# Safety gratings

## Safety for every walk of life™

Powering Business Worldwide

## Powering business worldwide

As a global power management company, we help customers worldwide manage the power needed for buildings, aircraft, trucks, cars, machinery and businesses.

Eaton's innovative technologies help customers manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably.

EATON

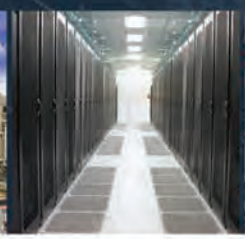
*Powering Business Worldwide*

## We deliver:

- **Electrical solutions** that use less energy, improve power reliability and make the places we live and work safer and more comfortable
- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
- **Aerospace solutions** that make aircraft lighter, safer and less costly to operate, and help airports operate more efficiently
- **Vehicle drivetrain and powertrain solutions** that deliver more power to cars, trucks and buses, while reducing fuel consumption and emissions

We provide integrated solutions that help make energy, in all its forms, more practical and accessible.

With 2015 sales of $20.9 billion, Eaton has approximately 100,000 employees around the world and sells products in more than 175 countries.



## Eaton's electrical business

**Eaton is a global leader with expertise in:**

- Power distribution and circuit protection
- Backup power protection
- Solutions for harsh and hazardous environments
- Lighting and security
- Structural solutions and wiring devices
- Control and automation
- Engineering services

Eaton is positioned through its global solutions to answer today's most critical electrical power management challenges. With 100 years of electrical experience behind us, we're energized by the challenge of powering up a world that demands twice as much energy as today. We're anticipating needs, engineering products and creating solutions to energize our markets today and in the future.

We are dedicated to ensuring that reliable, efficient and safe power is available when it's needed most.

**Eaton.com**

# Product Applications

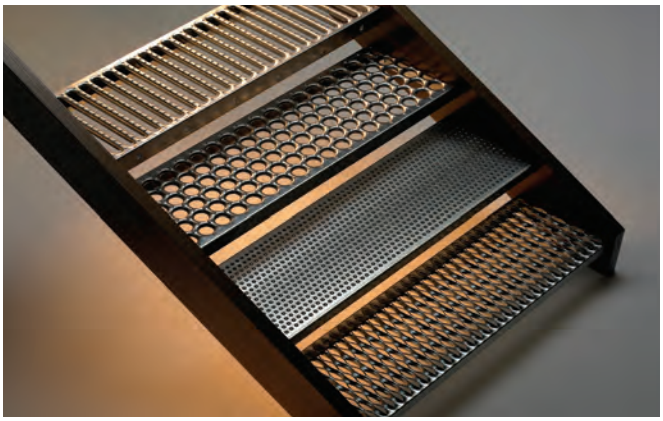
**Eaton's B-Line series safety grating offering is ideal for a wide variety of applications. From ladder rungs to stair treads to walkways and mezzanine floors, Eaton's safety grating helps provide a safe walking surface.**

**Grip Strut walkways**

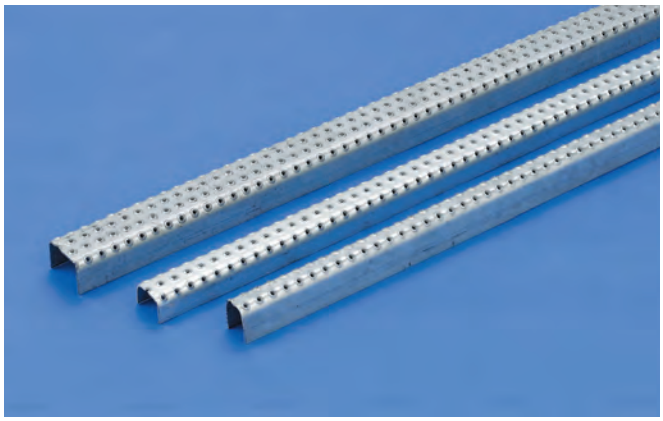
**Grate-Lock rooftop walkways**

**Mezzanine grating**

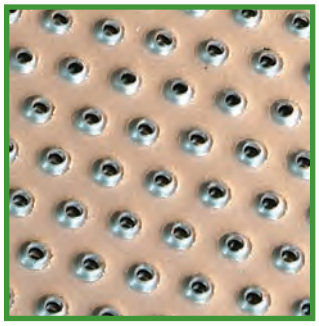
**Traction tread flooring**

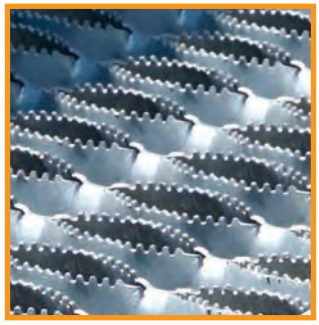


**Stair treads**



**Ladder rungs**





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# Grip Strut Grating - Advantages

**Grip Strut™ design load tables**

Steel, aluminum, stainless steel


2-Diamond planks - 4¾" width ..... 8-9
3-Diamond planks - 7" width ..... 10-11
4-Diamond planks - 9½" width ..... 12-13
5-Diamond planks - 11¾" width ..... 14-15
8-Diamond planks - 18¾" width ..... 16-17
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10-Diamond walkway - 24" width ..... 19


## Advantages

### Economical to install

In addition to low material cost and nominal erection cost, Grip Strut safety grating also helps save with its long-lasting, rust-resisting materials and finishes.

- Standard mill-galvanized finish resists corrosion to help provide lasting surfaces.
- High-strength aluminum and Types 304 and 316L stainless steel help provide maximum corrosion resistance.
- Black unpainted steel available for installations requiring hot dipped galvanized finish after fabrication.
- These light weight yet brawny panels permit substantial reduction in structural steel requirements.

### Versatility

Available in a variety of standard widths and channel heights.

- Numerous non-standard shapes and sizes.
- One piece construction with no welds or rivets to fail, minimizes need for plant fabrication.
- Special shapes and forming can be accomplished to suit unusual requirements.

### Safer, serrated surface

- Grips soles securely in all directions.
- Non-slip surface is ideal for inside or outside locations where mud, ice, snow, oil and detergents can create hazardous walking conditions.
- Openings are small enough to catch most falling tools and other dangerous objects.

### Open design, convenient cleaning

- Permits quick drainage of fluids, chips, grease and mud.
- Any ice accumulation shears easily under normal foot pressure.
- Open design allows convenient access for cleaning, and is easily cleaned with brush, liquid or air spray to help minimize overall maintenance.

### High load capacity, long life

- High strength-to-weight performance is achieved through depth of section and structural design.
- Bridged struts with integral side channels form plank that can support loads with minimum transverse and longitudinal deflection.
- No rivets or pressure joints to break or loosen.
- Sturdy construction provides advantages of heavy load-carrying capacity with minimal deflection.
- Rugged durability with longer-lasting performance.

### Fast installation

- Light, easy-to-handle planks make installation simpler and quicker.
- Can be handled by one man.
- Most sections are rapidly bolted, clamped or welded into place, easily field-cut at virtually any angle, or fabricated to adapt to field conditions.
- Several attachment devices permit fastening to most existing surfaces; allow fast installation or disassembly.

