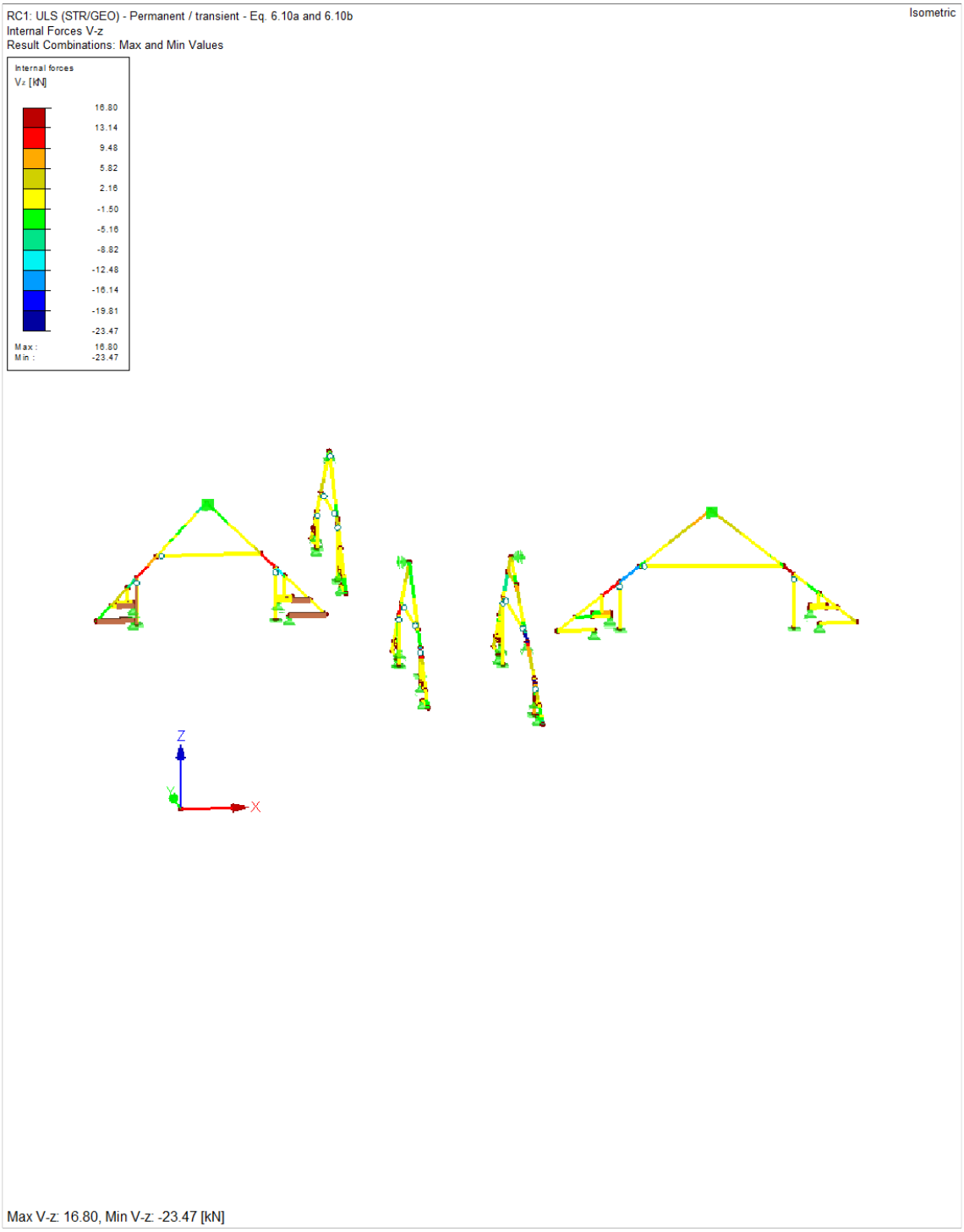
Internal forces N



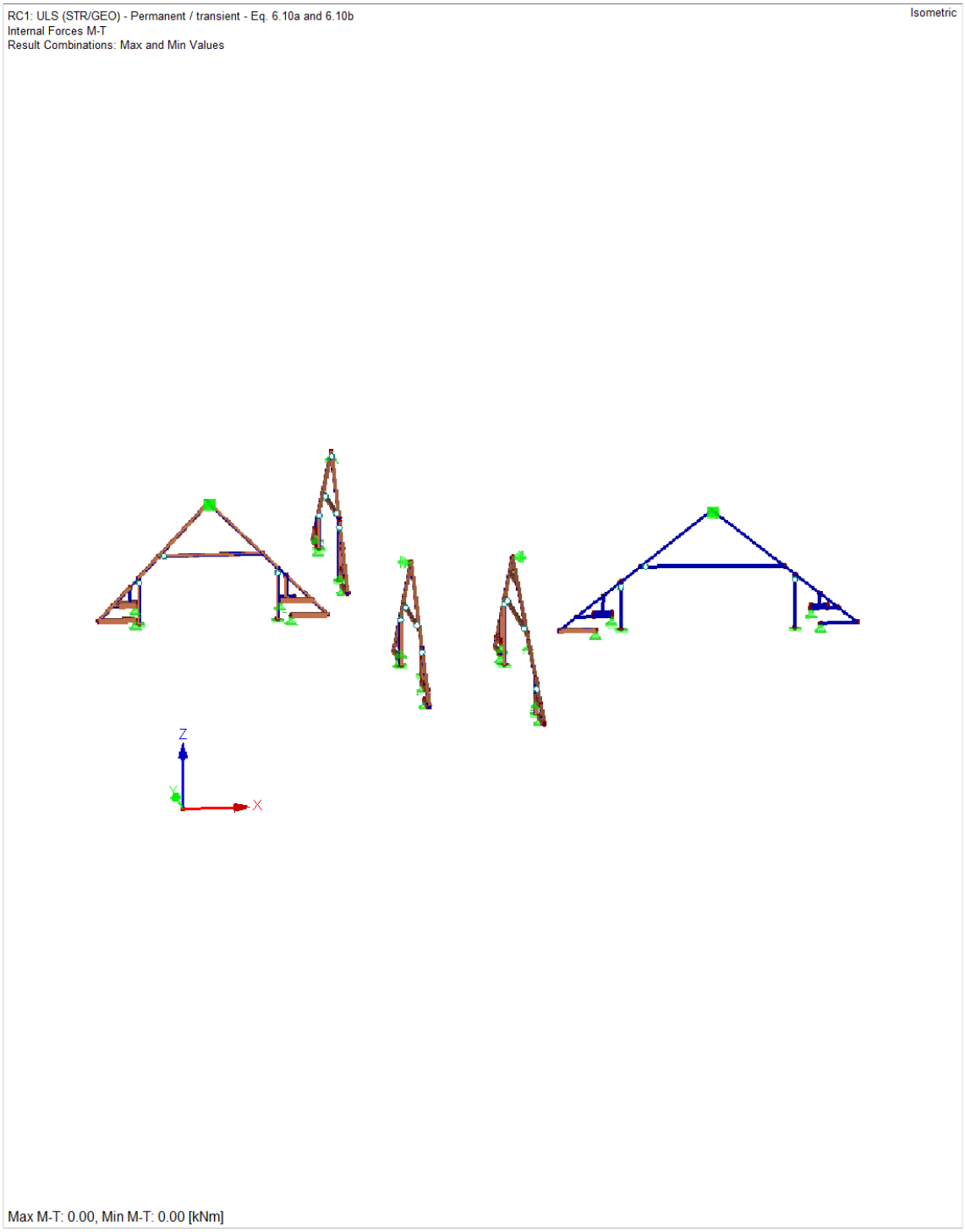
Internal forces V_y



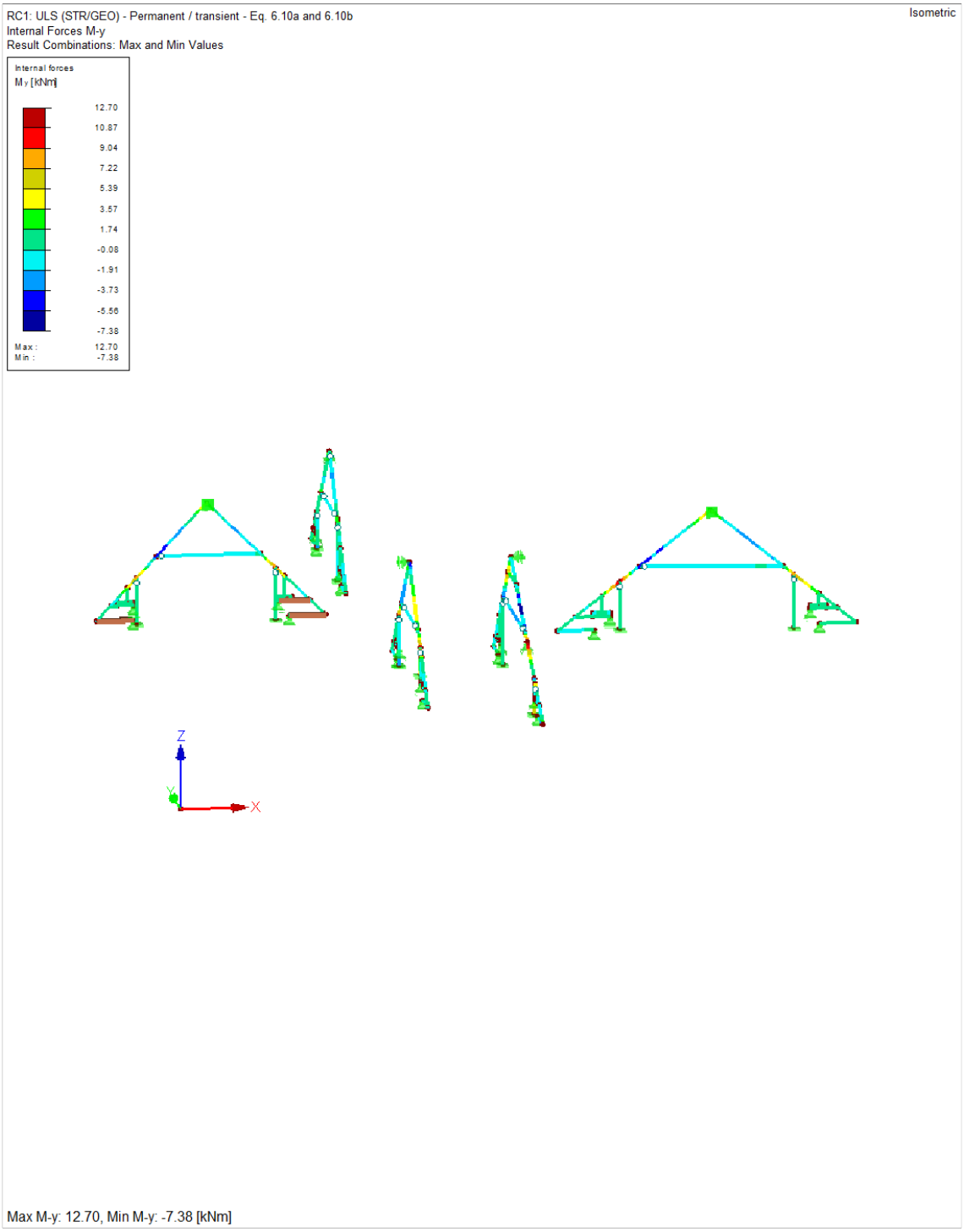
Internal forces V_z



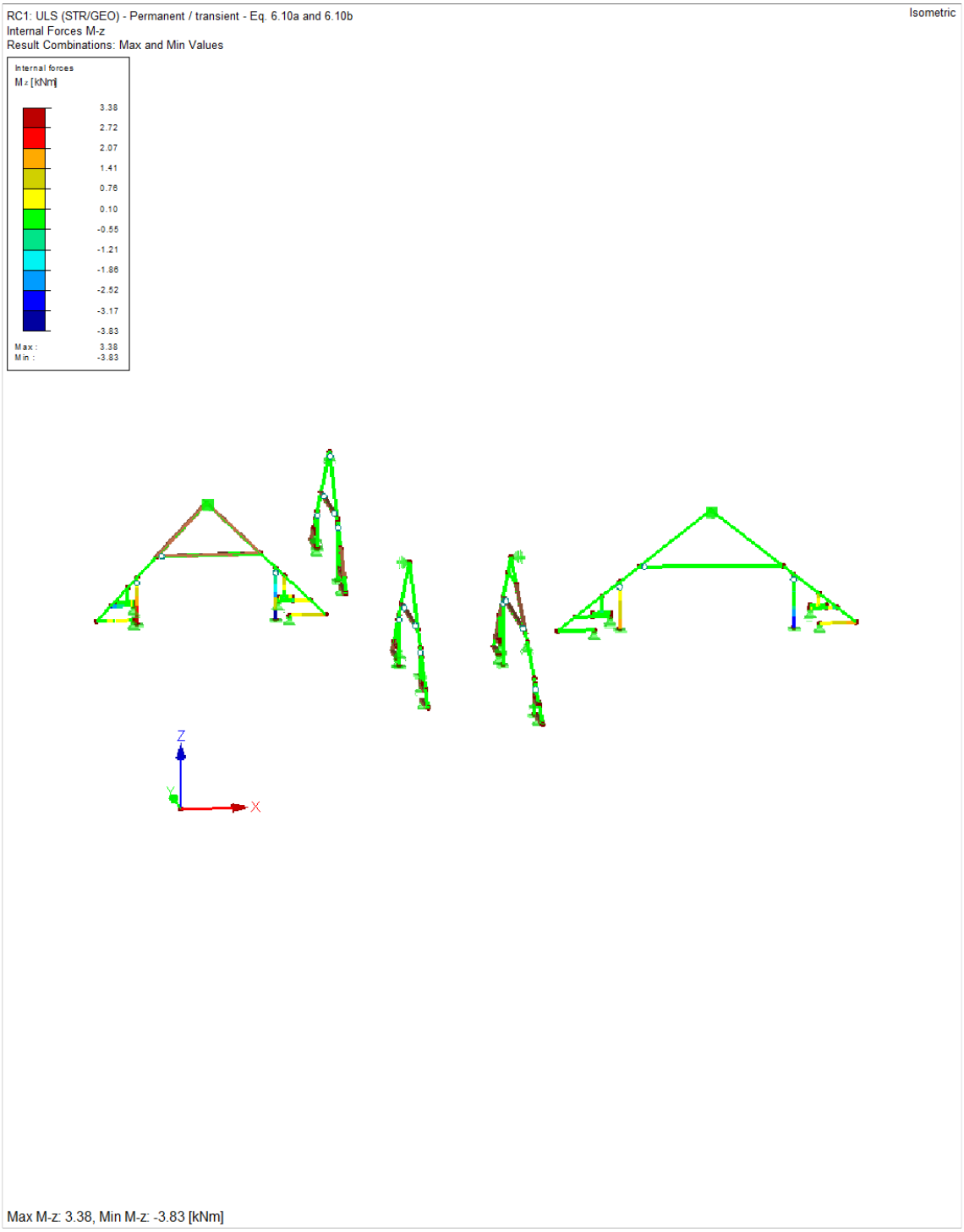
Internal forces M_T



Internal forces M_y



Internal forces M_z



RF-TIMBER Pro
CA1

1.1.1 General Data

Members to design:		All
Design according to Standard:		SFS EN 1995-1-1/NA:2007-11
Ultimate Limit State Design		
Load combinations to design:	CO1	1.35*LC2 + 1.35*LC3
	CO2	1.5*LC1 + 1.15*LC2 + 1.15*LC3
	CO3	1.5*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4
	CO4	1.15*LC2 + 1.15*LC3 + 1.5*LC4
	CO5	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC4
	CO6	1.15*LC2 + 1.15*LC3 + 1.5*LC5
	CO7	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 1.5*LC5
	CO8	1.05*LC1 + 1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5
	CO9	1.15*LC2 + 1.15*LC3 + 0.9*LC4 + 1.5*LC5

1.1.3 Data for Standard

Partial Factor for Material Properties

Solid Timber – Fundamental Situation	γ_M:	1.300
Solid Timber – Connections	γ_M:	1.300
Steel stiffeners (EN 1993)	γ_{M2}:	1.250
Accidental Situation	γ_M:	1.000
For Timber in Fire	$\gamma_{M,fi}$:	1.000

Modification Factor k_{mod}

Solid Timber

LDC	1	2	3
Permanent	0.600	0.600	0.500
Long-term	0.700	0.700	0.550
Medium-term	0.800	0.800	0.650
Short-term	0.900	0.900	0.700
Instantaneous	1.100	1.100	0.900

Parameters for Hardwood

Charring rate β_n:	0.55	mm/min
Increased charring d_0:	7.00	mm
Factor k_{fi}:	1.25	

1.1.4 Used Standards

No.	Standard	Standard Description
[1]	SFS EN 1995-1-1/NA:2007-11	Part 1-1: General – Common rules and rules for buildings
[2]	SFS EN 1995-1-2/NA:2007-11	Part 1-2: General – Structural fire design
[3]	SFS EN 14080:2013-08	Timber structures – Glued laminated timber and solid timber – Requirements
[4]	SFS EN 338:2010-01	Structural timber – Strength classes

1.2 Materials

Matl. No.	Description	Factor Category	Comment
1	Hardwood Timber D70 | EN 1995-1-1	Solid Timber	Timber_Undefined

1.3.1 Cross-Sections

Sect. No.	Matl. No.	Cross-section Description [mm]	Max Design Ratio	Comment
1	1	Rectangle 230/255	0.03	BL230*255
2	1	Rectangle 160/160	0.30	170*170
3	1	Rectangle 160/160	0.59	
4	1	Rectangle 255/170	0.04	170*255

1.3.1 Cross-Sections

Sect. No.	Matl. No.	Cross-section Description [mm]	Max Design Ratio	Comment
5	1	Rectangle 160/160	0.31	160*160
6	1	Rectangle 160/160	0.13	BL150*150
7	1	Rectangle 160/160	0.15	190*190
8	1	Rectangle 160/160	0.03	155*155
9	1	Rectangle 255/175	0.30	175*255
10	1	Rectangle 200/170	0.14	170*200

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
1	Cross-section No. 1 – Rectangle 230/255					
	0.054	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
2	Cross-section No. 5 – Rectangle 160/160					
	0.325	CO5	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.325	CO4	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO1	0.00	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.325	CO5	0.01	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO5	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.325	CO5	0.01	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
3	Cross-section No. 1 – Rectangle 230/255					
	0.699	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	1.217	CO4	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	1.217	CO4	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
4	Cross-section No. 2 – Rectangle 160/160					
	0.451	CO6	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.451	CO3	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO1	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.451	CO1	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.451	CO7	0.00	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.451	CO3	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.451	CO7	0.00	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
5	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.986	CO8	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.986	CO2	0.04	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.986	CO7	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
6	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO5	0.03	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO8	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
7	Cross-section No. 3 – Rectangle 160/160					
	0.468	CO5	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						6.1.4
	0.468	CO4	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.468	CO1	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO5	0.03	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO2	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO5	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
8	Cross-section No. 3 – Rectangle 160/160					
	1.682	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.841	CO5	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.682	CO5	0.06	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.682	CO3	0.04	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.682	CO2	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.682	CO3	0.04	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
9	Cross-section No. 2 – Rectangle 160/160					
	0.202	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.10	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.202	CO7	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.101	CO2	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.202	CO7	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
10	Cross-section No. 3 – Rectangle 160/160					
	3.014	CO7	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	5.275	CO1	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	2.261	CO4	0.03	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	2.261	CO1	0.06	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	5.275	CO7	0.07	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	3.014	CO7	0.10	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
11	Cross-section No. 3 – Rectangle 160/160					
	0.868	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.09	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.868	CO8	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
12	Cross-section No. 3 – Rectangle 160/160					
	0.659	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO2	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	2.636	CO4	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO4	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	2.636	CO7	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	2.636	CO2	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
	2.636	CO4	0.03	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						compression acc. To 6.2.4
	0.000	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.636	CO4	0.04	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
13	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.04	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	3.713	CO7	0.13	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.713	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.485	CO7	0.12	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
14	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.432	CO4	0.05	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.26	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
15	Cross-section No. 2 – Rectangle 160/160					
	0.597	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO4	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.597	CO3	0.00	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.597	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.597	CO3	0.00	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
16	Cross-section No. 3 – Rectangle 160/160					
	0.248	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.248	CO7	0.11	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.248	CO7	0.09	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
17	Cross-section No. 3 – Rectangle 160/160					
	3.523	CO7	0.04	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.11	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.10	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
18	Cross-section No. 5 – Rectangle 160/160					
	3.252	CO8	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.17	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.951	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO7	0.19	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
19	Cross-section No. 6 – Rectangle 160/160					
	2.091	CO7	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO5	0.04	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	2.091	CO5	0.10	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.000	CO7	0.05	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.091	CO5	0.13	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
20	Cross-section No. 5 – Rectangle 160/160					
	2.343	CO7	0.06	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.04	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	2.343	CO7	0.12	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO7	0.06	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.343	CO7	0.18	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
21	Cross-section No. 10 – Rectangle 200/170					
	0.798	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.798	CO8	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
22	Cross-section No. 1 – Rectangle 230/255					
	0.000	CO9	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.649	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.649	CO7	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.649	CO3	0.00	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.649	CO7	0.01	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.324	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.649	CO7	0.01	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
23	Cross-section No. 5 – Rectangle 160/160					
	0.748	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.748	CO8	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO1	0.00	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.000	CO8	0.01	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
24	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.283	CO8	0.12	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.283	CO4	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.283	CO7	0.03	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
25	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.06	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO7	0.06	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
26	Cross-section No. 5 – Rectangle 160/160					
	3.389	CO7	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						6.1.4
	0.000	CO8	0.14	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.06	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO8	0.11	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.13	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
27	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	4.646	CO1	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.097	CO8	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
28	Cross-section No. 6 – Rectangle 160/160					
	0.000	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
29	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	6.462	CO1	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	2.872	CO1	0.08	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
30	Cross-section No. 2 – Rectangle 160/160					
	0.202	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.404	CO8	0.16	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.404	CO8	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
31	Cross-section No. 7 – Rectangle 160/160					
	2.430	CO7	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO8	0.03	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	2.430	CO8	0.10	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO7	0.06	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.430	CO8	0.15	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
32	Cross-section No. 8 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.783	CO8	0.03	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
33	Cross-section No. 3 – Rectangle 160/160					
	2.130	CO8	0.06	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	2.130	CO7	0.06	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO8	0.07	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.130	CO7	0.12	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
34	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO1	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.523	CO5	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						6.1.4
	0.523	CO5	0.05	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO5	0.04	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.000	CO1	0.01	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
	0.523	CO5	0.00	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.523	CO5	0.00	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
35	Cross-section No. 5 – Rectangle 160/160					
	0.187	CO7	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO5	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.374	CO5	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
36	Cross-section No. 3 – Rectangle 160/160					
	0.998	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.04	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
37	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.03	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	4.193	CO7	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	4.193	CO7	0.16	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	3.494	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	4.193	CO7	0.19	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
38	Cross-section No. 5 – Rectangle 160/160					
	0.955	CO7	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.955	CO7	0.31	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.06	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.955	CO7	0.27	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.955	CO7	0.27	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
39	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
40	Cross-section No. 3 – Rectangle 160/160					
	0.951	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.951	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO2	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
41	Cross-section No. 3 – Rectangle 160/160					
	5.433	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO1	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	2.716	CO1	0.07	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
42	Cross-section No. 2 – Rectangle 160/160					
	0.074	CO5	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.147	CO5	0.25	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.147	CO2	0.02	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.147	CO5	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
43	Cross-section No. 9 – Rectangle 255/175					
	0.050	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
44	Cross-section No. 3 – Rectangle 160/160					
	2.301	CO8	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO8	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	2.301	CO8	0.07	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.06	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.301	CO8	0.13	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
45	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.06	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.07	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
46	Cross-section No. 2 – Rectangle 160/160					
	0.798	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.798	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO8	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
47	Cross-section No. 3 – Rectangle 160/160					
	1.486	CO2	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.486	CO2	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.743	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.486	CO2	0.15	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
48	Cross-section No. 2 – Rectangle 160/160					
	1.231	CO8	0.06	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.231	CO2	0.13	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.06	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.231	CO2	0.18	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
49	Cross-section No. 3 – Rectangle 160/160					
	1.248	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	1.248	CO2	0.15	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	1.248	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.248	CO2	0.19	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO3	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.248	CO2	0.19	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
50	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO2	0.03	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.619	CO3	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.619	CO3	0.23	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
51	Cross-section No. 3 – Rectangle 160/160					
