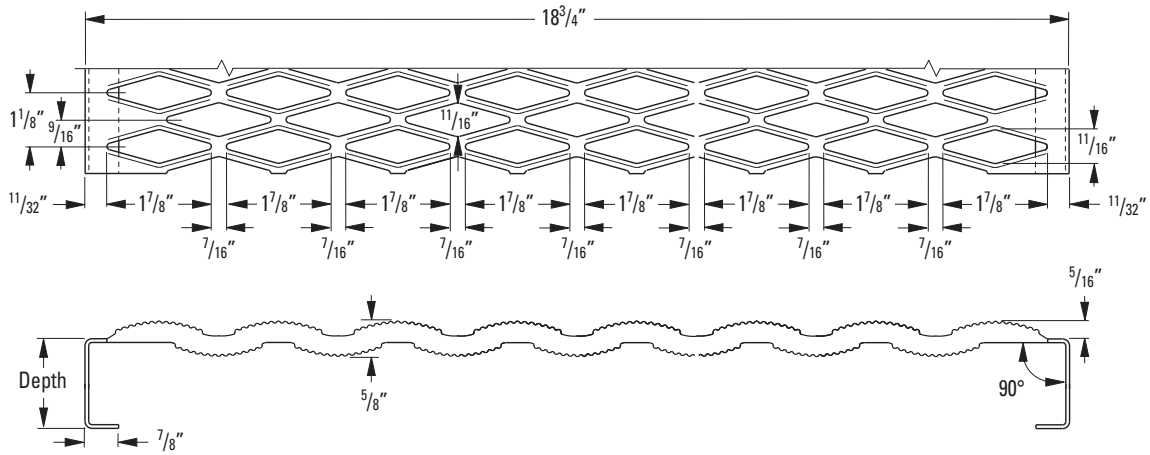


# Safe Loading Tables

## 8-Diamond Plank — 18<sup>3</sup>/<sub>4</sub>" Width



### Product Selection/Design Tables

Allowable Loads and Deflections: U=Uniform Load (lb./ft.<sup>2</sup>) C= Concentrated Load (lb.) D=Deflection (in.)  
Spans to the left of heavy red line produce a deflection of 1/4" or less under a uniform load of 100 lb./ft.<sup>2</sup>

| Material Gauge | Channel Depth in. (mm) | Weight lb./in. ft. (kg/m) | Catalog Number |       | Span  |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |  |
|----------------|------------------------|---------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|                |                        |                           |                |       | 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" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |  |  |  |  |
| Steel 14 ga.   | 1 1/2" (38.1)          | 6.1 (9.1)                 | 81514          | U     | 337   | 217   | 151   | 112   | 86    | 69    | 56    | 47    |       |       |       |       |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                | D     | .33   | .27   | .26   | .29   | .33   | .38   | .45   | .55   |       |       |       |       |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                | C     | 263   | 211   | 178   | 153   | 135   | 121   | 110   | 101   |       |       |       |       |       |       |        |        |        |  |  |  |  |
|                | 2" (50.8)              | 6.3 (9.4)                 | 82014          | U     | 540   | 358   | 250   | 184   | 142   | 113   | 92    | 76    | 65    | 55    | 48    | 42    |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                | D     | .48   | .37   | .34   | .32   | .34   | .38   | .43   | .50   | .58   | .66   | .77   | .87   |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                | C     | 437   | 349   | 292   | 251   | 220   | 198   | 179   | 164   | 152   | 141   | 132   | 124   |       |       |        |        |        |  |  |  |  |
|                | 2 1/2" (63.5)          | 6.6 (9.8)                 | 82514          | U     | 540   | 411   | 286   | 211   | 162   | 129   | 105   | 87    | 74    | 63    | 56    | 48    | 43    |       |        |        |        |  |  |  |  |
|                |                        |                           |                | D     | .46   | .39   | .35   | .28   | .27   | .28   | .31   | .35   | .39   | .44   | .50   | .57   | .64   |       |        |        |        |  |  |  |  |
|                |                        |                           |                | C     | 450   | 402   | 335   | 287   | 252   | 225   | 205   | 188   | 173   | 161   | 151   | 142   | 134   |       |        |        |        |  |  |  |  |
|                | Steel 12 ga.           | 1 1/2" (38.1)             | 8.5 (12.6)     | 81512 | U     | 446   | 287   | 201   | 148   | 115   | 91    | 75    | 63    | 53    | 46    | 40    |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                |       | D     | .27   | .22   | .22   | .26   | .32   | .39   | .47   | .56   | .67   | .80   | .92   |       |       |        |        |        |  |  |  |  |
|                |                        |                           |                |       | C     | 359   | 280   | 235   | 203   | 179   | 161   | 146   | 135   | 125   | 117   | 110   |       |       |        |        |        |  |  |  |  |
| 2" (50.8)      |                        | 8.9 (13.2)                | 82012          | U     | 710   | 456   | 318   | 235   | 181   | 144   | 117   | 98    | 83    | 71    | 62    | 54    | 48    |       |        |        |        |  |  |  |  |
|                |                        |                           |                | D     | .31   | .25   | .23   | .25   | .28   | .31   | .37   | .44   | .51   | .60   | .68   | .79   | .90   |       |        |        |        |  |  |  |  |
|                |                        |                           |                | C     | 554   | 444   | 371   | 319   | 282   | 253   | 229   | 210   | 194   | 181   | 169   | 160   | 151   |       |        |        |        |  |  |  |  |
| 2 1/2" (63.5)  |                        | 9.2 (13.7)                | 82512          | U     | 810   | 680   | 473   | 348   | 267   | 212   | 172   | 143   | 120   | 103   | 89    | 78    | 69    | 55    | 45     |        |        |  |  |  |  |
|                |                        |                           |                | D     | .33   | .31   | .27   | .26   | .27   | .29   | .32   | .37   | .42   | .49   | .55   | .63   | .72   | .90   | 1.12   |        |        |  |  |  |  |
|                |                        |                           |                | C     | 800   | 663   | 553   | 475   | 416   | 371   | 334   | 307   | 282   | 262   | 244   | 229   | 216   | 194   | 177    |        |        |  |  |  |  |
| 3" (76.2)      |                        | 9.6 (14.3)                | 83012          | U     | 810   | 810   | 598   | 440   | 337   | 267   | 217   | 180   | 152   | 130   | 112   | 98    | 87    | 69    | 57     | 47     | 40     |  |  |  |  |
|                |                        |                           |                | D     | .32   | .35   | .30   | .27   | .26   | .28   | .31   | .34   | .39   | .43   | .49   | .56   | .62   | .78   | .96    | 1.17   | 1.40   |  |  |  |  |
|                |                        |                           |                | C     | 800   | 800   | 699   | 600   | 526   | 468   | 422   | 385   | 353   | 327   | 307   | 288   | 271   | 243   | 221    | 203    | 189    |  |  |  |  |
|                |                        |                           |                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |  |