## Performance

Tested by an independent laboratory for slip resistance, according to standards and methods established by Federal Specifications RR-G-1602D, Grip Strut™ safety grating exceeds all requirements of this specification.

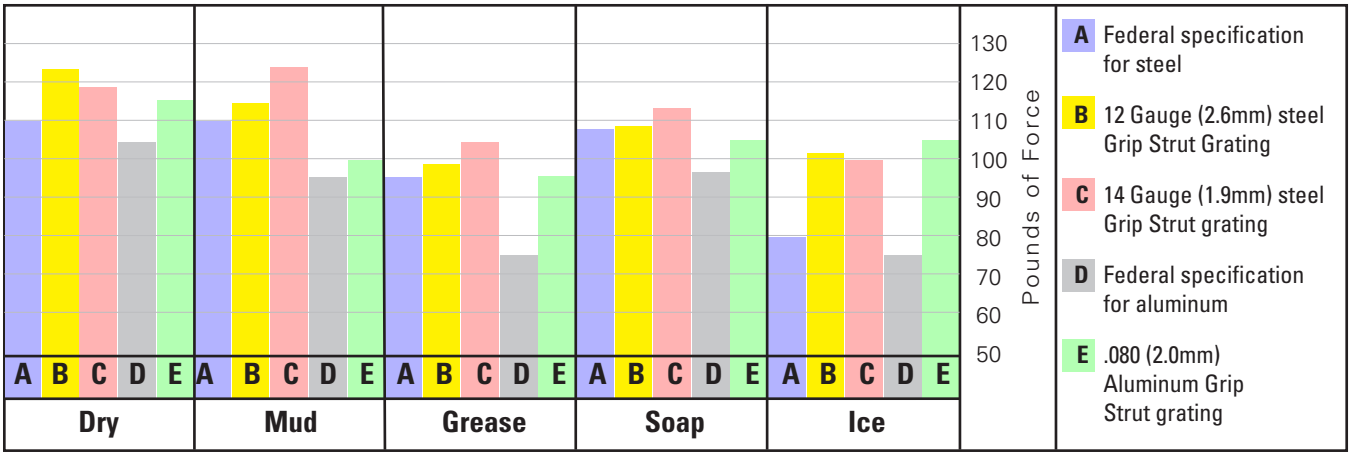
The standards were exacting - five shoe sole materials tested in three directions under five conditions: dry, greasy, muddy, soapy and icy.

**Grip Strut safety grating test showed it was more slip-resistant than similar materials, depending on shoe materials and surface conditions.**

In survey after survey, accidents caused by falls are high on the list of disabling and lost-time injuries and even death. In fact, statistics from many states rate this type of accident are second as the cause for industry's loss of manhours and lower productivity.

As proved in the test described above, Grip Strut safety grating can substantially reduce this kind of accident. In addition, the hazard of falling objects is significantly minimized by the shape and size (1⅞" x 11/16") of the surface openings.

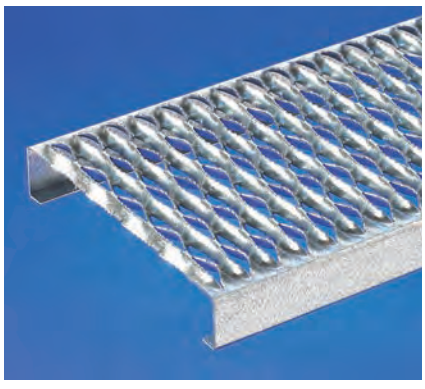
### Test performance – slip resistance vs. federal specifications




Values determined in accordance with standards for slip-resistance established by Federal Specification RR-G-1602D. The values indicated are an average of values obtained for five sole materials (leather, boot rubber, shoe rubber, Neolite®† and Hypalon®†) tested in three directions (longitudinally, transversely and diagonally) for the surface conditions noted. Values are in pounds of force necessary to move a 175 pound load one inch across the surface of grating.

† Mark shown is the property of its respective owner.

Close-up of standard pattern



Standard serrated surface

Non-serrated surface also available

# Grip Strut Grating - General Load Information

## How to read load tables

To select size of Grip Strut™ safety grating:

- Determine load
- Clear span
- Deflection requirements
- Select from load tables the appropriate plank to meet job requirements.

Example: Clear span of 4'-0", concentrated load requirement of 300 lbs. at 0.25" maximum deflection.

## Select from the tables following

For 8-diamond, 18¾" wide, 2½" channel, 12 gauge steel which carries a load of 416 lbs. at a 0.18" deflection. This is one size to do the job. Other sizes will carry more load if necessary.

For more economical selection, choose the greatest width that will support the load consistent with job requirements and choose deeper channels rather than heavier steel gauges.

Grip Strut safety grating will generally carry the same concentrated load, tabulated in lbs. at midspan, for a given span, material gauge and channel height, regardless of width. (See "How load tables were prepared" described below.) The uniform load tables are tabulated in lbs./sq.ft., which accounts for the difference in load capacity shown for various widths. Deflection is in inches.

## How load tables were prepared

The values shown in the following tables are based on actual load tests conducted in accordance with the provisions of the AISI Specification for the design of cold-formed steel structural members, 1986 edition.

**To help ensure the safety of the tabulated loads, two aspects of Grip Strut safety grating must be considered.**

1. The first consideration is transverse bending in the grating surface, which is referred to as "strut flexure". This occurs when the grating is loaded with either a uniform load or a mid-width concentrated load, and the "struts" (grating surface) deflect relative to the side channels. To determine the allowable strut loads, samples of each grating material and thickness were tested for each plank width. (See Figure 1a below and 2a on the following page). The data resulting from these tests was used to prepare "strut loading" tables, which give allowable loads and deflections considering strut flexure only. These allowable strut loads, along with the results of additional tests performed on 8- and 10-diamond grating, have been incorporated in the product selection/design tables on pages 8 through 19.

2. The second aspect of Grip Strut safety grating strength is channel flexure. This occurs when the channels at mid-span of the plank deflect relative to support points. To verify the performance of the side channels, samples were loaded with concentrated and uniform loads at different spans (see Figures 1b/2b and 1c/2c). To approximate the most severe condition, there were no attachments between the channels and the supports. In cases where spans are shorter, channels deeper and planks wider, strut flexure becomes more critical.

## 2-, 3-, 4- and 5-diamond allowable load and deflection tables

Since 2- through 5-diamond planks are relatively narrow (less than 1 foot wide), it can be assumed that both side channels effectively support the concentrated load and that the grating surface deflection is negligible. Based upon these assumption, the values in the following design tables for 2-diamond through 5-diamond have been determined.

## Allowable uniform load (U)

Values indicated in the rows adjacent to "U" are the lowest of the (1) maximum allowable uniform loads considering channel flexure and (2) maximum grating surface flexure.

## Deflection corresponding to "U"

Deflection values are indicated below the uniform loads and are in the mid-span side channel deflections for the planks carrying the allowable uniform loads (Figure 1c and 2c).

