



STRUCTURAL FRAMING PRODUCTS



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Doral, FL 33166
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2018

STEEL FRAMING INDUSTRY ASSOCIATION

CODE COMPLIANCE CERTIFICATION PROGRAM

NOTICE OF COMPLIANCE CERTIFICATION

Structural and Nonstructural

Cold-Formed Framing Products

ISSUED To: Clar Company
MANUFACTURING 1325 NW 78th Avenue, Suite 101
LOCATION: Doral, Florida 33126

This facility is hereby authorized to certify structural and nonstructural cold-formed steel framing produced at the above listed location in accordance with the SFIA Code Compliance Certification Program. Application of certification labels may begin immediately. Application of labels shall be permitted as long as the manufacturing location listed above satisfies the certification program requirements and retains its compliance certification.

DATE OF ISSUANCE: January 1, 2018

AUTHORIZED BY:

Holly Melling
Digitally Signed by Holly Melling

Holly Mellinger

Program Manager
Intertek

*Current certification may be verified by visiting the web listing of certified facilities at
<http://www.intertek.com/building/sfia>*



Warranty & limitations

All products presented herein are warranted to the buyer to be free from defects in material and workmanship. The foregoing warranty is non-assignable and in lieu of and excludes all other warranties not expressly set forth herein, whether express or implied by operation of law or otherwise, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. All details and specifications presented herein are intended as a general guide for the use of Clar Company products. These products should not be used without evaluation by a qualified engineer or architect to determine their suitability for a specific use.

Clar Company assumes no responsibility for failure resulting from use of its details or specifications, or for failure resulting from improper application or installation of these products.



For more information, please contact Clar Company at 305.477.3032

This technical information reflects the most current information available and supersedes any and all previous publications
Effective August 29, 2017

GENERAL PRODUCT INFORMATION

STIFFENING LIP LENGTH

| Section | Flange Width | Design Stiffening Lip Length (in) |
|---------|--------------|-----------------------------------|
| S162 | 15/8" | 0.500 |
| S200 | 2" | 0.625 |
| S250 | 2 1/2" | 0.625 |

STEEL THICKNESS TABLE

| Designation Thickness (Mils) | Minimum Thickness ¹ (in) | Design Thickness (in) | Design Inside Corner Radii ² (in) | Reference Gauge No. | Minimum Coating |
|------------------------------------|---|-----------------------------|--|------------------------|--------------------|
| 33 | 0.0329 | 0.0346 | 0.0765 | 20-Structural | G60 |
| 43 | 0.0428 | 0.0451 | 0.0712 | 18 | G60 |
| 54 | 0.0538 | 0.0566 | 0.0849 | 16 | G60 |

¹ Minimum Thickness represents 95% of the design thickness and is the minimum acceptable thickness delivered to the job site based on section A2.4 of the AISI S100-12.

² The tables in this catalog are calculated based on inside corner radii listed in this table.

Definitions of Structural Property Symbols

Gross Properties

- Ix: Moment of inertia of gross section about the X-X axis (strong axis).
- Sx: Section modulus about the X-X axis (strong axis).
- Rx: Radius of gyration of the gross section about the X-X axis.
- Iy: Moment of inertia of gross section about the Y-Y axis (weak axis).
- Ry: Radius of gyration of the gross section about the Y-Y axis.

Effective Properties

- Ixe: Effective moment of inertia about the X-axis.
- Sxe: Effective section modulus about the X-X axis (strong axis) stress = Fy.
- Ma: Allowable Bending Moment - Based on the effective section modulus and the allowable stress including the strength increase from the cold-work of forming (Section A7.2) where applicable.
- Mad: Allowable Bending Moment - Based on Distortional Buckling Strength calculated per AISI section C3.1.4
- Vag: Allowable strong axis shear away from punchout, calculated in accordance with AISI Section C3.2.1.
- Vanet: Allowable strong axis shear at punchout, calculated in accordance with AISI Section C3.2.2.

Torsional and Other Properties

- J: St. Venant Torsional Constant.
- Cw: Torsional warping constant.
- m: Distance from shear center to mid-plane of web.
- Xo: Distance from the shear center to the centroid along the principal X-axis. Ro: Polar radius of gyration about the centroidal principal axis.
- b: $1-(X_o/R_o)^2$
- Lu: The longest weak axis (Ly) and torsional (Lt) unbraced length at which lateral torsional buckling is restrained in accordance with AISI C3.1.2.1.



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Effective August 29, 2017

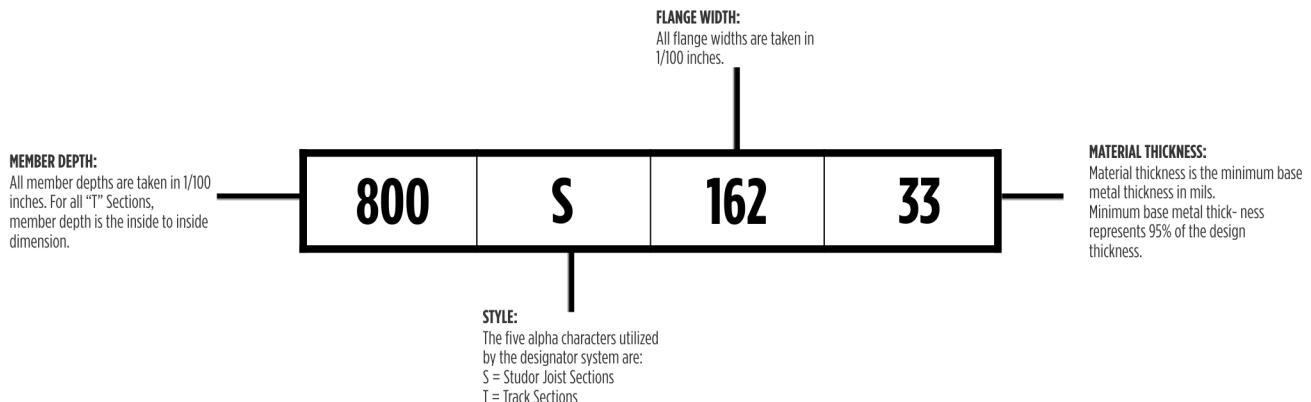
General Notes for all Tables

1. Where AISI S100-12 is referenced, it is the "North American Specification for the Design of Cold-Formed Steel Structural Members", 2012 Edition, with US provisions.
2. The strength increase from cold work of forming has been incorporated for flexural strength per Section A7.2 of AISI S100-12.
3. The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable moment. AISI S100-12 Specification Procedure 1 for serviceability determination has been used. Increases in the effective moment of Inertia (I_{xe}) may be possible at lower stress levels. Any modified values would be required to be calculated by a qualified engineer.
4. Various sections may be manufactured with yield points of 33 or 50 ksi. The yield point used for calculations are listed in the tables.
5. For sections available in both 33 and 50 ksi, the specifier must clearly indicate which yield point is required. For example: 362S162-68 (50ksi).
6. When provided, factory punchouts will be located along the centerline of the webs of the members and will have a minimum center-to-center spacing of 24 inches. Punchouts for members greater than 2.5 inches deep are a maximum of 1.5 inches wide x 4 inches long. Members with depths 2.5 inches and smaller are a maximum of 3/4 inches wide x 4 inches long.

Section Properties Table Notes

1. Calculated properties are based on AISI S100-12, "North American Specification for the Design of Cold-Formed Steel Structural Members."
2. The centerline bend radius is based upon inside corner radii shown in the general notes for all tables.
3. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
4. Tabulated gross properties, including torsional properties, are based upon full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment includes cold-work of forming.
7. For the steels that have both 33 and 50 ksi listing, if the design is based upon 50 ksi, the 50 ksi steel needs to be specified. (Example: 362S137 16-50 (50 ksi)).
8. Web depth for track sections is equal to the nominal stud width plus 2 times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.

