



# Receiver Channel Brochure

## Red Iron

# Information

## Members

The members represented in this publication are typically produced in G60, grade 50 cold formed steel. G90 is available upon request but may require longer lead times.

## Documentation

This document is subject to change without notice. Please contact B&M Metals to make sure that you have the latest edition of this document.

## Service Holes

Service holes in studs can be punched upon request. In the event that spacing for the service holes is not specified, they will be punched on 3 foot centers. Please contact B&M Metals for custom hole spacing or more details.

# Red Iron Disclaimer

Use with product tables, details, and preliminary estimating only

## 1. Scope / Intended Use

- Reference use only. This brochure is a general product reference for preliminary review, estimating, and coordination. It is not a sealed design package.
- Engineer verification required. All spans, reactions, member adequacy, deflection, stability, bracing, connections, anchorage, and foundation requirements shall be verified by a licensed Professional Engineer in the project jurisdiction.
- Project-specific conditions govern. Final member selection depends on actual loads, unbraced length, end conditions, diaphragm action, serviceability limits, and governing code requirements.

## 2. Design / Fabrication

- Codes and standards. Verify design using the governing code and applicable standards, including current editions of AISC 360, ASCE/SEI 7, and MBMA references where applicable.
- Material and availability. Dimensions, grades, coatings, lengths, hole patterns, finishes, tolerances, and availability may vary by mill, supplier, and production schedule. Specifications are subject to change without notice.
- Fabrication and field changes. Shop drawings, weld procedures, bolt selection, detailing, substitutions, and field modifications must be reviewed and approved by the Engineer of Record before use.

## 3. Liability / Revision Control

- No warranty of fitness for design. Listed members and properties are provided without guarantee that they satisfy a specific building, loading case, or code condition.
- Tolerance / liability limitation. Sweep, camber, twist, finish variation, and minor dimensional variation may occur within accepted manufacturing tolerances.
- Confirm latest revision. Verify the latest brochure revision and current project criteria before ordering, engineering, or installation. Contact B&M Metals for updated data or project-specific support.

## Suggested Reference Standards

- AISC 360-22 - Structural steel design
- ASCE/SEI 7-22 - Design loads
- MBMA Metal Building Systems Manual - 2024
- Applicable ASTM material specs per project documents

## Other Notes

- Member weights and section properties are nominal unless noted otherwise.
- Connection details shown elsewhere are conceptual unless sealed by the Engineer of Record.
- Do not scale drawings. Use written dimensions only.
- Contact B&M Metals for updated data, custom members, or project support.

