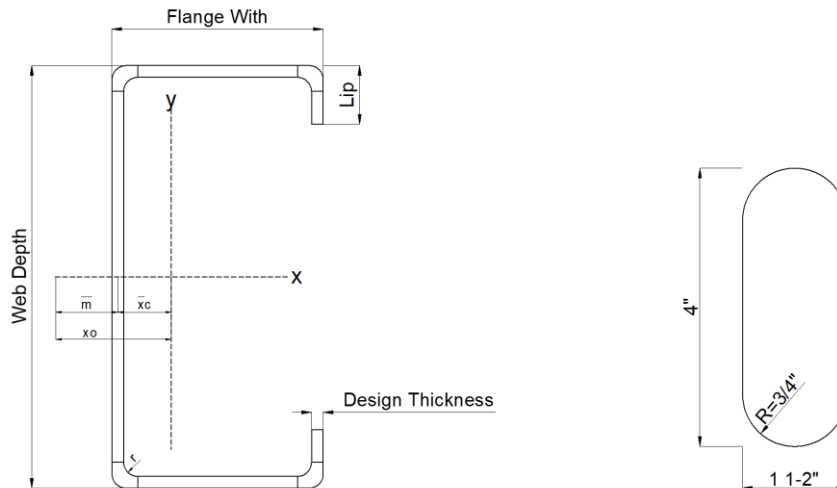


**Product Type:** Structural Stud

**Product Definition:** 1000S162-97 (50ksi)

**CSI Code:** 05 41 00



## **Profile Properties:**

|                  |               |                         |             |
|------------------|---------------|-------------------------|-------------|
| Web Depth        | 10.000 in     | Yield Strength $F_y$ :  | 50 ksi      |
| Flange Width     | 1.625 in      | Unit Weight             | 4.67 lb/ft  |
| Stiffening Lip   | 0.5000 in     | Punchout Width / Length | 1-1/2" – 4" |
| Design Thickness | 0.1017 in     | Coating                 | G60         |
| Thickness        | 97mils (12Ga) |                         |             |

## **Gross Section Properties:**

|                                  |             |                         |
|----------------------------------|-------------|-------------------------|
| Cross Sectional Area             | $A_{gross}$ | 1.3723 in <sup>2</sup>  |
| Member weight per foot of length |             | 4.67 lb/ft              |
| Moment of Inertia. x-axis        | $I_x$       | 16.9736 in <sup>4</sup> |
| Radius of Gyration. x-axis       | $r_x$       | 3.5169 in               |
| Moment of Inertia. y-axis        | $I_y$       | 0.3204 in <sup>4</sup>  |
| Radius of Gyration. y-axis       | $r_y$       | 0.4832 in               |

## **Torsional Properties:**

|                                              |                 |                        |
|----------------------------------------------|-----------------|------------------------|
| St. Venant Torsion Constant                  | $J \times 1000$ | 4.7313 in <sup>4</sup> |
| Warping Constant                             | $C_w$           | 6.8270 in <sup>6</sup> |
| Distance Between Shear Axis and Neutral Axis | $x_0$           | -0.7680 in             |
| Polar Radius of Gyration                     | $r_0$           | 3.6320 in              |
| Torsional Flexural Constant                  | $\beta$         | 0.9553                 |
| Limit of Unbraced Length                     | $L_u$           | 31.77 in               |



## Effective Section Properties:

|                                            |      |                         |
|--------------------------------------------|------|-------------------------|
| Effective Area                             | Aeff | 0.8327 in <sup>2</sup>  |
| Effective Moment of Inertia for Deflection | Ixe  | 16.6577 in <sup>4</sup> |
| Effective Section Modulus                  | Sxe  | 3.2694 in <sup>3</sup>  |
| Allowable Bending Moment                   | Ma   | 97.8872 in.k            |
| Allowable Moment (Distortional Buckling)   | Mad  | 92.5900 in.k            |
| Allowable Shear Force (Solid Section)      | Vag  | 9862 lbs                |
| Allowable Shear Force (Perforated Section) | VaPO | 7175 lbs                |

## Codes & Standards:

- Calculations are based on AISI S240-20 and AISI S100-16 (2020) w/S2-20.
- Complies with IBC 2024. ASTM C955. ASTM C754. ASTM A653. ASTM A1003. ASTM E72
- LEED / Sustainability Credits: Environmental Product Declaration S-P Code: S-P-00869