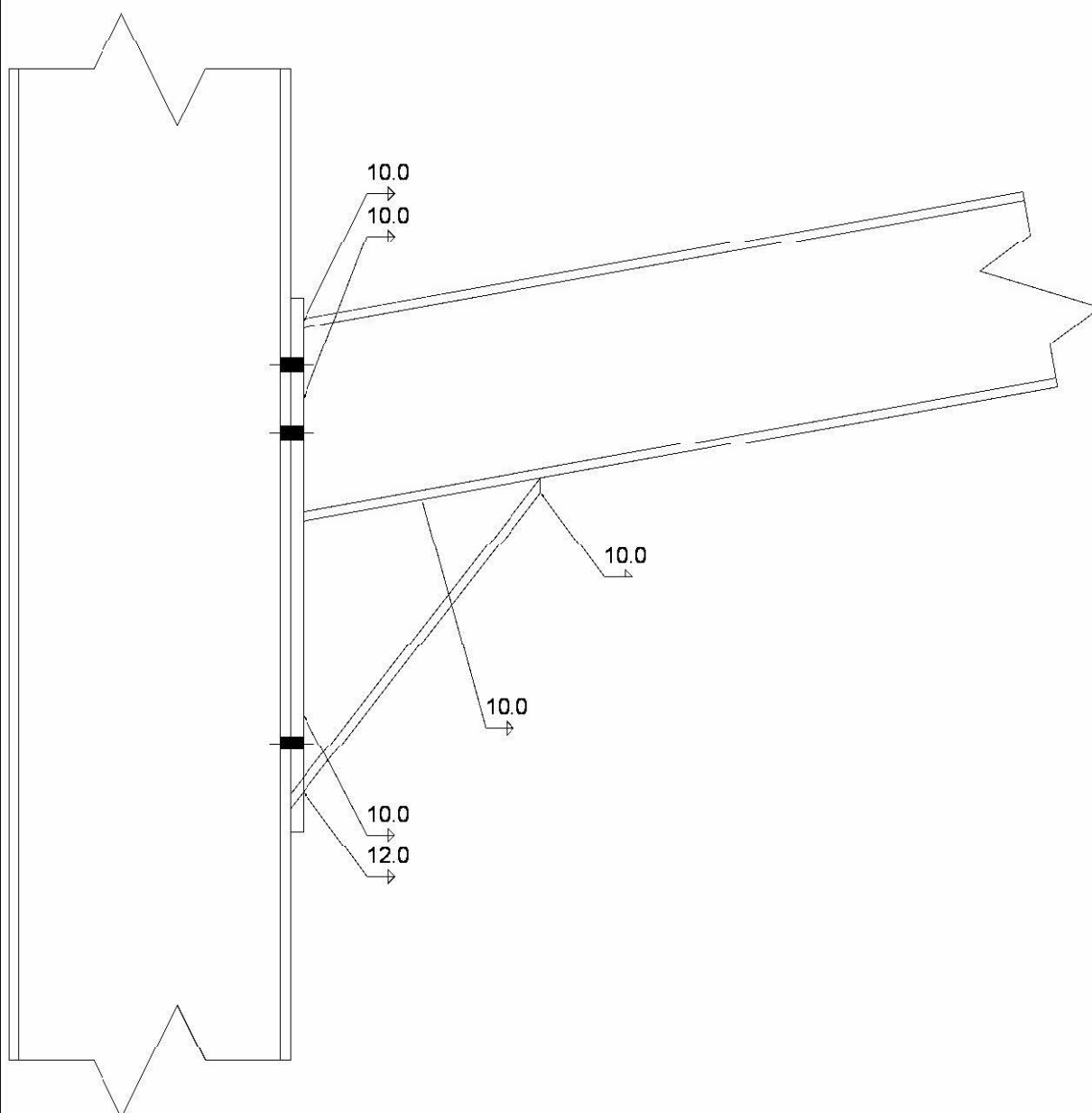
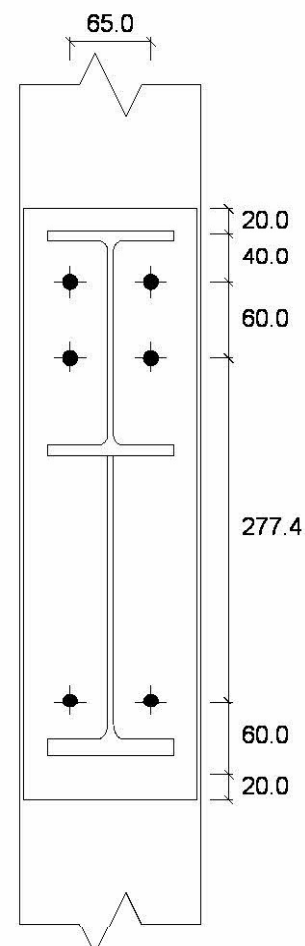


Beam-Column Moment Connection 1



UKB 254x146x31 S275

UKB 178x102x19 S275 (Slope 10.0000°)
Haunch: C/F UKB 178x102x19 S275
Length = 0.350m, Depth = 0.325m



EndPlate : 140 x 12 x 477 S355
Bolts: M12(Grade 8.8)

Design Code: BS 5950-1 : 2000

Design Summary

Item	Combination	Face	Utilisation	Status
Moment	1	A	0.709	Pass
Shear	1	A	0.149	Pass
Beam	1	A	0.0	Pass
Stiffener	1	A	0.168	Pass
Weld	1	A	0.908	Pass

Basic Details

Face A

No.	Combination Name	Moment [kNm]	Shear Force [kN]	Axial Load [kN]	Moment (Sharp End) [kNm]
1	DEAD PLUS WIND	39.0	17.0	5.0	0.0

Face A

Item	Value	Units	Remarks
S.O.P. Level	0.0	m	
Beam angle, θ_b	10.0000	°	
Overall joint depth	437.4	mm	
Haunch angle, θ_h	51.6700	°	
Section geometry			

Design Combination: DEAD PLUS WIND

Moment Capacity

Face A, critical

Item	Value	Units	Remarks
Tension bolt resistance, $\Sigma P_r + N$	149.3	kN	
Column web resistance, P_c	195.7	kN	
Beam flange bearing, P_c	307.8	kN	
Compression force, F_c	149.3	kN	
Moment capacity, M_c	52.6	kNm	
Modified moment, M_m	37.3	kNm	
Utilisation ratio	0.709		
Pass			

Shear Capacity

Face A, critical

Item	Value	Units	Remarks
Bearing strength, p_b	460.0	N/mm ²	
Shear capacity, V_c	113.8	kN	
Shear force, V	17.0	kN	
Utilisation ratio	0.149		
Pass			

Beam Web Capacity

Face A, critical

Item	Utilisation	Status
Beam web	-	Not applicable
Unstiffened beam flange	0.0	Pass

Stiffener Checks

Face A, critical

Item	Utilisation	Status
Beam flange (top)	0.168	Pass
Beam flange (bottom)		Not Checked
Haunch flange		Not Checked

Weld Checks

Face A, critical

Item	Utilisation	Status
Tension flange weld (beam top flange)		Pass
Compression flange weld (haunch btm flange)	0.908	Pass
Tension web weld		Pass
Shear web weld	0.025	Pass
Haunch flange weld	0.0	Pass
Haunch web weld	0.0	Pass

Library: MomentConnections.dll, version: 14.1.4.5