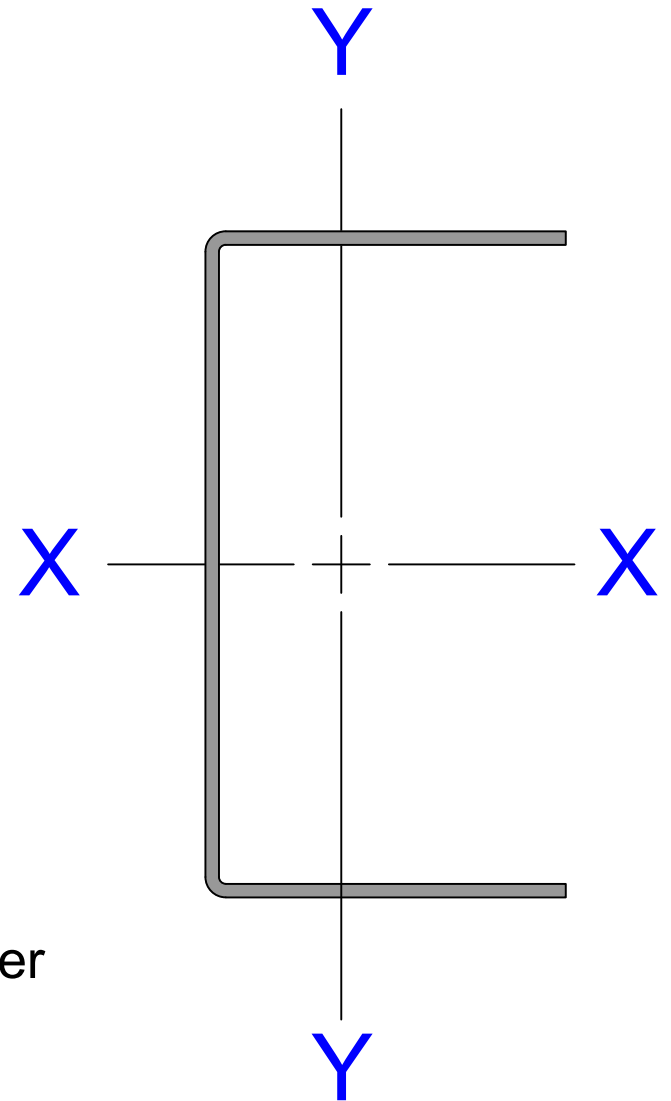
# Quick Reference

## Gross Properties

- I Moment of inertia of cross section about X,Y
- S Section modulus about X,Y
- r Radius of gyration of cross section about X,Y

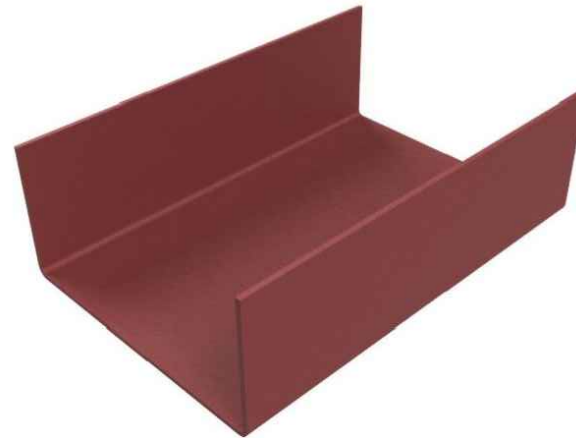
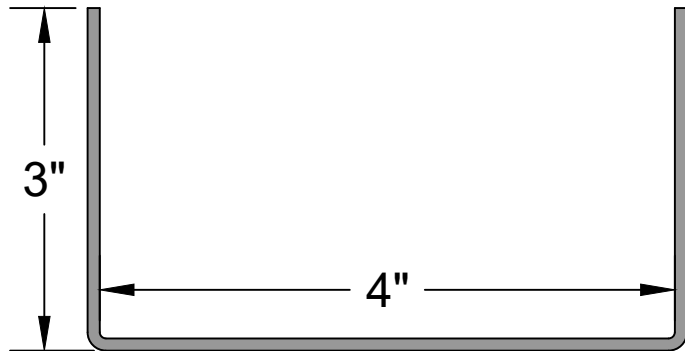
## Effective Properties

- J Torsional Constant
- C<sub>w</sub> Warping Constant
- X<sub>o</sub> Shear Center Location
- R<sub>o</sub> Polar Radius of Gyration about the shear center
- β Monosymmetry Constant



# Steel Members Documentation

## 4" Receiver Channel



6195 Hwy 52 East  
Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147

### Member specs and limits

Name: 400T300`  
Depth: 4"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

### Name Breakdown

1050L162 - 43

Depth in Inches: 1050 = 10.50`  
Member Key: L  
Flange Height: 162 = 1.625`  
Mill Thickness: 43

### Member Key

S = Stud (C Shaped)  
L = Lintel (L Shaped)  
T = Track (U Shaped)  
W = I-Beam (I Shaped)  
E = Eave Strut (C Shaped)  
D = Double Eave Strut  
A = Angle (2 Legs, 1 Angle)  
F = Hat (Top Hat Shaped)  
B = Box (Rectangle Shaped)  
Fl = Strap/Flat (Flat Shaped)  
Z = Zee (Z Shaped)

### Mill - Gauge      Bend Radius

25 mill = 24 gauge      .0764  
30 mill = 22 gauge      .0796  
33 mill = 20 gauge      .0764  
43 mill = 18 gauge      .0712  
54 mill = 16 gauge      .0849  
68 mill = 14 gauge      .1069  
97 mill = 12 gauge      .1325

