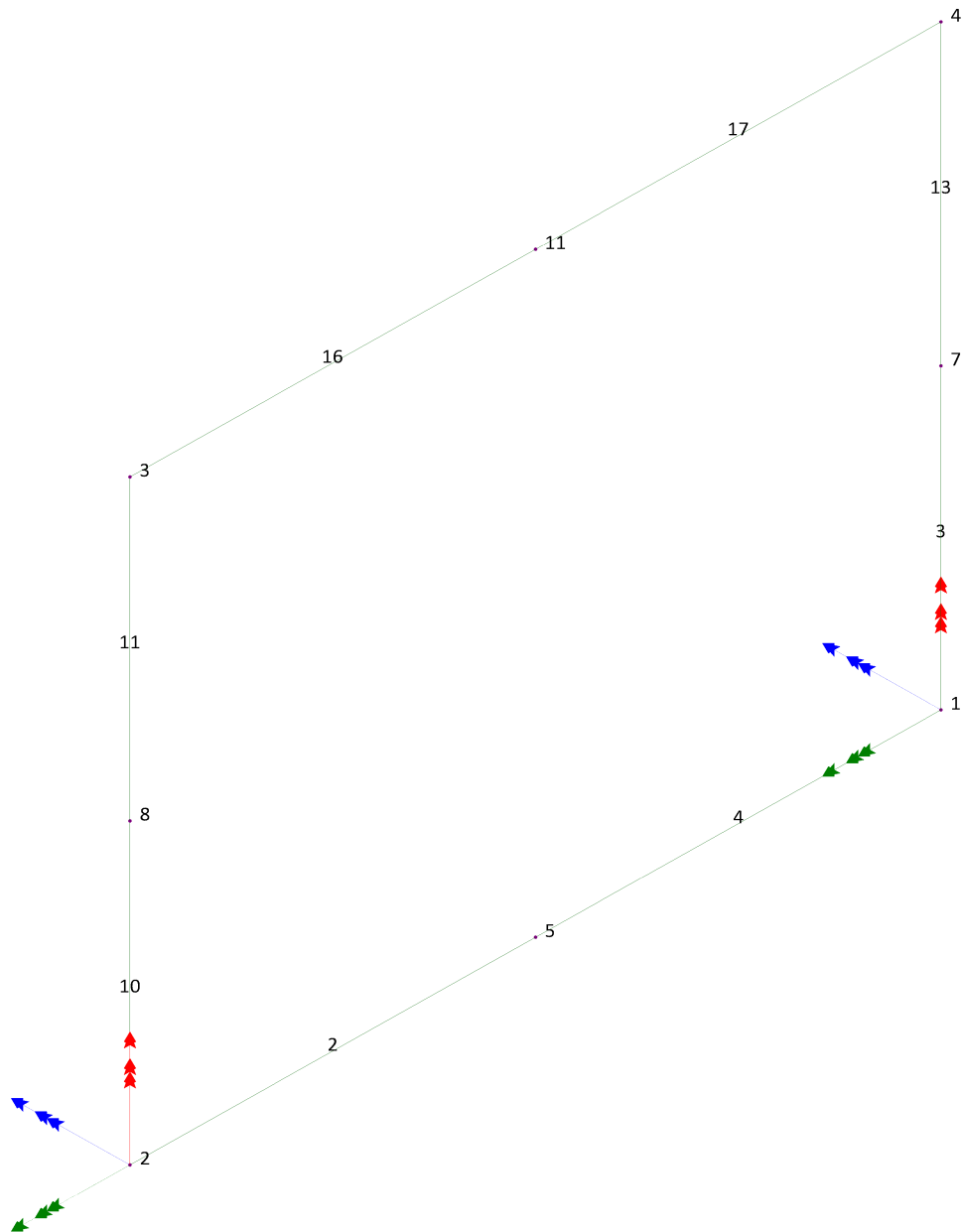


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Structure

Structure

Construction Levels

Ref.	Name	Type	Level [m]	Spacing [m]	Source	Slab Thickness [mm]	Floor
1	1	S.S.L	3.100	3.100		0.0	●
Base	Base	T.O.F	0.000			0.0	●

Loadcases

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Loadcase Title	Type	Calculate Automatically	Include In Generator	Imposed Load Reductions	Pattern Load
1 Self weight - excluding slabs	SelfWeight	•	•		
2 Slab self weight	Slab Dry		•		
3 Dead	Dead		•		
4 Services	Dead		•		
5 Imposed	Imposed		•		
6 Wind Load	Wind		•		

2 Slab self weight

No loads.

3 Dead

St. Base (Base)

Member Load

Element	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Pos [m]
SB Base/B/1-Base/A/1	User	Global Z		1	Point load	84.5	0.000
SB Base/B/1-Base/A/1	User	Global Z		1	Point load	98.7	4.100

St. 1 (1)

Member Load

Element	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
SB 1/A/1-1/B/1	User	Global Z		1	UDL		26.4	1.025	3.075
SB 1/A/1-1/B/1	User	Global Z		1	Full UDL		1.8		4.100
SB 1/A/1-1/B/1	User	Global Z		1	Point load	1.8		3.100	
SB 1/A/1-1/B/1	User	Global Z		1	Point load	88.0		1.025	
SB 1/A/1-1/B/1	User	Global Z		1	Point load	17.2		1.367	
SB 1/A/1-1/B/1	User	Global Z		1	Point load	1.8		1.000	

4 Services

No loads.

5 Imposed

St. Base (Base)

Member Load

Element	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Pos [m]
SB Base/B/1-Base/A/1	User	Global Z		1	Point load	29.2	0.000
SB Base/B/1-Base/A/1	User	Global Z		1	Point load	32.8	4.100

St. 1 (1)

Member Load

Element	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
SB 1/A/1-1/B/1	User	Global Z		1	Full UDL		1.2		4.100
SB 1/A/1-1/B/1	User	Global Z		1	Point load	30.8		1.025	
SB 1/A/1-1/B/1	User	Global Z		1	Point load	4.2		1.367	

6 Wind Load

Other

Member Load

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Element	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Pos [m]
SC B/1	User	Global X		1	Point load	6.1	3.100

Loadcase Summary

1 Self weight - excluding slabs

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	6.4
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	0.0	0.0	0.0
Total NHF Dir2	0.0	0.0	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	6.4
Total Load on Structure	0.0	0.0	6.4
Total Reaction	0.0	0.0	6.4

2 Slab self weight

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	0.0
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	0.0	0.0	0.0
Total NHF Dir2	0.0	0.0	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	0.0
Total Load on Structure	0.0	0.0	0.0
Total Reaction	0.0	0.0	0.0

3 Dead

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	380.6
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	1.0	0.0	0.0
Total NHF Dir2	0.0	1.0	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	380.6
Total Load on Structure	0.0	0.0	380.6
Total Reaction	0.0	0.0	380.6

4 Services

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	0.0
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	0.0	0.0	0.0
Total NHF Dir2	0.0	0.0	0.0

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Load Type	Force [kN]		
	X	Y	Z
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	0.0
Total Load on Structure	0.0	0.0	0.0
Total Reaction	0.0	0.0	0.0

5 Imposed

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	101.9
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	0.2	0.0	0.0
Total NHF Dir2	0.0	0.2	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	101.9
Total Load on Structure	0.0	0.0	101.9
Total Reaction	0.0	0.0	101.9

6 Wind Load

Load Type	Force [kN]		
	X	Y	Z
Member Loads	6.1	0.0	0.0
Nodal Loads	0.0	0.0	0.0
Total NHF Dir1	0.0	0.0	0.0
Total NHF Dir2	0.0	0.0	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	6.1	0.0	0.0
Total Load on Structure	6.1	0.0	0.0
Total Reaction	-6.1	0.0	0.0

Combinations

Name	Class	Active	Strength	Service
1 STR ₁ -1.35G+1.5Q+1.5RQ	Gravity	•	•	•

1 STR₁-1.35G+1.5Q+1.5RQ

Loadcase Title	Strength	Service	SLS Quasi
1 Self weight - excluding slabs	1.350	1.000	1.000
3 Dead	1.350	1.000	1.000
4 Services	1.350	1.000	1.000
5 Imposed	1.500	1.000	0.300

Combinations Summary

1 STR₁-1.35G+1.5Q+1.5RQ

Load Type	Force [kN]		
	X	Y	Z
Member Loads	0.0	0.0	675.3
Nodal Loads	0.0	0.0	0.0

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Load Type	Force [kN]		
	X	Y	Z
Total NHF Dir1	0.0	0.0	0.0
Total NHF Dir2	0.0	0.0	0.0
Decomposable Loads	0.0	0.0	0.0
1 Way Decomp Results	0.0	0.0	0.0
2 Way Decomp Results	0.0	0.0	0.0
Total User Applied Load	0.0	0.0	675.3
Total Load on Structure	0.0	0.0	675.3
Total Reaction	0.0	0.0	675.3

Wind Data

No results available.

Snow Data

No snow data found.

Action Codes

General Loading BS EN 1991-1-1 + UK NA (2002)
Wind Loading BS EN 1991-1-4 + UK NA (2005)
Snow Loading BS EN 1991-1-3 + UK NA (2003)
Seismic Loading BS EN 1998-1 + UK NA (2004)
Combinations BS EN 1990 + UK NA (2002)

Resistance Codes

Steel Design BS EN 1993-1-1 + UK NA (2005)
Concrete Design BS EN 1992-1-1 + UK NA (2004)
Composite Design BS EN 1994-1-1 + UK NA (2004)
Timber Design BS EN 1995-1-1 + UK NA (2004)
Masonry Design BS EN 1996-1-1 + UK NA (2005)
Foundation Design BS EN 1997-1 + UK NA (2004)
Seismic Design and Detailing BS EN 1998-1 + UK NA (2004)
Steel Fire Design BS EN 1993-1-2 + UK NA (2005)

Seismic Loading Summary

No seismic data found.

