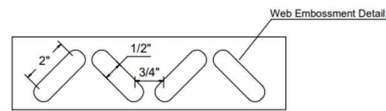
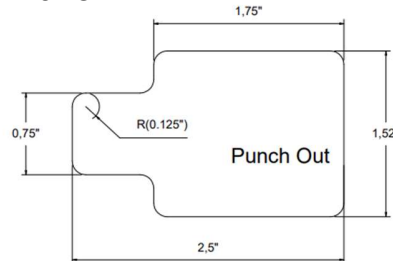
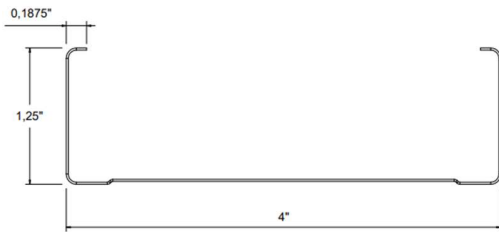


**Product Type:** Drywall Stud  
**Product Definition:** 400S125-18 33ksi  
**CSI Code:** 09.22.16.13



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

## Profile Properties:

|                   |           |
|-------------------|-----------|
| Web Depth         | 4,000 in  |
| Flange Width      | 1,250 in  |
| Stiffening Lip    | 0,1875 in |
| Design Thickness  | 0,0188 in |
| Minimum Thickness | 0,0179 in |

|                         |                   |
|-------------------------|-------------------|
| Yield Strength:         | 33 ksi            |
| Unit Weight             | 0,43 lb/ft        |
| Punchout Width / Length | Please see figure |
| Finish                  | G40               |
| Color Coding            | None              |

## Gross Section Properties:

|                            |        |                        |
|----------------------------|--------|------------------------|
| Cross Sectional Area       | Agross | 0,1251 in <sup>2</sup> |
| Moment of Inertia, x-axis  | Ix     | 0,2956 in <sup>4</sup> |
| Radius of Gyration, x-axis | rx     | 1,5370 in              |
| Moment of Inertia, y-axis  | Iy     | 0,0216 in <sup>4</sup> |
| Radius of Gyration, y-axis | ry     | 0,4155 in              |

## Torsional Properties:

|  |          |                        |
|--|----------|------------------------|
| St. Venant Torsion Constant                  | J x 1000 | 0,0147 in <sup>4</sup> |
| Warping Constant                             | Cw       | 0,0675 in <sup>6</sup> |
| Distance Between Shear Axis and Neutral Axis | x0       | -0,7550 in             |
| Polar Radius of Gyration                     | r0       | 1,7621 in              |
| Torsional Flexural Constant                  | β        | 0,8164                 |
| Limit of Unbraced Length                     | Lu       | 31,13 in               |

## Effective Section Properties:

|  |      |                        |
|--|------|------------------------|
| Effective Area                             | Aeff | 0,1195 in <sup>2</sup> |
| Effective Moment of Inertia for Deflection | Ixe  | 0,2810 in <sup>4</sup> |
| Effective Section Modulus                  | Sxe  | 0,1304 in <sup>3</sup> |
| Allowable Bending Moment                   | Ma   | 1,6400 in.k            |
| Allowable Shear Force                      | Vag  | 160 lbs                |

## Codes & Standards:

- Calculations are based on AISI S220-20 and AISI S100-16.
- Complies with IBC2021, ASTM C645, ASTM C754, ASTM A653, ASTM A1003, ASTM E72
- Intertek Certificate of Compliance No: COC-WHI23-37729201
- LEED / Sustainability Credits: Environmental Product Declaration S-P Code: S-P-00869

## Limiting Heights, Non Composite (ft-in):

| Profile | 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      | 14' - 10" | 14' - 10" | 13' - 5" | 12' - 3" | 12' - 3" | 11' - 9" | 10' - 8" | 10' - 8" | 10' - 8" |
| 16      | 12' - 11" | 12' - 11" | 12' - 3" | 10' - 8" | 10' - 8" | 10' - 8" | 9' - 3"  | 9' - 3"  | 9' - 3"  |
| 24      | 10' - 8"  | 10' - 8"  | 10' - 8" | 8' - 9"  | 8' - 9"  | 8' - 9"  | 7' - 7"  | 7' - 7"  | 7' - 7"  |

- Heights are based on AISI S220-20 and AISI S100-16, 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 and shear.

## Limiting Heights, Composite – Fully Braced (ft-in):

| Profile | 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      | 19' - 3" | 17' - 6"  | 15' - 4"  | 15' - 9" | 15' - 4" | 13' - 4" | 13' - 8"  | 13' - 8"  | 12' - 2" |
| 16      | 16' - 8" | 15' - 11" | 13' - 11" | 13' - 8" | 13' - 8" | 12' - 2" | 11' - 10" | 11' - 10" | 11' - 0" |
| 24      | 13' - 8" | 13' - 8"  | 12' - 2"  | 11' - 2" | 11' - 2" | 10' - 7" | 9' - 8"   | 9' - 8"   | 9' - 7"  |

- The composite limiting heights are taken from ASTM C754-20 and based on a single layer of 5/8" Type X gypsum board to each stud flange.
- The gypsum board must be applied full height in the vertical orientation in accordance with ASTM C754 using minimum No. 6 Type S Drywall screws.
- Screws shall be 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 shall be 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.

