

Structural Stud (s)



MATERIAL

Web (in)	5½
Flange (in)	1⅝
Lip (in)	0.500
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)	1.80
Cross Sectional Area: A (in²)	0.528
Moment of Inertia: Ix (in⁴)	2.325
Section Modulus: Sx (in³)	0.845
Radius of Gyration: Rx (in)	2.098
Moment of Inertia: Iy (in⁴)	0.176
Radius of Gyration: Ry (in)	0.577

EFFECTIVE SECTION PROPERTIES

Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in⁴)	2.325	2.325
Section Modulus: Sxe (in³)	0.840	0.815
Local Buckling Allowable Moment: Mal (in-k)	18.64	24.41
Distortional Buckling Allowable Moment: Mad (in-k)	17.07	20.9
Allowable strong axis shear away from punch: Vag (lb)	2740	3093
Allowable strong axis shear at punch: Vanet (lb)	1666	1881

(check web crippling)

TORSIONAL SECTION PROPERTIES

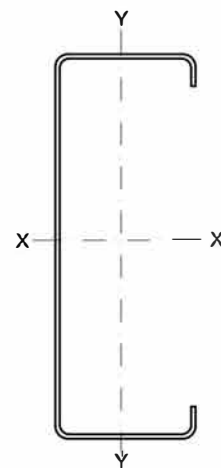
St. Venant Torsional Constant: Jx1000 (in⁴)	0.564
Torsional Warping Constant: Cw (in⁶)	1.105
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.090
Radius of Gyration on the Centroid Principal axis: Ro (in)	2.434

PRODUCT ID

550S 162-54 (5½x1⅝x16ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data