Analysis

Nodes

First-order linear

No.	Coordinates [m]			F _x	F _y	F _z	M _x	M _y	M _z
	X	Y	Z	DOF	DOF	DOF	DOF	DOF	DOF
1	4.100	0.000	0.000	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
2	0.000	0.000	0.000	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
3	0.000	0.000	3.100	Free	Free	Free	Free	Free	Free
4	4.100	0.000	3.100	Free	Free	Free	Free	Free	Free
5	2.050	0.000	0.000	Free	Free	Free	Free	Free	Free
7	4.100	0.000	1.550	Free	Free	Free	Free	Free	Free
8	0.000	0.000	1.550	Free	Free	Free	Free	Free	Free
11	2.050	0.000	3.100	Free	Free	Free	Free	Free	Free

Node Support Details

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No.	Direction	Type	Stiffness [%]
1	Trans. Major X	Fixed	
	Trans. Minor Y	Fixed	
	Axial Z	Fixed	
	Rot. Major	Fixed	
	Rot. Minor	Fixed	
	Rot. Torsional	Fixed	
2	Trans. Major X	Fixed	
	Trans. Minor Y	Fixed	
	Axial Z	Fixed	
	Rot. Major	Fixed	
	Rot. Minor	Fixed	
	Rot. Torsional	Fixed	

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Elements

Element Number	Start Node	End Node	Section	Grade	Construction	F _x DOF	M _x ¹ DOF	M _y ¹ DOF	M _z ¹ DOF	F _x ² DOF	M _x ² DOF	M _y ² DOF	M _z ² DOF
2	5	2	UC 203x203x52	S355	Non-composite beam	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
3	1	7	UC 152x152x37	S355	Non-composite column	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
4	1	5	UC 203x203x52	S355	Non-composite beam	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
10	2	8	UC 152x152x37	S355	Non-composite column	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
11	8	3	UC 152x152x37	S355	Non-composite column	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
13	7	4	UC 152x152x37	S355	Non-composite column	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
16	3	11	UC 203x203x52	S355	Non-composite beam	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
17	11	4	UC 203x203x52	S355	Non-composite beam	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

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Element-Member

No.	Node 1	Node 2	Member	Construction	Material	Section	Grade
2	5	2	SB Base/B/1-Base/A/1	Non-composite beam	Steel	UC 203x203x52	S355
3	1	7	SC B/1	Non-composite column	Steel	UC 152x152x37	S355
4	1	5	SB Base/B/1-Base/A/1	Non-composite beam	Steel	UC 203x203x52	S355
10	2	8	SC A/1	Non-composite column	Steel	UC 152x152x37	S355
11	8	3	SC A/1	Non-composite column	Steel	UC 152x152x37	S355
13	7	4	SC B/1	Non-composite column	Steel	UC 152x152x37	S355
16	3	11	SB 1/A/1-1/B/1	Non-composite beam	Steel	UC 203x203x52	S355
17	11	4	SB 1/A/1-1/B/1	Non-composite beam	Steel	UC 203x203x52	S355

Element Properties

Section Properties

Section	Material	I _t [cm ⁴]	I _{major} [cm ⁴]	I _{minor} [cm ⁴]	A [mm ²]	A _{major} [mm ²]	A _{minor} [mm ²]
UC 152x152x37	S355	19.175	2210.5	706.2	4711	3196	1294
UC 152x152x37	S355	19.175	2210.5	706.2	4711	3196	1294
UC 152x152x37	S355	19.175	2210.5	706.2	4711	3196	1294
UC 152x152x37	S355	19.175	2210.5	706.2	4711	3196	1294
UC 203x203x52	S355	31.759	5258.8	1777.6	6628	4597	1629
UC 203x203x52	S355	31.759	5258.8	1777.6	6628	4597	1629
UC 203x203x52	S355	31.759	5258.8	1777.6	6628	4597	1629
UC 203x203x52	S355	31.759	5258.8	1777.6	6628	4597	1629

Modification Factors

Material	Type	E	G	I _t	I _{major}	I _{minor}	A	A _{major}	A _{minor}	t
Steel	Beam Non-Composite	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
	Column Non-Composite	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-

Element End Forces

First-order linear

1 Self weight - excluding slabs

No.	Node No.	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
2	5	0.0	0.0	0.0	0.0	0.4	0.0
	2	0.0	0.0	1.0	0.0	0.7	0.0
3	1	-2.2	0.0	-0.2	0.0	0.2	0.0
	7	1.6	0.0	0.2	0.0	0.1	0.0
4	1	0.0	0.0	1.0	0.0	-0.7	0.0
	5	0.0	0.0	0.0	0.0	-0.4	0.0
10	2	-2.2	0.0	0.2	0.0	-0.2	0.0
	8	1.6	0.0	-0.2	0.0	-0.1	0.0
11	8	-1.6	0.0	0.2	0.0	0.1	0.0
	3	1.0	0.0	-0.2	0.0	-0.4	0.0
13	7	-1.6	0.0	-0.2	0.0	-0.1	0.0
	4	1.0	0.0	0.2	0.0	0.4	0.0
16	3	-0.2	0.0	1.0	0.0	-0.4	0.0
	11	0.2	0.0	0.0	0.0	-0.7	0.0
17	11	-0.2	0.0	0.0	0.0	0.7	0.0
	4	0.2	0.0	1.0	0.0	0.4	0.0

2 Slab self weight

No results available.

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3 Dead

No.	Node No.	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
3	1	-83.3	0.0	-18.9	0.0	20.2	0.0
	7	83.3	0.0	18.9	0.0	9.0	0.0
10	2	-114.0	0.0	18.9	0.0	-17.7	0.0
	8	114.0	0.0	-18.9	0.0	-11.6	0.0
11	8	-114.0	0.0	18.9	0.0	11.6	0.0
	3	114.0	0.0	-18.9	0.0	-40.9	0.0
13	7	-83.3	0.0	-18.9	0.0	-9.0	0.0
	4	83.3	0.0	18.9	0.0	38.3	0.0
16	3	-18.9	0.0	114.0	0.0	-40.9	0.0
	11	18.9	0.0	23.7	0.0	-71.4	0.0
17	11	-18.9	0.0	-23.7	0.0	71.4	0.0
	4	18.9	0.0	83.3	0.0	38.3	0.0

4 Services

No results available.

5 Imposed

No.	Node No.	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
3	1	-11.3	0.0	-3.8	0.0	4.3	0.0
	7	11.3	0.0	3.8	0.0	1.5	0.0
10	2	-28.6	0.0	3.8	0.0	-3.3	0.0
	8	28.6	0.0	-3.8	0.0	-2.6	0.0
11	8	-28.6	0.0	3.8	0.0	2.6	0.0
	3	28.6	0.0	-3.8	0.0	-8.5	0.0
13	7	-11.3	0.0	-3.8	0.0	-1.5	0.0
	4	11.3	0.0	3.8	0.0	7.4	0.0
16	3	-3.8	0.0	28.6	0.0	-8.5	0.0
	11	3.8	0.0	8.8	0.0	-13.2	0.0
17	11	-3.8	0.0	-8.8	0.0	13.2	0.0
	4	3.8	0.0	11.3	0.0	7.4	0.0

6 Wind Load

No.	Node No.	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
3	1	-2.1	0.0	-3.1	0.0	5.2	0.0
	7	2.1	0.0	3.1	0.0	-0.4	0.0
10	2	2.1	0.0	-3.0	0.0	5.1	0.0
	8	-2.1	0.0	3.0	0.0	-0.4	0.0
11	8	2.1	0.0	-3.0	0.0	0.4	0.0
	3	-2.1	0.0	3.0	0.0	4.3	0.0
13	7	-2.1	0.0	-3.1	0.0	0.4	0.0
	4	2.1	0.0	3.1	0.0	4.3	0.0
16	3	3.0	0.0	-2.1	0.0	4.3	0.0
	11	-3.0	0.0	2.1	0.0	0.0	0.0
17	11	3.0	0.0	-2.1	0.0	0.0	0.0
	4	-3.0	0.0	2.1	0.0	4.3	0.0

Nodal Deflections

First-order linear

1 Self weight - excluding slabs

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Node No.	X [m]	Y [m]	Z [m]	Mov _x [mm]	Mov _y [mm]	Mov _z [mm]	Rot _x [°]	Rot _y [°]	Rot _z [°]
3	0.000	0.000	3.100	0.0	0.0	0.0	0.0000	0.0037	0.0000
4	4.100	0.000	3.100	0.0	0.0	0.0	0.0000	-0.0037	0.0000
7	4.100	0.000	1.550	0.0	0.0	0.0	0.0000	0.0008	0.0000
8	0.000	0.000	1.550	0.0	0.0	0.0	0.0000	-0.0008	0.0000
11	2.050	0.000	3.100	0.0	0.0	0.1	0.0000	0.0000	0.0000

2 Slab self weight

No results available.

3 Dead

Node No.	X [m]	Y [m]	Z [m]	Mov _x [mm]	Mov _y [mm]	Mov _z [mm]	Rot _x [°]	Rot _y [°]	Rot _z [°]
3	0.000	0.000	3.100	1.4	0.0	0.4	0.0000	0.4443	0.0000
4	4.100	0.000	3.100	1.3	0.0	0.3	0.0000	-0.3459	0.0000
7	4.100	0.000	1.550	3.0	0.0	0.1	0.0000	0.1071	0.0000
8	0.000	0.000	1.550	-2.3	0.0	0.2	0.0000	-0.0579	0.0000
11	2.050	0.000	3.100	1.3	0.0	11.8	0.0000	-0.0601	0.0000

4 Services

No results available.

5 Imposed

Node No.	X [m]	Y [m]	Z [m]	Mov _x [mm]	Mov _y [mm]	Mov _z [mm]	Rot _x [°]	Rot _y [°]	Rot _z [°]
3	0.000	0.000	3.100	0.6	0.0	0.1	0.0000	0.0999	0.0000
4	4.100	0.000	3.100	0.5	0.0	0.0	0.0000	-0.0590	0.0000
7	4.100	0.000	1.550	0.7	0.0	0.0	0.0000	0.0268	0.0000
8	0.000	0.000	1.550	-0.4	0.0	0.0	0.0000	-0.0063	0.0000
11	2.050	0.000	3.100	0.6	0.0	2.3	0.0000	-0.0237	0.0000

6 Wind Load

Node No.	X [m]	Y [m]	Z [m]	Mov _x [mm]	Mov _y [mm]	Mov _z [mm]	Rot _x [°]	Rot _y [°]	Rot _z [°]
3	0.000	0.000	3.100	2.2	0.0	0.0	0.0000	0.0163	0.0000
4	4.100	0.000	3.100	2.2	0.0	0.0	0.0000	0.0164	0.0000
7	4.100	0.000	1.550	1.0	0.0	0.0	0.0000	0.0535	0.0000
8	0.000	0.000	1.550	1.0	0.0	0.0	0.0000	0.0533	0.0000
11	2.050	0.000	3.100	2.2	0.0	0.0	0.0000	-0.0065	0.0000

Nodal Forces

First-order linear

1 Self weight - excluding slabs

Node No.	X [m]	Y [m]	Z [m]	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
1	4.100	0.000	0.000	0.0	0.2	3.2	0.5	0.0	0.0
2	0.000	0.000	0.000	0.0	-0.2	3.2	-0.5	0.0	0.0

2 Slab self weight

No results available.

3 Dead

Node No.	X [m]	Y [m]	Z [m]	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
1	4.100	0.000	0.000	0.0	18.9	167.8	-20.2	0.0	0.0
2	0.000	0.000	0.000	0.0	-18.9	212.7	17.7	0.0	0.0

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4 Services

No results available.

