

**Product category:** ProSTUD® 25 Drywall Stud  
**Product name:** 400PDS125-15 50ksi G40EQ - Punched  
4" ProSTUD 25 (15mil)

Coating: G40EQ  
Color coding: None

## Geometric Properties

|                  |           |                   |             |
|------------------|-----------|-------------------|-------------|
| Web depth        | 4.000 in  | Weight            | 0.368 lb/ft |
| Flange width     | 1.250 in  | Punchout width    | 1.500 in    |
| Stiffening lip   | 0.250 in  | Punchout length   | 2.550 in    |
| Design thickness | 0.0158 in | Minimum thickness | 0.0150 in   |
| Yield stress, Fy | 50 ksi    |                   |             |

## Gross Section Properties of Full Section, Strong Axis

|                               |                       |
|-------------------------------|-----------------------|
| Cross sectional area (A)      | 0.108 in <sup>2</sup> |
| Moment of inertia (Ix)        | 0.260 in <sup>4</sup> |
| Radius of gyration (Rx)       | 1.549 in              |
| Gross moment of inertia (Iy)  | 0.021 in <sup>4</sup> |
| Gross radius of gyration (Ry) | 0.436 in              |

## Effective Section Properties, Strong Axis

|  |                       |
|--|-----------------------|
| Effective area (Ae)                            | 0.034 in <sup>2</sup> |
| Moment of inertia for deflection (Ixe)         | 0.233 in <sup>4</sup> |
| Section modulus (Sxe)                          | 0.062 in <sup>3</sup> |
| Allowable bending moment (Ma)                  | 1,870 in-lbs          |
| Allowable shear force in web (Unpunched) (Vag) | 90 lb                 |
| Allowable shear force in web (Punched) (Vanet) | 90 lb                 |

## Torsional Properties

|   |                        |
|---|------------------------|
| St. Venant torsion constant (J x 1000)          | 0.0090 in <sup>4</sup> |
| Warping constant (Cw)                           | 0.064 in <sup>6</sup>  |
| Distance from shear center to neutral axis (Xo) | -0.803 in              |
| Radii of gyration (Ro)                          | 1.798 in               |
| Torsional flexural constant (Beta)              | 0.800                  |
| Unbraced Length (Lu)                            | 24.2 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](http://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 200.

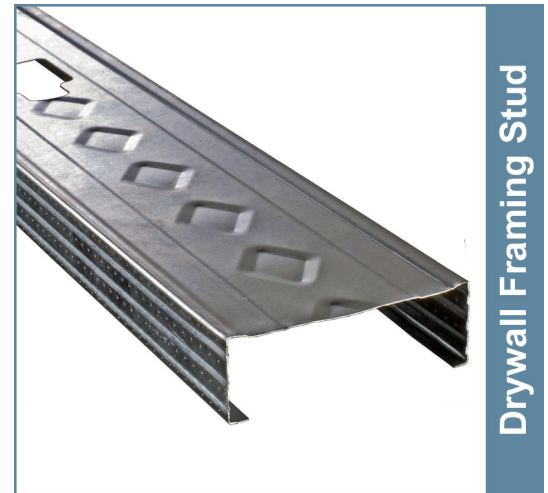
## Sustainability Credits:

For more details and LEED letters contact Technical Services at 888-437-3244 or visit [www.clarkdietrich.com/LEED](http://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](mailto: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



**Product category:** ProSTUD® 25 Drywall Stud  
**Product name:** 400PDS125-15 50ksi G40EQ - Punched  
 4" ProSTUD 25 (15mil)

## 4" ProSTUD 25 (15mil) Drywall Stud - COMPOSITE Limiting Heights (AC86-2019)

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

| Spacing<br>(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                  | 22'-8"  | 18'-0" | 15'-9" | 19'-1"f | 15'-9" | 13'-9" | 16'-6"f | 14'-4" | 12'-6" |
| 16                  | 20'-3"f | 16'-4" | 14'-4" | 16'-6"f | 14'-4" | 12'-6" | 14'-4"f | 13'-0" | 11'-3" |
| 24                  | 16'-6"f | 14'-4" | 12'-6" | 13'-6"f | 12'-6" | 10'-8" | 11'-8"f | 11'-3" | 9'-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.

## 4" ProSTUD 25 (15mil) Drywall Stud - NON-COMPOSITE Limiting Heights (FULLY BRACED)

| Spacing<br>(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                  | 15'-9" | 14'-6" | 12'-8" | 12'-6"* | 12'-6"* | 11'-1" | 9'-4"* | 9'-4"* | 9'-4"* |
| 16                  | 13'-8" | 13'-2" | 11'-6" | 9'-4"*  | 9'-4"*  | 9'-4"* | 7'-0"* | 7'-0"* | 7'-0"* |
| 24                  | 9'-4"* | 9'-4"* | 9'-4"* | 6'-3"*  | 6'-3"*  | 6'-3"* | 4'-8"* | 4'-8"* | 4'-8"* |

### 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  $L_u$ .
- Heights are limited by moment, deflection, shear, and web crippling (assuming 1" end reaction bearing).
- Web-height to thickness ratio exceeds 200.

## 4" ProSTUD 25 (15mil) Drywall Stud - NON-COMPOSITE Limiting Heights (BRACED at 48" o.c.)

| Spacing<br>(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                  | 13'-0" | 13'-0" | 12'-8" | 10'-8"  | 10'-8" | 10'-8" | 9'-2"  | 9'-2"  | 9'-2"  |
| 16                  | 11'-3" | 11'-3" | 11'-3" | 9'-2"   | 9'-2"  | 9'-2"  | 7'-0"* | 7'-0"* | 7'-0"* |
| 24                  | 9'-2"  | 9'-2"  | 9'-2"  | 6'-3"*  | 6'-3"* | 6'-3"* | 4'-8"* | 4'-8"* | 4'-8"* |

### 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 200.

### Project Information

Name:  
Address:

### Contractor Information

Name:  
Contact:  
Phone:  
Fax:

### Architect Information

Name:  
Contact:  
Phone:  
Fax: