

# Structural Stud (s)



| MATERIAL                  |                 |
|---------------------------|-----------------|
| Web (in)                  | 4               |
| Flange (in)               | 1 $\frac{5}{8}$ |
| Lip (in)                  | 0.500           |
| Yield Strength Fy (KSI)   | 50              |
| Tensile Strength Fu (KSI) | 65              |
| Design Thickness (in)     | 0.713           |
| Minimum Thickness (mil)   | 68              |
| Gauge                     | 14              |
| Available Finish G60, G90 |                 |

| GROSS SECTION PROPERTIES                   |       |
|--------------------------------------------|-------|
| Weight of Member: (lb/ft)                  | 1.87  |
| Cross Sectional Area: A (in <sup>2</sup> ) | 0.550 |
| Moment of Inertia: Ix (in <sup>4</sup> )   | 1.346 |
| Section Modulus: Sx (in <sup>3</sup> )     | 0.673 |
| Radius of Gyration: Rx (in)                | 1.564 |
| Moment of Inertia: Iy (in <sup>4</sup> )   | 0.192 |
| Radius of Gyration: Ry (in)                | 0.591 |

| EFFECTIVE SECTION PROPERTIES                          |       |
|-------------------------------------------------------|-------|
| Moment of Inertia-Deflection: Ixe (in <sup>4</sup> )  | 1.347 |
| Section Modulus: Sxe (in <sup>3</sup> )               | 0.662 |
| Local Buckling Allowable Moment: Mal (in-k)           | 19.81 |
| Distortional Buckling Allowable Moment: Mad (in-k)    | 18.13 |
| Allowable strong axis shear away from punch: Vag (lb) | 4871  |
| Allowable strong axis shear at punch: Vanet (lb)      | 1356  |
| (check web crippling)                                 |       |

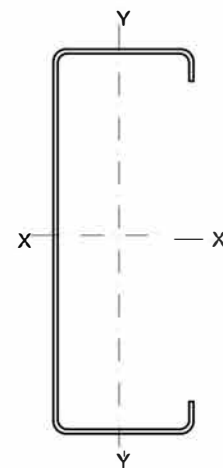
| TORSIONAL SECTION PROPERTIES                               |        |
|------------------------------------------------------------|--------|
| St. Venant Torsional Constant: Jx1000 (in <sup>4</sup> )   | 0.933  |
| Torsional Warping Constant: Cw (in <sup>6</sup> )          | 0.677  |
| Shear Center to Centroid on Principal X-axis: Xo (in)      | -1.220 |
| Radius of Gyration on the Centroid Principal axis: Ro (in) | 2.059  |

## PRODUCT ID

400S 162-68 (4x1 $\frac{5}{8}$ x14ga) (Grade 50)

## CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual  
for complete design data