

BAR SIZE AND STRUCTURAL SHAPES

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STOCK LENGTHS OF STRUCTURAL SHAPES

Instead of the various stock lengths of Structurals being itemized herein, only the longest length carried in stock is shown Stock lengths of Bar Size Shapes, however, are listed herein.

BAR SIZE AND STRUCTURAL SHAPES

ASTM Specification A 36

A shape is classed a "Bar Size Shape" when its greatest dimension (length excluded) is less than 3 inches. It is a "Structural Shape" when at least one of its dimensions (length excluded) is 3 inches or greater.

The shapes listed in this section conform to ASTM A 36, a standard specification for structural steel

ANALYSIS

| Carbon | Phosphorus | Sulphur |
|----------|------------|----------|
| .26 Max. | .04 Max. | .05 Max. |

APPLICATIONS — For use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes.

MECHANICAL PROPERTIES — ASTM A 36 requirements are:

| Tensile | Yield | % Elongation |
|---------------|-------------|--------------|
| Strength | Strength | in |
| (psi) | (psi) | 8" |
| 58,000/80,000 | 36,000 Min. | 20% Min.ª |

^aSubject to a deduction from the above percentage of elongation for thicknesses under 5/16" and over 3/4".

WELDABILITY — These shapes are easily welded by all the welding processes, and the resultant welds and joints are of extremely high quality. The grade of welding rod to be used depends on thickness of section, design, service requirements, etc.

GALVANIZED SHAPES

Angles and other shapes listed herein can be furnished galvanized upon request.

AISI STANDARD DESIGNATIONS

Structural Shapes

Listed on the following pages are shapes commonly carried in stock. The American Iron and Steel Institute has established a designation system for structural shape, which has been adopted by steel producers. In the column headed "AISI Designation", a letter or letters precedes the size and weight per foot. For example, C3 x 4.1 is the AISI designation for a 3" x 4.1# Standard Structural Channel

Shown below is a summary of the AISI designations:

"W" shapes are doubly-symmetric wide flange shapes used as beams or columns whose inside flange surfaces are substantially parallel. A shape having essentially the same nominal weight and dimensions as a "W" shape listed in the tabulation but whose inside flange surfaces are not parallel may also be considered a "W" shape having the same nomenclature as the tabulated shape, provided its average flange thickness is essentially the same shape as the flange thickness of the "W" shape.

"S" shapes are doubly-symmetric shapes produced in accordance with dimensional standards adopted in 1896 by the Association of American Steel Manufacturers for American Standard beam shapes. The essential part of these standards is that the inside flange surfaces of American Standard beam shapes have approximately a 162/3% slope.

"M" shapes are doubly-symmetric shapes that cannot be classified as "W", "S", or bearing pile shapes. (Although not included in the standard nomenclature tabulation, bearing piles are doubly-symmetric wide flange shapes whose inside flange surfaces are essentially parallel and whose flange and web have essentially the same thickness.)

"C" shapes are channels produced in accordance with dimensional standards adopted in 1896 by the Association of American Steel Manufacturers for American Standard channels. The essential part of these standards is that the inside flange surfaces of American Standard channels have approximately a 162/3% slope.

"MC" shapes are channels that cannot be classified as "C" shapes.



ANGLES - BAR SIZES

Stock Lengths 20', 30', & 40' as indicated

| I← F | - | •1 | | | I | | | |
|-------------------------------|-------------|--------------------------|-------------|--|--|---|---|--|
| | 1 | Size In Inche | es | | | | Weight, Lbs. | |
| Α | | В | | c | Per Foot | 20-Ft. Length | 30-Ft. Length | 40-Ft. Length |
| 1/2 5/8 3/4 7/8 | X X X | 1/2 5/8 3/4 7/8 | X X X | 1/8 1/8 1/8 1/8 | .38 .48 .59 .70 | 7.6 9.6 11.8 14.0 | 11.4 14.4 17.7 21.0 | - - - |
| 1 | Х | 5/8 | Χ | 1/8 1/8 | .64 | 12.8 | 19.2 | _ |
| 1 | x x | 3/4 1 | x x | 1/8 3 _{/16} 1/4 | .70 .80 1.16 1.49 | 14.0 16.0 23.2 29.8 | 21.0 24.0 34.8 44.7 | 28.0 32.0 59.6 |
| 1 ¹ /8 | х | 1 ¹ /8 | х | 1/8 | .90 | 18.0 | 27.0 | 36.0 |
| 1 ¹ /4 | X | 1 ¹ /4 | х | 1/8 3/16 1/4 | 1.01 1.48 1.92 | 20.2 29.6 38.4 | 30.3 44.4 57.6 | 40.4 59.2 76.8 |
| 1 ³ /8 | Х | 7/8 | Х | 1/8 3/16 | .91 1.32 | 18.2 26.4 | 27.3 39.6 | 36.4 52.8 |
| 1 ¹ /2 | Х | 1 ¹ /4 | X | 3/16 | 1.64 | 32.8 | 49.2 | 65.6 |
| 11/2 | х | 11/2 | Х | ³ / ₁₆ 1/ ₄ 5/16 3/ ₈ | 1.23 1.80 2.34 2.86 3.35 | 24.6 36.0 46.8 57.2 67.0 | 36.9 54.0 70.2 85.8 100.5 | 49.2 72.0 93.6 114.4 134.0 |
| 1 ³ / ₄ | X | 1 ¹ /4 | Х | 1/8 3 _{/16} 1/4 | 1.23 1.80 2.34 | 24.6 36.0 46.8 | 36.9 54.0 70.2 | 49.2 72.0 93.6 |
| 1 ³ / ₄ | X | 13/4 | Х | 1/8 3/16 1/4 | 1.44 2.12 2.77 | 28.8 42.4 55.4 | 43.2 63.6 83.1 | 57.6 84.8 110.8 |
| 2 | Х | 1 ¹ /4 | Х | ³ /16 1/4 | 1.96 2.55 | 39.2 51.0 | 58.8 76.5 | 78.4 102.0 |
| 2 | Х | 1 ¹ /2 | Х | 1/8 3 _{/16} 1/4 | 1.44 2.12 2.77 | 28.8 42.4 55.4 | 43.2 63.6 83.1 | 57.6 84.8 110.8 |
| 2 | Х | 2 | Х | 1/8 1/4 5/16 3/8 1/2 | 1.65 2.44 3.19 3.92 4.70 5.92 | 33.0 48.8 63.8 78.4 94.0 118.4 | 49.5 73.2 95.7 117.6 141.0 177.6 | 66.0 97.6 127.6 156.8 188.0 236.8 |
| 21/2 | Х | 1 ¹ /2 | Х | ³ /16 1/4 5/16 | 2.44 3.19 3.92 | 48.8 63.8 78.4 | 73.2 95.7 117.6 | 97.6 127.6 156.8 |
| 2 ¹ / ₂ | x | 2 | х | ³ /16 1/4 5/16 3/8 | 2.75 3.62 4.50 5.30 | 55.0 72.4 90.0 106.0 | 82.5 108.6 135.0 159.0 | 110.0 144.8 180.0 212.0 |
| 21/2 | X | 21/2 | x | 3/16 1/4 5/16 3/8 1/2 | 3.07 4.10 5.00 5.90 7.70 | 61.4 82.0 100.0 118.0 154.0 | 92.1 123.0 150.0 177.0 231.0 | 122.8 164.0 200.0 236.0 308.0 |



