

Material: Hot Rolled Carbon Steel per ASTM A1011  
 F<sub>s</sub> = 18,000 psi  
 E = 29,000,000 psi  
 Bearing bars spaced 1/2" on center  
 # of bearing bars per foot = 24

## Harsco Industrial IKG

a harsco company

### Types CM2 & CMF2

#### STEEL SAFE LOAD TABLE

U = Uniform load in pounds per square foot  
 D = Deflection in inches  
 C = Concentrated load at mid span in pounds per foot of width

| Maximum span for 1/4" deflection under a uniform load of 100 psf                  |     | SPAN IN INCHES |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-----|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   |     | 12             | 18    | 24    | 30    | 36    | 42    | 48    | 54    | 60    | 66    | 72    | 78    | 84    | 90    | 96    | 102   | 108   | 114   | 120   |       |
| SIZE 1<br>3/4 X 1/8<br>S <sup>3</sup> /ft 0.2813<br>I <sup>4</sup> /ft 0.1055     | 52  | U              | 3376  | 1500  | 844   | 540   | 375   | 276   | 211   | 167   | 135   | 112   | 94    | 80    | 69    | 60    | 53    | 47    | 42    | 37    | 34    |
|   |     | D              | 0.025 | 0.056 | 0.099 | 0.155 | 0.223 | 0.305 | 0.397 | 0.504 | 0.621 | 0.754 | 0.896 | 1.050 | 1.218 | 1.396 | 1.596 | 1.804 | 2.027 | 2.216 | 2.500 |
|   |     | C              | 1688  | 1125  | 844   | 675   | 563   | 482   | 422   | 375   | 338   | 307   | 281   | 260   | 241   | 225   | 211   | 199   | 188   | 178   | 169   |
|   |     | D              | 0.020 | 0.045 | 0.079 | 0.124 | 0.179 | 0.243 | 0.318 | 0.402 | 0.497 | 0.601 | 0.714 | 0.840 | 0.973 | 1.117 | 1.271 | 1.438 | 1.613 | 1.796 | 1.989 |
| SIZE 2<br>3/4 X 3/16<br>S <sup>3</sup> /ft 0.4219<br>I <sup>4</sup> /ft 0.1582    | 57  | U              | 5063  | 2250  | 1266  | 810   | 563   | 413   | 316   | 250   | 203   | 167   | 141   | 120   | 103   | 90    | 79    | 70    | 63    | 56    | 51    |
|   |     | D              | 0.025 | 0.056 | 0.099 | 0.155 | 0.224 | 0.304 | 0.397 | 0.503 | 0.622 | 0.749 | 0.896 | 1.051 | 1.213 | 1.397 | 1.587 | 1.792 | 2.027 | 2.237 | 2.501 |
|   |     | C              | 2531  | 1688  | 1266  | 1013  | 844   | 723   | 633   | 563   | 506   | 460   | 422   | 389   | 362   | 338   | 316   | 298   | 281   | 266   | 253   |
|   |     | D              | 0.020 | 0.045 | 0.079 | 0.124 | 0.179 | 0.243 | 0.318 | 0.403 | 0.496 | 0.601 | 0.715 | 0.838 | 0.974 | 1.119 | 1.270 | 1.436 | 1.607 | 1.790 | 1.985 |
| SIZE 3<br>1 X 1/8<br>S <sup>3</sup> /ft 0.5000<br>I <sup>4</sup> /ft 0.2500       | 64  | U              | 6000  | 2667  | 1500  | 960   | 667   | 490   | 375   | 296   | 240   | 198   | 167   | 142   | 122   | 107   | 94    | 83    | 74    | 66    | 60    |