\* All members shown in 14 gauge to show detail

| Member Name | Gross Properties (x) |     |       |        |       | Gross Properties (y) |       |       | Torsional Properties |       |       |         |       |       |       |       |
|-------------|----------------------|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|---------|-------|-------|-------|-------|
|             | G                    | ksi | Area  | Weight | Width | lx                   | Sx    | rx    | ly                   | Sy    | ry    | J       | Cw    | Xo    | Ro    | β     |
| 400T200-54  | 16                   | 50  | 0.443 | 1.508  | 7.77  | 0.848                | 0.424 | 1.383 | 0.098                | 0.064 | 0.470 | 0.00048 | 0.476 | 0.957 | 1.747 | 0.700 |
| 400T200-68  | 14                   | 50  | 0.555 | 1.890  | 7.71  | 1.050                | 0.525 | 1.375 | 0.119                | 0.077 | 0.462 | 0.00096 | 0.584 | 0.946 | 1.732 | 0.702 |
| 400T200-97  | 12                   | 50  | 0.753 | 2.562  | 7.60  | 1.393                | 0.696 | 1.360 | 0.150                | 0.097 | 0.447 | 0.00246 | 0.761 | 0.926 | 1.705 | 0.705 |

400T300

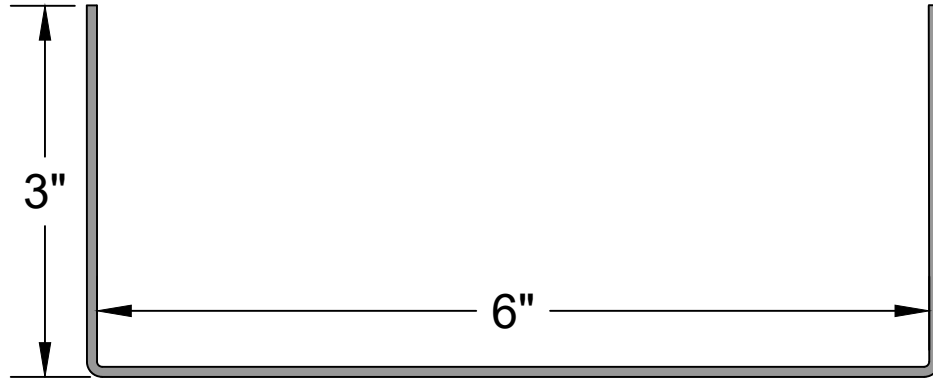
\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request

# Steel Members Documentation

## 6" Receiver Channel



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Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147



### Member specs and limits

Name: 600T300  
Depth: 6"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

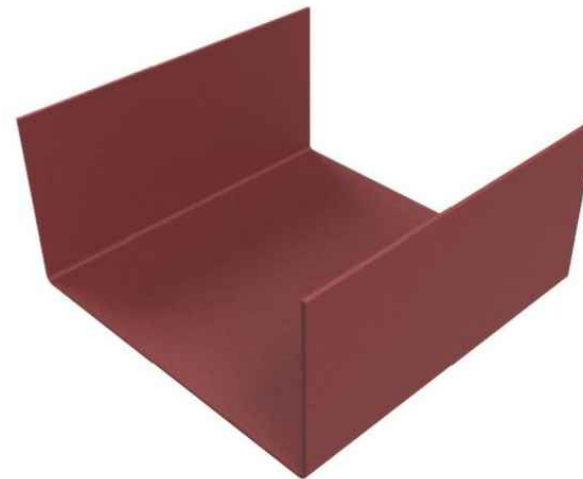
### Name Breakdown

1050L162 - 43

Depth in Inches: 1050 = 10.50"  
Member Key  
Flange Height: 162 = 1.625"  
Mill Thickness: 43

### Member Key

S = Stud (C Shaped)  
L = Lintel (L Shaped)  
T = Track (U Shaped)  
W = I-Beam (I Shaped)  
E = Eave Strut (C Shaped)  
D = Double Eave Strut  
A = Angle (2 Legs, 1 Angle)  
F = Hat (Top Hat Shaped)  
B = Box (Rectangle Shaped)  
FI = Strap/Flat (Flat Shaped)  
Z = Zee (Z Shaped)