	1.322	CO2	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO2	0.17	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.661	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO2	0.12	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
52	Cross-section No. 2 – Rectangle 160/160					
	0.197	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.10	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.04	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
53	Cross-section No. 2 – Rectangle 160/160					
	0.051	CO2	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.30	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.051	CO9	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.051	CO2	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.025	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.051	CO2	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
54	Cross-section No. 9 – Rectangle 255/175					
	0.011	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
55	Cross-section No. 3 – Rectangle 160/160					
	3.009	CO8	0.04	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	3.009	CO3	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	2.257	CO7	0.05	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	3.009	CO3	0.06	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
56	Cross-section No. 3 – Rectangle 160/160					
	1.082	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.541	CO3	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.082	CO8	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.082	CO7	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
57	Cross-section No. 2 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.620	CO7	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.620	CO7	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
58	Cross-section No. 4 – Rectangle 255/170					
	0.503	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.503	CO7	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
59	Cross-section No. 3 – Rectangle 160/160					
	0.510	CO2	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.510	CO2	0.03	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO2	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.510	CO2	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
60	Cross-section No. 4 – Rectangle 255/170					
	0.799	CO8	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.799	CO8	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.799	CO8	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.799	CO8	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
61	Cross-section No. 4 – Rectangle 255/170					
	0.141	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
62	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.30	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.26	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
63	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
64	Cross-section No. 2 – Rectangle 160/160					
	0.000	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.180	CO5	0.11	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO5	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.090	CO1	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.000	CO5	0.02	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
65	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.799	CO3	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.799	CO7	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
66	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO8	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.05	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO5	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.365	CO8	0.01	≤ 1	162)	Cross-section resistance – Uniaxial bending about z-axis and tension acc. To 6.2.3
67	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.26	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.29	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
68	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.07	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
69	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
70	Cross-section No. 3 – Rectangle 160/160					
	0.533	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.533	CO8	0.33	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.533	CO8	0.31	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
71	Cross-section No. 2 – Rectangle 160/160					
	0.000	CO5	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO5	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
72	Cross-section No. 10 – Rectangle 200/170					
	0.000	CO8	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO8	0.14	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO8	0.03	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
73	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO4	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.907	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.907	CO5	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO5	0.03	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO4	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
	0.000	CO8	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO6	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO8	0.02	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
74	Cross-section No. 3 – Rectangle 160/160					
	1.523	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.523	CO7	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.523	CO7	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
75	Cross-section No. 3 – Rectangle 160/160					
	1.376	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.376	CO8	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.376	CO8	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
76	Cross-section No. 1 – Rectangle 230/255					
	0.000	CO8	0.03	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO8	0.02	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
77	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO4	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
78	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO5	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.487	CO8	0.02	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
79	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO8	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.02	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
80	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.915	CO7	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.04	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
81	Cross-section No. 3 – Rectangle 160/160					
	1.691	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.691	CO7	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO5	0.02	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.691	CO7	0.09	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
82	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.676	CO5	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.676	CO5	0.06	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.676	CO3	0.04	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
83	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO5	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
84	Cross-section No. 5 – Rectangle 160/160					
	1.295	CO8	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	1.295	CO7	0.28	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.295	CO7	0.23	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.295	CO8	0.25	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
85	Cross-section No. 5 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.19	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.24	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
86	Cross-section No. 5 – Rectangle 160/160					
	1.106	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.106	CO7	0.15	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.106	CO8	0.12	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
87	Cross-section No. 3 – Rectangle 160/160					
	1.828	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.828	CO7	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.828	CO7	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
88	Cross-section No. 1 – Rectangle 230/255					
	0.790	CO9	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO4	0.01	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.790	CO4	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
89	Cross-section No. 10 – Rectangle 200/170					
	0.000	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.818	CO7	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.818	CO9	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.818	CO8	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.818	CO8	0.02	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
90	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.875	CO7	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.875	CO8	0.02	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO8	0.02	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
91	Cross-section No. 3 – Rectangle 160/160					
	1.531	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.531	CO7	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.765	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.531	CO7	0.03	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
92	Cross-section No. 3 – Rectangle 160/160					
	0.389	CO7	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO2	0.57	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO2	0.13	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.389	CO2	0.13	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
93	Cross-section No. 4 – Rectangle 255/170					
	0.016	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
94	Cross-section No. 3 – Rectangle 160/160					
	0.988	CO8	0.02	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.988	CO8	0.32	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.988	CO7	0.37	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
95	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.40	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.10	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.35	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.36	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
96	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.03	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	4.050	CO8	0.21	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	4.050	CO4	0.07	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	4.050	CO8	0.25	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	4.050	CO7	0.27	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
97	Cross-section No. 3 – Rectangle 160/160					
	2.557	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	2.557	CO3	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	2.557	CO2	0.59	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.197	CO1	0.04	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	2.557	CO2	0.40	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
	2.557	CO2	0.38	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	2.557	CO2	0.40	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
98	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.081	CO7	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.081	CO5	0.03	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.081	CO7	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
99	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.04	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
100	Cross-section No. 1 – Rectangle 230/255					
	0.000	CO1	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
101	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO2	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	3.351	CO2	0.20	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.340	CO2	0.22	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.340	CO2	0.29	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
102	Cross-section No. 3 – Rectangle 160/160					
	0.159	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.159	CO7	0.42	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO2	0.13	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.159	CO6	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO2	0.13	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
103	Cross-section No. 3 – Rectangle 160/160					
	7.190	CO2	0.04	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO1	0.05	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.595	CO1	0.12	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
104	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	1.448	CO2	0.08	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO2	0.06	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
105	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO7	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
106	Cross-section No. 10 – Rectangle 200/170					
	0.701	CO5	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.03	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
107	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.01	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.889	CO8	0.09	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.05	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
108	Cross-section No. 2 – Rectangle 160/160					
	0.000	CO7	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO5	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO5	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO5	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.162	CO5	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO5	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
121	Cross-section No. 1 – Rectangle 230/255					
	0.000	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO8	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO3	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	0.000	CO8	0.01	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO8	0.01	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
123	Cross-section No. 10 – Rectangle 200/170					
	0.000	CO8	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.517	CO7	0.03	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.517	CO7	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.259	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.517	CO7	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
126	Cross-section No. 9 – Rectangle 255/175					
	0.000	CO9	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.865	CO5	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO1	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO1	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.865	CO5	0.00	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO5	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.865	CO5	0.00	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
128	Cross-section No. 9 – Rectangle 255/175					
	0.000	CO9	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO7	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.651	CO7	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
129	Cross-section No. 9 – Rectangle 255/175					
	0.000	CO2	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO2	0.30	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.051	CO1	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.051	CO2	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
130	Cross-section No. 2 – Rectangle 160/160					
	0.000	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.179	CO7	0.20	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.03	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
135	Cross-section No. 9 – Rectangle 255/175					
	0.873	CO5	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO2	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
136	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	3.617	CO8	0.14	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.617	CO8	0.16	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	2.170	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	3.617	CO8	0.18	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
138	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO7	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO8	0.33	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.28	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.30	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
139	Cross-section No. 9 – Rectangle 255/175					
	0.451	CO6	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO2	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO1	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.451	CO1	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.451	CO2	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
140	Cross-section No. 3 – Rectangle 160/160					
	0.991	CO8	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.991	CO8	0.28	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.991	CO8	0.24	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.991	CO8	0.26	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
141	Cross-section No. 3 – Rectangle 160/160					
	0.605	CO7	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.605	CO7	0.40	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.605	CO7	0.25	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4