ANGLES – STRUCTURAL SIZES

Stocked in Lengths up to 60'. See Page 1 of this Section.

| | Siz | | Es | stimate | ed Wei | ght, L | bs. | | | Siz | | | Estimated Weight, Lbs. | | | s. | |
|---------|---------------------------|------------------------------------|------|---------|--------|--------|-------|---|----|-----|-------------|------------------------------|------------------------|------------|------------|--------------|------------|
| | n Inc | enes | Per | 20-Et | 30-Ft. | 40-Et | 60-Et | | ın | ıne | che | s | Per | 20-Ft. | 30-Ft. | 40-Ft. | 60-Ft. |
| Α | В | С | Foot | Lgth | Lgth | Lgth | Lgth | Α | | В | | с | Foot | Lgth | Lgth | Lgth | Lgth |
| | - (2 | x ³ /16 | 3.07 | 61 | 92 | 123 | 184 | 5 | х | | | 1/4 | 6.6 | 132 | 198 | 264 | 396 |
| з у | (2 | 1/4 | 4.1 | 82 | 123 | 164 | 246 | 5 | Х | 3 | Х | 5/ ₁₆ | 8.2 | 164 | 246 | 328 | 492 |
| | | 5/16 | 5.0 | 100 | 150 | 200 | 300 | | | | | 3/8 | 9.8 | 196 | 294 | 392 | 588 |
| | | 3/8 | 5.9 | 118 | 177 | 236 | 354 | | | | | 1/2 | 12.8 | 256 | 384 | 512 | 768 |
| | | 1/2 | 7.7 | 154 | 231 | 308 | 462 | | | | | | | | | | |
| | | /_ | | .01 | 201 | 000 | 102 | 5 | Х | 31 | /2 X | 1/4 | 7.0 | 140 | 210 | 280 | 420 |
| 3 x | 21/ | 2 x ¹ /4 | 4.5 | 90 | 135 | 180 | 270 | | | | | ⁵ / ₁₆ | 8.7 | 174 | 261 | 348 | 522 |
| , | . – | 5/ ₁₆ | 5.6 | 112 | 168 | 224 | 336 | | | | | 3/8 | 10.4 | 208 | 312 | 416 | 624 |
| | | 3/8 | 6.6 | 132 | 198 | 264 | 396 | | | | | 1/2 | 13.6 | 272 | 408 | | 816 |
| | | 1/2 | 8.5 | 170 | 255 | 340 | 510 | | | | | 5/8 3/4 | 16.8 | 336 | 504 | | 1008 |
| | | | | | | | | | | | | 94 | 19.8 | 396 | 594 | 192 | 1188 |
| 3 x | x 3 | x ³ /16 | 3.71 | 74 | 111 | 148 | 223 | 5 | Χ | 5 | Χ | 5/16 | 10.3 | 206 | 309 | 412 | 618 |
| | | 1/4 | 4.9 | 98 | 147 | 196 | 294 | | | | | 3/8 | 12.3 | 246 | 369 | 492 | 738 |
| | | 5/16 | 6.1 | 122 | 183 | 244 | 366 | | | | | 1/2 | 16.2 | 324 | 486 | | 972 |
| | | 3/8 | 7.2 | 144 | 216 | 288 | 432 | | | | | 5/8 | 20.0 | 400 | 600 | | 1200 |
| | | 1/2 | 9.4 | 188 | 282 | 376 | 564 | | | | | 3/4 | 23.6 | 472 | 708 | 944 | 1416 |
| | | | | | | | | 6 | Х | 31 | /2 X | 1/4 | 7.9 | 158 | 237 | 316 | 474 |
| 31/2 x | (2 ¹ / | 2 x ¹ /4 | 4.9 | 98 | 147 | 196 | 294 | | | | | 5/16 | 9.8 | 196 | 294 | 392 | 588 |
| | | 5/16 | 6.1 | 122 | 183 | 244 | 366 | | | | | 3/8 | 11.7 | 234 | 351 | 468 | 702 |
| | | 3/8 | 7.2 | 144 | 216 | 288 | 432 | | | | | 1/2 | 15.3 | 306 | 459 | 612 | 918 |
| | | 1/2 | 9.4 | 188 | 282 | 376 | 564 | 6 | х | 4 | х | 5/16 | 10.3 | 206 | 309 | 412 | 618 |
| | | | | | | | | ٥ | | · | | 3/8 | 12.3 | 246 | 369 | | |
| 31/2 > | κ 3 | X ^{1/4} | 5.4 | 108 | 162 | 216 | 324 | | | | | 1/2 | 16.2 | 324 | 486 | | 972 |
| | | 5/16 | 6.6 | 132 | 198 | 264 | 396 | | | | | 5/8 | 20.0 | 400 | 600 | | 1200 |
| | | 3/8 | 7.9 | 158 | 237 | 316 | 474 | | | | | 3/4 | 23.6 | 472 | 708 | | 1416 |
| | | 1/2 | 10.2 | 204 | 306 | 408 | 612 | _ | v | 6 | v | 5/16 | 10.4 | 240 | 272 | 400 | 744 |
| 011 | 0.1 | . 4. | | 440 | | | | 6 | Х | О | ^ | 3/8 | 12.4 14.9 | 248 298 | 372 447 | | 744 894 |
| 3 1/2 x | (31/ | 2 X ¹ /4 | 5.8 | 116 | | 232 | 348 | | | | | 1/2 | 19.6 | 392 | 588 | | 1176 |
| | | 5/16 3/- | 7.2 | 144 | 216 | 288 | 432 | | | | | 3/4 | 28.7 | 574 | | 1148 | |
| | | 3/ ₈ 1/ ₂ | 8.5 | 170 | 255 | 340 | 510 | | | | | 1 | 37.4 | 748 | | 1496 | |
| | | 1/2 | 11.1 | 222 | 333 | 444 | 666 | | | | | | | | | | |
| 4 x | κ 3 | x ¹ / ₄ | 5.8 | 116 | 174 | 232 | 348 | 7 | Х | 4 | Х | 3/8 | 13.6 | 272 | 408 | | 816 |
| 7 / | , , | 5/16 | 7.2 | 144 | 216 | 288 | 432 | | | | | 1/2 5/- | 17.9 | 358 | 537 | | 1074 |
| | | 3/8 | 8.5 | 170 | 255 | 340 | 510 | | | | | 5/8 3/4 | 22.1 | 442 | 663 | | 1326 |
| | | 1/2 | 11.1 | 222 | 333 | 444 | 666 | | | | | 94 | 26.2 | 524 | 700 | 1048 | 15/2 |
| | | | | | 000 | | | 8 | Χ | 4 | Χ | 1/2 | 19.6 | 392 | 588 | 784 | 1176 |
| 4 x | x 31/ | 2 x 1/4 | 6.2 | 124 | 186 | 248 | 372 | | | | | 5/8 | 24.2 | 484 | 726 | 968 | 1452 |
| • | • | 5/16 | 7.7 | 154 | 231 | 308 | 462 | | | | | 3/4 | 28.7 | 574 | 861 | 1148 | 1722 |
| | | 3/8 | 9.1 | 182 | | 364 | 546 | 8 | х | 6 | Х | 1/2 | 23.0 | 460 | 690 | 920 | 1380 |
| | | 1/2 | 11.9 | 238 | | 476 | 714 | - | | | | 3/4 | 33.8 | | 1014 | | |
| | | | | | | | | | | | | 1 | 44.2 | | 1326 | | |
| 4 x | κ 4 | x ¹ / ₄ | 6.6 | 132 | 198 | 264 | 396 | | ~ | ρ | v | 1/2 | 26.4 | | | | |
| | | 5/16 | 8.2 | 164 | 246 | 328 | 492 | Q | Х | O | ^ | 5/ ₈ | 26.4 32.7 | 528 654 | | 1056 1308 | |
| | | 3/8 | 9.8 | 196 | 294 | 392 | 588 | | | | | 3/4 | 38.9 | | 1167 | | |
| | | 1/2 | 12.8 | 256 | 384 | 512 | 768 | | | | | 1 | 51.0 | | 1530 | | |
| | | 5/8 | 15.7 | 314 | | 628 | 942 | | | | | | | | | | |
| | | 3/4 | 18.5 | 370 | 555 | 740 | 1110 | 9 | Х | 4 | Х | 1/2 | 21.3 | 426 | 639 | 852 | 1278 |



