

Material: Hot Rolled Carbon Steel per ASTM A1011
 Fs = 18,000 psi
 E = 29,000,000 psi
 Bearing bars spaced 1-5/8" apart
 # of bearing bars per foot = 6.6207

Harsco Industrial IKG

a harsco company

Type W

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 3/4 X 1/8 S^3/ft 0.1319 I^4/ft 0.0494 | 43 | U | 1582 | 703 | 396 | 253 | 176 | 129 | 99 | 78 | 63 | 52 | 44 | 37 | 32 | 28 | 25 | 22 | 20 | 18 | 16 |
| | | D | 0.025 | 0.056 | 0.100 | 0.155 | 0.224 | 0.304 | 0.398 | 0.503 | 0.619 | 0.748 | 0.896 | 1.038 | 1.207 | 1.392 | 1.609 | 1.805 | 2.062 | 2.304 | 2.514 |
| | | C | 791 | 527 | 396 | 316 | 264 | 226 | 198 | 176 | 158 | 144 | 132 | 122 | 113 | 105 | 99 | 93 | 88 | 83 | 79 |
| | | D | 0.020 | 0.045 | 0.080 | 0.124 | 0.179 | 0.244 | 0.319 | 0.403 | 0.497 | 0.602 | 0.717 | 0.842 | 0.974 | 1.114 | 1.274 | 1.436 | 1.613 | 1.789 | 1.986 |
| SIZE 2 3/4 X 3/16 S^3/ft 0.1658 I^4/ft 0.0621 | 45 | U | 1990 | 884 | 497 | 318 | 221 | 162 | 124 | 98 | 80 | 66 | 55 | 47 | 41 | 35 | 31 | 28 | 25 | 22 | 20 |
| | | D | 0.025 | 0.056 | 0.099 | 0.155 | 0.224 | 0.304 | 0.396 | 0.502 | 0.624 | 0.754 | 0.890 | 1.048 | 1.229 | 1.383 | 1.586 | 1.825 | 2.048 | 2.238 | 2.498 |
| | | C | 995 | 663 | 497 | 398 | 332 | 284 | 249 | 221 | 199 | 181 | 166 | 153 | 142 | 133 | 124 | 117 | 111 | 105 | 99 |
| | | D | 0.020 | 0.045 | 0.079 | 0.124 | 0.179 | 0.243 | 0.318 | 0.402 | 0.497 | 0.602 | 0.716 | 0.840 | 0.973 | 1.121 | 1.269 | 1.436 | 1.617 | 1.799 | 1.978 |
| SIZE 3 1 X 1/8 S^3/ft 0.1944 I^4/ft 0.0907 | 50 | U | 2332 | 1037 | 583 | 373 | 259 | 190 | 146 | 115 | 93 | 77 | 65 | 55 | 48 | 41 | 36 | 32 | 29 | 26 | 23 |
| | | D | 0.020 | 0.045 | 0.080 | 0.125 | 0.180 | 0.244 | 0.320 | 0.404 | 0.497 | 0.603 | 0.721 | 0.840 | 0.986 | 1.110 | 1.262 | 1.429 | 1.628 | 1.812 | 1.968 |
| | | C | 1166 | 777 | 583 | 466 | 389 | 333 | 292 | 259 | 233 | 212 | 194 | 179 | 167 | 155 | 146 | 137 | 130 | 123 | 117 |
| | | D | 0.016 | 0.036 | 0.064 | 0.100 | 0.144 | 0.195 | 0.256 | 0.323 | 0.399 | 0.483 | 0.574 | 0.673 | 0.784 | 0.895 | 1.023 | 1.152 | 1.297 | 1.444 | 1.602 |
| SIZE 4 1 X 3/16 S^3/ft 0.2563 I^4/ft 0.1219 | 53 | U | 3076 | 1367 | 769 | 492 | 342 | 251 | 192 | 152 | 123 | 102 | 85 | 73 | 63 | 55 | 48 | 43 | 38 | 34 | 31 |
| | | D | 0.020 | 0.044 | 0.078 | 0.122 | 0.176 | 0.240 | 0.313 | 0.397 | 0.489 | 0.594 | 0.701 | 0.829 | 0.963 | 1.107 | 1.251 | 1.428 | 1.587 | 1.762 | 1.973 |
| | | C | 1538 | 1025 | 769 | 615 | 513 | 439 | 384 | 342 | 308 | 280 | 256 | 237 | 220 | 205 | 192 | 181 | 171 | 162 | 154 |
