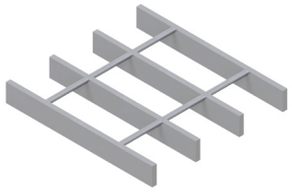
## LOAD TABLES - WIDE MESH

**Grating Type:** 38HW4
**Design Code:** NAAMM MBG 534
**Material:** ASTM A36
**Surface:** Smooth



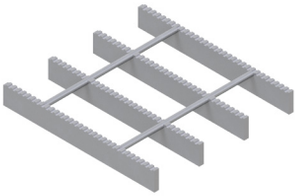
U = Safe Uniform Load (lbs/ft$^2$)
$D_u$ = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
$D_c$ = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

| Bearing Bar Size (inches) | Approx. Weight (lbs/ft$^2$) | Ped. Span (inches) | Load / Deflection | Span (ft -in) 1' - 0" | 1' - 6" | 2' - 0" | 2' - 6" | 3' - 0" | 3' - 6" | 4' - 0" | 4' - 6" | 5' - 0" | 5' - 6" | 6' - 0" | 6' - 6" | 7' - 0" | 7' - 6" | 8' - 0" | Section Properties $S_x$ (in$^3$)/ft | $I_x$ (in$^4$)/ft |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1" x ¼" | 5.55 | 51 | U | 2,807 | 1,248 | 702 | 449 | 312 | 229 | 175 | 139 | | | | | | | | 0.211 | |
| | | | $D_u$ | 0.02 | 0.05 | 0.08 | 0.13 | 0.19 | 0.25 | 0.33 | 0.42 | | | | | | | | | |
| | | | C | 1,404 | 936 | 702 | 561 | 468 | 401 | 351 | 312 | | | | | | | | 0.105 | |
| | | | $D_c$ | 0.02 | 0.04 | 0.07 | 0.10 | 0.15 | 0.20 | 0.26 | 0.34 | | | | | | | | | |
| 1 ¼" x ¼" | 6.68 | 61 | U | 4,386 | 1,949 | 1,096 | 702 | 487 | 358 | 274 | 217 | 175 | 145 | | | | | | 0.329 | |
| | | | $D_u$ | 0.02 | 0.04 | 0.07 | 0.10 | 0.15 | 0.20 | 0.26 | 0.34 | 0.41 | 0.50 | | | | | | | |
| | | | C | 2,193 | 1,462 | 1,096 | 877 | 731 | 627 | 548 | 487 | 439 | 399 | | | | | | 0.206 | |
| | | | $D_c$ | 0.01 | 0.03 | 0.05 | 0.08 | 0.12 | 0.16 | 0.21 | 0.27 | 0.33 | 0.40 | | | | | | | |
| 1 ½" x ¼" | 7.82 | 70 | U | 6,316 | 2,807 | 1,579 | 1,011 | 702 | 516 | 395 | 312 | 253 | 209 | 175 | | | | | 0.474 | |
| | | | $D_u$ | 0.01 | 0.03 | 0.06 | 0.09 | 0.12 | 0.17 | 0.22 | 0.28 | 0.34 | 0.42 | 0.50 | | | | | | |
| | | | C | 3,158 | 2,105 | 1,579 | 1,263 | 1,053 | 902 | 789 | 702 | 632 | 574 | 526 | | | | | 0.355 | |
| | | | $D_c$ | 0.01 | 0.02 | 0.04 | 0.07 | 0.10 | 0.14 | 0.18 | 0.22 | 0.28 | 0.33 | 0.40 | | | | | | |
| 1 ½" x ⅜" | 11.22 | 77 | U | 9,474 | 4,211 | 2,368 | 1,516 | 1,053 | 773 | 592 | 468 | 379 | 313 | 263 | 224 | | | | 0.711 | |
| | | | $D_u$ | 0.01 | 0.03 | 0.06 | 0.09 | 0.12 | 0.17 | 0.22 | 0.28 | 0.34 | 0.42 | 0.50 | 0.58 | | | | | |
