Spec Section 054000
2.3

Marino\WARE® Product Submittal Data

PRODUCT NAME: 600S162-54

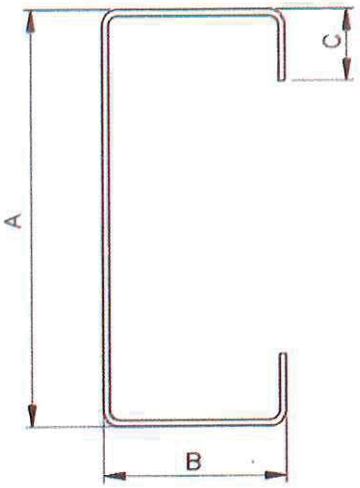
MARINO\WARE PART # 600SS16

05.40.00 Cold-Formed Metal Framing

PROPERTIES:

A. Web (in)	6"	**Yield Strength Fy (KSI)**	50
B. Flange (in)	1-5/8"	**Tensile Strength Fu (KSI)**	65
C. Lip (in)	1/2"	**Design Thickness (in)**	0.0566"
Mils	54	**Minimum Thickness (in)**	0.0538"
Available Finish	G60, G90	**Gauge**	16

STRUCTURAL STUD



SECTION PROPERTIES

GROSS SECTION PROPERTIES

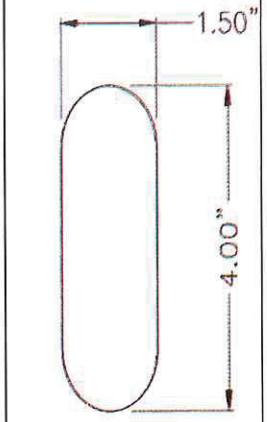
Cross Sectional Area: **A** (in^2)	0.556
Weight of Member: (lb/ft)	1.89
Moment of Inertia: **Ix** (in^4)	2.860
Section Modulus: **Sx** (in^3)	0.953
Radius of Gyration: **Rx** (in)	2.267
Gross Moment of Inertia: **Iy** (in^4)	0.180
Gross Radius of Gyration: **Ry** (in)	0.570

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: **Ixe** (in^4)	2.86
Section Modulus: **Sxe** (in^3)	0.92
Allowable Bending Moment: **Ma** (in-k)	30.33*
Allowable strong axis shear away from punch: **Vag** (lb)	2823
Allowable strong axis shear at punch: **Vanet** (lb)	1947

** Allowable Bending Moment includes cold work of forming*

Punchout



TORSIONAL SECTION PROPERTIES

St. Venant Torsional Constant: **Jx1000** (in^4)	0.594
Torsional Warping Constant: **Cw** (in^6)	1.337
Shear Center to Centroid on Principal X-axis: **Xo** (in)	-1.049
Shear Center to Mid-Plane of the Web: **m** (in)	0.663
Radius of Gyration on the Centroid Principal axis: **Ro** (in)	2.562
Torsional Flexural Constant: **β** $1-(xo/Ro)^2$	0.832

CODES & STANDARDS

- AISI North American Specification 2001 with 2004 Supplement
- Framing meets ASTM A 1003, A 653, & C 955

GREEN INFO LEED® v3

Available LEED® points in the following categories:

- MR Credit 2 - Construction Waste Management (1-2 points)
- MR Credit 4 - Recycled Content (1-2 points)
- MR Credit 5 - Regional Materials (1-2 points)

- Total Recycled Content: 34.9%
- Post Consumer Content: 24.3%
- Pre Consumer (Post Industrial) Content: 9.4%

MARINO\WARE
www.marinoware.com

For more information, please contact Marino\WARE Technical Services at 866-545-1545.

This technical information reflects the most current information available and supersedes any and all publications, effective 12/1/2010
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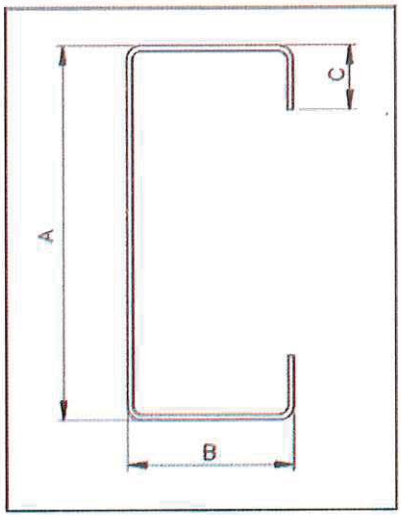
Spec Section 054000
2.3

PRODUCT CODE: 600S162-54

GEOMETRIC PROPERTIES

Web (A):	6.000	**Yield Strength (KSI):**	50
Flange (B):	1.625	**Design Thickness (in):**	0.0566
Return Lip (C):	0.500	**Minimum Thickness (in):**	0.0538
Available Coating Weight:	CP60 CP90	**Gauge:**	16 Ga

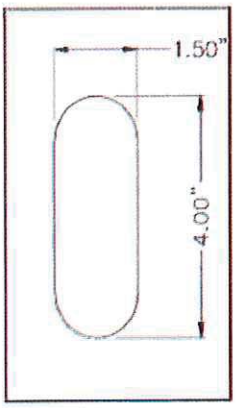


GROSS SECTION PROPERTIES

Weight of Member: **Weight (lb/ft)**	1.89
Cross Sectional Area: **Area (in^2)**	0.556
Moment of Inertia about the X-X axis: **I_{xx}(in^4)**	2.860
Radius of Gyration: **R_x(in)**	2.267
Moment of Inertia about the Y-Y axis: **Iyy (in^4)**	0.180
Gross Radius of Gyration: **R_y(in)**	0.570