## Allowable concentrated load (C)

Values indicated in the rows labeled "C" are the lowest of the (1) maximum allowable concentrated load considering channel flexure (Figure 1b and 2b), with both channels effective, and (2) the maximum allowable strut load (Cs) for a 1 foot long sample (Figure 1a and 2a).

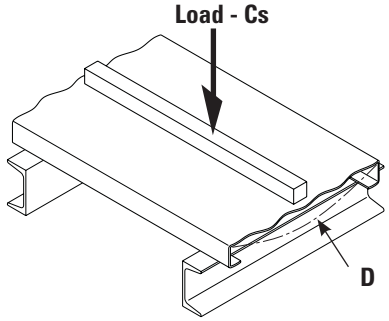
## Deflection corresponding to "C"

Deflection values indicated below "C" values in the tables are the mid-span, side channel deflections produced when the allowable concentrated load is placed at mid-span.

If grating surface deflection should be considered when selecting a product to meet a particular specification, then the deflection of the mid-width of the grating, relative to the side channels, can be calculated using both the data in the strut loading tables (pages 8 -19) and the load/deflection conversion formula on top of following page.

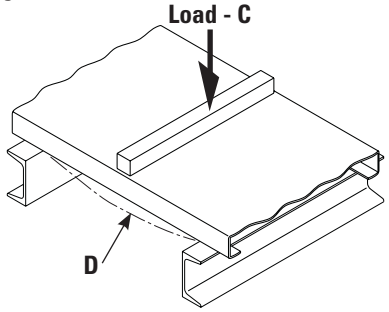
Load data based on yield strength of 33,000 psi for steel, 23,000 psi for aluminum, 35,000 psi for Type 304 stainless steel, and 30,000 psi for Type 316L stainless steel.

**Figure 1a** - Strut load



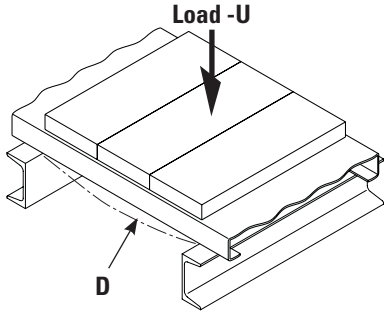

$C_s$ - Concentrated strut load (lb./ft.)

**Figure 1b** - Concentrated load




C - Concentrated load (lb.)

**Figure 1c** - Uniform load




U - Uniform load (lb./ft.$^2$)

## Load and deflection conversion formulas

In the elastic range, deflection is proportional to the applied load for both uniform and concentrated loads. This relationship can be used to determine the deflection that any load which is less than the allowable load will produce, (as shown in **Example A).** Also, if desired, the load which will produce a specific deflection can also be determined if the load is in the elastic range (as illustrated in **Example B).**

**Example A**
What deflection will a 300 lb. concentrated load produce on a plank (catalog number 103012) spanning 5"-0"?

See page 18 for item 103012 at a span = 5'-0" C = 480 lb. D = 0.26"
D @ 300 lb. = 0.26"/480 lb. x 300 lb. = 0.16"

**Example B**
If a plank (catalog number 103012) is spanning 6'-0", what concentrated load will produce a ¼" deflection?

See page 18 for item 103012 at a span = 6'-0" C = 400 lb. D = 0.26"
C @ ¼" = 400 lb./0.26" x 0.25" = 385 lb.

## 8- and 10-diamond allowable load and deflection tables

As width increases, grating strut flexure becomes much more important. 8-diamond and 10-diamond products are wide enough to require a change in the assumptions used to prepare the 2-diamond through 5-diamond product selection/design tables. No longer will it be assumed that both side channels are equally effective in supporting a concentrated load. In fact, to provide a high level of safety, one side channel will be required to carry 100% of a concentrated load.

Also, strut deflection for 8-diamond and 10-diamond products may be significant. The most critical case occurs when a concentrated load is located at mid-span and mid-width. To determine how the struts perform under this loading, 3 foot long samples of each material and thickness were tested. For these tests, the side channels were continuously supported and loads were applied using a 1 foot long and 1 inch wide bar placed parallel to the side channels at mid-width and at the longitudinal center.

Results of these tests, included in the 8-diamond and 10-diamond product design tables, proved the performance of these materials when a concentrated load is applied at mid-span and mid-width. If a concentrated load is to be applied at mid-width at the end of a plank, consult the strut loading tables (pages 8-19).

## Values tabulated for 8-diamond and 10-diamond grating:

### Allowable Uniform load (U)

Values are given in the rows labeled "U" and are the lowest of the (1) maximum allowable uniform loads considering channel flexure, and (2) maximum grating surface flexure.

### Deflection Corresponding to "U"

Deflection values appear in the rows labeled "D", below the "U" values, and are maximum deflections the allowable uniform loads would produce. Maximum deflections will occur at mid-span and mid-width and will be the sum of side channel and grating surface deflections (Figure 1c and 2c).

### Allowable concentrated load (C)

Values tabulated in the rows labeled "C" are the lowest of the (1) maximum allowable concentrated load considering side channel flexure (with one side channel supporting the entire load — Figure 2b, and (2) the maximum allowable strut flexure (Figure 2a).

### Deflection Corresponding to "C"

Deflection values are indicated below "C" values in the table and are deflections the allowable concentrated load will produce at mid-span and at the mid-width. The deflection is the sum of side channel and grating surface deflections.

**Figure 2a** - Strut load

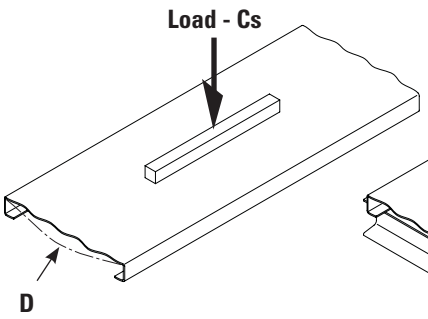



**Figure 2b** - Concentrated load

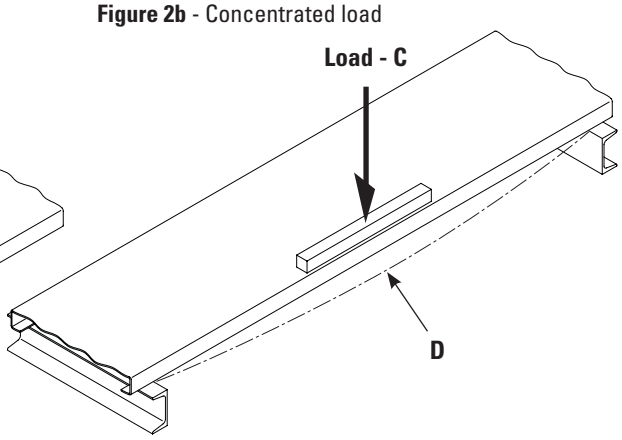
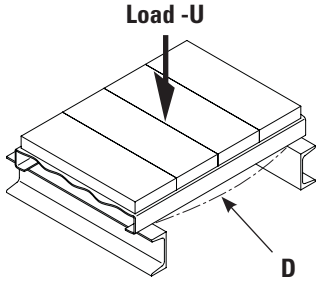
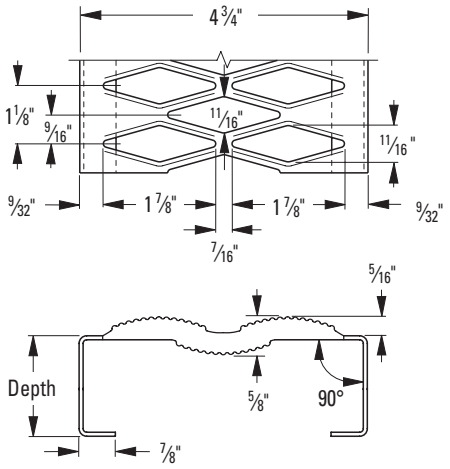