| | | | C | 4,737 | 3,158 | 2,368 | 1,895 | 1,579 | 1,353 | 1,184 | 1,053 | 947 | 861 | 789 | 729 | | | | 0.533 | |
| | | | $D_c$ | 0.01 | 0.02 | 0.04 | 0.07 | 0.10 | 0.14 | 0.18 | 0.22 | 0.28 | 0.33 | 0.40 | 0.47 | | | | | |
| 2" x ¼" | 10.08 | 87 | U | 11,228 | 4,990 | 2,807 | 1,796 | 1,248 | 917 | 702 | 554 | 449 | 371 | 312 | 266 | 229 | 200 | | 0.842 | |
| | | | $D_u$ | 0.01 | 0.02 | 0.04 | 0.06 | 0.09 | 0.13 | 0.17 | 0.21 | 0.26 | 0.31 | 0.37 | 0.44 | 0.51 | 0.58 | | | |
| | | | C | 5,614 | 3,743 | 2,807 | 2,246 | 1,871 | 1,604 | 1,404 | 1,248 | 1,123 | 1,021 | 936 | 864 | 802 | 749 | | 0.842 | |
| | | | $D_c$ | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.10 | 0.13 | 0.17 | 0.21 | 0.25 | 0.30 | 0.35 | 0.41 | 0.47 | | | |
| 2 ½" x ¼" | 12.35 | 102 | U | 17,544 | 7,797 | 4,386 | 2,807 | 1,949 | 1,432 | 1,096 | 866 | 702 | 580 | 487 | 415 | 358 | 312 | 274 | 1.316 | |
| | | | $D_u$ | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.10 | 0.13 | 0.17 | 0.21 | 0.25 | 0.30 | 0.35 | 0.41 | 0.47 | 0.53 | | |
| | | | C | 8,772 | 5,848 | 4,386 | 3,509 | 2,924 | 2,506 | 2,193 | 1,949 | 1,754 | 1,595 | 1,462 | 1,350 | 1,253 | 1,170 | 1,096 | 1.645 | |
| | | | $D_c$ | 0.01 | 0.01 | 0.03 | 0.04 | 0.06 | 0.08 | 0.11 | 0.13 | 0.17 | 0.20 | 0.24 | 0.28 | 0.32 | 0.37 | 0.42 | | |
| 3" x ¼" | 14.62 | 117 | U | 25,263 | 11,228 | 6,316 | 4,042 | 2,807 | 2,062 | 1,579 | 1,248 | 1,011 | 835 | 702 | 598 | 516 | 449 | 395 | 1.895 | |
| | | | $D_u$ | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.08 | 0.11 | 0.14 | 0.17 | 0.21 | 0.25 | 0.29 | 0.34 | 0.39 | 0.44 | | |
| | | | C | 12,632 | 8,421 | 6,316 | 5,053 | 4,211 | 3,609 | 3,158 | 2,807 | 2,526 | 2,297 | 2,105 | 1,943 | 1,805 | 1,684 | 1,579 | 2.842 | |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.31 | 0.35 | | |
| 3" x ⅜" | 21.86 | 130 | U | 37,895 | 16,842 | 9,474 | 6,063 | 4,211 | 3,093 | 2,368 | 1,871 | 1,516 | 1,253 | 1,053 | 897 | 773 | 674 | 592 | 2.842 | |
| | | | $D_u$ | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.08 | 0.11 | 0.14 | 0.17 | 0.21 | 0.25 | 0.29 | 0.34 | 0.39 | 0.44 | | |
| | | | C | 18,947 | 12,632 | 9,474 | 7,579 | 6,316 | 5,414 | 4,737 | 4,211 | 3,789 | 3,445 | 3,158 | 2,915 | 2,707 | 2,526 | 2,368 | 4.263 | |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.31 | 0.35 | | |