CHANNEL - BAR SIZES

Stock Lengths 20' and 30'

| Size | Estim | ated Weigl | nt, Lbs. | Size | Estimated Weight, Lbs. | | | |
|---|-------|------------|----------|--|------------------------|--------|--------|--|
| in Inches | | | | in Inches | | | | |
| | Per | 20-Ft. | 30-Ft | | Per | 20-Ft. | 30-Ft. | |
| A B C | Foot | Length | Length | а в с | Foot | Length | Length | |
| 3/4 x 3/8 x 1/8 | .56 | 11.2 | 16.8 | 11/2 x 3/4 x 1/8 | 1.17 | 23.4 | 35.1 | |
| 1 x ³ /8 x ¹ /8 | .68 | 13.6 | 20.4 | 2 x ¹ / ₂ x ¹ / ₈ | 1.43 | 28.6 | 42.9 | |
| 1 x ¹ / ₂ x ¹ / ₈ | .84 | 16.8 | 25.2 | 2 x ⁹ /16 x ³ /16 | 1.86 | 37.2 | 55.8 | |
| 11/4 x 1/2 x 1/8 | 1.01 | 20.2 | 30.3 | 2 x 5/8 x 1/4 | 2.28 | 45.6 | 68.4 | |
| 1 ¹ / ₂ x ¹ / ₂ x ¹ / ₈ | 1.12 | 22.4 | 33.6 | 2 x 1 x ¹ / ₈ | 1.78 | 35.6 | 53.4 | |
| 1 ¹ / ₂ x ⁹ / ₁₆ x ³ / ₁₆ | 1.44 | 28.8 | 43.2 | 2 x 1 x ³ /16 | 2.57 | 51.4 | 77.1 | |
| | | | | 2 ¹ / ₂ x ⁵ / ₈ x ³ / ₁₆ | 2.27 | 45.4 | 68.1 | |



CHANNEL - STANDARD STRUCTURAL SIZES

Stocked in Lengths up to 60'. See Page 1 of this Section.