5 Imposed

Node No.	X [m]	Y [m]	Z [m]	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
1	4.100	0.000	0.000	0.0	3.8	40.5	-4.3	0.0	0.0
2	0.000	0.000	0.000	0.0	-3.8	61.4	3.3	0.0	0.0

6 Wind Load

Node No.	X [m]	Y [m]	Z [m]	F _x [kN]	F _y [kN]	F _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]
1	4.100	0.000	0.000	0.0	3.1	2.1	-5.2	0.0	0.0
2	0.000	0.000	0.000	0.0	3.0	-2.1	-5.1	0.0	0.0

Member Forces

First-order linear

1 Self weight - excluding slabs

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	1.0	0.0	-0.7	0.0	0.0	0.0	0.0	0.0
1.025	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
3.075	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0
4.100	-1.0	0.0	-0.7	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	1.0	0.0	-0.4	0.0	0.2	0.0	0.0	0.0
1.025	0.5	0.0	0.4	0.0	0.2	0.0	0.1	0.0
2.050	0.0	0.0	0.7	0.0	0.2	0.0	0.1	0.0
3.075	-0.5	0.0	0.4	0.0	0.2	0.0	0.1	0.0
4.100	-1.0	0.0	-0.4	0.0	0.2	0.0	0.0	0.0

SC A/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	0.2	0.0	0.4	0.0	1.0	0.0	0.0	0.0
0.000	0.2	0.0	-0.2	0.0	2.2	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	-0.2	0.0	-0.4	0.0	1.0	0.0	0.0	0.0
0.000	-0.2	0.0	0.2	0.0	2.2	0.0	0.0	0.0

2 Slab self weight

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

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Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SC A/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

3 Dead

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	114.0	0.0	-40.9	0.0	18.9	0.0	0.0	0.0
1.367	12.7	0.0	81.0	0.0	18.9	0.0	10.7	0.0
1.367	-4.5	0.0	81.0	0.0	18.9	0.0	10.7	0.0
1.874	-18.8	0.0	75.1	0.0	18.9	0.0	11.6	0.0
3.075	-52.6	0.0	32.2	0.0	18.9	0.0	7.3	0.0
4.100	-83.3	0.0	-38.3	0.0	18.9	0.0	0.0	0.0

SC A/1

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Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	18.9	0.0	40.9	0.0	114.0	0.0	0.0	0.0
2.021	18.9	0.0	20.5	0.0	114.0	0.0	3.4	0.0
0.000	18.9	0.0	-17.7	0.0	114.0	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	-18.9	0.0	-38.3	0.0	83.3	0.0	0.0	0.0
2.086	-18.9	0.0	-19.2	0.0	83.3	0.0	-2.8	0.0
0.057	-18.9	0.0	19.2	0.0	83.3	0.0	0.0	0.0
0.000	-18.9	0.0	20.2	0.0	83.3	0.0	0.0	0.0

4 Services

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SC A/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5 Imposed

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

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Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	28.6	0.0	-8.5	0.0	3.8	0.0	0.0	0.0
1.025	27.4	0.0	20.2	0.0	3.8	0.0	2.0	0.0
1.025	-3.4	0.0	20.2	0.0	3.8	0.0	2.0	0.0
1.701	-8.4	0.0	16.2	0.0	3.8	0.0	2.3	0.0
3.075	-10.1	0.0	3.5	0.0	3.8	0.0	1.3	0.0
4.100	-11.3	0.0	-7.4	0.0	3.8	0.0	0.0	0.0

SC A/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	3.8	0.0	8.5	0.0	28.6	0.0	0.0	0.0
1.991	3.8	0.0	4.3	0.0	28.6	0.0	0.8	0.0
0.000	3.8	0.0	-3.3	0.0	28.6	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	-3.8	0.0	-7.4	0.0	11.3	0.0	0.0	0.0
2.127	-3.8	0.0	-3.7	0.0	11.3	0.0	-0.5	0.0
0.162	-3.8	0.0	3.7	0.0	11.3	0.0	0.0	0.0
0.000	-3.8	0.0	4.3	0.0	11.3	0.0	0.0	0.0

6 Wind Load

SB Base/B/1-Base/A/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.075	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SB 1/A/1-1/B/1

Span 1, UC 203x203x52, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
0.000	-2.1	0.0	4.3	0.0	-3.0	0.0	0.0	0.0
0.864	-2.1	0.0	2.5	0.0	-3.0	0.0	0.1	0.0
2.050	-2.1	0.0	0.0	0.0	-3.0	0.0	0.0	0.0
3.231	-2.1	0.0	-2.5	0.0	-3.0	0.0	-0.1	0.0

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Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
4.100	-2.1	0.0	-4.3	0.0	-3.0	0.0	0.0	0.0

SC A/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	-3.0	0.0	-4.3	0.0	-2.1	0.0	0.0	0.0
2.595	-3.0	0.0	-2.8	0.0	-2.1	0.0	-0.1	0.0
0.784	-3.0	0.0	2.8	0.0	-2.1	0.0	0.2	0.0
0.000	-3.0	0.0	5.1	0.0	-2.1	0.0	0.0	0.0

SC B/1

Stack 1, UC 152x152x37, S355

Position [m]	Shear [kN]		Moment [kNm]		Axial Force [kN]	Torsion [kNm]	Deflection [mm]	
	Major	Minor	Major	Minor			Major	Minor
3.100	-3.1	0.0	-4.3	0.0	2.1	0.0	0.0	0.0
2.596	-3.1	0.0	-2.8	0.0	2.1	0.0	-0.1	0.0
0.785	-3.1	0.0	2.8	0.0	2.1	0.0	0.2	0.0
0.000	-3.1	0.0	5.2	0.0	2.1	0.0	0.0	0.0

Mode Shape by Node

First-order modal

No loading selected.

Buckling Factors

No loading selected.

Summed Mass

First-order modal

No results available.

Dynamic Masses

First-order modal

No results available.

Active Masses by Node

First-order modal

No loading selected.

Total Masses by Node

First-order modal

No loading selected.

Modal Frequencies

No loading selected.

FE Results by Node

No loading selected.

FE Results by Shell

No loading selected.

FE Slab Results by Panel

No loading selected.

FE Wall Results by Panel

No loading selected.

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Wall Line Forces

First-order linear

No entity matches the filter for the current report item.

Core Line Forces

First-order linear

No entity matches the filter for the current report item.

2D Result Line Forces

No entity matches the filter for the current report item.

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Sway

First-order linear

Level	Ref.	Stack	Combination Dir 1	$\alpha_{Dir\ 1}$	Combination Dir 2	$\alpha_{Dir\ 2}$	Combination Dir 1/2	Twist	Status
St. 1 (1)	SC A/1	1	1 STR ₁ -1.35G+1.5Q+1.5RQ	26.420	1 STR ₁ -1.35G+1.5Q+1.5RQ	2.333	1 STR ₁ -1.35G+1.5Q+1.5RQ	1.000	Warning

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
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Kamp

First-order linear

Level	Ref.	Stack	Combination Dir 1	$\alpha_{Dir 1}$	$k_{amp, \alpha}$	Combination Dir 2	$\alpha_{Dir 2}$	$k_{amp, \alpha}$
St. 1 (1)	SC A/1	1	1 STR ₁ -1.35G+1.5Q+1.5RQ	26.420	1.039	1 STR ₁ -1.35G+1.5Q+1.5RQ	2.333	1.000

Cumulative Storey Shear

1 Self weight - excluding slabs

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

2 Slab self weight

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

3 Dead

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

4 Services

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

5 Imposed

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

6 Wind Load

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	-6.1	0.0
St. Base (Base)	0.000	-6.1	0.0

Inter-storey Shear

1 Self weight - excluding slabs

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

2 Slab self weight

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

3 Dead

	Project		64 Victoria Road		Job Ref.	
	Structure		Box Frame 1		Sheet no.	
	Calc. by Csilla		Date 16/01/2023		App'd by	
				Chk'd by	Date 20/12/2022	Date 20/12/2022

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

4 Services

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

5 Imposed

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	0.0	0.0
St. Base (Base)	0.000	0.0	0.0

6 Wind Load

Reference	Level [m]	Σ Shear Major [kN]	Σ Shear Minor [kN]
St. 1 (1)	3.100	-6.1	0.0
St. Base (Base)	0.000	0.0	0.0

Shear Only Wall Forces

No entity matches the filter for the current report item.

Pile Forces

First-order linear

No entity matches the filter for the current report item.

Steel

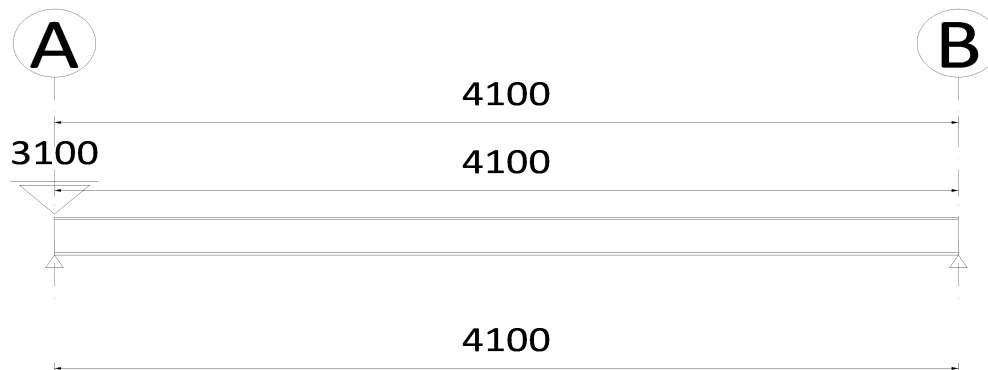
Beam Design

Beams

Non-Composite

Rolled

SB 1/A/1-1/B/1



St. 1 (1): SB 1/A/1-1/B/1 - 1
UC 203x203x52 S355

Restraints

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 20/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		

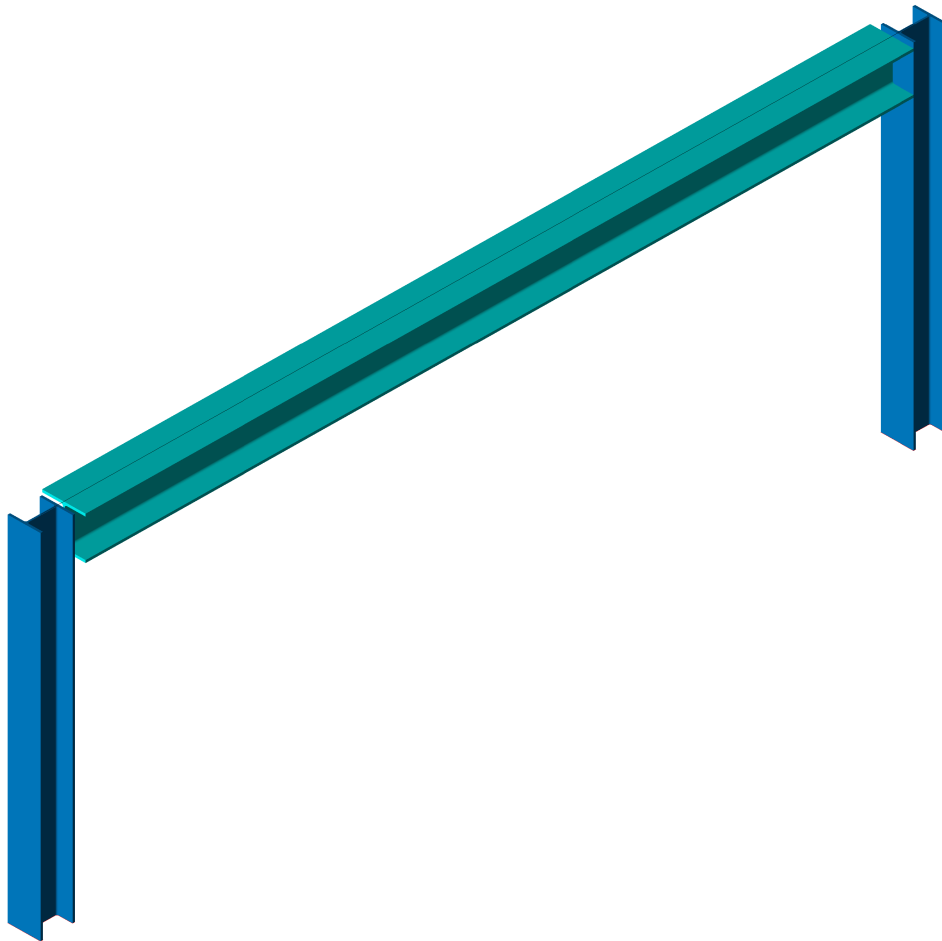
Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Static Design Summary

Summary UC 203x203x52(S355)

