

## Structural Stud 400S137-54G90

**Product Description** 16 GA GALV 4.00" WEB x 1.37" FLANGE C-STUD .054 MIN GAUGE G90

**Coating** G90

**Physical Properties**

Design Thickness (in)	0.0566
Minimum Thickness (in)	0.0538
Web Width (in)	4.0000
Flange Width (in)	1.3750
Stiffening Lip (in)	0.3750
Yield Strength (ksi)	50.0000



Gross Section Properties	
Cross Sectional Area (A)	0.401
Weight of Member (lb/ft)	1.36
Section Modulus (Sx)	0.477
Moment of Inertia (Ix)	0.953
Radius of Gyration (Rx)	1.543
Gross Moment of Inertia (Iy)	0.094
Gross Radium of Gyration (Ry)	0.484

Effective Section Properties	
Moment of Inertia for deflection (Ixe)	0.953
Section Modulus (Sxe)	0.428
Allowable Bending moment (Ma)	12.82
Allowable shear force in web (U)(Vag)	3372
Allowable shear at punch (Vanet)	1223

Torsional Properties	
St. Venant torsion constant (J x 1000)	0.428
Warping constant (Cw)	0.311
Distance from shear center to neutral axis (Xo)	-0.940
Radii of gyration (Ro)	1.870
Torsional flexural constant (Beta)	0.747

### Punch Out



### ASTM & Code Standards

- AISI S100-12 & ICC ES ESR-4062
- Framing meets ASTM A1003, A653 & C955

### Notes

1. Calculated properties are based on AISI S100-16, North American Specification for Design of Cold-Formed Steel Structural Members.
2. The centerline bend radius is based on inside corner radii shown in thickness chart.
3. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A3.3.2.
4. Tabulated gross properties are based on full-unreduced cross section of the studs, away from punch outs.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment includes cold-work of forming.

### Mill Steel Framing LEED Green Credits

- MR Credit 2** • ConstructionWaste Management – Mill Steel Framing steel framing is 100% recyclable
- MR Credit 4** • Recycled Content – Mill Steel Framing products contain no less than 25.5% post-consumer and 6.8% pre-consumer recycled content
- MR Credit 5** • Regional Materials – Mill Steel Framing has manufacturing facilities in Indiana, Alabama & Texas
- V4 MR Credits** • Building Product Disclosure and Optimization EPD (1 point)
- Materials Ingredients (1 point) – Construction and Demolition Waste Management (1 point)