2.4 Design by Member

Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	0.000	CO1	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.605	CO7	0.25	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
142	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO8	0.02	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	3.732	CO8	0.19	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	3.732	CO8	0.16	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	2.986	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	3.732	CO8	0.18	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
143	Cross-section No. 9 – Rectangle 255/175					
	1.639	CO2	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.04	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.820	CO4	0.00	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.639	CO2	0.06	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO2	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.639	CO2	0.07	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
144	Cross-section No. 9 – Rectangle 255/175					
	0.838	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	1.676	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO1	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.676	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.676	CO2	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.676	CO7	0.02	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
145	Cross-section No. 10 – Rectangle 200/170					
	0.000	CO8	0.01	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	1.640	CO7	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO7	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.640	CO8	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO7	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
146	Cross-section No. 10 – Rectangle 200/170					
	1.640	CO1	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO8	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
147	Cross-section No. 1 – Rectangle 230/255					
	0.820	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	1.640	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO1	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	1.640	CO7	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To

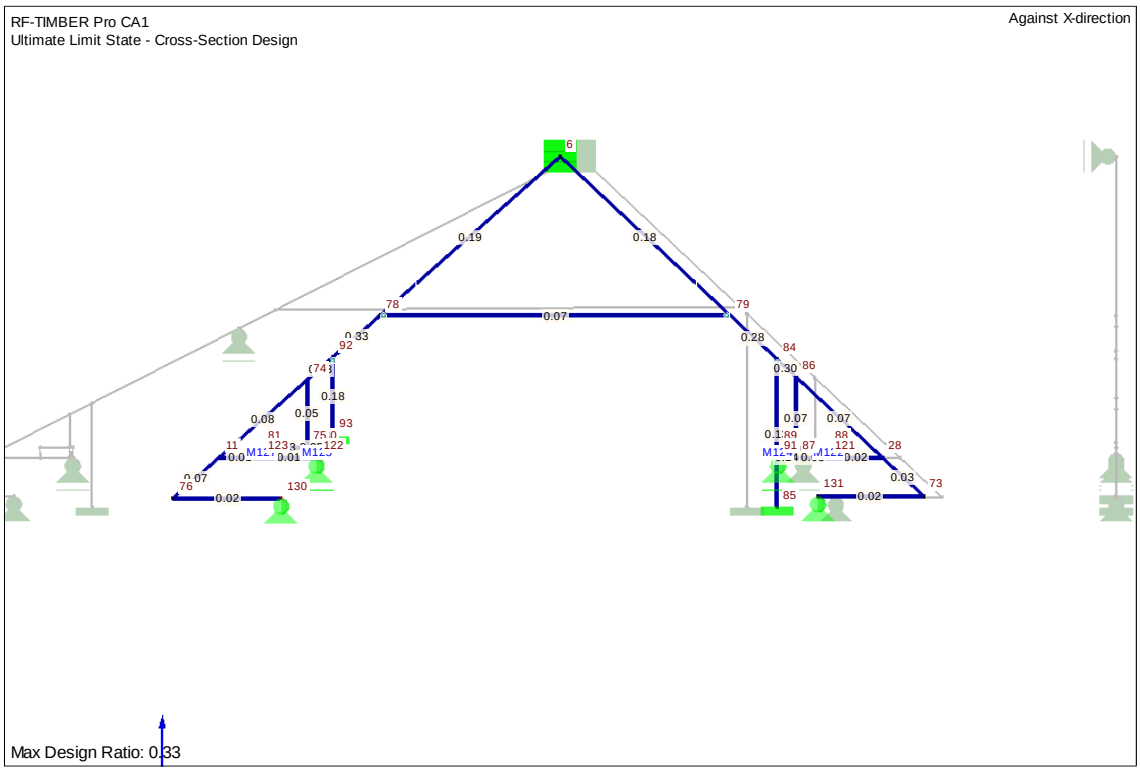
2.4 Design by Member

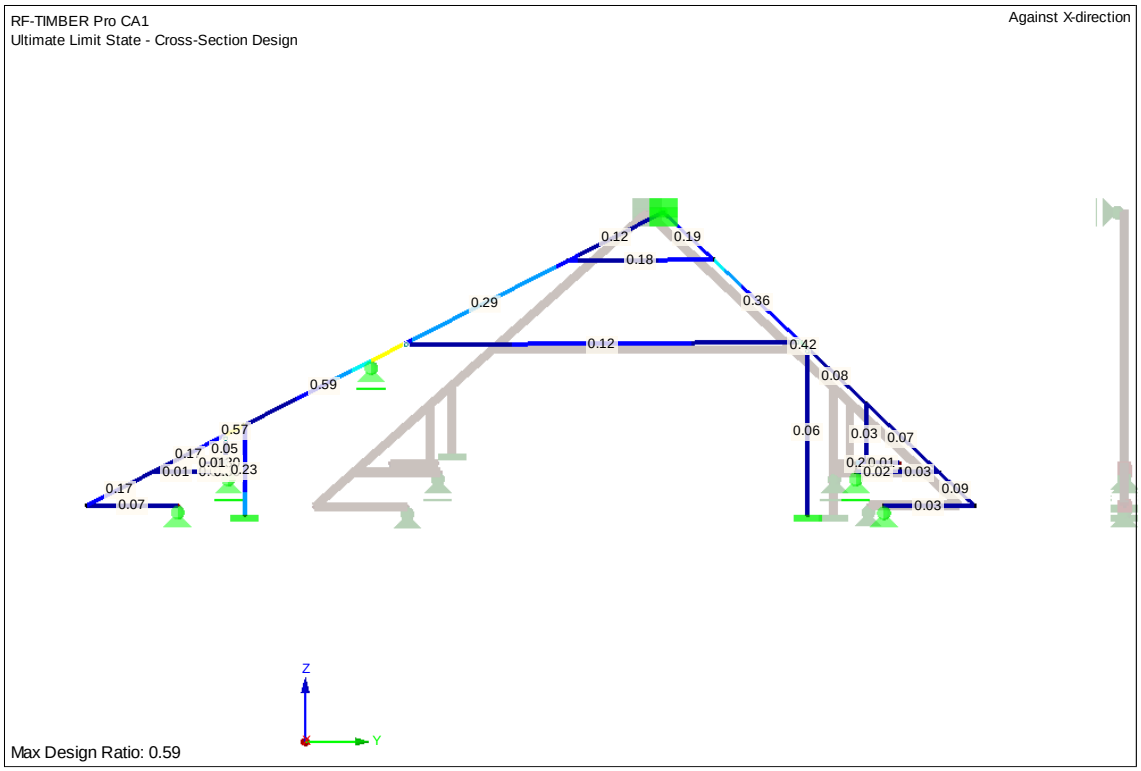
Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
						6.1.6
	1.640	CO8	0.01	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.640	CO8	0.01	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
148	Cross-section No. 1 – Rectangle 230/255					
	1.639	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces
	0.000	CO1	0.01	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	0.000	CO5	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
149	Cross-section No. 4 – Rectangle 255/170					
	0.000	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO1	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.641	CO7	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.641	CO7	0.02	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
150	Cross-section No. 4 – Rectangle 255/170					
	0.820	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	1.640	CO1	0.01	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO4	0.01	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	0.000	CO7	0.01	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	1.640	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO7	0.01	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
151	Cross-section No. 4 – Rectangle 255/170					
	1.640	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.02	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.640	CO7	0.02	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO8	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.640	CO7	0.03	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
152	Cross-section No. 1 – Rectangle 230/255					
	1.640	CO7	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO7	0.02	≤ 1	112)	Cross-section resistance – Shear due to shear force Vy acc. To 6.1.7
	1.640	CO5	0.01	≤ 1	152)	Cross-section resistance – Uniaxial bending about z-axis acc. To 6.1.6
	1.640	CO7	0.02	≤ 1	172)	Cross-section resistance – Uniaxial bending about z-axis and compression acc. To 6.2.4
	0.000	CO7	0.00	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	1.640	CO7	0.02	≤ 1	328)	Member with bending about z-axis and compression acc. To 6.3.2 – Buckling about both axes
154	Cross-section No. 3 – Rectangle 160/160					
	1.927	CO4	0.00	≤ 1	100)	Cross-section resistance – Negligible internal forces

