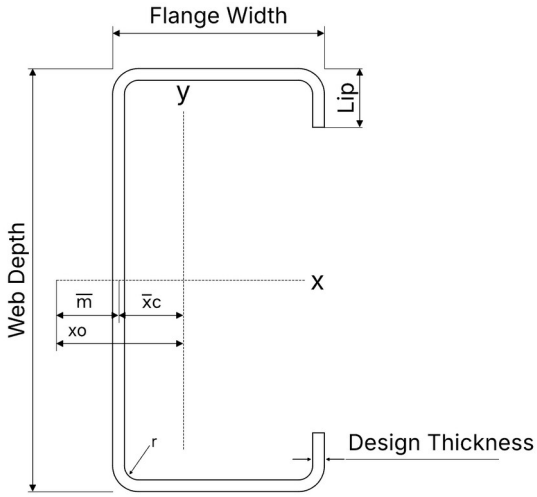
PRODUCT SUBMITTAL SHEET

Product Type: Structural Stud

Product Definition: 1000S250-43-U (50ksi, Unpunched)

CSI Code: 05 41 00



Profile Properties:

Web Depth	10.000 in	Yield Strength Fy:	50 ksi
Flange Width	2.500 in	Unit Weight	2.44 lb/ft
Stiffening Lip	0.6250 in	Punchout Width / Length	None (unpunched)
Design Thickness	0.0451 in	Coating	G60 or G90
Thickness	43 mils (18 Ga)	Min. Steel Thickness	0.0428 in
Inside Bend Radius	0.0712 in	Tensile Strength Fu	65 ksi

Gross Section Properties:

Cross Sectional Area	Agross	0.7175 in2
Member weight per foot of length		2.44 lb/ft
Moment of Inertia. x-axis	Ix	10.2055 in4
Section Modulus. x-axis	Sx	2.0411 in3
Radius of Gyration. x-axis	rx	3.7715 in
Moment of Inertia. y-axis	Iy	0.5313 in4
Radius of Gyration. y-axis	ry	0.8605 in

Torsional Properties:

St. Venant Torsion Constant	J x 1000	0.4865 in4
Warping Constant	Cw	10.4814 in6
Distance Between Shear Axis and Neutral Axis	x0	-1.5176 in
Shear Center to Web Centerline	m	0.9652 in
Polar Radius of Gyration	r0	4.1554 in
Torsional Flexural Constant	β	0.8666
Limit of Unbraced Length	Lu	41.16 in

Effective Section Properties:

Effective Area	Aeff	0.2838 in2
Effective Moment of Inertia for Deflection	Ixe	7.9438 in4
Effective Section Modulus	Sxe	1.3427 in3
Allowable Bending Moment	Ma	40.2018 in.k
Allowable Moment (Distortional Buckling)	Mad	35.5267 in.k
Allowable Shear Force (Solid Section)	Vag	836 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 50 Class 1. 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; holes or punch-outs in the web are outside the scope of ESR-5905 for members with h/t > 200. Web h/t exceeds 200: bearing stiffeners are required at all supports and concentrated loads per AISI S100-16 w/S2-20 Section B4 and Table B4.1-1.

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