| | | Α . | _ В | C | Weight, Lbs. | | | | | | |
|-----|------------------|-----------------------|---------------------------|----------------------------|--------------|------------------|------------------|------------------|------------------|--|--|
| | AISI ignation | Depth in Inches | Flange Width Inches | Web Thickness Inches | Per Foot | 20-Ft. Length | 30-Ft. Length | 40-Ft. Length | 60-Ft. Length | | |
| C3 | x 4.1 | 3 | 1.410 | .170 | 4.1 | 82 | 123 | 164 | 246 | | |
| C3 | x 5 | 3 | 1.498 | .258 | 5.0 | 100 | 150 | 200 | 300 | | |
| C3 | x 6 | 3 | 1.596 | .356 | 6.0 | 120 | 180 | 240 | 360 | | |
| | x 5.4 | 4 | 1.584 | .184 | 5.4 | 108 | 162 | 216 | 324 | | |
| | x 6.25 | 4 | 1.647 | .247 | 6.25 | 125 | 188 | 250 | 375 | | |
| C4 | x 7.25 | 4 | 1.721 | .321 | 7.25 | 145 | 218 | 290 | 435 | | |
| C5 | x 6.7 | 5 | 1.750 | .190 | 6.7 | 134 | 201 | 268 | 402 | | |
| C5 | x 9 | 5 | 1.885 | .325 | 9.0 | 180 | 270 | 360 | 540 | | |
| | x 8.2 | 6 | 1.920 | .200 | 8.2 | 164 | 246 | 328 | 492 | | |
| | x 10.5 | 6 | 2.034 | .314 | 10.5 | 210 | 315 | 420 | 630 | | |
| C6 | x 13 | 6 | 2.157 | .437 | 13.0 | 260 | 390 | 520 | 780 | | |
| C7 | x 9.8 | 7 | 2.090 | .210 | 9.8 | 196 | 294 | 392 | 588 | | |
| | x12.25 | 7 | 2.194 | .314 | 12.25 | 245 | 368 | 490 | 735 | | |
| C7 | x14.75 | 7 | 2.299 | .419 | 14.75 | 295 | 443 | 590 | 885 | | |
| | x 11.5 | 8 | 2.260 | .220 | 11.5 | 230 | 345 | 460 | 690 | | |
| | x13.75 | 8 | 2.343 | .303 | 13.75 | 275 | 413 | 550 | 825 | | |
| C8 | x18.75 | 8 | 2.527 | .487 | 18.75 | 375 | 563 | 750 | 1125 | | |
| | x 13.4 | 9 | 2.433 | .233 | 13.4 | 268 | 402 | 536 | 804 | | |
| C9 | x 15 | 9 | 2.485 | .285 | 15.0 | 300 | 450 | 600 | 900 | | |
| C9 | x 20 | 9 | 2.648 | .448 | 20.0 | 400 | 600 | 800 | 1200 | | |
| | x 15.3 | 10 | 2.600 | .240 | 15.3 | 306 | 459 | 612 | 918 | | |
| C10 | | 10 | 2.739 | .379 | 20.0 | 400 | 600 | 800 | 1200 | | |
| C10 | | 10 | 2.886 | 526 | 25.0 | 500 | 750 | 1000 | 1500 | | |
| C10 | x 30 | 10 | 3.033 | .673 | 30.0 | 600 | 900 | 1200 | 1800 | | |
| | x 20.7 | 12 | 2.942 | .282 | 20.7 | 414 | 621 | 828 | 1242 | | |
| C12 | | 12 | 3.047 | .387 | 25.0 | 500 | 750 | 1000 | 1500 | | |
| C12 | x 30 | 12 | 3.170 | .510 | 30.0 | 600 | 900 | 1200 | 1800 | | |
| | x 33.9 | 15 | 3.400 | .400 | 33.9 | 678 | 1017 | 1356 | 2034 | | |
| C15 | | 15 | 3.520 | .520 | 40.0 | 800 | 1200 | 1600 | 2400 | | |
| C15 | x 50 | 15 | 3.716 | .716 | 50.0 | 1000 | 1500 | 2000 | 3000 | | |



MISCELLANEOUS CHANNELS - STRUCTURAL SIZES

Stocked in Lengths up to 60'. See Page 1 of this Section.

| I+B+I | 1 - | _ | | 1 | | | | | |
|-------------|--------------|-----------------|---------------------|-------------|------------------|------------------|------------------|------------------|--|
| AISI | A Depth | B Flange | C Web | | W | eight, Lb | 98. | | |
| Designation | in Inches | Width Inches | Thickness Inches | Per Foot | 20-Ft. Length | 30-Ft. Length | 40-Ft. Length | 60-Ft. Length | |
| MC3 x 7.1 | 3 | 1.938 | .312 | 7.1 | 142 | 213 | 284 | 426 | |
| MC4 x 13.8 | 4 | 2.500 | .500 | 13.8 | 276 | 414 | 552 | 828 | |
| MC6 x 12.0 | 6 | 2.497 | .310 | 12.0 | 240 | 360 | 480 | 720 | |
| MC6 x 15.3 | 6 | 3.500 | .340 | 15.3 | 306 | 459 | 612 | 918 | |
| MC6 x 16.3 | 6 | 3.000 | .375 | 16.3 | 326 | 489 | 652 | 978 | |
| MC6 X18.0 | 6 | 3.504 | .379 | 18.0 | 360 | 540 | 720 | 1080 | |
| MC7 x 19.1 | 7 | 3.452 | .352 | 19.1 | 382 | 573 | 764 | 1146 | |
| MC7 x 22.7 | 7 | 3.603 | .503 | 22.7 | 454 | 681 | 908 | 1362 | |
| MC8 x 8.5 | 8 | 1.875 | .188 | 8.5 | 170 | 255 | 340 | 510 | |
| MC8 x 18.7 | 8 | 2.978 | .353 | 18.7 | 374 | 561 | 748 | 1122 | |
| MC8 x 20.0 | 8 | 3.025 | .400 | 20.0 | 400 | 600 | 800 | 1200 | |
| MC8 x 21.4 | 8 | 3.450 | .375 | 21.4 | 428 | 642 | 856 | 1284 | |
| MC8 x 22.8 | 8 | 3.502 | .427 | 22.8 | 456 | 684 | 912 | 1368 | |
| MC9 x 23.9 | 9 | 3.450 | .400 | 23.9 | 478 | 717 | 956 | 1434 | |
| MC9 x 25.4 | 9 | 3.500 | .450 | 25.4 | 508 | 762 | 1016 | 1524 | |
| MC10 x 6.5 | 10 | 1.125 | .150 | 6.5 | 130 | 195 | 260 | 390 | |
| MC10 x 8.4 | 10 | 1.500 | .170 | 8.4 | 168 | 252 | 336 | 504 | |
| MC10 x 22.0 | 10 | 3.376 | .312 | 22.0 | 440 | 660 | 880 | 1320 | |
| MC10 x 25.0 | 10 | 3.405 | .380 | 25.0 | 500 | 750 | 1000 | 1500 | |
| MC10 x 28.5 | 10 | 3.950 | .425 | 28.5 | 570 | 855 | 1140 | 1710 | |
| MC10 x33.6 | 10 | 4.100 | .575 | 33.6 | 672 | 1008 | 1344 | 2016 | |
| MC12 x 10.6 | 12 | 1.500 | .190 | 10.6 | 212 | 318 | 424 | 636 | |
| MC12 x31.0 | 12 | 3.670 | .370 | 31.0 | 620 | 930 | 1240 | 1860 | |
| MC12 x 35.0 | 12 | 3.767 | .467 | 35.0 | 700 | 1050 | 1400 | 2100 | |
| MC12 x 37.0 | 12 | 3.600 | .600 | 37.0 | 740 | 1110 | 1480 | 2220 | |
| MC12 x 45.0 | 12 | 4.012 | .712 | 45.0 | 900 | 1350 | 1800 | 2700 | |
| MC12 x 50.0 | 12 | 4.135 | .835 | 50.0 | 1000 | 1500 | 2000 | 3000 | |
| MC13 x31.8 | 13 | 4.000 | .375 | 31.8 | 636 | 954 | 1272 | 1908 | |
| MC13 x 40.0 | 13 | 4.185 | .560 | 40.0 | 800 | 1200 | 1600 | 2400 | |
| MC13 x 50.0 | 13 | 4.412 | .787 | 50.0 | 1000 | 1500 | 2000 | 3000 | |
| MC18 x 42.7 | 18 | 3.950 | .450 | 42.7 | 854 | 1281 | 1708 | 2562 | |
| MC18 x 45.8 | 18 | 4.000 | .500 | 45.8 | 916 | 1374 | 1832 | 2748 | |
| MC18 x 51.9 | 18 | 4.100 | .600 | 51.9 | 1038 | 1557 | 2076 | 3114 | |
| MC18 x 58.0 | 18 | 4.200 | .700 | 58.0 | 1160 | 1740 | 2320 | 3480 | |
| | | | ' | | | | | | |