|   |     | D              | 0.019 | 0.042 | 0.074 | 0.116 | 0.168 | 0.228 | 0.298 | 0.377 | 0.466 | 0.562 | 0.672 | 0.787 | 0.909 | 1.051 | 1.195 | 1.345 | 1.507 | 1.668 | 1.862 |
|   |     | C              | 3000  | 2000  | 1500  | 1200  | 1000  | 857   | 750   | 667   | 600   | 545   | 500   | 462   | 429   | 400   | 375   | 353   | 333   | 316   | 300   |
|   |     | D              | 0.015 | 0.034 | 0.060 | 0.093 | 0.134 | 0.182 | 0.238 | 0.302 | 0.372 | 0.450 | 0.536 | 0.630 | 0.731 | 0.838 | 0.953 | 1.076 | 1.205 | 1.345 | 1.490 |
| SIZE 4<br>1 X 3/16<br>S <sup>3</sup> /ft 0.7500<br>I <sup>4</sup> /ft 0.3750      | 71  | U              | 9000  | 4000  | 2250  | 1440  | 1000  | 735   | 563   | 444   | 360   | 298   | 250   | 213   | 184   | 160   | 141   | 125   | 111   | 100   | 90    |
|   |     | D              | 0.019 | 0.042 | 0.074 | 0.116 | 0.168 | 0.228 | 0.298 | 0.377 | 0.466 | 0.564 | 0.670 | 0.787 | 0.914 | 1.047 | 1.195 | 1.350 | 1.507 | 1.685 | 1.862 |
|   |     | C              | 4500  | 3000  | 2250  | 1800  | 1500  | 1286  | 1125  | 1000  | 900   | 818   | 750   | 692   | 643   | 600   | 563   | 529   | 500   | 474   | 450   |
|   |     | D              | 0.015 | 0.034 | 0.060 | 0.093 | 0.134 | 0.183 | 0.238 | 0.302 | 0.372 | 0.451 | 0.536 | 0.629 | 0.730 | 0.838 | 0.954 | 1.075 | 1.207 | 1.345 | 1.490 |
| SIZE 5<br>1 1/4 X 1/8<br>S <sup>3</sup> /ft 0.7813<br>I <sup>4</sup> /ft 0.4883   | 76  | U              | 9376  | 4167  | 2344  | 1500  | 1042  | 765   | 586   | 463   | 375   | 310   | 260   | 222   | 191   | 167   | 146   | 130   | 116   | 104   | 94    |
|   |     | D              | 0.015 | 0.034 | 0.060 | 0.093 | 0.134 | 0.182 | 0.238 | 0.302 | 0.372 | 0.451 | 0.535 | 0.630 | 0.729 | 0.840 | 0.950 | 1.078 | 1.209 | 1.346 | 1.494 |
|   |     | C              | 4688  | 3125  | 2344  | 1875  | 1563  | 1339  | 1172  | 1042  | 938   | 852   | 781   | 721   | 670   | 625   | 586   | 552   | 521   | 493   | 469   |
|   |     | D              | 0.012 | 0.027 | 0.048 | 0.074 | 0.107 | 0.146 | 0.191 | 0.241 | 0.298 | 0.360 | 0.429 | 0.503 | 0.584 | 0.670 | 0.763 | 0.862 | 0.966 | 1.075 | 1.192 |
| SIZE 6<br>1 1/4 X 3/16<br>S <sup>3</sup> /ft 1.1719<br>I <sup>4</sup> /ft 0.7324  | 84  | U              | 14063 | 6250  | 3516  | 2250  | 1563  | 1148  | 879   | 694   | 563   | 465   | 391   | 333   | 287   | 250   | 220   | 195   | 174   | 156   | 141   |
|   |     | D              | 0.015 | 0.034 | 0.060 | 0.093 | 0.134 | 0.182 | 0.238 | 0.301 | 0.373 | 0.451 | 0.537 | 0.630 | 0.730 | 0.838 | 0.955 | 1.078 | 1.209 | 1.346 | 1.494 |
