

SAP2000

AISC360-05/IBC2006 STEEL SECTION CHECK (Summary for Combo and Station)
Units : Kgf, m, C

Frame : 5019 X Mid: 0.665 Combo: 1.2D-E Design Type: Brace
Length: 0.630 Y Mid: 23.100 Shape: L 2.5"x2.5"x3/16"Frame Type: SMF
Loc : 0.315 Z Mid: 6.897 Class: Compact Princpl Rot: 45.000 degrees

Provision: LRFD Analysis: Direct Analysis
D/C Limit=0.950 2nd Order: General 2nd Order Reduction: Tau-b Fixed
AlphaPr/Py=0.389 AlphaPr/Pe=0.119 Tau_b=1.000 EA factor=0.800 EI factor=0.800
Ignore Seismic Code? No Ignore Special EQ Load? No D/P Plug Welded? Yes

SDC: D I=1.000 Rho=1.000 Sds=0.500
R=8.000 Omega0=3.000 Cd=5.500
PhiB=0.900 PhiC=0.900 PhiTY=0.900 PhiTF=0.750
PhiS=0.900 PhiS-RI=1.000 PhiST=0.750

A=5.822E-04 I33=0.000 r33=0.020 S33=4.961E-06 Av3=3.025E-04
J=0.000 I22=0.000 r22=0.020 S22=4.961E-06 Av2=3.025E-04
Ixy=0.000 Imax=0.000 rmax=0.025 Smax=8.085E-06
Rot= 45 deg Imin=0.000 rmin=0.013 Smin=3.688E-06
E=2.100E+10 fy=25300000.00 Ry=1.000 z33=8.935E-06
RLLF=1.000 Fu=40800000.0 z22=8.935E-06

STRESS CHECK FORCES & MOMENTS (Combo 1.2D-E)

Location	Pu	Mu33	Mu22	Vu2	Vu3	Tu
0.315	-5727.557	0.211	0.000	0.000	0.000	0.000

PMM DEMAND/CAPACITY RATIO (H2-1)

D/C Ratio: 0.557 = 0.555 + 0.000 + 0.001
= fa/Fa + fbw/Fbw + fbz/Fbz

AXIAL FORCE & BIAXIAL MOMENT DESIGN (H2-1)

Factor	L	K1	K2	B1	B2	Cm
Major Bending	1.000	1.000	1.000	1.000	1.000	1.000
Minor Bending	1.000	1.000	1.000	1.000	1.000	1.000

	Lltb	Kltb	Cb
LTB	1.000	1.000	1.000

	Pu Force	phi*Pnc Capacity	phi*Pnt Capacity
Axial	-5727.557	10319.325	13257.032

	Mu Moment	phi*Mn Capacity	phi*Mn No LTB
Major Moment	0.149	203.439	203.439
Minor Moment	-0.149	125.965	

SHEAR CHECK

	Vu Force	phi*Vn Capacity	Stress Ratio	Status Check
Major Shear	0.000	4132.079	0.000	OK
Minor Shear	0.000	4132.079	0.000	OK