**Figure 2c** - Uniform load



# Grip Strut Grating - Safe Loading Tables

## 2-Diamond plank — 4¾" width




## Product selection / design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 1½" (38.1) | 2.3 (3.42) | 21514 | U | 1324 | 849 | 591 | 435 | 334 | 265 | 215 | 179 | 151 | | | | | | | | |
| | | | | D | .06 | .10 | .14 | .20 | .26 | .32 | .40 | .49 | .58 | | | | | | | | |
| | | | | C | 524 | 420 | 351 | 301 | 265 | 236 | 213 | 195 | 179 | | | | | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | | | | | | | | |
| | 2" (50.8) | 2.6 (3.87) | 22014 | U | 2198 | 1409 | 980 | 721 | 553 | 438 | 356 | 295 | 248 | 212 | 184 | 161 | 142 | 113 | 93 | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29. | .35 | .43 | .51 | .60 | .70 | .81 | .92 | 1.18 | 1.47 | | |
| | | | | C | 870 | 697 | 582 | 499 | 438 | 390 | 352 | 321 | 295 | 273 | 255 | 239 | 225 | 201 | 183 | | |
| | | | | D | .04 | .07 | .10 | .14 | .18 | .23 | .28 | .34 | .41 | .48 | .56 | .65 | .74 | .94 | .1.18 | | |
| | 2½" (63.5) | 2.8 (4.17) | 22514 | U | 2522 | 1616 | 1124 | 827 | 634 | 502 | 408 | 338 | 285 | 244 | 211 | 184 | 163 | 139 | 106 | 88 | 75 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .27 | .33 | .38 | .45 | .51 | .59 | .75 | .94 | 1.14 | 1.38 |
| | | | | C | 998 | 800 | 667 | 573 | 502 | 447 | 404 | 368 | 338 | 313 | 292 | 273 | 257 | 231 | 210 | 193 | 178 |
| | | | | D | .03 | .04 | .06 | .09 | .11 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .60 | .75 | .92 | 1.10 |
| Steel 12 ga. | 1½" (38.1) | 3.2 (4.76) | 21512 | U | 1751 | 1123 | 782 | 576 | 443 | 351 | 286 | 237 | 200 | 172 | 149 | 131 | 116 | | | | |
| | | | | D | .07 | .11 | .15 | .21 | .27 | .35 | .43 | .52 | .62 | .74 | .86 | .99 | 1.14 | | | | |
| | | | | C | 693 | 556 | 464 | 399 | 350 | 313 | 283 | 258 | 238 | 221 | 206 | 194 | 183 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .69 | .79 | .91 | | | | |
| | 2" (50.8) | 3.6 (5.36) | 22012 | U | 2792 | 1790 | 1245 | 917 | 703 | 557 | 453 | 375 | 317 | 271 | 235 | 205 | 181 | 145 | 119 | 99 | 85 |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .46 | .55 | .63 | .73 | .84 | 1.07 | 1.34 | 1.64 | 1.98 |
| | | | | C | 1105 | 886 | 739 | 635 | 557 | 496 | 448 | 409 | 376 | 348 | 325 | 305 | 287 | 258 | 235 | 216 | 201 |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .31 | .37 | .44 | .51 | .59 | .67 | .86 | 1.07 | 1.31 | 1.58 |
| | 2½" (63.5) | 4.0 (5.95) | 22512 | U | 4179 | 2676 | 1860 | 1368 | 1049 | 830 | 673 | 557 | 469 | 400 | 346 | 302 | 266 | 211 | 172 | 143 | 121 |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .51 | .59 | .67 | .86 | 1.07 | 1.30 | 1.55 |
| | | | | C | 1654 | 1324 | 1104 | 948 | 830 | 739 | 666 | 606 | 557 | 515 | 479 | 448 | 421 | 376 | 341 | 312 | 288 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .25 | .30 | .35 | .41 | .47 | .54 | .69 | .85 | 1.04 | 1.24 |

2-Diamond plank — 4¾" width



## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) 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.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load Defl. Code | 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" | 8'-6' | 9'-0" | 9'-6" | 10'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alum. Alloy 5052 .080" | 1½"* (38.1) | .85 (1.26) | 21512-A | U | 998 | 639 | 443 | 326 | 248 | 196 | 159 | 131 | 110 | 94 | | | | | | | |
| | | | | D | .10 | .15 | .22 | .31 | .40 | .51 | .63 | .76 | .90 | 1.08 | | | | | | | |
| | | | | C | 395 | 316 | 263 | 226 | 197 | 175 | 157 | 143 | 131 | 121 | | | | | | | |
| | | | | D | .08 | .12 | .18 | .25 | .32 | .41 | .50 | .61 | .73 | .85 | | | | | | | |
| | 2" (50.8) | .92 (1.37) | 22012-A | U | 1463 | 937 | 650 | 478 | 366 | 289 | 234 | 194 | 162 | 138 | 119 | | | | | | |
| | | | | D | .08 | .13 | .18 | .25 | .33 | .42 | .52 | .63 | .74 | .87 | 1.02 | | | | | | |
| | | | | C | 579 | 463 | 386 | 331 | 290 | 257 | 232 | 211 | 192 | 177 | 165 | | | | | | |
| | | | | D | .06 | .10 | .15 | .20 | .27 | .34 | .42 | .51 | .59 | .69 | .80 | | | | | | |
| | 2½"* (63.5) | 1.00 (1.48) | 22512-A | U | 2199 | 1407 | 977 | 718 | 550 | 434 | 352 | 291 | 244 | 208 | 179 | 156 | 137 | | | | |
| | | | | D | .07 | .10 | .15 | .21 | .28 | .35 | .43 | .53 | .63 | .74 | .85 | .98 | 1.12 | | | | |
| | | | | C | 870 | 696 | 580 | 497 | 435 | 387 | 348 | 316 | 290 | 268 | 249 | 232 | 218 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .35 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| Alum. Alloy 5052 .100" | 1½"* (38.1) | 1.08 (1.60) | 21510-A | U | 1136 | 727 | 505 | 371 | 284 | 224 | 181 | 149 | 125 | 107 | | | | | | | |
| | | | | D | .09 | .15 | .22 | .30 | .39 | .50 | .63 | .76 | .90 | 1.08 | | | | | | | |
| | | | | C | 450 | 360 | 300 | 257 | 225 | 200 | 179 | 162 | 149 | 137 | | | | | | | |
| | | | | D | .07 | .12 | .17 | .24 | .31 | .40 | .51 | .61 | .73 | .85 | | | | | | | |
| | 2" (50.8) | 1.20 (1.78) | 22010-A | U | 2049 | 1312 | 911 | 669 | 512 | 405 | 328 | 271 | 228 | 194 | 167 | 146 | 128 | | | | |
| | | | | D | .09 | .14 | .20 | .28 | .37 | .46 | .58 | .70 | .83 | .98 | 1.13 | 1.30 | 1.48 | | | | |
| | | | | C | 811 | 649 | 541 | 464 | 406 | 361 | 325 | 295 | 270 | 250 | 232 | 216 | 203 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .29 | .37 | .46 | .56 | .66 | .78 | .90 | 1.04 | 1.18 | | | | |
| | 2½"* (63.5) | 1.31 (1.95) | 22510-A | U | 2820 | 1805 | 1253 | 921 | 705 | 557 | 451 | 373 | 313 | 267 | 230 | 201 | 176 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .28 | .36 | .45 | .54 | .64 | .76 | .88 | 1.01 | 1.15 | | | | |
| | | | | C | 1116 | 893 | 744 | 638 | 558 | 496 | 446 | 406 | 372 | 343 | 319 | 298 | 279 | | | | |
| | | | | D | .05 | .09 | .12 | .17 | .23 | .29 | .36 | .43 | .51 | .60 | .70 | .81 | .92 | | | | |

