

**Product Category:** 09.22.16 - Non-Structural Metal Framing

**Product Name:** 162PWS134-21 PrimeWall Stud 20 EQ

**Available Finish:** G40  
 (G60/G90 coatings available upon request)  
 \*Other standard coatings referenced in ASTM A1003

**Web Depth:** 1-5/8 in

**Flange Width:** 1-11/32 in

**Return Lip:** 0.250 in

**Design Thickness:** 0.0221 in

**Gauge:** 21 mils or 20 EQ

**Yield stress, Fy:** 55 ksi

**Weight:** 0.34 lb/ft

**Gross Section Properties**

Cross sectional area (A)	0.101 in <sup>2</sup>
Moment of inertia (I <sub>xx</sub> )	0.048 in <sup>4</sup>
Section Modulus (S <sub>xx</sub> )	0.059 in <sup>3</sup>
Radius of gyration (R <sub>x</sub> )	0.688 in
Gross moment of inertia (I <sub>yy</sub> )	0.024 in <sup>4</sup>
Gross Radius of gyration (R <sub>y</sub> )	0.491 in


**Effective Section Properties**

Moment of inertia for deflection (I <sub>xx</sub> )	0.043 in <sup>4</sup>
Section modulus (S <sub>xx</sub> )	0.037 in <sup>3</sup>
Allowable bending moment (M <sub>a-L</sub> )	1.220 In-k
Allowable bending moment from distortional buckling (M <sub>a-D</sub> )	1.17 In-k
Allowable strong axis shear away from punch-out (V <sub>ag</sub> )	539 lb
Allowable strong axis shear at punch out (V <sub>aNet</sub> )	150 lb

**Torsional Properties**

St. Venant torsion constant (J x 1000)	0.016 in <sup>4</sup>
Warping constant (C <sub>w</sub> )	0.015 in <sup>6</sup>
Distance from shear center to neutral axis (X <sub>o</sub> )	-1.167 in
Distance from shear center to mid-plane of web (m)	0.669 in
Radii of gyration (R <sub>o</sub> )	1.441 in
Torsional flexural constant (β)	0.344
Unbraced Length (L <sub>u</sub> )	25.1 in

**Interior Non-Structural, Non-Composite Wall Height 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<sub>a-L</sub>.
- 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).

**Non-Composite Limiting Heights – Fully Braced**

Spacing (inches)	5psf L/120	5psf L/240	5psf L/360	7.5psf L/120	7.5psf L/240	7.5psf L/360	10psf L/120	10psf L/240	10psf L/360
12	10' 8"	8' 7"	7' 6"	9' 2"	7' 5"	6' 6"	8' 4"	6' 9"	5' 11"
16	9' 7"	7' 9"	6' 9"	8' 4"	6' 9"	5' 11"	7' 6"	6' 2"	5' 5"
24	8' 4"	6' 9"	5' 11"	7' 2"	5' 11"	5' 2"	6' 3"	5' 4"	4' 8"

**Additional Information**

MRI Steel Framing, LLC is an SFIA member. MRI acts in accordance with the product and quality standards required by the SFIA program.

MRI meets or exceeds ASTM C645, C754, A653, and A1003.

Current LEED credits available upon request

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