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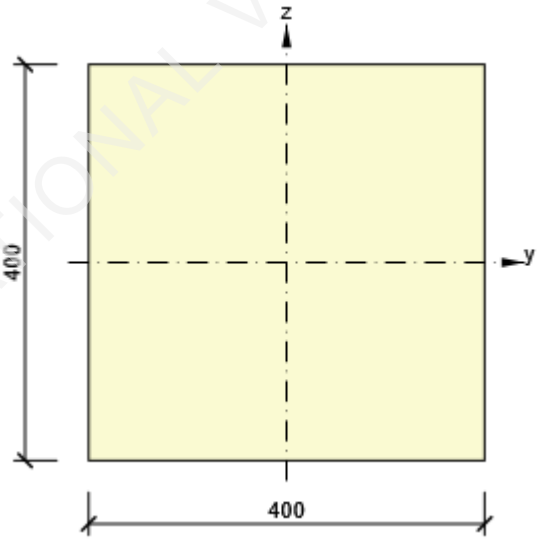
1 Project Data

Title of the project	CM01 - Frame
Identification of project	01
Author	Engin Aydeniz
Description	2nd Homework
Date	10/4/2020
Design code	EN
National annex	Czech

2 Cross-Sections

1. Column(Rectangle 400, 400)

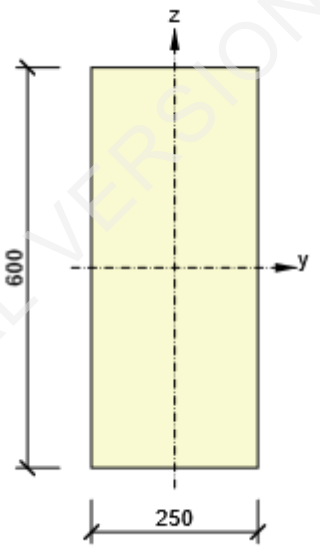
Symbol	Value	Unit
Material	C30/37	
A	160000	[mm^2]
S_y	0	[mm^3]
S_z	0	[mm^3]
I_y	2133333333	[mm^4]
I_z	2133333333	[mm^4]
C_{gy}	0	[mm]
C_{gz}	0	[mm]
i_y	115	[mm]
i_z	115	[mm]



2. Roof beam(Rectangle 600, 250)

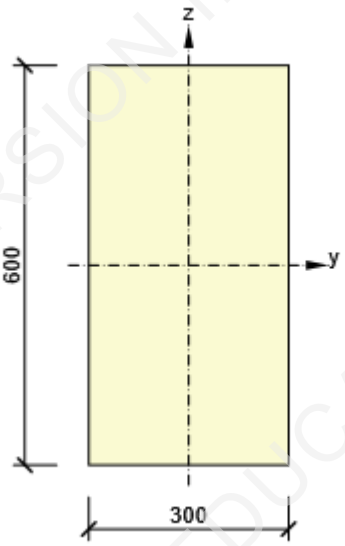
Symbol	Value	Unit
Material	C30/37	
A	150000	[mm^2]
S_y	0	[mm^3]

Symbol	Value	Unit
S_z	0	[mm^3]
I_y	4500000000	[mm^4]
I_z	781250000	[mm^4]
C_{gy}	0	[mm]
C_{gz}	0	[mm]
i_y	173	[mm]
i_z	72	[mm]



3. Floor beam(Rectangle 600, 300)

Symbol	Value	Unit
Material	C30/37	
A	180000	[mm^2]
S_y	0	[mm^3]
S_z	0	[mm^3]
I_y	5400000000	[mm^4]
I_z	1350000000	[mm^4]
C_{gy}	0	[mm]
C_{gz}	0	[mm]
i_y	173	[mm]
i_z	87	[mm]

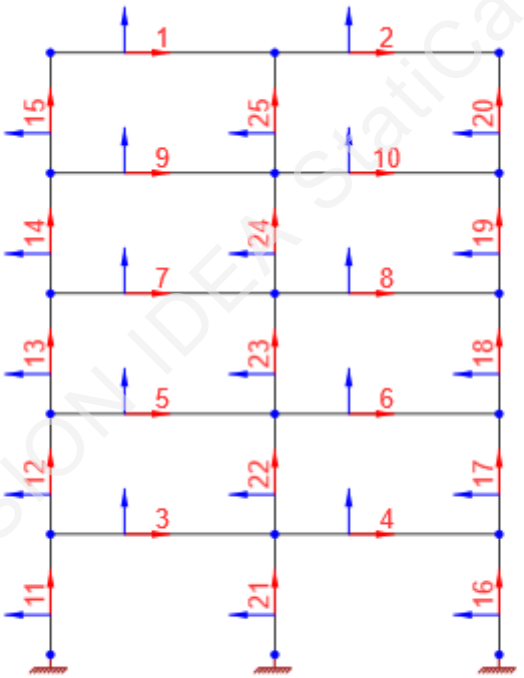


3 Material

Concrete

Name	f_{ck} [MPa]	f_{cm} [MPa]	f_{ctm} [MPa]	E_{cm} [MPa]	μ [-]	Unit mass [kg/m^3]
C30/37	30.0	38.0	2.9	32836.6	0.20	2500
	ε_{c2} = 20.0 1e-4, ε_{cu2} = 35.0 1e-4, ε_{c3} = 17.5 1e-4, ε_{cu3} = 35.0 1e-4, Exponent - n: 2.00, Aggregate size = 16 mm, Cement class: R (s = 0.20), Diagram type: Parabolic					

4 Geometry



Structural scheme

Members

Member	Begin node	End node	Cross-Section	Hinge at begin	Hinge at end
1	16	17	2 - Roof beam (Rectangle 600, 250)	No	No
2	17	18	2 - Roof beam (Rectangle 600, 250)	No	No
3	4	5	3 - Floor beam (Rectangle 600, 300)	No	No
4	5	6	3 - Floor beam (Rectangle 600, 300)	No	No
5	7	8	3 - Floor beam (Rectangle 600, 300)	No	No
6	8	9	3 - Floor beam (Rectangle 600, 300)	No	No
7	10	11	3 - Floor beam (Rectangle 600, 300)	No	No
8	11	12	3 - Floor beam (Rectangle 600, 300)	No	No
9	13	14	3 - Floor beam (Rectangle 600, 300)	No	No
10	14	15	3 - Floor beam (Rectangle 600, 300)	No	No
11	1	4	1 - Column (Rectangle 400, 400)	No	No
12	4	7	1 - Column (Rectangle 400, 400)	No	No
13	7	10	1 - Column (Rectangle 400, 400)	No	No
14	10	13	1 - Column (Rectangle 400, 400)	No	No
15	13	16	1 - Column (Rectangle 400, 400)	No	No
16	3	6	1 - Column (Rectangle 400, 400)	No	No
17	6	9	1 - Column (Rectangle 400, 400)	No	No
18	9	12	1 - Column (Rectangle 400, 400)	No	No
19	12	15	1 - Column (Rectangle 400, 400)	No	No
20	15	18	1 - Column (Rectangle 400, 400)	No	No
21	2	5	1 - Column (Rectangle 400, 400)	No	No
22	5	8	1 - Column (Rectangle 400, 400)	No	No

