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## CONVERSION & COMPOSITION CHARTS

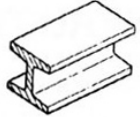
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## ASTM SPEC A-36

|      |               |                 |             |
|------|---------------|-----------------|-------------|
| ASTM | Minimum Yield | Tensile         | Carbon      |
| A36  | Strength, PSI | Strength, PSI   | Content     |
|      | 36,000        | 58,000 - 80,000 | .26 Maximum |

## STRUCTURAL I BEAMS

ASTM-A36  
58,000/80,000 PSI



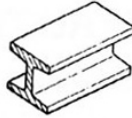
| Size Inches | Weight Per Foot Lb. | Width of Flange Ins. | Thickness of Web Ins. |
|-------------|---------------------|----------------------|-----------------------|
| 3           | 5.7                 | 2.330                | .170                  |
|             | 7.5                 | 2.509                | .349                  |
| 4           | 7.7                 | 2.660                | .190                  |
|             | 9.5                 | 2.796                | .326                  |
| 5           | 10.0                | 3.000                | .210                  |
|             | 14.75               | 3.284                | .494                  |
| 6           | 12.5                | 3.330                | .230                  |
|             | 17.25               | 3.565                | .465                  |
| 7           | 15.3                | 3.660                | .250                  |
|             | 20.0                | 3.860                | .450                  |
| 8           | 18.4                | 4.000                | .270                  |
|             | 23.0                | 4.171                | .441                  |
| 10          | 25.4                | 4.660                | .310                  |
|             | 35.0                | 4.944                | .594                  |
| 12          | 31.8                | 5.000                | .350                  |
|             | 35.0                | 5.078                | .428                  |
|             | 40.8                | 5.250                | .460                  |
| 15          | 50.0                | 5.477                | .687                  |
|             | 42.9                | 5.500                | .410                  |
|             | 50.0                | 5.640                | .550                  |
| 18          | 54.7                | 6.000                | .460                  |
|             | 70.0                | 6.251                | .711                  |
| 20          | 66.0                | 6.250                | .795                  |
| 24          | 80.0                | 7.000                | .870                  |

## WIDE FLANGE BEAMS

ASTM-A36

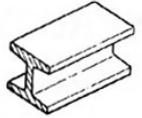
58,000/80,000 PSI

Stock Lengths: 20' & 40'



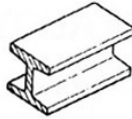
| Section Number | Weight Per Foot Pounds | Depth of Section Inches | Flange Width Inches | Flange Thickness Inches | Web Thickness Inches |
|----------------|------------------------|-------------------------|---------------------|-------------------------|----------------------|
| W4 x           | 13                     | 4 1/8                   | 4                   | 3/8                     | 1/4                  |
| W5 x           | 16                     | 5                       | 5                   | 3/8                     | 1/4                  |
|                | 19                     | 5 1/8                   | 5                   | 7/16                    | 1/4                  |
| W6 x           | 9                      | 5 7/8                   | 4                   | 3/16                    | 3/16                 |
|                | 12                     | 6                       | 4                   | 1/4                     | 1/4                  |
|                | 16                     | 6 1/4                   | 4                   | 3/8                     | 1/4                  |
| W6 x           | 15                     | 6                       | 6                   | 1/4                     | 1/4                  |
|                | 20                     | 6 1/4                   | 6                   | 3/8                     | 1/4                  |
|                | 25                     | 6 3/8                   | 6 1/8               | 7/16                    | 5/16                 |
| W8 x           | 10                     | 7 7/8                   | 4                   | 3/16                    | 3/16                 |
|                | 13                     | 8                       | 4                   | 1/4                     | 1/4                  |
|                | 15                     | 8 1/8                   | 4                   | 5/16                    | 1/4                  |
| W8 x           | 18                     | 8 1/8                   | 5 1/4               | 5/16                    | 1/4                  |
|                | 21                     | 8 1/4                   | 5 1/4               | 3/8                     | 1/4                  |
| W8 x           | 24                     | 7 7/8                   | 6 1/2               | 3/8                     | 1/4                  |
|                | 28                     | 8                       | 6 1/2               | 7/16                    | 5/16                 |
| W8 x           | 31                     | 8                       | 8                   | 7/16                    | 5/16                 |
|                | 35                     | 8 1/8                   | 8                   | 1/2                     | 5/16                 |
|                | 40                     | 8 1/4                   | 8 1/8               | 9/16                    | 3/8                  |
|                | 48                     | 8 1/2                   | 8 1/8               | 11/16                   | 3/8                  |
|                | 58                     | 8 3/4                   | 8 1/4               | 13/16                   | 1/2                  |
|                | 67                     | 9                       | 8 1/4               | 15/16                   | 9/16                 |
|                | W10 x                  | 12                      | 9 7/8               | 4                       | 3/16                 |
| 15             |                        | 10                      | 4                   | 1/4                     | 1/4                  |
| 17             |                        | 10 1/8                  | 4                   | 5/16                    | 1/4                  |
| 19             |                        | 10 1/4                  | 4                   | 3/8                     | 1/4                  |
| W10 x          | 22                     | 10 1/8                  | 5 3/4               | 3/8                     | 1/4                  |
|                | 26                     | 10 3/8                  | 5 3/4               | 7/16                    | 1/4                  |
|                | 30                     | 10 1/2                  | 5 3/4               | 1/2                     | 5/16                 |
| W10 x          | 33                     | 9 3/4                   | 8                   | 7/16                    | 5/16                 |
|                | 39                     | 9 7/8                   | 8                   | 1/2                     | 5/16                 |
|                | 45                     | 10 1/8                  | 8                   | 5/8                     | 3/8                  |
| W10 x          | 49                     | 10                      | 10                  | 9/16                    | 5/16                 |
|                | 54                     | 10 1/8                  | 10                  | 5/8                     | 3/8                  |