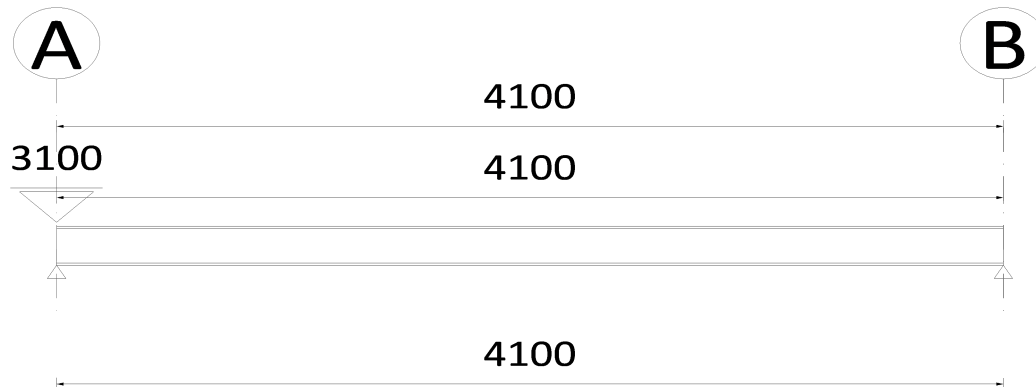
Design Condition	#	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	198.3	384.2	kN	0.516	Pass
Shear Minor	-	No forces		kN	-	Not required
Buckling Shear Web	-	22.937	58.580	-	-	Pass
Moment Major	1	138.6	201.4	kNm	0.688	Pass
Moment Minor	-	No forces		kNm	-	Not required
Axial	1	31.4	2353.0	kN	0.013	Pass
Axial Bending Combined	1	-	-	-	0.688	Pass
Buckling Lateral Torsional	1	138.6	187.0	kNm	0.741	Pass
Buckling Compression	1	31.4	1221.8	kN	0.026	Pass
Buckling Combined	1	-	-	-	0.812	Pass
Torsion	No Significant Forces					Not required
Deflection Self weight	1	0.1	-	mm	-	-
Deflection Dead	1	11.6	8.2	mm	1.419	Fail
Deflection Imposed	1	2.3	11.4	mm	0.206	Pass
Deflection Total	1	14.1	20.5	mm	0.686	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 21/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		



SB 1/A/1-1/B/1

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 22/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022



St. 1 (1): SB 1/A/1-1/B/1 - 1 UC 203x203x52 S355

Loading

Loadcase	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
1 Self weight - excluding slabs	User	Global Z		1	Full UDL		0.5		4.100
3 Dead	User	Global Z		1	UDL		26.4	1.025	3.075
3 Dead	User	Global Z		1	Full UDL		1.8		4.100
3 Dead	User	Global Z		1	Point load	1.8		3.100	
3 Dead	User	Global Z		1	Point load	88.0		1.025	
3 Dead	User	Global Z		1	Point load	17.2		1.367	
3 Dead	User	Global Z		1	Point load	1.8		1.000	
5 Imposed	User	Global Z		1	Full UDL		1.2		4.100
5 Imposed	User	Global Z		1	Point load	30.8		1.025	
5 Imposed	User	Global Z		1	Point load	4.2		1.367	

Restraints

Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

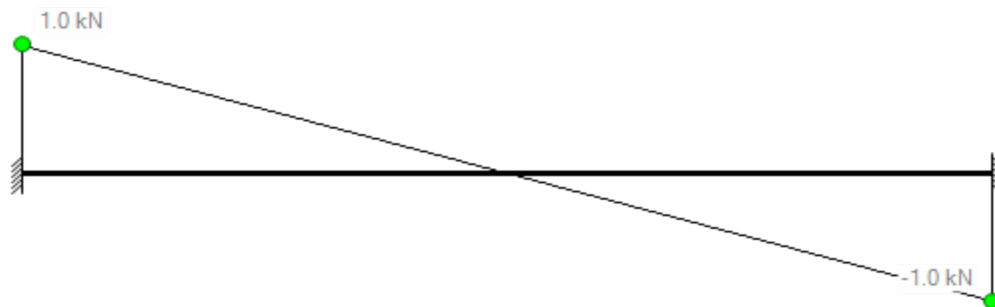
Slab

No slab.

Shear Force Diagram, First-order linear

Major

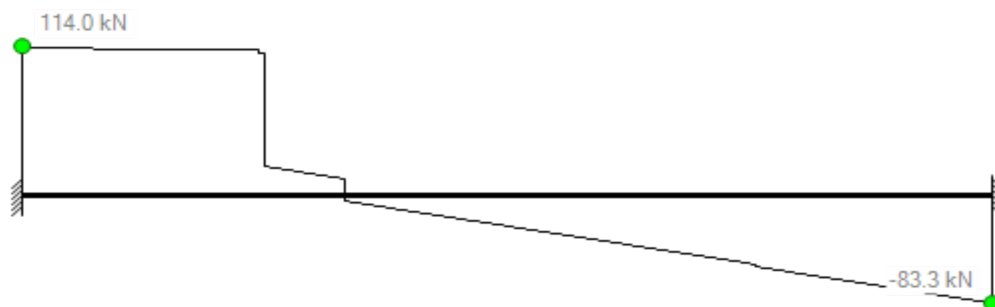
	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 23/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			



Loadcase: 1 Self weight - excluding slabs, Major Shear for SB 1/A/1-1/B/1

Loadcase: 2 Slab self weight, Major Shear for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 3 Dead, Major Shear for SB 1/A/1-1/B/1

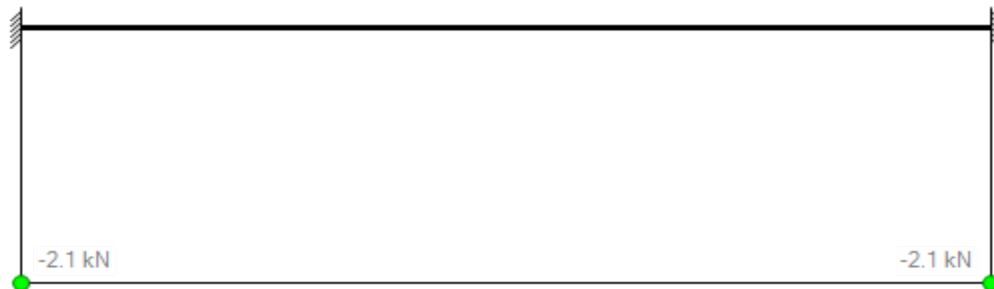
Loadcase: 4 Services, Major Shear for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 5 Imposed, Major Shear for SB 1/A/1-1/B/1

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 24/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			



Loadcase: 6 Wind Load, Major Shear for SB 1/A/1-1/B/1

Loadcase: 1 Self weight - excluding slabs, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 3 Dead, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 4 Services, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 5 Imposed, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 6 Wind Load, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Bending Moment Diagram, First-order linear

Major

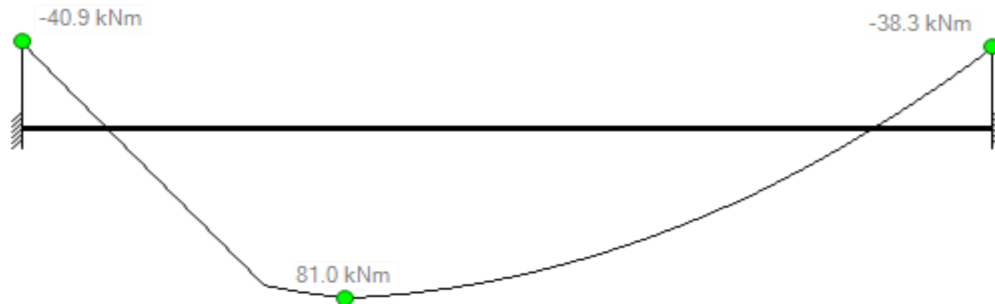


Loadcase: 1 Self weight - excluding slabs, Major Moment for SB 1/A/1-1/B/1

Loadcase: 2 Slab self weight, Major Moment for SB 1/A/1-1/B/1

No significant values present.

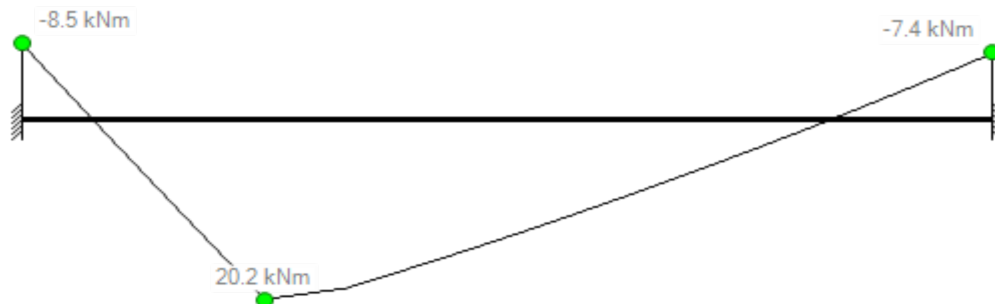
	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 25/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			



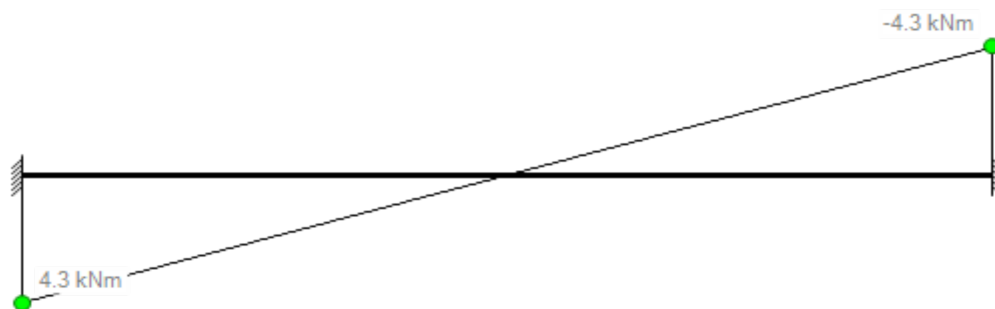
Loadcase: 3 Dead, Major Moment for SB 1/A/1-1/B/1

Loadcase: 4 Services, Major Moment for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 5 Imposed, Major Moment for SB 1/A/1-1/B/1



Loadcase: 6 Wind Load, Major Moment for SB 1/A/1-1/B/1

Loadcase: 1 Self weight - excluding slabs, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 3 Dead, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 4 Services, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 26/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022

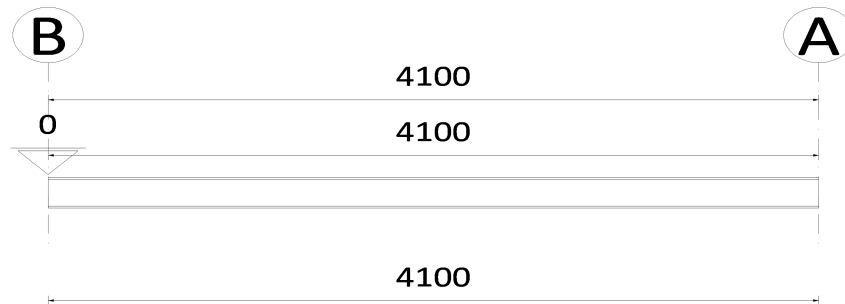
Loadcase: 5 Imposed, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 6 Wind Load, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