Member	Begin node	End node	Cross-Section	Hinge at begin	Hinge at end
23	8	11	1 - Column (Rectangle 400, 400)	No	No
24	11	14	1 - Column (Rectangle 400, 400)	No	No
25	14	17	1 - Column (Rectangle 400, 400)	No	No

Nodes

Node	X [m]	Z [m]	Support
1	0.00	0.00	XZRy
2	6.90	0.00	XZRy
3	13.80	0.00	XZRy
4	0.00	3.70	
5	6.90	3.70	
6	13.80	3.70	
7	0.00	7.40	
8	6.90	7.40	
9	13.80	7.40	
10	0.00	11.10	
11	6.90	11.10	
12	13.80	11.10	
13	0.00	14.80	
14	6.90	14.80	
15	13.80	14.80	
16	0.00	18.50	
17	6.90	18.50	
18	13.80	18.50	

5 Load Cases

Name	Type	Load Group
SW	Permanent	LG1
LC1 Permanent full	Permanent	LG1
LC2 Variable full	Variable	LG2
LC3 Variable checkerboard	Variable	LG2

Permanent load groups

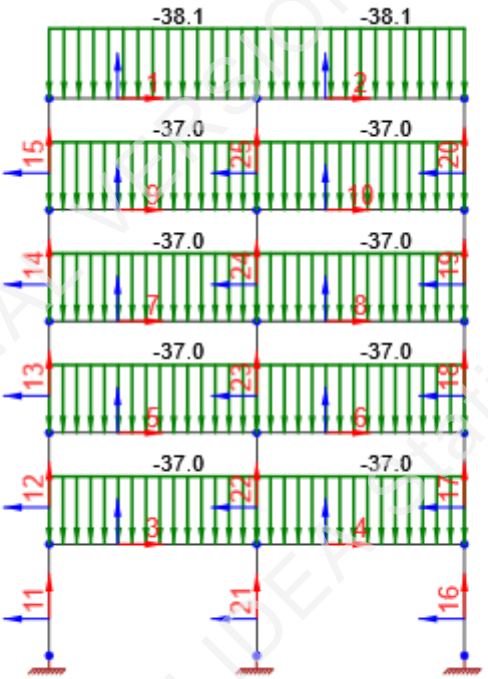
Name	$\gamma_{G,sub}$ [-]	$\gamma_{G,inf}$ [-]	ξ [-]
LG1	1.35	1.00	0.85

Variable load groups

Name	Type	γ_q [-]	Ψ_0 [-]	Ψ_1 [-]	Ψ_2 [-]
LG2	Standard	1.50	0.70	0.50	0.30

6 Loads

Load Case LC1 Permanent full

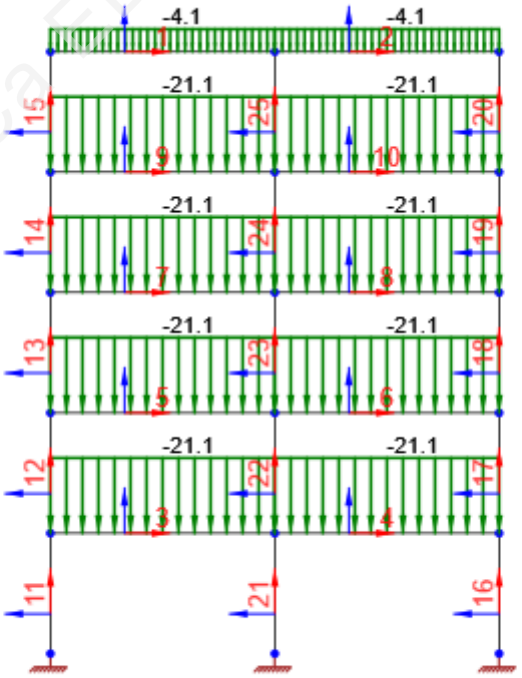


Load Case LC1 Permanent full

Uniform Loads

Member	Size [kN/m]	Direction	Angle [°]	Location
1	-38.1	Global Z	0.0	Length
2	-38.1	Global Z	0.0	Length
3	-37.0	Global Z	0.0	Length
4	-37.0	Global Z	0.0	Length
5	-37.0	Global Z	0.0	Length
6	-37.0	Global Z	0.0	Length
7	-37.0	Global Z	0.0	Length
8	-37.0	Global Z	0.0	Length
9	-37.0	Global Z	0.0	Length
10	-37.0	Global Z	0.0	Length

Load Case LC2 Variable full

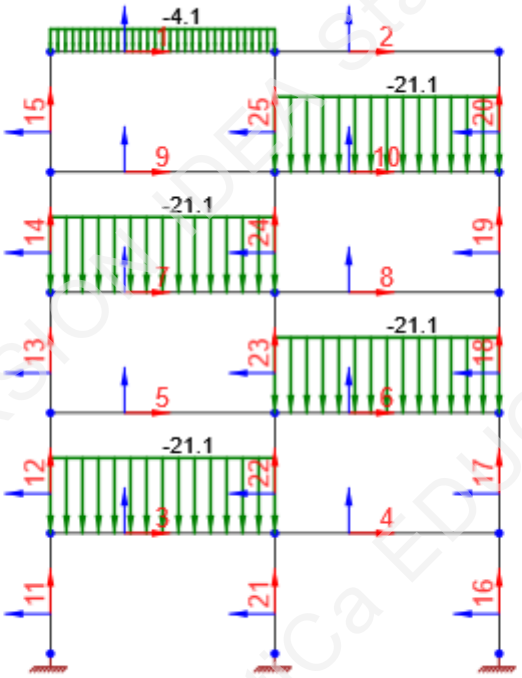


Load Case LC2 Variable full

Uniform Loads

Member	Size [kN/m]	Direction	Angle [°]	Location
1	-4.1	Global Z	0.0	Length
2	-4.1	Global Z	0.0	Length
3	-21.1	Global Z	0.0	Length
4	-21.1	Global Z	0.0	Length
5	-21.1	Global Z	0.0	Length
6	-21.1	Global Z	0.0	Length
7	-21.1	Global Z	0.0	Length
8	-21.1	Global Z	0.0	Length
9	-21.1	Global Z	0.0	Length
10	-21.1	Global Z	0.0	Length