STANDARD ("I") BEAMS

Stocked in Lengths up to 60'. See Page 1 of this Section.

| A B C | | | | | Weight, Lbs. | | | | | |
|-------|-----------------|-----------------------|---------------------------|----------------------------|--------------|------------------|------------------|------------------|------------------|--|
| | AISI gnation | Depth in Inches | Flange Width Inches | Web Thickness Inches | Per Foot | 20-Ft. Length | 30-Ft. Length | 40-Ft. Length | 60-Ft. Length | |
| S3 | x 5.7 | 3 | 2.330 | .170 | 5.7 | 114 | 171 | 228 | 342 | |
| S3 | x 7.5 | 3 | 2.509 | .349 | 7.5 | 150 | 225 | 300 | 450 | |
| S4 | x 7.7 | 4 | 2.663 | .193 | 7.7 | 154 | 231 | 308 | 462 | |
| S4 | x 9.5 | 4 | 2.796 | .326 | 9.5 | 190 | 285 | 380 | 570 | |
| S5 | x 10 | 5 | 3.004 | .214 | 10.0 | 200 | 300 | 400 | 600 | |
| S5 | x14.75 | 5 | 3.284 | .494 | 14.75 | 295 | 443 | 590 | 885 | |
| S6 | x 12.5 | 6 | 3.332 | .232 | 12.5 | 250 | 375 | 500 | 750 | |
| S6 | X17.25 | 6 | 3.565 | .465 | 17.25 | 345 | 518 | 690 | 1035 | |
| S7 | x 15.3 | 7 | 3.662 | .252 | 15.3 | 306 | 459 | 612 | 918 | |
| S7 | x 20 | 7 | 3.860 | .450 | 20.0 | 400 | 600 | 800 | 1200 | |
| S8 | x 18.4 | 8 | 4.001 | .271 | 18.4 | 368 | 552 | 736 | 1104 | |
| S8 | x 23 | 8 | 4.171 | .441 | 23.0 | 460 | 690 | 920 | 1380 | |
| S10 | x 25.4 | 10 | 4.661 | .311 | 25.4 | 508 | 762 | 1016 | 1524 | |
| S10 | x 35 | 10 | 4.944 | .594 | 35.0 | 700 | 1050 | 1400 | 2100 | |
| S12 | x 31.8 | 12 | 5.000 | .350 | 31.8 | 636 | 954 | 1272 | 1908 | |
| S12 | x 35 | 12 | 5.078 | .428 | 35.0 | 700 | 1050 | 1400 | 2100 | |
| S12 | x 40.8 | 12 | 5.252 | .462 | 40.8 | 816 | 1224 | 1632 | 2448 | |
| S12 | x 50 | 12 | 5.477 | .687 | 50.0 | 100 | 1500 | 2000 | 3000 | |
| S15 | x 42.9 | 15 | 5.501 | .411 | 42.9 | 858 | 1287 | 1716 | 2574 | |
| S15 | x 50 | 15 | 5.640 | .550 | 50.0 | 1000 | 1500 | 2000 | 3000 | |
| S18 | x 54.7 | 18 | 6.001 | .461 | 54.7 | 1094 | 1641 | 2188 | 3282 | |
| S18 | x 70 | 18 | 6.251 | .711 | 70.0 | 1400 | 2100 | 2800 | 4200 | |
| S20 | x 66 | 20 | 6.255 | .505 | 66.0 | 1320 | 1980 | 2640 | 3960 | |
| S20 | x 75 | 20 | 6.385 | .635 | 75.0 | 1500 | 2250 | 3000 | 4500 | |
| S20 | x 86 | 20 | 7.060 | .660 | 86.0 | 1720 | 2580 | 3440 | 5160 | |
| S20 | x 96 | 20 | 7.200 | .800 | 96.0 | 1920 | 2880 | 3840 | 5760 | |
| S24 | x 80 | 24 | 7.000 | .500 | 80.0 | 1600 | 2400 | 3200 | 4800 | |
| S24 | x 90 | 24 | 7.125 | .625 | 90.0 | 1800 | 2700 | 3600 | 5400 | |
| S24 | x 100 | 24 | 7.245 | .745 | 100.0 | 2000 | 3000 | 4000 | 6000 | |
| S24 | x 106 | 24.5 | 7.870 | .620 | 106.0 | 2120 | 3180 | 4240 | 6360 | |
| S24 | x 121 | 24.5 | 8.050 | .800 | 121.0 | 2420 | 3630 | 4840 | 7260 | |



WIDE FLANGE (W) AND MISCELLANEOUS SHAPES (M)

Stocked in Lengths up to 60'. See Page 1 of this Section.

| - | -61 | A | В | С | Weight, Lbs. | | | | |
|-----|-----------------|-----------------------|---------------------------|----------------------------|--------------|------------------|------------------|------------------|--|
| | AISI gnation | Depth in Inches | Flange Width Inches | Web Thickness Inches | Per Foot | 20-Ft. Length | 40-Ft. Length | 60-Ft. Length | |
| W4 | x 13.0 | 4.16 | 4.060 | .280 | 13.0 | 260 | 520 | 780 | |
| M4 | x 13.0 | 4.00 | 3.940 | .254 | 13.0 | 260 | 520 | 780 | |
| W5 | x 16.0 | 5.01 | 5.000 | .240 | 16.0 | 320 | 640 | 960 | |
| M5 | x 18.9 | 5.00 | 5.003 | .316 | 18.9 | 378 | 756 | 1134 | |
| W5 | x 19.0 | 5.15 | 5.030 | .270 | 19.0 | 380 | 760 | 1140 | |
| M6 | x 4.4 | 6.00 | 1.844 | .114 | 4.4 | 88 | 176 | 264 | |
| W6 | X 9.0 | 5.90 | 3.940 | .170 | 9.0 | 180 | 360 | 540 | |
| W6 | X 12.0 | 6.03 | 4.000 | .230 | 12.0 | 240 | 480 | 720 | |
| W6 | X 15.0 | 5.99 | 5.990 | .230 | 15.0 | 300 | 600 | 900 | |
| W6 | X 16.0 | 6.28 | 4.030 | .260 | 16.0 | 320 | 640 | 960 | |
| W6 | X 20.0 | 6.20 | 6.020 | .260 | 20.0 | 400 | 800 | 1200 | |
| W6 | X 25.0 | 6.38 | 6.080 | .320 | 25.0 | 500 | 1000 | 1500 | |
| M8 | x 6.5 | 8.00 | 2.281 | .135 | 6.5 | 130 | 260 | 390 | |
| W8 | x 10.0 | 7.89 | 3.940 | .170 | 10.0 | 200 | 400 | 600 | |
| W8 | x 13.0 | 7.99 | 4.000 | .230 | 13.0 | 260 | 520 | 780 | |
| W8 | x 15.0 | 8.11 | 4.015 | .245 | 15.0 | 300 | 600 | 900 | |
| W8 | x 18.0 | 8.14 | 5.250 | .230 | 18.0 | 360 | 720 | 1080 | |
| W8 | x 21.0 | 8.28 | 5.270 | .250 | 21.0 | 420 | 840 | 1260 | |
| W8 | x 24.0 | 7.93 | 6.495 | .245 | 24.0 | 480 | 960 | 1440 | |
| W8 | x 28.0 | 8.06 | 6.535 | .285 | 28.0 | 560 | 1120 | 1680 | |
| W8 | x 31.0 | 8.00 | 7.995 | .285 | 31.0 | 620 | 1240 | 1860 | |
| W8 | x 35.0 | 8.12 | 8.020 | .310 | 35.0 | 700 | 1400 | 2100 | |
| W8 | x 40.0 | 8.25 | 8.070 | .360 | 40.0 | 800 | 1600 | 2400 | |
| W8 | x 48.0 | 8.50 | 8.110 | .400 | 48.0 | 960 | 1920 | 2880 | |
| W8 | x 58.0 | 8.75 | 8.220 | .510 | 58.0 | 1160 | 2320 | 3480 | |
| W8 | x 67.0 | 9.00 | 8.280 | .570 | 67.0 | 1340 | 2680 | 4020 | |
| M10 | x 9.0 | 10.00 | 2.690 | .157 | 9.0 | 180 | 360 | 540 | |
| W10 | x 12.0 | 9.87 | 3.960 | .190 | 12.0 | 240 | 480 | 720 | |
| W10 | x 15.0 | 9.99 | 4.000 | .230 | 15.0 | 300 | 600 | 900 | |
| W10 | x 17.0 | 10.11 | 4.010 | .240 | 17.0 | 340 | 680 | 1020 | |
| W10 | x 19.0 | 10.24 | 4.020 | .250 | 19.0 | 380 | 760 | 1140 | |
| | x 22.0 | 10.17 | 5.750 | .240 | 22.0 | 440 | 880 | 1320 | |
| W10 | | 10.33 | 5.770 | .260 | 26.0 | 520 | 1040 | 1560 | |
| W10 | x 30.0 | 10.47 | 5.810 | .300 | 30.0 | 600 | 1200 | 1800 | |
| W10 | x 33.0 | 9.73 | 7.960 | .290 | 33.0 | 660 | 1320 | 1980 | |
| | x 39.0 | 9.92 | 7.985 | .315 | 39.0 | 780 | 1560 | 2340 | |
| | x 45.0 | 10.10 | 8.020 | .350 | 45.0 | 900 | 1800 | 2700 | |
| | x 49.0 | 9.98 | 10.000 | .340 | 49.0 | 980 | 1960 | 2940 | |
| | x 54.0 | 10.09 | 10.030 | .370 | 54.0 | 1080 | 2160 | 3240 | |
| | X 60.0 | 10.22 | 10.080 | .420 | 60.0 | 1200 | 2400 | 3600 | |
| | X 68.0 | 10.40 | 10.130 | .470 | 68.0 | 1360 | 2720 | 4080 | |
| | X 77.0 | 10.60 | 10.190 | .530 | 77.0 | 1540 | 3080 | 4620 | |
| | X 88.0 | 10.84 | 10.265 | .605 | 0.88 | 1760 | 3520 | 5280 | |
| W10 | X100.0 | 11.10 | 10.340 | .680 | 100.0 | 2000 | 4000 | 6000 | |



WIDE FLANGE (W) AND MISCELLANEOUS SHAPES (M)

(Continued)

Stocked in Lengths up to 60'. See Page 1 of this Section.

