

Table 3.3b
(imperial)



SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|---------------|-----------------------------|-------------|-------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b_f in | t_f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_333/127x6 | 13.1 | 5.0 | x | 0.250 | - | - | 56.9 | 49.0 | 39.2 | 29.6 | 23.3 | 15.9 | 11.1 | 8.4 | 6.8 | 5.6 | 4.8 | 4.2 |
| WT_333/152x6 | | 6.0 | x | | - | - | 63.4 | 55.9 | 47.2 | 36.4 | 28.6 | 19.4 | 13.4 | 10.1 | 8.1 | 6.7 | 5.7 | 5.0 |
| WT_333/152x8 | | 6.0 | x | 0.313 | - | - | 92.3 | 84.2 | 74.7 | 64.0 | 51.0 | 34.9 | 24.5 | 18.6 | 15.0 | 12.5 | 10.8 | 9.4 |
| WT_333/152x10 | | 6.0 | x | 0.375 | - | - | 111.2 | 101.8 | 91.1 | 79.2 | 64.8 | 45.2 | 32.3 | 25.0 | 20.3 | 17.2 | 14.9 | 13.1 |
| WT_333/178x10 | | 7.0 | x | | - | - | - | 126.8 | 117.1 | 106.3 | 94.5 | 67.5 | 47.4 | 36.1 | 29.1 | 24.4 | 20.9 | 18.4 |
| WT_333/152x13 | | 6.0 | x | 0.500 | - | - | 149.5 | 138.2 | 125.6 | 112.2 | 97.4 | 70.0 | 51.5 | 40.8 | 33.8 | 28.9 | 25.2 | 22.4 |
| WT_333/178x13 | | 7.0 | x | | - | - | - | 170.8 | 159.2 | 146.6 | 133.2 | 102.3 | 74.1 | 57.9 | 47.5 | 40.4 | 35.1 | 31.1 |
| WT_333/203x13 | | 8.0 | x | | - | - | - | - | 192.0 | 180.2 | 167.5 | 140.3 | 102.4 | 79.1 | 64.4 | 54.3 | 47.0 | 41.5 |
| WT_333/152x19 | | 6.0 | x | 0.750 | - | - | - | 214.7 | 200.3 | 185.6 | 170.7 | 138.2 | 105.3 | 85.3 | 71.9 | 62.1 | 54.8 | 49.0 |
| WT_333/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 243.2 | 230.0 | 216.2 | 187.4 | 146.7 | 115.4 | 95.2 | 81.2 | 70.8 | 62.8 |
| WT_333/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 295.5 | 281.6 | 267.1 | 237.5 | 199.9 | 159.3 | 132.7 | 113.8 | 99.7 | 88.8 |
| WT_333/254x19 | | 10.0 | x | | - | - | - | - | - | - | 362.5 | 333.9 | 296.9 | 259.5 | 216.7 | 184.3 | 160.5 | 142.2 |
| WT_333/203x25 | | 8.0 | x | 1.000 | - | - | - | - | - | 388.7 | 373.7 | 343.7 | 306.5 | 269.8 | 227.5 | 196.7 | 173.3 | 155.0 |
| WT_333/254x25 | | 10.0 | x | | - | - | - | - | - | - | 497.0 | 467.1 | 429.6 | 392.4 | 355.6 | 314.2 | 275.7 | 245.8 |
| WT_333/279x25 | | 11.0 | x | | - | - | - | - | - | - | - | 528.8 | 491.3 | 453.9 | 416.8 | 380.2 | 337.1 | 300.0 |
| WT_333/305x25 | | 12.0 | x | | - | - | - | - | - | - | - | 590.5 | 553.0 | 515.5 | 478.3 | 441.4 | 404.8 | 360.3 |
| WT_333/254x32 | | 10.0 | x | 1.250 | - | - | - | - | - | - | - | 605.9 | 568.5 | 531.5 | 495.0 | 458.8 | 422.9 | 378.8 |
| WT_333/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | - | 652.0 | 614.8 | 577.2 | 539.8 | 502.7 | 465.9 | 426.9 |
| WT_333/356x25 | | 14.0 | x | | - | - | - | - | - | - | - | - | 676.5 | 639.0 | 601.5 | 564.2 | 527.2 | 490.5 |
| WT_333/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | - | - | 719.6 | 682.2 | 645.2 | 608.5 | 572.2 | 536.1 |
| WT_333/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | - | 799.7 | 762.4 | 724.9 | 687.4 | 650.1 | 613.0 |
| WT_333/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | - | 871.0 | 833.3 | 795.9 | 758.8 | 722.1 | 685.7 |
| WT_333/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | - | - | 984.6 | 946.9 | 909.6 | 872.5 | 835.7 |
| WT_333/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | - | 1114.6 | 1076.8 | 1039.2 | 1001.9 | 964.8 |





SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|---------------|-----------------------------|----------------------|--------------------------|--|-----|-----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| | | Width b_f in | Thickness t_f in | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b | c | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r |
| WT_440/127x6 | 17.3 | 5.0 | x | 0.250 | - | - | 74.8 | 63.9 | 49.8 | 37.2 | 29.0 | 19.4 | 13.2 | 9.8 | 7.7 | 6.3 | 5.3 | 4.6 |
| WT_440/152x6 | | 6.0 | x | | - | - | 83.4 | 73.2 | 61.0 | 46.0 | 35.8 | 23.8 | 16.1 | 11.8 | 9.2 | 7.5 | 6.3 | 5.5 |
| WT_440/152x8 | | 6.0 | x | 0.313 | - | - | 121.5 | 110.2 | 96.8 | 81.1 | 63.3 | 42.4 | 28.9 | 21.5 | 16.9 | 13.9 | 11.7 | 10.2 |
| WT_440/152x10 | | 6.0 | x | 0.375 | - | - | 146.1 | 133.0 | 117.5 | 100.0 | 78.9 | 53.6 | 37.2 | 28.1 | 22.4 | 18.6 | 15.9 | 13.9 |
| WT_440/178x10 | | 7.0 | x | | - | - | - | 166.4 | 152.7 | 137.1 | 119.7 | 81.5 | 55.7 | 41.5 | 32.7 | 26.9 | 22.8 | 19.8 |
| WT_440/152x13 | | 6.0 | x | 0.500 | - | - | 195.9 | 179.5 | 160.6 | 139.8 | 114.5 | 79.9 | 57.1 | 44.2 | 36.0 | 30.4 | 26.4 | 23.3 |
| WT_440/178x13 | | 7.0 | x | | - | - | - | 223.4 | 206.4 | 187.4 | 166.7 | 119.3 | 83.8 | 64.0 | 51.6 | 43.2 | 37.2 | 32.6 |
| WT_440/203x13 | | 8.0 | x | | - | - | - | - | 250.7 | 233.3 | 214.2 | 170.2 | 118.0 | 89.0 | 71.0 | 59.0 | 50.4 | 44.0 |
| WT_440/152x19 | | 6.0 | x | 0.750 | - | - | - | 276.6 | 253.5 | 229.0 | 203.8 | 150.0 | 111.8 | 89.2 | 74.3 | 63.8 | 56.0 | 49.9 |
| WT_440/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 316.3 | 296.3 | 274.7 | 228.0 | 164.1 | 126.2 | 102.3 | 86.1 | 74.3 | 65.5 |
| WT_440/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 383.3 | 361.3 | 337.9 | 288.6 | 218.7 | 170.8 | 140.1 | 118.9 | 103.4 | 91.6 |
| WT_440/254x19 | | 10.0 | x | | - | - | - | - | 489.5 | 468.3 | 422.4 | 360.8 | 289.5 | 234.0 | 196.3 | 169.1 | 148.7 | |
| WT_440/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 521.0 | 496.6 | 471.3 | 419.5 | 354.6 | 282.7 | 235.5 | 202.1 | 177.2 | 157.8 |
| WT_440/254x25 | | 10.0 | x | | - | - | - | - | - | 639.2 | 589.1 | 524.4 | 459.2 | 384.5 | 327.1 | 284.9 | 252.6 | |
| WT_440/279x25 | | 11.0 | x | | - | - | - | - | - | 722.3 | 673.4 | 609.4 | 544.3 | 476.5 | 403.6 | 350.3 | 309.8 | |
| WT_440/305x25 | | 12.0 | x | | - | - | - | - | - | - | 757.2 | 694.1 | 629.3 | 564.1 | 490.2 | 424.1 | 374.0 | |
| WT_440/254x32 | | 10.0 | x | 1.250 | - | - | - | - | - | 816.3 | 764.4 | 698.9 | 633.8 | 569.4 | 494.2 | 433.1 | 385.8 | |
| WT_440/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 840.6 | 778.6 | 714.3 | 649.2 | 584.0 | 506.7 | 445.6 | |
| WT_440/356x25 | | 14.0 | x | | - | - | - | - | - | - | 923.6 | 862.7 | 799.1 | 734.2 | 669.0 | 598.7 | 525.1 | |
| WT_440/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | 969.2 | 904.2 | 838.7 | 773.6 | 709.0 | 638.4 | 566.4 | |
| WT_440/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 1030.0 | 968.0 | 904.0 | 839.1 | 773.9 | 709.2 | |
| WT_440/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | 1109.2 | 1043.9 | 978.5 | 913.3 | 848.6 | 784.3 | |
| WT_440/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | 1313.7 | 1249.1 | 1183.7 | 1118.3 | 1053.1 | 988.2 | |
| WT_440/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | 1424.9 | 1359.9 | 1294.4 | 1229.0 | 1163.8 | |



Table 3.3b
(imperial)



SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|---------------|-----------------------------|-------------|-------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b_f in | t_f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_500/127x6 | 19.7 | 5.0 | x | 0.250 | - | - | 84.8 | 72.2 | 55.9 | 41.6 | 32.4 | 21.4 | 14.4 | 10.6 | 8.2 | 6.7 | 5.6 | 4.8 |
| WT_500/152x6 | | 6.0 | x | | - | - | 94.6 | 82.9 | 68.8 | 51.6 | 40.0 | 26.4 | 17.6 | 12.9 | 10.0 | 8.1 | 6.7 | 5.8 |
| WT_500/152x8 | | 6.0 | x | 0.313 | - | - | 137.8 | 124.8 | 109.3 | 90.5 | 70.4 | 46.8 | 31.5 | 23.2 | 18.1 | 14.7 | 12.4 | 10.7 |
| WT_500/152x10 | | 6.0 | x | 0.375 | - | - | 165.7 | 150.5 | 132.4 | 111.5 | 87.2 | 58.6 | 40.2 | 30.0 | 23.7 | 19.5 | 16.6 | 14.4 |
| WT_500/178x10 | | 7.0 | x | | - | - | - | 188.6 | 172.7 | 154.5 | 134.0 | 89.8 | 60.7 | 44.7 | 35.0 | 28.5 | 24.0 | 20.7 |
| WT_500/152x13 | | 6.0 | x | 0.500 | - | - | 222.0 | 202.7 | 180.3 | 155.3 | 124.8 | 86.0 | 60.6 | 46.4 | 37.5 | 31.5 | 27.1 | 23.8 |
| WT_500/178x13 | | 7.0 | x | | - | - | - | 253.0 | 233.0 | 210.4 | 185.5 | 129.5 | 89.8 | 67.8 | 54.2 | 45.0 | 38.5 | 33.6 |
| WT_500/203x13 | | 8.0 | x | | - | - | - | - | 283.7 | 263.2 | 240.4 | 186.1 | 127.4 | 95.1 | 75.1 | 61.9 | 52.5 | 45.6 |
| WT_500/152x19 | | 6.0 | x | 0.750 | - | - | 336.7 | 311.2 | 282.9 | 252.6 | 219.2 | 157.5 | 115.9 | 91.7 | 76.0 | 64.9 | 56.8 | 50.5 |
| WT_500/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 357.4 | 333.5 | 307.4 | 249.9 | 174.9 | 133.0 | 106.9 | 89.3 | 76.6 | 67.2 |
| WT_500/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 432.5 | 405.9 | 377.2 | 315.8 | 230.5 | 178.1 | 145.0 | 122.3 | 105.8 | 93.4 |
| WT_500/254x19 | | 10.0 | x | | - | - | - | - | 553.1 | 527.7 | 471.5 | 394.8 | 305.9 | 245.0 | 204.0 | 174.7 | 152.9 | |
| WT_500/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 586.6 | 556.3 | 524.6 | 458.9 | 367.8 | 290.8 | 240.7 | 205.6 | 179.7 | 159.7 |
| WT_500/254x25 | | 10.0 | x | | - | - | - | - | 747.8 | 718.4 | 655.8 | 573.6 | 485.5 | 396.6 | 335.5 | 290.9 | 257.1 | |
| WT_500/279x25 | | 11.0 | x | | - | - | - | - | - | 813.9 | 753.2 | 672.4 | 589.1 | 493.8 | 415.6 | 359.0 | 316.2 | |
| WT_500/305x25 | | 12.0 | x | | - | - | - | - | - | - | 849.9 | 770.8 | 688.3 | 604.5 | 506.9 | 436.1 | 383.0 | |
| WT_500/254x32 | | 10.0 | x | 1.250 | - | - | - | - | - | 916.0 | 850.1 | 766.0 | 681.8 | 589.1 | 503.0 | 439.4 | 390.4 | |
| WT_500/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 945.9 | 868.6 | 787.2 | 703.8 | 610.1 | 523.0 | 457.8 | |
| WT_500/356x25 | | 14.0 | x | | - | - | - | - | - | - | 1041.1 | 965.8 | 885.6 | 803.0 | 719.3 | 620.1 | 541.1 | |
| WT_500/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | 1086.2 | 1003.4 | 919.2 | 835.0 | 749.9 | 651.1 | 575.8 | |
| WT_500/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 1158.4 | 1081.2 | 1000.5 | 917.7 | 834.0 | 735.6 | |
| WT_500/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | 1240.0 | 1156.7 | 1072.4 | 988.1 | 904.2 | 805.0 | |
| WT_500/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | 1475.3 | 1393.5 | 1309.9 | 1225.6 | 1141.3 | 1057.3 | |
| WT_500/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | 1596.0 | 1513.4 | 1429.5 | 1345.2 | 1260.9 | |



Table 3.3b
(imperial)



SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|---------------|-----------------------------|-------------|-------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b_f in | t_f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_610/127x6 | 24.0 | 5.0 | x | 0.250 | - | - | 103.2 | 87.6 | 67.2 | 49.8 | 38.5 | 25.3 | 16.8 | 12.1 | 9.3 | 7.5 | 6.2 | 5.3 |
| WT_610/152x6 | | 6.0 | x | | - | - | 115.1 | 100.6 | 83.1 | 61.8 | 47.8 | 31.2 | 20.6 | 14.9 | 11.4 | 9.1 | 7.5 | 6.3 |
| WT_610/152x8 | | 6.0 | x | 0.313 | - | - | 167.8 | 151.6 | 132.2 | 108.2 | 83.8 | 55.0 | 36.6 | 26.5 | 20.4 | 16.4 | 13.6 | 11.6 |
| WT_610/152x10 | | 6.0 | x | 0.375 | - | - | 201.6 | 182.6 | 159.8 | 132.2 | 102.8 | 68.2 | 45.9 | 33.7 | 26.3 | 21.4 | 18.0 | 15.4 |
| WT_610/178x10 | | 7.0 | x | | - | - | 229.3 | 209.5 | 186.4 | 160.4 | 105.5 | 70.3 | 51.0 | 39.4 | 31.7 | 26.4 | 22.5 | |
| WT_610/152x13 | | 6.0 | x | 0.500 | - | - | 269.8 | 245.3 | 216.5 | 183.8 | 144.5 | 97.8 | 67.6 | 50.8 | 40.5 | 33.5 | 28.6 | 25.0 |
| WT_610/178x13 | | 7.0 | x | | - | - | 307.1 | 281.7 | 252.6 | 220.1 | 149.1 | 101.5 | 75.4 | 59.3 | 48.6 | 41.1 | 35.6 | |
| WT_610/203x13 | | 8.0 | x | | - | - | - | - | 344.1 | 318.0 | 288.6 | 216.4 | 145.7 | 107.0 | 83.4 | 67.8 | 56.9 | 48.9 |
| WT_610/152x19 | | 6.0 | x | 0.750 | - | - | 408.0 | 374.6 | 336.7 | 295.1 | 245.2 | 172.5 | 124.3 | 96.9 | 79.4 | 67.3 | 58.4 | 51.7 |
| WT_610/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 432.7 | 401.6 | 367.2 | 285.7 | 196.0 | 146.5 | 116.1 | 95.7 | 81.4 | 70.7 |
| WT_610/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 522.6 | 487.4 | 448.9 | 363.5 | 253.9 | 192.9 | 154.8 | 129.2 | 110.8 | 97.1 |
| WT_610/254x19 | | 10.0 | x | | - | - | - | - | 669.6 | 636.2 | 561.1 | 454.4 | 338.3 | 267.0 | 219.6 | 186.2 | 161.5 | |
| WT_610/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 706.5 | 665.0 | 620.8 | 527.1 | 394.6 | 307.2 | 251.5 | 213.1 | 185.0 | 163.7 |
| WT_610/254x25 | | 10.0 | x | | - | - | - | - | 902.6 | 862.8 | 776.0 | 658.8 | 522.8 | 421.4 | 352.7 | 303.4 | 266.4 | |
| WT_610/279x25 | | 11.0 | x | | - | - | - | - | - | 981.2 | 898.2 | 784.3 | 660.9 | 528.9 | 440.2 | 376.9 | 329.6 | |
| WT_610/305x25 | | 12.0 | x | | - | - | - | - | - | 1098.2 | 1018.8 | 908.5 | 790.6 | 653.4 | 540.7 | 460.8 | 401.5 | |
| WT_610/254x32 | | 10.0 | x | 1.250 | - | - | - | - | 1141.2 | 1097.1 | 1003.4 | 880.7 | 752.6 | 615.7 | 521.4 | 452.6 | 400.2 | |
| WT_610/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 1138.0 | 1031.3 | 916.2 | 796.2 | 655.5 | 556.2 | 482.8 | |
| WT_610/356x25 | | 14.0 | x | | - | - | - | - | - | - | 1255.9 | 1153.0 | 1040.6 | 922.4 | 785.5 | 663.7 | 574.0 | |
| WT_610/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | 1298.3 | 1179.9 | 1056.9 | 932.1 | 786.4 | 677.4 | 595.4 | |
| WT_610/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 1392.8 | 1286.4 | 1172.7 | 1054.1 | 918.7 | 789.2 | |
| WT_610/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | 1589.1 | 1476.0 | 1356.2 | 1233.0 | 1108.3 | 961.9 | 840.2 |
| WT_610/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | 1768.9 | 1653.2 | 1532.5 | 1409.2 | 1284.5 | 1140.6 | |
| WT_610/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | 2017.6 | 1905.9 | 1788.0 | 1666.4 | 1542.7 | 1418.0 | |





SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|---------------|-----------------------------|-------------|-------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b_f in | t_f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_750/127x6 | 29.5 | 5.0 | x | 0.250 | - | - | 126.7 | 107.3 | 81.7 | 60.4 | 46.6 | 30.3 | 19.9 | 14.2 | 10.8 | 8.6 | 7.0 | 5.9 |
| WT_750/152x6 | | 6.0 | x | | - | - | 141.5 | 123.4 | 101.5 | 75.1 | 57.9 | 37.6 | 24.6 | 17.5 | 13.3 | 10.5 | 8.6 | 7.2 |
| WT_750/152x8 | | 6.0 | x | 0.313 | - | - | 206.2 | 186.0 | 161.7 | 131.1 | 101.1 | 65.9 | 43.3 | 31.0 | 23.6 | 18.8 | 15.4 | 13.0 |
| WT_750/152x10 | | 6.0 | x | 0.375 | - | - | 247.7 | 223.8 | 195.0 | 159.4 | 123.3 | 80.9 | 53.7 | 38.9 | 29.9 | 24.0 | 19.9 | 16.9 |
| WT_750/178x10 | | 7.0 | x | | - | - | - | 281.6 | 256.6 | 227.5 | 193.5 | 126.2 | 83.1 | 59.6 | 45.4 | 36.1 | 29.7 | 25.1 |
| WT_750/152x13 | | 6.0 | x | 0.500 | - | - | 331.0 | 300.0 | 263.1 | 219.1 | 170.8 | 113.8 | 77.2 | 57.0 | 44.7 | 36.6 | 30.8 | 26.6 |
| WT_750/178x13 | | 7.0 | x | | - | - | - | 376.6 | 344.3 | 306.9 | 264.9 | 175.5 | 117.5 | 85.8 | 66.5 | 53.9 | 45.0 | 38.6 |
| WT_750/203x13 | | 8.0 | x | | - | - | - | - | 421.7 | 388.4 | 350.8 | 256.7 | 170.4 | 123.3 | 94.8 | 76.1 | 63.1 | 53.7 |
| WT_750/152x19 | | 6.0 | x | 0.750 | - | - | 499.5 | 456.1 | 405.7 | 349.5 | 280.9 | 193.5 | 136.4 | 104.4 | 84.4 | 70.8 | 61.0 | 53.6 |
| WT_750/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 529.4 | 489.3 | 444.4 | 334.0 | 225.1 | 165.5 | 129.1 | 105.1 | 88.3 | 76.0 |
| WT_750/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 638.4 | 592.2 | 541.0 | 418.8 | 286.7 | 213.9 | 169.1 | 139.3 | 118.2 | 102.6 |
| WT_750/254x19 | | 10.0 | x | | - | - | - | - | - | 819.1 | 775.7 | 676.2 | 523.5 | 383.5 | 298.2 | 242.0 | 202.7 | 174.1 |
| WT_750/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 860.2 | 804.1 | 743.3 | 610.8 | 433.0 | 331.2 | 267.5 | 224.2 | 193.1 | 169.6 |
| WT_750/254x25 | | 10.0 | x | | - | - | - | - | - | 1101.3 | 1048.0 | 929.1 | 763.5 | 576.1 | 457.4 | 378.1 | 321.9 | 280.2 |
| WT_750/279x25 | | 11.0 | x | | - | - | - | - | - | - | 1195.9 | 1083.5 | 924.7 | 735.2 | 579.4 | 476.0 | 403.1 | 349.4 |
| WT_750/305x25 | | 12.0 | x | | - | - | - | - | - | - | 1341.5 | 1235.1 | 1083.1 | 916.2 | 722.0 | 589.6 | 496.9 | 428.8 |
| WT_750/254x32 | | 10.0 | x | 1.250 | - | - | - | - | - | 1389.1 | 1328.4 | 1196.2 | 1018.0 | 811.5 | 654.9 | 548.7 | 472.3 | 414.8 |
| WT_750/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | - | 1384.4 | 1239.0 | 1077.7 | 886.8 | 720.4 | 604.2 | 519.3 |
| WT_750/356x25 | | 14.0 | x | | - | - | - | - | - | - | - | 1531.6 | 1392.5 | 1236.7 | 1068.9 | 869.7 | 726.3 | 621.8 |
| WT_750/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | 1689.9 | 1568.7 | 1400.7 | 1221.6 | 1014.0 | 840.0 | 716.5 | 624.7 |
| WT_750/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | - | 1693.4 | 1548.5 | 1390.1 | 1221.7 | 1018.7 | 866.0 |
| WT_750/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | 1933.0 | 1776.0 | 1605.0 | 1425.2 | 1218.9 | 1030.7 | 892.1 |
| WT_750/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | - | 2144.2 | 1982.0 | 1809.0 | 1628.8 | 1425.3 | 1225.4 |
| WT_750/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | 2455.2 | 2300.8 | 2134.1 | 1958.8 | 1777.6 | 1570.3 |





SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h _w in | Flange | | Factored Moment Resistance Mr' (kip ft) | | | | | | | | | | | | | | |
|---------------|--------------------------------------|----------------------|----------------------|---|---|---|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b _f in | t _f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r |
| WT_900/127x6 | 35.4 | 5.0 | x | 0.250 | - | - | 151.9 | 128.4 | 97.4 | 71.9 | 55.3 | 35.8 | 23.4 | 16.6 | 12.5 | 9.8 | 8.0 | 6.7 |
| WT_900/152x6 | | 6.0 | x | | - | - | 169.6 | 147.8 | 121.3 | 89.5 | 68.8 | 44.5 | 28.9 | 20.5 | 15.4 | 12.0 | 9.8 | 8.1 |
| WT_900/152x8 | | 6.0 | x | 0.313 | - | - | 247.2 | 222.8 | 193.3 | 155.8 | 119.9 | 77.8 | 50.8 | 36.1 | 27.2 | 21.4 | 17.4 | 14.6 |
| WT_900/152x10 | | 6.0 | x | 0.375 | - | - | 296.9 | 267.9 | 232.8 | 188.8 | 145.6 | 94.9 | 62.4 | 44.7 | 34.0 | 27.0 | 22.2 | 18.7 |
| WT_900/178x10 | | 7.0 | x | | - | - | - | 337.4 | 307.1 | 271.6 | 229.2 | 148.7 | 97.2 | 69.1 | 52.2 | 41.1 | 33.5 | 28.1 |
| WT_900/152x13 | | 6.0 | x | 0.500 | - | - | 396.6 | 358.7 | 313.2 | 257.4 | 199.7 | 131.7 | 88.0 | 64.2 | 49.7 | 40.1 | 33.5 | 28.7 |
| WT_900/178x13 | | 7.0 | x | | - | - | - | 451.0 | 411.4 | 365.4 | 312.4 | 204.6 | 135.4 | 97.7 | 74.9 | 59.9 | 49.6 | 42.1 |
| WT_900/203x13 | | 8.0 | x | | - | - | - | 539.7 | 504.8 | 464.0 | 417.6 | 300.9 | 197.8 | 141.7 | 107.7 | 85.6 | 70.3 | 59.3 |
| WT_900/152x19 | | 6.0 | x | 0.750 | - | - | 597.5 | 543.5 | 479.9 | 407.9 | 321.2 | 217.7 | 150.6 | 113.5 | 90.4 | 75.0 | 64.1 | 55.9 |
| WT_900/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 633.0 | 583.4 | 527.3 | 387.5 | 257.9 | 187.1 | 144.1 | 116.0 | 96.4 | 82.2 |
| WT_900/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 762.4 | 704.6 | 639.9 | 480.9 | 324.2 | 238.3 | 185.9 | 151.3 | 127.1 | 109.4 |
| WT_900/254x19 | | 10.0 | x | | - | - | - | - | 979.3 | 925.2 | 799.9 | 601.1 | 434.9 | 334.1 | 268.1 | 222.3 | 189.1 | |
| WT_900/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 1024.9 | 953.2 | 874.2 | 691.3 | 478.0 | 359.8 | 286.7 | 237.7 | 202.9 | 177.0 |
| WT_900/254x25 | | 10.0 | x | | - | - | - | - | 1314.1 | 1246.4 | 1092.7 | 864.1 | 638.1 | 499.9 | 408.4 | 344.3 | 297.2 | |
| WT_900/279x25 | | 11.0 | x | | - | - | - | - | - | 1425.9 | 1281.9 | 1073.9 | 821.0 | 638.6 | 518.5 | 434.6 | 373.3 | |
| WT_900/305x25 | | 12.0 | x | | - | - | - | - | - | 1602.1 | 1466.9 | 1269.6 | 1036.9 | 801.7 | 647.2 | 539.8 | 461.5 | |
| WT_900/254x32 | | 10.0 | x | 1.250 | - | - | - | - | 1654.4 | 1575.6 | 1400.6 | 1158.4 | 881.6 | 702.1 | 581.9 | 496.5 | 433.0 | |
| WT_900/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 1648.3 | 1461.2 | 1249.0 | 991.4 | 796.3 | 661.0 | 562.9 | |
| WT_900/356x25 | | 14.0 | x | | - | - | - | - | - | - | 1826.8 | 1649.0 | 1445.9 | 1209.8 | 967.5 | 799.7 | 678.3 | |
| WT_900/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | 2014.8 | 1857.6 | 1634.2 | 1390.1 | 1104.3 | 904.3 | 763.8 | 660.4 |
| WT_900/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 2015.4 | 1829.0 | 1621.7 | 1382.6 | 1134.7 | 956.0 | |
| WT_900/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | 2300.9 | 2095.8 | 1867.1 | 1621.8 | 1329.8 | 1113.0 | 954.8 |
| WT_900/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | - | 2545.4 | 2332.0 | 2099.7 | 1853.5 | 1557.1 | 1326.5 |
| WT_900/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | 2923.5 | 2722.5 | 2501.4 | 2264.8 | 2016.6 | 1715.0 |