| | | D | 0.016 | 0.035 | 0.063 | 0.098 | 0.141 | 0.192 | 0.250 | 0.317 | 0.392 | 0.474 | 0.563 | 0.663 | 0.768 | 0.881 | 1.001 | 1.132 | 1.269 | 1.414 | 1.568 |
| SIZE 5 1 1/4 X 1/8 S^3/ft 0.2747 I^4/ft 0.1588 | 57 | U | 3296 | 1465 | 824 | 527 | 366 | 269 | 206 | 163 | 132 | 109 | 92 | 78 | 67 | 59 | 51 | 46 | 41 | 37 | 33 |
| | | D | 0.016 | 0.036 | 0.064 | 0.101 | 0.145 | 0.197 | 0.258 | 0.327 | 0.403 | 0.487 | 0.583 | 0.680 | 0.786 | 0.912 | 1.021 | 1.173 | 1.314 | 1.473 | 1.613 |
| | | C | 1648 | 1099 | 824 | 659 | 549 | 471 | 412 | 366 | 330 | 300 | 275 | 254 | 235 | 220 | 206 | 194 | 183 | 173 | 165 |
| | | D | 0.013 | 0.029 | 0.052 | 0.081 | 0.116 | 0.158 | 0.206 | 0.261 | 0.323 | 0.390 | 0.464 | 0.545 | 0.630 | 0.726 | 0.825 | 0.931 | 1.043 | 1.160 | 1.290 |
| SIZE 6 1 1/4 X 3/16 S^3/ft 0.3727 I^4/ft 0.2205 | 62 | U | 4473 | 1988 | 1118 | 716 | 497 | 365 | 280 | 221 | 179 | 148 | 124 | 106 | 91 | 80 | 70 | 62 | 55 | 50 | 45 |
| | | D | 0.016 | 0.035 | 0.063 | 0.098 | 0.142 | 0.193 | 0.252 | 0.319 | 0.394 | 0.476 | 0.565 | 0.666 | 0.769 | 0.891 | 1.009 | 1.139 | 1.270 | 1.433 | 1.583 |
| | | C | 2236 | 1491 | 1118 | 895 | 745 | 639 | 559 | 497 | 447 | 407 | 373 | 344 | 319 | 298 | 280 | 263 | 248 | 235 | 224 |
| | | D | 0.013 | 0.028 | 0.050 | 0.079 | 0.113 | 0.154 | 0.201 | 0.255 | 0.315 | 0.381 | 0.454 | 0.532 | 0.616 | 0.708 | 0.807 | 0.909 | 1.018 | 1.134 | 1.261 |
| SIZE 7 1 1/2 X 1/8 S^3/ft 0.3729 I^4/ft 0.2604 | 65 | U | 4474 | 1989 | 1119 | 716 | 497 | 365 | 280 | 221 | 179 | 148 | 124 | 106 | 91 | 80 | 70 | 62 | 55 | 50 | 45 |
| | | D | 0.013 | 0.030 | 0.053 | 0.083 | 0.120 | 0.163 | 0.214 | 0.270 | 0.333 | 0.404 | 0.479 | 0.564 | 0.651 | 0.754 | 0.854 | 0.964 | 1.075 | 1.214 | 1.341 |
| | | C | 2237 | 1491 | 1119 | 895 | 746 | 639 | 559 | 497 | 447 | 407 | 373 | 344 | 320 | 298 | 280 | 263 | 249 | 235 | 224 |
| | | D | 0.011 | 0.024 | 0.043 | 0.067 | 0.096 | 0.131 | 0.171 | 0.216 | 0.266 | 0.323 | 0.384 | 0.450 | 0.523 | 0.599 | 0.683 | 0.770 | 0.865 | 0.961 | 1.068 |
| SIZE 8 1 1/2 X 3/16 S^3/ft 0.5149 I^4/ft 0.3676 | 70 | U | 6179 | 2746 | 1545 | 989 | 687 | 504 | 386 | 305 | 247 | 204 | 172 | 146 | 126 | 110 | 97 | 86 | 76 | 68 | 62 |
| | | D | 0.013 | 0.029 | 0.052 | 0.082 | 0.117 | 0.160 | 0.209 | 0.264 | 0.326 | 0.394 | 0.470 | 0.550 | 0.638 | 0.735 | 0.839 | 0.947 | 1.052 | 1.169 | 1.308 |
| | | C | 3090 | 2060 | 1545 | 1236 | 1030 | 883 | 772 | 687 | 618 | 562 | 515 | 475 | 441 | 412 | 386 | 363 | 343 | 325 | 309 |
| | | D | 0.010 | 0.023 | 0.042 | 0.065 | 0.094 | 0.128 | 0.167 | 0.211 | 0.261 | 0.316 | 0.376 | 0.440 | 0.511 | 0.587 | 0.667 | 0.753 | 0.844 | 0.941 | 1.043 |
