



# Super Stud Building Products - Product Submittal

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## Specification Section: 05.40.00 (Cold-Formed Metal Framing)

### 400S137-33 (33ksi) Standard Punch

33mil (STR 20 ga) Coating: G60 (standard), G90 (special order)

#### Geometric Properties

|                      |           |                       |        |
|----------------------|-----------|-----------------------|--------|
| Web Depth            | 4 in      | Yield Strength, $F_y$ | 33 ksi |
| Flange Width         | 1.375 in  | Ultimate, $F_u$       | 45 ksi |
| Lip Length           | 0.375 in  | Punchout Width        | 1.5 in |
| Design Thickness     | 0.0346 in | Punchout Length       | 4.0 in |
| Min. Steel Thickness | 0.0329 in |                       |        |

#### Gross Section Properties

|                                        |                        |
|----------------------------------------|------------------------|
| Cross Sectional Area (A)               | 0.2491 in <sup>2</sup> |
| Product Weight per Linear Foot         | 0.8469 lb/ft           |
| Moment of Inertia ( $I_x$ )            | 0.6031 in <sup>4</sup> |
| Section Modulus ( $S_x$ )              | 0.3015 in <sup>3</sup> |
| Radius of Gyration ( $r_x$ )           | 1.5558 in              |
| Weak Axis Moment of Inertia ( $I_y$ )  | 0.0613 in <sup>4</sup> |
| Weak Axis Radius of Gyration ( $r_y$ ) | 0.4958 in              |
| Depth-to-Thickness Ratio (h/t)         | 109                    |

#### Effective Section Properties, Strong Axis

|                                                      |                        |
|------------------------------------------------------|------------------------|
| Effective Area ( $A_e$ )                             | 0.1498 in <sup>2</sup> |
| Moment of Inertia for Deflection ( $I_{xe}$ )        | 0.5674 in <sup>4</sup> |
| Section Modulus ( $S_{xe}$ )                         | 0.2688 in <sup>3</sup> |
| Allowable Bending Moment ( $M_a$ )                   | 5.3116 in-k            |
| Allowable Shear Force in Web (at Punchout) ( $V_y$ ) | 595 lb                 |

#### Torsional Properties

|                                                      |                        |
|------------------------------------------------------|------------------------|
| St. Venant Torsion Constant ( $J \times 1000$ )      | 0.0994 in <sup>4</sup> |
| Warping Constant ( $C_w$ )                           | 0.1927 in <sup>6</sup> |
| Distance from Shear Center to Neutral Axis ( $X_o$ ) | 0.9610 in              |
| Radius of Gyration ( $r_o$ )                         | 1.8947 in              |
| Torsional Flexural Constant (Beta)                   | 0.7427                 |

#### Codes and Standards

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

International Building Code (IBC): 2006 – 2024

Complies with AISI S100-16 (2020) w/S2-20. Effective properties incorporate the strength increase from the cold work of forming

Sheet steel: ASTM A1003/A1003M; ASTM A653/A653M

Galvanized coating: ASTM A653/A653M

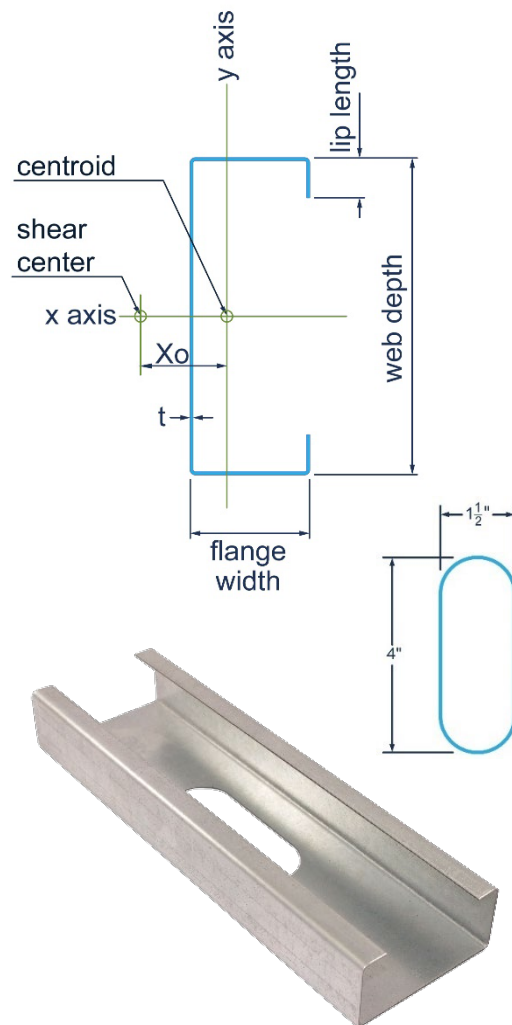
Nonstructural: Members and tolerances: ASTM C645; AISI S220, AISI S201, AISI S202

Meets ASTM C754 when installed properly in structure.

Structural: Members and tolerances: ASTM C955; AISI S240, AISI S201, AISI S202

Meets ASTM C1007 when installed properly in structure.

3<sup>rd</sup> party Certification



#### Structural Punchout

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.

Custom stiffened punchouts are available at tighter spacing to reduce thermal transmittance and increase accessibility. Contact Technical Services for additional punchout information.

#### Sustainability

For LEED letters contact Technical Services at [technical@buysuperstud.com](mailto:technical@buysuperstud.com) or visit



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