\* All members shown in 14 gauge to show detail

| Member Name | G  | ksi | Area  | Weight | Width | Gross Properties (x) |       |       | Gross Properties (y) |       |       | Torsional Properties |       |       |       |       |
|-------------|----|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|----------------------|-------|-------|-------|-------|
|             |    |     |       |        |       | lx                   | Sx    | rx    | ly                   | Sy    | ry    | J                    | Cw    | Xo    | Ro    | β     |
| 600T200-54  | 16 | 50  | 0.557 | 1.896  | 9.77  | 1.927                | 0.642 | 1.860 | 0.118                | 0.073 | 0.461 | 0.00060              | 1.239 | 0.957 | 2.142 | 0.800 |
| 600T200-68  | 14 | 50  | 0.699 | 2.380  | 9.71  | 2.392                | 0.797 | 1.850 | 0.143                | 0.088 | 0.453 | 0.00121              | 1.524 | 0.946 | 2.126 | 0.802 |
| 600T200-97  | 12 | 50  | 0.951 | 3.236  | 9.60  | 3.189                | 1.063 | 1.831 | 0.182                | 0.111 | 0.438 | 0.00311              | 1.996 | 0.926 | 2.098 | 0.805 |

### Mill - Gauge Bend Radius

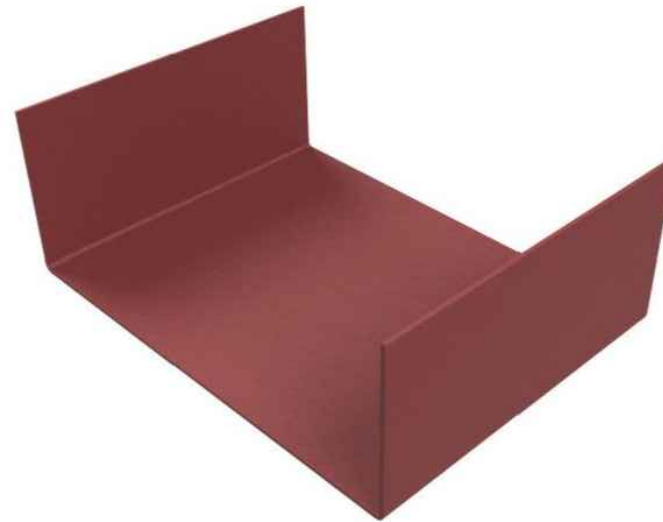
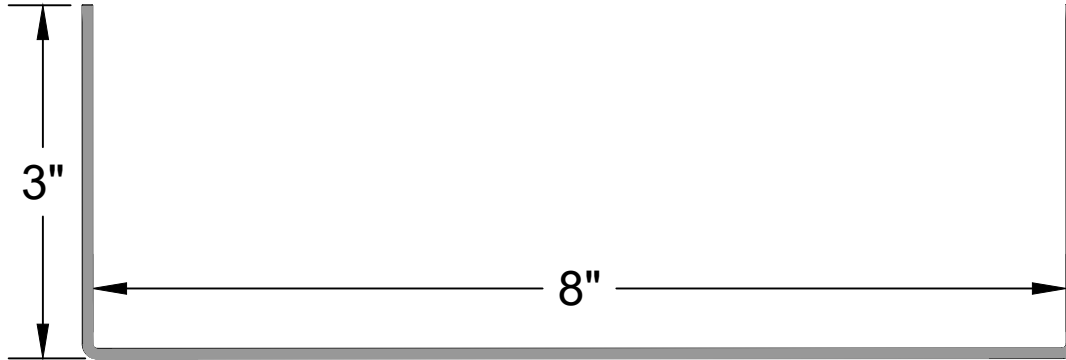
25 mill = 24 gauge .0764  
30 mill = 22 gauge .0796  
33 mill = 20 gauge .0764  
43 mill = 18 gauge .0712  
54 mill = 16 gauge .0849  
68 mill = 14 gauge .1069  
97 mill = 12 gauge .1325

600T300

\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request

# Steel Members Documentation

## 8" Receiver Channel



6195 Hwy 52 East  
Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147

### Member specs and limits

Name: 800T300  
Depth: 8.187"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

### Name Breakdown

1050L162 - 43

Depth in Inches: 1050 = 10.50"  
Member Key: L  
Flange Height: 162 = 1.625"  
Mill Thickness: 43