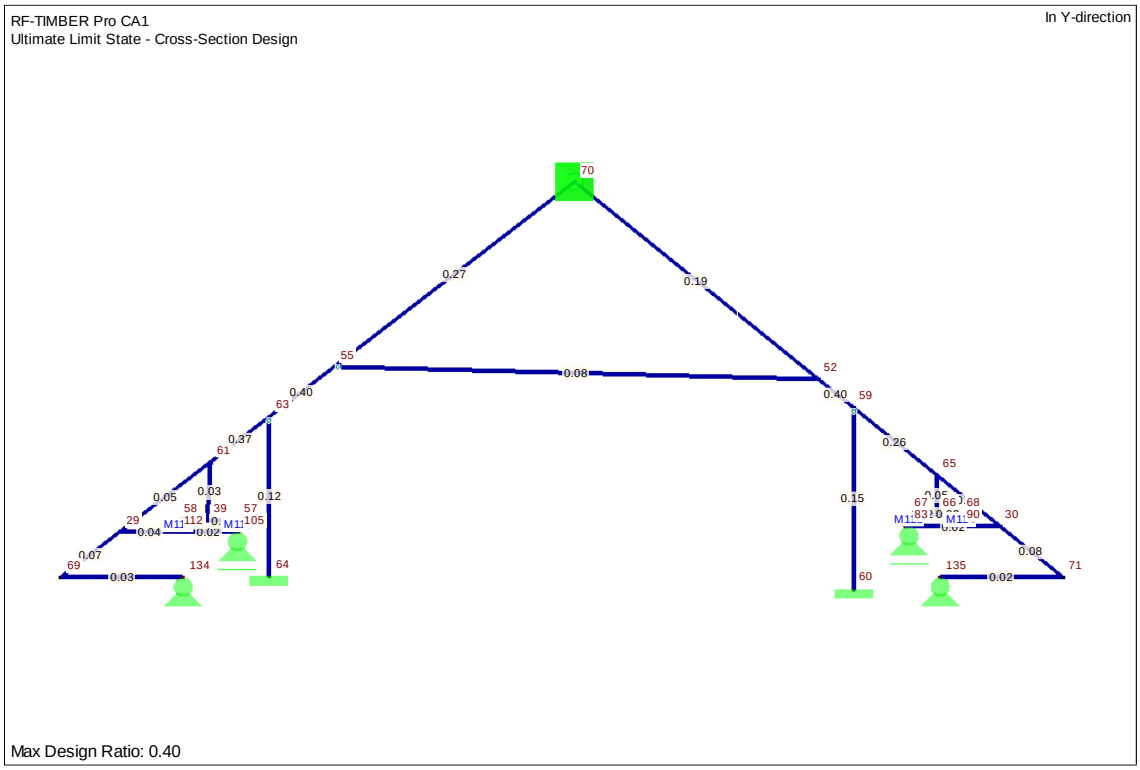
2.4 Design by Member

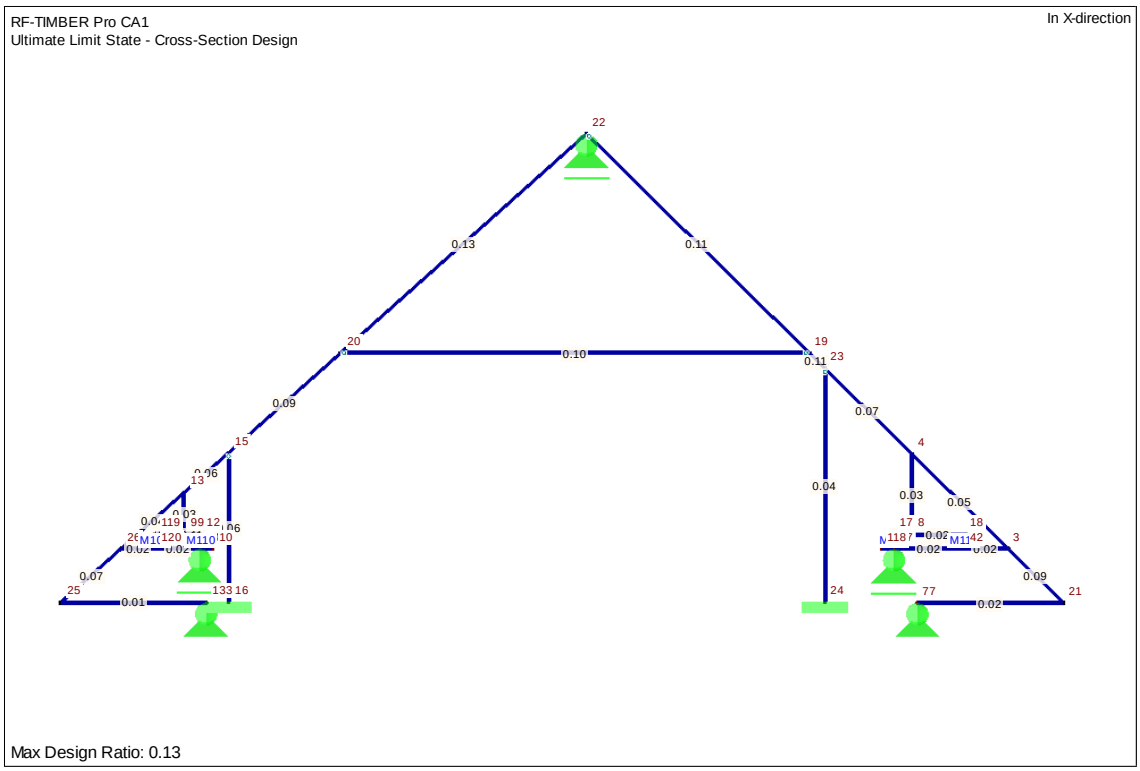
Member No.	Location x [m]	LC/CO/ RC	Design		Design No.	Description
	1.927	CO2	0.00	≤ 1	101)	Cross-section resistance – Tension along the grain acc. To 6.1.2
	0.000	CO8	0.00	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.12	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	1.285	CO2	0.04	≤ 1	151)	Cross-section resistance – Uniaxial bending acc. To 6.1.6
	1.927	CO2	0.01	≤ 1	161)	Cross-section resistance – Uniaxial bending about y-axis and tension acc. To 6.2.3
	0.000	CO7	0.05	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.000	CO7	0.05	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
155	Cross-section No. 3 – Rectangle 160/160					
	0.000	CO2	0.04	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	2.626	CO2	0.07	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	2.626	CO2	0.13	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.656	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	2.626	CO2	0.18	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes
156	Cross-section No. 3 – Rectangle 160/160					
	2.170	CO2	0.05	≤ 1	102)	Cross-section resistance – Compression along the grain acc. To 6.1.4
	0.000	CO2	0.22	≤ 1	111)	Cross-section resistance – Shear due to shear force Vz acc. To 6.1.7
	0.000	CO2	0.32	≤ 1	171)	Cross-section resistance – Uniaxial bending about y-axis and compression acc. To 6.2.4
	0.723	CO4	0.01	≤ 1	303)	Compression member with axial compression acc. To 6.3.2 – Buckling about both axes
	0.000	CO2	0.36	≤ 1	323)	Member with bending and compression acc. To 6.3.2 – Buckling about both axes

Design: Ultimate Limit State - Cross-Section Design



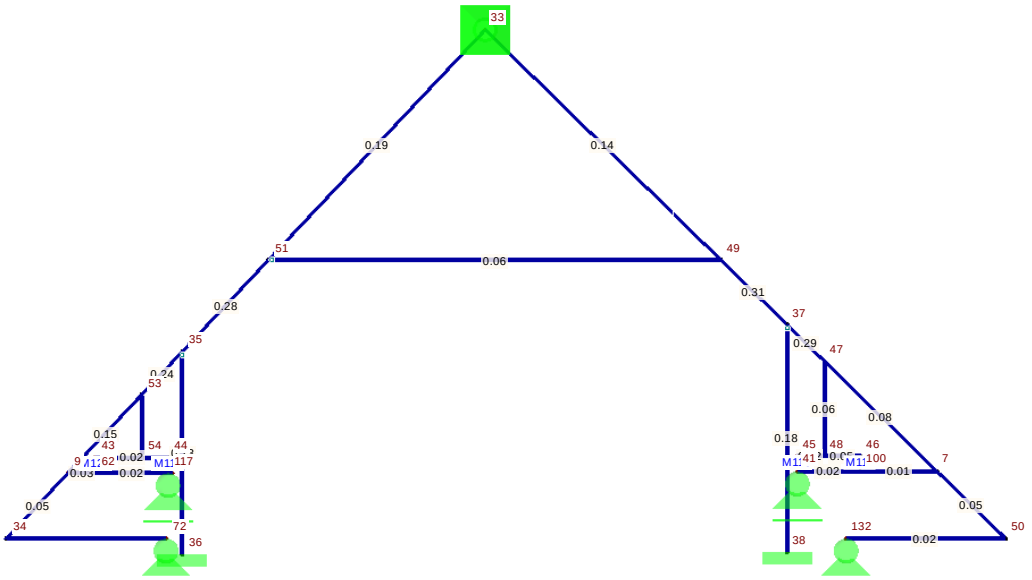



RF-TIMBER Pro CA1
Ultimate Limit State - Cross-Section Design
In Y-direction
70
0.27
0.19
55
0.08
52
0.40
0.40
63
59
0.37
0.26
61
65
0.05
0.03
0.12
0.15
58
39
57
29
0.04
0.02
105
30
0.07
0.08
69
0.03
134
64
60
135
0.02
71
Max Design Ratio: 0.40


RF-TIMBER Pro CA1
Ultimate Limit State - Cross-Section Design
In X-direction
22
0.13
0.11
20
0.10
19
0.11
23
0.09
0.07
15
4
0.04
0.03
0.05
13
0.07
25
0.01
133
16
24
77
0.02
21
Max Design Ratio: 0.13

RF-TIMBER Pro CA1
Ultimate Limit State - Cross-Section Design

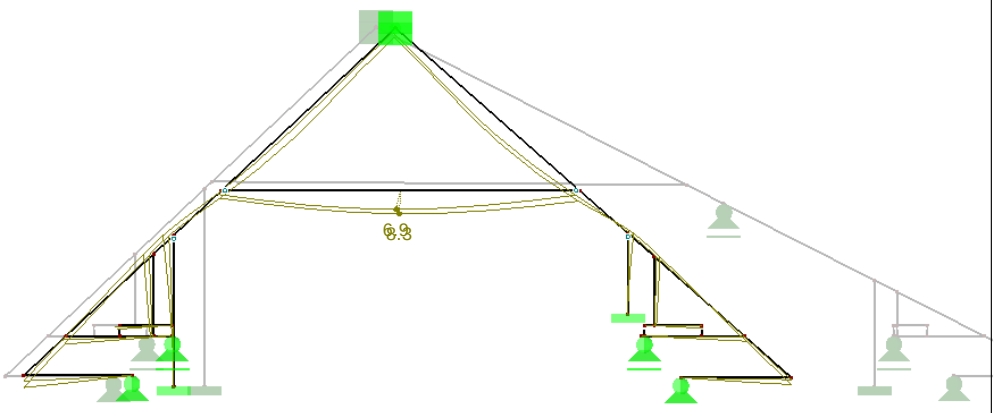
In Y-direction



Max Design Ratio: 0.31

RC3: SLS - Quasi-permanent
Global Deformations u [mm]
Result Combinations: Max and Min Values

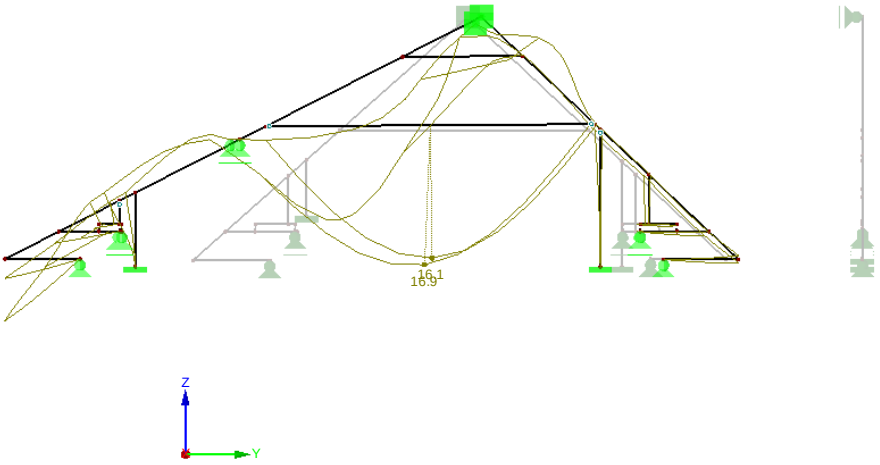
In X-direction



Max u: 8.3, Min u: 0.0 [mm]
Factor of deformations: 42.50

RC3: SLS - Quasi-permanent
Global Deformations u [mm]
Result Combinations: Max and Min Values

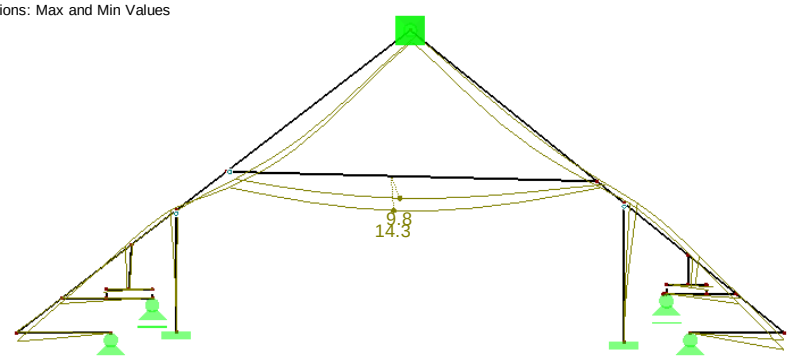
Against X-direction



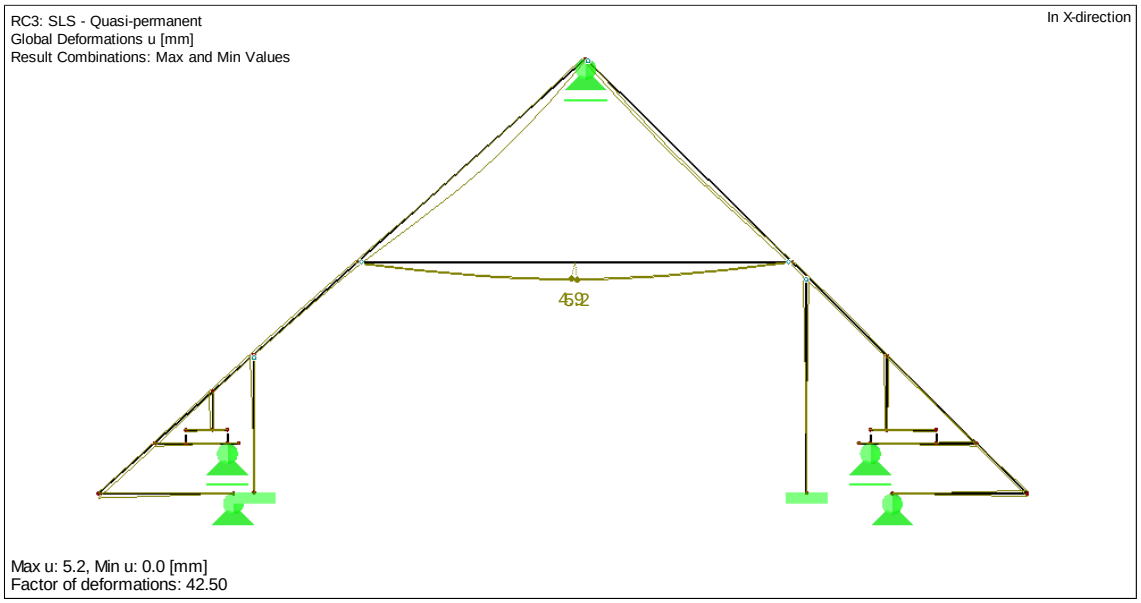
Max u: 16.9, Min u: 0.0 [mm]
Factor of deformations: 180.00

