

Product category: ProSTUD® 20 Drywall Stud
Product name: 600PDS125-18 70ksi G40EQ - Punched
 6" ProSTUD 20 (18mil)

Coating: G40EQ
 Color coding: Brown

Geometric Properties

| | | | |
|------------------|-----------|-------------------|-------------|
| Web depth | 6.000 in | Weight | 0.589 lb/ft |
| Flange width | 1.250 in | Punchout width | 1.500 in |
| Stiffening lip | 0.386 in | Punchout length | 2.500 in |
| Design thickness | 0.0190 in | Minimum thickness | 0.0181 in |
| Yield stress, Fy | 70 ksi | | |

Gross Section Properties of Full Section, Strong Axis

| | |
|-------------------------------|-----------------------|
| Cross sectional area (A) | 0.173 in ² |
| Moment of inertia (Ix) | 0.855 in ⁴ |
| Radius of gyration (Rx) | 2.223 in |
| Gross moment of inertia (Iy) | 0.032 in ⁴ |
| Gross radius of gyration (Ry) | 0.431 in |

Effective Section Properties, Strong Axis

| | |
|--|-----------------------|
| Effective area (Ae) | 0.046 in ² |
| Moment of inertia for deflection (Ixe) | 0.669 in ⁴ |
| Section modulus (Sxe) | 0.141 in ³ |
| Allowable bending moment (Ma) | 5,891 in-lbs |
| Allowable shear force in web (Unpunched) (Vag) | 104 lb |
| Allowable shear force in web (Punched) (Vanet) | 104 lb |

Torsional Properties

| | |
|---|------------------------|
| St. Venant torsion constant (J x 1000) | 0.0208 in ⁴ |
| Warping constant (Cw) | 0.233 in ⁶ |
| Distance from shear center to neutral axis (Xo) | -0.739 in |
| Radii of gyration (Ro) | 2.382 in |
| Torsional flexural constant (Beta) | 0.904 |
| Unbraced Length (Lu) | 23.6 in |

Code Approvals & Performance Standards

Calculated properties are based on:

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 as applicable per AISI A7.2.
- Tabulated gross properties, including torsional 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 cold work of forming.
- Allowable moment is taken as the lowest value based on local or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

AISI S220-15 North American Standard for CFS Framing - Nonstructural Members

- Section A4 - Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
- Section A5 - Corrosion Protection (Referencing ASTM A653/A653M)
- Section A6 - Products - Thickness, shapes, tolerances, identification
- Section C - Installation - (Referencing ASTM C754)

ClarkDietrich's nonstructural framing comply with:

- IBC-2018 - International Building Code
- Intertek CCRR-0207, LA RR #26019, NYC - OTCR
- SFIA Code Compliance Certification Program
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- SDS & Product Certification Information is available at www.clarkdietrich.com/SupportDocs

Notes:

- East Coast Punch Pattern: Center of knockouts are 12" from the leading edge then 48" o.c.
- West Coast Punch Pattern: Center of knockouts are 24" from the leading edge then 24" o.c.
- **Web-height to thickness ratio exceeds 260.**

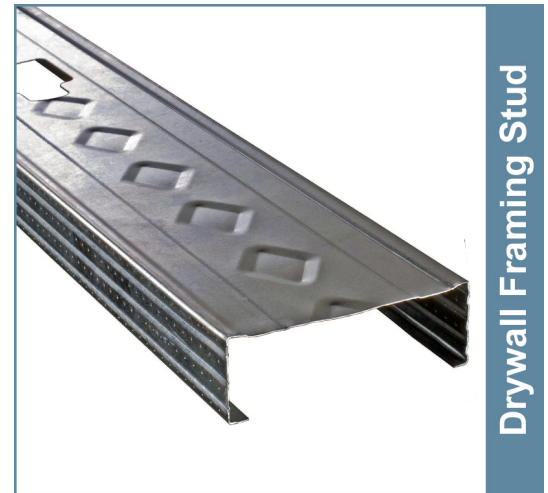
Sustainability Credits:

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)

09.22.16 (Non-Structural Metal Framing)



* Embossments in web are only placed on sections 2-1/2" and wider.