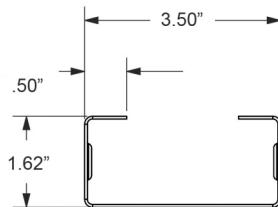
Nomenclature



NOTE: For Structural members 54 mil (16 gauge) and thicker, that have both 33 and 50 ksi yield strength options shown, the designer shall identify which yield strength he has specified and the manufacturer shall label the product with the yield strength.

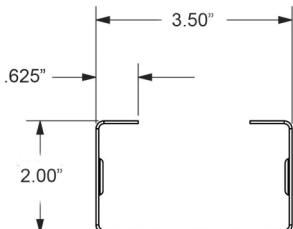
STRUCTURAL STUDS

3.5" DEPTH - FLANGE 162



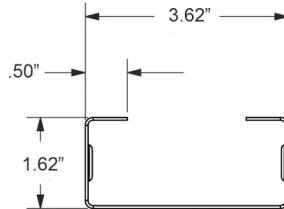
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------------------------|---------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁶) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β | L _u (in) |
| 350S162-33 | 0.0346 | 33 | 0.258 | 0.88 | 0.508 | 0.291 | 1.404 | 0.098 | 0.617 | 0.508 | 0.257 | 5.09 | 5.22 | 1024 | 487 | 0.103 | 0.277 | -1.324 | 0.796 | 2.026 | 0.573 | 42.7 |
| 350S162-43 | 0.0451 | 33 | 0.334 | 1.14 | 0.655 | 0.374 | 1.400 | 0.125 | 0.612 | 0.654 | 0.357 | 7.05 | 7.31 | 1739 | 631 | 0.227 | 0.350 | -1.312 | 0.789 | 2.014 | 0.575 | 42.6 |
| 350S162-54 | 0.0566 | 33 | 0.415 | 1.41 | 0.805 | 0.460 | 1.393 | 0.152 | 0.606 | 0.804 | 0.447 | 8.83 | 9.08 | 2253 | 633 | 0.443 | 0.426 | -1.298 | 0.782 | 1.998 | 0.578 | 42.7 |
| 350S162-54 | 0.0566 | 50 | 0.415 | 1.41 | 0.805 | 0.460 | 1.393 | 0.152 | 0.606 | 0.804 | 0.426 | 12.74 | 13.05 | 3372 | 947 | 0.443 | 0.426 | -1.298 | 0.782 | 1.998 | 0.578 | 34.5 |

3.5" DEPTH - FLANGE 200



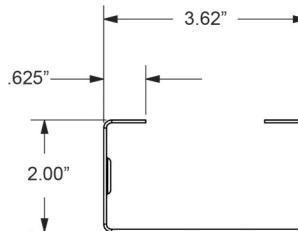
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------------------------|---------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁶) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β | L _u (in) |
| 350S200-43 | 0.0451 | 33 | 0.379 | 1.29 | 0.771 | 0.441 | 1.426 | 0.224 | 0.768 | 0.771 | 0.410 | 8.09 | 8.36 | 1739 | 631 | 0.257 | 0.687 | -1.748 | 1.032 | 2.383 | 0.462 | 53.7 |
| 350S200-54 | 0.0566 | 33 | 0.471 | 1.60 | 0.950 | 0.543 | 1.420 | 0.274 | 0.762 | 0.950 | 0.530 | 10.48 | 10.73 | 2253 | 633 | 0.503 | 0.838 | -1.733 | 1.024 | 2.367 | 0.464 | 53.8 |
| 350S200-54 | 0.0566 | 50 | 0.471 | 1.60 | 0.950 | 0.543 | 1.420 | 0.274 | 0.762 | 0.950 | 0.470 | 14.07 | 14.87 | 3372 | 947 | 0.503 | 0.838 | -1.733 | 1.024 | 2.367 | 0.464 | 43.5 |

3-5/8" DEPTH - FLANGE 162



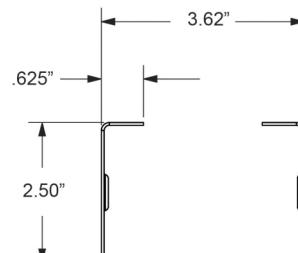
| Member | Design Thickness (in) | Fy (ksi) | Area (in²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | | |
|------------|-----------------------|----------|------------|----------------|------------------|----------|---------|----------|----------------------|---------|---------|-----------|----------------------|----------|------------|----------------|----------|---------|--------|---------|-------|---------|
| | | | | | I (in⁴) | Sx (in³) | Rx (in) | Iy (in⁴) | Ry (in) | I (in⁴) | S (in³) | Ma (in-k) | Mad (in-k) | Vag (lb) | Vanet (lb) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B | Lu (in) |
| 362S162-33 | 0.0346 | 33 | 0.262 | 0.89 | 0.551 | 0.304 | 1.450 | 0.099 | 0.616 | 0.551 | 0.268 | 5.29 | 5.43 | 1024 | 521 | 0.105 | 0.297 | -1.308 | 0.789 | 2.048 | 0.592 | 42.6 |
| 362S162-43 | 0.0451 | 33 | 0.340 | 1.16 | 0.710 | 0.392 | 1.445 | 0.127 | 0.611 | 0.710 | 0.372 | 7.34 | 7.62 | 1739 | 676 | 0.230 | 0.376 | -1.297 | 0.782 | 2.036 | 0.594 | 42.5 |
| 362S162-54 | 0.0566 | 33 | 0.422 | 1.44 | 0.873 | 0.482 | 1.438 | 0.154 | 0.605 | 0.873 | 0.467 | 9.22 | 9.52 | 2341 | 705 | 0.451 | 0.457 | -1.283 | 0.774 | 2.020 | 0.597 | 42.5 |
| 362S162-54 | 0.0566 | 50 | 0.422 | 1.44 | 0.873 | 0.482 | 1.438 | 0.154 | 0.605 | 0.873 | 0.444 | 13.28 | 13.60 | 3372 | 1016 | 0.451 | 0.457 | -1.283 | 0.774 | 2.020 | 0.597 | 34.4 |

3-5/8" DEPTH - FLANGE 200



| Member | Design Thickness (in) | Fy (ksi) | Area (in²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | | |
|------------|-----------------------|----------|------------|----------------|------------------|----------|---------|----------|----------------------|---------|---------|-----------|----------------------|----------|------------|----------------|----------|---------|--------|---------|-------|---------|
| | | | | | I (in⁴) | Sx (in³) | Rx (in) | Iy (in⁴) | Ry (in) | I (in⁴) | S (in³) | Ma (in-k) | Mad (in-k) | Vag (lb) | Vanet (lb) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B | Lu (in) |
| 362S200-33 | 0.0346 | 33 | 0.297 | 1.01 | 0.648 | 0.358 | 1.478 | 0.177 | 0.772 | 0.642 | 0.294 | 5.81 | 6.19 | 1024 | 521 | 0.118 | 0.577 | -1.741 | 1.030 | 2.411 | 0.478 | 53.6 |
| 362S200-43 | 0.0451 | 33 | 0.385 | 1.31 | 0.836 | 0.461 | 1.474 | 0.227 | 0.767 | 0.836 | 0.427 | 8.45 | 8.70 | 1739 | 676 | 0.261 | 0.734 | -1.729 | 1.024 | 2.398 | 0.480 | 53.5 |
| 362S200-54 | 0.0566 | 33 | 0.479 | 1.63 | 1.030 | 0.568 | 1.467 | 0.277 | 0.761 | 1.030 | 0.553 | 10.93 | 11.23 | 2341 | 705 | 0.511 | 0.896 | -1.715 | 1.016 | 2.382 | 0.482 | 53.6 |
| 362S200-54 | 0.0566 | 50 | 0.479 | 1.63 | 1.030 | 0.568 | 1.467 | 0.277 | 0.761 | 1.030 | 0.490 | 14.66 | 15.48 | 3372 | 1016 | 0.511 | 0.896 | -1.715 | 1.016 | 2.382 | 0.482 | 43.3 |

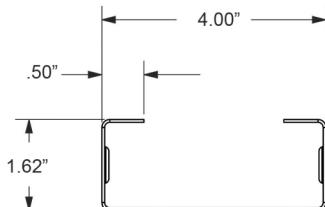
3-5/8" DEPTH - FLANGE 250



| Member | Design Thickness (in) | Fy (ksi) | Area (in²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | | |
|------------|-----------------------|----------|------------|----------------|------------------|----------|---------|----------|----------------------|---------|---------|-----------|----------------------|----------|------------|----------------|----------|---------|--------|---------|-------|---------|
| | | | | | I (in⁴) | Sx (in³) | Rx (in) | Iy (in⁴) | Ry (in) | I (in⁴) | S (in³) | Ma (in-k) | Mad (in-k) | Vag (lb) | Vanet (lb) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B | Lu (in) |
| 362S250-33 | 0.0346 | 33 | 0.331 | 1.13 | 0.760 | 0.419 | 1.514 | 0.299 | 0.951 | | | 6.59 | 1024 | 521 | 0.132 | 0.965 | -2.211 | 1.284 | 2.844 | 0.395 | 64.2 | |
| 362S250-43 | 0.0451 | 33 | 0.430 | 1.46 | 0.980 | 0.541 | 1.510 | 0.385 | 0.946 | 0.980 | 0.449 | 8.88 | 9.36 | 1739 | 676 | 0.292 | 1.230 | -2.199 | 1.277 | 2.830 | 0.396 | 64.1 |
| 362S250-54 | 0.0566 | 33 | 0.535 | 1.82 | 1.210 | 0.668 | 1.504 | 0.473 | 0.940 | 1.210 | 0.582 | 11.51 | 12.46 | 2341 | 705 | 0.571 | 1.506 | -2.184 | 1.269 | 2.813 | 0.397 | 64.3 |
| 362S250-54 | 0.0566 | 50 | 0.535 | 1.82 | 1.210 | 0.668 | 1.504 | 0.473 | 0.940 | 1.198 | 0.514 | 15.40 | 16.55 | 3372 | 1016 | 0.571 | 1.506 | -2.184 | 1.269 | 2.813 | 0.397 | 52.0 |

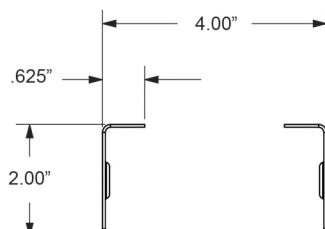
When web height-to-thickness ratio exceeds 260, or flange width-to-thickness ratio exceeds 60, effective properties are not calculated (limitations in AISI Section B1).

4" DEPTH - FLANGE 162



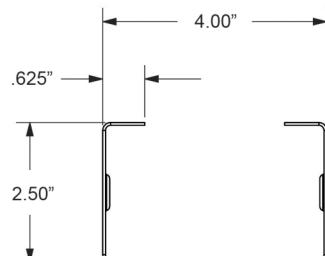
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁵) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) | |
| 400S162-33 | 0.0346 | 33 | 0.275 | 0.94 | 0.692 | 0.346 | 1.586 | 0.103 | 0.611 | 0.692 | 0.299 | 5.91 | 6.07 | | | 595 | 0.110 | 0.363 | -1.263 | 0.768 | 2.118 | 0.644 | 42.3 |
| 400S162-43 | 0.0451 | 33 | 0.357 | 1.21 | 0.892 | 0.446 | 1.581 | 0.131 | 0.606 | 0.892 | 0.417 | 8.23 | 8.55 | | | 810 | 0.242 | 0.460 | -1.252 | 0.761 | 2.106 | 0.647 | 42.2 |
| 400S162-54 | 0.0566 | 33 | 0.443 | 1.51 | 1.098 | 0.549 | 1.574 | 0.159 | 0.600 | 1.098 | 0.526 | 10.39 | 10.85 | | | 944 | 0.473 | 0.560 | -1.238 | 0.754 | 2.090 | 0.649 | 42.2 |
| 400S162-54 | 0.0566 | 50 | 0.443 | 1.51 | 1.098 | 0.549 | 1.574 | 0.159 | 0.600 | 1.098 | 0.498 | 14.90 | 15.25 | | | 1223 | 0.473 | 0.560 | -1.238 | 0.754 | 2.090 | 0.649 | 34.1 |

4" DEPTH - FLANGE 200



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁵) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) | |
| 400S200-33 | 0.0346 | 33 | 0.310 | 1.05 | 0.812 | 0.406 | 1.619 | 0.183 | 0.769 | 0.804 | 0.329 | 6.49 | 6.90 | | | 595 | 0.124 | 0.697 | -1.688 | 1.007 | 2.462 | 0.530 | 53.1 |
| 400S200-43 | 0.0451 | 33 | 0.402 | 1.37 | 1.048 | 0.524 | 1.615 | 0.235 | 0.764 | 1.048 | 0.478 | 9.45 | 9.74 | | | 810 | 0.272 | 0.886 | -1.676 | 1.000 | 2.450 | 0.532 | 53.0 |
| 400S200-54 | 0.0566 | 33 | 0.500 | 1.70 | 1.292 | 0.646 | 1.608 | 0.287 | 0.758 | 1.292 | 0.623 | 12.30 | 12.77 | | | 944 | 0.534 | 1.083 | -1.662 | 0.993 | 2.433 | 0.534 | 53.0 |
| 400S200-54 | 0.0566 | 50 | 0.500 | 1.70 | 1.292 | 0.646 | 1.608 | 0.287 | 0.758 | 1.292 | 0.549 | 16.43 | 17.32 | | | 1223 | 0.534 | 1.083 | -1.662 | 0.993 | 2.433 | 0.534 | 42.9 |

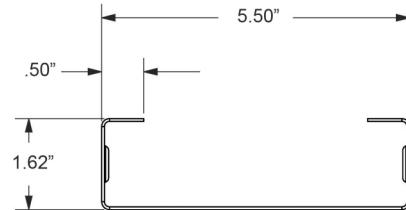
4" DEPTH - FLANGE 250



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁵) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) | |
| 400S250-33 | 0.0346 | 33 | 0.344 | 1.17 | 0.948 | 0.474 | 1.660 | 0.310 | 0.949 | | | | | | | 0.137 | 1.165 | -2.151 | 1.259 | 2.878 | 0.441 | 63.7 | |
| 400S250-43 | 0.0451 | 33 | 0.447 | 1.52 | 1.224 | 0.612 | 1.655 | 0.399 | 0.945 | | | | | | | 0.303 | 1.486 | -2.139 | 1.252 | 2.865 | 0.443 | 63.7 | |
| 400S250-54 | 0.0566 | 33 | 0.556 | 1.89 | 1.512 | 0.756 | 1.649 | 0.490 | 0.938 | 1.512 | 0.653 | 12.91 | 13.92 | | | 944 | 0.594 | 1.821 | -2.124 | 1.244 | 2.848 | 0.444 | 63.8 |
| 400S250-54 | 0.0566 | 50 | 0.556 | 1.89 | 1.512 | 0.756 | 1.649 | 0.490 | 0.938 | 1.496 | 0.576 | 17.24 | 18.43 | | | 1223 | 0.594 | 1.821 | -2.124 | 1.244 | 2.848 | 0.444 | 51.6 |

