

## 250S137-33 (Standard Punch)

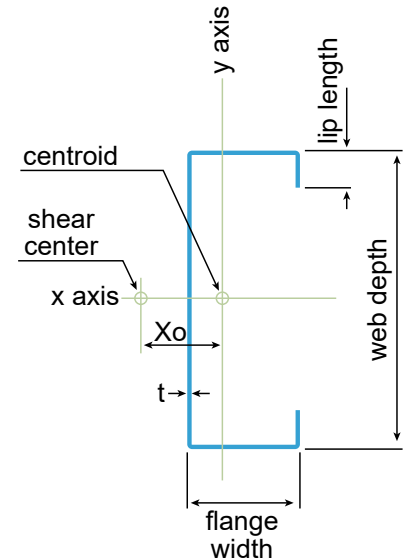
Product Description: 2-1/2" Stud STR 20GA (1-3/8" Flange, 33mil)

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

Specification Section: 05.40.00 (Cold-Formed Metal Framing)

GEOMETRIC PROPERTIES			
Web Depth	2.5 in.	Yield Strength, Fy	33 ksi
Flange Width	1.375 in.	Design Thickness	0.0346 in.
Lip Length	0.375 in.	Min. Steel Thickness	0.0329 in.

GROSS PROPERTIES		
Area (in <sup>2</sup> )	Total cross-sectional steel area	0.197
Weight (lb/ft)	Linear weight per foot	0.67
I <sub>x</sub> (in <sup>4</sup> )	Moment of inertia about the x-axis	0.203
S <sub>x</sub> (in <sup>3</sup> )	Section modulus about the x-axis	0.163
R <sub>x</sub> (in)	Radius of gyration about the x-axis	1.015
I <sub>y</sub> (in <sup>4</sup> )	Moment of inertia about the y-axis	0.052
R <sub>y</sub> (in)	Radius of gyration about the y-axis	0.515
EFFECTIVE PROPERTIES		
I <sub>x</sub> (in <sup>3</sup> )	Effective moment of inertia (x-axis)	0.203
S <sub>x</sub> (in <sup>3</sup> )	Effective section modulus (x-axis)	0.157
M <sub>a</sub> (in-k)	Allowable bending moment-effective section modulus	3.09
M <sub>ad</sub> (in-k)	Allowable bending moment-distortional buckling	2.91
V <sub>g</sub> (lb)	Allowable shear force in web	975
V <sub>net</sub> (lb)	Allowable strong axis shear at punchout	399
TORSIONAL PROPERTIES		
J x 1000 (in <sup>4</sup> )	St. Venant torsional constant	0.079
C <sub>w</sub> (in <sup>6</sup> )	Warping constant	0.076
X <sub>o</sub> (in)	Distance from shear center to centroid	-1.141
m (in)	Distance from shear center to mid-plane of web	0.677
R <sub>o</sub> (in)	Polar radius of gyration	1.612
Beta	Torsional Flexural Constant	0.499



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/EB Metal US products comply with the applicable provisions of the following:

- International Building Code (IBC): 2006–2024
- AISI S100-16 (2020) w/S2-20
- 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](http://www.buysuperstud.com) or [www.ebmetal.us](http://www.ebmetal.us)