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Company Name	**Wymer & Dibble**	**Project Title**	**Asimple block of flats**
Group/Team Name	**Flying Circus**	**Subtitle**	**Cantilever floors**
Designer	**Mr. Wymer**	**Job Number**	**1.1.2.2.1**
Date	**20 /06 /2018**	**Client**	**Mr. Tid**

Design Conclusion	
End Plate	**Pass**
End Plate	
Connection Properties	
Connection	
Connection Title	Flexible End Plate
Connection Type	Shear Connection
Connection Category	
Connectivity	Column web-Beam web
Beam Connection	Welded
Column Connection	Bolted
Loading (Factored Load)	
Shear Force (kN)	120
Components	
Column Section	PBP 300X180
Material	Fe 410
Beam Section	UB 356 x 171 x 45
Material	Fe 410
Hole	STD
Plate Section	210X160X12
Thickness (mm)	12
Width (mm)	160
Depth (mm)	210
Hole	STD
Weld	
Type	Double Fillet
Size (mm)	6
Bolts	
Type	Friction Grip Bolt
Grade	10.9
Diameter (mm)	16
Bolt Numbers	6
Columns (Vertical Lines)	1
Bolts Per Column	3
Gauge (mm)	0
Pitch (mm)	75

End Distance (mm)	30
Edge Distance (mm)	30
Assembly	
Column-Beam Clearance (mm)	12

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Design Preferences	
Bolt	
Hole Type	Standard
Hole Clearance (mm)	2.0
Material Grade (MPa) (overwrite)	1040.0
Slip factor	0.25
Weld	
Type of Weld	Field weld
Material Grade (MPa) (overwrite)	410.0
Detailing	
Type of Edges	Sheared or hand flame cut
Minimum Edge-End Distance	1.7 times the hole diameter
Are members exposed to corrosive influences?	No
Design	
Design Method	Limit State Design

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Design Check			
Check	**Required**	**Provided**	**Remark**
Bolt shear capacity (kN)		V_{dsf} = ((0.25*1*1.0*114.296)/(1.25)) = 21.98 [cl. 10.4.3]	
Bolt bearing capacity (kN)		N/A	
Bolt capacity (kN)		21.98	**Pass**
Critical bolt shear (kN)	≤ 21.98	20.0	**Pass**
No. of bolts		6	
No.of column(s) per side of end plate	≤ 2	1	
No. of bolts per column per side of end plate		3	
Bolt pitch (mm)	≥ 2.5*16 = 40, ≤ Min(32*7.0, 300) = 224 [cl. 10.2.2]	75	**Pass**
Bolt gauge (mm)	≥ 2.5*16 = 40, ≤ Min(32*7.0, 300) = 224 [cl. 10.2.2]	0	
End distance (mm)	≥ 1.7 * 18.0 = 30, ≤ 12*7.0 = 84.0 [cl. 10.2.4]	30	**Pass**
Edge distance (mm)	≥ 1.7 * 18.0 = 30, ≤ 12*7.0 = 84.0 [cl. 10.2.4]	30	**Pass**
Block shear capacity (kN)	≥ 120	V_{db} = 146 [cl. 6.4.1]	**Pass**
Plate thickness (mm)	≥ 8	12	**Pass**
Plate height (mm)	≥ 0.6*351.0=210.6, ≤ 351.0-9.7-10.2-9.7-10.2- 10=301.2 [cl. 10.2.4, Insdag Detailing Manual, 2002]	210	**Pass**
Plate Width (mm)	≥ 160, ≤ 264.06	160	**Pass**
Effective weld length on each side(mm)		210-2*6 = 198	
Weld strength (kN/mm)	0.302	f_v = (0.7*6*410)/(√3*1.25*1000) = 0.663 [cl. 10.5.7]	**Pass**

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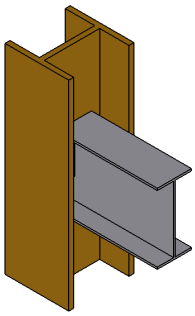
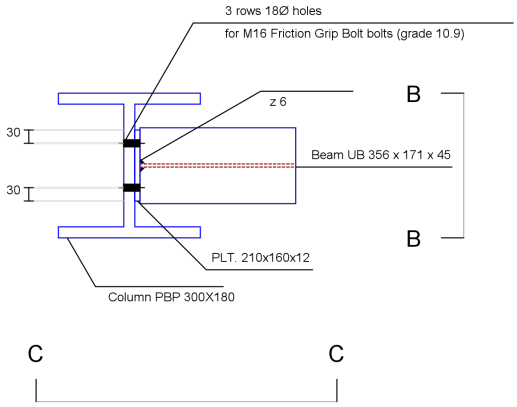
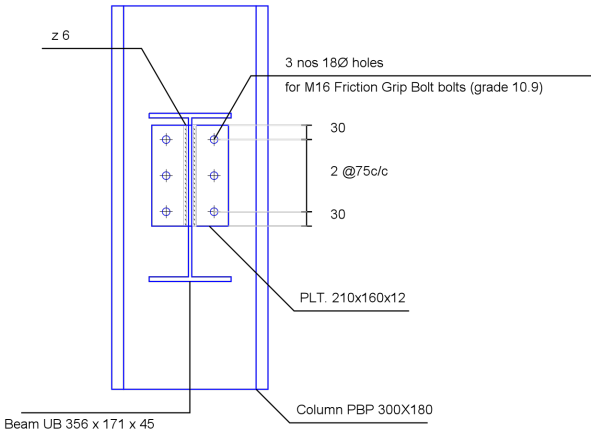
Views

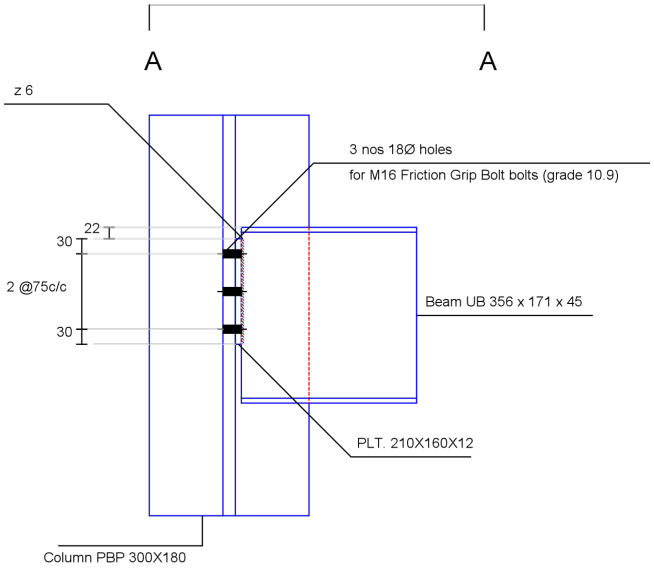




Top view (Sec A-A)
(All Dimensions are in mm)



Side view (Sec B-B)
(All Dimensions are in mm)



Front view (Sec C-C)
(All Dimensions are in mm)

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Additional Comments	This is a sample design report generated in Osdag!