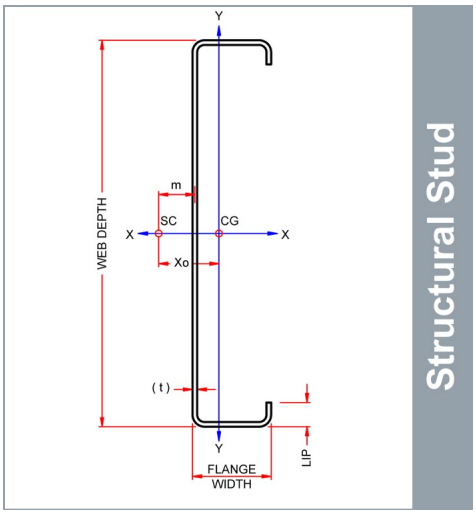
# Product Submittal Sheet

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:** **1600S250-68 (50ksi, CP60) P - Punched**
68mils (14ga)
Coating: CP60 per ASTM C955
Color coding: Orange

**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 | 0.0713 in | Min. steel thickness | 0.0677 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) | 1.549 $in^2$ |
| Member weight per foot of length | 5.27 lb/ft |
| Moment of inertia (Ix) | 49.832 $in^4$ |
| Section modulus (Sx) | 6.229 $in^3$ |
| Radius of gyration (Rx) | 5.673 in |
| Gross moment of inertia (Iy) | 0.889 $in^4$ |
| Gross radius of gyration (Ry) | 0.758 in |

## Effective Section Properties, Strong Axis

| | |
|---|---|
| Effective Area (Ae) | 0.492 $in^2$ |
| Moment of inertia for deflection (Ix) | 45.551 $in^4$ |
| Section modulus (Sx) | 4.092 $in^3$ |
| Allowable bending moment (Ma) | 122.52 in-k |
| Allowable moment based on distortion buckling (Mad) | 104.69 in-k |
| Allowable shear force in web (solid section) | 2062 lb |
| Allowable shear force in web (perforated section) | 2062 lb |
| Unbraced length (Lu) | 46.5 in |

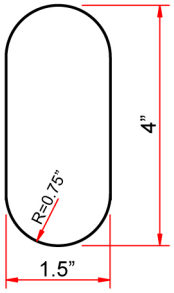
## Torsional Properties

| | |
|---|---|
| St. Venant torsion constant (J x 1000) | 2.624 $in^4$ |
| Warping constant (Cw) | 46.230 $in^6$ |
| Distance from shear center to neutral axis (Xo) | -1.167 in |
| Distance between shear center and web centerline (m) | 0.778 in |
| Radii of gyration (Ro) | 5.841 in |
| Torsional flexural constant (Beta) | 0.960 |

Web-depth to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

**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.

## ASTM & Code Standards:

- AISI North American Specification [NASPEC] S100-12
- * Effective properties incorporate the strength increase from the cold work of forming
- Gross properties are based on the cross section away from the punchouts
- Structural framing is produced to meet or exceed ASTM C955
- Sheet steel meets or exceeds mechanical and chemical requirements of ASTM A1003
- ClarkDietrich's structural and nonstructural framing comply with the SFIA Code Compliance Certification Program, ICC-ES ESR-1166P and Intertek CCRR-0206
- For installation & storage information refer to ASTM C1007
- SDS & Product Certification Information is available at itools.clarkdietrich.com

**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)

| Project Information | Contractor Information | Architect Information |
|---|---|---|
| Name: | Name: | Name: |
| Address: | Contact: | Contact: |
| | Phone: | Phone: |
| | Fax: | Fax: |

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