### Member Key

S = Stud (C Shaped)  
L = Lintel (L Shaped)  
T = Track (U Shaped)  
W = I-Beam (I Shaped)  
E = Eave Strut (C Shaped)  
D = Double Eave Strut  
A = Angle (2 Legs, 1 Angle)  
F = Hat (Top Hat Shaped)  
B = Box (Rectangle Shaped)  
Fl = Strap/Flat (Flat Shaped)  
Z = Zee (Z Shaped)

### Mill - Gauge      Bend Radius

25 mill = 24 gauge      .0764  
30 mill = 22 gauge      .0796  
33 mill = 20 gauge      .0764  
43 mill = 18 gauge      .0712  
54 mill = 16 gauge      .0849  
68 mill = 14 gauge      .1069  
97 mill = 12 gauge      .1325

\* All members shown in 14 gauge to show detail

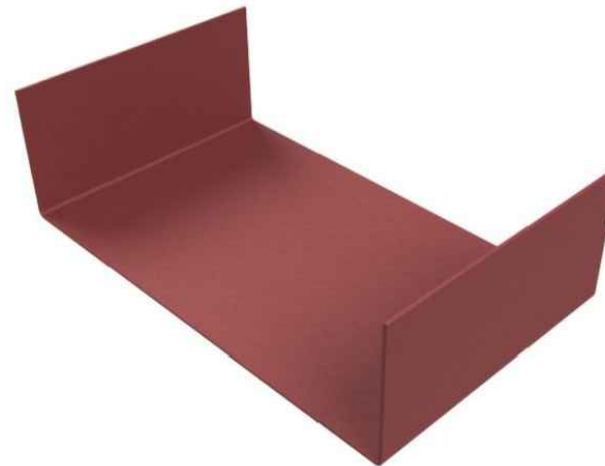
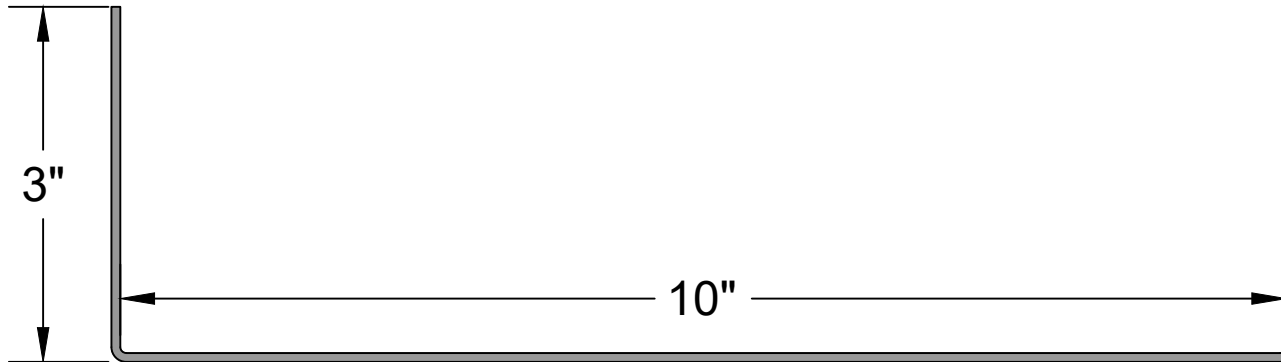
| Member Name | Gross Properties (x) |     |       |        |       | Gross Properties (y) |       |       | Torsional Properties |       |       |         |       |       |       |       |
|-------------|----------------------|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|---------|-------|-------|-------|-------|
|             | G                    | ksi | Area  | Weight | Width | Ix                   | Sx    | rx    | Iy                   | Sy    | ry    | J       | Cw    | Xo    | Ro    | β     |
| 800T200-54  | 16                   | 50  | 0.671 | 2.284  | 11.77 | 3.442                | 0.860 | 2.265 | 0.131                | 0.078 | 0.443 | 0.00073 | 2.435 | 0.957 | 2.498 | 0.853 |
| 800T200-68  | 14                   | 50  | 0.843 | 2.870  | 11.71 | 4.280                | 1.070 | 2.253 | 0.159                | 0.094 | 0.435 | 0.00146 | 3.000 | 0.946 | 2.482 | 0.855 |
| 800T200-97  | 12                   | 50  | 1.149 | 3.910  | 11.60 | 5.717                | 1.429 | 2.231 | 0.203                | 0.119 | 0.420 | 0.00375 | 3.941 | 0.926 | 2.452 | 0.857 |

