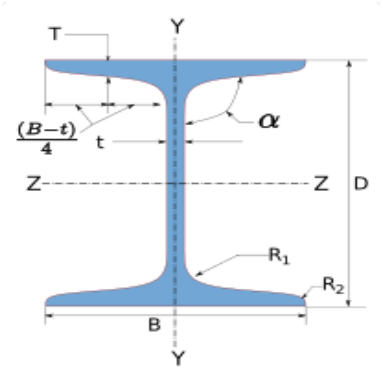
Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

1 Input Parameters

Module	Beam Coverplate Weld Connection
MainModule	Moment Connection
Moment(kNm)*	10.0
Shear(kN)*	10.0
Axial (kN) *	10.0

Section



Beam Section *		NPB 750x270x146.9	
Material *		E 250 (Fe 410 W)A	
Ultimate strength, fu (MPa)		410	
Yield Strength , fy (MPa)		250	
Mass	146.87	Iz(mm4)	1645354000.0
Area(mm2) - A	18710.0	Iy(mm4)	52878600.0
D(mm)	750.0	rz(mm)	296.6
B(mm)	265.0	ry(mm)	53.2
t(mm)	13.2	Zz(mm3)	4387610.0
T(mm)	17.0	Zy(mm3)	399080.0
FlangeSlope	90	Zpz(mm3)	5081800.0
R1(mm)	1.7	Zpy(mm3)	399080.0
R2(mm)	0.0		

Weld Details

Weld Type	Fillet
Type of weld fabrication	Shop Weld
Material grade overwrite (MPa) Fu	410.0

Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

2 Design Checks

2.1 Member Capacity

Check	Required	Provided	Remarks
Axial Capacity Ac (kN)		$Ac = \frac{A * f_y}{\gamma_{m0} * 1000}$ $= \frac{18710.0 * 250}{1.1 * 1000}$ $= 4252.27$	
Shear Capacity Sc (kN)		$S_c = \frac{A_v * f_y}{\sqrt{3} * \gamma_{mo} * 1000}$ $= \frac{716.0 * 13.2 * 250}{\sqrt{3} * 1.1 * 1000}$ $= 1240.1483799999999$	
Plastic Moment Capacity Pmc (kNm)		$Pmc = \frac{\beta_b * Z_p * fy}{\gamma_{mo} * 1000000}$ $= \frac{1 * 1691765 * 250}{1.1 * 1000000}$ $= 384.49$	
Moment Deformation Criteria Mdc (kNm)		$Mdc = \frac{1.5 * Z_e * fy}{1.1}$ $= \frac{1.5 * 4387610.0 * 250}{1.1}$ $= 1495.78$	
Moment Capacity Mc (kNm)		$M_c = min(Pmc, Mdc)$ $= min(384.49, 1495.78)$ $= 384.49$	

Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

2.2 Load Consideration

Check	Required	Provided	Remarks
Axial Load Au (kN)	$Ac_{min} = 0.3 * A_c$ $= 0.3 * 4252.27$ $= 1275.68$	$Au = max(A, Ac_{min})$ $= max(10.0, 1275.68)$ $= 1275.68$	Pass
Shear Load Vu (kN)	$Sc_{min} = 0.6 * A_c$ $= 0.6 * 1240.15$ $= 744.09$	$Vu = max(V, Vc_{min})$ $= max(10.0, 744.09)$ $= 744.09$	Pass
Moment Load Mu (kNm)	$Mc_{min} = 0.5 * M_c$ $= 0.5 * 384.49$ $= 192.25$	$Mu = max(M, Mc_{min})$ $= max(10.0, 192.25)$ $= 192.25$	Pass
Forces Carried by Web		$A_w = Axial\ force\ in\ web$ $= \frac{(D - 2 * T) * t * Au}{A}$ $= \frac{(750.0 - 2 * 17.0) * 13.2 * 1275.68}{18710.0}$ $= 644.4$ $M_w = Moment\ in\ web$ $= \frac{Z_w * Mu}{Z}$ $= \frac{1691765 * 192.25}{5081800.0}$ $= 64.0$	
Forces Carried by Flange		$A_f = Axial\ force\ in\ flange$ $= \frac{Au * B * T}{A}$ $= \frac{1275.68 * 265.0 * 17.0}{18710.0}$ $= 307.16$ $M_f = Moment\ in\ flange$ $= Mu - M_w$ $= 192.25 - 64.0$ $= 128.25$ $F_f = flange\ force$ $= \frac{M_f * 1000}{D - T} + A_f$ $= \frac{128.25}{750.0 - 17.0} + 307.16$ $= 482.12$	

Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

2.3 Weld Design Checks

Check	Required	Provided	Remarks
Min Weld Size (mm)	$Thickness\ of\ Thicker\ part$ $= max(17.0, 14.0)$ $= 17.0$ $IS800:2007\ cl.10.5.2.3\ Table21,$ $t_{w_{min}} = 5$	12	Pass
Max Weld Size (mm)	$Thickness\ of\ Thinner\ part$ $= Min(17.0, 14.0) = 14.0$ $t_{w_{max}} = 14.0$	12	Pass
Flange Weld Strength (N/mm)	$Stress = \frac{F_f * 1000}{F_{rl}}$ $= \frac{482.12 * 1000}{760}$ $= 634.3678780249971$	1590.72	Pass

Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

2.4 Flange Plate Check-Outside/Inside

Check	Required	Provided	Remarks
Min. Plate Height (mm)	50	$b_{fp} = B - 2 * sp$ $= 265.0 - 2 * 17$ $= 230$	Pass
Min. Plate Length (mm)	230	$l_{fp} = [2 * (l_w + 2 * s) + g]$ $= [2 * (2752 * 12) + 10.0]$ $= 610$	Pass
Min. Inner Plate Height (mm)	50	$b_{ifp} = \frac{B - 4 * sp - t_w - 2 * r_1}{2}$ $= \frac{265.0 - 4 * 17 - 13.2 - 2 * 1.7}{2}$ $= 90$	Pass
Max. Inner Plate Height (mm)	$b_{ifp} = \frac{B - 4 * sp - t_w - 2 * r_1}{2}$ $= \frac{265.0 - 4 * 17 - 13.2 - 2 * 1.7}{2}$ $= 90$	90	Pass
Min. Inner Plate Length (mm)	230	$l_{fp} = [2 * (l_w + 2 * s) + g]$ $= [2 * (2752 * 12) + 10.0]$ $= 610$	Pass

Company Name	LoremIpsum	Project Title	Fossee
Group/Team Name	LoremIpsum	Subtitle	
Designer	LoremIpsum	Job Number	123
Date	18 /05 /2020	Client	LoremIpsum

3 3D View

Figure 1: 3D View