Load Case LC3 Variable checkerboard



Load Case LC3 Variable checkerboard

Uniform Loads

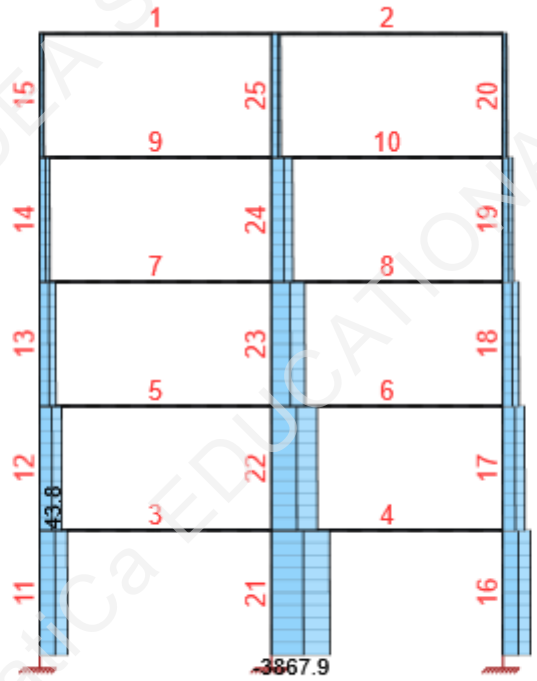
Member	Size [kN/m]	Direction	Angle [°]	Location
1	-4.1	Global Z	0.0	Length
7	-21.1	Global Z	0.0	Length
3	-21.1	Global Z	0.0	Length
6	-21.1	Global Z	0.0	Length
10	-21.1	Global Z	0.0	Length

7 Load Combinations

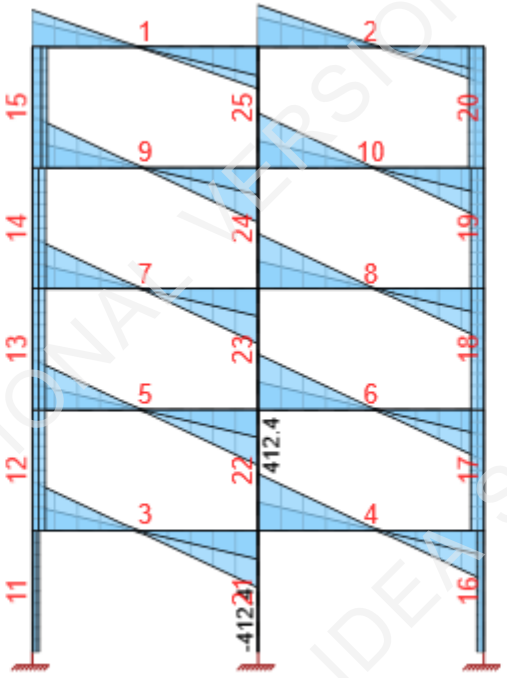
Name	Type	Evaluation
CO1 Full	ULS Fundamental	Eurocode, formula 6.10 a,b
1.35*SW; 1.35*LC1 Permanent full; 1.50*LC2 Variable full		
CO2 checkerboard	ULS Fundamental	Eurocode, formula 6.10 a,b
1.35*SW; 1.35*LC1 Permanent full; 1.50*LC3 Variable checkerboard		

8 Results

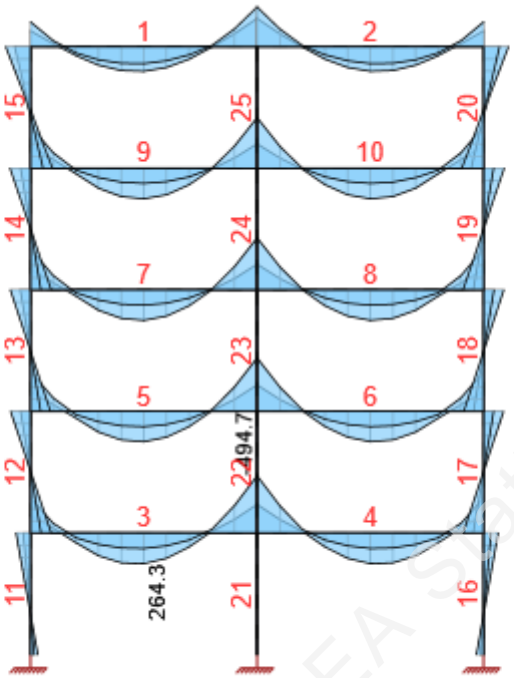
Combination CO1 Full



Combination CO1 Full, N [kN], Centroidal forces



Combination CO1 Full, Vz [kN], Centroidal forces



Combination CO1 Full, My [kNm], Centroidal forces

Internal forces, Member Extreme, Centroidal forces

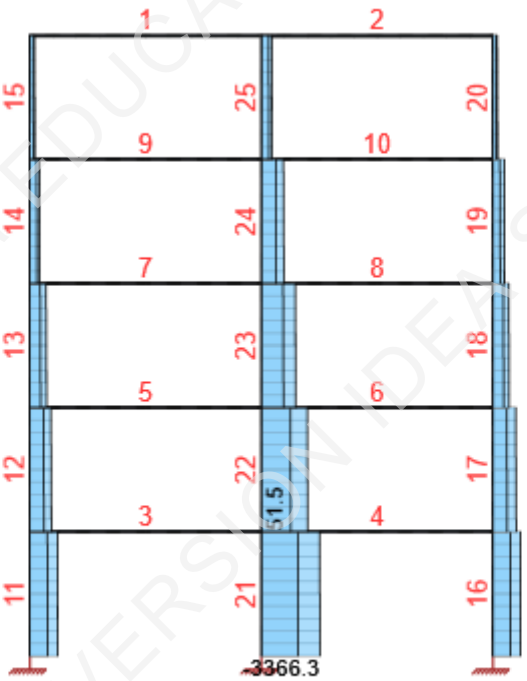
Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
1	CO1 Full(1)	0.00	-109.3	265.8	-215.1
1	CO1 Full(14)	0.00	-66.1	178.9	-137.1
1	CO1 Full(1)	6.90	-109.3	-303.2	-344.2
1	CO1 Full(1)	3.45	-109.3	-18.7	211.1
2	CO1 Full(1)	0.00	-109.3	303.2	-344.2
2	CO1 Full(14)	0.00	-66.1	210.0	-244.7
2	CO1 Full(1)	6.90	-109.3	-265.8	-215.1
2	CO1 Full(1)	3.45	-109.3	18.7	211.1
3	CO1 Full(14)	0.00	22.2	179.3	-153.2
3	CO1 Full(3)	0.00	43.8	357.1	-304.1
3	CO1 Full(3)	6.90	43.8	-412.4	-494.7
3	CO1 Full(3)	3.45	43.8	-27.6	264.3
4	CO1 Full(14)	0.00	22.2	206.4	-246.9
4	CO1 Full(3)	0.00	43.8	412.4	-494.7
4	CO1 Full(3)	6.90	43.8	-357.1	-304.1
4	CO1 Full(3)	3.45	43.8	27.6	264.3
5	CO1 Full(3)	0.00	-1.1	367.6	-344.0
5	CO1 Full(14)	0.00	-0.1	184.8	-174.2
5	CO1 Full(3)	6.90	-1.1	-402.0	-462.7
5	CO1 Full(3)	3.45	-1.1	-17.2	260.4
6	CO1 Full(3)	0.00	-1.1	402.0	-462.7
6	CO1 Full(14)	0.00	-0.1	200.9	-229.8
6	CO1 Full(3)	6.90	-1.1	-367.6	-344.0
6	CO1 Full(3)	3.45	-1.1	17.2	260.4
7	CO1 Full(8)	0.00	-0.5	244.8	-234.3
7	CO1 Full(9)	0.00	2.6	346.2	-329.3
7	CO1 Full(3)	6.90	2.5	-398.7	-449.3
7	CO1 Full(3)	0.00	2.5	370.8	-352.9
7	CO1 Full(3)	3.45	2.5	-14.0	262.6
8	CO1 Full(8)	0.00	-0.5	261.5	-292.0
8	CO1 Full(9)	0.00	2.6	372.5	-420.0
8	CO1 Full(3)	6.90	2.5	-370.8	-352.9
8	CO1 Full(3)	0.00	2.5	398.7	-449.3
8	CO1 Full(3)	3.45	2.5	14.0	262.6
9	CO1 Full(11)	0.00	5.5	346.0	-335.6
9	CO1 Full(4)	0.00	25.3	256.8	-261.3
9	CO1 Full(3)	6.90	8.3	-395.5	-438.2
9	CO1 Full(3)	0.00	8.3	374.0	-364.2
9	CO1 Full(3)	3.45	8.3	-10.7	262.5
10	CO1 Full(11)	0.00	5.5	366.7	-406.9
10	CO1 Full(4)	0.00	25.3	263.9	-285.7
10	CO1 Full(3)	6.90	8.3	-374.0	-364.2