| SIZE 9 1 3/4 X 3/16 S^3/ft 0.7214 I^4/ft 0.5983 | 80 | U | 8657 | 3848 | 2164 | 1385 | 962 | 707 | 541 | 428 | 346 | 286 | 240 | 205 | 177 | 154 | 135 | 120 | 107 | 96 | 87 |
| | | D | 0.011 | 0.025 | 0.045 | 0.070 | 0.101 | 0.138 | 0.180 | 0.228 | 0.280 | 0.339 | 0.403 | 0.475 | 0.551 | 0.632 | 0.717 | 0.812 | 0.910 | 1.014 | 1.128 |
| | | C | 4329 | 2886 | 2164 | 1731 | 1443 | 1237 | 1082 | 962 | 866 | 787 | 721 | 666 | 618 | 577 | 541 | 509 | 481 | 456 | 433 |
| | | D | 0.009 | 0.020 | 0.036 | 0.056 | 0.081 | 0.110 | 0.144 | 0.182 | 0.225 | 0.272 | 0.323 | 0.380 | 0.440 | 0.505 | 0.575 | 0.649 | 0.728 | 0.811 | 0.898 |
| SIZE 10 2 X 3/16 S^3/ft 0.9154 I^4/ft 0.8715 | 87 | U | 10985 | 4882 | 2746 | 1758 | 1221 | 897 | 687 | 542 | 439 | 363 | 305 | 260 | 224 | 195 | 172 | 152 | 136 | 122 | 110 |
| | | D | 0.010 | 0.022 | 0.039 | 0.061 | 0.088 | 0.120 | 0.157 | 0.198 | 0.244 | 0.296 | 0.352 | 0.413 | 0.479 | 0.549 | 0.627 | 0.706 | 0.794 | 0.885 | 0.979 |
| | | C | 5493 | 3662 | 2746 | 2197 | 1831 | 1569 | 1373 | 1221 | 1099 | 999 | 915 | 845 | 785 | 732 | 687 | 646 | 610 | 578 | 549 |
| | | D | 0.008 | 0.018 | 0.031 | 0.049 | 0.070 | 0.096 | 0.125 | 0.158 | 0.196 | 0.237 | 0.282 | 0.331 | 0.384 | 0.440 | 0.501 | 0.565 | 0.633 | 0.706 | 0.782 |
| SIZE 11 2 1/4 X 3/16 S^3/ft 1.1352 I^4/ft 1.2222 | 95 | U | 13623 | 6055 | 3406 | 2180 | 1514 | 1112 | 851 | 673 | 545 | 450 | 378 | 322 | 278 | 242 | 213 | 189 | 168 | 151 | 136 |
| | | D | 0.009 | 0.019 | 0.035 | 0.054 | 0.078 | 0.106 | 0.138 | 0.175 | 0.216 | 0.261 | 0.311 | 0.365 | 0.424 | 0.486 | 0.554 | 0.626 | 0.700 | 0.781 | 0.863 |
| | | C | 6811 | 4541 | 3406 | 2725 | 2270 | 1946 | 1703 | 1514 | 1362 | 1238 | 1135 | 1048 | 973 | 908 | 851 | 801 | 757 | 717 | 681 |
| | | D | 0.007 | 0.016 | 0.028 | 0.043 | 0.062 | 0.085 | 0.111 | 0.140 | 0.173 | 0.209 | 0.249 | 0.292 | 0.339 | 0.389 | 0.443 | 0.500 | 0.561 | 0.624 | 0.692 |
| SIZE 12 2 1/2 X 3/16 S^3/ft 1.3809 I^4/ft 1.6603 | 103 | U | 16571 | 7365 | 4143 | 2651 | 1841 | 1353 | 1036 | 818 | 663 | 548 | 460 | 392 | 338 | 295 | 259 | 229 | 205 | 184 | 166 |
| | | D | 0.008 | 0.017 | 0.031 | 0.048 | 0.070 | 0.095 | 0.124 | 0.157 | 0.194 | 0.234 | 0.279 | 0.327 | 0.379 | 0.436 | 0.496 | 0.559 | 0.629 | 0.700 | 0.776 |
| | | C | 8286 | 5524 | 4143 | 3314 | 2762 | 2367 | 2071 | 1841 | 1657 | 1506 | 1381 | 1275 | 1184 | 1105 | 1036 | 975 | 921 | 872 | 829 |
| | | D | 0.006 | 0.014 | 0.025 | 0.039 | 0.056 | 0.076 | 0.099 | 0.125 | 0.155 | 0.187 | 0.223 | 0.262 | 0.304 | 0.349 | 0.397 | 0.448 | 0.502 | 0.559 | 0.620 |