800S350-33-P (33ksi, CP60, Punched)
8" structural stud with S350 (3-1/2") flange - 33mils (20ga)

Coating: CP60 per AISI S240   **Color Code:** White

Geometric Properties

Web depth: 8.000 in   **Thickness:** 33mils (20ga)   **Yield strength, Fy:** 33 ksi
Flange width: 3.500 in   **Design Thickness:** 0.0346 in   ***Fy with Cold-Work, Fya:** 33.0 ksi
Stiffening lip: 0.625 in   **Min. steel thickness:** 0.0329 in **Ultimate, Fu:** 45.0 ksi

Gross Section Properties of Full Section, Strong Axis	
Cross sectional area (A)	0.578 in^2
Member weight per foot of length	1.97 lb/ft
Moment of inertia (Ix)	6.007 in^4
Section Modulus (Sx)	1.502 in^3
Radius of gyration (Rx)	3.224 in
Gross moment of inertia (Iy)	1.031 in^4
Gross radius of gyration (Ry)	1.335 in
Effective Section Properties, Strong Axis	
Effective Area (Ae)	0.215 in^2
Moment of inertia for deflection (Ix)	5.436 in^4
Section modulus (Sx)	0.897 in^3
Allowable bending moment (Ma)	17.72 in-k
Allowable moment based on distortion buckling (Mad)	19.23 in-k
Allowable shear force in web (solid section)	474 lb
Allowable shear force in web (perforated section)	474 lb
Unbraced length (Lu)	90.4 in
Torsional Properties	
St. Venant torsional constant (J x 1000)	0.231 in^4
Warping constant (Cw)	14.393 in^6
Distance from shear center to neutral axis (Xo)	-2.792 in
Distance between shear center and web centerline (m)	1.681 in
Radii of gyration (Ro)	4.470 in
Torsional flexural constant (Beta)	0.610

- Effective properties incorporate the strength increase from the cold work of forming.
- Gross properties are based on the cross section away from the punchouts.
- Effective properties are based on knockout/punched sections.
- Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.
- This section does not meet the requirements of AISI North American Specifications. Increase the thickness or contact ClarkDietrich Tech Support for design solutions.

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S240-20 North American Standard for Cold-Formed Steel Structural Framing
  - (Compliant to ASTM C955 , but IBC replaced with AISI S200 in IBC 2015, AISI S240 in IBC 2018)
  - 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 S202-20 Code of Standard Practice for Cold-Formed Steel Structural Framing
  - Section F3 Delivery, Handling and Storage of Materials
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories

Structural Punchout

East Coast / Central punch spacing:
Center of punchoutss are
12" from lead end, then 24" o.c.

West Coast punch spacing:
Center of punchouts are
24" from lead end, then 24" o.c.

Center of tail end punchout not less
than 12" from end of stud.

If lateral bracing is required for
head-of-wall deflection track and a
punchout is not spaced 12" from the top of
stud, use strapping and blocking in lieu of
CRC or Spazzer Bar lateral bridging.

If custom punchout patterns are required,
contact ClarkDietrich Sales or local plant
for requests.

Sustainability Credits For more details and LEED letters contact Technical Services at 888-437-3244 or visit clarkdietrich.com/LEED.
- **LEED v4.1 MR Credit:** Environmental Product Declarations: EPD (1 point) - Sourcing of Raw Materials (up to 2 points) - Material Ingredients (1 point) - Construction and Demolition Waste Management (up to 2 points)
- **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).

Structural Studs The technical content of this literature is effective 03/11/24 and supersedes all previous information.