Secondary Beams

Beam ID	Start Point	End Point	Span	Mmax	Vmax
0	(6,3,0)	(6,3,5)	5	5.53875	4.431
0	(0,3,0)	(0,3,5)	5	5.53875	4.431

Design Limit state:

Combo: D+L

Md: 5.53875 t.m

Vd: 4.431 ton

Service Limit State

Combo: LIVE

Span: 5 m

Load: -1 t/m'

Design Checks

1-Check Local Buckling

dw/tw= 34.73 < 81.97814749472366 => Compact Web

c/tf= 5.3 < 10.908903091817557 => Comapct Flange

2-Check Lateral Torsional Buckling

Luact= 0 m < Lumax= 174.28425057933376 m => Supported (No LTB)

3-Check Bending Stress

Section: IPE 270

fact= 1.291083916083916 t/cm^2 < Fb= 1.536 t/cm^2

4-Check Shear Stress

qact= 0.24865319865319865 t/cm^2 < qall= 0.84 t/cm^2

5-Check Deflection

dact= 0.6693001754530252 cm < dall= 1.6666666666666667 cm

Beam ID	Start Point	End Point	Span	Mmax	Vmax
0	(4,3,0)	(4,3,5)	5	11.0075	8.806000000000001
0	(2,3,0)	(2,3,5)	5	11.0075	8.806000000000001

Design Limit state:

Combo: D+L

Md: 11.0075 t.m

Vd: 8.806000000000001 ton

Service Limit State

Combo: LIVE

Span: 5 m

Load: -2 t/m'

Design Checks

1-Check Local Buckling

dw/tw= 38.65 < 81.97814749472366 => Compact Web

c/tf= 5.38 < 10.908903091817557 => Comapct Flange

2-Check Lateral Torsional Buckling

Luact= 0 m < Lumax= 219.46905628508696 m => Supported (No LTB)

3-Check Bending Stress

Section: IPE 360

fact= 1.2176438053097345 t/cm^2 < Fb= 1.536 t/cm^2

4-Check Shear Stress

qact= 0.3057638888888889 t/cm^2 < qall= 0.84 t/cm^2

5-Check Deflection

dact= 0.4763673037336221 cm < dall= 1.6666666666666667 cm

Main Beams

Beam ID	Start Point	End Point	Span	Mmax	Vmax
0	(0,3,5)	(6,3,5)	6	21.27445	10.6643
0	(0,3,0)	(6,3,0)	6	21.27445	10.6643

Design Limit state:

Combo: D+L

Md: 21.27445 t.m

Vd: 10.6643 ton

Service Limit State

Combo: LIVE

Span: 6 m

Load: -2 t/m'

Design Checks

1-Check Local Buckling

dw/tw= 41.66 < 81.97814749472366 => Compact Web

c/tf= 5.19 < 10.908903091817557 => Comapct Flange

2-Check Lateral Torsional Buckling

Luact= 0 m < Lumax= 245.28894525980309 m => Supported (No LTB)

3-Check Bending Stress

Section: IPE 450

fact= 1.4182966666666668 t/cm^2 < Fb= 1.536 t/cm^2

4-Check Shear Stress

qact= 0.2521111111111111 t/cm^2 < qall= 0.84 t/cm^2

5-Check Deflection

dact= 0.47633161148276737 cm < dall= 2 cm