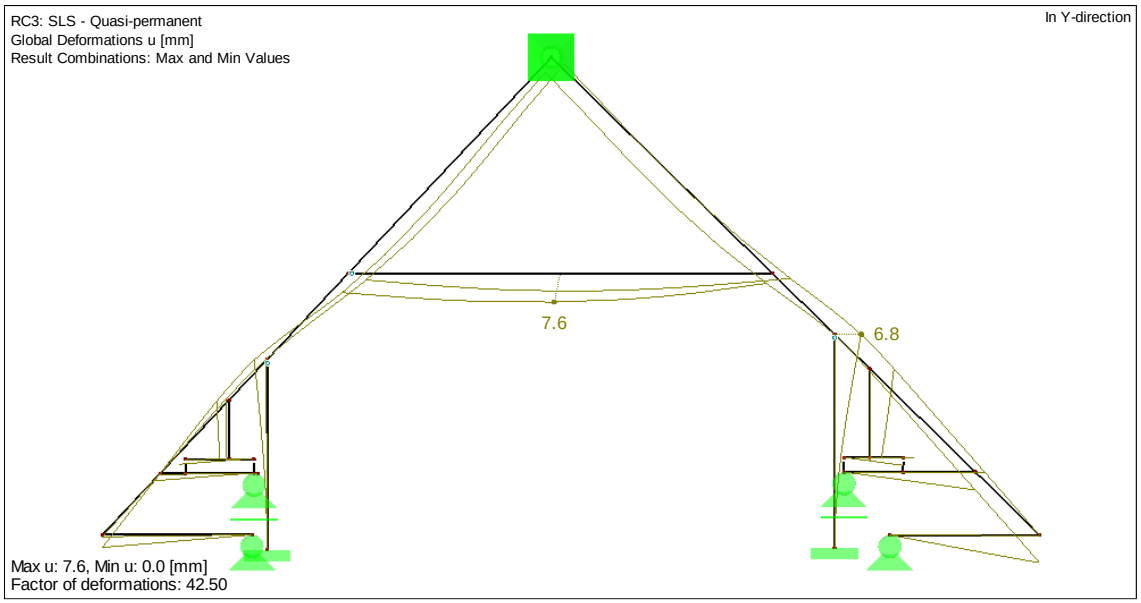
RC3: SLS - Quasi-permanent
Global Deformations u [mm]
Result Combinations: Max and Min Values

In Y-direction



Max u: 14.3, Min u: 0.0 [mm]
Factor of deformations: 42.50

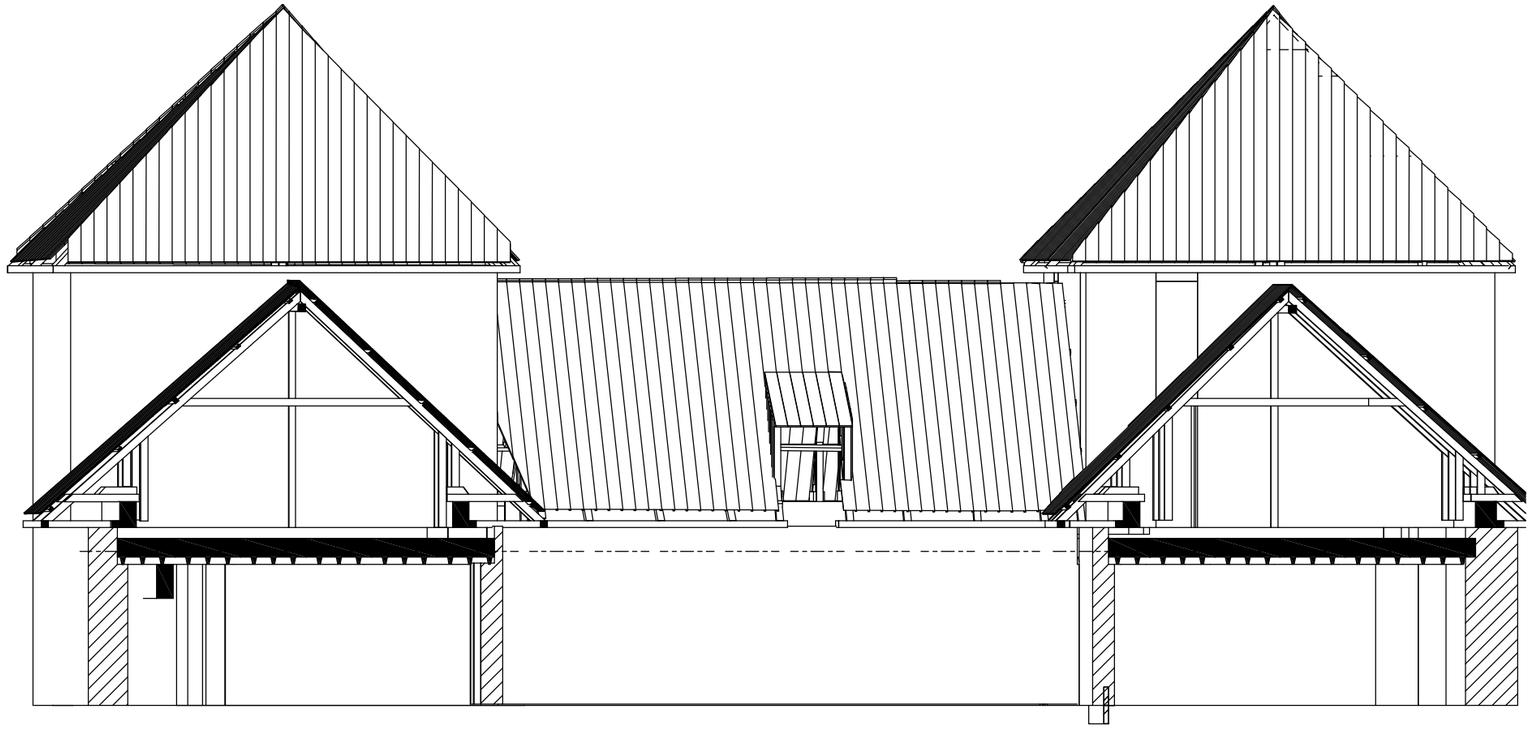

RC3: SLS - Quasi-permanent
Global Deformations u [mm]
Result Combinations: Max and Min Values
In X-direction
4.92
Max u: 5.2, Min u: 0.0 [mm]
Factor of deformations: 42.50


RC3: SLS - Quasi-permanent
Global Deformations u [mm]
Result Combinations: Max and Min Values
In Y-direction
7.6
6.8
Max u: 7.6, Min u: 0.0 [mm]
Factor of deformations: 42.50

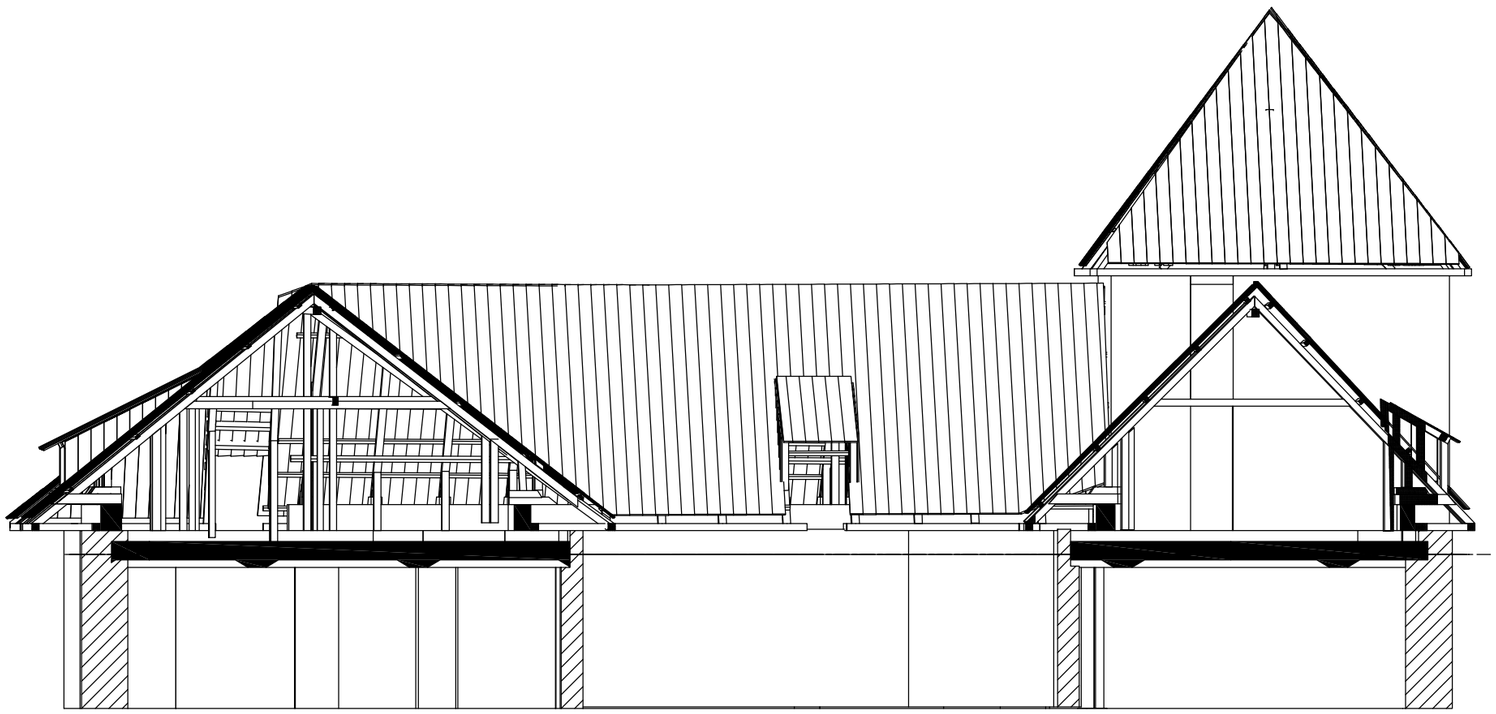
APPENDIX 3. GENERAL ARRANGEMENT AND PRODUCTION DRAWINGS

I. GENERAL ARRANGEMENT DRAWING		
S.N.	Contents	
1	Elevation drawings	
2	Layout of fourth floor	
2	Layout of roof wooden planks	
4	Layout of trusses	
5	Section drawings	
II. ASSEMBLY DRAWINGS		
S.N.	Contents	Drawing number
1	Truss 0 assembly	TR/869
2	Truss 1 assembly	TR/409
3	Truss 2 assembly	TR/323
4	Truss 3 assembly	K/2042
5	Truss 4 assembly	TR/211
III. SINGLE PART DRAWINGS OF TRUSS ONE		
S.N.	Contents	Drawing number
1	Truss studs (small)	B/940, B/418
2	Truss studs (big)	B/937, B/417
3	Bottom truss beam (lower)	B/939, B/420
4	Bottom truss beam (upper)	B/938, B/419
5	Top chords	B/414, B/415
6	Bottom chord	B/416

ELEVATION 1
1:100



ELEVATION 2
1:100



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LIITTYVÄT PIIRUSTUKSET

K.OSAKYLÄ	KORTTELIYTILA	TONTTINRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN
RAKENNUSTOIMENPIDE			PIIRUSTUSLAJI / JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)			PVM
HAMK			09.07.2020
KOHDE			PIIRUSTUKSEN SISÄLTÖ / MITTAKAAVAT
			1:100
PIIRT.	GIRIJA BHATTA	SUUN.	
TARK.	CRISTINA TIRTEU	HYV.	

