



www.studsunlimited.com

**Product Category:** 092216 - Non-Structural Framing  
**Product Name:** 162PWS134-21 20GA EQ

#### Important Properties Notes:

- Calculated properties are based on AISI S100-16 Supplement, North American Specification for Design of Cold-Formed Steel Structural Members and Meets IBC 2018 Code
- The centerline bend radius is based on inside corner radii shown in thickness chart.
- Effective properties incorporate the strength cold work of forming as applicable per AISI A7.2.
- Tabulated gross properties are based on full-section of the studs, away from punchouts.
- For deflection calculations, use the effective
- Allowable moment includes cold-work of forming.

#### Project Information

Name:  
Address:

#### Contractor Information

Name:  
Contact:  
Phone:  
Fax:

#### Architect Information

Name:  
Contact:  
Phone:  
Fax:

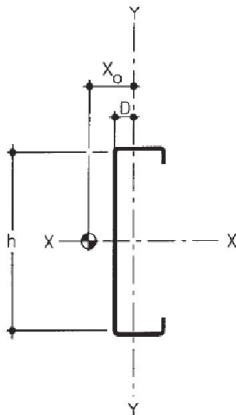
#### Distributor/Rep Information

Name:  
Contact:  
Phone:  
Email /Web:

## Properties

### 162PWS134-21 20GA EQ Properties

Finish: G40  
 Web Depth 1-5/8" in  
 Flange Width 1-11/32" in  
 Return Lip 0.25 in  
 Design Thickness 0.022 in  
 Yield stress, Fy 55 ksi  
 Weight 0.340 lb/ft



### 162PWS134-21 20GA EQ

#### Gross Section Properties

Cross sectional area (A) 0.101 in<sup>2</sup>  
 Moment of inertia (Ix) 0.048 in<sup>4</sup>  
 Section Modulus (Sx) 0.059 in  
 Radius of gyration (Rx) 0.688 in<sup>4</sup>  
 Gross moment of inertia (Iy) 0.024 in  
 Gross Radius of gyration (Ry) 0.491 in<sup>2</sup>

#### Effective Section Properties

Moment of inertia for deflection (Ixe) 0.043 in<sup>4</sup>  
 Section modulus (Sxe) 0.037 in<sup>3</sup>  
 Allowable bending moment (Ma) 1.220 in-lbs  
 Allowable bending moment (Ma-D) 1.17 in-k  
 (Vag) 539 lb  
 (Vanet) 150 lb  
 Fya 55 ksi

#### Torsional Properties

St. Venant torsion constant (J x 1000) 0.016 in<sup>4</sup>  
 Warping constant (Cw) 0.015 in<sup>6</sup>  
 Distance from shear center to neutral axis (Xo) -1.167 in  
 m 0.669 in  
 Radii of gyration (Ro) 1.441 in  
 Torsional flexural constant (Beta) 0.344  
 Unbraced Length (Lu) 25.1 in

### Section Properties



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## Limiting Heights Properties

### Non-Composite Limiting Heights - Fully Braced

Spacing (inches)	5psf			10psf		
	L/120	L/240	L/360	L/120	L/240	L/360
12	10'-8"	8'-7"	7'-6"	8'-4"	6'-9"	5'-11"
16	9'-7"	7'-9"	8'-4"	7'-6"	6'-2"	5'-5"
24	8'-4"	6'-9"	5'-11"	6'-3"	5'-4"	4'-8"

### Fully Braced Non-Composite Limiting Heights Table Notes

-Calculations are based on AISI Standard, North American Specification for the Design of Cold-Formed Steel Structural Members, 2016 edition (AISI S100-2016). All calculations are based on allowable strength design (ASD).

-When provided, factory punchouts will be located along the centerline of the webs of the members and will have a minimum center-to-center spacing of 24 inches. Punchouts for members > 2.5 inches deep are a maximum of 1.5 inches wide x 4 inches

long. Members with depths 2.5" and smaller are maximum 3/4" wide x 4 inches long.

-For deflection determination, use the effective moment of inertia.

-The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable local buckling moment,  $M_{a-L}$ .

-Tabulated gross and torsional properties are based on the full, unreduced section away from punchouts

-Effective X-X Axis properties of all stud and joist sections based on punched sections.

-Where section designations include a superscript '1', web height-to-thickness exceeds 200. Web stiffeners are required at all supports and concentrated loads.

-Where effective properties are not listed for a section, web depth-to-thickness or flange width-to-thickness limits from the AISI S100 are exceeded. Only gross properties are available.

-Allowable bending moment and moment of inertia for 6" studs based on the direct strength method (DSM).

## Additional Specification Information

Studs Unlimited is an SFIA member. Studs Unlimited acts in accordance with the product and quality standards required by the SFIA program.

Studs Unlimited meets or exceeds ASTM C955, A653, and A1003.

Prime Wall is owned by and licensed by MRI Steel Framing

## LEED Specification Information

**Materials & Resources Credit 2:** Construction Waste Management - Studs Unlimited Steel Framing Products are formed from steel and are 100% recyclable. **(1 point)**

**Materials & Resources Credit 4:** Recycled Content intends to increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials. As discussed and demonstrated below, North American steel building products contribute positively toward points under Credits 4.1 and 4.2. The following is required by LEED-NC Versions 2.2 and 2009:

**Credit 4.1 (1 point)** Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of pre-consumer content constitutes at least 10%(based on cost) of the total value of the materials in the project.

**Credit 4.2 (1 point)** Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of pre-consumer content constitutes at least 20% of the total value of the materials in the project.

**Materials & Resources Credit 5:** Regional Materials - Contact Studs Unlimited directly for information

Studs Unlimited is located in Oklahoma City, Oklahoma. **(1 point)**