|   |     | C              | 7031  | 4688  | 3516  | 2813  | 2344  | 2009  | 1758  | 1563  | 1406  | 1278  | 1172  | 1082  | 1004  | 938   | 879   | 827   | 781   | 740   | 703   |
|   |     | D              | 0.012 | 0.027 | 0.048 | 0.074 | 0.107 | 0.146 | 0.191 | 0.241 | 0.298 | 0.360 | 0.429 | 0.504 | 0.584 | 0.671 | 0.763 | 0.861 | 0.965 | 1.075 | 1.192 |
| SIZE 7<br>1 1/2 X 1/8<br>S <sup>3</sup> /ft 1.1250<br>I <sup>4</sup> /ft 0.8438   | 87  | U              | 13500 | 6000  | 3375  | 2160  | 1500  | 1102  | 844   | 667   | 540   | 446   | 375   | 320   | 276   | 240   | 211   | 187   | 167   | 150   | 135   |
|   |     | D              | 0.012 | 0.028 | 0.050 | 0.078 | 0.112 | 0.152 | 0.199 | 0.251 | 0.310 | 0.375 | 0.447 | 0.525 | 0.609 | 0.698 | 0.795 | 0.898 | 1.007 | 1.123 | 1.241 |
|   |     | C              | 6750  | 4500  | 3375  | 2700  | 2250  | 1929  | 1688  | 1500  | 1350  | 1227  | 1125  | 1038  | 964   | 900   | 844   | 794   | 750   | 711   | 675   |
|   |     | D              | 0.010 | 0.022 | 0.040 | 0.062 | 0.089 | 0.122 | 0.159 | 0.201 | 0.248 | 0.300 | 0.357 | 0.419 | 0.486 | 0.559 | 0.636 | 0.717 | 0.804 | 0.897 | 0.993 |
| SIZE 8<br>1 1/2 X 3/16<br>S <sup>3</sup> /ft 1.6875<br>I <sup>4</sup> /ft 1.2656  | 96  | U              | 20250 | 9000  | 5063  | 3240  | 2250  | 1653  | 1266  | 1000  | 810   | 669   | 563   | 479   | 413   | 360   | 316   | 280   | 250   | 224   | 203   |
|   |     | D              | 0.012 | 0.028 | 0.050 | 0.078 | 0.112 | 0.152 | 0.199 | 0.251 | 0.310 | 0.375 | 0.447 | 0.524 | 0.608 | 0.698 | 0.793 | 0.896 | 1.006 | 1.118 | 1.244 |
|   |     | C              | 10125 | 6750  | 5063  | 4050  | 3375  | 2893  | 2531  | 2250  | 2025  | 1841  | 1688  | 1558  | 1446  | 1350  | 1266  | 1191  | 1125  | 1066  | 1013  |
|   |     | D              | 0.010 | 0.022 | 0.040 | 0.062 | 0.089 | 0.122 | 0.159 | 0.201 | 0.248 | 0.300 | 0.358 | 0.420 | 0.486 | 0.559 | 0.636 | 0.717 | 0.804 | 0.896 | 0.994 |
| SIZE 9<br>1 3/4 X 3/16<br>S <sup>3</sup> /ft 2.2969<br>I <sup>4</sup> /ft 2.0098  | 108 | U              | 27563 | 12250 | 6891  | 4410  | 3063  | 2250  | 1723  | 1361  | 1103  | 911   | 766   | 652   | 563   | 490   | 431   | 381   | 340   | 305   | 276   |
|   |     | D              | 0.011 | 0.024 | 0.043 | 0.067 | 0.096 | 0.130 | 0.170 | 0.215 | 0.266 | 0.322 | 0.383 | 0.449 | 0.522 | 0.599 | 0.682 | 0.768 | 0.861 | 0.959 | 1.065 |
|   |     | C              | 13781 | 9188  | 6891  | 5513  | 4594  | 3938  | 3445  | 3063  | 2756  | 2506  | 2297  | 2120  | 1969  | 1838  | 1723  | 1621  | 1531  | 1451  | 1378  |