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TYONUMERO	ALANUMERO	PIIR. NRO.	
		0	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

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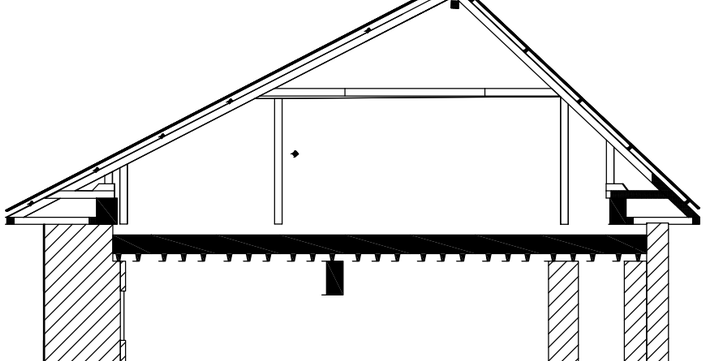
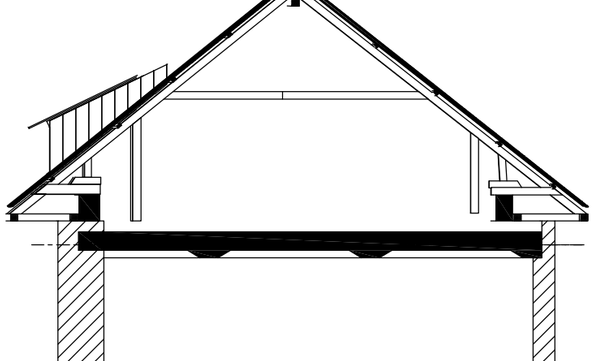
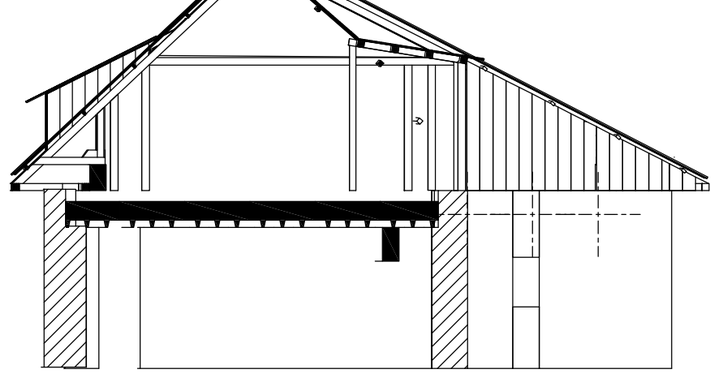
A - A
1:100



B - B
1:100



E - E
1:100



C - C
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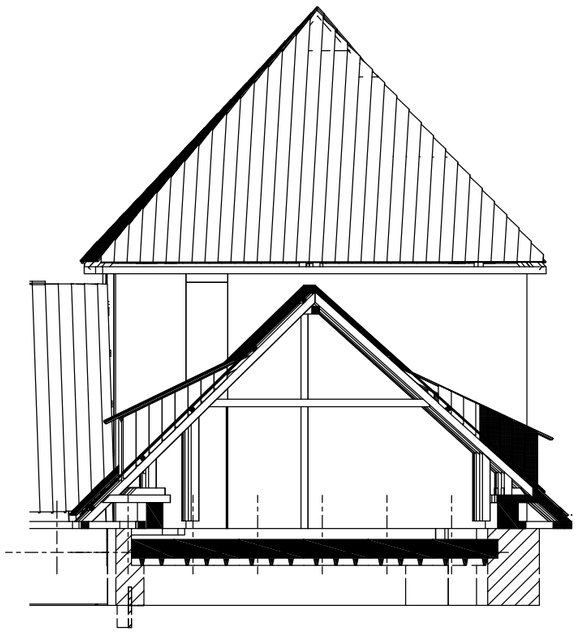
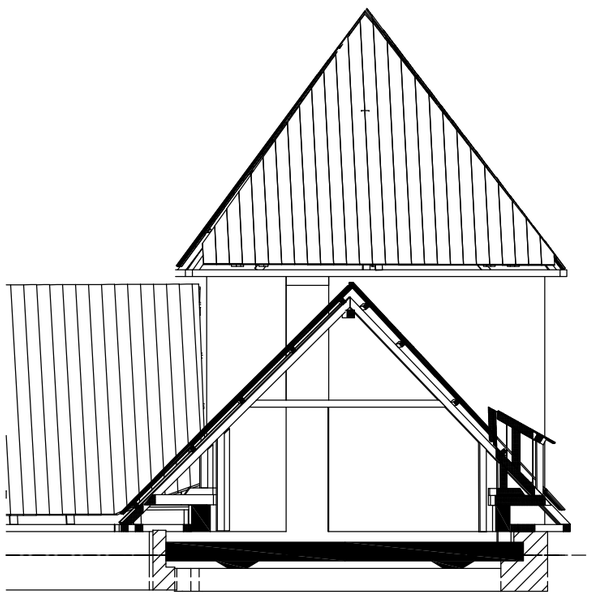


D - D
1:100



K.OSAKYLÄ	KORTTELIYTILA	TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN
RAKENNUSTOIMENPIDE		PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)			PVM
HAMK			09.07.2020
KOHDE		PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT 1:50 1:100
PIIRT. GIRIJA BHATTA	SUUN.		
TARK. CRISTINA TIRTEU	HYV.		

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		0	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

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ELEMENTTILUETTELO				
PIIRUSTUS	NIMI	MITAT [HxBxL]	AP. KORKO	PAINO [t]

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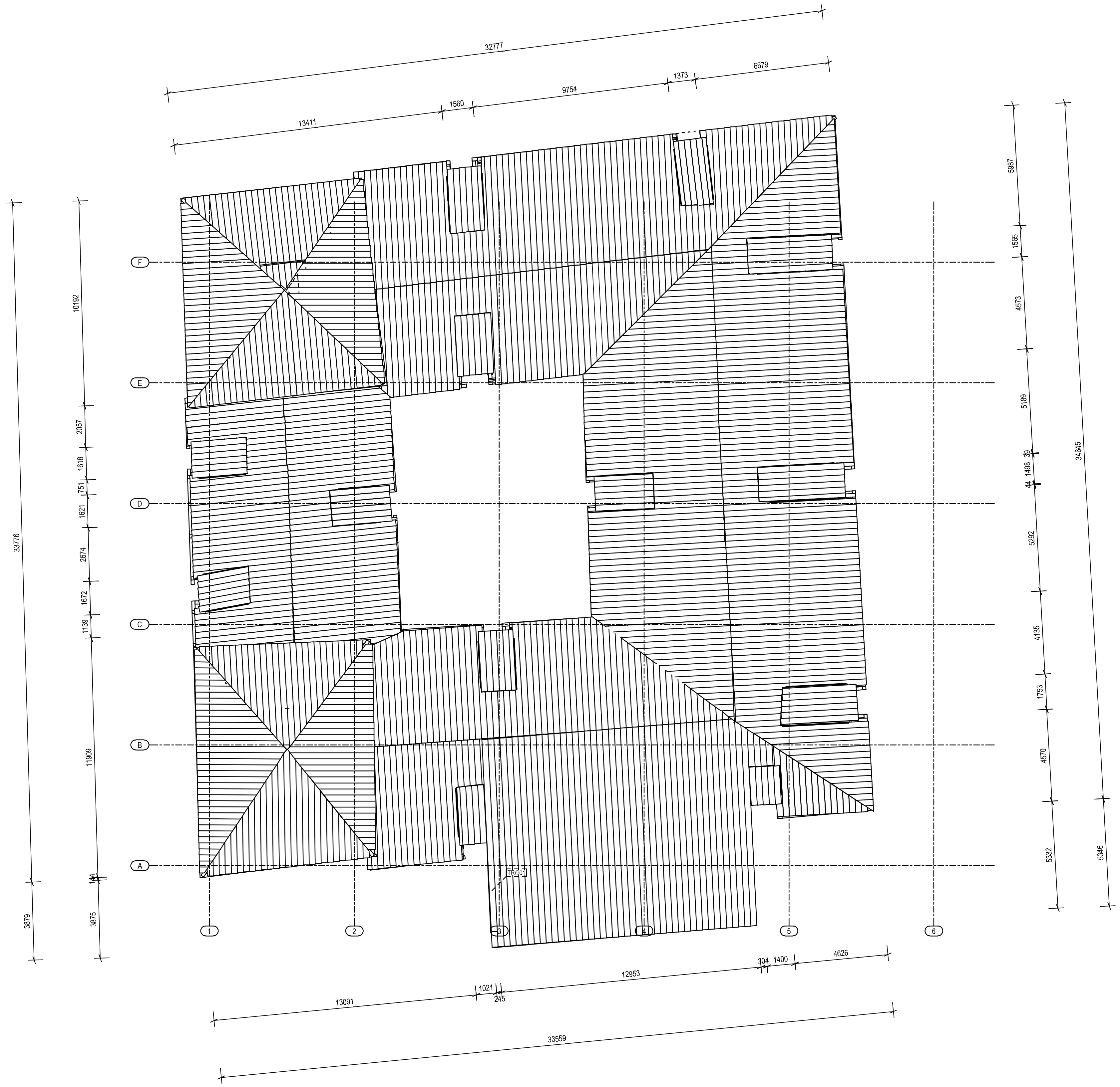
3d



K.OSA/KYLÄ / KORTTELI/TILA / TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN	
RAKENNUSTOIMENPIDE	PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS) HAMK	PVM 09.07.2020	
KOHDE	PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT 1:100
PIIRT. GIRIJA BHATTA	SUUN.	
TARK. CRISTINA TIRTEU	HYV.	
Senaatti Hatanpään Valtatie 36 B, 33100 Tampere Puh: +358205811458 Pauli.Rantamäki@senaatti.fi	TYÖNUMERO / ALANUMERO	PIIR. NRO. 0
	S.ALA RAK / SIVU	PVM 02.09.2020 / MUUTOS

ELEMENTTILUETTELO				
PIIRUSTUS	NIMI	MITAT [HxBxL]	AP. KORKO	PAINO [t]

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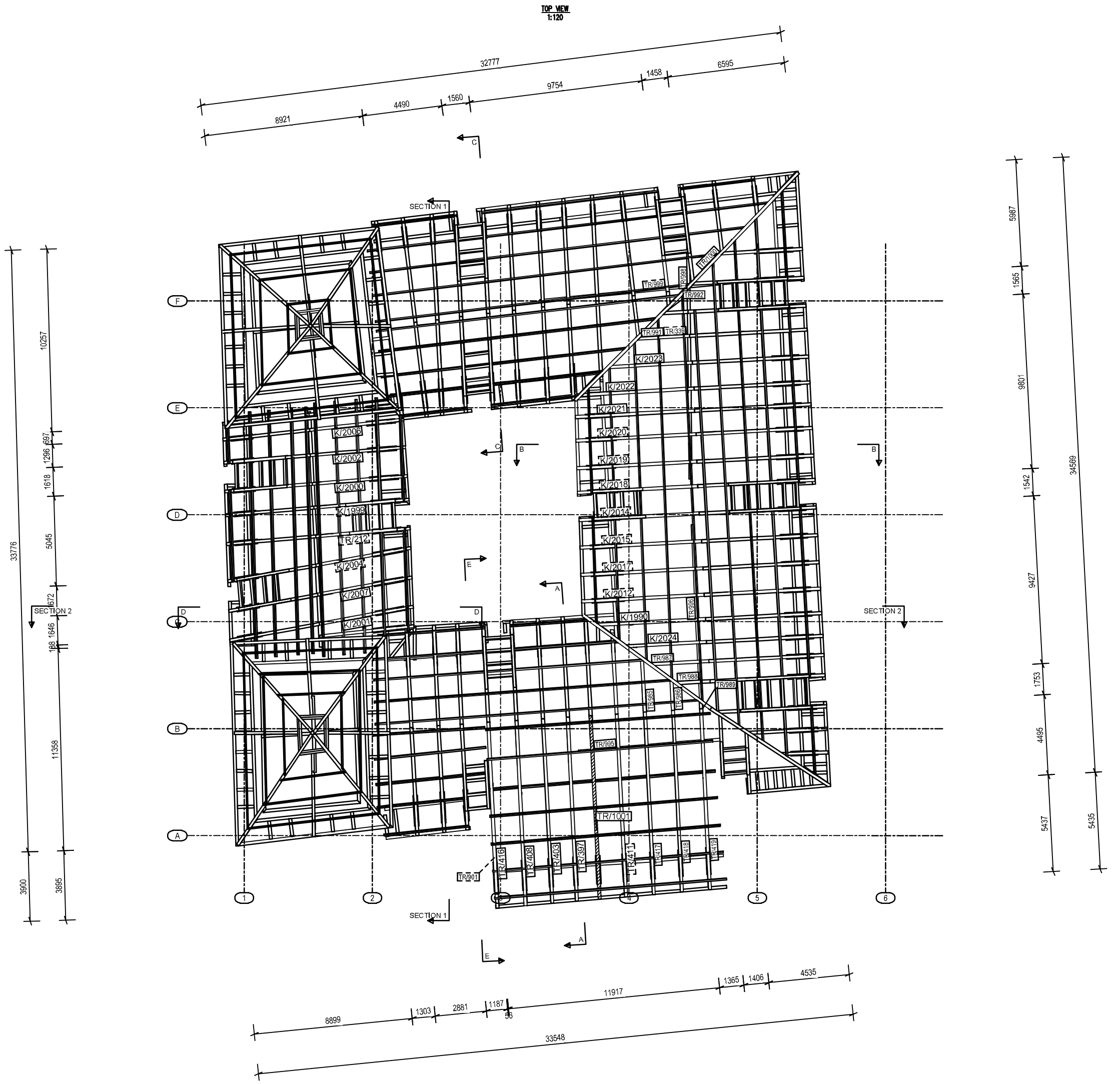
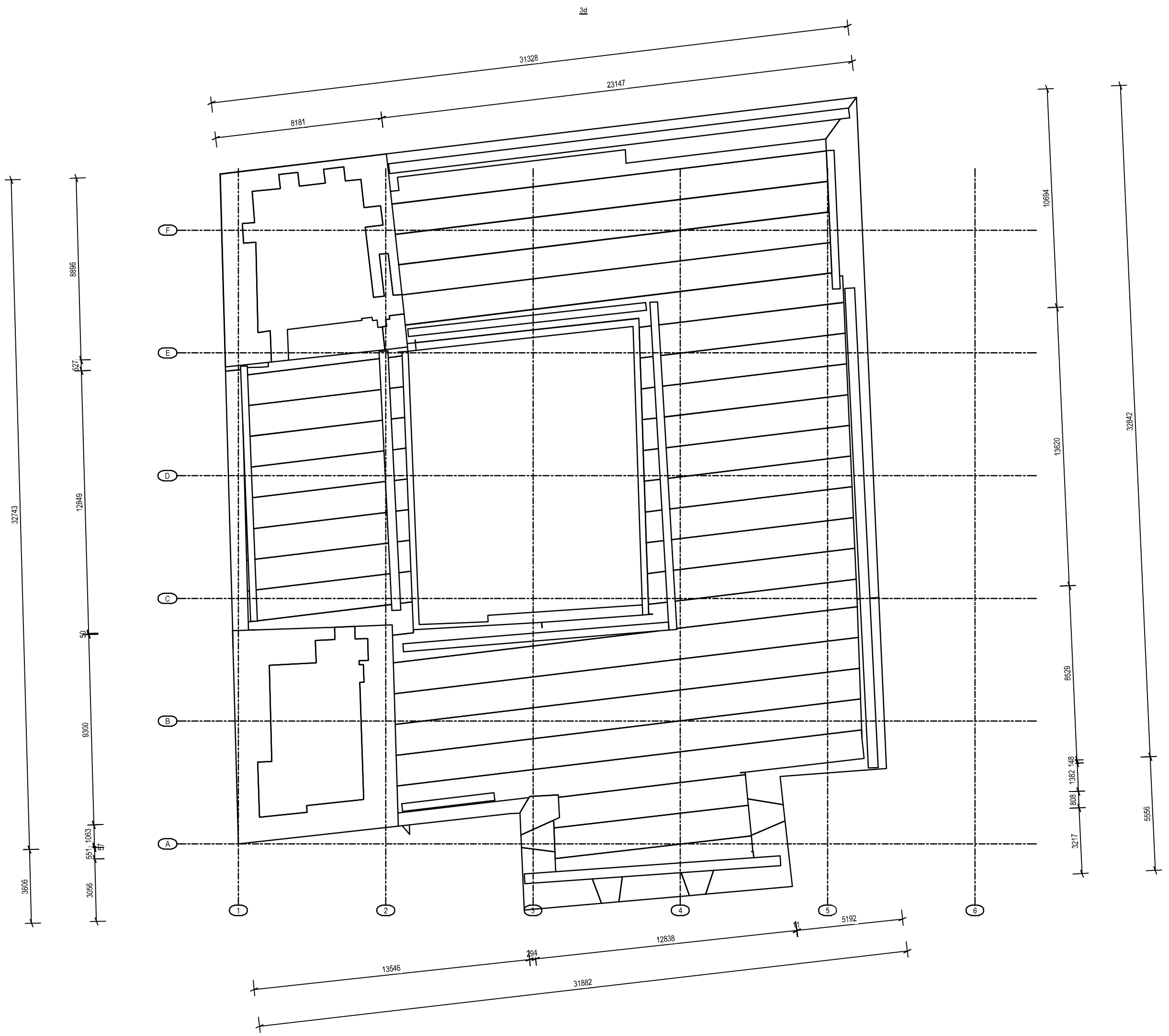
KUORMATIEDOT