| K-B-7 | Α | В | С | Weight, Lbs. | | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|--------------|------------------|------------------|------------------|--|
| AISI Designation | Depth in Inches | Flange Width Inches | Web Thickness Inches | Per Foot | 20-Ft. Length | 40-Ft. Length | 60-Ft. Length | |
| M12 x 11.8 | 12.00 | 3.065 | .177 | 11.8 | 236 | 472 | 708 | |
| W12 x 14.0 | 11.91 | 3.970 | .200 | 14.0 | 280 | 560 | 840 | |
| W12 x 16.0 | 11.99 | 3.990 | .220 | 16.0 | 320 | 640 | 960 | |
| W12 x 19.0 | 12.16 | 4.005 | .235 | 19.0 | 380 | 760 | 1140 | |
| W12 x 22.0 | 12.31 | 4.030 | .260 | 22.0 | 440 | 880 | 1320 | |
| W12 x 26.0 | 12.22 | 6.490 | .230 | 26.0 | 520 | 1040 | 1560 | |
| W12 x 30.0 | 12.34 | 6.520 | .260 | 30.0 | 600 | 1200 | 1800 | |
| W12 x 35.0 | 12.50 | 6.560 | .300 | 35.0 | 700 | 1400 | 2100 | |
| W12 x 40.0 | 11.94 | 8.005 | .295 | 40.0 | 800 | 1600 | 2400 | |
| W12 x 45.0 | 12.06 | 8.045 | .335 | 45.0 | 900 | 1800 | 2700 | |
| W12 x 50.0 | 12.19 | 8.080 | .370 | 50.0 | 1000 | 2000 | 3000 | |
| W12 x 53.0 | 12.06 | 9.995 | .345 | 53.0 | 1060 | 2120 | 3180 | |
| W12 x 58.0 | 12.19 | 10.010 | .360 | 58.0 | 1160 | 2320 | 3480 | |
| W12 x 65.0 | 12.12 | 12.000 | .390 | 65.0 | 1300 | 2600 | 3900 | |
| W12 x 72.0 | 12.25 | 12.040 | .430 | 72.0 | 1440 | 2880 | 4320 | |
| W12 x 79.0 | 12.38 | 12.080 | .470 | 79.0 | 1580 | 3160 | 4740 | |
| W12 x 87.0 | 12.53 | 12.125 | .515 | 87.0 | 1740 | 3480 | 5220 | |
| W12 x 96.0 | 12.71 | 12.160 | .550 | 96.0 | 1920 | 3840 | 5760 | |
| W12 x106.0 | 12.89 | 12.220 | .610 | 106.0 | 2120 | 4240 | 6360 | |
| W12 x120.0 | 13.12 | 12.320 | .710 | 120.0 | 2400 | 4800 | 7200 | |
| W12 x136.0 | 13.41 | 12.400 | .790 | 136.0 | 2720 | 5440 | 8160 | |
| M14 x 22.0 | 13.72 | 5.000 | .230 | 22.0 | 440 | 880 | 1320 | |
| W14 x 26.0 | 13.91 | 5.025 | .255 | 26.0 | 520 | 1040 | 1560 | |
| W14 x 30.0 | 13.84 | 6.730 | .270 | 30.0 | 600 | 1200 | 1800 | |
| W14 x 34.0 | 13.98 | 6.745 | .285 | 34.0 | 680 | 1360 | 2040 | |
| W14 x 38.0 | 14.10 | 6.770 | .310 | 38.0 | 760 | 1520 | 2280 | |
| W14 x 43.0 | 13.66 | 7.995 | .305 | 43.0 | 860 | 1720 | 2580 | |
| W14 x 48.0 | 13.79 | 8.030 | .340 | 48.0 | 960 | 1920 | 2880 | |
| W14 x 53.0 | 13.92 | 8.060 | .370 | 53.0 | 1060 | 2120 | 3180 | |
| W14 x 61.0 | 13.89 | 9.995 | .375 | 61.0 | 1220 | 2440 | 3660 | |
| W14 x 68.0 | 14.04 | 10.035 | .415 | 68.0 | 1360 | 2720 | 4080 | |
| W14 x 74.0 | 14.17 | 10.070 | .450 | 74.0 | 1480 | 2960 | 4440 | |
| W14 x 82.0 | 14.31 | 10.130 | .510 | 82.0 | 1640 | 3280 | 4920 | |
| W14 x 90.0 | 14.02 | 14.520 | .440 | 90.0 | 1800 | 3600 | 5400 | |
| W14 X99.0 | 14.16 | 14.565 | .485 | 99.0 | 1980 | 3960 | 5940 | |
| W14 X109.0 | 14.32 | 14.605 | .525 | 109.0 | 2180 | 4360 | 6540 | |
| W14 X120.0 W14 X132.0 | 14.48 | 14.670 | .590 .645 | 120.0 | 2400 | 4800 | 7200 | |
| | 14.66 14.98 | 14.725 | .045 .745 | 132.0 | 2640 | 5280 | 7920 | |
| W14 X159.0 | 14.90 | 15.565 | .745 | 159.0 | 3180 | 6360 | 9540 | |
| W16 X26.0 | 15.69 | 5.500 | .250 | 26.0 | 520 | 1040 | 1560 | |
| W16 X31.0 | 15.88 | 5.525 | .275 | 31.0 | 620 | 1240 | 1860 | |
| W16 X36.0 | 15.86 | 6.985 | .295 | 36.0 | 720 | 1440 | 2160 | |
| W16 X40.0 | 16.01 | 6.995 | .305 | 40.0 | 800 | 1600 | 2400 | |
| W16 X45.0 | 16.13 | 7.035 | .345 | 45.0 | 900 | 1800 | 2700 | |
| W16 X50.0 | 16.26 | 7.070 | .380 | 50.0 | 1000 | 2000 | 3000 | |

(Continued on next page)



WIDE FLANGE (W) AND MISCELLANEOUS SHAPES (M)

(Continued)

Stocked in Lengths up to 60'. See Page 1 of this Section.