## WIDE FLANGE BEAMS (cont)



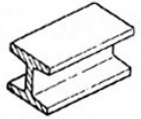
| Section Number | Weight Per Foot Pounds | Depth of Section Inches | Flange Width Inches | Flange Thickness Wnches | Web Thickness Inches |      |
|----------------|------------------------|-------------------------|---------------------|-------------------------|----------------------|------|
|                | 60                     | 10 1/4                  | 10 1/8              | 11/16                   | 7/16                 |      |
|                | 68                     | 10 3/8                  | 10 1/8              | 3/4                     | 1/2                  |      |
|                | 77                     | 10 5/8                  | 10 1/4              | 7/8                     | 1/2                  |      |
|                | 88                     | 10 7/8                  | 10 1/4              | 1                       | 5/8                  |      |
|                | 100                    | 11 1/8                  | 10 3/8              | 1 1/8                   | 11/16                |      |
|                | 112                    | 11 3/8                  | 10 3/8              | 1 1/4                   | 3/4                  |      |
|                | W12 x                  | 14                      | 11 7/8              | 4                       | 1/4                  | 3/16 |
| 16             |                        | 12                      | 4                   | 1/4                     | 1/4                  |      |
| 19             |                        | 12 1/8                  | 4                   | 3/8                     | 1/4                  |      |
| 22             |                        | 12 1/4                  | 4                   | 7/16                    | 1/4                  |      |
| W12 x          | 26                     | 12 1/4                  | 6 1/2               | 3/8                     | 1/4                  |      |
|                | 30                     | 12 3/8                  | 6 1/2               | 7/16                    | 1/4                  |      |
|                | 35                     | 12 1/2                  | 6 1/2               | 1/2                     | 5/16                 |      |
| W12 x          | 40                     | 12                      | 8                   | 1/2                     | 5/16                 |      |
|                | 45                     | 12                      | 8                   | 9/16                    | 5/16                 |      |
|                | 50                     | 12 1/4                  | 8 1/8               | 5/8                     | 3/8                  |      |
| W12 x          | 53                     | 12                      | 10                  | 9/16                    | 3/8                  |      |
|                | 58                     | 12 1/4                  | 10                  | 5/8                     | 3/8                  |      |
| W12 x          | 65                     | 12 1/8                  | 12                  | 5/8                     | 3/8                  |      |
|                | 72                     | 12 1/4                  | 12                  | 11/16                   | 7/16                 |      |
|                | 79                     | 12 3/8                  | 12 1/8              | 3/4                     | 1/2                  |      |
|                | 87                     | 12 1/2                  | 12 1/8              | 13/16                   | 1/2                  |      |
|                | 96                     | 12 3/4                  | 12 1/8              | 7/8                     | 9/16                 |      |
|                | 106                    | 12 7/8                  | 12 1/4              | 1                       | 5/8                  |      |
|                | 120                    | 13 1/8                  | 12 3/8              | 1 1/8                   | 11/16                |      |
|                | 136                    | 13 3/8                  | 12 3/8              | 1 1/4                   | 1 3/16               |      |
| W14 x          | 22                     | 13 3/4                  | 5                   | 5/16                    | 1/4                  |      |
|                | 26                     | 13 7/8                  | 5                   | 7/16                    | 1/4                  |      |
|                | 30                     | 13 7/8                  | 6 3/4               | 3/8                     | 1/4                  |      |
|                | 34                     | 14                      | 6 3/4               | 7/16                    | 5/16                 |      |
|                | 38                     | 14 1/8                  | 6 3/4               | 1/2                     | 5/16                 |      |
|                | W14 x                  | 43                      | 13 5/8              | 8                       | 1/2                  | 5/16 |
|                |                        | 48                      | 13 3/4              | 8                       | 5/8                  | 5/16 |
| 53             |                        | 13 7/8                  | 8                   | 11/16                   | 3/8                  |      |