LIITTYVÄT PIIRUSTUKSET



K.OSA/KYLÄ KORTTELI/TILA TONTTI/RNRO		VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN	
RAKENNUSTOIMENPIDE		PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS) HAMK		PVM 09.07.2020	
KOHDE		PIIRUSTUKSEN SISÄLTÖ TOP VIEW	MITTAKAAVAT 1:50 1:120
PIIRT. GIRIJA BHATTA	SUUN.		
TARK. CRISTINA TIRTEU	HYV.		
Tekla-Powered-by-logo-highorg	Senaatti Hatanpään Valtatie 36 B, 33100 Tampere Puh: +358205811458 Pauli.Rantamäki@senaatti.fi	TYÖNUMERO / ALANUMERO / PIIR. NRO. 01	S.ALA RAK / SIVU / PVM 02.09.2020 / MUUTOS

ELEMENTTILUETTELO				
PIIRUSTUS	NIMI	MITAT [HxBxL]	AP. KORKO	PAINO [t]



YLEISTIEDOT

TERÄSTIEDOT

BETONITIEDOT

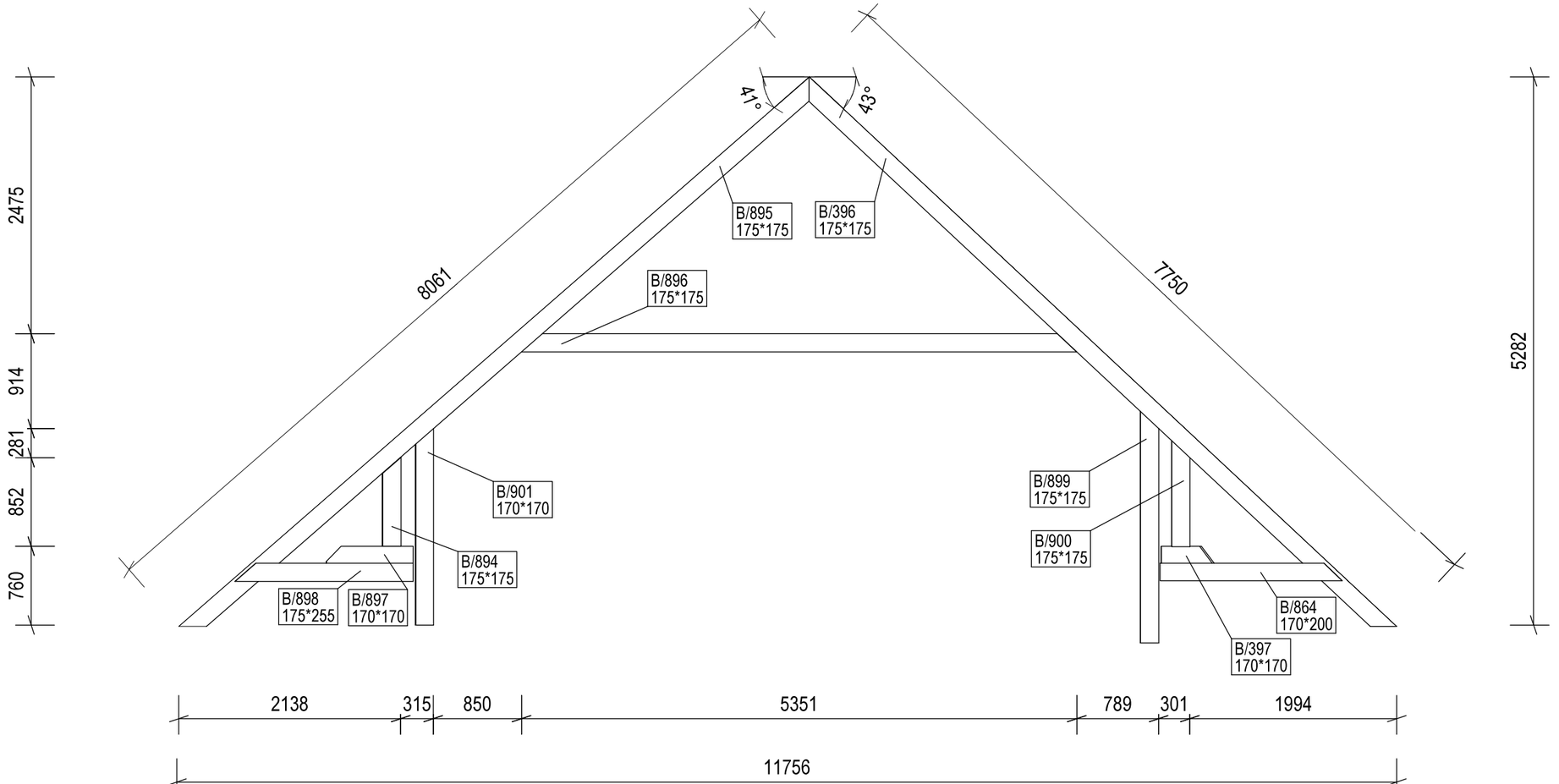
KUORMATIEDOT

LIITTYVÄT PIIRUSTUKSET

K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO
VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN		
RAKENNUSTOIMENPIDE	PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS) HAMK		PVM 09.07.2020
KOHDE	PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT 1:100
PIIRT. GIRIJA BHATTA	SUUN.	
TARK. CRISTINA TIRTEU	HYV.	
TYÖNUMERO	ALANUMERO	PIIR. NRO. 0
S.ALA RAK	SIVU	PVM 02.09.2020
MUUTOS		

Senaatti
Hatanpään Valtatie 36 B, 33100 Tampere
Puh: +358205811458
Pauli.Rantamäki@senaatti.fi

KOKOONPANON KIINNIKELUETTELO								
NIMIKE	HALK.	KOKO	STANDARDI	LUJUUS	MATER./PINTA	VÄRI	kg/YHT.	LKM
					YHTEENSÄ:		0.0	



K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN	
RAKENNUSTOIMENPIDE			PIIRUSTUSLAJI	JUOKSEVA NRO

VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)
HAMK

PVM
09.07.2020

KOHDE

PIIRUSTUKSEN SISÄLTÖ
KOKOONPANOPIIRUSTUS
TR/869, TRUSS

MITTAKAAVAT
1:50

PIIRT.	SUUN.
GIRIJA BHATTA	
TARK.	HYV.
CRISTINA TIRTEU	

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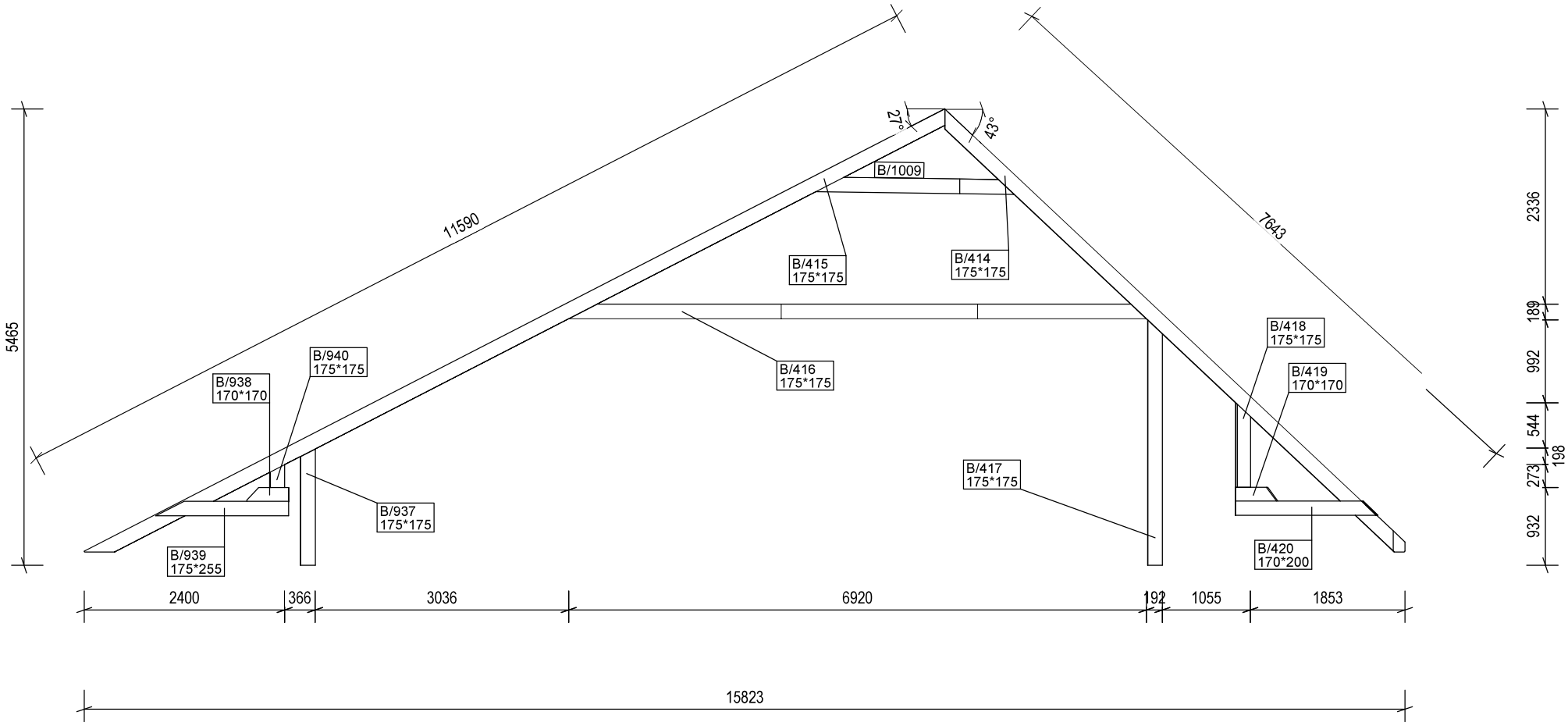
TYÖNUMERO	ALANUMERO	PIIR. NRO.	
		TR/869	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

VALMISTUS	HITSIT	PINTAKÄSITTELY

KOKOONPANON KIINNIKELUETTELO

NIMIKE	HALK.	KOKO	STANDARDI	LUJUUS	MATER./PINTA	VÄRI	kg/YHT.	LKM
					YHTEENSÄ:		0.0	



K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO
VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN		
RAKENNUSTOIMENPIDE	PIIRUSTUSLAJI	JUOKSEVA NRO

VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)
HAMK

PVM
09.07.2020

KOHDE

PIIRUSTUKSEN SISÄLTÖ
KOKOONPANOPIIRUSTUS
TR/409, TRUSS

MITTAKAAVAT
1:50

PIIRT.	SUUN.
GIRIJA BHATTA	
TARK.	HYV.
CRISTINA TIRTEU	

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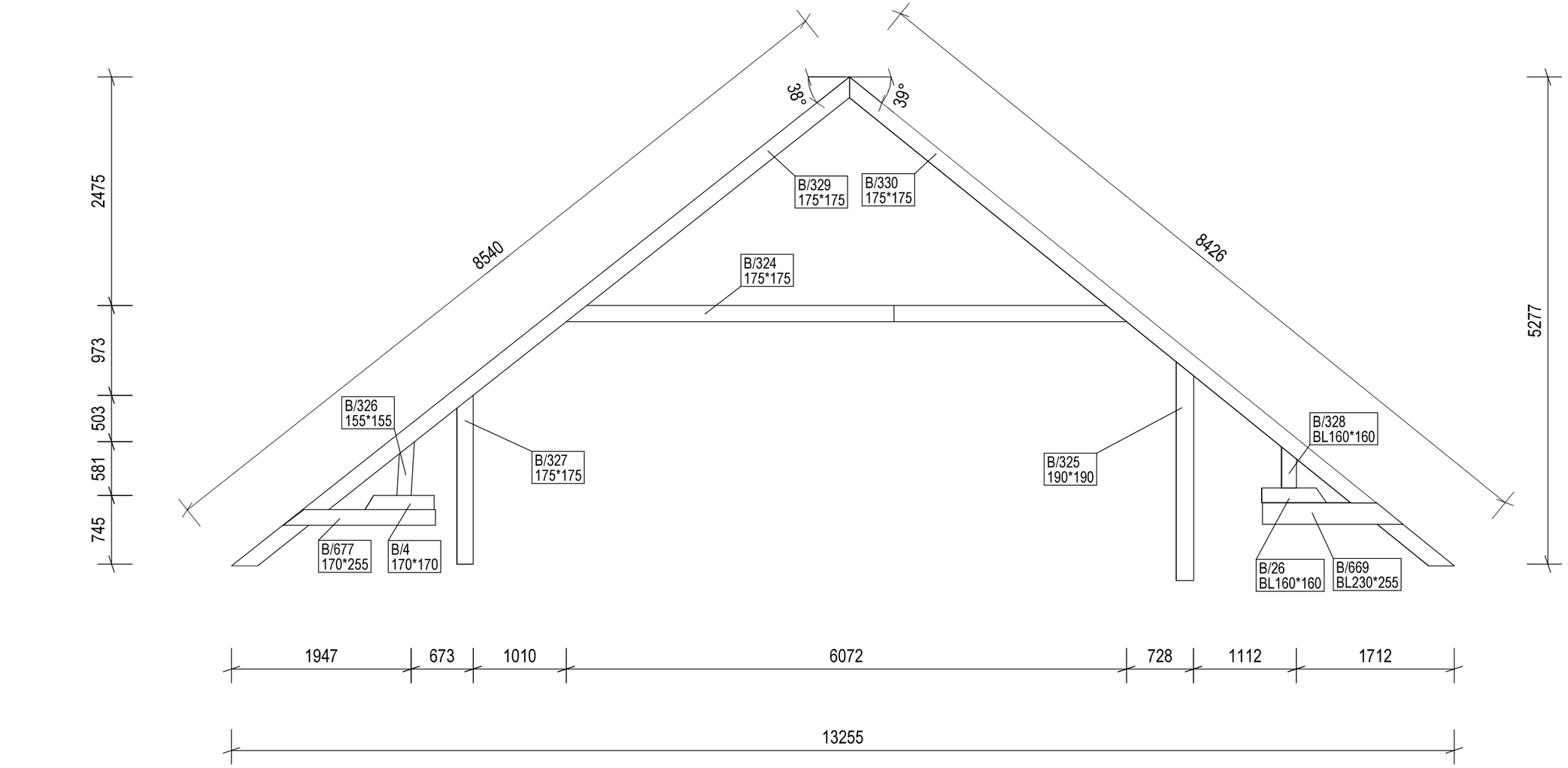
TYÖNUMERO	ALANUMERO	PIIR. NRO.	
		TR/409	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

VALMISTUS	HITSIT	PINTAKÄSITTELY

KOKOONPANON KIINNIKELUETTELO								
NIMIKE	HALK.	KOKO	STANDARDI	LUJUUS	MATER./PINTA	VÄRI	kg/YHT.	LKM
					YHTEENSÄ:		0.0	



K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN		
RAKENNUSTOIMENPIDE			PIIRUSTUSLAJI		JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)				PVM	
HAMK				09.07.2020	
KOHDE			PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT	
			KOKOONPANOPIIRUSTUS TR/323, TRUSS 2	1:50	
PIIRT.	SUUN.				
GIRIJA BHATTA					
TARK.	HYV.				
CRISTINA TIRTEU					

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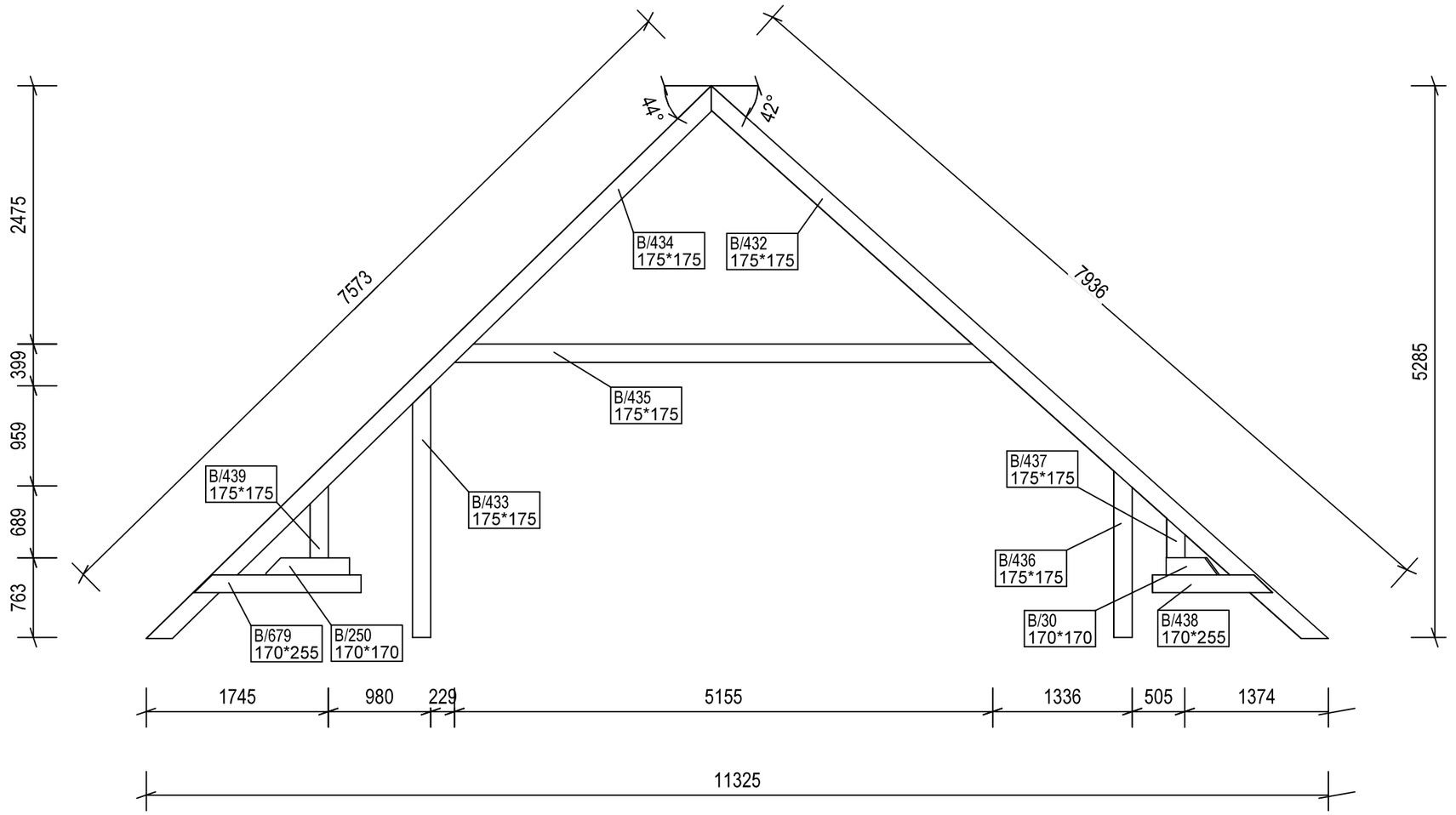
TYÖNUMERO	ALANUMERO	PIIR. NRO.	
		TR/323	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

VALMISTUS	HITSIT	PINTAKÄSITTELY

KOKOONPANON KIINNIKELUETTELO								
NIMIKE	HALK.	KOKO	STANDARDI	LUJUUS	MATER./PINTA	VÄRI	kg/YHT.	LKM
					YHTEENSÄ:		0.0	



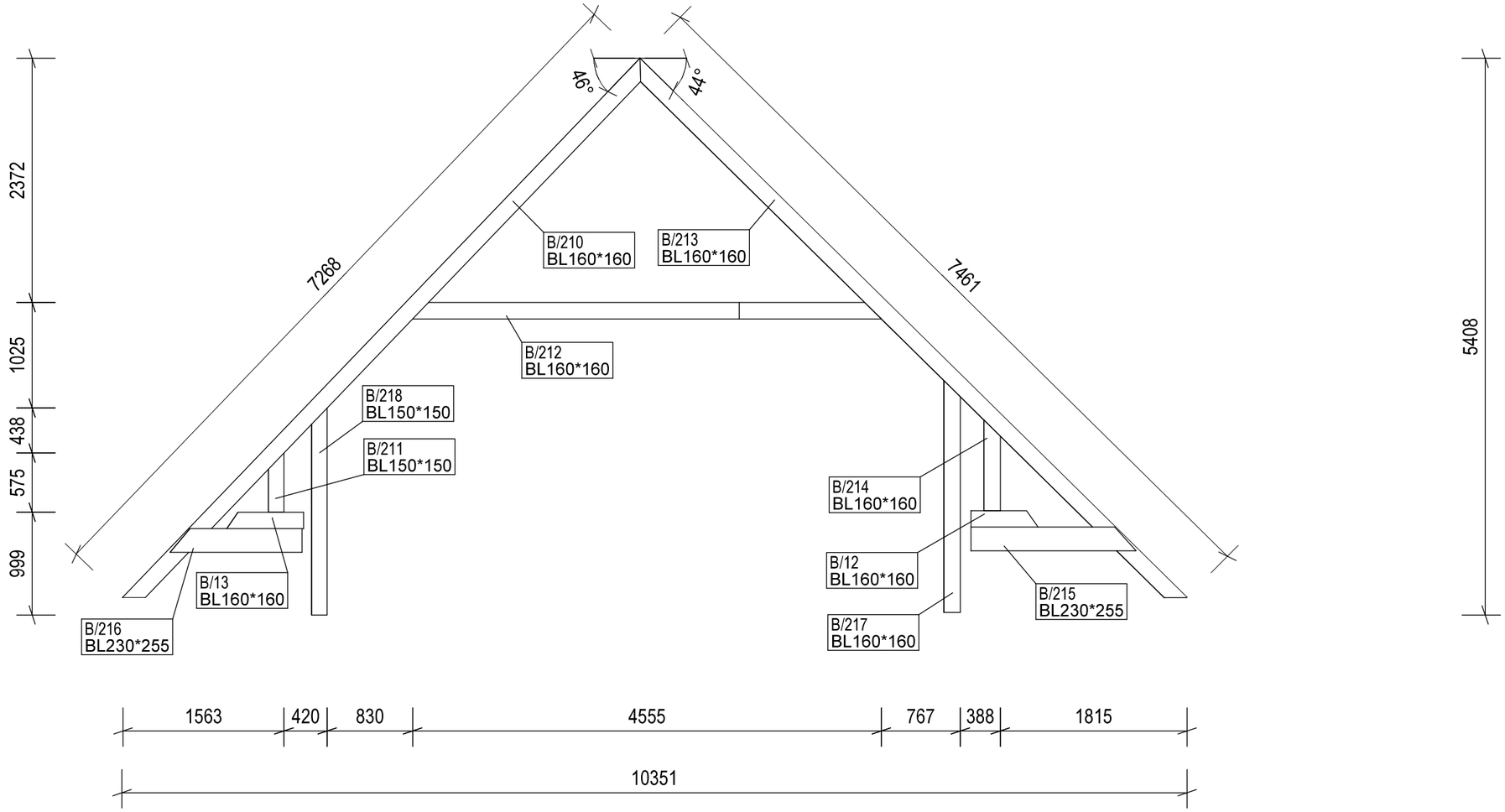
K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN	
RAKENNUSTOIMENPIDE			PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)			PVM	
HAMK			09.07.2020	
KOHDE			PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT
			KOKOONPANOPIIRUSTUS K/2042, TRUSS 3	1:15 1:50
PIIRT. GIRIJA BHATTA		SUUN.		
TARK. CRISTINA TIRTEU		HYV.		
Senaatti Hatanpään Valtatie 36 B, 33100 Tampere Puh: +358205811458 Pauli.Rantamäki@senaatti.fi			TYÖNUMERO	ALANUMERO
			PIIR. NRO. K/2042	
			S.ALA RAK	SIVU
			PVM 02.09.2020	MUUTOS

VALMISTUS	HITSIT	PINTAKÄSITTELY

Tekla Structures

KOKOONPANON KIINNIKELUETTELO

NIMIKE	HALK.	KOKO	STANDARDI	LUJUUS	MATER./PINTA	VÄRI	kg/YHT.	LKM
					YHTEENSÄ:		0.0	



K.OSA/KYLÄ	KORTTELI/TILA	TONTTI/RNRO	VIRANOMAISTEN ARKISTOMERKINTÖJÄ VARTEN	
RAKENNUSTOIMENPIDE			PIIRUSTUSLAJI	JUOKSEVA NRO
VASTAAVA RAKENNESUUNNITTELIJA (NIMI, TUTKINTO, ALLEKIRJOITUS)				PVM
HAMK				09.07.2020
KOHDE			PIIRUSTUKSEN SISÄLTÖ	MITTAKAAVAT
			KOKOONPANOPIIRUSTUS TR/211, TRUSS 4	1:50
PIIRT.	SUUN.			
GIRIJA BHATTA				
TARK.	HYV.			
CRISTINA TIRTEU				

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TYÖNUMERO	ALANUMERO	PIIR. NRO.	
		TR/211	
S.ALA	SIVU	PVM	MUUTOS
RAK		02.09.2020	

VALMISTUS	HITSIT	PINTAKÄSITTELY

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