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
10	CO1 Full(3)	0.00	8.3	395.5	-438.2
10	CO1 Full(3)	3.45	8.3	10.7	262.5
11	CO1 Full(1)	0.00	-1831.8	-49.6	60.9
11	CO1 Full(14)	3.70	-998.0	-25.6	-63.4
11	CO1 Full(3)	3.70	-1799.5	-50.9	-125.9
11	CO1 Full(3)	0.00	-1822.0	-50.9	62.4
12	CO1 Full(1)	0.00	-1457.3	-92.4	173.8
12	CO1 Full(14)	3.70	-799.1	-47.8	-87.0
12	CO1 Full(3)	0.00	-1442.4	-94.7	178.1
12	CO1 Full(14)	0.00	-818.7	-47.8	89.8
12	CO1 Full(3)	3.70	-1419.9	-94.7	-172.4
13	CO1 Full(1)	0.00	-1072.5	-91.6	167.8
13	CO1 Full(14)	3.70	-594.7	-47.7	-89.3
13	CO1 Full(3)	3.70	-1029.8	-93.6	-174.9
13	CO1 Full(3)	0.00	-1052.3	-93.6	171.6
14	CO1 Full(1)	0.00	-684.6	-93.2	173.3
14	CO1 Full(14)	3.70	-388.7	-47.4	-86.1
14	CO1 Full(3)	0.00	-659.0	-96.2	178.0
14	CO1 Full(14)	0.00	-408.3	-47.4	89.1
14	CO1 Full(3)	3.70	-636.5	-96.2	-177.9
15	CO1 Full(1)	0.00	-292.3	-109.3	189.2
15	CO1 Full(14)	3.70	-178.9	-66.1	-137.1
15	CO1 Full(1)	3.70	-265.8	-109.3	-215.1
16	CO1 Full(1)	0.00	-1831.8	49.6	-60.9
16	CO1 Full(14)	3.70	-998.0	25.6	63.4
16	CO1 Full(3)	3.70	-1799.5	50.9	125.9
16	CO1 Full(3)	0.00	-1822.0	50.9	-62.4
17	CO1 Full(1)	0.00	-1457.3	92.4	-173.8
17	CO1 Full(14)	3.70	-799.1	47.8	87.0
17	CO1 Full(14)	0.00	-818.7	47.8	-89.8
17	CO1 Full(3)	0.00	-1442.4	94.7	-178.1
17	CO1 Full(3)	3.70	-1419.9	94.7	172.4
18	CO1 Full(1)	0.00	-1072.5	91.6	-167.8
18	CO1 Full(14)	3.70	-594.7	47.7	89.3
18	CO1 Full(3)	3.70	-1029.8	93.6	174.9
18	CO1 Full(3)	0.00	-1052.3	93.6	-171.6
19	CO1 Full(1)	0.00	-684.6	93.2	-173.3
19	CO1 Full(14)	3.70	-388.7	47.4	86.1
19	CO1 Full(14)	0.00	-408.3	47.4	-89.1
19	CO1 Full(3)	0.00	-659.0	96.2	-178.0
19	CO1 Full(3)	3.70	-636.5	96.2	177.9
20	CO1 Full(1)	0.00	-292.3	109.3	-189.2
20	CO1 Full(14)	3.70	-178.9	66.1	137.1

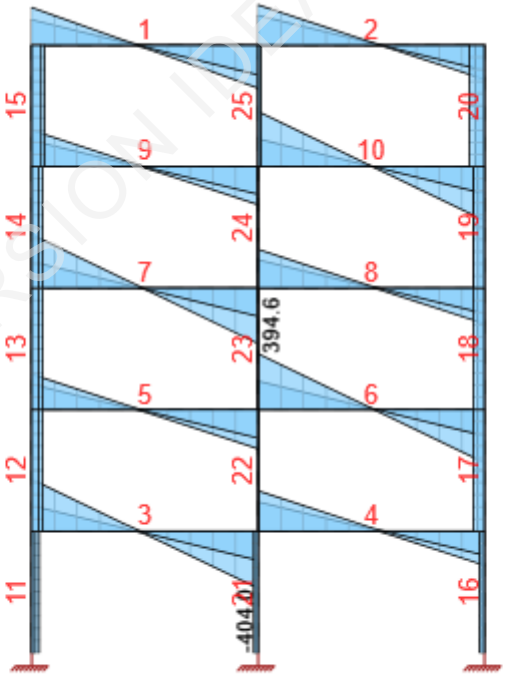
Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
20	CO1 Full(1)	3.70	-265.8	109.3	215.1
21	CO1 Full(3)	0.00	-3867.9	0.0	0.0
21	CO1 Full(14)	3.70	-2102.5	0.0	0.0
21	CO1 Full(1)	0.00	-3867.8	0.0	0.0
22	CO1 Full(1)	0.00	-3038.2	0.0	0.0
22	CO1 Full(14)	3.70	-1670.0	0.0	0.0
23	CO1 Full(1)	0.00	-2229.3	0.0	0.0
23	CO1 Full(14)	3.70	-1248.6	0.0	0.0
24	CO1 Full(1)	0.00	-1426.8	0.0	0.0
24	CO1 Full(14)	3.70	-830.6	0.0	0.0
25	CO1 Full(1)	0.00	-632.9	0.0	0.0
25	CO1 Full(14)	3.70	-420.1	0.0	0.0

