

Product Category: 09 22 16 - Non-Structural Framing
Product Name: 400S125-30

Project Information

Name:
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Contractor Information

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Architect Information

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Distributor/Rep Information

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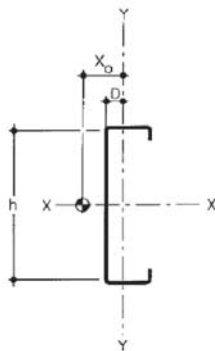
Important Properties Notes:

- Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members.
- Effective properties are based on steel conforming to ASTM A653, Type B
- Effective section properties incorporate the strength increase from cold working, per specification section A7.2.
- Gross section properties are based on the full-unreduced cross section of the member, away from any punchouts.
- For deflection calculations, use the effective moment of inertia.
- Shear capacities (V_a) are taken at locations away from stud punchouts.
- Allowable moments (M_a) are based on members being braced against rotation at 48" intervals, and on continuous lateral support of the compression flange.

Properties

400S125-30 Properties

Finish:	G90
Web Depth	4" in
Flange Width	1-1/4" in
Design Thickness	0.0312 in
Yield stress, F_y	33 ksi
Weight	0.700 lb/ft



400S125-30 Section Properties

Gross Section Properties

Cross sectional area (A)	0.206 in ²
Moment of inertia (I_x)	0.481 in ⁴
Radius of gyration (S_x)	0.240 in
Radius of gyration (R_x)	1.529 in ⁴
Gross moment of inertia (I_y)	0.034 in
Gross Radius of gyration (R_y)	0.409 In ²

Effective Section Properties

Moment of inertia for deflection (I_{xe})	0.435 in ⁴
Section modulus (S_{xe})	0.174 in ³
Allowable bending moment (M_a)	3.43 In-lbs
Allowable bending moment (M_a -D)	3.53 In-k
(V_{ag})	715 lb
(V_{anet})	484 lb
Y_{cg}	2.310 In
F_{ya}	33 ksi

Torsional Properties

St. Venant torsion constant ($J \times 1000$)	0.067 in ⁶
Warping constant (C_w)	0.108 in
Distance from shear center to neutral axis (X_o)	-0.742 in
m	0.467
Radii of gyration (R_o)	1.748
Torsional flexural constant (β)	0.820
Unbraced Length (L_u)	28.5

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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	21'-8"	17'-10"	15'-7"	14'-2"	12'-4"	10'-5"
16	18'-9"	16'-2"	14'-2"	12'-10"	11'-3"	9'-5"
24	15'-4"	14'-2"	12'-4"	10'-10"	9'-10"	8'-3"

Fully Braced Non-Composite Limiting Heights Table Notes

- All curtain wall studs above based on $F_y=33$ KSI.
- Lateral loads do not include 0.7 reduction for deflection.
- Loads shown have NOT been reduced for strength or deflection design; full load is considered.
- Limiting heights are based on no composite action.
- Cold-rolled channel (CRC) or other AISI approved lateral bracing is required at 4'-0" on center, max.
- Limiting heights may be controlled by moment or deflection.

Additional Specification Information

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.