

Structural Stud (s)



MATERIAL	
Web (in)	4
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)	1.36
Cross Sectional Area: A (in ²)	0.401
Moment of Inertia: Ix (in ⁴)	0.953
Section Modulus: Sx (in ³)	0.477
Radius of Gyration: Rx (in)	1.543
Moment of Inertia: Iy (in ⁴)	0.094
Radius of Gyration: Ry (in)	0.484

EFFECTIVE SECTION PROPERTIES		
Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in ⁴)	0.953	0.953
Section Modulus: Sxe (in ³)	0.465	0.443
Local Buckling Allowable Moment: Mal (in-k)	9.19	13.27
Distortional Buckling Allowable Moment: Mad (in-k)	8.44	12.4
Allowable strong axis shear away from punch: Vag (lb)	2604	3372
Allowable strong axis shear at punch: Vanet (lb)	944	1223

(check web crippling)

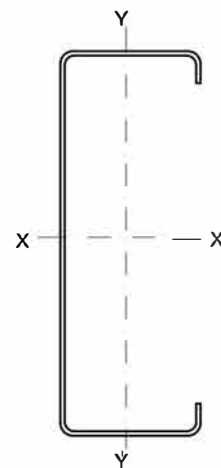
TORSIONAL SECTION PROPERTIES	
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.428
Torsional Warping Constant: Cw (in ⁶)	0.311
Shear Center to Centroid on Principal X-axis: Xo (in)	-0.940
Radius of Gyration on the Centroid Principal axis: Ro (in)	1.870

PRODUCT ID

400S 137-54 (4x1 $\frac{3}{8}$ x16ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data