## WIDE FLANGE BEAMS (cont)



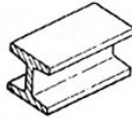
| Section Number | Weight Per Foot Pounds | Depth of Section Inches | Flange Width Inches | Flange Thickness Inches | Web Thickness Inches |
|----------------|------------------------|-------------------------|---------------------|-------------------------|----------------------|
| W14 x          | 61                     | 13 7/8                  | 10                  | 5/8                     | 3/8                  |
|                | 68                     | 14                      | 10                  | 3/4                     | 7/16                 |
|                | 74                     | 14 1/8                  | 10 1/8              | 13/16                   | 7/16                 |
|                | 82                     | 14 1/4                  | 10 1/8              | 7/8                     | 1/1                  |
| W14 x          | 90                     | 14                      | 14 1/2              | 11/16                   | 7/16                 |
|                | 99                     | 14 1/8                  | 14 5/8              | 3/4                     | 1/2                  |
|                | 109                    | 14 3/8                  | 14 5/8              | 7/8                     | 1/2                  |
|                | 120                    | 14 1/2                  | 14 5/8              | 15/16                   | 9/16                 |
|                | 132                    | 14 5/8                  | 14 3/4              | 1                       | 5/8                  |
| W14 x          | 145                    | 14 3/4                  | 15 1/2              | 1 1/16                  | 11/16                |
|                | 159                    | 15                      | 15 5/8              | 1 3/16                  | 3/4                  |
|                | 176                    | 15 1/4                  | 15 5/8              | 1 5/16                  | 13/16                |
|                | 193                    | 15 1/2                  | 15 3/4              | 1 7/16                  | 7/8                  |
|                | 211                    | 15 3/4                  | 15 3/4              | 1 9/16                  | 1                    |
| W16 x          | 26                     | 15 3/4                  | 5 1/2               | 3/8                     | 1/4                  |
|                | 31                     | 15 7/8                  | 5 1/2               | 7/16                    | 1/4                  |
| W16 x          | 36                     | 15 7/8                  | 7                   | 7/16                    | 5/16                 |
|                | 40                     | 16                      | 7                   | 1/2                     | 5/16                 |
|                | 45                     | 16 1/8                  | 7                   | 9/16                    | 3/8                  |
|                | 50                     | 16 1/4                  | 7 1/8               | 5/8                     | 3/8                  |
|                | 57                     | 16 3/8                  | 7 1/8               | 11/16                   | 7/16                 |
| W16 x          | 67                     | 16 3/8                  | 10 1/4              | 11/16                   | 3/8                  |
|                | 77                     | 16 1/2                  | 10 1/4              | 3/4                     | 7/16                 |
|                | 89                     | 16 3/4                  | 10 3/8              | 7/8                     | 1/2                  |
|                | 100                    | 17                      | 10 3/8              | 1                       | 9/16                 |
| W18 x          | 35                     | 17 3/4                  | 6                   | 7/16                    | 5/16                 |
|                | 40                     | 17 7/8                  | 6                   | 1/2                     | 5/16                 |
|                | 46                     | 18                      | 6                   | 5/8                     | 3/8                  |
| W18 x          | 50                     | 18                      | 7 1/2               | 9/16                    | 3/8                  |
|                | 55                     | 18 1/8                  | 7 1/2               | 5/8                     | 3/8                  |
|                | 60                     | 18 1/4                  | 7 1/2               | 11/16                   | 7/16                 |
|                | 65                     | 18 3/8                  | 7 5/8               | 3/4                     | 7/16                 |
|                | 71                     | 18 1/2                  | 7 5/8               | 13/16                   | 1/2                  |
|                | W18 x                  | 76                      | 18 1/4              | 11                      | 11/16                |
| 86             |                        | 18 3/8                  | 11 1/8              | 3/4                     | 1/2                  |