800T300

\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request

# Steel Members Documentation

## 10" Receiver Channel



6195 Hwy 52 East  
Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147

### Member specs and limits

Name: 1000T300  
Depth: 10"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

### Name Breakdown

**1050L162 - 43**

Depth in Inches: 1050 = 10.50"  
Member Key: L  
Flange Height: 162 = 1.625"  
Mill Thickness: 43

### Member Key

- S** = Stud (C Shaped)
- L** = Lintel (L Shaped)
- T** = Track (U Shaped)
- W** = I-Beam (I Shaped)
- E** = Eave Strut (C Shaped)
- D** = Double Eave Strut
- A** = Angle (2 Legs, 1 Angle)
- F** = Hat (Top Hat Shaped)
- B** = Box (Rectangle Shaped)
- Fl** = Strap/Flat (Flat Shaped)
- Z** = Zee (Z Shaped)

\* All members shown in 14 gauge to show detail

| Member Name | G  | ksi | Area  | Weight | Width | Gross Properties (x) |       |       | Gross Properties (y) |       |       | Torsional Properties |       |       |       |       |
|-------------|----|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|----------------------|-------|-------|-------|-------|
|             |    |     |       |        |       | lx                   | Sx    | rx    | ly                   | Sy    | ry    | J                    | Cw    | Xo    | Ro    | β     |
| 1000T300-54 | 16 | 50  | 0.785 | 2.672  | 13.77 | 5.393                | 1.079 | 2.621 | 0.141                | 0.081 | 0.424 | 0.00085              | 4.101 | 0.957 | 2.822 | 0.885 |
| 1000T300-68 | 14 | 50  | 0.987 | 3.360  | 13.71 | 6.712                | 1.342 | 2.607 | 0.171                | 0.098 | 0.416 | 0.00171              | 5.055 | 0.946 | 2.805 | 0.886 |
| 1000T300-97 | 12 | 50  | 1.347 | 4.583  | 13.60 | 8.980                | 1.796 | 2.582 | 0.218                | 0.124 | 0.402 | 0.00440              | 6.651 | 0.926 | 2.772 | 0.889 |

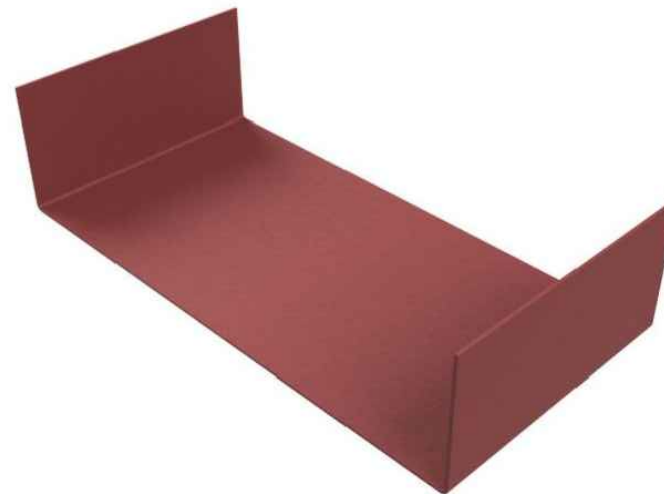
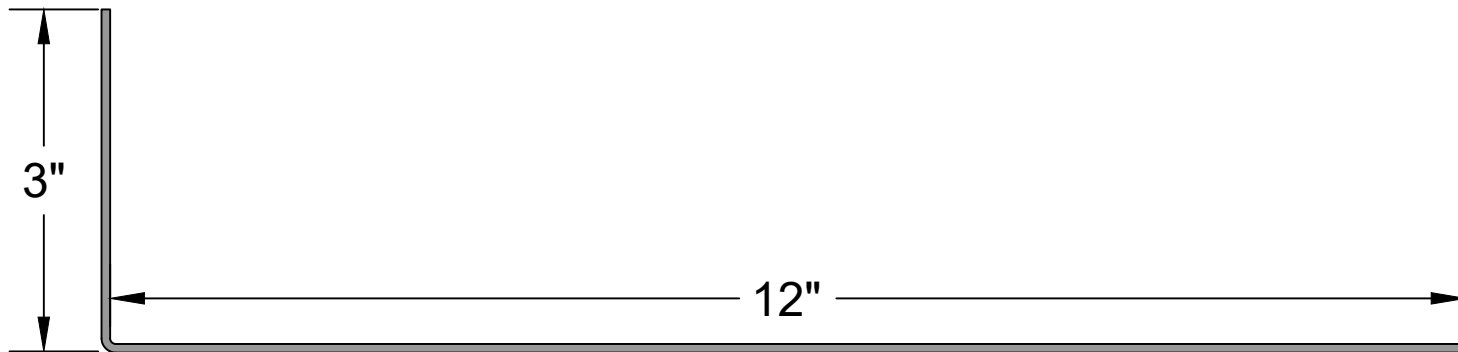
| Mill - Gauge       | Bend Radius |
|--------------------|-------------|
| 25 mill = 24 gauge | .0764       |
| 30 mill = 22 gauge | .0796       |
| 33 mill = 20 gauge | .0764       |
| 43 mill = 18 gauge | .0712       |
| 54 mill = 16 gauge | .0849       |
| 68 mill = 14 gauge | .1069       |
| 97 mill = 12 gauge | .1325       |