| 3 ½" x ¼" | 16.88 | 132 | U | 34,386 | 15,283 | 8,596 | 5,502 | 3,821 | 2,807 | 2,149 | 1,698 | 1,375 | 1,137 | 955 | 814 | 702 | 611 | 537 | 2.579 | |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.04 | 0.05 | 0.07 | 0.09 | 0.12 | 0.15 | 0.18 | 0.21 | 0.25 | 0.29 | 0.33 | 0.38 | | |
| | | | C | 17,193 | 11,462 | 8,596 | 6,877 | 5,731 | 4,912 | 4,298 | 3,821 | 3,439 | 3,126 | 2,865 | 2,645 | 2,456 | 2,292 | 2,149 | 4.513 | |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.08 | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.30 | | |
| 3 ½" x ⅜" | 25.26 | 146 | U | 51,579 | 22,924 | 12,895 | 8,253 | 5,731 | 4,211 | 3,224 | 2,547 | 2,063 | 1,705 | 1,433 | 1,221 | 1,053 | 917 | 806 | 3.868 | |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.04 | 0.05 | 0.07 | 0.09 | 0.12 | 0.15 | 0.18 | 0.21 | 0.25 | 0.29 | 0.33 | 0.38 | | |
| | | | C | 25,789 | 17,193 | 12,895 | 10,316 | 8,596 | 7,368 | 6,447 | 5,731 | 5,158 | 4,689 | 4,298 | 3,968 | 3,684 | 3,439 | 3,224 | 6.770 | |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | 0.08 | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.30 | | |
| 4" x¼" | 19.15 | 146 | U | 44,912 | 19,961 | 11,228 | 7,186 | 4,990 | 3,666 | 2,807 | 2,218 | 1,796 | 1,485 | 1,248 | 1,063 | 917 | 798 | 702 | 3.368 | |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 0.16 | 0.19 | 0.22 | 0.25 | 0.29 | 0.33 | | |
| | | | C | 22,456 | 14,971 | 11,228 | 8,982 | 7,485 | 6,416 | 5,614 | 4,990 | 4,491 | 4,083 | 3,743 | 3,455 | 3,208 | 2,994 | 2,807 | 6.737 | |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 0.13 | 0.15 | 0.17 | 0.20 | 0.23 | 0.26 | | |
| 4" x ⅜" | 28.66 | 161 | U | 67,368 | 29,942 | 16,842 | 10,779 | 7,485 | 5,499 | 4,211 | 3,327 | 2,695 | 2,227 | 1,871 | 1,595 | 1,375 | 1,198 | 1,053 | 5.053 | |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 0.16 | 0.19 | 0.22 | 0.25 | 0.29 | 0.33 | | |
| | | | C | 33,684 | 22,456 | 16,842 | 13,474 | 11,228 | 9,624 | 8,421 | 7,485 | 6,737 | 6,124 | 5,614 | 5,182 | 4,812 | 4,491 | 4,211 | 10.105 | |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 0.13 | 0.15 | 0.17 | 0.20 | 0.23 | 0.26 | | |

Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

# LOAD TABLES - WIDE MESH

**Grating Type:** **38HW4**
**Design Code:** **NAAMM MBG 534**
**Material:** **ASTM A36**
**Surface:** **Serrated**



U = Safe Uniform Load (lbs/ft$^2$)
$D_u$ = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
$D_c$ = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

| Bearing Bar Size (inches) | Approx. Weight (lbs/ft$^2$) | Ped. Span (inches) | Load / Deflection | Span (ft -in) 1' - 0" | 1' - 6" | 2' - 0" | 2' - 6" | 3' - 0" | 3' - 6" | 4' - 0" | 4' - 6" | 5' - 0" | 5' - 6" | 6' - 0" | 6' - 6" | 7' - 0" | 7' - 6" | 8' - 0" | Section Properties $S_x$ (in$^3$)/ft | $I_x$ (in$^4$)/ft |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1" x ¼" | 5.55 | 42 | U | 1,579 | 702 | 395 | 253 | 175 | 129 | | | | | | | | | | | 0.118 |
| | | | $D_u$ | 0.03 | 0.06 | 0.11 | 0.17 | 0.25 | 0.34 | | | | | | | | | | | |
| | | | C | 789 | 526 | 395 | 316 | 263 | 226 | | | | | | | | | | | 0.044 |
| | | | $D_c$ | 0.02 | 0.05 | 0.09 | 0.14 | 0.20 | 0.27 | | | | | | | | | | | |
| 1 ¼" x ¼" | 6.68 | 51 | U | 2,807 | 1,248 | 702 | 449 | 312 | 229 | 175 | 139 | | | | | | | | | 0.211 |
| | | | $D_u$ | 0.02 | 0.05 | 0.08 | 0.13 | 0.19 | 0.25 | 0.33 | 0.42 | | | | | | | | | |
| | | | C | 1,404 | 936 | 702 | 561 | 468 | 401 | 351 | 312 | | | | | | | | | 0.105 |
| | | | $D_c$ | 0.02 | 0.04 | 0.07 | 0.10 | 0.15 | 0.20 | 0.26 | 0.34 | | | | | | | | | |
| 1 ½" x ¼" | 7.82 | 61 | U | 4,386 | 1,949 | 1,096 | 702 | 487 | 358 | 274 | 217 | 175 | 145 | | | | | | | 0.329 |
| | | | $D_u$ | 0.02 | 0.04 | 0.07 | 0.10 | 0.15 | 0.20 | 0.26 | 0.34 | 0.41 | 0.50 | | | | | | | |
| | | | C | 2,193 | 1,462 | 1,096 | 877 | 731 | 627 | 548 | 487 | 439 | 399 | | | | | | | 0.206 |
| | | | $D_c$ | 0.01 | 0.03 | 0.05 | 0.08 | 0.12 | 0.16 | 0.21 | 0.27 | 0.33 | 0.40 | | | | | | | |
| 1 ½" x ⅜" | 11.22 | 67 | U | 6,579 | 2,924 | 1,645 | 1,053 | 731 | 537 | 411 | 325 | 263 | 217 | 183 | | | | | | 0.493 |
| | | | $D_u$ | 0.02 | 0.04 | 0.07 | 0.10 | 0.15 | 0.20 | 0.26 | 0.34 | 0.41 | 0.50 | 0.60 | | | | | | |
| | | | C | 3,289 | 2,193 | 1,645 | 1,316 | 1,096 | 940 | 822 | 731 | 658 | 598 | 548 | | | | | | 0.308 |
| | | | $D_c$ | 0.01 | 0.03 | 0.05 | 0.08 | 0.12 | 0.16 | 0.21 | 0.27 | 0.33 | 0.40 | 0.48 | | | | | | |
| 2" x ¼" | 10.08 | 78 | U | 8,596 | 3,821 | 2,149 | 1,375 | 955 | 702 | 537 | 425 | 344 | 284 | 239 | 203 | | | | | 0.645 |
| | | | $D_u$ | 0.01 | 0.03 | 0.05 | 0.07 | 0.11 | 0.14 | 0.19 | 0.24 | 0.30 | 0.36 | 0.43 | 0.50 | | | | | |
| | | | C | 4,298 | 2,865 | 2,149 | 1,719 | 1,433 | 1,228 | 1,075 | 955 | 860 | 781 | 716 | 661 | | | | | 0.564 |
| | | | $D_c$ | 0.01 | 0.02 | 0.04 | 0.06 | 0.09 | 0.12 | 0.15 | 0.19 | 0.24 | 0.29 | 0.34 | 0.40 | | | | | |
| 2 ½" x ¼" | 12.35 | 95 | U | 14,211 | 6,316 | 3,553 | 2,274 | 1,579 | 1,160 | 888 | 702 | 568 | 470 | 395 | 336 | 290 | 253 | 222 | | 1.066 |
| | | | $D_u$ | 0.01 | 0.02 | 0.04 | 0.06 | 0.08 | 0.11 | 0.15 | 0.19 | 0.23 | 0.28 | 0.33 | 0.39 | 0.45 | 0.52 | 0.59 | | |
| | | | C | 7,105 | 4,737 | 3,553 | 2,842 | 2,368 | 2,030 | 1,776 | 1,579 | 1,421 | 1,292 | 1,184 | 1,093 | 1,015 | 947 | 888 | | 1.199 |