Combination	Critical load effect description
CO1 Full(1)	1.82*SW + 1.82*LC1 Permanent full + 1.58*LC2 Variable full
CO1 Full(14)	1.35*SW + 1.35*LC1 Permanent full
CO1 Full(3)	1.55*SW + 1.55*LC1 Permanent full + 2.25*LC2 Variable full
CO1 Full(8)	1.35*SW + 1.82*LC1 Permanent full
CO1 Full(9)	1.55*SW + 1.35*LC1 Permanent full + 2.25*LC2 Variable full
CO1 Full(11)	1.35*SW + 1.35*LC1 Permanent full + 2.25*LC2 Variable full
CO1 Full(4)	1.82*SW + 1.82*LC1 Permanent full

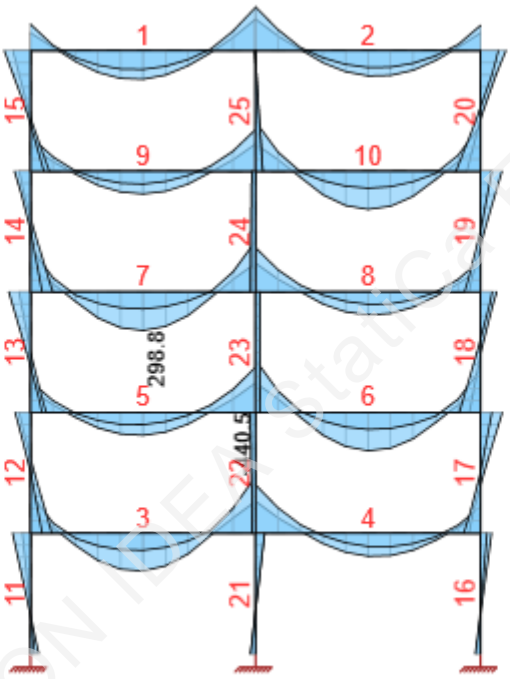
Combination CO2 checkerboard



Combination CO2 checkerboard, N [kN], Centroidal forces



Combination CO2 checkerboard, Vz [kN], Centroidal forces



Combination CO2 checkerboard, My [kNm], Centroidal forces

Internal forces, Member Extreme, Centroidal forces

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
1	CO2 checkerboard(2)	0.00	-93.5	265.5	-204.0
1	CO2 checkerboard(17)	0.00	-66.1	178.9	-137.1
1	CO2 checkerboard(2)	6.90	-93.5	-303.5	-335.3
1	CO2 checkerboard(2)	3.45	-93.5	-19.0	221.1
2	CO2 checkerboard(2)	0.00	-105.0	283.2	-339.3
2	CO2 checkerboard(17)	0.00	-66.1	210.0	-244.7
2	CO2 checkerboard(2)	6.90	-105.0	-241.8	-196.2
2	CO2 checkerboard(18)	0.00	-89.2	283.5	-330.3
2	CO2 checkerboard(18)	3.45	-89.2	21.0	195.1
3	CO2 checkerboard(6)	0.00	14.4	339.1	-281.4
3	CO2 checkerboard(18)	0.00	29.9	242.0	-206.8
3	CO2 checkerboard(5)	6.90	17.7	-404.0	-436.4
3	CO2 checkerboard(5)	0.00	17.7	365.6	-304.0
3	CO2 checkerboard(2)	6.90	24.5	-395.6	-440.5
3	CO2 checkerboard(5)	3.45	17.7	-19.2	293.5
4	CO2 checkerboard(17)	0.00	22.2	206.4	-246.9
4	CO2 checkerboard(5)	0.00	51.5	245.3	-341.7
4	CO2 checkerboard(18)	6.90	29.9	-242.0	-206.8
4	CO2 checkerboard(2)	0.00	48.2	284.6	-374.2
4	CO2 checkerboard(18)	3.45	29.9	18.3	179.0
5	CO2 checkerboard(18)	0.00	-0.1	249.5	-235.2
5	CO2 checkerboard(6)	0.00	1.8	177.4	-184.9
5	CO2 checkerboard(2)	6.90	1.2	-276.4	-353.1
5	CO2 checkerboard(18)	3.45	-0.1	-10.9	176.4
6	CO2 checkerboard(5)	0.00	-2.9	394.6	-401.3
6	CO2 checkerboard(17)	0.00	-0.1	200.9	-229.8
6	CO2 checkerboard(5)	6.90	-2.9	-374.9	-333.3
6	CO2 checkerboard(2)	0.00	-2.1	386.1	-406.5
6	CO2 checkerboard(5)	3.45	-2.9	9.9	296.4
7	CO2 checkerboard(19)	0.00	-0.5	244.8	-234.3
7	CO2 checkerboard(7)	0.00	2.2	352.9	-316.4
7	CO2 checkerboard(5)	6.90	2.1	-392.0	-389.9
7	CO2 checkerboard(5)	0.00	2.1	377.5	-340.0
7	CO2 checkerboard(2)	6.90	1.3	-383.3	-394.6
7	CO2 checkerboard(5)	3.45	2.1	-7.2	298.8
8	CO2 checkerboard(19)	0.00	-0.5	261.5	-292.0
8	CO2 checkerboard(7)	0.00	0.1	209.1	-285.5
8	CO2 checkerboard(18)	6.90	-0.5	-251.7	-241.0
8	CO2 checkerboard(2)	0.00	-0.2	273.7	-342.0
8	CO2 checkerboard(18)	3.45	-0.5	8.6	178.4
9	CO2 checkerboard(6)	0.00	2.8	183.5	-202.0
9	CO2 checkerboard(18)	0.00	25.3	256.8	-261.3