SB Base/B/1-Base/A/1



St. Base (Base): SB Base/B/1-Base/A/1 - 1 UC 203x203x52 S355

Restraints

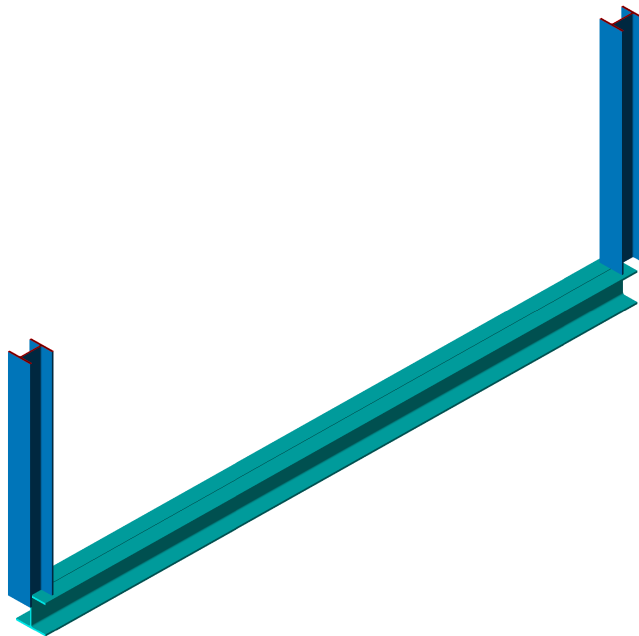
Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Static Design Summary

Summary UC 203x203x52(S355)

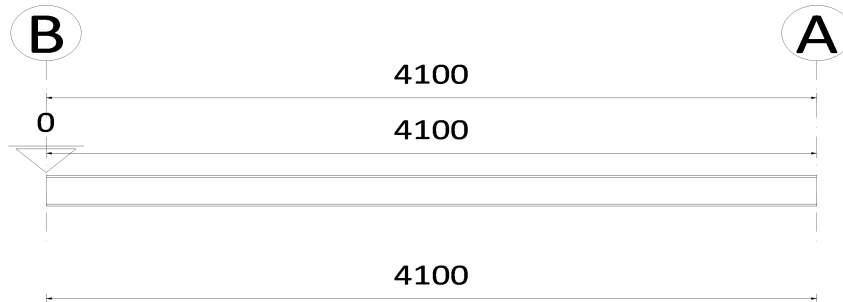
Design Condition	#	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	1.4	384.2	kN	0.004	Pass
Shear Minor	-	No forces		kN	-	Not required
Buckling Shear Web	-	22.937	58.580	-	-	Pass
Moment Major	1	-1.0	201.4	kNm	0.005	Pass
Moment Minor	-	No forces		kNm	-	Not required
Axial	-	No forces		kN	-	Not required
Axial Bending Combined		No forces				Not required
Buckling Lateral Torsional	1	-1.0	201.4	kNm	0.005	Pass
Buckling Compression		No forces				Not required
Buckling Combined		No forces				Not required
Torsion		No Significant Forces				Not required
Deflection Self weight	1	0.0	-	mm	-	-
Deflection Dead	-	No loads		mm	-	Not required
Deflection Imposed	-	No loads		mm	-	Not required
Deflection Total	1	0.0	20.5	mm	0.002	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 27/48	
Calc. by	Date	Chk'd by	Date	App'd by	Date	
Csilla	16/01/2023		20/12/2022		20/12/2022	



SB Base/B/1-Base/A/1

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 28/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022



St. Base (Base): SB Base/B/1-Base/A/1 - 1 UC 203x203x52 S355

Loading

Loadcase	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
1 Self weight - excluding slabs	User	Global Z		1	Full UDL		0.5		4.100
3 Dead	User	Global Z		1	Point load	84.5		0.000	
3 Dead	User	Global Z		1	Point load	98.7		4.100	
5 Imposed	User	Global Z		1	Point load	29.2		0.000	
5 Imposed	User	Global Z		1	Point load	32.8		4.100	

Restraints

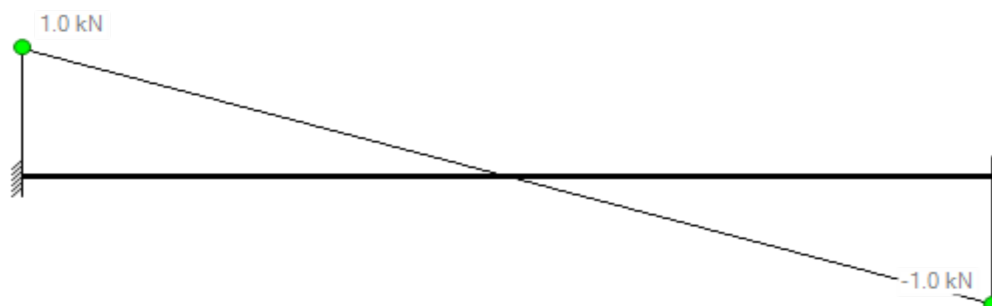
Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Slab

No slab.

Shear Force Diagram, First-order linear

Major



Loadcase: 1 Self weight - excluding slabs, Major Shear for SB Base/B/1-Base/A/1

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 29/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		

Loadcase: 2 Slab self weight, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 1 Self weight - excluding slabs, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Minor Shear for SB Base/B/1-Base/A/1

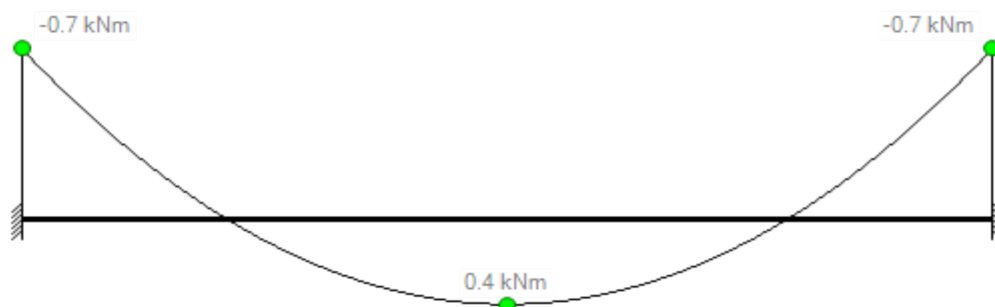
No significant values present.

Loadcase: 6 Wind Load, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Bending Moment Diagram, First-order linear

Major



Loadcase: 1 Self weight - excluding slabs, Major Moment for SB Base/B/1-Base/A/1

Loadcase: 2 Slab self weight, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 30/48	
	Calc. by	Date	Chk'd by	Date	App'd by	Date
	Csilla	16/01/2023		20/12/2022		20/12/2022

Loadcase: 1 Self weight - excluding slabs, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Connection Resistance

No entity matches the filter for the current report item.

	Project				64 Victoria Road		Job Ref.	
	Structure				Box Frame 1		Sheet no. Page 31/48	
	Calc. by	Csilla	Date	16/01/2023	Chk'd by		Date	20/12/2022
App'd by						Date		20/12/2022

Beam Design Summary

Static

Member Reference	Group Ref.	Span	Section	Grade	Length [m]	No. Connectors	Camber	Utilization	Status
SB Base/B/1-Base/A/1	SBR1	1	UC 203x203x52	S355	4.100		0.0	0.009	Pass
SB 1/A/1-1/B/1	SBR2	1	UC 203x203x52	S355	4.100		0.0	0.809	Pass

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 32/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022

Beam Group Design Summary

Static

Reference	Spans	Critical Span	Section	Grade	Max. UR	Status
SB Base/B/1-Base/A/1	1	1	UC 203x203x52	S355	0.009	Pass
SB 1/A/1-1/B/1	1	1	UC 203x203x52	S355	0.809	Pass

SB Base/B/1-Base/A/1



St. Base (Base): SB Base/B/1-Base/A/1 - 1
UC 203x203x52 S355

Restraints

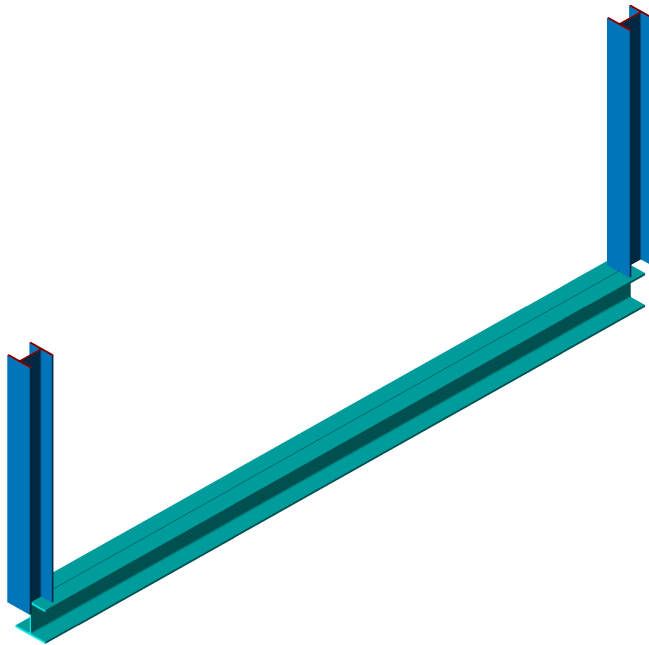
Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Static Design Summary

Summary UC 203x203x52(S355)

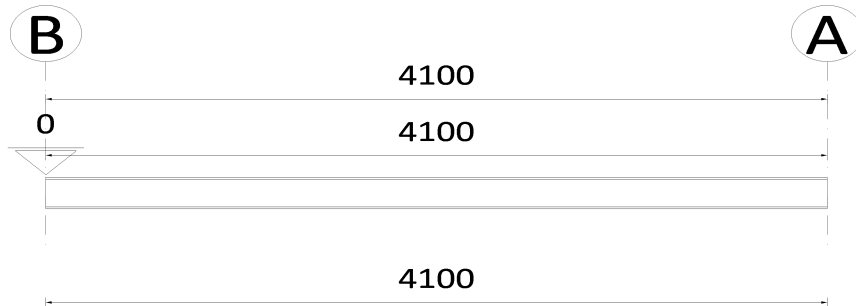
Design Condition	#	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	1.4	384.2	kN	0.004	Pass
Shear Minor	-	No forces		kN	-	Not required
Buckling Shear Web	-	22.937	58.580	-	-	Pass
Moment Major	1	-1.0	201.4	kNm	0.005	Pass
Moment Minor	-	No forces		kNm	-	Not required
Axial	-	No forces		kN	-	Not required
Axial Bending Combined	No forces					Not required
Buckling Lateral Torsional	1	-1.0	201.4	kNm	0.005	Pass
Buckling Compression	No forces					Not required
Buckling Combined	No forces					Not required
Torsion	No Significant Forces					Not required
Deflection Self weight	1	0.0	-	mm	-	-
Deflection Dead	-	No loads		mm	-	Not required
Deflection Imposed	-	No loads		mm	-	Not required
Deflection Total	1	0.0	20.5	mm	0.002	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 33/48	
Calc. by	Date	Chk'd by	Date	App'd by	Date	
Csilla	16/01/2023		20/12/2022		20/12/2022	



SB Base/B/1-Base/A/1

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 34/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022



St. Base (Base): SB Base/B/1-Base/A/1 - 1 UC 203x203x52 S355

Loading

Loadcase	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
1 Self weight - excluding slabs	User	Global Z		1	Full UDL		0.5		4.100
3 Dead	User	Global Z		1	Point load	84.5		0.000	
3 Dead	User	Global Z		1	Point load	98.7		4.100	
5 Imposed	User	Global Z		1	Point load	29.2		0.000	
5 Imposed	User	Global Z		1	Point load	32.8		4.100	

Restraints

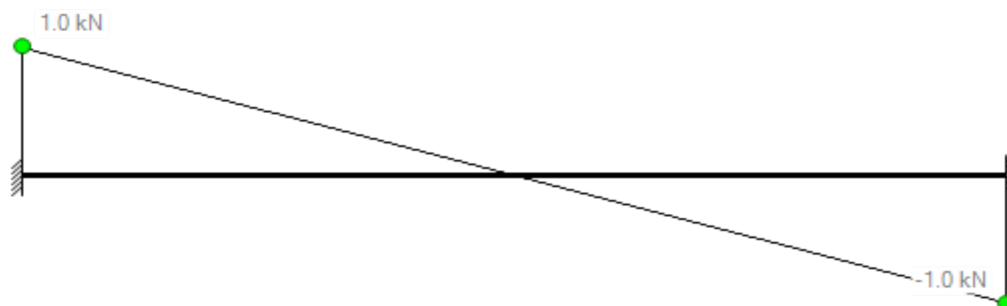
Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Slab

No slab.