| | | | $D_c$ | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.12 | 0.15 | 0.18 | 0.22 | 0.26 | 0.31 | 0.36 | 0.41 | 0.47 | | |
| 3" x ¼" | 14.62 | 110 | U | 21,228 | 9,435 | 5,307 | 3,396 | 2,359 | 1,733 | 1,327 | 1,048 | 849 | 702 | 590 | 502 | 433 | 377 | 332 | | 1.592 |
| | | | $D_u$ | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.12 | 0.15 | 0.19 | 0.23 | 0.27 | 0.32 | 0.37 | 0.42 | 0.48 | | |
| | | | C | 10,614 | 7,076 | 5,307 | 4,246 | 3,538 | 3,033 | 2,654 | 2,359 | 2,123 | 1,930 | 1,769 | 1,633 | 1,516 | 1,415 | 1,327 | | 2.189 |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.04 | 0.05 | 0.07 | 0.10 | 0.12 | 0.15 | 0.18 | 0.22 | 0.25 | 0.29 | 0.34 | 0.39 | | |
| 3" x ⅜" | 21.86 | 122 | U | 31,842 | 14,152 | 7,961 | 5,095 | 3,538 | 2,599 | 1,990 | 1,572 | 1,274 | 1,053 | 885 | 754 | 650 | 566 | 498 | | 2.388 |
| | | | $D_u$ | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.12 | 0.15 | 0.19 | 0.23 | 0.27 | 0.32 | 0.37 | 0.42 | 0.48 | | |
| | | | C | 15,921 | 10,614 | 7,961 | 6,368 | 5,307 | 4,549 | 3,980 | 3,538 | 3,184 | 2,895 | 2,654 | 2,449 | 2,274 | 2,123 | 1,990 | | 3.284 |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.04 | 0.05 | 0.07 | 0.10 | 0.12 | 0.15 | 0.18 | 0.22 | 0.25 | 0.29 | 0.34 | 0.39 | | |
| 3 ½" x ¼" | 16.88 | 125 | U | 29,649 | 13,177 | 7,412 | 4,744 | 3,294 | 2,420 | 1,853 | 1,464 | 1,186 | 980 | 824 | 702 | 605 | 527 | 463 | | 2.224 |
| | | | $D_u$ | 0.01 | 0.01 | 0.03 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.31 | 0.36 | 0.41 | | |
| | | | C | 14,825 | 9,883 | 7,412 | 5,930 | 4,942 | 4,236 | 3,706 | 3,294 | 2,965 | 2,695 | 2,471 | 2,281 | 2,118 | 1,977 | 1,853 | | 3.613 |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.22 | 0.25 | 0.29 | 0.33 | | |
| 3 ½" x ⅜" | 25.26 | 138 | U | 44,474 | 19,766 | 11,118 | 7,116 | 4,942 | 3,631 | 2,780 | 2,196 | 1,779 | 1,470 | 1,235 | 1,053 | 908 | 791 | 695 | | 3.336 |
| | | | $D_u$ | 0.01 | 0.01 | 0.03 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.31 | 0.36 | 0.41 | | |
| | | | C | 22,237 | 14,825 | 11,118 | 8,895 | 7,412 | 6,353 | 5,559 | 4,942 | 4,447 | 4,043 | 3,706 | 3,421 | 3,177 | 2,965 | 2,780 | | 5.420 |
| | | | $D_c$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.22 | 0.25 | 0.29 | 0.33 | | |
| 4" x¼" | 19.15 | 139 | U | 39,474 | 17,544 | 9,868 | 6,316 | 4,386 | 3,222 | 2,467 | 1,949 | 1,579 | 1,305 | 1,096 | 934 | 806 | 702 | 617 | | 2.961 |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.31 | 0.35 | | |
| | | | C | 19,737 | 13,158 | 9,868 | 7,895 | 6,579 | 5,639 | 4,934 | 4,386 | 3,947 | 3,589 | 3,289 | 3,036 | 2,820 | 2,632 | 2,467 | | 5.551 |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.22 | 0.25 | 0.28 | | |
| 4" x ⅜" | 28.66 | 154 | U | 59,211 | 26,316 | 14,803 | 9,474 | 6,579 | 4,834 | 3,701 | 2,924 | 2,368 | 1,957 | 1,645 | 1,401 | 1,208 | 1,053 | 925 | | 4.441 |
| | | | $D_u$ | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 0.31 | 0.35 | | |
| | | | C | 29,605 | 19,737 | 14,803 | 11,842 | 9,868 | 8,459 | 7,401 | 6,579 | 5,921 | 5,383 | 4,934 | 4,555 | 4,229 | 3,947 | 3,701 | | 8.326 |
| | | | $D_c$ | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.22 | 0.25 | 0.28 | | |

Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.