

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)	0.0451
Minimum Thickness (mil)	43
Gauge	18
Available Finish G60, G90	

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	1.44
Cross Sectional Area: A (in ²)	0.424
Moment of Inertia: Ix (in ⁴)	1.884
Section Modulus: Sx (in ³)	0.685
Radius of Gyration: Rx (in)	2.107
Moment of Inertia: Iy (in ⁴)	0.145
Radius of Gyration: Ry (in)	0.584

EFFECTIVE SECTION PROPERTIES

Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in ⁴)	1.883	1.781
Section Modulus: Sxe (in ³)	0.680	0.626
Local Buckling Allowable Moment: Mal (in-k)	14.44	18.73
Distortional Buckling Allowable Moment: Mad (in-k)	12.37	
Allowable strong axis shear away from punch: Vag (lb)	1550	1878
Allowable strong axis shear at punch: Vanet (lb)	1199	1457

(check web crippling)

TORSIONAL SECTION PROPERTIES

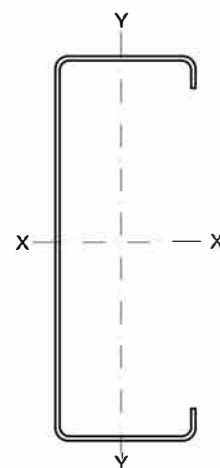
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.288
Torsional Warping Constant: Cw (in ⁶)	0.905
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.103
Radius of Gyration on the Centroid Principal axis: Ro (in)	2.449

PRODUCT ID

550S 162-43 (5½x1⅝x18ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data