EFFECTIVE SECTION PROPERTIES

Effective Moment of Inertia about the X-X axis: **Ixd(in^4)**	2.860
Effective Section Modulus about the X-X axis: **Sxe(in^3)**	0.916
Allowable Moment at yield Based on Local Buckling: **M_{a-L}(in-k)**	30.33
Allowable Moment Based on Distorional Buckling: **M_{a-D}(in-k)**	25.90
Critical Value of Rotational Stiffness: **K_{fc}in-lb/in)**	396.6
Allowable Strong Axis Shear away from Punchouts: **V_{sg}(lb)**	2823
Allowable Strong Axis Shear at a Punchout: **V_{aNet}(lb)**	1947



TORSIONAL PROPERTIES

St. Venant Torsional Constant **Jx1000 (in^4)**	0.594
Torsional Warping Constant: **C_w(in^6)**	1.337
Distance from Shear Center to the mid-plane of the Web: **X_o(in)**	-1.049
Distance from Shear Center to the centroid along the Principal X-axis: **m (in)**	0.663
Polar Radius of Gyration about the Centroidal Principal Axis: **R_o(in)**	2.562
Beta: **$1-(X_o/R_o)^2$**	0.832
Longest Weak Axis (Iy) and Torsional (Lt) Unbraced Length: **Lu (in)**	31.4

NOTES

Section property symbols match those utilized in the Telling Product Technical Data Catalogs Except as noted below
- **Sx(C) For shaftwall studs - Section modulus referenced to the 'C' flange**
- **Sx(T) For shaftwall studs - Section modulus referenced to the 'T' flange**
- **Ta For flat strap, allowable tension.**

CODES & STANDARDS
- **AISI North American Specification [NASPEC] S100-07 with 2010 supplement.**
- **IBC 2006, 2009 & 2012 Compliant**
- **Structural framing is produced to meet or exceed ASTM C955, A653, and A1003.**
- **For installation & storage refer to ASTM C1007**
- **Structural Framing Third Party Code Evaluation Reports: ICC-ESR #3016**
- **Member of the Certified Steel Stud Association**

Green Benefits and Recycled Content

LEED® Credit MR 2 – Telling Industries products are manufactured from cold-formed steel. Steel is 100% recyclable, which helps to divert debris from the waste stream.
- **MR Credit 2 - Construction Waste Management (1-2 points)**

LEED® Credit MR 4 – Telling Industries products have a minimum recycled content of 34.9%, of which 24.3% is post-consumer, and 9.4% is pre-consumer.
- **MR Credit 4 - Recycled Content (1-2 points)**

LEED® Credit MR 5 – If you wish to report a higher number for your project or seek Credit MR5 please call 1-866-FRAME-TI (372-6384), or visit www.BuildStrong.com
- **MR Credit 5 – Regional Materials (1-2 points)**

For more information, please contact Telling Industries Technical Services at 1-866-372-6384.

MARINO WARE®

Submittal Information

Job Info:
WEBSTER

Date: 10/07/16

GC:

Re-submittal of Spec 2.4 D 1 per previously rejected section.

Contractor:

Architect:

Distributor:

Marino\WARE®
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400 Metuchen Rd.
South Plainfield, NJ 07080
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F: 908.412.1442

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Georgia Plant
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200-McDonough, GA 30253
P: 800.504.8199
F: 678.688.1379

Marino\WARE®
Indiana Plant
4245 Railroad Ave.
East Chicago, IN 46312
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F: 219.378.7106

Marino\WARE®
Texas Plant
10101 Bay Area Blvd.
Pasadena, TX 77507
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F: 281.283.8105

Marino\WARE®
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Amityville, NY 11701
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F: 631.691.1492

Marino\WARE®
Engineering Office
200 Business Center Drive
Stockbridge, GA 30281
P: 866-545-1545
F: 770.507.2605

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

DEVIN D GATES
SUBMITTED BY

054000-007 REV 1	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
	054000
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY ○ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ○ Shop Drawings
- ○ Samples (_____ copies)
- ○ LEED Submittal
- ○ Certification / Qualifications
- ◉ Record Documents
- ○ Product Data
- ○ Coordination Drawing
- ○ Calculations
- ○ Schedules
- ○ O&M Manuals
- ○ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ○ Information Only ○ Record

REMARKS OR DEVIATIONS

Revised track

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

DEVIN D GATES	10/11/16
REVIEWED BY	DATE

To be completed by Reviewer

05 4000-007
CANNON DESIGN SUBMITTAL NUMBER

10/11/16
RECEIVED DATE

- ◉ **A. No Exceptions Taken**
  No further review of submittal is required.
- ○ **B. Make Corrections Noted**
  Incorporate corrections in work; resubmission is not required.
- ○ **C. Revise and Resubmit**
  Revise as noted, and resubmit for review.
- ○ **D. Rejected**
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ○ **E. For Record / Information Only**
  Submittal was reviewed for Record / Information purposes only.
- ○ **F. Not Required for Review**
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ○ See attached sheet(s) for additional comments

Kathy Williams	10/12/16
REVIEWED BY	DATE