



Created with

<b>Company Name</b>	<b>PVPIT</b>	<b>Project Title</b>	<b>Project 04</b>
<b>Group/Team Name</b>	<b>OSDAG</b>	<b>Subtitle</b>	
<b>Designer</b>	<b>USER 04</b>	<b>Job Number</b>	<b>123</b>
<b>Date</b>	<b>05 /06 /2016</b>	<b>Method</b>	<b>Limit State Design (No Earthquake Load)</b>

**Design Conclusion****Finplate****Pass****Finplate****Connection Properties****Connection**

Connection Title

Single Finplate

Connection Type

Shear Connection

**Connection Category**

Connectivity

Column flange-Beam web

Beam Connection

Bolted

Column Connection

Welded

**Loading (Factored Load)**

Shear Force (kN)

200

**Components****Column Section**

ISSC 200

Material

Fe 410

**Beam Section**

ISMB 400

Material

Fe 410

Hole

STD

**Plate Section**

250X80X16

Thickness (mm)

16

Width (mm)

80

Depth (mm)

250

Hole

STD

**Weld**

Type

Double Fillet

Size (mm)

13

**Bolts**

Type

HSFG

Grade

8.8

Diameter (mm)

12

Bolt Numbers

7

Columns (Vertical Lines)

1

Bolts Per Column

7

Gauge (mm)	0
Pitch (mm)	31
End Distance (mm)	30
Edge Distance (mm)	30
<b>Assembly</b>	
<b>Column-Beam Clearance (mm)</b>	20



<b>Company Name</b>	<b>PVPIT</b>	<b>Project Title</b>	<b>Project 04</b>
<b>Group/Team Name</b>	<b>OSDAG</b>	<b>Subtitle</b>	
<b>Designer</b>	<b>USER 04</b>	<b>Job Number</b>	<b>123</b>
<b>Date</b>	<b>05 /06 /2016</b>	<b>Method</b>	<b>Limit State Design (No Earthquake Load)</b>

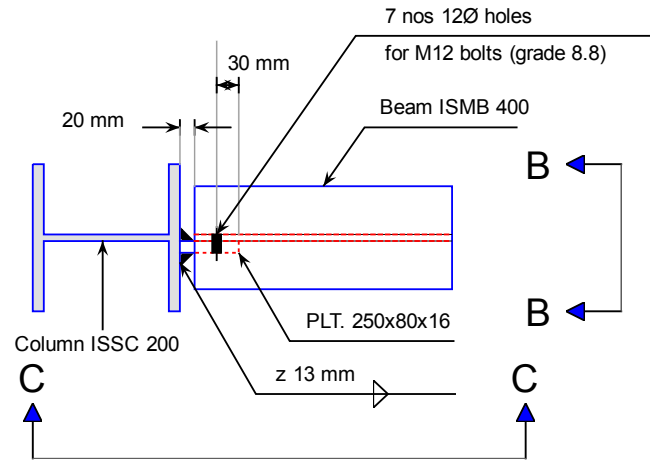
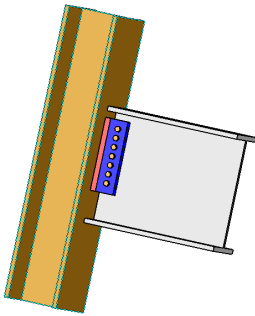
<b>Design Check</b>			
<b>Check</b>	<b>Required</b>	<b>Provided</b>	<b>Remark</b>
<b>Bolt shear capacity (kN)</b>		$V_{dsb} = (800 \times 0.6126 \times 12 \times 12) / (\sqrt{3} \times 1.25 \times 1000)$ $= 31.223$ [cl. 10.3.3]	
<b>Bolt bearing capacity (kN)</b>		$V_{dpb} = (2.5 \times 0.519 \times 12 \times 8.9 \times 410) / (1.25 \times 1000)$ $= 45.452$ [cl. 10.3.4]	
<b>Bolt capacity (kN)</b>		Min (31.223, 45.452) = 31.223	
<b>No. of bolts</b>	200/31.223 = 6.4	7	<b>Pass</b>
<b>No. of column(s)</b>	≤ 2	1	
<b>No. of bolts per column</b>		7	
<b>Bolt pitch (mm)</b>	$\geq 2.5 \times 12 = 30, \leq \text{Min}(32 \times 8.9, 300) = 285$ [cl. 10.2.2]	31	<b>Pass</b>
<b>Bolt gauge (mm)</b>	$\geq 2.5 \times 12 = 30, \leq \text{Min}(32 \times 8.9, 300) = 285$ [cl. 10.2.2]	0	
<b>End distance (mm)</b>	$\geq 1.7 \times 13 = 22.1, \leq 12 \times 8.9 = 106.8$ [cl. 10.2.4]	30	<b>Pass</b>
<b>Edge distance (mm)</b>	$\geq 1.7 \times 13 = 22.1, \leq 12 \times 8.9 = 106.8$ [cl. 10.2.4]	30	<b>Pass</b>
<b>Block shear capacity (kN)</b>	≥ 200	$V_{db} = 467$	<b>Pass</b>
<b>Plate thickness (mm)</b>	$(5 \times 200 \times 1000) / (250 \times 250) = 16.0$ [Owens and Cheal, 1989]	16	<b>Pass</b>
<b>Plate height (mm)</b>	$\geq 0.6 \times 400 = 240.0, \leq 400 - 16 - 14 - 10 = 330.0$ [cl. 10.2.4, Insdag Detailing Manual, 2002]	250	<b>Pass</b>
<b>Plate width (mm)</b>		100	
<b>Plate moment capacity (kNm)</b>	$(2 \times 31.223 \times 31^2) / (31 \times 1000) = 11.99$	$M_d = (1.2 \times 250 \times Z) / (1000 \times 1.1) = 45.45$ [cl. 8.2.1.2]	<b>Pass</b>
<b>Effective weld length (mm)</b>		250 - 2 × 16 = 218	