## WIDE FLANGE BEAMS (cont)



| Section Number | Weight Per Foot Pounds | Depth of Section Inches | Flange Width Inches | Flange Thickness Inches | Web Thickness Inches |
|----------------|------------------------|-------------------------|---------------------|-------------------------|----------------------|
| W18 x          | 97                     | 18 5/8                  | 11 1/4              | 15/16                   | 9/16                 |
|                | 106                    | 18 3/4                  | 11 1/4              | 15/16                   | 9/16                 |
|                | 119                    | 19                      | 11 1/4              | 1 1/16                  | 5/8                  |
| W21 x          | 44                     | 20 5/8                  | 6 1/2               | 7/16                    | 3/8                  |
|                | 50                     | 20 7/8                  | 6 1/2               | 9/16                    | 3/8                  |
|                | 57                     | 21                      | 6 1/2               | 5/8                     | 3/8                  |
| W21 x          | 62                     | 21                      | 8 1/4               | 5/8                     | 3/8                  |
|                | 68                     | 21 1/8                  | 8 1/4               | 11/16                   | 7/16                 |
|                | 73                     | 21 1/4                  | 8 1/4               | 3/4                     | 7/16                 |
|                | 83                     | 21 3/8                  | 8 3/8               | 13/16                   | 1/2                  |
| W21 x          | 93                     | 21 5/8                  | 8 3/8               | 15/16                   | 9/16                 |
|                | 101                    | 21 3/8                  | 12 1/4              | 13/16                   | 1/2                  |
|                | 111                    | 21 1/2                  | 12 3/8              | 7/8                     | 9/16                 |
| W21 x          | 122                    | 21 5/8                  | 12 3/8              | 15/16                   | 5/8                  |
|                | 132                    | 21 7/8                  | 12 1/2              | 1 1/16                  | 5/8                  |
|                | 147                    | 22                      | 12 1/2              | 1 1/8                   | 3/4                  |
|                | W24 x                  | 55                      | 23 5/8              | 7                       | 1/2                  |
| 62             |                        | 23 3/4                  | 7                   | 9/16                    | 7/16                 |
| W24 x          | 68                     | 23 3/4                  | 9                   | 9/16                    | 7/16                 |
|                | 76                     | 23 7/8                  | 9                   | 11/16                   | 7/16                 |
|                | 84                     | 24 1/8                  | 9                   | 3/4                     | 1/2                  |
|                | 94                     | 24 1/4                  | 9 1/8               | 7/8                     | 1/2                  |
| W24 x          | 104                    | 24                      | 12 3/4              | 3/4                     | 1/2                  |
|                | 117                    | 24 1/2                  | 12 3/4              | 7/8                     | 9/16                 |
|                | 131                    | 24 1/2                  | 12 7/8              | 15/16                   | 5/8                  |
|                | 146                    | 24 3/4                  | 12 7/8              | 1 1/16                  | 5/8                  |
|                | 162                    | 25                      | 13                  | 1 1/4                   | 11/16                |
| W27 x          | 84                     | 26 3/4                  | 10                  | 5/8                     | 7/16                 |
|                | 94                     | 26 7/8                  | 10                  | 3/4                     | 1/2                  |
|                | 102                    | 27 1/8                  | 10                  | 13/16                   | 1/2                  |
|                | 114                    | 27 1/4                  | 10 1/8              | 15/16                   | 9/16                 |
| W27 x          | 146                    | 27 3/8                  | 14                  | 1                       | 5/8                  |
|                | 161                    | 27 5/8                  | 14                  | 1 1/16                  | 11/16                |
|                | 178                    | 27 3/4                  | 14 1/8              | 1 3/16                  | 3/4                  |

