**Product Name: 600S400-43** 



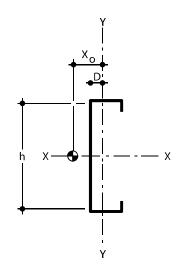
## Product Category: 05.40.00 - Cold-Formed Metal Framing

Available Finish: G60, G90
\*Other standard coatings referenced in ASTM A1003
Web Depth: 6 in
Flange Width: 4 in
Design Thickness: 0.0451 in
Gauge: 43 mils or 18
Yield stress, Fy: 33 ksi
Weight: 2.40 lb/ft

- Calculated properties are based on AISI S100-16/S240-20, North American Specification for Design of Cold-Formed Steel Structural Members and meets the requirements of the IBC 2021 Building Code.
- The centerline bend radius is based on inside corner radii shown in thickness chart.
- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
- Tabulated gross properties are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes coldwork of forming.
- For the steels that have both 33 and 50 ksi listing, if the design is based on 50 ksi, the 50 ksi steel needs to be specified. (ex. 3.625S137 16-50 (50 ksi))

## **Gross Section Properties**

Cross sectional area (A)	0.706 in <sup>2</sup>	
Moment of inertia (Ix)	4.444 in <sup>4</sup>	
Section Modulus (Sx)	1.481 in <sup>3</sup>	
Radius of gyration (Rx)	2.509 in	
Gross moment of inertia (ly)	1.651 in⁴	
Gross Radius of gyration (Ry)	1.529 in	



### **Effective Section Properties**

Moment of inertia for deflection (Ix)	4.245 in⁴
Section modulus (Sx)	0.973 in <sup>3</sup>
Allowable bending moment (Ma)	16.060 In-l
Allowable bending moment from distortional buckling (Mad)	17.98 ln-k
Allowable strong axis shear away from punch-out (Vag)	1416 lb
Allowable strong axis shear at punch out (Vanet)	1240 lb

# **Torsional Properties**

St. Venant torsion constant (J x 1000)	0.479 in⁴
Warping constant (Cw)	14.258 in <sup>6</sup>
Distance from shear center to neutral axis (Xo)	-3.520 in
Distance from shear center to mid-plane of web (m)	2.048 in
Radii of gyration (Ro)	4.585 in
Torsional flexural constant (β)	0.411
Unbraced Length (Lu)	102.0 in

#### **Additional Information**