Secondary Beams

Beam ID	Start Point	End Point	Span	Mmax	Vmax
4	(6,0,3)	(6,5,3)	5	11.959000000000001	9.5672
3	(4,0,3)	(4,5,3)	5	11.959000000000001	9.5672
2	(2,0,3)	(2,5,3)	5	11.959000000000001	9.5672
1	(0,0,3)	(0,5,3)	5	11.959000000000001	9.5672

Design Limit state:

Combo: 1.2D+1.4L

Md: 11.959000000000001 t.m

Vd: 9.5672 ton

Service Limit State

Combo: LIVE

Span: 5 m

Load: -1 t/m'

Design Checks

1-Check Local Buckling

dw/tw= 38.65 < 81.97814749472366 => Compact Web

c/tf= 5.38 < 10.908903091817557 => Compact Flange

2-Check Lateral Torsional Buckling

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

3-Check Bending Stress

Section: IPE 360

fact= 1.3228982300884957 t/cm^2 < Fb= 1.536 t/cm^2

4-Check Shear Stress

qact= 0.3321944444444444 t/cm^2 < qall= 0.84 t/cm^2

5-Check Deflection

dact= 0.23818365186681106 cm < dall= 1.6666666666666667 cm

Main Beams

Beam ID	Start Point	End Point	Span	Mmax	Vmax

2	(0,5,3)	(6,5,3)	6	19.329340000000002	9.697160000000002
1	(0,0,3)	(6,0,3)	6	19.329340000000002	9.697160000000002

Design Limit state:

Combo: 1.2D+1.4L

Md: 19.329340000000002 t.m

Vd: 9.697160000000002 ton

Service Limit State

Combo: LIVE

Span: 6 m

Load: -0.8333333333333334 t/m'

Design Checks

1-Check Local Buckling

dw/tw= 41.66 < 81.97814749472366 => Compact Web

c/tf= 5.19 < 10.908903091817557 => Compact Flange

2-Check Lateral Torsional Buckling

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

3-Check Bending Stress

Section: IPE 450

fact= 1.2886226666666667 t/cm^2 < Fb= 1.536 t/cm^2

4-Check Shear Stress

qact= 0.22924728132387714 t/cm^2 < qall= 0.84 t/cm^2

5-Check Deflection

dact= 0.1984715047844864 cm < dall= 2 cm