## WIDE FLANGE BEAMS (con't)



| Section Number | Weight Per Foot Pounds | Depth of Section Inches | Flange Width Inches | Flange Thickness Inches | Web Thickness Inches |
|----------------|------------------------|-------------------------|---------------------|-------------------------|----------------------|
| W 30 x         | 99                     | 29 5/8                  | 10 1/2              | 11/16                   | 1/2                  |
|                | 108                    | 29 7/8                  | 10 1/2              | 3/4                     | 9/16                 |
|                | 116                    | 30                      | 10 1/2              | 7/8                     | 9/16                 |
|                | 124                    | 30 1/8                  | 10 1/2              | 15/16                   | 9/16                 |
|                | 132                    | 30 1/4                  | 10 1/2              | 1                       | 5/8                  |
| W 30 x         | 173                    | 30 1/2                  | 15                  | 1 1/16                  | 5/8                  |
|                | 191                    | 30 5/8                  | 15                  | 1 3/16                  | 11/16                |
|                | 211                    | 31                      | 15 1/8              | 1 5/16                  | 3/4                  |
| W 33 x         | 118                    | 32 7/8                  | 11 1/2              | 3/4                     | 9/16                 |
|                | 130                    | 33 1/8                  | 11 1/2              | 7/8                     | 9/16                 |
|                | 141                    | 33 1/4                  | 11 1/2              | 15/16                   | 5/8                  |
|                | 152                    | 33 1/2                  | 11 5/8              | 1 1/16                  | 5/8                  |
| W 33 x         | 201                    | 33 5/8                  | 15 3/4              | 1 1/8                   | 11/16                |
|                | 221                    | 33 7/8                  | 15 3/4              | 1 1/4                   | 3/4                  |
|                | 241                    | 34 1/4                  | 15 7/8              | 1 3/8                   | 13/16                |
| W 36 x         | 135                    | 35 1/2                  | 12                  | 1 3/16                  | 5/8                  |
|                | 150                    | 35 7/8                  | 12                  | 1 5/16                  | 5/8                  |
|                | 160                    | 36                      | 12                  | 1                       | 5/8                  |
|                | 170                    | 36 1/8                  | 12                  | 1 1/8                   | 11/16                |
|                | 182                    | 36 3/8                  | 12 1/8              | 1 3/16                  | 3/4                  |
|                | 194                    | 36 1/2                  | 12 1/8              | 1 1/4                   | 3/4                  |
|                | 210                    | 36 3/4                  | 12 1/8              | 1 3/8                   | 13/16                |

## JUNIOR BEAMS

ASTM-A36

58,000/80,000 PSI

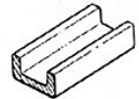
Stock Lengths: 20s' & 40s'

| Size Inches | Weight Per Foot Lb. | Width of Flange Ins. | Thickness of Web Ins. |
|-------------|---------------------|----------------------|-----------------------|
| 6           | 4.4                 | 1.84                 | .114                  |
| 8           | 6.5                 | 2.28                 | .135                  |
| 10          | 9.0                 | 2.69                 | .155                  |
| 12          | 11.8                | 3.06                 | .175                  |

## BAR SIZE CHANNELS

Stock Lengths: 20' 0"

ASTM A-36



| Size In Inches |   | Estimated Weight In Pounds Per Foot Of 20' Bar |   |      |       |       |
|----------------|---|--|---|------|-------|-------|
| 3/4            | x | 3/8  | x | 1/8  | .56*  | 11.20 |
| 1              | x | 3/8  | x | 1/8  | .68   | 13.60 |
| 1              | x | 1/2  | x | 1/8  | .84*  | 16.80 |
| 1 1/8          | x | 9/16   | x | 3/16 | 1.16  | 23.20 |
| 1 1/4          | x | 1/2  | x | 1/8  | 1.01* | 20.20 |
| 1 1/2          | x | 1/2  | x | 1/8  | 1.12  | 22.40 |
| 1 1/2          | x | 9/16   | x | 3/16 | 1.44  | 28.80 |
| 1 1/2          | x | 3/4  | x | 1/8  | 1.17* | 23.40 |
| 1 1/2          | x | 1 1/2  | x | 3/16 | 2.65  | 53.00 |
| 1 3/4          | x | 1/2  | x | 3/16 | 1.55  | 31.00 |
| 2              | x | 1/2  | x | 1/8  | 1.76* | 35.20 |
| 2              | x | 9/16   | x | 3/16 | 1.76* | 35.20 |
| 2              | x | 5/8  | x | 1/4  | 2.18* | 43.60 |
| 2              | x | 1  | x | 1/8  | 1.59  | 31.80 |
| 2              | x | 1  | x | 3/16 | 2.32  | 46.40 |
| 2 1/2          | x | 5/8  | x | 3/16 | 2.27  | 45.40 |

\*Weights may vary, depending on producing mill.