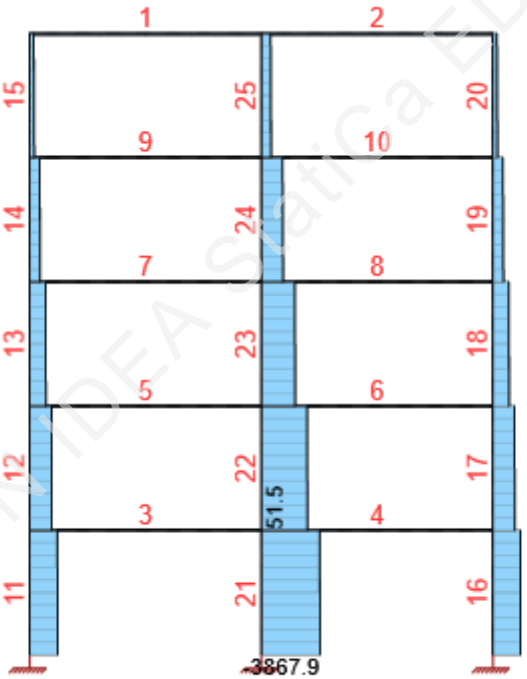
Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
9	CO2 checkerboard(2)	6.90	14.1	-268.6	-324.3
9	CO2 checkerboard(18)	3.45	25.3	-3.5	175.6
10	CO2 checkerboard(17)	0.00	18.7	195.5	-211.6
10	CO2 checkerboard(2)	0.00	27.2	379.0	-383.8
10	CO2 checkerboard(5)	6.90	24.2	-380.8	-355.7
10	CO2 checkerboard(5)	0.00	24.2	388.7	-383.0
10	CO2 checkerboard(5)	3.45	24.2	4.0	294.4
11	CO2 checkerboard(2)	0.00	-1614.3	-52.4	61.6
11	CO2 checkerboard(17)	3.70	-998.0	-25.6	-63.4
11	CO2 checkerboard(5)	3.70	-1488.8	-54.9	-139.6
11	CO2 checkerboard(5)	0.00	-1511.3	-54.9	63.5
12	CO2 checkerboard(2)	0.00	-1233.9	-77.0	164.2
12	CO2 checkerboard(17)	3.70	-799.1	-47.8	-87.0
12	CO2 checkerboard(17)	0.00	-818.7	-47.8	89.8
12	CO2 checkerboard(2)	3.70	-1207.5	-77.0	-120.6
12	CO2 checkerboard(5)	0.00	-1123.3	-72.6	164.4
13	CO2 checkerboard(2)	0.00	-963.1	-78.1	122.1
13	CO2 checkerboard(17)	3.70	-594.7	-47.7	-89.3
13	CO2 checkerboard(2)	3.70	-936.7	-78.1	-167.0
13	CO2 checkerboard(5)	3.70	-873.6	-74.3	-168.8
14	CO2 checkerboard(2)	0.00	-570.5	-79.4	168.6
14	CO2 checkerboard(17)	3.70	-388.7	-47.4	-86.1
14	CO2 checkerboard(17)	0.00	-408.3	-47.4	89.1
14	CO2 checkerboard(2)	3.70	-544.0	-79.4	-125.2
14	CO2 checkerboard(5)	0.00	-496.1	-76.4	171.2
15	CO2 checkerboard(2)	0.00	-291.9	-93.5	142.0
15	CO2 checkerboard(17)	3.70	-178.9	-66.1	-137.1
15	CO2 checkerboard(2)	3.70	-265.5	-93.5	-204.0
15	CO2 checkerboard(18)	0.00	-267.9	-89.2	145.1
16	CO2 checkerboard(2)	0.00	-1591.2	31.8	-41.7
16	CO2 checkerboard(17)	3.70	-998.0	25.6	63.4
16	CO2 checkerboard(6)	3.70	-1308.6	21.6	49.7
16	CO2 checkerboard(18)	3.70	-1347.3	34.6	85.6
16	CO2 checkerboard(18)	0.00	-1373.7	34.6	-42.4
17	CO2 checkerboard(2)	0.00	-1328.6	80.0	-130.9
17	CO2 checkerboard(17)	3.70	-799.1	47.8	87.0
17	CO2 checkerboard(17)	0.00	-818.7	47.8	-89.8
17	CO2 checkerboard(2)	3.70	-1302.2	80.0	165.1
17	CO2 checkerboard(5)	3.70	-1236.1	77.0	167.9
18	CO2 checkerboard(2)	0.00	-938.7	77.9	-163.4
18	CO2 checkerboard(17)	3.70	-594.7	47.7	89.3
18	CO2 checkerboard(5)	0.00	-861.2	74.0	-165.3
18	CO2 checkerboard(2)	3.70	-912.3	77.9	124.9

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
19	CO2 checkerboard(2)	0.00	-665.2	77.8	-125.1
19	CO2 checkerboard(17)	3.70	-388.7	47.4	86.1
19	CO2 checkerboard(17)	0.00	-408.3	47.4	-89.1
19	CO2 checkerboard(2)	3.70	-638.8	77.8	162.6
19	CO2 checkerboard(5)	3.70	-609.0	74.1	165.0
20	CO2 checkerboard(2)	0.00	-268.2	105.0	-192.2
20	CO2 checkerboard(17)	3.70	-178.9	66.1	137.1
20	CO2 checkerboard(2)	3.70	-241.8	105.0	196.2
21	CO2 checkerboard(2)	0.00	-3366.3	20.6	-27.5
21	CO2 checkerboard(17)	3.70	-2102.5	0.0	0.0
21	CO2 checkerboard(17)	0.00	-2122.1	0.0	0.0
21	CO2 checkerboard(6)	3.70	-2818.9	29.5	69.7
21	CO2 checkerboard(5)	0.00	-3151.5	29.5	-39.3
21	CO2 checkerboard(5)	3.70	-3129.0	29.5	69.7
22	CO2 checkerboard(2)	0.00	-2659.6	-3.1	-17.5
22	CO2 checkerboard(17)	3.70	-1670.0	0.0	0.0
22	CO2 checkerboard(6)	3.70	-2210.9	-4.4	-41.1
22	CO2 checkerboard(17)	0.00	-1689.6	0.0	0.0
22	CO2 checkerboard(5)	3.70	-2457.2	-4.4	-41.1
22	CO2 checkerboard(18)	0.00	-2281.0	0.0	0.0
23	CO2 checkerboard(2)	0.00	-1970.7	0.2	24.6
23	CO2 checkerboard(17)	3.70	-1248.6	0.0	0.0
23	CO2 checkerboard(17)	0.00	-1268.2	0.0	0.0
23	CO2 checkerboard(6)	3.70	-1618.1	0.3	36.2
23	CO2 checkerboard(18)	0.00	-1712.1	0.0	0.0
23	CO2 checkerboard(5)	3.70	-1802.2	0.3	36.2
24	CO2 checkerboard(2)	0.00	-1287.3	1.6	-27.2
24	CO2 checkerboard(17)	3.70	-830.6	0.0	0.0
24	CO2 checkerboard(17)	0.00	-850.2	0.0	0.0
24	CO2 checkerboard(6)	0.00	-1049.5	2.3	-38.9
24	CO2 checkerboard(5)	0.00	-1174.9	2.3	-38.9
24	CO2 checkerboard(18)	0.00	-1147.8	0.0	0.0
25	CO2 checkerboard(2)	0.00	-613.2	-11.4	38.4
25	CO2 checkerboard(17)	3.70	-420.1	0.0	0.0
25	CO2 checkerboard(6)	0.00	-467.8	-16.4	54.8
25	CO2 checkerboard(17)	0.00	-439.7	0.0	0.0
25	CO2 checkerboard(5)	3.70	-510.1	-16.4	-5.7
25	CO2 checkerboard(5)	0.00	-532.6	-16.4	54.8