|   |     | D              | 0.009 | 0.019 | 0.034 | 0.053 | 0.077 | 0.104 | 0.136 | 0.172 | 0.213 | 0.258 | 0.306 | 0.360 | 0.417 | 0.479 | 0.545 | 0.615 | 0.689 | 0.768 | 0.851 |
| SIZE 10<br>2 X 3/16<br>S <sup>3</sup> /ft 3.0000<br>I <sup>4</sup> /ft 3.0000     | 119 | U              | 36000 | 16000 | 9000  | 5760  | 4000  | 2939  | 2250  | 1778  | 1440  | 1190  | 1000  | 852   | 735   | 640   | 563   | 498   | 444   | 399   | 360   |
|   |     | D              | 0.009 | 0.021 | 0.037 | 0.058 | 0.084 | 0.114 | 0.149 | 0.189 | 0.233 | 0.282 | 0.335 | 0.393 | 0.456 | 0.524 | 0.596 | 0.672 | 0.753 | 0.840 | 0.931 |
|   |     | C              | 18000 | 12000 | 9000  | 7200  | 6000  | 5143  | 4500  | 4000  | 3600  | 3273  | 3000  | 2769  | 2571  | 2400  | 2250  | 2118  | 2000  | 1895  | 1800  |
|   |     | D              | 0.007 | 0.017 | 0.030 | 0.047 | 0.067 | 0.091 | 0.119 | 0.151 | 0.186 | 0.225 | 0.268 | 0.315 | 0.365 | 0.419 | 0.477 | 0.538 | 0.603 | 0.672 | 0.745 |
| SIZE 11<br>2 1/4 X 3/16<br>S <sup>3</sup> /ft 3.7969<br>I <sup>4</sup> /ft 4.2715 | 130 | U              | 45563 | 20250 | 11391 | 7290  | 5063  | 3719  | 2848  | 2250  | 1823  | 1506  | 1266  | 1078  | 930   | 810   | 712   | 631   | 563   | 505   | 456   |
|   |     | D              | 0.008 | 0.019 | 0.033 | 0.052 | 0.074 | 0.101 | 0.132 | 0.168 | 0.207 | 0.250 | 0.298 | 0.350 | 0.406 | 0.466 | 0.530 | 0.598 | 0.671 | 0.747 | 0.828 |
|   |     | C              | 22781 | 15188 | 11391 | 9113  | 7594  | 6509  | 5695  | 5063  | 4556  | 4142  | 3797  | 3505  | 3254  | 3038  | 2848  | 2680  | 2531  | 2398  | 2278  |
|   |     | D              | 0.007 | 0.015 | 0.026 | 0.041 | 0.060 | 0.081 | 0.106 | 0.134 | 0.166 | 0.200 | 0.238 | 0.280 | 0.324 | 0.372 | 0.424 | 0.478 | 0.536 | 0.598 | 0.662 |
| SIZE 12<br>2 1/2 X 3/16<br>S <sup>3</sup> /ft 4.6875<br>I <sup>4</sup> /ft 5.8594 | 141 | U              | 56250 | 25000 | 14063 | 9000  | 6250  | 4592  | 3516  | 2778  | 2250  | 1860  | 1563  | 1331  | 1148  | 1000  | 879   | 779   | 694   | 623   | 563   |
|   |     | D              | 0.007 | 0.017 | 0.030 | 0.047 | 0.067 | 0.091 | 0.119 | 0.151 | 0.186 | 0.225 | 0.268 | 0.315 | 0.365 | 0.419 | 0.477 | 0.538 | 0.603 | 0.672 | 0.745 |
|   |     | C              | 28125 | 18750 | 14063 | 11250 | 9375  | 8036  | 7031  | 6250  | 5625  | 5114  | 4688  | 4327  | 4018  | 3750  | 3516  | 3309  | 3125  | 2961  | 2813  |
|   |     | D              | 0.006 | 0.013 | 0.024 | 0.037 | 0.054 | 0.073 | 0.095 | 0.121 | 0.149 | 0.180 | 0.215 | 0.252 | 0.292 | 0.335 | 0.381 | 0.431 | 0.483 | 0.538 | 0.596 |