Shear Force Diagram, First-order linear

Major



Loadcase: 1 Self weight - excluding slabs, Major Shear for SB Base/B/1-Base/A/1

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Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			

Loadcase: 2 Slab self weight, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Major Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 1 Self weight - excluding slabs, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Minor Shear for SB Base/B/1-Base/A/1

No significant values present.

Bending Moment Diagram, First-order linear

Major



Loadcase: 1 Self weight - excluding slabs, Major Moment for SB Base/B/1-Base/A/1

Loadcase: 2 Slab self weight, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 5 Imposed, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Major Moment for SB Base/B/1-Base/A/1

No significant values present.

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Loadcase: 1 Self weight - excluding slabs, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 3 Dead, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 4 Services, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

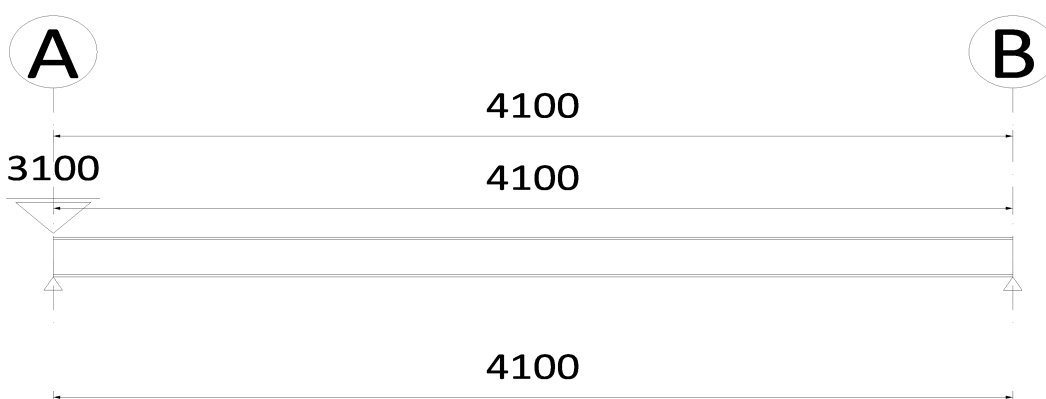
Loadcase: 5 Imposed, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

Loadcase: 6 Wind Load, Minor Moment for SB Base/B/1-Base/A/1

No significant values present.

SB 1/A/1-1/B/1



St. 1 (1): SB 1/A/1-1/B/1 - 1 UC 203x203x52 S355

Restraints

Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

Static Design Summary

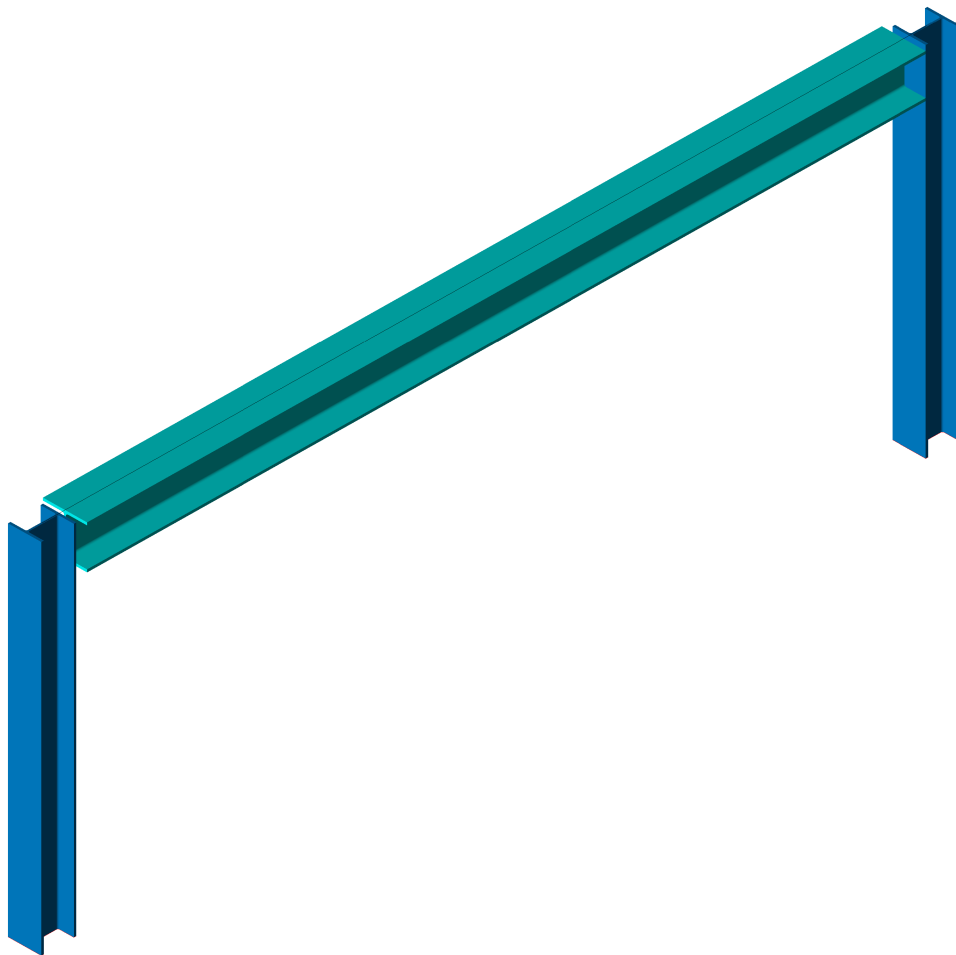
Summary UC 203x203x52(S355)

Design Condition	#	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	198.3	384.2	kN	0.516	Pass
Shear Minor	-	No forces		kN	-	Not required
Buckling Shear Web	-	22.937	58.580	-	-	Pass
Moment Major	1	138.6	201.4	kNm	0.688	Pass
Moment Minor	-	No forces		kNm	-	Not required
Axial	1	31.4	2353.0	kN	0.013	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 37/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			

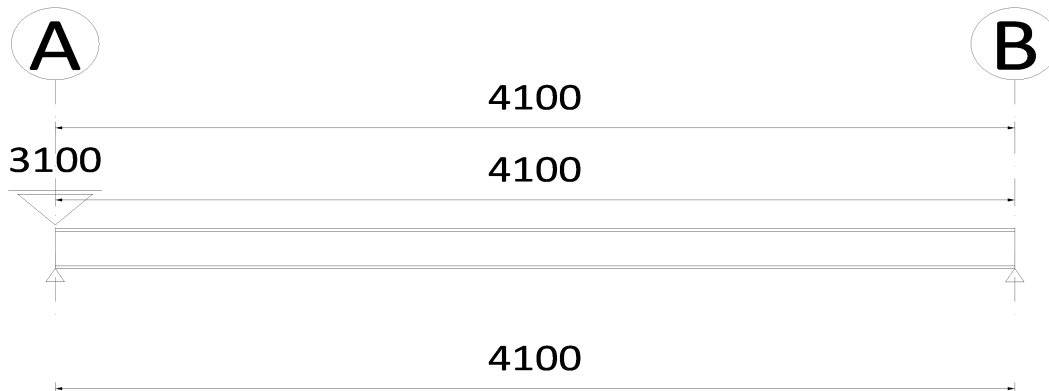
Design Condition	#	Design Value	Design Capacity	Units	U.R.	Status
Axial Bending Combined	1	-	-	-	0.688	Pass
Buckling Lateral Torsional	1	138.6	187.0	kNm	0.741	Pass
Buckling Compression	1	31.4	1221.8	kN	0.026	Pass
Buckling Combined	1	-	-	-	0.812	Pass
Torsion	No Significant Forces					Not required
Deflection Self weight	1	0.1	-	mm	-	-
Deflection Dead	1	11.6	8.2	mm	1.419	Fail
Deflection Imposed	1	2.3	11.4	mm	0.206	Pass
Deflection Total	1	14.1	20.5	mm	0.686	Pass

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Csilla	16/01/2023		20/12/2022		20/12/2022	



SB 1/A/1-1/B/1

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St. 1 (1): SB 1/A/1-1/B/1 - 1 UC 203x203x52 S355

Loading

Loadcase	Source	Direction	In Proj.	Span/Stack	Type	F [kN]	Q ₁ [kN/m]	Pos [m]	Length [m]
1 Self weight - excluding slabs	User	Global Z		1	Full UDL		0.5		4.100
3 Dead	User	Global Z		1	UDL		26.4	1.025	3.075
3 Dead	User	Global Z		1	Full UDL		1.8		4.100
3 Dead	User	Global Z		1	Point load	1.8		3.100	
3 Dead	User	Global Z		1	Point load	88.0		1.025	
3 Dead	User	Global Z		1	Point load	17.2		1.367	
3 Dead	User	Global Z		1	Point load	1.8		1.000	
5 Imposed	User	Global Z		1	Full UDL		1.2		4.100
5 Imposed	User	Global Z		1	Point load	30.8		1.025	
5 Imposed	User	Global Z		1	Point load	4.2		1.367	

Restraints

Source	Distance / Length [m]	LTB Top / Sub-Beam	LTB Top Factor	LTB Btm / Sub-Beam	LTB Btm Factor	Strut Major / Sub-Beam	Strut Major Factor	Strut Minor / Sub-Beam	Strut Minor Factor
support	0.000	•		•		•		•	
sub-beam	4.100	•	1.000		1.000		1.000		1.000
support	4.100	•		•		•		•	

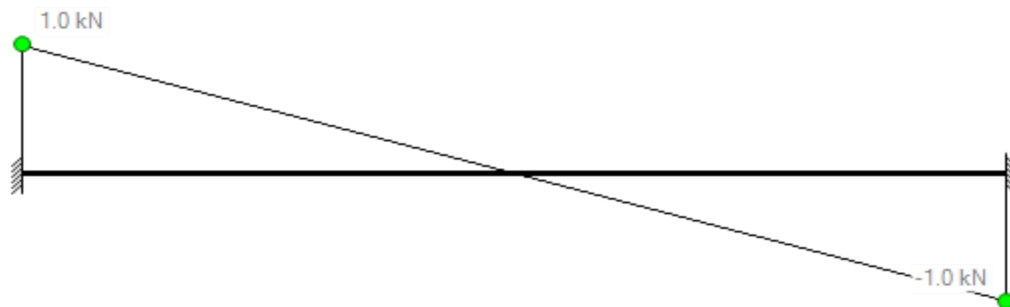
Slab

No slab.

