# PRODUCT SUBMITTAL SHEET

For more information or questions, please contact:
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## 400S250-54 (Standard Punch)

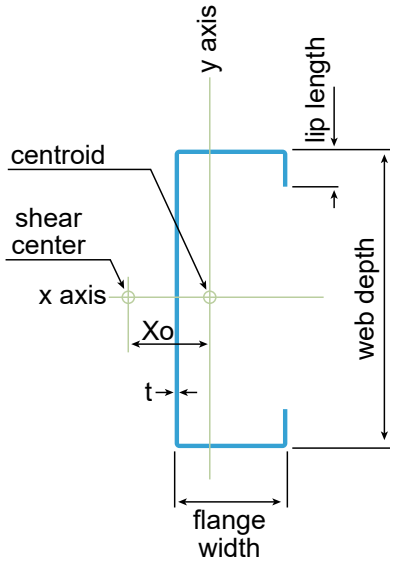
Product Description: 4” Stud 16GA (2-1/2” Flange, 54 mil)

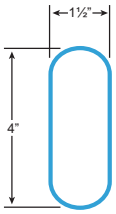
Coating: G60 (standard), G90 (Available)

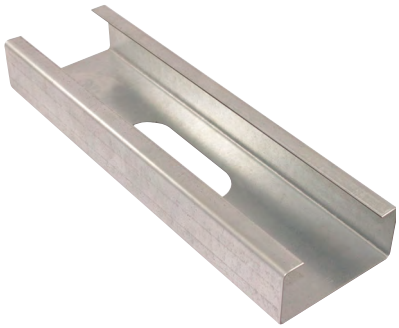
Specification Section: 05.40.00 (Cold-Formed Metal Framing)

| GEOMETRIC PROPERTIES | | | |
|---|---|---|---|
| Web Depth | 4 in. | Yield Strength, Fy | 50 ksi |
| Flange Width | 2.5 in. | Design Thickness | 0.0566 in. |
| Lip Length | 0.625 in. | Min. Steel Thickness | 0.0538 in. |

| GROSS PROPERTIES | | |
|---|---|---|
| Area ($in^2$) | Total cross-sectional steel area | 0.556 |
| Weight (lb/ft) | Linear weight per foot | 1.89 |
| Ix ($in^4$) | Moment of inertia about the x-axis | 1.512 |
| Sx ($in^3$) | Section modulus about the x-axis | 0.756 |
| Rx (in) | Radius of gyration about the x-axis | 1.649 |
| Iy ($in^4$) | Moment of inertia about the y-axis | 0.490 |
| Ry (in) | Radius of gyration about the y-axis | 0.938 |
| | | |
| EFFECTIVE PROPERTIES | | |
| Ix ($in^3$) | Effective moment of inertia (x-axis) | 1.505 |
| Sx ($in^3$) | Effective section modulus (x-axis) | 0.592 |
| Ma (in-k) | Allowable bending moment-effective section modulus | 17.71 |
| Mad (in-k) | Allowable bending moment-distortional bucking | 17.74 |
| $Va_g$ (lb) | Allowable shear force in web | 3372 |
| $Va_{net}$ (lb) | Allowable strong axis sheer at punchout | 1223 |
| | | |
| TORSIONAL PROPERTIES | | |
| J x 1000 ($in^4$) | St. Venant torsional constant | 0.594 |
| Cw ($in^6$) | Warping constant | 1.821 |
| Xo (in) | Distance from shear center to centroid | -2.124 |
| m (in) | Distance from shear center to mid-plane of web | 1.244 |
| Ro (in) | Polar radius of gyration | 2.848 |
| Beta | Torsional Flexural Constant | 0.444 |



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 & Standards:**

- **Structural Members**
  - ASTM C955
  - AISI S240
  - Installed per ASTM C1007
- **Material Standards**
  - ASTM A1003/A1003M
  - ASTM A653/A653M
- **Design Standards**
  - AISI S100-16 (2020) w/S2-20
- **Building Codes**
  - International Building Code (IBC) 2006–2024

- **Sustainability & Compliance:**
  - SFIA Quality Certified Manufacturing
  - Industry-Wide EPD Participant
  - HPD Documentation Available Upon Request
  - LEED Documentation Available Upon Request
  - Buy America / Build America (BABA) Documentation Available Upon Request
  - Manufactured in USA

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