



www.studsunlimited.com

Product Category: 092216 - Non-Structural Framing
Product Name: 600PWS134-21 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:

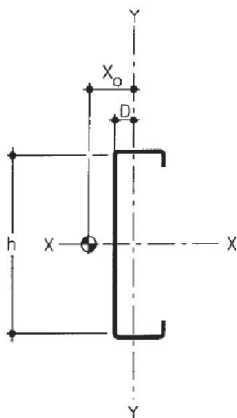
Distributor/Rep Information

Name:
Contact:
Phone:
Email /Web:

Properties

600PWS134-21 20GA EQ Properties

Finish: G40
Web Depth 6" in
Flange Width 1-11/32" in
Return Lip 0.406 in
Design Thickness 0.022 in
Yield stress, F_y 55 ksi
Weight 0.700 lb/ft



600PWS134-21 20GA EQ

Gross Section Properties

Cross sectional area (A) 0.204 in²
Moment of inertia (I_x) 1.02 in⁴
Section Modulus (S_x) 0.34 in³
Radius of gyration (R_x) 2.233 in
Gross moment of inertia (I_y) 0.044 in⁴
Gross Radius of gyration (R_y) 0.465 in

Effective Section Properties

Moment of inertia for deflection (I_{xe}) 0.689 in⁴
Section modulus (S_{xe}) 0.136 in³
Allowable bending moment (M_a) 4.490 in-lbs
Allowable bending moment (M_a-D) 5.94 in-k
(V_{ag}) 133 lb
(V_{anet}) 133 lb
 F_{ya} 55 ksi

Torsional Properties

St. Venant torsion constant (J x 1000) 0.033 in⁴
Warping constant (C_w) 0.033 in⁶
Distance from shear center to neutral axis (X_o) -0.813 in
m 0.523 in
Radii of gyration (R_o) 2.422 in
Torsional flexural constant (Beta) 0.857
Unbraced Length (L_u) 29.5 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	24'-5" e	20'-10" e	18'-2" e	17'-3" e	16'-6" e	14'-5" e
16	21'-2" e	18'-11" e	16'-6" e	15'-0" e	15'-0" e	13'-1" e
24	17'-3" e	16'-6" e	14'-5" e	12'-3" e	12'-3" e	11'-6" e

Composite Limiting Heights with 5/8" Type X Gypsum Board

Spacing (inches)	5psf			10psf		
	L/120	L/240	L/360	L/120	L/240	L/360
12	30'-3"	26'-9"	23'-5"	24'-2" f	21'-2"	18'-7"
16	27'-9"	24'-3"	21'-3"	20'-11" f	19'-3"	16'-10"
24	24'-2" f	21'-2"	18'-7"	17'-1" f	16'-10"	14'-7"

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)**