

Company Name		Project Title	
Group/Team Name		Subtitle	
Designer		Job Number	
Date	05 /06 /2016	Method	Limit State Design (No Earthquake Load)

<b>Design Conclusion</b>	
Endplate	Pass
<b>Endplate</b>	
<b>Connection Properties</b>	
<b>Connection</b>	
Connection Title	Flexible Endplate
Connection Type	Shear Connection
<b>Connection Category</b>	
Connectivity	Column flange-Beam web
Beam Connection	Welded
Column Connection	Bolted
<b>Loading (Factored Load)</b>	
Shear Force (kN)	160
<b>Components</b>	
<b>Column Section</b>	ISSC 250
Material	Fe 410
<b>Beam Section</b>	ISMB 400
Material	Fe 410
Hole	STD
<b>Plate Section</b>	300X200X10
Thickness (mm)	10
Width (mm)	200
Depth (mm)	300
Hole	STD
<b>Weld</b>	
Type	Double Fillet
Size (mm)	8
<b>Bolts</b>	
Type	HSFG
Grade	8.8
Diameter (mm)	8
Bolt Numbers	32
Columns (Vertical Lines)	4
Bolts Per Column	8

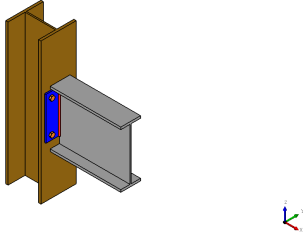
Gauge (mm)	20
Pitch (mm)	37
End Distance (mm)	18
Edge Distance (mm)	30
<b>Assembly</b>	
<b>Column-Beam Clearance (mm)</b>	10

Company Name		Project Title	
Group/Team Name		Subtitle	
Designer		Job Number	
Date	05 /06 /2016	Method	Limit State Design (No Earthquake Load)

Design Check			
Check	Required	Provided	Remark
Bolt shear capacity (kN)		$V_{dsb} = ((800.0 \times 0.6126 \times 8 \times 8) / (\sqrt{3} \times 1.25 \times 1000)) = 8.431$ [cl. 10.3.3]	
Bolt bearing capacity (kN)		$V_{dpb} = (2.5 \times 0.356 \times 8 \times 10.0 \times 410) / (1.25 \times 1000) = 23.354$ [cl. 10.3.4]	
Bolt capacity (kN)		Min (8.431, 23.354) = 8.431	Pass
Critical bolt shear (kN)	$\leq 8.431$	7.517	Pass
No. of bolts		32	
No. of column(s)	$\leq 2$	4	
No. of bolts per column per side of end plate		8	
Bolt pitch (mm)	$\geq 2.5 \times 8 = 20, \leq \text{Min}(32 \times 8.9, 300) = 285$ [cl. 10.2.2]	37	Pass
Bolt gauge (mm)	$\geq 2.5 \times 8 = 20, \leq \text{Min}(32 \times 8.9, 300) = 285$ [cl. 10.2.2]	20	
End distance (mm)	$\geq 1.7 \times 11.0 = 18.7, \leq 12 \times 8.9 = 106.8$ [cl. 10.2.4]	18	Pass
Edge distance (mm)	$\geq 1.7 \times 11.0 = 18.7, \leq 12 \times 8.9 = 106.8$ [cl. 10.2.4]	30	Pass
Block shear capacity (kN)	$\geq 160$	$V_{db} = 293$ [cl. 6.4.1]	
Plate thickness (mm)	$\geq 4$	10	Pass
Plate height (mm)	$\geq 0.6 \times 400.0 = 240.0, \leq 400.0 - 16.0 - 14.0 - 16.0 - 14.0 - 10 = 330.0$ [cl. 10.2.4, Insdag Detailing Manual, 2002]	300	Pass
Plate Width (mm)	$\geq 176, \leq 250.0$	200	Pass

Effective weld length (mm)		$300 - 2 \cdot 8 = 284$	
Weld strength (kN/mm)	0.282	$f_v = (0.7 \cdot 8 \cdot 410) / (\sqrt{3} \cdot 1.25 \cdot 1000)$ $= 1.06$ [cl. 10.5.7]	Pass

<b>Company Name</b>		<b>Project Title</b>	
<b>Group/Team Name</b>		<b>Subtitle</b>	
<b>Designer</b>		<b>Job Number</b>	
<b>Date</b>	<b>05 /06 /2016</b>	<b>Method</b>	<b>Limit State Design (No Earthquake Load)</b>

<b>Views</b>	
	

<b>Company Name</b>		<b>Project Title</b>	
<b>Group/Team Name</b>		<b>Subtitle</b>	
<b>Designer</b>		<b>Job Number</b>	
<b>Date</b>	<b>05 /06 /2016</b>	<b>Metdod</b>	<b>Limit State Design (No Earthquake Load)</b>

<b>Additional Comments</b>	
----------------------------	--