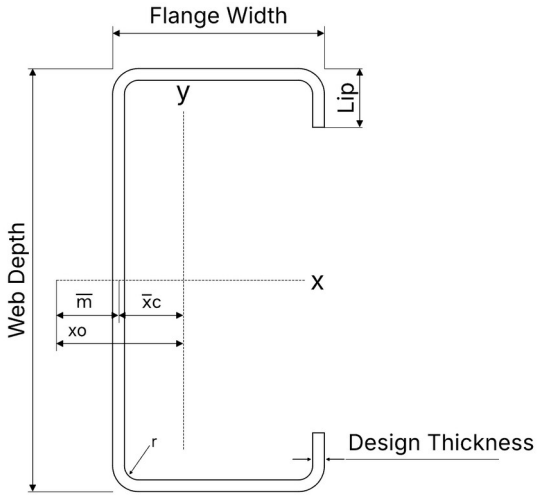
# PRODUCT SUBMITTAL SHEET

**Product Type:** Structural Stud

**Product Definition:** 400S250-54-U (33ksi, Unpunched)

**CSI Code:** 05 41 00




## Profile Properties:

| | | | |
|---|---|---|---|
| Web Depth | 4.000 in | Yield Strength Fy: | 33 ksi |
| Flange Width | 2.500 in | Unit Weight | 1.89 lb/ft |
| Stiffening Lip | 0.6250 in | Punchout Width / Length | None (unpunched) |
| Design Thickness | 0.0566 in | Coating | G60 or G90 |
| Thickness | 54 mils (16 Ga) | Min. Steel Thickness | 0.0538 in |
| Inside Bend Radius | 0.0849 in | Tensile Strength Fu | 45 ksi |

## Gross Section Properties:

| | | |
|---|---|---|
| Cross Sectional Area | Agross | 0.5563 in2 |
| Member weight per foot of length | | 1.89 lb/ft |
| Moment of Inertia. x-axis | Ix | 1.5123 in4 |
| Section Modulus. x-axis | Sx | 0.7561 in3 |
| Radius of Gyration. x-axis | rx | 1.6487 in |
| Moment of Inertia. y-axis | Iy | 0.4897 in4 |
| Radius of Gyration. y-axis | ry | 0.9382 in |

## Torsional Properties:

| | | |
|---|---|---|
| St. Venant Torsion Constant | J x 1000 | 0.5941 in4 |
| Warping Constant | Cw | 1.8213 in6 |
| Distance Between Shear Axis and Neutral Axis | x0 | -2.1242 in |
| Shear Center to Web Centerline | m | 1.2443 in |
| Polar Radius of Gyration | r0 | 2.8479 in |
| Torsional Flexural Constant | β | 0.4437 |
| Limit of Unbraced Length | Lu | 57.21 in |

## Effective Section Properties:

| | | |
|---|---|---|
| Effective Area | Aeff | 0.4389 in2 |
| Effective Moment of Inertia for Deflection | Ixe | 1.4270 in4 |
| Effective Section Modulus | Sxe | 0.6835 in3 |
| Allowable Bending Moment | Ma | 13.5057 in.k |
| Allowable Moment (Distortional Buckling) | Mad | 13.9147 in.k |
| Allowable Shear Force (Solid Section) | Vag | 2603 lbs |

## Codes & Standards:

- Calculations are based on AISI S240-20 and AISI S100-16 (2020) w/S2-20.
- AISI S240-20 North American Standard for Cold-Formed Steel Structural Framing: Section A3 Material (ASTM A1003/A1003M); Section A4 Corrosion Protection (ASTM A653/A653M); Section A5 Products – thickness, shapes, tolerances, identification; Section C Installation (ASTM C1007).
- IBC 2024 International Building Code. ASTM C955. ASTM A1003. ASTM A653 SS Grade 33. Coating G60 or G90 per AISI S240 Section A4.
- ICC-ES ESR-5905 UMS Joists, UMS Studs and UMS Tracks.
- LEED / Sustainability Credits: Environmental Product Declaration S-P Code: S-P-00869
- Note: Supplied without web punch-outs.

*Structural Studs. The technical content of this literature is effective 10/30/2026 and supersedes all previous information.*