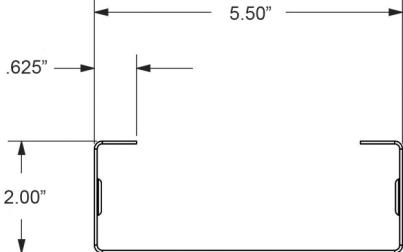


5.50" DEPTH - FLANGE 162



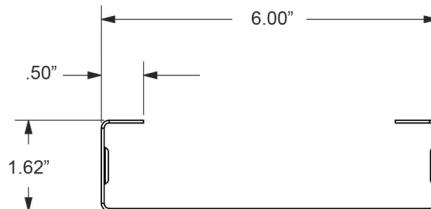
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|----------------------|-------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _g (lb) | V _{g,net} (lb) | J x 1000 (in ⁶) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 550S162-33 | 0.0346 | 33 | 0.327 | 1.11 | 1.459 | 0.530 | 2.112 | 0.113 | 0.589 | 1.459 | 0.512 | 10.11 | 8.63 | 699 | 0.130 | 0.713 | -1.114 | 0.697 | 2.459 | 0.795 | 41.4 |
| 550S162-43 | 0.0451 | 33 | 0.424 | 1.44 | 1.884 | 0.685 | 2.107 | 0.145 | 0.584 | 1.883 | 0.681 | 14.80 | 13.14 | 1199 | 0.288 | 0.905 | -1.103 | 0.691 | 2.449 | 0.797 | 41.2 |
| 550S162-54 | 0.0566 | 33 | 0.528 | 1.80 | 2.325 | 0.845 | 2.098 | 0.176 | 0.577 | 2.324 | 0.845 | 18.76 | 17.88 | 1666 | 0.564 | 1.105 | -1.090 | 0.684 | 2.434 | 0.800 | 41.0 |
| 550S162-54 | 0.0566 | 50 | 0.528 | 1.80 | 2.325 | 0.845 | 2.098 | 0.176 | 0.577 | 2.324 | 0.811 | 26.86 | 23.53 | 1881 | 0.564 | 1.105 | -1.090 | 0.684 | 2.434 | 0.800 | 33.2 |

5.50" DEPTH - FLANGE 200



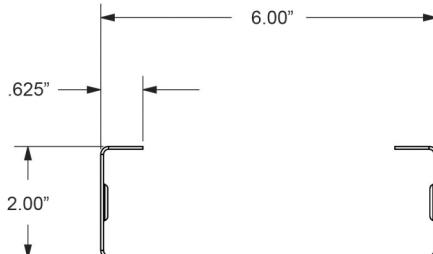
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|----------------------|-------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _g (lb) | V _{g,net} (lb) | J x 1000 (in ⁶) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 550S200-33 | 0.0346 | 33 | 0.362 | 1.23 | 1.694 | 0.616 | 2.164 | 0.204 | 0.751 | 1.678 | 0.559 | 11.05 | 9.80 | 699 | 0.144 | 1.326 | -1.508 | 0.925 | 2.743 | 0.698 | 51.9 |
| 550S200-43 | 0.0451 | 33 | 0.469 | 1.60 | 2.189 | 0.796 | 2.159 | 0.261 | 0.746 | 2.189 | 0.776 | 15.34 | 13.97 | 1199 | 0.318 | 1.691 | -1.496 | 0.918 | 2.731 | 0.700 | 51.7 |
| 550S200-54 | 0.0566 | 33 | 0.585 | 1.99 | 2.707 | 0.984 | 2.152 | 0.320 | 0.739 | 2.707 | 0.984 | 21.41 | 18.67 | 1666 | 0.624 | 2.072 | -1.483 | 0.911 | 2.716 | 0.702 | 51.6 |
| 550S200-54 | 0.0566 | 50 | 0.585 | 1.99 | 2.707 | 0.984 | 2.152 | 0.320 | 0.739 | 2.707 | 0.901 | 26.99 | 24.85 | 1881 | 0.624 | 2.072 | -1.483 | 0.911 | 2.716 | 0.702 | 41.8 |

6" DEPTH - FLANGE 162



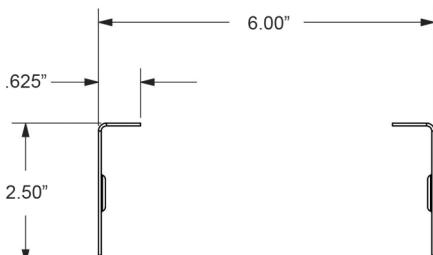
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) |
| 600S162-33 | 0.0346 | 33 | 0.344 | 1.17 | 1.793 | 0.598 | 2.282 | 0.116 | 0.581 | 1.793 | 0.577 | 11.41 | 9.47 | 638 | 638 | 0.137 | | -1.072 | 0.677 | 2.588 | 0.828 | 41.1 |
| 600S162-43 | 0.0451 | 33 | 0.447 | 1.52 | 2.316 | 0.772 | 2.277 | 0.148 | 0.576 | 2.316 | 0.767 | 16.68 | 14.47 | 1416 | 1240 | 0.303 | | -1.062 | 0.670 | 2.577 | 0.830 | 40.9 |
| 600S162-54 | 0.0566 | 33 | 0.556 | 1.89 | 2.861 | 0.954 | 2.268 | 0.180 | 0.570 | 2.860 | 0.953 | 21.17 | 19.76 | 2739 | 1890 | 0.594 | | -1.049 | 0.663 | 2.563 | 0.833 | 40.7 |
| 600S162-54 | 0.0566 | 50 | 0.556 | 1.89 | 2.861 | 0.954 | 2.268 | 0.180 | 0.570 | 2.860 | 0.916 | 30.33 | 25.91 | 2823 | 1947 | 0.594 | | -1.049 | 0.663 | 2.563 | 0.833 | 33.0 |

6" DEPTH - FLANGE 200



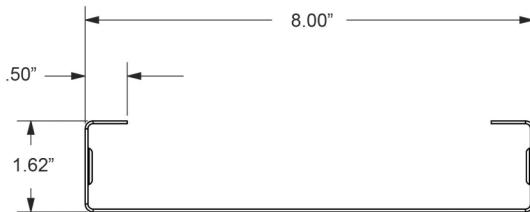
| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) |
| 600S200-33 | 0.0346 | 33 | 0.379 | 1.29 | 2.076 | 0.692 | 2.340 | 0.209 | 0.743 | 2.058 | 0.621 | 12.28 | 10.77 | 638 | 638 | 0.151 | | -1.457 | 0.901 | 2.855 | 0.740 | 51.6 |
| 600S200-43 | 0.0451 | 33 | 0.492 | 1.67 | 2.683 | 0.894 | 2.335 | 0.268 | 0.739 | 2.683 | 0.873 | 17.24 | 15.39 | 1416 | 1240 | 0.334 | | -1.446 | 0.894 | 2.844 | 0.741 | 51.4 |
| 600S200-54 | 0.0566 | 33 | 0.613 | 2.09 | 3.320 | 1.107 | 2.327 | 0.329 | 0.752 | 3.319 | 1.106 | 24.07 | 22.08 | 2739 | 1890 | 0.655 | | -1.452 | 0.887 | 2.829 | 0.744 | 51.3 |
| 600S200-54 | 0.0566 | 50 | 0.613 | 2.09 | 3.320 | 1.107 | 2.327 | 0.329 | 0.732 | 3.319 | 1.015 | 30.40 | 27.39 | 2823 | 1947 | 0.655 | | -1.432 | 0.887 | 2.829 | 0.744 | 41.6 |

6" DEPTH - FLANGE 250



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|---------------------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{a_g} (lb) | V _{a_{net}} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X ₀ (in) | m (in) | R _o (in) | β | L _u (in) |
| 600S250-43 | 0.0451 | 33 | 0.537 | 1.83 | 3.083 | 1.028 | 2.396 | 0.458 | 0.923 | 3.083 | 0.918 | 18.14 | 16.21 | 1416 | 1240 | 0.364 | | -1.874 | 1.136 | 3.179 | 0.652 | 62.4 |
| 600S250-54 | 0.0566 | 33 | 0.670 | 2.28 | 3.820 | 1.273 | 2.389 | 0.562 | 0.917 | 3.819 | 1.159 | 22.90 | 21.90 | 2739 | 1890 | 0.715 | | -1.860 | 1.129 | 3.163 | 0.654 | 62.3 |
| 600S250-54 | 0.0566 | 50 | 0.670 | 2.28 | 3.820 | 1.273 | 2.389 | 0.562 | 0.917 | 3.766 | 1.069 | 32.00 | 28.72 | 2823 | 1947 | 0.715 | | -1.860 | 1.129 | 3.163 | 0.654 | 50.5 |

