

400S250-33² (Standard Punch)

Product Description: 4" Stud STR 20GA (2-1/2" Flange, 33 mil)

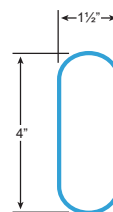
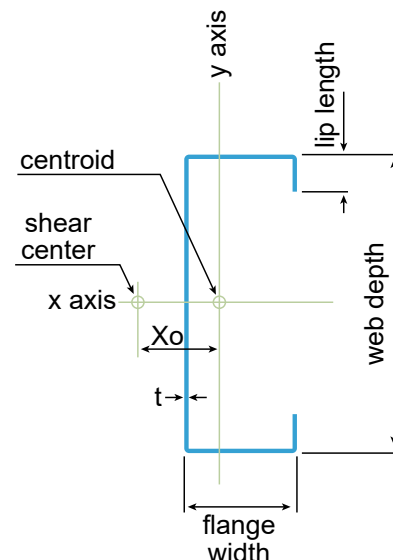
Coating: G60 (standard), G90 (special order)

Specification Section: 05.40.00 (Cold-Formed Metal Framing)

GEOMETRIC PROPERTIES			
Web Depth	4 in.	Yield Strength, F _y	33 ksi
Flange Width	2.5 in.	Design Thickness	0.0346 in.
Lip Length	0.625 in.	Min. Steel Thickness	0.0329 in.

*2 When web height-to-thickness ratio exceeds 260, or flange width-to-thickness ratio exceeds 60, effective properties are not calculated. (Limitations in AISI Section B4.1)

GROSS PROPERTIES		
Area (in ²)	Total cross-sectional steel area	0.344
Weight (lb/ft)	Linear weight per foot	1.17
I _x (in ⁴)	Moment of inertia about the x-axis	0.948
S _x (in ³)	Section modulus about the x-axis	0.474
R _x (in)	Radius of gyration about the x-axis	1.660
I _y (in ⁴)	Moment of inertia about the y-axis	0.310
R _y (in)	Radius of gyration about the y-axis	0.949
EFFECTIVE PROPERTIES		
I _x (in ³)	Effective moment of inertia (x-axis)	-
S _x (in ³)	Effective section modulus (x-axis)	-
M _a (in-k)	Allowable bending moment-effective section modulus	-
M _{ad} (in-k)	Allowable bending moment-distortional buckling	-
V _a (lb)	Allowable shear force in web	-
V _{a_{net}} (lb)	Allowable strong axis sheer at punchout	-
TORSIONAL PROPERTIES		
J x 1000 (in ⁴)	St. Venant torsional constant	0.137
C _w (in ⁶)	Warping constant	1.165
X _o (in)	Distance from shear center to centroid	-2.151
m (in)	Distance from shear center to mid-plane of web	1.259
R _o (in)	Polar radius of gyration	2.878
Beta	Torsional Flexural Constant	0.441



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

For LEED Letter requests please submit through: www.buysuperstud.com