

## 800S250-54 (50ksi) (Standard Punch)

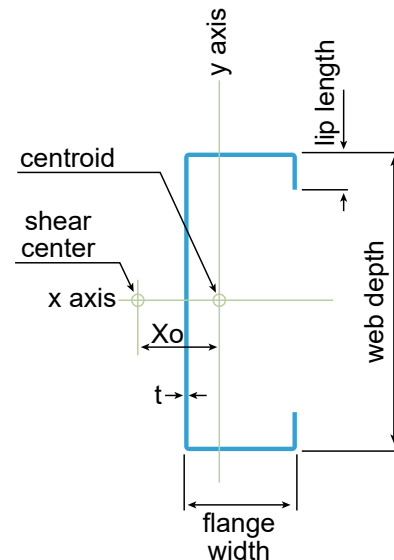
Product Description: 8" Stud 16GA (2-1/2" Flange, 54 mil)

Coating: G60 (standard), G90 (special order)

Specification Section: 05.40.00 (Cold-Formed Metal Framing)

| GEOMETRIC PROPERTIES |           |                       |            |
|----------------------|-----------|-----------------------|------------|
| Web Depth            | 8 in.     | Yield Strength, $F_y$ | 50 ksi     |
| Flange Width         | 2.5 in.   | Design Thickness      | 0.0566 in. |
| Lip Length           | 0.625 in. | Min. Design Thickness | 0.0538 in. |

| GROSS PROPERTIES                   |                                                    |        |
|------------------------------------|----------------------------------------------------|--------|
| Area (in <sup>2</sup> )            | Total cross-sectional steel area                   | 0.783  |
| Weight (lb/ft)                     | Linear weight per foot                             | 2.66   |
| $I_x$ (in <sup>4</sup> )           | Moment of inertia about the x-axis                 | 7.467  |
| $S_x$ (in <sup>3</sup> )           | Section modulus about the x-axis                   | 1.867  |
| $R_x$ (in)                         | Radius of gyration about the x-axis                | 3.089  |
| $I_y$ (in <sup>4</sup> )           | Moment of inertia about the y-axis                 | 0.614  |
| $R_y$ (in)                         | Radius of gyration about the y-axis                | 0.886  |
| EFFECTIVE PROPERTIES               |                                                    |        |
| $I_x$ (in <sup>3</sup> )           | Effective moment of inertia (x-axis)               | 7.399  |
| $S_x$ (in <sup>3</sup> )           | Effective section modulus (x-axis)                 | 1.490  |
| $M_a$ (in-k)                       | Allowable bending moment-effective section modulus | 44.61  |
| $M_{ad}$ (in-k)                    | Allowable bending moment-distortional buckling     | 37.84  |
| $V_a$ (lb)                         | Allowable shear force in web                       | 2091   |
| $V_{a_{net}}$ (lb)                 | Allowable strong axis sheer at punchout            | 2091   |
| TORSIONAL PROPERTIES               |                                                    |        |
| $J \times 1000$ (in <sup>4</sup> ) | St. Venant torsional constant                      | 0.836  |
| $C_w$ (in <sup>6</sup> )           | Warping constant                                   | 7.850  |
| $X_o$ (in)                         | Distance from shear center to centroid             | -1.661 |
| $m$ (in)                           | Distance from shear center to mid-plane of web     | 1.036  |
| $R_o$ (in)                         | Polar radius of gyration                           | 3.617  |
| Beta                               | Torsional Flexural Constant                        | 0.789  |



First punchout is centered 12" from beginning of member;  
subsequent punchouts are 24" on center (o.c.). Center of last  
punchout is no less than 12" from end of member.

### CODES AND STANDARDS:

Super Stud products comply with the applicable provisions of the following:

- International Building Code (IBC): 2006–2024
- AISI S100-16 (2020) w/S2-20 (effective properties include cold-work strength increase)
- Sheet Steel: ASTM A1003/A1003M; ASTM A653/A653M
- Galvanized Coating: ASTM A653/A653M

### Structural Members:

- ASTM C955; AISI S240
- Installed per ASTM C1007

### Additional Standards:

- AISI S201; AISI S202

### 3rd Party Certification

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