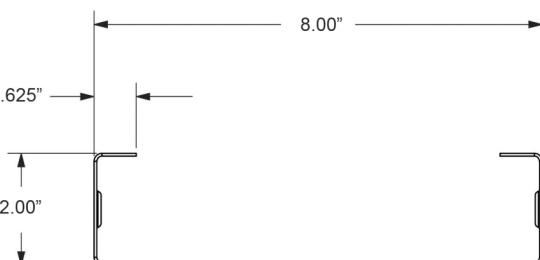
8" DEPTH - FLANGE 162



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | |
|-------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|----------------------|------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{ag} (lb) | V _{anet} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800S162-331 | 0.0346 | 33 | 0.413 | 1.41 | 3.583 | 0.896 | 2.944 | 0.125 | 0.550 | 3.385 | 0.710 | 14.03 | 12.61 | 474 | 474 | 0.165 | -0.936 | 0.607 | 3.138 | 0.911 | 40.1 |
| 800S162-43 | 0.0451 | 33 | 0.537 | 1.83 | 4.635 | 1.159 | 2.938 | 0.160 | 0.546 | 4.500 | 1.019 | 20.14 | 18.34 | 1051 | 1051 | 0.364 | -0.926 | 0.601 | 3.128 | 0.912 | 39.8 |
| 800S162-54 | 0.0566 | 33 | 0.670 | 2.28 | 5.737 | 1.434 | 2.927 | 0.194 | 0.539 | 5.702 | 1.334 | 26.36 | 24.99 | 2091 | 2091 | 0.715 | -0.914 | 0.594 | 3.114 | 0.914 | 39.6 |
| 800S162-54 | 0.0566 | 50 | 0.670 | 2.28 | 5.737 | 1.434 | 2.927 | 0.194 | 0.539 | 5.600 | 1.229 | 36.79 | 32.83 | 2091 | 2091 | 0.715 | -0.914 | 0.594 | 3.114 | 0.914 | 32.1 |

[†] Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

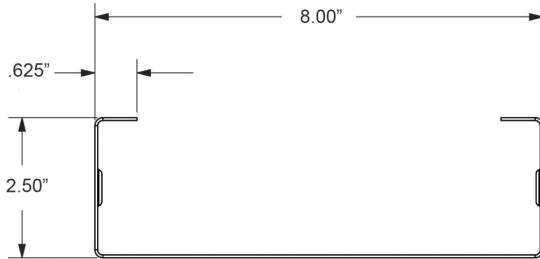
8" DEPTH - FLANGE 200



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | |
|-------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|----------------------|------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{ag} (lb) | V _{anet} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800S200-331 | 0.0346 | 33 | 0.448 | 1.52 | 4.097 | 1.024 | 3.024 | 0.227 | 0.712 | 4.096 | 0.816 | 16.12 | 14.53 | 474 | 474 | 0.179 | -1.288 | 0.817 | 3.363 | 0.853 | 50.6 |
| 800S200-43 | 0.0451 | 33 | 0.582 | 1.98 | 5.303 | 1.326 | 3.018 | 0.292 | 0.708 | 5.302 | 1.293 | 25.54 | 20.99 | 1051 | 1051 | 0.395 | -1.277 | 0.811 | 3.353 | 0.855 | 50.3 |
| 800S200-54 | 0.0566 | 33 | 0.726 | 2.47 | 6.574 | 1.644 | 3.009 | 0.357 | 0.701 | 6.573 | 1.643 | 35.75 | 30.39 | 2091 | 2091 | 0.775 | -1.265 | 0.804 | 3.338 | 0.856 | 47.8 |
| 800S200-54 | 0.0566 | 50 | 0.726 | 2.47 | 6.574 | 1.644 | 3.009 | 0.357 | 0.701 | 6.573 | 1.499 | 44.87 | 37.39 | 2091 | 2091 | 0.775 | -1.265 | 0.804 | 3.338 | 0.856 | 40.7 |

[†] Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

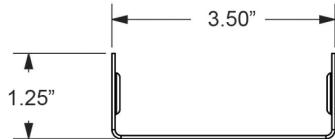
8" DEPTH - FLANGE 250



| Member | Design Thickness (in) | Fy (ksi) | Area (in ²) | Weight (lb/ft) | Gross Properties | | | | Effective Properties | | | | Torsional Properties | | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|----------------------|-----------------------------------|---------------------|-----------------------------------|----------------------|----------------------|----------------------|-----------------------|------------------------|----------------------|------------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | | | I (in ⁴) | S _x (in ³) | R _x (in) | I _y (in ⁴) | R _y (in) | I (in ⁴) | S (in ³) | M _a (in-k) | M _{ad} (in-k) | V _{ag} (lb) | V _{anet} (lb) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800S250-43 | 0.0451 | 33 | 0.627 | 2.13 | 6.017 | 1.504 | 3.097 | 0.500 | 0.893 | 6.015 | 1.314 | 25.96 | 22.07 | 1051 | 1051 | 0.425 | -1.675 | 1.043 | 3.632 | 0.787 | 61.5 |
| 800S250-54 | 0.0566 | 33 | 0.783 | 2.66 | 7.467 | 1.867 | 3.089 | 0.614 | 0.886 | 7.466 | 1.712 | 33.82 | 30.08 | 2091 | 2091 | 0.836 | -1.661 | 1.036 | 3.617 | 0.789 | 61.4 |
| 800S250-54 | 0.0566 | 50 | 0.783 | 2.66 | 7.467 | 1.867 | 3.089 | 0.614 | 0.886 | 7.378 | 1.525 | 45.66 | 39.14 | 2091 | 2091 | 0.836 | -1.661 | 1.036 | 3.617 | 0.789 | 49.8 |

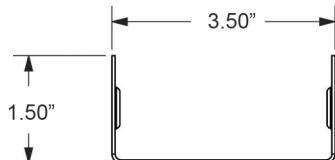
STRUCTURAL TRACKS

3.5" DEPTH - FLANGE 125



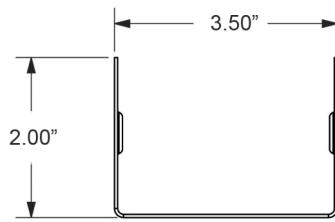
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁵) | X _o (in) | m (in) | R _o (in) | β |
| 350T125-33 | 0.0346 | 33 | 0.207 | 0.71 | 0.405 | 0.222 | 1.397 | 0.030 | 0.379 | 0.355 | 0.165 | 3.27 | 1024 | 0.0828 | 0.070 | -0.668 | 0.414 | 1.594 | 0.824 |
| 350T125-43 | 0.0451 | 33 | 0.270 | 0.92 | 0.528 | 0.288 | 1.398 | 0.038 | 0.377 | 0.490 | 0.233 | 4.61 | 1739 | 0.1852 | 0.090 | -0.663 | 0.412 | 1.592 | 0.826 |
| 350T125-54 | 0.0566 | 33 | 0.339 | 1.15 | 0.668 | 0.361 | 1.404 | 0.048 | 0.375 | 0.651 | 0.317 | 6.26 | 2392 | 0.3619 | 0.114 | -0.658 | 0.408 | 1.595 | 0.830 |
| 350T125-54 | 0.0566 | 50 | 0.339 | 1.15 | 0.668 | 0.361 | 1.404 | 0.048 | 0.375 | 0.626 | 0.297 | 8.90 | 3372 | 0.3619 | 0.114 | -0.658 | 0.408 | 1.595 | 0.830 |