## 8-Diamond Plank — 18<sup>3</sup>/<sub>4</sub>" Width

### Product Selection/Design Tables

Allowable Loads and Deflections: U=Uniform Load (lb./ft.<sup>2</sup>) C= Concentrated Load (lb.) D=Deflection (in.)  
Spans to the left of heavy red line produce a deflection of 1/4" or less under a uniform load of 100 lb./ft.<sup>2</sup>

| Material Gauge         | Channel Depth in. (mm) | Weight lb./in. ft. (kg/m) | Catalog Number | Span  |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |
|------------------------|------------------------|---------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|--|
|                        |                        |                           |                | 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" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |  |  |  |
| Alum. Alloy 5052 .080" | 1 1/2"* (38.1)         | 2.11 (3.13)               | 81512-A        | U     | 253   | 162   | 112   | 83    |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .49   | .40   | .39   | .44   |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 198   | 158   | 132   | 113   |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .24   | .22   | .22   | .24   |       |       |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        | 2"                     | 2.20 (3.27)               | 82012-A        | U     | 308   | 237   | 165   | 121   | 93    | 73    | 59    | 49    |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .54   | .50   | .44   | .44   | .47   | .53   | .61   | .71   |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 290   | 232   | 193   | 166   | 145   | 129   | 116   | 106   |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .32   | .28   | .27   | .27   | .28   | .30   | .32   | .36   |       |       |       |       |       |        |        |        |  |  |  |
|                        | 2 1/2"* (63.5)         | 2.29 (3.40)               | 82512-A        | U     | 308   | 308   | 248   | 182   | 139   | 110   | 89    | 74    | 62    | 53    |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .51   | .57   | .54   | .49   | .50   | .52   | .57   | .65   | .73   | .83   |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 350   | 348   | 290   | 249   | 218   | 194   | 174   | 158   | 145   | 134   |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .37   | .39   | .35   | .33   | .33   | .34   | .35   | .37   | .40   | .43   |       |       |       |        |        |        |  |  |  |
| 3"* (76.2)             | 2.39 (3.55)            | 83012-A                   | U              | 308   | 308   | 308   | 223   | 171   | 135   | 109   | 90    | 76    | 65    | 56    | 49    |       |       |        |        |        |  |  |  |
|                        |                        |                           | D              | .50   | .54   | .62   | .54   | .52   | .52   | .56   | .61   | .68   | .76   | .86   | .96   |       |       |        |        |        |  |  |  |
|                        |                        |                           | C              | 350   | 350   | 350   | 306   | 268   | 238   | 214   | 195   | 178   | 165   | 153   | 143   |       |       |        |        |        |  |  |  |
|                        |                        |                           | D              | .37   | .38   | .41   | .38   | .37   | .37   | .37   | .39   | .40   | .43   | .46   | .50   |       |       |        |        |        |  |  |  |
| Alum. Alloy 5052 .100" | 1 1/2"* (38.1)         | 2.68 (3.98)               | 81510-A        | U     | 288   | 184   | 128   | 94    | 72    | 57    |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .41   | .36   | .36   | .40   | .47   | .56   |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 225   | 180   | 150   | 129   | 113   | 100   |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .18   | .18   | .19   | .21   | .23   | .27   |       |       |       |       |       |       |       |        |        |        |  |  |  |
|                        | 2"                     | 2.79 (4.15)               | 82010-A        | U     | 457   | 332   | 231   | 170   | 130   | 103   | 83    | 69    | 58    | 49    |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .59   | .51   | .46   | .47   | .52   | .57   | .67   | .78   | .89   | 1.03  |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 406   | 325   | 271   | 232   | 203   | 181   | 163   | 148   | 135   | 125   |       |       |       |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .29   | .26   | .25   | .26   | .28   | .30   | .33   | .37   | .42   | .47   |       |       |       |        |        |        |  |  |  |
|                        | 2 1/2"* (63.5)         | 2.91 (4.33)               | 82510-A        | U     | 457   | 457   | 317   | 233   | 179   | 141   | 114   | 94    | 79    | 68    | 58    | 51    | 45    |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .55   | .62   | .51   | .48   | .48   | .52   | .58   | .64   | .73   | .84   | .94   | 1.07  | 1.20  |        |        |        |  |  |  |
|                        |                        |                           |                | C     | 550   | 447   | 372   | 319   | 279   | 248   | 223   | 203   | 186   | 172   | 160   | 149   | 140   |        |        |        |  |  |  |
|                        |                        |                           |                | D     | .37   | .32   | .30   | .29   | .29   | .30   | .32   | .35   | .38   | .41   | .46   | .52   | .55   |        |        |        |  |  |  |
| 3"* (76.2)             | 3.02 (4.50)            | 83010-A                   | U              | 457   | 457   | 410   | 301   | 231   | 182   | 148   | 122   | 102   | 87    | 75    | 66    | 58    |       |        |        |        |  |  |  |
|                        |                        |                           | D              | .53   | .57   | .58   | .51   | .48   | .48   | .51   | .56   | .61   | .69   | .76   | .85   | .95   |       |        |        |        |  |  |  |
|                        |                        |                           | C              | 550   | 550   | 481   | 412   | 360   | 320   | 288   | 262   | 240   | 222   | 206   | 192   | 180   |       |        |        |        |  |  |  |
|                        |                        |                           | D              | .37   | .39   | .37   | .35   | .34   | .34   | .36   | .38   | .41   | .44   | .48   | .52   | .57   |       |        |        |        |  |  |  |