Table 3.3b
(imperial)



SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | | |
|----------------|-----------------------------|----------------------|--------------------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|
| | | Width b_f in | Thickness t_f in | Unbraced Length (ft) | | | | | | | | | | | | | | | |
| | | | | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> | |
| WT_1000/127x6 | 39.4 | 5.0 | x | 0.250 | - | - | 168.7 | 142.5 | 107.9 | 79.6 | 61.2 | 39.5 | 25.7 | 18.2 | 13.6 | 10.7 | 8.6 | 7.2 | |
| WT_1000/152x6 | | 6.0 | x | | - | - | 188.4 | 164.1 | 134.4 | 99.1 | 76.1 | 49.1 | 31.9 | 22.5 | 16.8 | 13.1 | 10.6 | 8.8 | |
| WT_1000/152x8 | | 6.0 | x | 0.313 | - | - | 274.6 | 247.4 | 214.4 | 172.4 | 132.6 | 85.7 | 55.8 | 39.5 | 29.6 | 23.2 | 18.8 | 15.7 | |
| WT_1000/152x10 | | 6.0 | x | 0.375 | - | - | 329.7 | 297.3 | 258.1 | 208.5 | 160.6 | 104.4 | 68.3 | 48.7 | 36.8 | 29.1 | 23.8 | 20.0 | |
| WT_1000/178x10 | | 7.0 | x | | - | - | - | 374.7 | 340.8 | 301.1 | 253.3 | 163.9 | 106.7 | 75.6 | 56.8 | 44.6 | 36.2 | 30.2 | |
| WT_1000/152x13 | | 6.0 | x | 0.500 | - | - | 440.3 | 397.8 | 346.7 | 283.3 | 219.3 | 143.9 | 95.5 | 69.2 | 53.2 | 42.7 | 35.4 | 30.1 | |
| WT_1000/178x13 | | 7.0 | x | | - | - | - | 500.6 | 456.2 | 404.5 | 343.9 | 224.3 | 147.7 | 106.0 | 80.7 | 64.2 | 52.8 | 44.6 | |
| WT_1000/203x13 | | 8.0 | x | | - | - | - | 599.3 | 560.2 | 514.4 | 462.2 | 330.8 | 216.5 | 154.3 | 116.7 | 92.2 | 75.3 | 63.2 | |
| WT_1000/152x19 | | 6.0 | x | 0.750 | - | - | 663.0 | 601.9 | 529.6 | 445.9 | 348.9 | 234.5 | 160.6 | 119.9 | 94.8 | 78.1 | 66.3 | 57.6 | |
| WT_1000/203x16 | | 8.0 | x | 0.625 | - | - | - | - | 702.2 | 646.2 | 582.8 | 424.0 | 280.4 | 202.1 | 154.7 | 123.7 | 102.2 | 86.7 | |
| WT_1000/203x19 | | 8.0 | x | 0.750 | - | - | - | - | 845.2 | 779.8 | 706.2 | 523.5 | 350.1 | 255.4 | 197.7 | 159.9 | 133.5 | 114.3 | |
| WT_1000/254x19 | | 10.0 | x | | - | - | - | - | - | 1086.2 | 1025.1 | 882.7 | 654.3 | 470.5 | 359.2 | 286.4 | 236.2 | 199.8 | |
| WT_1000/203x25 | | 8.0 | x | 1.000 | - | - | - | - | 1134.9 | 1052.8 | 961.7 | 744.6 | 509.7 | 380.3 | 300.6 | 247.6 | 210.1 | 182.5 | |
| WT_1000/254x25 | | 10.0 | x | | - | - | - | - | - | 1456.2 | 1379.0 | 1202.2 | 930.7 | 681.8 | 530.1 | 430.1 | 360.4 | 309.5 | |
| WT_1000/279x25 | | 11.0 | x | | - | - | - | - | - | 1579.5 | 1414.6 | 1173.6 | 881.0 | 680.4 | 548.7 | 457.2 | 390.6 | 390.6 | |
| WT_1000/305x25 | | 12.0 | x | | - | - | - | - | - | 1776.1 | 1621.8 | 1394.4 | 1116.9 | 857.7 | 688.0 | 570.4 | 485.1 | 485.1 | |
| WT_1000/254x32 | | 10.0 | x | 1.250 | - | - | - | - | - | 1831.5 | 1740.7 | 1536.9 | 1249.5 | 931.6 | 736.1 | 606.0 | 514.2 | 446.3 | |
| WT_1000/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | - | 1824.7 | 1609.8 | 1363.5 | 1064.4 | 849.8 | 701.4 | 594.0 | |
| WT_1000/356x25 | | 14.0 | x | | - | - | - | - | - | - | - | 2023.9 | 1820.5 | 1585.7 | 1303.0 | 1036.0 | 851.7 | 718.6 | |
| WT_1000/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | - | - | 2231.8 | 2050.4 | 1789.5 | 1499.3 | 1168.6 | 950.5 | 798.0 | 686.4 |
| WT_1000/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | - | 2230.5 | 2016.6 | 1776.5 | 1489.1 | 1216.0 | 1019.4 | |
| WT_1000/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | - | - | 2546.7 | 2309.2 | 2041.3 | 1749.2 | 1408.6 | 1172.0 | 1000.1 |
| WT_1000/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | - | - | 2813.4 | 2565.5 | 2292.6 | 1999.1 | 1650.8 | 1398.8 |
| WT_1000/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | - | - | 3236.2 | 3004.1 | 2746.2 | 2467.5 | 2156.4 | 1817.9 |





SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|----------------|-----------------------------|-------------|-------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width | Thickness | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | b_f in | t_f in | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_1219/127x6 | 48.0 | 5.0 | x | 0.250 | - | - | 205.5 | 173.5 | 131.0 | 96.5 | 74.1 | 47.7 | 30.9 | 21.7 | 16.2 | 12.6 | 10.1 | 8.3 |
| WT_1219/152x6 | | 6.0 | x | | - | - | 229.6 | 199.8 | 163.2 | 120.2 | 92.2 | 59.4 | 38.3 | 26.9 | 20.0 | 15.5 | 12.5 | 10.3 |
| WT_1219/152x8 | | 6.0 | x | 0.313 | - | - | 334.6 | 301.2 | 260.7 | 208.9 | 160.4 | 103.4 | 66.9 | 47.1 | 35.1 | 27.4 | 22.0 | 18.2 |
| WT_1219/152x10 | | 6.0 | x | 0.375 | - | - | 401.7 | 361.9 | 313.6 | 252.0 | 193.8 | 125.3 | 81.5 | 57.6 | 43.2 | 33.9 | 27.5 | 22.8 |
| WT_1219/178x10 | | 7.0 | x | | - | - | 456.4 | 414.8 | 365.8 | 306.3 | 197.5 | 127.9 | 90.1 | 67.2 | 52.4 | 42.2 | 34.9 | |
| WT_1219/152x13 | | 6.0 | x | 0.500 | - | - | 536.2 | 483.8 | 420.4 | 340.6 | 262.7 | 171.1 | 112.4 | 80.5 | 61.2 | 48.6 | 39.9 | 33.6 |
| WT_1219/178x13 | | 7.0 | x | | - | - | 609.4 | 554.6 | 490.4 | 413.7 | 268.3 | 175.2 | 124.5 | 93.9 | 74.0 | 60.3 | 50.4 | |
| WT_1219/203x13 | | 8.0 | x | | - | - | 730.0 | 681.8 | 625.2 | 560.5 | 397.0 | 258.1 | 182.6 | 137.0 | 107.3 | 86.9 | 72.3 | |
| WT_1219/152x19 | | 6.0 | x | 0.750 | - | - | 806.5 | 730.3 | 639.1 | 528.9 | 411.3 | 272.8 | 183.7 | 135.0 | 105.2 | 85.5 | 71.8 | 61.8 |
| WT_1219/203x16 | | 8.0 | x | 0.625 | - | - | 913.5 | 854.0 | 784.4 | 705.0 | 505.3 | 331.0 | 236.2 | 178.9 | 141.5 | 115.8 | 97.2 | |
| WT_1219/203x19 | | 8.0 | x | 0.750 | - | - | - | 1027.1 | 945.1 | 852.1 | 619.0 | 409.0 | 294.6 | 225.3 | 179.9 | 148.6 | 125.9 | |
| WT_1219/254x19 | | 10.0 | x | | - | - | - | - | 1320.9 | 1244.6 | 1065.1 | 773.7 | 551.0 | 416.4 | 328.7 | 268.4 | 224.9 | |
| WT_1219/203x25 | | 8.0 | x | 1.000 | - | - | - | 1376.6 | 1271.9 | 1154.5 | 865.7 | 582.9 | 427.9 | 333.4 | 271.1 | 227.5 | 195.7 | |
| WT_1219/254x25 | | 10.0 | x | | - | - | - | - | 1768.3 | 1670.4 | 1443.2 | 1082.2 | 782.2 | 600.3 | 481.2 | 398.7 | 338.9 | |
| WT_1219/279x25 | | 11.0 | x | | - | - | - | - | 2007.1 | 1916.9 | 1706.5 | 1393.4 | 1018.1 | 776.9 | 619.3 | 510.4 | 431.7 | |
| WT_1219/305x25 | | 12.0 | x | | - | - | - | - | - | 2158.1 | 1962.4 | 1669.2 | 1298.6 | 986.2 | 782.5 | 641.9 | 540.6 | |
| WT_1219/254x32 | | 10.0 | x | 1.250 | - | - | - | - | 2220.6 | 2103.6 | 1836.2 | 1428.3 | 1048.3 | 816.4 | 663.6 | 556.8 | 478.7 | |
| WT_1219/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 2212.2 | 1936.9 | 1615.8 | 1231.3 | 973.0 | 795.0 | 667.0 | |
| WT_1219/356x25 | | 14.0 | x | | - | - | - | - | - | - | 2456.9 | 2197.8 | 1893.9 | 1515.0 | 1193.1 | 971.6 | 812.3 | |
| WT_1219/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | 2708.1 | 2474.4 | 2130.6 | 1714.0 | 1318.3 | 1059.1 | 879.2 | 748.7 | |
| WT_1219/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 2703.3 | 2429.5 | 2117.7 | 1731.5 | 1402.1 | 1165.7 | |
| WT_1219/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | 3086.4 | 2778.5 | 2423.8 | 1999.7 | 1592.0 | 1310.4 | 1107.1 | |
| WT_1219/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | 3402.3 | 3078.6 | 2716.1 | 2285.3 | 1868.3 | 1568.1 | |
| WT_1219/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | 3923.1 | 3623.0 | 3284.1 | 2912.0 | 2461.9 | 2056.8 | |