3.5" DEPTH - FLANGE 150



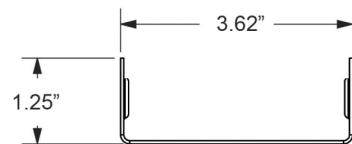
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁵) | X _o (in) | m (in) | R _o (in) | β |
| 350T150-33 | 0.0346 | 33 | 0.225 | 0.76 | 0.461 | 0.253 | 1.432 | 0.049 | 0.469 | 0.382 | 0.171 | 3.39 | 1024 | 0.0897 | 0.114 | -0.866 | 0.527 | 1.738 | 0.752 |
| 350T150-43 | 0.0451 | 33 | 0.293 | 1.00 | 0.601 | 0.329 | 1.433 | 0.064 | 0.467 | 0.531 | 0.243 | 4.80 | 1739 | 0.1985 | 0.148 | -0.861 | 0.525 | 1.736 | 0.754 |
| 350T150-54 | 0.0566 | 33 | 0.367 | 1.25 | 0.762 | 0.412 | 1.440 | 0.079 | 0.465 | 0.712 | 0.332 | 6.57 | 2392 | 0.3921 | 0.187 | -0.855 | 0.521 | 1.738 | 0.758 |
| 350T150-54 | 0.0566 | 50 | 0.367 | 1.25 | 0.762 | 0.412 | 1.440 | 0.079 | 0.465 | 0.679 | 0.310 | 9.28 | 3372 | 0.3921 | 0.187 | -0.855 | 0.521 | 1.738 | 0.758 |

3.5" DEPTH - FLANGE 200



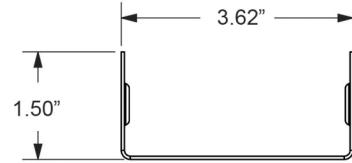
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | Torsional Properties | | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁵) | X _o (in) | m (in) | R _o (in) | β |
| 350T200-33 | 0.0346 | 33 | 0.259 | 0.88 | 0.574 | 0.315 | 1.488 | 0.108 | 0.646 | 0.428 | 0.181 | 3.57 | 1024 | 0.1035 | 0.249 | -1.285 | 0.761 | 2.069 | 0.614 |
| 350T200-43 | 0.0451 | 33 | 0.338 | 1.15 | 0.749 | 0.409 | 1.489 | 0.140 | 0.645 | 0.601 | 0.257 | 5.09 | 1739 | 0.2291 | 0.323 | -1.280 | 0.758 | 2.067 | 0.616 |
| 350T200-54 | 0.0566 | 33 | 0.424 | 1.44 | 0.949 | 0.513 | 1.497 | 0.175 | 0.642 | 0.814 | 0.355 | 7.01 | 2392 | 0.4526 | 0.409 | -1.273 | 0.754 | 2.067 | 0.621 |
| 350T200-54 | 0.0566 | 50 | 0.424 | 1.44 | 0.949 | 0.513 | 1.497 | 0.175 | 0.642 | 0.770 | 0.329 | 9.85 | 3372 | 0.4526 | 0.409 | -1.273 | 0.754 | 2.067 | 0.621 |

3-5/8" DEPTH - FLANGE 125



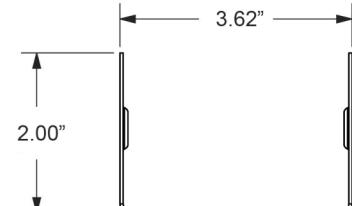
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|------------------|----------------|----------|----------|---------|----------------------|---------|----------|----------|-----------|----------------------|----------------|----------|---------|--------|---------|-------|
| | | | Area (in²) | Weight (lb/ft) | Ix (in⁴) | Sx (in³) | Rx (in) | Iy (in) | Ry (in) | Ix (in⁴) | Sx (in³) | Mg (in-k) | Vag (lib) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B |
| 362T125-33 | 0.0346 | 33 | 0.212 | 0.72 | 0.438 | 0.232 | 1.439 | 0.030 | 0.377 | 0.385 | 0.174 | 3.44 | 1024 | 0.0845 | 0.076 | -0.658 | 0.410 | 1.626 | 0.836 |
| 362T125-43 | 0.0451 | 33 | 0.276 | 0.94 | 0.571 | 0.302 | 1.439 | 0.039 | 0.375 | 0.531 | 0.245 | 4.84 | 1739 | 0.1870 | 0.098 | -0.654 | 0.407 | 1.625 | 0.838 |
| 362T125-54 | 0.0566 | 33 | 0.346 | 1.18 | 0.723 | 0.378 | 1.445 | 0.048 | 0.373 | 0.705 | 0.332 | 6.57 | 2480 | 0.3695 | 0.123 | -0.648 | 0.404 | 1.627 | 0.841 |
| 362T125-54 | 0.0566 | 50 | 0.346 | 1.18 | 0.723 | 0.378 | 1.445 | 0.048 | 0.373 | 0.678 | 0.312 | 9.34 | 3372 | 0.3695 | 0.123 | -0.648 | 0.404 | 1.627 | 0.841 |

3-5/8" DEPTH - FLANGE 150



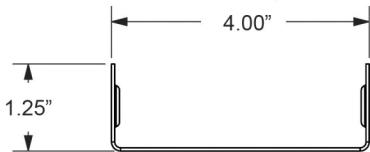
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|------------------|----------------|----------|----------|---------|----------------------|---------|----------|----------|-----------|----------------------|----------------|----------|---------|--------|---------|-------|
| | | | Area (in²) | Weight (lb/ft) | Ix (in⁴) | Sx (in³) | Rx (in) | Iy (in) | Ry (in) | Ix (in⁴) | Sx (in³) | Mg (in-k) | Vag (lib) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B |
| 362T150-33 | 0.0346 | 33 | 0.229 | 0.78 | 0.499 | 0.264 | 1.475 | 0.050 | 0.467 | 0.414 | 0.180 | 3.56 | 1024 | 0.0914 | 0.124 | -0.854 | 0.522 | 1.768 | 0.766 |
| 362T150-43 | 0.0451 | 33 | 0.298 | 1.02 | 0.650 | 0.344 | 1.476 | 0.064 | 0.465 | 0.575 | 0.255 | 5.04 | 1739 | 0.2023 | 0.160 | -0.850 | 0.519 | 1.766 | 0.768 |
| 362T150-54 | 0.0566 | 33 | 0.374 | 1.27 | 0.823 | 0.431 | 1.483 | 0.080 | 0.462 | 0.770 | 0.349 | 6.89 | 2480 | 0.3997 | 0.202 | -0.844 | 0.516 | 1.768 | 0.772 |
| 362T150-54 | 0.0566 | 50 | 0.374 | 1.27 | 0.823 | 0.431 | 1.483 | 0.080 | 0.462 | 0.735 | 0.325 | 9.74 | 3372 | 0.3997 | 0.202 | -0.844 | 0.516 | 1.768 | 0.772 |

