

Product Category: 05 41 00 - Structural Framing Product Name: 400S162-97

#### **Important Properties Notes:**

• Calculated properties are based on AISI S100-12 with S2-10 Supplement, North American Specification for Design of Cold-Formed Steel Structural Members.

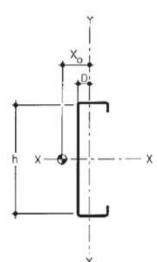
- The centerline bend radius is based on inside corner radii shown in thickness chart.
- Effective properties incorporate the strength
- cold work of forming as applicable per AISI A7.2.
- Tabulated gross properties are based on full-
- section of the studs, away from punchouts.
- For deflection calculations, use the effective
- Allowable moment includes cold-work of forming.
- For the steels that have both 33 and 50 ksi listing, if the design is based on 50 ksi, the 50 ksi steel needs to be

specified. (ex. 362S162-43 (50 ksi))

# **Properties**

### 400S162-97 Properties

Finish:	G60
Web Depth	4" in
Flange Width	1 5/8 in
Design Thickness	0.1017 in
Thickness	97 mils or 12GA
Yield stress, Fy	50 ksi
Weight	2.593 lb/ft



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# Project Information

Name: Address:

# Contractor Information Name:

Contact: Phone: Fax:

## Architect Information

Name: Contact: Phone: Fax:

# Distributor/Rep Information

Contact: Phone: Email /Web:

## 400S162-97 Section Properties

### **Gross Section Properties**

Cross sectional area (A)	0.762 in2
Moment of inertia (Ix)	1.813 In4
Section Modulus (Sx)	0.907 in3
Radius of gyration (Rx)	1.542 in
Gross moment of inertia (ly)	0.25 in4
Gross Radius of gyration (Ry)	0.572 in

### **Effective Section Properties**

Moment of inertia for deflection (lxe)	1.813 in4
Section modulus (Sxe)	0.907 in3
Allowable bending moment (Ma)	27.14 In-k
Allowable bending moment from	27.15 In-K
distortional buckling (Mad)	
Allowable strong axis shear away	6658 lb
from punch-out (Vag)	
Allowable strong axis shear at	1207 lb
punch out (Vanet)	

#### **Torsional Properties**

St. Venant torsion constant (J x 1000)	2.628 in4
Warping constant (Cw)	0.889 in6
Distance from shear center to neutral	-1.182 in
axis (Xo)	
Distance from shear center to	0.725 in
mid-plane (M)	
Radii of gyration (Ro)	2.026 in
Torsional flexural constant (Beta)	0.66
Unbraced Length (Lu)	34 in



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## **Limiting Heights Properties**

#### Limiting Wall Heights - Curtain Wall 1-Span

Spacing	5psf			15psf			20psf			25psf		
(inches)	L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	36'-2"	28'-9"	25'-1"	22'-5"	19'-7"	16'-6"	20'-4"	17'-9"	15'-0"	18'-11"	16'-6"	13'-11"
16	32'-10"	26'-1"	22'-9"	20'-4"	17'-9"	15'-0"	18'-6"	16'-2"	13'-7"	17'-2"	15'-0"	12'-8"
24	28'-9"	22'-9"	19'-11"	17'-9"	15'-6"	13'-1"	16'-2"	14'-1"	11'-11"	15'-0"	13'-1"	11'-0"

Spacing		30psf			35psf		40psf			50psf		
(inches)	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	17'-9"	15'-6"	13'-1"	16'-11"	14'-9"	12'-5"	16'-2"	14'-1"	11'-11"	15'-0"	13'-1"	11'-0"
16	16'-2"	14'-1"	11'-11"	15'-4"	13'-5"	11'-3"	14'-8"	12'-10"	10'-10"	13'-7"	11'-11"	10'-0"
24	14'-1"	12'-4"	10'-5"	13'-5"	11'-8"	9'-10"	12'-10"	11'-2"	9'-5"	11'-11"	10'-5"	8'-9"

#### **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.

#### **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 at bjpowell@studsunlimited.com. Studs Unlimited is located in Oklahoma City, Oklahoma. (1 point)