Design Summary	
Connection is OK	
Maximum utility ratio for connection	0.680
Design Inputs	
Design method	ASD
Young's modulus of elasticity	200000.000 MPa
Poisson's ratio	0.300
Connection forces:	
Transfer force (TF)	34000.000 N
Shear force (SF)	15000.000 N
Bolt Details:	
Bolt Diameter	22.000 mm
Number of bolts per clip angle (n)	2.000
Bolt Gage	140.000 mm
Bolt Spacing	70.000 mm
Nominal tensile capacity of bolt	620.000 MPa
Nominal shear capacity of bolt	372.000 MPa
Weld Details:	
Weld thickness	6.000 mm
Weld tensile strength	482.000 MPa
Clip angle dimensions:	
Clip angle size (li x lo x ta)	102x102x9.53 mm
Clip angle length	140.000 mm
Yield strength of clip angle	250.000 MPa
Tensile strenght of clip angle	400.000 MPa
Connecting beam properties:	
Section size	
Depth	302.000 mm
Flange width	203.000 mm
Flange thickness	13.100 mm
Web thickness (tw)	7.490 mm
Yield strength of beam	345.000 MPa
Tensile strength of beam	450.000 MPa
Beam setback from connection member (s)	12.000 mm
Supporting member properties:	
Support type	Column Flange
Section size	W360X64
Depth	348.000 mm
Flange width	203.000 mm
Flange thickness	13.500 mm
Web thickness	7.750 mm
Design Calculations	
Bolt Shear Check:	
Shear per bolt	
[Vb=SF/(2*n)]	3750.000 N
Nominal shear strength of bolt (Rn)	141337.680 N
ASD factor in bolt shear (omega)	2.000
Allowable shear strength of bolt	
[Ra=Rn/omega]	70668.840 N
Utility ratio in bolt shear	
[Vb/Ra]	0.053
Bolt Bearing at Clip Angle Check:	
Nominal strength in bearing at clip angle (Rn)	105211.200 N
ASD factor in bolt bearing (omega)	2.000
Allowable strength in bearing at clip angle	
[Ra=Rn/omega]	52605.600 N
Utility ratio in bearing at clip angle	
[Vb/Ra]	0.071
Bolt Bearing at Support Check:	
Nominal strength in bearing at support (Rn)	320760.000 N
ASD factor in bolt bearing (omega)	2.000
Allowable strength in bearing at support	
[Ra=Rn/omega]	160380.000 N
Strength reduction factor to account for backing beam (r)	1.000
Utility ratio in bearing at support	
[Vb/(Ra*r)]	0.023
Bolt Tension Check (without prying:	
Tension per bolt without prying	
[Tb=TF/(2*n)]	8500.000 N

Nominal bolt strength in tension (Rn)	235562.800 N
ASD factor in bolt tension (omega)	2.000
Allowable bolt strength in tension [B=Rn/omega]	117781.400 N
Utility ratio in bolt tension [Tb/B]	0.072
Clip angle prying action check:	
Bolt strength reduction factor due to clip prying (Q)	0.106
Interaction ratio in clip prying [Tb/(Q*B)]	0.680
Weld Check:	
Maximum stress in weld group (fw)	96.179 N/mm
Nominal strength of weld (Rn)	1226.786 N/mm
ASD factor for weld (omega)	2.000
Allowable weld strength [Ra=Rn/omega]	613.393 N/mm
Utility ratio for weld [fw/Ra]	0.157
Web Rupture at Weld Check:	
Minimum thickness of web at weld (tw`)	1.425 mm
Utility ratio in rupture at weld [tw`/tw]	0.190
Clip Angle Shear Yielding Check:	
Shear in clip angle [Va=sqrt(TF^2+SF^2)/2]	18580.904 N
Nominal shear yeilding strength of clip angle (Rn)	200130.000 N
ASD factor for shear yielding (omega)	1.500
Allowable shear yielding strength of clip angle [Ra=Rn/omega]	133420.000 N
Utility ratio in shear yielding [Va/Ra]	0.139
Clip Angle Shear Rupture Check:	
Nominal shear rupture strength of clip angle (Rn)	210422.400 N
ASD factor for shear rupture (omega)	2.000
Shear rupture strength of clip angle [Ra=Rn/omega]	105211.200 N
Utility ratio in shear rupture [Va/Ra]	0.177
Column flange prying action check:	
Bolt strength reduction factor due to column flange prying (Q)	0.599
Interaction ratio in column flange prying [Tb/(Q*B)]	0.120
Column web yielding check:	
Nominal strength of column web yielding (Rn)	564161.250 N
ASD factor in web yielding (omega)	1.500
Allowable strength of column in web yielding [Ra=Rn/omega]	376107.500 N
Interaction ratio in column web yielding [TF/Ra]	0.090
Column web crippling check:	
Nominal strength of column in web crippling (Rn)	424838.773 N
ASD factor in web crippling (omega)	2.000
Allowable strength of column in web crippling [Ra=Rn/omega]	212419.386 N
Interaction ratio in column web crippling [TF/Ra]	0.160