3-5/8" DEPTH - FLANGE 200



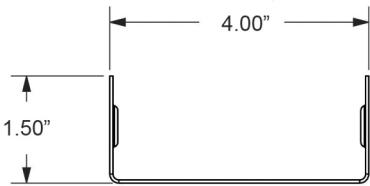
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|------------------|----------------|----------|----------|---------|----------------------|---------|----------|----------|-----------|----------------------|----------------|----------|---------|--------|---------|-------|
| | | | Area (in²) | Weight (lb/ft) | Ix (in⁴) | Sx (in³) | Rx (in) | Iy (in) | Ry (in) | Ix (in⁴) | Sx (in³) | Mg (in-k) | Vag (lib) | J x 1000 (in⁴) | Cw (in⁶) | Xo (in) | m (in) | Ro (in) | B |
| 362T200-33 | 0.0346 | 33 | 0.264 | 0.90 | 0.619 | 0.329 | 1.533 | 0.110 | 0.645 | 0.464 | 0.190 | 3.76 | 1024 | 0.1052 | 0.269 | -1.270 | 0.754 | 2.092 | 0.631 |
| 362T200-43 | 0.0451 | 33 | 0.343 | 1.17 | 0.808 | 0.427 | 1.534 | 0.142 | 0.643 | 0.650 | 0.270 | 5.34 | 1739 | 0.2329 | 0.350 | -1.265 | 0.752 | 2.090 | 0.633 |
| 362T200-54 | 0.0566 | 33 | 0.431 | 1.47 | 1.024 | 0.536 | 1.542 | 0.177 | 0.640 | 0.879 | 0.372 | 7.36 | 2480 | 0.4601 | 0.442 | -1.259 | 0.748 | 2.091 | 0.638 |
| 362T200-54 | 0.0566 | 50 | 0.431 | 1.47 | 1.024 | 0.536 | 1.542 | 0.177 | 0.640 | 0.832 | 0.345 | 10.34 | 3372 | 0.4601 | 0.442 | -1.259 | 0.748 | 2.091 | 0.638 |

4" DEPTH - FLANGE 125



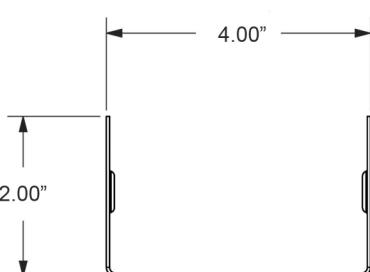
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | | Torsional Properties | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|----------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | B |
| 400T125-33 | 0.0346 | 33 | 0.225 | 0.76 | 0.549 | 0.265 | 1.563 | 0.031 | 0.371 | 0.484 | 0.201 | 3.97 | 940 | 0.0897 | 0.095 | -0.630 | 0.396 | 1.725 | 0.867 |
| 400T125-43 | 0.0451 | 33 | 0.293 | 1.00 | 0.716 | 0.344 | 1.564 | 0.040 | 0.369 | 0.666 | 0.282 | 5.57 | 1739 | 0.1985 | 0.122 | -0.626 | 0.394 | 1.724 | 0.868 |
| 400T125-54 | 0.0566 | 33 | 0.367 | 1.25 | 0.904 | 0.431 | 1.569 | 0.049 | 0.366 | 0.883 | 0.381 | 7.53 | 2739 | 0.3921 | 0.154 | -0.621 | 0.390 | 1.727 | 0.871 |
| 400T125-54 | 0.0566 | 50 | 0.367 | 1.25 | 0.904 | 0.431 | 1.569 | 0.049 | 0.366 | 0.850 | 0.359 | 10.74 | 3372 | 0.3921 | 0.154 | -0.621 | 0.390 | 1.727 | 0.871 |

4" DEPTH - FLANGE 150



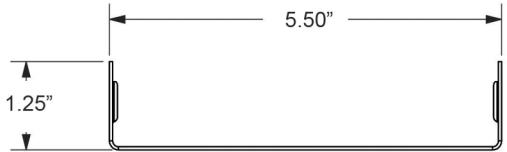
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | | Torsional Properties | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|----------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | B |
| 400T150-33 | 0.0346 | 33 | 0.242 | 0.82 | 0.622 | 0.300 | 1.603 | 0.051 | 0.460 | 0.519 | 0.208 | 4.12 | 940 | 0.0966 | 0.155 | -0.821 | 0.507 | 1.859 | 0.805 |
| 400T150-43 | 0.0451 | 33 | 0.315 | 1.07 | 0.811 | 0.390 | 1.604 | 0.066 | 0.458 | 0.719 | 0.293 | 5.80 | 1739 | 0.2158 | 0.200 | -0.817 | 0.504 | 1.857 | 0.807 |
| 400T150-54 | 0.0566 | 33 | 0.396 | 1.35 | 1.026 | 0.489 | 1.610 | 0.082 | 0.456 | 0.960 | 0.399 | 7.89 | 2739 | 0.4223 | 0.252 | -0.811 | 0.501 | 1.860 | 0.810 |
| 400T150-54 | 0.0566 | 50 | 0.396 | 1.35 | 1.026 | 0.489 | 1.610 | 0.082 | 0.456 | 0.918 | 0.374 | 11.19 | 3372 | 0.4223 | 0.252 | -0.811 | 0.501 | 1.860 | 0.810 |

4" DEPTH - FLANGE 200



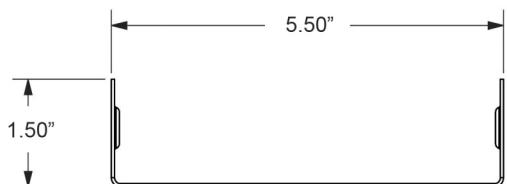
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | | Torsional Properties | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|----------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | B |
| 400T200-33 | 0.0346 | 33 | 0.277 | 0.94 | 0.768 | 0.371 | 1.666 | 0.113 | 0.639 | 0.581 | 0.220 | 4.34 | 940 | 0.1104 | 0.336 | -1.229 | 0.737 | 2.167 | 0.678 |
| 400T200-43 | 0.0451 | 33 | 0.360 | 1.23 | 1.002 | 0.482 | 1.668 | 0.146 | 0.657 | 0.811 | 0.311 | 6.14 | 1739 | 0.2443 | 0.436 | -1.224 | 0.734 | 2.164 | 0.680 |
| 400T200-54 | 0.0566 | 33 | 0.452 | 1.54 | 1.268 | 0.604 | 1.675 | 0.182 | 0.655 | 1.093 | 0.426 | 8.42 | 2739 | 0.4828 | 0.551 | -1.217 | 0.730 | 2.166 | 0.684 |
| 400T200-54 | 0.0566 | 50 | 0.452 | 1.54 | 1.268 | 0.604 | 1.675 | 0.182 | 0.655 | 1.037 | 0.397 | 11.88 | 3372 | 0.4828 | 0.551 | -1.217 | 0.730 | 2.166 | 0.684 |

5.5" DEPTH - FLANGE 125



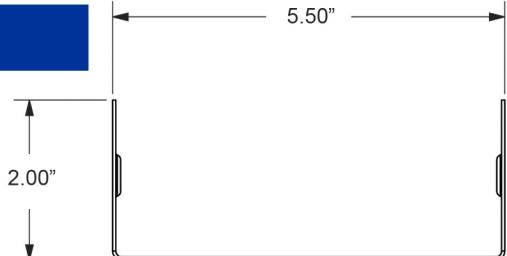
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 550T125-43 | 0.0451 | 33 | 0.360 | 1.23 | 1.510 | 0.534 | 2.047 | 0.043 | 0.344 | 1.428 | 0.417 | 8.23 | 1504 | 0.2443 | 0.252 | -0.537 | 0.348 | 2.144 | 0.937 |
| 550T125-54 | 0.0566 | 33 | 0.452 | 1.54 | 1.904 | 0.668 | 2.052 | 0.053 | 0.342 | 1.862 | 0.597 | 11.80 | 2739 | 0.4828 | 0.315 | -0.532 | 0.345 | 2.147 | 0.939 |
| 550T125-54 | 0.0566 | 50 | 0.452 | 1.54 | 1.904 | 0.668 | 2.052 | 0.053 | 0.342 | 1.811 | 0.535 | 16.01 | 2980 | 0.4828 | 0.315 | -0.532 | 0.345 | 2.147 | 0.939 |