| | A Depth in Inches | B Flange Width Inches | C Web Thickness Inches | Weight, Lbs. | | | |
|---------------------|----------------------------|--------------------------------|---------------------------------|--------------|------------------|------------------|------------------|
| AISI Designation | | | | Per Foot | 20-Ft. Length | 40-Ft. Length | 60-Ft. Length |
| M16 x 57.0 | 16.43 | 7.120 | .430 | 57.0 | 1140 | 2280 | 3420 |
| W16 x 67.0 | 16.33 | 10.235 | .395 | 67.0 | 1340 | 2680 | 4020 |
| W16 x 77.0 | 16.52 | 10.295 | .455 | 77.0 | 1540 | 3080 | 4620 |
| W16 x 89.0 | 16.75 | 10.365 | .525 | 89.0 | 1780 | 3560 | 5340 |
| W16 x100.0 | 16.97 | 10.425 | .585 | 100.0 | 2000 | 4000 | 6000 |
| W18 x 35.0 | 17.70 | 6.000 | .300 | 35.0 | 700 | 1400 | 2100 |
| W18 x 40.0 | 17.90 | 6.015 | .315 | 40.0 | 800 | 1600 | 2400 |
| W18 x 46.0 | 18.06 | 6.060 | .360 | 46.0 | 920 | 1840 | 2760 |
| W18 x 50.0 | 17.99 | 7.495 | .355 | 50.0 | 1000 | 2000 | 3000 |
| W18 x 55.0 | 18.11 | 7.530 | .390 | 55.0 | 1100 | 2200 | 3300 |
| W18 x 60.0 | 18.24 | 7.555 | .415 | 60.0 | 1200 | 2400 | 3600 |
| W18 x 65.0 | 18.35 | 7.590 | .450 | 65.0 | 1300 | 2600 | 3900 |
| W18 x 71.0 | 18.47 | 7.635 | .495 | 71.0 | 1420 | 2840 | 4260 |
| W18 x 76.0 | 18.21 | 11.035 | .425 | 76.0 | 1520 | 3040 | 4560 |
| W18 x 86.0 | 18.39 | 11.090 | .480 | 86.0 | 1720 | 3440 | 5160 |
| W18 x 97.0 | 18.59 | 11.145 | .535 | 97.0 | 1940 | 3880 | 5820 |
| W18 x106.0 | 18.73 | 11.200 | .590 | 106.0 | 2120 | 4240 | 6360 |
| W18 x119.0 | 18.97 | 11.265 | .655 | 119.0 | 2380 | 4760 | 7140 |
| W21 x 44.0 | 20.66 | 6.500 | .350 | 44.0 | 880 | 1760 | 2640 |
| W21 x 57.0 | 21.06 | 6.555 | .405 | 57.0 | 1140 | 2280 | 3420 |
| W21 x 62.0 | 20.99 | 8.240 | .400 | 62.0 | 1240 | 2480 | 3720 |
| M21 x 68.0 | 21.13 | 8.270 | .430 | 68.0 | 1360 | 2720 | 4080 |
| W21 x 73.0 | 21.24 | 8.295 | .455 | 73.0 | 1460 | 2920 | 4380 |
| W21 x 83.0 | 21.43 | 8.355 | .515 | 83.0 | 1660 | 3320 | 4980 |
| W21 x101.0 | 21.36 | 12.290 | .500 | 101.0 | 2020 | 4040 | 6060 |
| W24 x 55.0 | 23.57 | 7.005 | .395 | 55.0 | 1800 | 2200 | 3300 |
| W24 x 68.0 | 23.73 | 8.965 | .415 | 68.0 | 1360 | 2720 | 4080 |
| W24 x 76.0 | 23.92 | 8.990 | .440 | 76.0 | 1520 | 3040 | 4560 |
| W24 x 84.0 | 24.10 | 9.020 | .470 | 84.0 | 1680 | 3360 | 5040 |
| W24 x 94.0 | 24.31 | 9.065 | .515 | 94.0 | 1880 | 3760 | 5640 |
| W24 x104.0 | 24.06 | 12.750 | .500 | 104.0 | 2080 | 4160 | 6240 |
| W24 x117.0 | 24.26 | 12.800 | .550 | 117.0 | 2340 | 4680 | 7020 |
| W24 x131.0 | 24.48 | 12.855 | .605 | 131.0 | 2620 | 5240 | 7860 |
| W24 x146.0 | 24.74 | 12.900 | .650 | 146.0 | 2920 | 5840 | 8760 |
| W24 X162.0 | 25.00 | 12.955 | .705 | 162.0 | 3240 | 6480 | 9720 |
| W27 X94.0 | 26.92 | 9.990 | .490 | 94.0 | 1880 | 3760 | 5460 |
| W27 X102.0 | 27.09 | 10.015 | .515 | 102.0 | 2040 | 4080 | 6120 |
| W27 X114.0 | 27.29 | 10.070 | .570 | 114.0 | 2280 | 4560 | 6840 |
| W27 X146.0 | 27.38 | 13.965 | .605 | 146.0 | 2920 | 5840 | 8760 |
| W27 X161.0 | 27.59 | 14.020 | .660 | 161.0 | 3220 | 6440 | 9660 |
| W30 X108.0 | 29.83 | 10.475 | .545 | 108.0 | 2160 | 4320 | 6480 |
| W30 X116.0 | 30.01 | 10.495 | .565 | 116.0 | 2320 | 4640 | 6960 |
| W30 X124.0 | 30.17 | 10.515 | .585 | 124.0 | 2480 | 4960 | 7440 |
| W30 X132.0 | 30.31 | 10.545 | .615 | 132.0 | 2640 | 5280 | 7920 |



BAR SIZE TEES

Stocked in Lengths of 20' and 30'.

| Size in Inches | | | | | | Estimated Weight, Lbs. | | | |
|----------------|-------------|---|-----------|---|---|------------------------|------------------|------------------|--|
| | Flange A | | Stem B | | Thickness C | Per Foot | 20-Ft. Length | 30-Ft. Length | |
| | 1 | X | 1 | x | 1/8 | .85 | 17.0 | 25.5 | |
| | 11/4 | X | 11/4 | х | ¹ / ₈ ³ / ₁₆ | 1.09 1.55 | 21.8 31.0 | 32.7 46.5 | |
| | 11/2 | x | 11/2 | х | 3/16 1/4 | 1.90 2.43 | 38.0 48.6 | 57.0 72.9 | |
| | 13/4 | х | 13/4 | x | 3/16 | 2.16 | 43.2 | 64.8 | |
| | 2 | X | 2 | x | 1/4 | 3.62 | 72.4 | 108.6 | |
| | 21/2 | X | 21/2 | x | 1/4 | 4.60 | 92.0 | 138.0 | |
| | | | | | | | | | |



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