

# Marino\WARE® Product Submittal Data

**PRODUCT NAME:** Viper20 (162VT200-18)

**MARINO\WARE PART #** 158VT218

## PROPERTIES:

<b>A. Web (in)</b>	1-5/8	<b>Yield Strength Fy (KSI)</b>	70
<b>B. Leg (in)</b>	2	<b>Design Thickness (in)</b>	0.0190
<b>Mils</b>	18	<b>Minimum Thickness (in)</b>	0.0181
<b>Finish</b>	G60	<b>Gauge EQ</b>	20 DW

## SECTION PROPERTIES

### GROSS SECTION PROPERTIES

Weight of Member: <b>(lb/ft)</b>	0.3575
Cross Sectional Area: <b>A (in<sup>2</sup>)</b>	0.1052
Moment of Inertia: <b>Ix (in<sup>4</sup>)</b>	0.0487
Section Modulus about the X-axis: <b>Sx (in<sup>3</sup>)</b>	0.0612
Radius of Gyration: <b>Rx (in)</b>	0.6807
Gross Moment of Inertia: <b>Iy (in<sup>4</sup>)</b>	0.0453
Section Modulus about the Y-axis: <b>Sy (in<sup>3</sup>)</b>	0.0357
Gross Radius of Gyration: <b>Ry (in)</b>	0.6563

### EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: <b>Ixd (in<sup>4</sup>)</b>	0.0199
Section Modulus: <b>Sxe (in<sup>3</sup>)</b>	0.0170
Allowable Moment: <b>Ma (in-k)</b>	0.5948

### TORSIONAL PROPERTIES

Shear Center to Centroid on Principal X-axis: <b>Xo (in)</b>	-1.5910
St. Venant Torsional Constant: <b>Jx10<sup>3</sup> (in<sup>4</sup>)</b>	0.0013
Torsional Warping Constant: <b>Cw (in<sup>6</sup>)</b>	0.0222
Radius of Gyration on the Centroid Principal axis: <b>ro (in)</b>	1.8507
Torsional Flexural Constant: <b>β=1-(xo/ro)<sup>2</sup></b>	0.4267

## CODES & STANDARDS

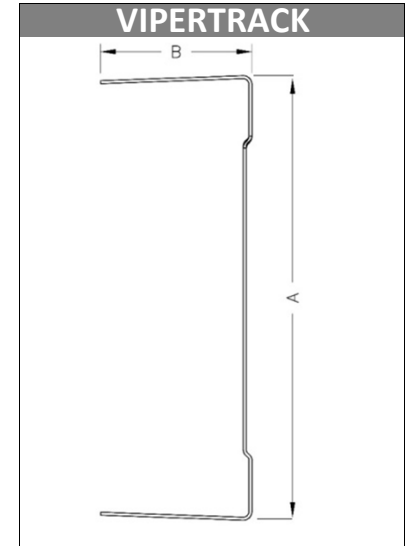
- Meets IBC 2009, 2012, 2015 & FBC 2017
- Meets or tested to: ASTM C 645, C 754, E 90, E 119 & AISI S220-11
- Galvanized steel sheet meets ASTM A 1003 & A 653
- Third Party Code Evaluation Report: ICC ES ESR#2620
- Multiple Fire Rated Assemblies

## GREEN INFO

- LEED v3 & LEED v4 credits available
- Contact Technical Services for more information.



09.22.16 Non-Structural Metal Stud



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 1/30/2018.

©Copyright 2018 by Ware Industries, Inc. All rights reserved