5.5" DEPTH - FLANGE 150



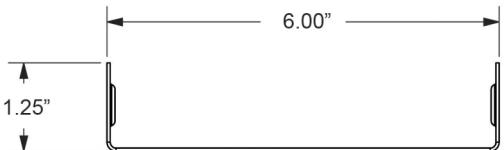
| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 550T150-43 | 0.0451 | 33 | 0.383 | 1.30 | 1.688 | 0.596 | 2.100 | 0.072 | 0.432 | 1.516 | 0.468 | 9.25 | 1504 | 0.2596 | 0.414 | -0.709 | 0.452 | 2.258 | 0.901 |
| 550T150-54 | 0.0566 | 33 | 0.480 | 1.63 | 2.129 | 0.747 | 2.105 | 0.089 | 0.430 | 2.005 | 0.628 | 12.41 | 2739 | 0.5130 | 0.519 | -0.704 | 0.449 | 2.261 | 0.903 |
| 550T150-54 | 0.0566 | 50 | 0.480 | 1.63 | 2.129 | 0.747 | 2.105 | 0.089 | 0.430 | 1.928 | 0.595 | 17.81 | 2980 | 0.5130 | 0.519 | -0.704 | 0.449 | 2.261 | 0.903 |

5.5" DEPTH - FLANGE 200

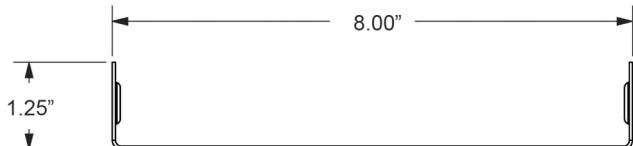


| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | Effective Properties | | | | | Torsional Properties | | | | | | |
|------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 550T200-43 | 0.0451 | 33 | 0.428 | 1.46 | 2.044 | 0.722 | 2.185 | 0.160 | 0.611 | 1.690 | 0.495 | 9.79 | 1504 | 0.2902 | 0.900 | -1.083 | 0.671 | 2.514 | 0.814 |
| 550T200-54 | 0.0566 | 33 | 0.537 | 1.83 | 2.579 | 0.905 | 2.191 | 0.199 | 0.609 | 2.254 | 0.669 | 13.21 | 2739 | 0.5734 | 1.133 | -1.077 | 0.668 | 2.517 | 0.817 |
| 550T200-54 | 0.0566 | 50 | 0.537 | 1.83 | 2.579 | 0.905 | 2.191 | 0.199 | 0.609 | 2.153 | 0.630 | 18.86 | 2980 | 0.5734 | 1.133 | -1.077 | 0.668 | 2.517 | 0.817 |

6" DEPTH - FLANGE 125



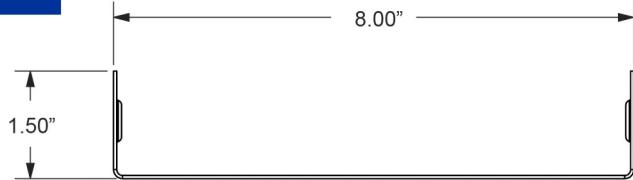
8" DEPTH - FLANGE 125



| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | Torsional Properties | | | | | | |
|-------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800T125-331 | 0.0346 | 33 | 0.363 | 1.24 | 2.897 | 0.711 | 2.824 | 0.036 | 0.313 | 2.442 | 0.407 | 8.03 | 465 | 0.1449 | 0.456 | -0.439 | 0.294 | 2.875 | 0.977 |
| 800T125-43 | 0.0451 | 33 | 0.473 | 1.61 | 3.774 | 0.925 | 2.824 | 0.046 | 0.311 | 3.484 | 0.640 | 12.65 | 1030 | 0.3208 | 0.589 | -0.436 | 0.292 | 2.875 | 0.977 |
| 800T125-54 | 0.0566 | 33 | 0.594 | 2.02 | 4.747 | 1.158 | 2.828 | 0.057 | 0.309 | 4.668 | 0.940 | 18.58 | 2039 | 0.6339 | 0.735 | -0.432 | 0.289 | 2.877 | 0.977 |
| 800T125-54 | 0.0566 | 50 | 0.594 | 2.02 | 4.747 | 1.158 | 2.828 | 0.057 | 0.309 | 4.427 | 0.824 | 24.66 | 2039 | 0.6339 | 0.735 | -0.432 | 0.289 | 2.877 | 0.977 |

¹ Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

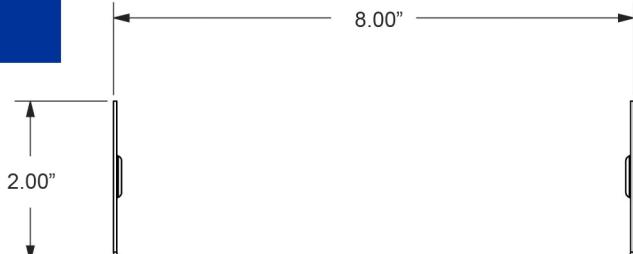
8" DEPTH - FLANGE 150



| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | Torsional Properties | | | | | | |
|-------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800T150-331 | 0.0346 | 33 | 0.380 | 1.29 | 3.181 | 0.781 | 2.892 | 0.060 | 0.397 | 2.570 | 0.414 | 8.18 | 465 | 0.1518 | 0.751 | -0.588 | 0.388 | 2.977 | 0.961 |
| 800T150-43 | 0.0451 | 33 | 0.496 | 1.69 | 4.145 | 1.016 | 2.892 | 0.077 | 0.395 | 3.690 | 0.655 | 12.95 | 1030 | 0.3361 | 0.972 | -0.584 | 0.386 | 2.977 | 0.961 |
| 800T150-54 | 0.0566 | 33 | 0.622 | 2.12 | 5.216 | 1.272 | 2.896 | 0.096 | 0.393 | 4.977 | 0.969 | 19.15 | 2039 | 0.6641 | 1.215 | -0.580 | 0.383 | 2.980 | 0.962 |
| 800T150-54 | 0.0566 | 50 | 0.622 | 2.12 | 5.216 | 1.272 | 2.896 | 0.096 | 0.393 | 4.693 | 0.844 | 25.27 | 2039 | 0.6641 | 1.215 | -0.580 | 0.383 | 2.980 | 0.962 |

¹ Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

8" DEPTH - FLANGE 200



| Member | Design Thickness (in) | Fy (ksi) | Gross Properties | | | | | | Effective Properties | | | | Torsional Properties | | | | | | |
|-------------|-----------------------|----------|-------------------------|----------------|-----------------------------------|-----------------------------------|---------------------|---------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------------|---------------------|--------|---------------------|---------|
| | | | Area (in ²) | Weight (lb/ft) | I _x (in ⁴) | S _x (in ³) | R _x (in) | I _y (in) | R _y (in) | I _x (in ⁴) | S _x (in ³) | M _a (in-k) | V _{Ag} (lib) | J x 1000 (in ⁴) | C _w (in ⁶) | X _o (in) | m (in) | R _o (in) | β |
| 800T200-331 | 0.0346 | 33 | 0.415 | 1.41 | 3.750 | 0.921 | 3.006 | 0.135 | 0.571 | 2.789 | 0.424 | 8.37 | 465 | 0.1656 | 1.638 | -0.917 | 0.589 | 3.194 | 0.918 |
| 800T200-43 | 0.0451 | 33 | 0.541 | 1.84 | 4.888 | 1.198 | 3.006 | 0.175 | 0.569 | 4.044 | 0.676 | 13.35 | 1030 | 0.3667 | 2.124 | -0.913 | 0.587 | 3.193 | 0.918 |
| 800T200-54 | 0.0566 | 33 | 0.679 | 2.31 | 6.154 | 1.501 | 3.012 | 0.218 | 0.567 | 5.506 | 1.009 | 19.93 | 2039 | 0.7245 | 2.664 | -0.908 | 0.584 | 3.196 | 0.919 |
| 800T200-54 | 0.0566 | 50 | 0.679 | 2.31 | 6.154 | 1.501 | 3.012 | 0.218 | 0.567 | 5.151 | 0.872 | 26.09 | 2039 | 0.7245 | 2.664 | -0.908 | 0.584 | 3.196 | 0.919 |

¹ Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

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