Shear Force Diagram, First-order linear

Major

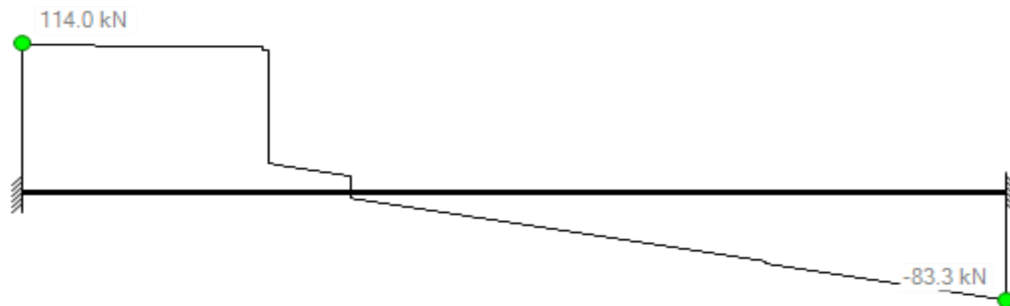
	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 40/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date	20/12/2022			



Loadcase: 1 Self weight - excluding slabs, Major Shear for SB 1/A/1-1/B/1

Loadcase: 2 Slab self weight, Major Shear for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 3 Dead, Major Shear for SB 1/A/1-1/B/1

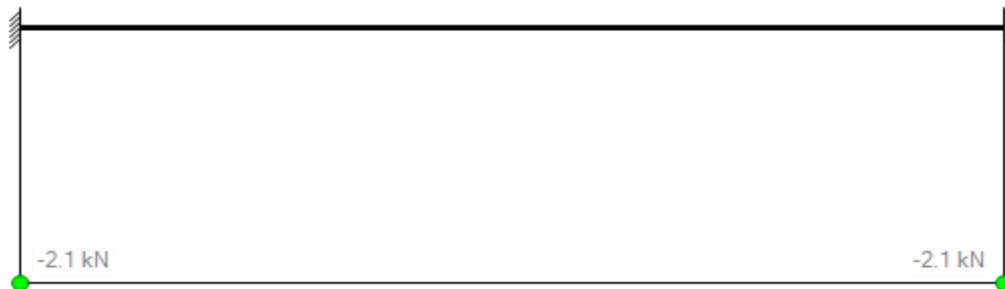
Loadcase: 4 Services, Major Shear for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 5 Imposed, Major Shear for SB 1/A/1-1/B/1

	Project				Job Ref.	
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Loadcase: 6 Wind Load, Major Shear for SB 1/A/1-1/B/1

Loadcase: 1 Self weight - excluding slabs, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 3 Dead, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 4 Services, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 5 Imposed, Minor Shear for SB 1/A/1-1/B/1

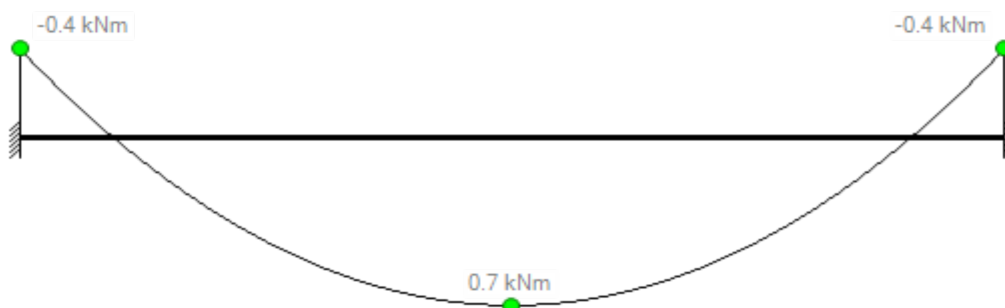
No significant values present.

Loadcase: 6 Wind Load, Minor Shear for SB 1/A/1-1/B/1

No significant values present.

Bending Moment Diagram, First-order linear

Major

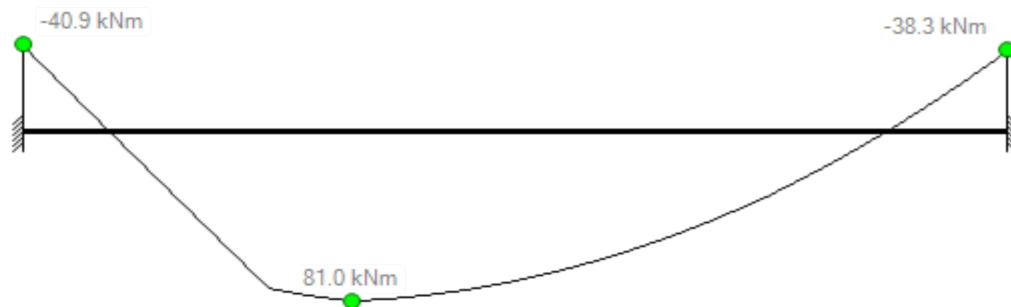


Loadcase: 1 Self weight - excluding slabs, Major Moment for SB 1/A/1-1/B/1

Loadcase: 2 Slab self weight, Major Moment for SB 1/A/1-1/B/1

No significant values present.

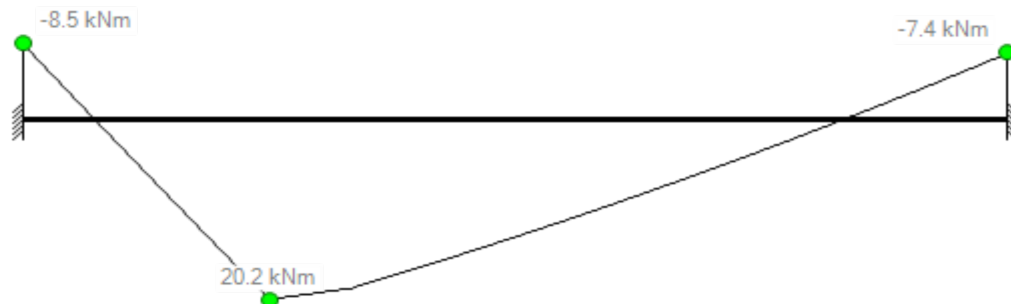
	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 42/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		



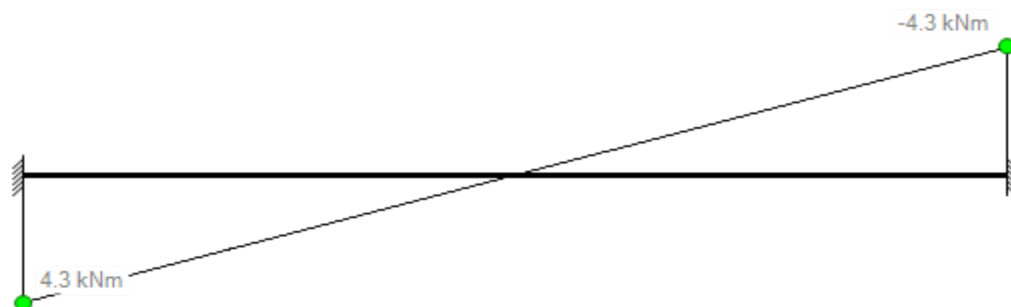
Loadcase: 3 Dead, Major Moment for SB 1/A/1-1/B/1

Loadcase: 4 Services, Major Moment for SB 1/A/1-1/B/1

No significant values present.



Loadcase: 5 Imposed, Major Moment for SB 1/A/1-1/B/1



Loadcase: 6 Wind Load, Major Moment for SB 1/A/1-1/B/1

Loadcase: 1 Self weight - excluding slabs, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 2 Slab self weight, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 3 Dead, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 4 Services, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

	Project 64 Victoria Road				Job Ref.	
	Structure Box Frame 1				Sheet no. Page 43/48	
	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022

Loadcase: 5 Imposed, Minor Moment for SB 1/A/1-1/B/1

No significant values present.

Loadcase: 6 Wind Load, Minor Moment for SB 1/A/1-1/B/1

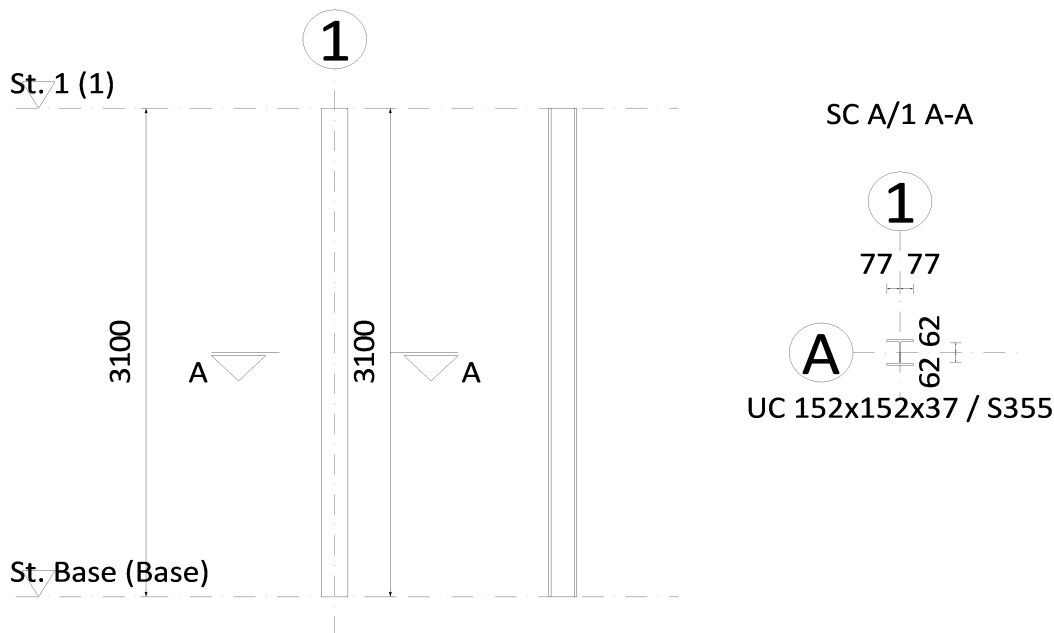
No significant values present.

Column Design

Columns

Rolled

SC A/1



SC A/1

Lateral Restraints

Level	Source	Distance / Length	Face A restrained / Sub-stack continuous	Face A factor	Face C restrained / Sub-stack continuous	Face C factor
2	floor	3.100	No		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Strut Restraints

Level	Source	Distance / Length	Major restrained / Sub-stack continuous	Major factor	Minor restrained / Sub-stack continuous	Minor factor
2	floor	3.100	Yes		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Static Design Summary

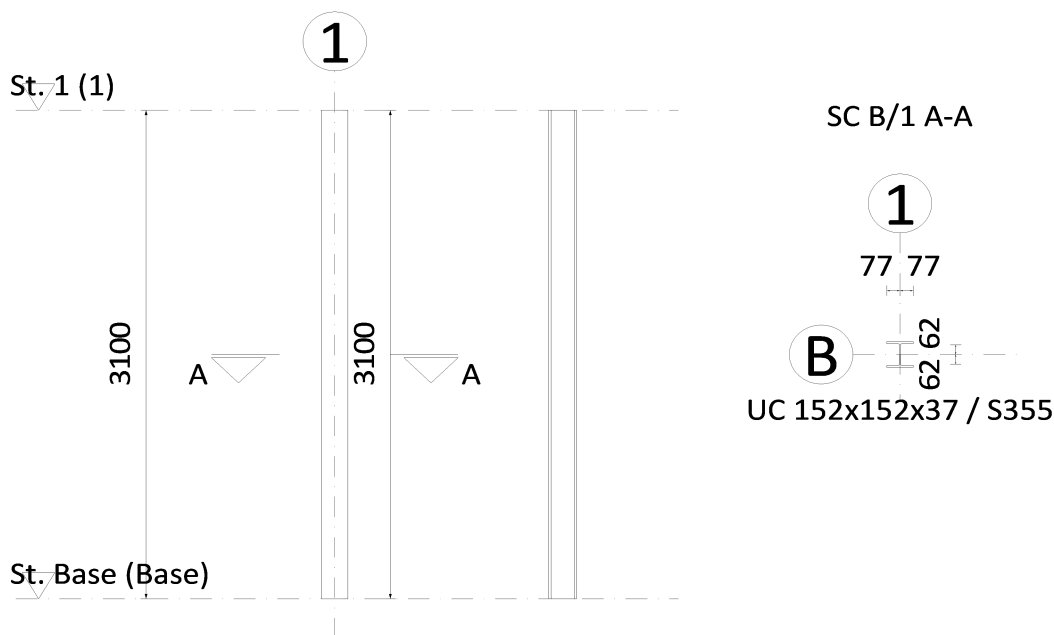
Summary UC 152x152x37(S355)