* Available on special order. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 1½" | .174 | .102 | 2.96 x $10^6$ |
| | 2" | .270 | .193 | 5.60 x $10^6$ |
| | 2½ | .307 | .335 | 9.71 x $10^6$ |
| Steel 12 ga. | 1½" | .216 | .125 | 3.62 x $10^6$ |
| | 2" | .342 | .264 | 7.66 x $10^6$ |
| | 2½ | .504 | .488 | 14.09 x $10^6$ |
| Aluminum .080" | 1½" | .171 | .137 | 1.40 x $10^6$ |
| | 2" | .251 | .246 | 2.51 x $10^6$ |
| | 2½ | .379 | .441 | 4.50 x $10^6$ |
| Aluminum .100" | 1½" | .196 | .156 | 1.59 x $10^6$ |
| | 2" | .352 | .309 | 3.15 x $10^6$ |
| | 2½" | .456 | .544 | 5.55 x $10^6$ |

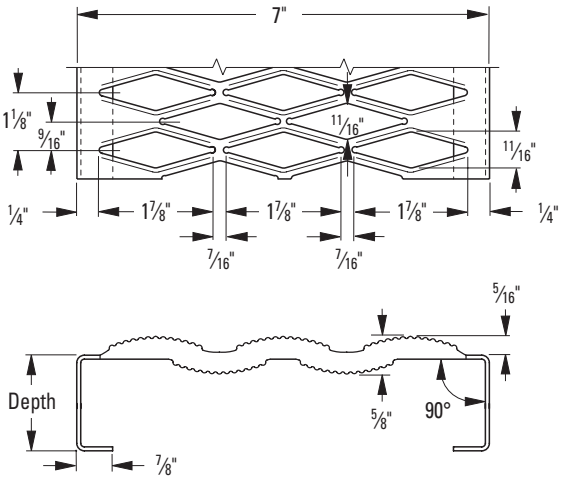
## Strut loading

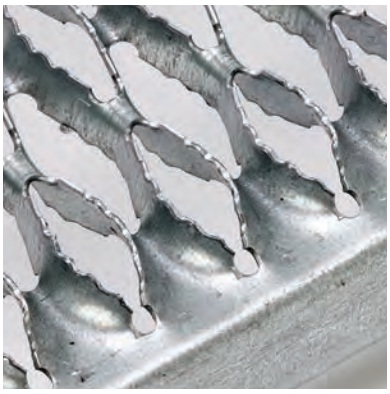
| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 6268 | .10 |
| | Cs | 1240 | .08 |
| Steel 12 ga. | U | 8619 | .10 |
| | Cs | 1705 | .08 |
| Aluminum .080" | U | 4677 | .12 |
| | Cs | 925 | .10 |
| Aluminum .100" | U | 5847 | .12 |
| | Cs | 1157 | .10 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Safe Loading Table

## 3-Diamond plank — 7" width



Relief hole available upon request on 3, 4, & 5-diamond planks

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 1½" (38.1) | 3.0 (4.46) | 31514 | U | 899 | 577 | 402 | 269 | 227 | 180 | 147 | 122 | 103 | | | | | | | | |
| | | | | D | .06 | .10 | .14 | .20 | .26 | .33 | .40 | .49 | .59 | | | | | | | | |
| | | | | C | 524 | 421 | 351 | 302 | 265 | 237 | 214 | 196 | 180 | | | | | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .21 | .26 | .32 | .39 | .47 | | | | | | | | |
| | 2" (50.8) | 3.2 (4.76) | 32014 | U | 1492 | 957 | 665 | 490 | 376 | 298 | 242 | 201 | 169 | 145 | 125 | 110 | 97 | 77 | 63 | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29 | .35 | .43 | .51 | .61 | .71 | .81 | .93 | 1.19 | 1.49 | | |
| | | | | C | 871 | 697 | 582 | 500 | 439 | 391 | 353 | 322 | 296 | 275 | 256 | 240 | 226 | 203 | 185 | | |
| | | | | D | .04 | .07 | .10 | .14 | .18 | .23 | .28 | .34 | .41 | .48 | .56 | .65 | .74 | .95 | 1.19 | | |
| | 2½" (63.5) | 3.5 (5.21) | 32514 | U | 1712 | 1097 | 763 | 562 | 431 | 342 | 277 | 230 | 194 | 166 | 144 | 126 | 111 | 89 | 73 | 61 | 52 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .27 | .33 | .39 | .45 | .52 | .59 | .76 | .94 | 1.16 | 1.40 |
| | | | | C | 999 | 800 | 668 | 574 | 503 | 448 | 405 | 369 | 340 | 315 | 293 | 275 | 259 | 233 | 212 | 195 | 181 |
| | | | | D | .03 | .04 | .06 | .09 | .11 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .61 | .76 | .93 | 1.12 |
| Steel 12 ga. | 1½" (38.1) | 4.1 (6.10) | 31512 | U | 1189 | 763 | 532 | 392 | 301 | 239 | 195 | 162 | 137 | 118 | 102 | 90 | 79 | | | | |
| | | | | D | .07 | .11 | .15 | .21 | .27 | .35 | .43 | .52 | .63 | .74 | .87 | 1.00 | 1.15 | | | | |
| | | | | C | 694 | 556 | 465 | 400 | 352 | 314 | 284 | 260 | 240 | 223 | 208 | 196 | 185 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .69 | .80 | .92 | | | | |
| | 2" (50.8) | 4.5 (6.70) | 32012 | U | 1896 | 1216 | 846 | 623 | 478 | 379 | 308 | 256 | 216 | 185 | 160 | 140 | 124 | 99 | 82 | 68 | 58 |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | .55 | .64 | .74 | .85 | 1.08 | 1.36 | 1.67 | 2.01 |
| | | | | C | 1106 | 886 | 740 | 636 | 558 | 498 | 450 | 410 | 378 | 350 | 327 | 307 | 289 | 260 | 238 | 219 | 203 |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .31 | .37 | .44 | .51 | .59 | .68 | .87 | 1.09 | 1.33 | 1.61 |
| | 2½" (63.5) | 4.9 (7.29) | 32512 | U | 2836 | 1817 | 1263 | 929 | 712 | 564 | 457 | 379 | 319 | 272 | 235 | 206 | 181 | 144 | 118 | 98 | 83 |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .52 | .59 | .68 | .86 | 1.07 | 1.31 | 1.57 |
| | | | | C | 1654 | 1325 | 1105 | 948 | 831 | 740 | 667 | 608 | 558 | 516 | 481 | 450 | 423 | 378 | 343 | 314 | 290 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .25 | .30 | .35 | .41 | .47 | .54 | .69 | .86 | 1.05 | 1.25 |
| | 3" (76.2) | 5.2 (7.74) | 33012 | U | 3587 | 2298 | 1597 | 1174 | 900 | 712 | 578 | 478 | 403 | 344 | 297 | 259 | 228 | 181 | 148 | 123 | 104 |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .51 | .59 | .67 | .86 | 1.07 | 1.30 | 1.55 |
| | | | | C | 1868 | 1675 | 1397 | 1199 | 1050 | 935 | 843 | 767 | 705 | 652 | 606 | 567 | 533 | 476 | 431 | 395 | 364 |
| | | | | D | .03 | .04 | .06 | .09 | .11 | .14 | .18 | .22 | .26 | .30 | .35 | .41 | .46 | .59 | .73 | .89 | 1.07 |

