

Structural Stud (s)



MATERIAL	
Web (in)	8
Flange (in)	1 $\frac{3}{8}$
Lip (in)	0.375
Yield Strength Fy (KSI)	33, 50
Tensile Strength Fu (KSI)	45, 65
Design Thickness (in)	0.0566
Minimum Thickness (mil)	54
Gauge	16
Available Finish G60, G90	

GROSS SECTION PROPERTIES	
Weight of Member: (lb/ft)	2.13
Cross Sectional Area: A (in ²)	0.627
Moment of Inertia: Ix (in ⁴)	5.111
Section Modulus: Sx (in ³)	1.278
Radius of Gyration: Rx (in)	2.855
Moment of Inertia: Iy (in ⁴)	0.112
Radius of Gyration: Ry (in)	0.423

EFFECTIVE SECTION PROPERTIES		
Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in ⁴)	5.081	4.982
Section Modulus: Sxe (in ³)	1.164	1.058
Local Buckling Allowable Moment: Mal (in-k)	22.99	31.67
Distortional Buckling Allowable Moment: Mad (in-k)	20.57	26.77
Allowable strong axis shear away from punch: Vag (lb)	2091	2091
Allowable strong axis shear at punch: Vanet (lb)	2091	2091
(check web crippling)		

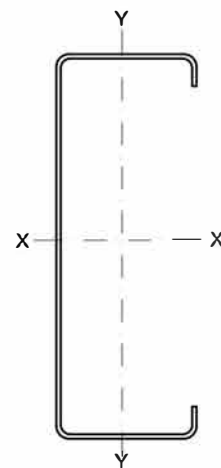
TORSIONAL SECTION PROPERTIES	
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.670
Torsional Warping Constant: Cw (in ⁶)	1.478
Shear Center to Centroid on Principal X-axis: Xo (in)	-0.676
Radius of Gyration on the Centroid Principal axis: Ro (in)	2.964

PRODUCT ID

800S 137-54 (8x1 $\frac{3}{8}$ x16ga) (Grade 33)

CODES & STANDARDS

- ASTM A 1003, A 653, & C 955
- AISI S100-16



See Hermes/Hephaistos Technical Manual
for complete design data