1000T300

\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request

# Steel Members Documentation

## 12" Receiver Channel



6195 Hwy 52 East  
Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147

### Member specs and limits

Name: 1200T300  
Depth: 12"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

### Name Breakdown

**1050L162 - 43**

Depth in Inches: 1050 = 10.50"  
Member Key: L  
Flange Height: 162 = 1.625"  
Mill Thickness: 43

### Member Key

- S** = Stud (C Shaped)
- L** = Lintel (L Shaped)
- T** = Track (U Shaped)
- W** = I-Beam (I Shaped)
- E** = Eave Strut (C Shaped)
- D** = Double Eave Strut
- A** = Angle (2 Legs, 1 Angle)
- F** = Hat (Top Hat Shaped)
- B** = Box (Rectangle Shaped)
- Fl** = Strap/Flat (Flat Shaped)
- Z** = Zee (Z Shaped)

### Mill - Gauge      Bend Radius

|                    |       |
|--------------------|-------|
| 25 mill = 24 gauge | .0764 |
| 30 mill = 22 gauge | .0796 |
| 33 mill = 20 gauge | .0764 |
| 43 mill = 18 gauge | .0712 |
| 54 mill = 16 gauge | .0849 |
| 68 mill = 14 gauge | .1069 |
| 97 mill = 12 gauge | .1325 |

\* All members shown in 14 gauge to show detail

| Member Name | Gross Properties (x) |     |       |        |       | Gross Properties (y) |       |       | Torsional Properties |       |       |         |       |       |       |       |
|-------------|----------------------|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|---------|-------|-------|-------|-------|
|             | G                    | ksi | Area  | Weight | Width | Ix                   | Sx    | rx    | Iy                   | Sy    | ry    | J       | Cw    | Xo    | Ro    | β     |
| 1200T300-54 | 16                   | 50  | 1.013 | 3.447  | 17.77 | 11.85                | 1.974 | 3.420 | 0.466                | 0.185 | 0.679 | 0.00110 | 19.09 | 1.457 | 3.779 | 0.851 |
| 1200T300-68 | 14                   | 50  | 1.275 | 4.340  | 17.71 | 14.81                | 2.468 | 3.408 | 0.574                | 0.227 | 0.671 | 0.00220 | 23.71 | 1.446 | 3.762 | 0.852 |
| 1200T300-97 | 12                   | 50  | 1.743 | 5.931  | 17.60 | 19.99                | 3.331 | 3.386 | 0.752                | 0.296 | 0.657 | 0.00569 | 31.64 | 1.426 | 3.733 | 0.854 |