3-Diamond plank — 7" width



## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load Defl. Code | 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" | 8'-6' | 9'-0" | 9'-6" | 10'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alum. Alloy 5052 .080" | 1½"* (38.1) | 1.06 (1.58) | 31512-A | U | 667 | 443 | 301 | 221 | 168 | 133 | 108 | | | | | | | | | | |
| | | | | D | .10 | .15 | .22 | .31 | .40 | .51 | .63 | | | | | | | | | | |
| | | | | C | 395 | 316 | 263 | 226 | 197 | 175 | 157 | | | | | | | | | | |
| | | | | D | .08 | .12 | .18 | .25 | .32 | .41 | .50 | | | | | | | | | | |
| | 2" (50.8) | 1.15 (1.71) | 32012-A | U | 993 | 636 | 441 | 324 | 248 | 196 | 159 | 131 | 110 | 93 | 80 | | | | | | |
| | | | | D | .08 | .13 | .18 | .25 | .33 | .42 | .52 | .63 | .74 | .86 | 1.00 | | | | | | |
| | | | | C | 579 | 463 | 386 | 331 | 290 | 257 | 232 | 211 | 192 | 177 | 165 | | | | | | |
| | | | | D | .06 | .10 | .15 | .20 | .27 | .34 | .42 | .51 | .59 | .69 | .80 | | | | | | |
| | 2½"* (63.5) | 1.24 (1.85) | 32512-A | U | 1492 | 955 | 663 | 487 | 373 | 295 | 239 | 197 | 166 | 141 | 122 | 106 | 93 | | | | |
| | | | | D | .07 | .10 | .15 | .21 | .28 | .35 | .43 | .53 | .63 | .74 | .85 | .98 | 1.12 | | | | |
| | | | | C | 812 | 696 | 580 | 497 | 435 | 387 | 348 | 316 | 290 | 268 | 249 | 232 | 218 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .35 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| | 3"* (76.2) | 1.33 (1.98) | 33012-A | U | 1833 | 1173 | 815 | 598 | 458 | 362 | 293 | 242 | 204 | 174 | 150 | 130 | 115 | | | | |
| | | | | D | .06 | .09 | .14 | .19 | .25 | .31 | .39 | .47 | .56 | .66 | .77 | .88 | 1.00 | | | | |
| | | | | C | 846 | 846 | 713 | 611 | 535 | 475 | 428 | 389 | 356 | 329 | 305 | 285 | 267 | | | | |
| | | | | D | .03 | .07 | .11 | .15 | .20 | .25 | .31 | .38 | .45 | .53 | .61 | .70 | .80 | | | | |
| Alum. Alloy 5052 .100" | 1½"* (38.1) | 1.34 (1.99) | 31510-A | U | 771 | 494 | 343 | 252 | 193 | 152 | 122 | 101 | | | | | | | | | |
| | | | | D | .09 | .15 | .22 | .30 | .39 | .50 | .63 | .76 | | | | | | | | | |
| | | | | C | 450 | 360 | 300 | 257 | 225 | 200 | 179 | 162 | | | | | | | | | |
| | | | | D | .07 | .12 | .17 | .24 | .31 | .40 | .51 | .61 | | | | | | | | | |
| | 2" (50.8) | 1.46 (2.38) | 32010-A | U | 1391 | 890 | 618 | 454 | 348 | 275 | 223 | 184 | 155 | 132 | 114 | 99 | 87 | | | | |
| | | | | D | .09 | .14 | .20 | .28 | .37 | .46 | .58 | .70 | .83 | .98 | 1.13 | 1.30 | 1.48 | | | | |
| | | | | C | 811 | 649 | 541 | 464 | 406 | 361 | 325 | 295 | 270 | 250 | 232 | 216 | 203 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .29 | .37 | .46 | .56 | .66 | .78 | .90 | 1.04 | 1.18 | | | | |
| | 2½"* (63.5) | 1.57 (2.34) | 32510-A | U | 1913 | 1225 | 850 | 625 | 478 | 378 | 306 | 253 | 213 | 181 | 156 | 136 | 120 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .28 | .36 | .45 | .54 | .64 | .76 | .88 | 1.01 | 1.15 | | | | |
| | | | | C | 1116 | 893 | 744 | 638 | 558 | 496 | 446 | 406 | 372 | 343 | 319 | 298 | 279 | | | | |
| | | | | D | .05 | .09 | .12 | .17 | .23 | .29 | .36 | .43 | .51 | .60 | .70 | .81 | .92 | | | | |
| | 3"* (76.2) | 1.68 (2.50) | 33010-A | U | 2470 | 1581 | 1098 | 807 | 618 | 488 | 395 | 327 | 274 | 234 | 202 | 176 | 154 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| | | | | C | 1309 | 1153 | 961 | 823 | 720 | 640 | 576 | 524 | 480 | 443 | 412 | 384 | 360 | | | | |
| | | | | D | .04 | .06 | .10 | .13 | .17 | .22 | .27 | .33 | .40 | .47 | .54 | .62 | .71 | | | | |