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	31.4	292.4	kN	0.107	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
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Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Shear Minor	No	Significant	Forces	kN	-	Not required
Buckling Shear Web	-	17.35	58.58	-	-	Pass
Moment Major	1	68.4	109.6	kNm	0.624	Pass
Moment Minor	No	Significant	Forces	kNm	-	Not required
Axial	1	199.8	1672.5	kN	0.119	Pass
Axial Bending Combined	1	-	-	-	0.645	Pass
Buckling Lateral Torsional	1	68.4	105.5	kNm	0.649	Pass
Buckling Compression	1	199.8	857.4	kN	0.233	Pass
Buckling Combined	1	-	-	-	0.798	Pass
Design Note	Top & Bottom Flanges Laterally Restrained					Warning
Design Note	Major and/or Minor Axes Strut Restrained					Warning

SC B/1



SC B/1

Lateral Restraints

Level	Source	Distance / Length	Face A restrained / Sub-stack continuous	Face A factor	Face C restrained / Sub-stack continuous	Face C factor
2	floor	3.100	No		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Strut Restraints

Level	Source	Distance / Length	Major restrained / Sub-stack continuous	Major factor	Minor restrained / Sub-stack continuous	Minor factor
2	floor	3.100	Yes		No	
	sub-beam	3.100	No	1.000	No	1.000

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 45/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		

Level	Source	Distance / Length	Major restrained / Sub-stack continuous	Major factor	Minor restrained / Sub-stack continuous	Minor factor
1	floor	0.000	Yes		Yes	

Static Design Summary

Summary UC 152x152x37(S355)

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	-31.4	292.4	kN	0.107	Pass
Shear Minor	No	Significant	Forces	kN	-	Not required
Buckling Shear Web	-	17.35	58.58	-	-	Pass
Moment Major	1	-63.4	109.6	kNm	0.578	Pass
Moment Minor	No	Significant	Forces	kNm	-	Not required
Axial	1	132.4	1672.5	kN	0.079	Pass
Axial Bending Combined	1	-	-	-	0.586	Pass
Buckling Lateral Torsional	1	-63.4	106.2	kNm	0.597	Pass
Buckling Compression	1	132.4	857.4	kN	0.154	Pass
Buckling Combined	1	-	-	-	0.690	Pass
Design Note	Top & Bottom Flanges Laterally Restrained					Warning
Design Note	Major and/or Minor Axes Strut Restrained					Warning

Column Design Summary

Static

Member Reference	Group Ref.	Stack	Section	Grade	Length [m]	Utilization	Status
SC A/1	SCR3	1	UC 152x152x37	S355	3.100	0.729	Pass
SC B/1	SCR4	1	UC 152x152x37	S355	3.100	0.961	Pass

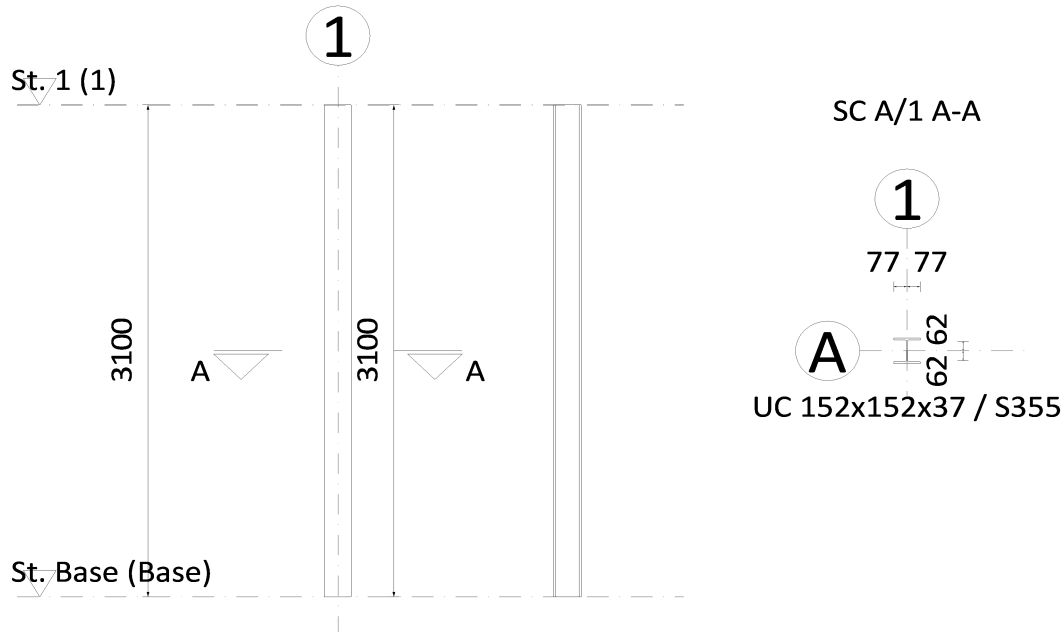
Column Group Design Summary

Static

Reference	Stacks	Critical Stack	Section	Grade	Max. UR	Status
SC A/1	1	1	UC 152x152x37	S355	0.729	Pass
SC B/1	1	1	UC 152x152x37	S355	0.961	Pass

SC A/1

	Project 64 Victoria Road				Job Ref.	
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	Calc. by Csilla	Date 16/01/2023	Chk'd by	Date 20/12/2022	App'd by	Date 20/12/2022



SC A/1

Lateral Restraints

Level	Source	Distance / Length	Face A restrained / Sub-stack continuous	Face A factor	Face C restrained / Sub-stack continuous	Face C factor
2	floor	3.100	No		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Strut Restraints

Level	Source	Distance / Length	Major restrained / Sub-stack continuous	Major factor	Minor restrained / Sub-stack continuous	Minor factor
2	floor	3.100	Yes		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Static Design Summary

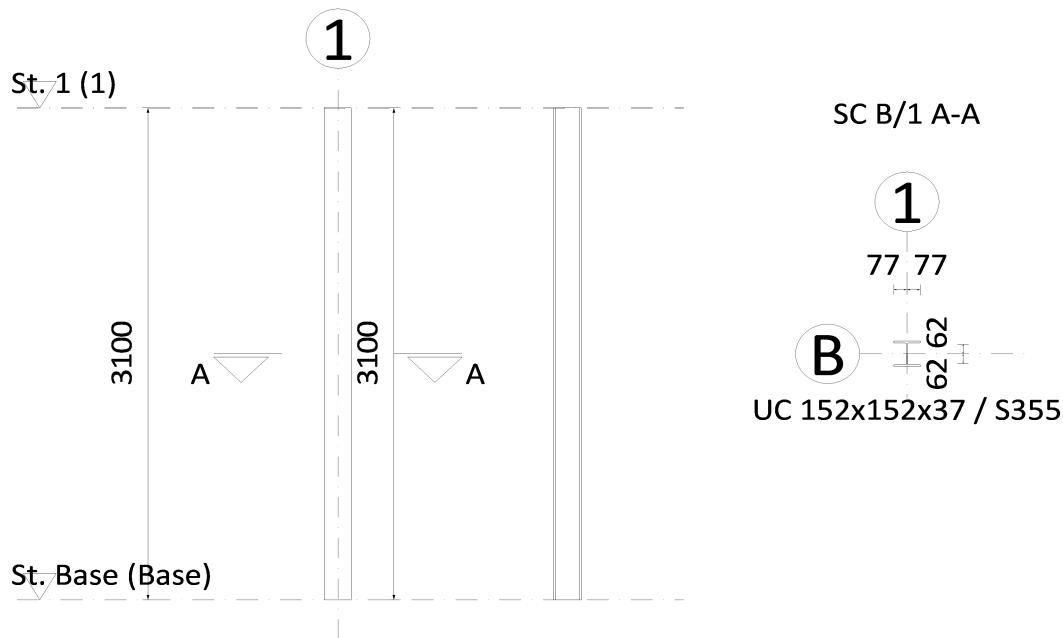
Summary UC 152x152x37(S355)

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	31.4	292.4	kN	0.107	Pass
Shear Minor	No	Significant	Forces	kN	-	Not required
Buckling Shear Web	-	17.35	58.58	-	-	Pass
Moment Major	1	68.4	109.6	kNm	0.624	Pass
Moment Minor	No	Significant	Forces	kNm	-	Not required
Axial	1	199.8	1672.5	kN	0.119	Pass
Axial Bending Combined	1	-	-	-	0.645	Pass
Buckling Lateral Torsional	1	68.4	105.5	kNm	0.649	Pass

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 47/48	
Calc. by	Csilla	Date	16/01/2023	Chk'd by	Date	20/12/2022
App'd by		Date		20/12/2022		

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Buckling Compression	1	199.8	857.4	kN	0.233	Pass
Buckling Combined	1	-	-	-	0.798	Pass
Design Note	Top & Bottom Flanges Laterally Restrained					Warning
Design Note	Major and/or Minor Axes Strut Restrained					Warning

SC B/1



SC B/1

Lateral Restraints

Level	Source	Distance / Length	Face A restrained / Sub-stack continuous	Face A factor	Face C restrained / Sub-stack continuous	Face C factor
2	floor	3.100	No		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Strut Restraints

Level	Source	Distance / Length	Major restrained / Sub-stack continuous	Major factor	Minor restrained / Sub-stack continuous	Minor factor
2	floor	3.100	Yes		No	
	sub-beam	3.100	No	1.000	No	1.000
1	floor	0.000	Yes		Yes	

Static Design Summary

Summary UC 152x152x37(S355)

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Classification	1	Class 1	-	-	-	Pass
Shear Major	1	-31.4	292.4	kN	0.107	Pass
Shear Minor	No	Significant	Forces	kN	-	Not required

	Project				Job Ref.	
	64 Victoria Road				Sheet no.	
	Box Frame 1				Page 48/48	
Calc. by	Date	Chk'd by	Date	App'd by	Date	
Csilla	16/01/2023		20/12/2022		20/12/2022	

Design Condition	Combination Name	Design Value	Design Capacity	Units	U.R.	Status
Buckling Shear Web	-	17.35	58.58	-	-	Pass
Moment Major	1	-63.4	109.6	kNm	0.578	Pass
Moment Minor	No	Significant	Forces	kNm	-	Not required
Axial	1	132.4	1672.5	kN	0.079	Pass
Axial Bending Combined	1	-	-	-	0.586	Pass
Buckling Lateral Torsional	1	-63.4	106.2	kNm	0.597	Pass
Buckling Compression	1	132.4	857.4	kN	0.154	Pass
Buckling Combined	1	-	-	-	0.690	Pass
Design Note	Top & Bottom Flanges Laterally Restrained					Warning
Design Note	Major and/or Minor Axes Strut Restrained					Warning

Open Structure Wind Load

Line Ancillary

No entity matches the filter for the current report item.

Area Ancillary

No entity matches the filter for the current report item.

Equipment

No entity matches the filter for the current report item.

Industrial Structure Loading

Line Ancillary

No entity matches the filter for the current report item.

Area Ancillary

No entity matches the filter for the current report item.

Equipment

No entity matches the filter for the current report item.