UL® Testing Standard

- UL® 263, ASTM E119
- Over 50 UL® design listings
- UL® file number R26512
- U.S. Patent No. 9,010,070



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6" ProSTUD 20 (18mil) Drywall Stud - COMPOSITE Limiting Heights (AC86-2019)

(1 layer) 5/8" Type X Gypsum Board

| Spacing (inches) | 5 psf | | | 7.5 psf | | | 10 psf | | |
|---------------------|---------|--------|--------|----------|--------|--------|---------|--------|--------|
| | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 |
| 12 | 32'-1" | 25'-6" | 22'-3" | 28'-1" | 22'-3" | 19'-5" | 24'-4"f | 20'-3" | 17'-8" |
| 16 | 29'-10" | 23'-8" | 20'-8" | 24'-10"f | 20'-8" | 18'-1" | 21'-6"f | 18'-9" | 16'-5" |
| 24 | 25'-5"f | 21'-1" | 18'-5" | 20'-9"f | 18'-5" | 16'-1" | 18'-0"f | 16'-9" | 14'-6" |

Composite Table Notes:

- Allowable composite limiting heights were determined in accordance with ICC-ES AC86-2019.
- Additional composite wall testing and analysis requirements of the SFIA Code Compliance Certification Program were observed.
- In accordance with current building codes and AISI design standards, the 1/3 Stress Increase for strength was not used.
- The composite limiting heights provided in the tables are based on a single layer of 5/8" Type X gypsum board from the following manufacturers: American, CertainTeed, Georgia Pacific, Continental, National, PABCO, and USG.
- The gypsum board must be applied full height in the vertical orientation to each stud flange and installed in accordance with ASTM C754 using minimum No. 6 Type S Drywall screws spaced as listed below:
- Screws spaced a maximum of 16 in on-center to framing members (including top & bottom track) spaced at 16 in or 12 in on-center.
- Screws spaced a maximum of 12 in on-center to framing members (including top & bottom track) spaced at 24 in on-center.
- No fasteners are required for attaching the stud to the track except as detailed in ASTM C754.
- Stud end bearing must be a minimum of 1 inch.
- f: Adjacent to the height value indicates that flexural stress controls the allowable wall height.
- s: Adjacent to the height value indicates that shear/end reaction controls the allowable wall height.

6" ProSTUD 20 (18mil) Drywall Stud - NON-COMPOSITE Limiting Heights (FULLY BRACED)

| Spacing (inches) | 5 psf | | | 7.5 psf | | | 10 psf | | |
|---------------------|--------|--------|--------|---------|---------|--------|--------|---------|--------|
| | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 |
| 12 | 26'-0" | 20'-8" | 18'-0" | 21'-11" | 18'-0" | 15'-9" | 19'-0" | 16'-4" | 14'-4" |
| 16 | 23'-3" | 18'-9" | 16'-4" | 19'-0" | 16'-4" | 14'-4" | 15'-7" | 14'-11" | 13'-0" |
| 24 | 19'-0" | 16'-4" | 14'-4" | 13'-10" | 13'-10" | 12'-6" | 10'-5" | 10'-5" | 10'-5" |

Non-Composite (Fully Braced) Table Notes:

- Heights are based on AISI S100-16, North American Specification, and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are applicable when the unbraced length is less than or equal to Lu.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing).
- **Web-height to thickness ratio exceeds 260.**

6" ProSTUD 20 (18mil) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

| Spacing (inches) | 5 psf | | | 7.5 psf | | | 10 psf | | |
|---------------------|---------|--------|--------|---------|--------|--------|--------|--------|--------|
| | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 | L/120 | L/240 | L/360 |
| 12 | 20'-10" | 20'-8" | 18'-0" | 17'-0" | 17'-0" | 15'-9" | 14'-8" | 14'-8" | 14'-4" |
| 16 | 18'-0" | 18'-0" | 16'-4" | 14'-8" | 14'-8" | 14'-4" | 12'-9" | 12'-9" | 12'-9" |
| 24 | 14'-8" | 14'-8" | 14'-4" | 12'-0" | 12'-0" | 12'-0" | 10'-5" | 10'-5" | 10'-5" |

Non-Composite (Braced at 48" o.c.) Table Notes:

- Heights are based on AISI S100-16, North American Specification, and AISI S220-15, North American Standard for Cold-Formed Steel Framing - Nonstructural Members, using steel properties alone.
- Above listed Non-Composite Limiting Heights are based on discreet stud bracing at 4 ft o.c.
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing).
- **Web-height to thickness ratio exceeds 260.**

Project Information

Name:
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Contractor Information

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Architect Information

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