* Available on special order. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 1½" | .174 | .102 | 2.96 x $10^6$ |
| | 2" | .270 | .193 | 5.60 x $10^6$ |
| | 2½" | .307 | .335 | 9.71 x $10^6$ |
| Steel 12 ga. | 1½" | .216 | .125 | 3.62 x $10^6$ |
| | 2" | .342 | .264 | 7.66 x $10^6$ |
| | 2½" | .504 | .488 | 14.09 x $10^6$ |
| | 3" | .625 | .722 | 20.94 x $10^6$ |
| Aluminum .080" | 1½" | .171 | .137 | 1.40 x $10^6$ |
| | 2" | .251 | .246 | 2.51 x $10^6$ |
| | 2½" | .379 | .441 | 4.50 x $10^6$ |
| | 3" | .464 | .602 | 6.14 x $10^6$ |
| Aluminum .100" | 1½" | .196 | .156 | 1.59 x $10^6$ |
| | 2" | .352 | .309 | 3.15 x $10^6$ |
| | 2½" | .456 | .544 | 5.55 x $10^6$ |
| | 3" | .627 | .911 | 9.29 x $10^6$ |

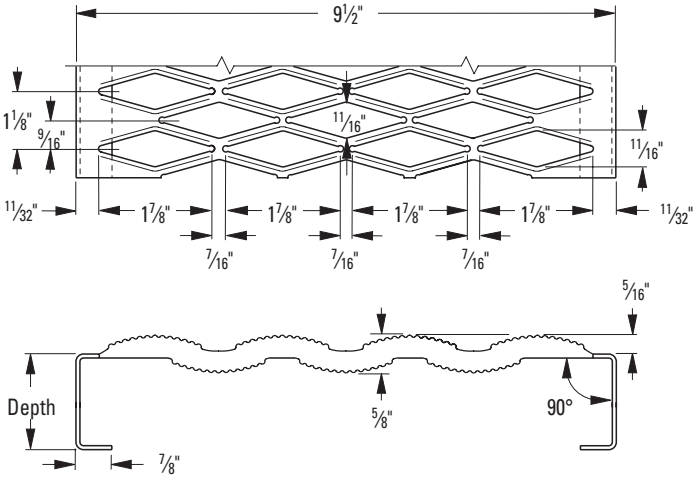
## Strut loading

| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 3535 | .11 |
| | Cs | 1031 | .09 |
| Steel 12 ga. | U | 6405 | .11 |
| | Cs | 1868 | .09 |
| Aluminum .080" | U | 2901 | .15 |
| | Cs | 846 | .12 |
| Aluminum .100" | U | 4488 | .16 |
| | Cs | 1309 | .13 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Safe Loading Table

## 4-Diamond Plank — 9½" Width (available in stainless steel)



Relief hole available upon request on 3, 4, & 5-diamond planks

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 1½" (38.1) | 3.6 (5.36) | 41514 | U | 663 | 426 | 296 | 219 | 168 | 134 | 109 | 90 | 77 | | | | | | | | |
| | | | | D | .06 | .10 | .14 | .20 | .26 | .33 | .41 | .50 | .59 | | | | | | | | |
| | | | | C | 525 | 421 | 352 | 303 | 266 | 238 | 215 | 197 | 182 | | | | | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .21 | .26 | .33 | .40 | .47 | | | | | | | | |
| | 2" (50.8) | 3.8 (5.65) | 42014 | U | 1100 | 705 | 491 | 362 | 278 | 220 | 179 | 148 | 125 | 107 | 93 | 81 | 72 | 58 | 47 | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29 | .36 | .43 | .52 | .61 | .71 | .82 | .94 | 1.20 | 1.51 | | |
| | | | | C | 730 | 698 | 583 | 501 | 440 | 392 | 354 | 323 | 298 | 276 | 258 | 242 | 228 | 205 | 187 | | |
| | | | | D | .04 | .07 | .10 | .14 | .18 | .23 | .28 | .35 | .41 | .49 | .57 | .66 | .75 | .96 | 1.20 | | |
| | 2½" (63.5) | 4.1 (6.10) | 42514 | U | 1262 | 809 | 563 | 415 | 318 | 252 | 205 | 170 | 144 | 123 | 106 | 93 | 82 | 66 | 54 | 45 | |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .28 | .33 | .39 | .45 | .52 | .60 | .76 | .95 | 1.17 | |
| | | | | C | 730 | 730 | 669 | 574 | 504 | 449 | 406 | 370 | 341 | 316 | 295 | 277 | 261 | 235 | 214 | 197 | |
| | | | | D | .02 | .04 | .06 | .09 | .12 | .15 | .18 | .22 | .26 | .31 | .36 | .42 | .48 | .61 | .76 | .94 | |
| Steel 12 ga. | 1½" (38.1) | 5.0 (7.44) | 41512 | U | 906 | 581 | 405 | 298 | 229 | 182 | 148 | 123 | 104 | 89 | 77 | 67 | 60 | | | | |
| | | | | D | .07 | .11 | .16 | .21 | .28 | .36 | .44 | .54 | .64 | .76 | .89 | 1.02 | 1.17 | | | | |
| | | | | C | 718 | 575 | 481 | 413 | 363 | 324 | 292 | 267 | 246 | 228 | 213 | 200 | 189 | | | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29 | .35 | .43 | .52 | .61 | .71 | .82 | .94 | | | | |
| | 2" (50.8) | 5.4 (8.04) | 42012 | U | 1398 | 896 | 624 | 460 | 353 | 280 | 228 | 189 | 160 | 137 | 119 | 104 | 92 | 74 | 61 | 51 | 43 |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | .55 | .65 | .75 | .85 | 1.10 | 1.38 | 1.69 | 2.03 |
| | | | | C | 1107 | 887 | 741 | 637 | 559 | 499 | 451 | 412 | 380 | 353 | 329 | 309 | 292 | 264 | 241 | 222 | 206 |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .31 | .37 | .44 | .52 | .60 | .68 | .88 | 1.10 | 1.35 | 1.63 |
| | 2½" (63.5) | 5.7 (8.48) | 42512 | U | 2090 | 1339 | 931 | 685 | 525 | 416 | 338 | 280 | 236 | 201 | 174 | 152 | 134 | 107 | 87 | 73 | 62 |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .52 | .60 | .68 | .87 | 1.08 | 1.32 | 1.58 |
| | | | | C | 1400 | 1325 | 1106 | 949 | 832 | 741 | 668 | 609 | 559 | 518 | 482 | 452 | 425 | 380 | 345 | 316 | 293 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .25 | .30 | .36 | .41 | .48 | .54 | .69 | .86 | 1.05 | 1.27 |
| | 3" (76.2) | 6.1 (9.08) | 43012 | U | 2644 | 1694 | 1177 | 866 | 664 | 525 | 426 | 353 | 297 | 254 | 219 | 192 | 169 | 134 | 110 | 91 | 77 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .27 | .32 | .38 | .44 | .51 | .58 | .74 | .92 | 1.12 | 1.35 |
| | | | | C | 1400 | 1400 | 1398 | 1200 | 1051 | 936 | 844 | 769 | 706 | 653 | 608 | 569 | 535 | 478 | 434 | 397 | 367 |
| | | | | D | .02 | .04 | .06 | .09 | .11 | .15 | .18 | .22 | .26 | .31 | .35 | .41 | .47 | .59 | .74 | .90 | 1.08 |
| Stainless Steel 304 16 ga. | 2" (50.8) | 3.2 (4.76) | 42016-S | U | 720 | 462 | 322 | 238 | 183 | 145 | 118 | 98 | 83 | 71 | 59 | | | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | .55 | .61 | | | | | | |
| | | | | C | 570 | 457 | 382 | 329 | 289 | 258 | 234 | 214 | 197 | 184 | 165 | | | | | | |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .31 | .38 | .44 | .49 | | | | | | |
| Stainless Steel 316L* 16 ga. | 2" (50.8) | 3.2 (4.76) | 42016-SL | U | 626 | 400 | 278 | 204 | 156 | 123 | 100 | 82 | 69 | 59 | 51 | | | | | | |
| | | | | D | .04 | .06 | .10 | .13 | .17 | .22 | .27 | .32 | .39 | .45 | .53 | | | | | | |
| | | | | C | 492 | 397 | 330 | 283 | 248 | 220 | 198 | 180 | 165 | 152 | 141 | | | | | | |
| | | | | D | .03 | .05 | .08 | .10 | .14 | .17 | .22 | .26 | .31 | .36 | .42 | | | | | | |

* Available on special order. Consult factory.

