

# Structural Stud (s)



## MATERIAL

|                              |        |
|------------------------------|--------|
| Web (in)                     | 6      |
| Flange (in)                  | 2      |
| Lip (in)                     | 0.625  |
| Yield Strength $F_y$ (KSI)   | 33, 50 |
| Tensile Strength $F_u$ (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)                    | 1.67  |
| Cross Sectional Area: $A$ (in <sup>2</sup> ) | 0.492 |
| Moment of Inertia: $I_x$ (in <sup>4</sup> )  | 2.683 |
| Section Modulus: $S_x$ (in <sup>3</sup> )    | 0.894 |
| Radius of Gyration: $R_x$ (in)               | 2.335 |
| Moment of Inertia: $I_y$ (in <sup>4</sup> )  | 0.268 |
| Radius of Gyration: $R_y$ (in)               | 0.739 |

## EFFECTIVE SECTION PROPERTIES

|                                                            |           |           |
|------------------------------------------------------------|-----------|-----------|
| <b>Yield Stress (ksi)</b>                                  | <b>33</b> | <b>50</b> |
| Moment of Inertia-Deflection: $I_{xe}$ (in <sup>4</sup> )  | 2.683     | 2.520     |
| Section Modulus: $S_{xe}$ (in <sup>3</sup> )               | 0.868     | 0.809     |
| Local Buckling Allowable Moment: $M_{al}$ (in-k)           | 17.16     | 24.21     |
| Distortional Buckling Allowable Moment: $M_{ad}$ (in-k)    | 14.88     |           |
| Allowable strong axis shear away from punch: $V_{ag}$ (lb) | 1415      | 1857      |
| Allowable strong axis shear at punch: $V_{anet}$ (lb)      | 1240      |           |

(check web crippling)

## TORSIONAL SECTION PROPERTIES

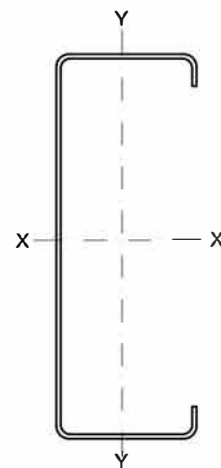
|                                                               |        |
|---------------------------------------------------------------|--------|
| St. Venant Torsional Constant: $J_{x1000}$ (in <sup>4</sup> ) | 0.334  |
| Torsional Warping Constant: $C_w$ (in <sup>6</sup> )          | 2.033  |
| Shear Center to Centroid on Principal X-axis: $X_o$ (in)      | -1.446 |
| Radius of Gyration on the Centroid Principal axis: $R_o$ (in) | 2.844  |

## PRODUCT ID

600S 200-43 (6x2x18ga)

## CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual  
for complete design data