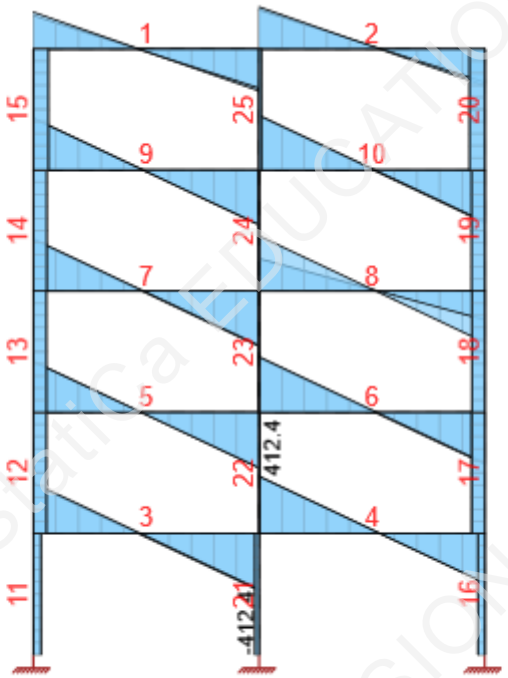
Combination	Critical load effect description
CO2 checkerboard(2)	1.82*SW + 1.82*LC1 Permanent full + 1.58*LC3 Variable checkerboard
CO2 checkerboard(17)	1.35*SW + 1.35*LC1 Permanent full
CO2 checkerboard(18)	1.82*SW + 1.82*LC1 Permanent full

Combination	Critical load effect description
CO2 checkerboard(6)	1.35*SW + 1.35*LC1 Permanent full + 2.25*LC3 Variable checkerboard
CO2 checkerboard(5)	1.55*SW + 1.55*LC1 Permanent full + 2.25*LC3 Variable checkerboard
CO2 checkerboard(19)	1.35*SW + 1.82*LC1 Permanent full
CO2 checkerboard(7)	1.55*SW + 1.35*LC1 Permanent full + 2.25*LC3 Variable checkerboard

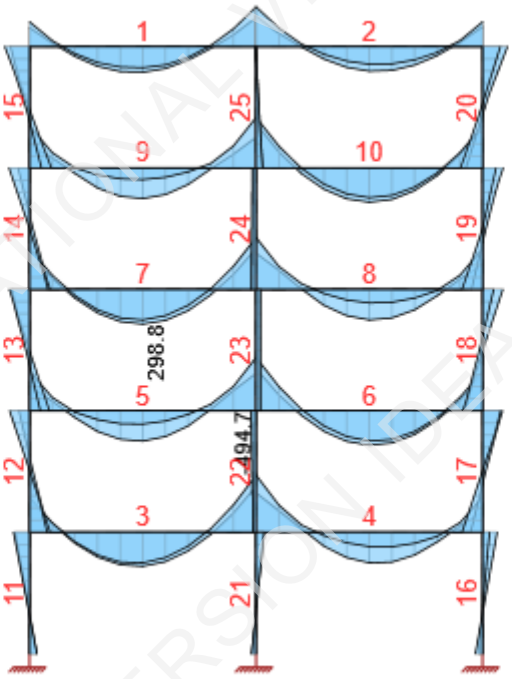
Envelopes



All combinations, N [kN], Centroidal forces



All combinations, Vz [kN], Centroidal forces



All combinations, My [kNm], Centroidal forces

Internal forces, Member Extreme, Centroidal forces

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
1	CO1 Full(1)	0.00	-109.3	265.8	-215.1
1	CO1 Full(12)	0.00	-68.3	184.4	-141.5
1	CO2 checkerboard(2)	6.90	-93.5	-303.5	-335.3
1	CO1 Full(1)	6.90	-109.3	-303.2	-344.2
1	CO2 checkerboard(2)	3.45	-93.5	-19.0	221.1
2	CO1 Full(1)	0.00	-109.3	303.2	-344.2
2	CO1 Full(12)	0.00	-68.3	216.5	-252.0
2	CO1 Full(1)	6.90	-109.3	-265.8	-215.1
2	CO1 Full(1)	3.45	-109.3	18.7	211.1
3	CO2 checkerboard(6)	0.00	14.4	339.1	-281.4
3	CO1 Full(3)	0.00	43.8	357.1	-304.1
3	CO1 Full(3)	6.90	43.8	-412.4	-494.7
3	CO2 checkerboard(5)	0.00	17.7	365.6	-304.0
3	CO2 checkerboard(5)	3.45	17.7	-19.2	293.5
4	CO1 Full(12)	0.00	23.0	214.1	-256.2
4	CO2 checkerboard(5)	0.00	51.5	245.3	-341.7
4	CO1 Full(3)	6.90	43.8	-357.1	-304.1
4	CO1 Full(3)	0.00	43.8	412.4	-494.7
4	CO1 Full(3)	3.45	43.8	27.6	264.3
5	CO1 Full(3)	0.00	-1.1	367.6	-344.0
5	CO2 checkerboard(6)	0.00	1.8	177.4	-184.9
5	CO1 Full(3)	6.90	-1.1	-402.0	-462.7
5	CO1 Full(3)	3.45	-1.1	-17.2	260.4
6	CO2 checkerboard(5)	0.00	-2.9	394.6	-401.3
6	CO1 Full(12)	0.00	-0.1	208.4	-238.4
6	CO2 checkerboard(5)	6.90	-2.9	-374.9	-333.3
6	CO1 Full(3)	0.00	-1.1	402.0	-462.7
6	CO2 checkerboard(5)	3.45	-2.9	9.9	296.4
7	CO1 Full(8)	0.00	-0.5	244.8	-234.3
7	CO1 Full(9)	0.00	2.6	346.2	-329.3
7	CO1 Full(3)	6.90	2.5	-398.7	-449.3
7	CO2 checkerboard(5)	0.00	2.1	377.5	-340.0
7	CO2 checkerboard(5)	3.45	2.1	-7.2	298.8
8	CO1 Full(8)	0.00	-0.5	261.5	-292.0
8	CO1 Full(9)	0.00	2.6	372.5	-420.0
8	CO1 Full(3)	6.90	2.5	-370.8	-352.9
8	CO1 Full(3)	0.00	2.5	398.7	-449.3
8	CO1 Full(3)	3.45	2.5	14.0	262.6
9	CO2 checkerboard(6)	0.00	2.8	183.5	-202.0
9	CO1 Full(4)	0.00	25.3	256.8	-261.3
9	CO1 Full(3)	6.90	8.3	-395.5	-438.2
9	CO1 Full(3)	0.00	8.3	374.0	-364.2