SIN Beam Bending Capacity - Laterally Unsupported

Imperial

| Depth of Web | Depth of Web h_w in | Flange | | Factored Moment Resistance M_r' (kip ft) | | | | | | | | | | | | | | |
|----------------|-----------------------------|----------------------|--------------------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | Width b_f in | Thickness t_f in | Unbraced Length (ft) | | | | | | | | | | | | | | |
| | | | | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| - | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> | <i>f</i> | <i>g</i> | <i>h</i> | <i>i</i> | <i>j</i> | <i>k</i> | <i>l</i> | <i>m</i> | <i>n</i> | <i>o</i> | <i>p</i> | <i>q</i> | <i>r</i> |
| WT_1500/127x6 | 59.1 | 5.0 | x | 0.250 | - | - | 252.7 | 213.1 | 160.7 | 118.2 | 90.7 | 58.3 | 37.6 | 26.3 | 19.5 | 15.1 | 12.1 | 9.9 |
| WT_1500/152x6 | | 6.0 | x | | - | - | 282.3 | 245.6 | 200.2 | 147.3 | 113.0 | 72.6 | 46.7 | 32.7 | 24.2 | 18.7 | 15.0 | 12.3 |
| WT_1500/152x8 | | 6.0 | x | 0.313 | - | - | 411.4 | 370.3 | 320.1 | 255.8 | 196.2 | 126.2 | 81.4 | 57.0 | 42.3 | 32.8 | 26.3 | 21.6 |
| WT_1500/152x10 | | 6.0 | x | 0.375 | - | - | 493.9 | 444.7 | 384.8 | 308.1 | 236.6 | 152.5 | 98.6 | 69.4 | 51.7 | 40.2 | 32.4 | 26.7 |
| WT_1500/178x10 | | 7.0 | x | | - | - | 561.1 | 509.6 | 448.9 | 374.5 | 240.9 | 155.4 | 109.0 | 80.9 | 62.7 | 50.3 | 41.3 | 34.3 |
| WT_1500/152x13 | | 6.0 | x | 0.500 | - | - | 659.1 | 594.0 | 515.0 | 414.7 | 319.2 | 206.7 | 134.7 | 95.6 | 71.9 | 56.5 | 46.0 | 38.4 |
| WT_1500/178x13 | | 7.0 | x | | - | - | 748.9 | 680.8 | 600.9 | 503.9 | 325.4 | 211.1 | 149.0 | 111.5 | 87.1 | 70.4 | 58.4 | 49.4 |
| WT_1500/203x13 | | 8.0 | x | | - | - | 897.5 | 837.7 | 767.4 | 686.7 | 482.9 | 312.4 | 219.7 | 163.8 | 127.4 | 102.5 | 84.6 | 70.6 |
| WT_1500/152x19 | | 6.0 | x | 0.750 | - | - | 990.6 | 895.1 | 780.0 | 637.4 | 493.3 | 323.7 | 215.0 | 155.6 | 119.6 | 96.0 | 79.7 | 67.8 |
| WT_1500/203x16 | | 8.0 | x | 0.625 | - | - | 1122.8 | 1048.7 | 961.8 | 862.3 | 611.3 | 397.5 | 281.4 | 211.2 | 165.6 | 134.2 | 111.7 | 94.7 |
| WT_1500/203x19 | | 8.0 | x | 0.750 | - | - | 1348.5 | 1260.5 | 1157.5 | 1040.0 | 744.3 | 487.1 | 347.2 | 262.6 | 207.5 | 169.5 | 142.2 | 120.2 |
| WT_1500/254x19 | | 10.0 | x | | - | - | - | - | 1621.9 | 1526.3 | 1300.1 | 930.3 | 657.5 | 492.8 | 385.7 | 312.1 | 259.4 | 216.4 |
| WT_1500/203x25 | | 8.0 | x | 1.000 | - | - | - | 1686.9 | 1553.8 | 1403.1 | 1026.9 | 681.7 | 493.3 | 379.1 | 304.2 | 252.3 | 214.7 | 181.7 |
| WT_1500/254x25 | | 10.0 | x | | - | - | - | - | 2168.8 | 2044.8 | 1753.9 | 1283.6 | 917.4 | 696.0 | 551.6 | 452.0 | 380.3 | 317.3 |
| WT_1500/279x25 | | 11.0 | x | | - | - | - | - | 2463.9 | 2350.1 | 2082.3 | 1677.8 | 1201.5 | 907.3 | 715.8 | 583.9 | 489.0 | 408.3 |
| WT_1500/305x25 | | 12.0 | x | | - | - | - | - | 2648.2 | 2400.2 | 2023.9 | 1540.3 | 1158.9 | 910.7 | 740.0 | 617.4 | 517.4 | 434.3 |
| WT_1500/254x32 | | 10.0 | x | 1.250 | - | - | - | - | 2720.2 | 2570.0 | 2221.9 | 1669.8 | 1208.1 | 928.0 | 744.6 | 617.5 | 525.3 | 440.3 |
| WT_1500/330x25 | | 13.0 | x | 1.000 | - | - | - | - | - | - | 2709.9 | 2358.3 | 1938.8 | 1454.2 | 1139.2 | 922.6 | 767.2 | 640.3 |
| WT_1500/356x25 | | 14.0 | x | | - | - | - | - | - | - | 3012.8 | 2683.3 | 2291.9 | 1797.0 | 1404.0 | 1133.9 | 940.3 | 780.3 |
| WT_1500/305x32 | | 12.0 | x | 1.250 | - | - | - | - | - | 3319.7 | 3019.5 | 2570.4 | 2003.7 | 1522.9 | 1209.3 | 992.9 | 836.8 | 706.8 |
| WT_1500/406x25 | | 16.0 | x | 1.000 | - | - | - | - | - | - | - | 3310.6 | 2961.1 | 2558.8 | 2053.8 | 1651.5 | 1363.3 | 1143.3 |
| WT_1500/356x32 | | 14.0 | x | 1.250 | - | - | - | - | - | - | 3779.7 | 3382.3 | 2916.8 | 2337.7 | 1842.3 | 1501.3 | 1256.0 | 1066.8 |
| WT_1500/406x32 | | 16.0 | x | | - | - | - | - | - | - | - | 4159.1 | 3739.4 | 3262.1 | 2671.6 | 2164.7 | 1800.9 | 1500.9 |
| WT_1500/450x32 | | 17.7 | x | | - | - | - | - | - | - | - | 4805.2 | 4419.0 | 3977.1 | 3485.2 | 2874.8 | 2382.4 | 1982.4 |

