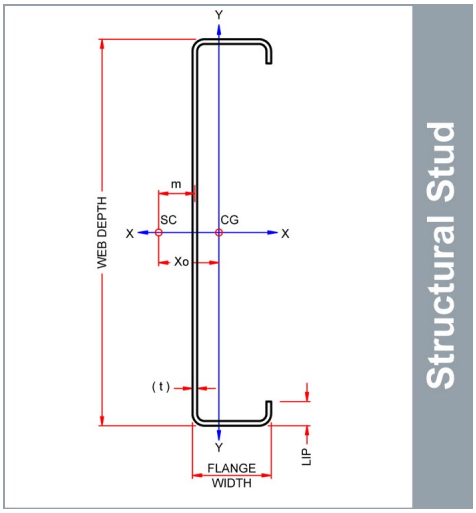
Product Submittal Sheet

Technical Services: 888-437-3244
Engineering Services: 877-832-3206
Sales: 800-543-7140
clarkdietrich.com

Product category: S250 (2-1/2" Flange Structural Stud)
Product name: **1600S250-97 (50ksi, CP60) P - Punched**
97mils (12ga)
Coating: CP60 per AISI S240
Color coding: Red

05.40.00 (Cold-Formed Metal Framing)



Geometric Properties

Web depth	16.000 in		
Flange width	2.500 in	Punchout width	1.50 in
Stiffening lip	0.625 in	Punchout length	4.00 in
Design thickness	0.1017 in	Min. steel thickness	0.0966 in
Yield strength, Fy	50 ksi	Fy with Cold-Work, Fya	50.0 ksi
Ultimate, Fu	65.0 ksi		

Gross Section Properties of Full Section, Strong Axis

Cross sectional area (A)	2.186 in^2
Member weight per foot of length	7.44 lb/ft
Moment of inertia (Ix)	69.503 in^4
Section modulus (Sx)	8.688 in^3
Radius of gyration (Rx)	5.639 in
Gross moment of inertia (Iy)	1.193 in^4
Gross radius of gyration (Ry)	0.739 in

Effective Section Properties, Strong Axis

Effective Area (Ae)	0.861 in^2
Moment of inertia for deflection (Ix)	66.581 in^4
Section modulus (Sx)	6.983 in^3
Allowable bending moment (Ma)	209.07 in-k
Allowable moment based on distortion buckling (Mad)	173.55 in-k
Allowable shear force in web (solid section)	6043 lb
Allowable shear force in web (perforated section)	6043 lb
Unbraced length (Lu)	45.9 in

Torsional Properties

St. Venant torsion constant (J x 1000)	7.536 in^4
Warping constant (Cw)	63.082 in^6
Distance from shear center to neutral axis (Xo)	-1.138 in
Distance between shear center and web centerline (m)	0.762 in
Radii of gyration (Ro)	5.800 in
Torsional flexural constant (Beta)	0.962

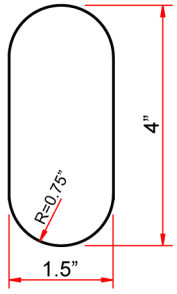
Code Approvals & Performance Standards

AISI S100-16 - North American Specification for the Design of CFS Structural Members
- Effective properties incorporate the strength increase from the cold work of forming
- Gross properties are based on the cross section away from the punchouts

AISI S240-15 - North American Standard for Cold-Formed Steel Structural Framing
- Section A3 - Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
- Section A4 - Corrosion Protection (Referencing ASTM A653/A653M)
- Section A5 - Products - Thickness, shapes, tolerances, identification
- Section C - Installation - (Referencing ASTM C1007)

AISI S202-15 - Code of Standard Practice for Cold-Formed Steel Structural Framing
- Section F3 - Delivery, Handling and Storage of Materials

Used in framing applications:
- Load-bearing walls
- Curtain walls
- Tall interior walls
- Floor & ceiling joists
- Trusses



Structural Punchout

East market punchout spacing:
12" from lead end then 24" o.c.

West market punchout spacing:
24" from lead end then 24" o.c.

Sustainability Credits:
For more details and LEED letters contact Technical Services at 888-437-3244 or visit www.clarkdietrich.com/LEED
LEED v4 MR Credit -- Building Product Disclosure and Optimization: EPD (1 point) - Sourcing of Raw Materials (1 point) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points) - Innovation Credit (up to 2 points).
LEED 2009 Credit MR 2 & MR 4 -- ClarkDietrich's steel products are 100% recyclable and have a national average recycled content of 34.2% (19.8% post-consumer and 14.4% pre-consumer). If seeking a higher number to meet Credit MR 5, please contact us at (info@clarkdietrich.com / 888-437-3244)

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