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
9	CO1 Full(3)	3.45	8.3	-10.7	262.5
10	CO1 Full(11)	0.00	5.5	366.7	-406.9
10	CO2 checkerboard(2)	0.00	27.2	379.0	-383.8
10	CO2 checkerboard(5)	6.90	24.2	-380.8	-355.7
10	CO1 Full(3)	0.00	8.3	395.5	-438.2
10	CO2 checkerboard(5)	3.45	24.2	4.0	294.4
11	CO1 Full(1)	0.00	-1831.8	-49.6	60.9
11	CO1 Full(12)	3.70	-1058.6	-26.6	-65.8
11	CO2 checkerboard(5)	3.70	-1488.8	-54.9	-139.6
11	CO2 checkerboard(5)	0.00	-1511.3	-54.9	63.5
12	CO1 Full(1)	0.00	-1457.3	-92.4	173.8
12	CO1 Full(12)	3.70	-846.2	-49.6	-90.3
12	CO1 Full(3)	0.00	-1442.4	-94.7	178.1
12	CO1 Full(12)	0.00	-872.6	-49.6	93.2
12	CO1 Full(3)	3.70	-1419.9	-94.7	-172.4
13	CO1 Full(1)	0.00	-1072.5	-91.6	167.8
13	CO1 Full(12)	3.70	-628.0	-49.5	-92.6
13	CO1 Full(3)	3.70	-1029.8	-93.6	-174.9
13	CO1 Full(3)	0.00	-1052.3	-93.6	171.6
14	CO1 Full(1)	0.00	-684.6	-93.2	173.3
14	CO1 Full(12)	3.70	-408.2	-49.1	-89.4
14	CO1 Full(3)	0.00	-659.0	-96.2	178.0
14	CO1 Full(12)	0.00	-434.6	-49.1	92.5
14	CO1 Full(3)	3.70	-636.5	-96.2	-177.9
15	CO1 Full(1)	0.00	-292.3	-109.3	189.2
15	CO1 Full(12)	3.70	-184.4	-68.3	-141.5
15	CO1 Full(1)	3.70	-265.8	-109.3	-215.1
16	CO1 Full(1)	0.00	-1831.8	49.6	-60.9
16	CO1 Full(12)	3.70	-1058.6	26.6	65.8
16	CO2 checkerboard(6)	3.70	-1308.6	21.6	49.7
16	CO1 Full(3)	3.70	-1799.5	50.9	125.9
16	CO1 Full(3)	0.00	-1822.0	50.9	-62.4
17	CO1 Full(1)	0.00	-1457.3	92.4	-173.8
17	CO1 Full(12)	3.70	-846.2	49.6	90.3
17	CO1 Full(12)	0.00	-872.6	49.6	-93.2
17	CO1 Full(3)	0.00	-1442.4	94.7	-178.1
17	CO1 Full(3)	3.70	-1419.9	94.7	172.4
18	CO1 Full(1)	0.00	-1072.5	91.6	-167.8
18	CO1 Full(12)	3.70	-628.0	49.5	92.6
18	CO1 Full(3)	3.70	-1029.8	93.6	174.9
18	CO1 Full(3)	0.00	-1052.3	93.6	-171.6
19	CO1 Full(1)	0.00	-684.6	93.2	-173.3
19	CO1 Full(12)	3.70	-408.2	49.1	89.4

Member	Combi	Position [m]	N [kN]	V_z [kN]	M_y [kNm]
19	CO1 Full(12)	0.00	-434.6	49.1	-92.5
19	CO1 Full(3)	0.00	-659.0	96.2	-178.0
19	CO1 Full(3)	3.70	-636.5	96.2	177.9
20	CO1 Full(1)	0.00	-292.3	109.3	-189.2
20	CO2 checkerboard(6)	3.70	-179.3	88.6	152.9
20	CO1 Full(12)	3.70	-184.4	68.3	141.5
20	CO1 Full(1)	3.70	-265.8	109.3	215.1
20	CO2 checkerboard(2)	0.00	-268.2	105.0	-192.2
21	CO1 Full(3)	0.00	-3867.9	0.0	0.0
21	CO1 Full(12)	3.70	-2202.8	0.0	0.0
21	CO1 Full(1)	0.00	-3867.8	0.0	0.0
21	CO2 checkerboard(5)	3.70	-3129.0	29.5	69.7
21	CO2 checkerboard(5)	0.00	-3151.5	29.5	-39.3
22	CO1 Full(1)	0.00	-3038.2	0.0	0.0
22	CO1 Full(12)	3.70	-1748.1	0.0	0.0
22	CO2 checkerboard(5)	3.70	-2457.2	-4.4	-41.1
23	CO1 Full(1)	0.00	-2229.3	0.0	0.0
23	CO1 Full(12)	3.70	-1304.8	0.0	0.0
23	CO2 checkerboard(5)	3.70	-1802.2	0.3	36.2
24	CO1 Full(1)	0.00	-1426.8	0.0	0.0
24	CO1 Full(12)	3.70	-865.0	0.0	0.0
24	CO2 checkerboard(5)	0.00	-1174.9	2.3	-38.9
25	CO1 Full(1)	0.00	-632.9	0.0	0.0
25	CO1 Full(12)	3.70	-432.9	0.0	0.0
25	CO2 checkerboard(5)	0.00	-532.6	-16.4	54.8
25	CO2 checkerboard(5)	3.70	-510.1	-16.4	-5.7

Combination	Critical load effect description
CO1 Full(1)	1.82*SW + 1.82*LC1 Permanent full + 1.58*LC2 Variable full
CO1 Full(12)	1.82*SW + 1.35*LC1 Permanent full
CO2 checkerboard(2)	1.82*SW + 1.82*LC1 Permanent full + 1.58*LC3 Variable checkerboard
CO2 checkerboard(6)	1.35*SW + 1.35*LC1 Permanent full + 2.25*LC3 Variable checkerboard
CO1 Full(3)	1.55*SW + 1.55*LC1 Permanent full + 2.25*LC2 Variable full
CO2 checkerboard(5)	1.55*SW + 1.55*LC1 Permanent full + 2.25*LC3 Variable checkerboard
CO1 Full(8)	1.35*SW + 1.82*LC1 Permanent full
CO1 Full(9)	1.55*SW + 1.35*LC1 Permanent full + 2.25*LC2 Variable full
CO1 Full(4)	1.82*SW + 1.82*LC1 Permanent full
CO1 Full(11)	1.35*SW + 1.35*LC1 Permanent full + 2.25*LC2 Variable full