# 1200T300

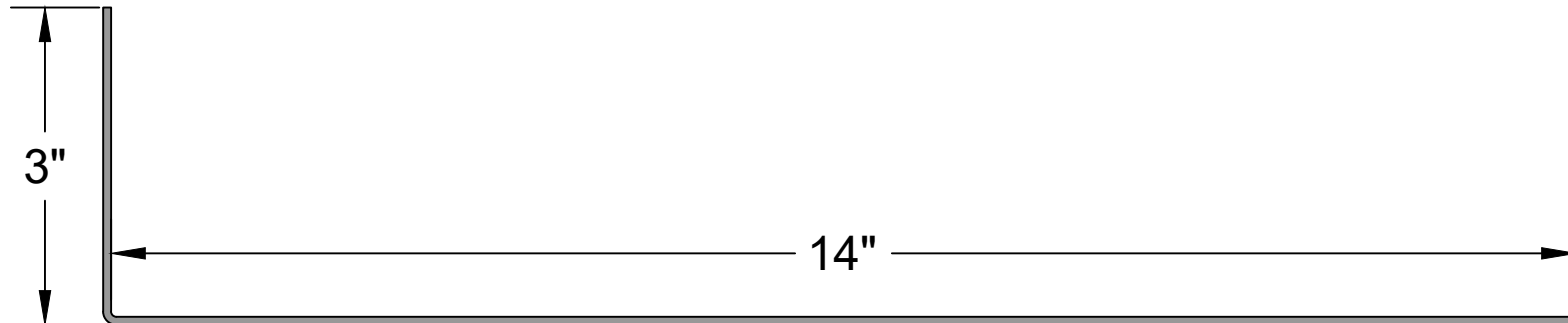
\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request

# Steel Members Documentation

## 14" Receiver Channel



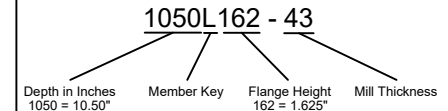
6195 Hwy 52 East  
Murrayville GA, 30564  
[www.BMMetals.com](http://www.BMMetals.com)  
Office: (706) 864-6068  
Fax: (706) 864-2147



### Member specs and limits

Name: 1400T300  
Depth: 14"  
Flange: 3"  
Lip: 0"  
Lengths: 6' - 60'  
Gauges: 16, 14, 12

### Name Breakdown



### Member Key

- S = Stud (C Shaped)
- L = Lintel (L Shaped)
- T = Track (U Shaped)
- W = I-Beam (I Shaped)
- E = Eave Strut (C Shaped)
- D = Double Eave Strut
- A = Angle (2 Legs, 1 Angle)
- F = Hat (Top Hat Shaped)
- B = Box (Rectangle Shaped)
- Fl = Strap/Flat (Flat Shaped)
- Z = Zee (Z Shaped)



\* All members shown in 14 gauge to show detail

| Member Name | G  | ksi | Area  | Weight | Width | Gross Properties (x) |       |       | Gross Properties (y) |       |       | Torsional Properties |       |       |       |       |
|-------------|----|-----|-------|--------|-------|----------------------|-------|-------|----------------------|-------|-------|----------------------|-------|-------|-------|-------|
|             |    |     |       |        |       | lx                   | Sx    | rx    | ly                   | Sy    | ry    | J                    | Cw    | Xo    | Ro    | β     |
| 1400T300-54 | 16 | 50  | 1.127 | 3.835  | 19.77 | 16.15                | 2.307 | 3.785 | 0.490                | 0.191 | 0.659 | 0.00122              | 27.35 | 1.457 | 4.109 | 0.874 |
| 1400T300-68 | 14 | 50  | 1.419 | 4.830  | 19.71 | 20.19                | 2.885 | 3.772 | 0.603                | 0.234 | 0.652 | 0.00245              | 33.99 | 1.446 | 4.092 | 0.875 |
| 1400T300-97 | 12 | 50  | 1.941 | 6.605  | 19.60 | 27.27                | 3.896 | 3.748 | 0.790                | 0.306 | 0.638 | 0.00634              | 45.38 | 1.426 | 4.061 | 0.877 |

| Mill - Gauge       | Bend Radius |
|--------------------|-------------|
| 25 mill = 24 gauge | .0764       |
| 30 mill = 22 gauge | .0796       |
| 33 mill = 20 gauge | .0764       |
| 43 mill = 18 gauge | .0712       |
| 54 mill = 16 gauge | .0849       |
| 68 mill = 14 gauge | .1069       |
| 97 mill = 12 gauge | .1325       |

# 1400T300

\*All calculations should be verified by licensed Engineer  
\*\* Full Sectional properties available upon request