\* Available on special order.

### Engineering Data For Both Channels

| Material Gauge | Channel Depth in. | Sx in. <sup>2</sup> | Ix in. <sup>4</sup> | EI lb. x in. <sup>2</sup> |
|----------------|-------------------|---------------------|---------------------|---------------------------|
| Steel 14 ga.   | 1 1/2"            | .174                | .102                | 2.96 x 10 <sup>6</sup>    |
|                | 2"                | .270                | .193                | 5.60 x 10 <sup>6</sup>    |
|                | 2 1/2"            | .307                | .335                | 9.71 x 10 <sup>6</sup>    |
| Steel 12 ga.   | 1 1/2"            | .216                | .125                | 3.62 x 10 <sup>6</sup>    |
|                | 2"                | .342                | .264                | 7.66 x 10 <sup>6</sup>    |
|                | 2 1/2"            | .504                | .488                | 14.09 x 10 <sup>6</sup>   |
|                | 3"                | .625                | .722                | 20.94 x 10 <sup>6</sup>   |
| Aluminum .080" | 1 1/2"            | .171                | .137                | 1.40 x 10 <sup>6</sup>    |
|                | 2"                | .251                | .246                | 2.51 x 10 <sup>6</sup>    |
|                | 2 1/2"            | .379                | .441                | 4.50 x 10 <sup>6</sup>    |
|                | 3"                | .464                | .602                | 6.14 x 10 <sup>6</sup>    |
| Aluminum .100" | 1 1/2"            | .196                | .156                | 1.59 x 10 <sup>6</sup>    |
|                | 2"                | .352                | .309                | 3.15 x 10 <sup>6</sup>    |
|                | 2 1/2"            | .456                | .544                | 5.55 x 10 <sup>6</sup>    |
|                | 3"                | .627                | .911                | 9.29 x 10 <sup>6</sup>    |

### Strut Loading

| Material Gauge | Type Loading** | Load | Deflection in. |
|----------------|----------------|------|----------------|
| Steel 14 ga.   | U              | 540  | .43            |
|                | Cs             | 422  | .35            |
| Steel 12 ga.   | U              | 810  | .30            |
|                | Cs             | 633  | .24            |
| Aluminum .080" | U              | 308  | .48            |
|                | Cs             | 241  | .39            |
| Aluminum .100" | U              | 457  | .51            |
|                | Cs             | 357  | .41            |

\*\* U = Allowable Uniform Load (lb./ft.<sup>2</sup>)  
Cs = Allowable Concentrated Load per ft. of length at mid-width (lb./ft.)