<b>Weld strength (kN/mm)</b>	$\sqrt{[(11990 \cdot 6)/(2 \cdot 218^2)]^2 + [200/(2 \cdot 218)]^2}$ = 0.885	$f_v = (0.7 \cdot 13 \cdot 410)/(\sqrt{3} \cdot 1.25)$ = 2.121 [cl. 10.5.7]	<b>Pass</b>
<b>Weld thickness (mm)</b>	$\text{Max}((0.885 \cdot 1000 \cdot \sqrt{3} \cdot 1.25)/(0.7 \cdot 410), 16 \cdot 0.8) = 12.8$ [cl. 10.5.7, Insdag Detailing Manual, 2002]	13	<b>Pass</b>

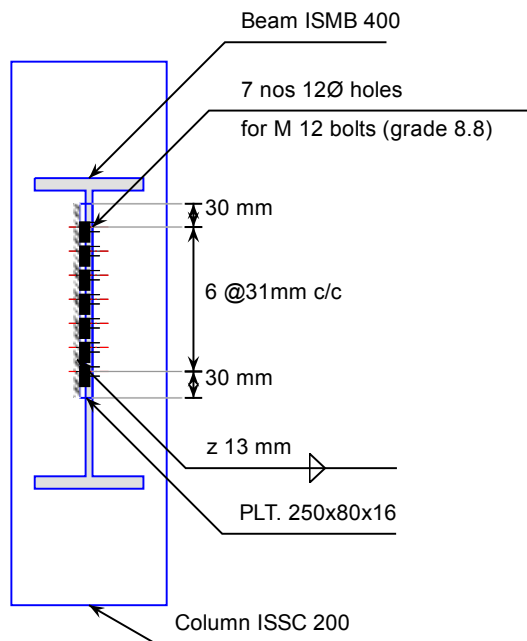


<b>Company Name</b>	<b>PVPIT</b>	<b>Project Title</b>	<b>Project 04</b>
<b>Group/Team Name</b>	<b>OSDAG</b>	<b>Subtitle</b>	
<b>Designer</b>	<b>USER 04</b>	<b>Job Number</b>	<b>123</b>
<b>Date</b>	<b>05 /06 /2016</b>	<b>Method</b>	<b>Limit State Design (No Earthquake Load)</b>

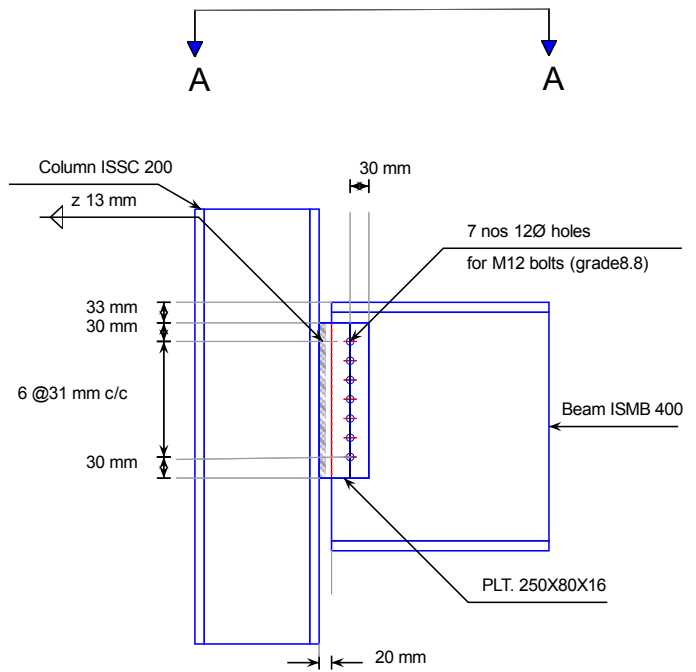
## Views



Top view (Sec A-A)



Side view (Sec B-B)



Front view (Sec C-C)



Created with

<b>Company Name</b>	<b>PVPIT</b>	<b>Project Title</b>	<b>Project 04</b>
<b>Group/Team Name</b>	<b>OSDAG</b>	<b>Subtitle</b>	
<b>Designer</b>	<b>USER 04</b>	<b>Job Number</b>	<b>123</b>
<b>Date</b>	<b>05 /06 /2016</b>	<b>Method</b>	<b>Limit State Design (No Earthquake Load)</b>

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