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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" | 1½"* (38.1) | 1.28 (1.90) | 41512-A | U | 499 | 319 | 222 | 163 | 124 | 98 | | | | | | | | | | | |
| | | | | D | .10 | .15 | .22 | .31 | .40 | .51 | | | | | | | | | | | |
| | | | | C | 395 | 316 | 263 | 226 | 197 | 175 | | | | | | | | | | | |
| | | | | D | .08 | .12 | .18 | .25 | .32 | .41 | | | | | | | | | | | |
| | 2" (50.8) | 1.37 (2.03) | 42012-A | U | 732 | 468 | 325 | 239 | 183 | 145 | 117 | 97 | 81 | 69 | | | | | | | |
| | | | | D | .08 | .13 | .18 | .25 | .33 | .42 | .52 | .63 | .74 | .87 | | | | | | | |
| | | | | C | 568 | 463 | 386 | 331 | 290 | 257 | 232 | 211 | 192 | 177 | | | | | | | |
| | | | | D | .06 | .10 | .15 | .20 | .27 | .34 | .42 | .51 | .59 | .69 | | | | | | | |
| | 2½"* (63.5) | 1.46 (2.17) | 42512-A | U | 1099 | 704 | 489 | 359 | 275 | 217 | 176 | 145 | 122 | 104 | 90 | 78 | 69 | | | | |
| | | | | D | .07 | .10 | .15 | .21 | .28 | .35 | .43 | .53 | .63 | .74 | .85 | .98 | 1.12 | | | | |
| | | | | C | 568 | 568 | 568 | 497 | 435 | 387 | 348 | 316 | 290 | 268 | 249 | 232 | 218 | | | | |
| | | | | D | .05 | .07 | .12 | .17 | .22 | .28 | .35 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| | 3"* (76.2) | 1.55 (2.30) | 43012-A | U | 1350 | 864 | 600 | 441 | 338 | 267 | 216 | 179 | 150 | 128 | 110 | 96 | 84 | | | | |
| | | | | D | .06 | .09 | .14 | .19 | .25 | .31 | .39 | .47 | .56 | .66 | .77 | .88 | 1.00 | | | | |
| | | | | C | 568 | 568 | 568 | 568 | 535 | 475 | 428 | 389 | 356 | 329 | 305 | 285 | 267 | | | | |
| | | | | D | .02 | .05 | .09 | .14 | .20 | .25 | .31 | .38 | .45 | .53 | .61 | .70 | .80 | | | | |
| Alum. Alloy 5052 .100" | 1½"* (38.1) | 1.62 (2.41) | 41510-A | U | 568 | 364 | 253 | 186 | 142 | 112 | | | | | | | | | | | |
| | | | | D | .09 | .15 | .22 | .30 | .39 | .50 | | | | | | | | | | | |
| | | | | C | 450 | 360 | 300 | 257 | 225 | 200 | | | | | | | | | | | |
| | | | | D | .07 | .12 | .17 | .24 | .31 | .40 | | | | | | | | | | | |
| | 2" (50.8) | 1.74 (2.58) | 42010-A | U | 1025 | 656 | 455 | 335 | 256 | 202 | 164 | 136 | 114 | 97 | 84 | 73 | 64 | | | | |
| | | | | D | .09 | .14 | .20 | .28 | .37 | .46 | .58 | .70 | .83 | .98 | 1.13 | 1.30 | 1.48 | | | | |
| | | | | C | 811 | 649 | 541 | 464 | 406 | 361 | 325 | 295 | 270 | 250 | 232 | 216 | 203 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .29 | .37 | .46 | .56 | .66 | .78 | .90 | 1.04 | 1.18 | | | | |
| | 2½"* (63.5) | 1.85 (2.75) | 42510-A | U | 1410 | 902 | 627 | 460 | 352 | 278 | 226 | 186 | 157 | 133 | 115 | 100 | 88 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .28 | .36 | .44 | .54 | .64 | .76 | .88 | 1.01 | 1.15 | | | | |
| | | | | C | 886 | 886 | 744 | 638 | 558 | 496 | 446 | 406 | 372 | 343 | 319 | 298 | 279 | | | | |
| | | | | D | .05 | .09 | .12 | .17 | .23 | .29 | .36 | .43 | .51 | .60 | .70 | .81 | .92 | | | | |
| | 3"* (76.2) | 1.97 (2.93) | 43010-A | U | 1820 | 1165 | 809 | 594 | 455 | 360 | 291 | 241 | 202 | 172 | 149 | 129 | 114 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| | | | | C | 886 | 886 | 886 | 823 | 720 | 640 | 576 | 524 | 480 | 443 | 412 | 384 | 360 | | | | |
| | | | | D | .02 | .05 | .09 | .13 | .17 | .22 | .27 | .33 | .40 | .47 | .54 | .62 | .71 | | | | |

* Available on special order. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth - in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 1½" | .174 | .102 | 2.96 x 10⁶ |
| | 2" | .270 | .193 | 5.60 x 10⁶ |
| | 2½" | .307 | .335 | 9.71 x 10⁶ |
| Steel 12 ga. | 1½" | .216 | .125 | 3.62 x 10⁶ |
| | 2" | .342 | .264 | 7.66 x 10⁶ |
| | 2½" | .504 | .488 | 14.09 x 10⁶ |
| | 3" | .625 | .722 | 20.94 x 10⁶ |
| Aluminum .080" | 1½" | .171 | .137 | 1.40 x 10⁶ |
| | 2" | .251 | .246 | 2.51 x 10⁶ |
| | 2½" | .379 | .441 | 4.50 x 10⁶ |
| | 3" | .464 | .602 | 6.14 x 10⁶ |
| Aluminum .100" | 1½" | .196 | .156 | 1.59 x 10⁶ |
| | 2" | .352 | .309 | 3.15 x 10⁶ |
| | 2½" | .486 | .544 | 5.55 x 10⁶ |
| | 3" | .627 | .911 | 9.29 x 10⁶ |
| Stainless 304 16 ga. | 2" | .165 | .1425 | 4.13 x 10⁶ |
| Stainless 316L 16 ga. | 2" | .165 | .1425 | 4.13 x 10⁶ |

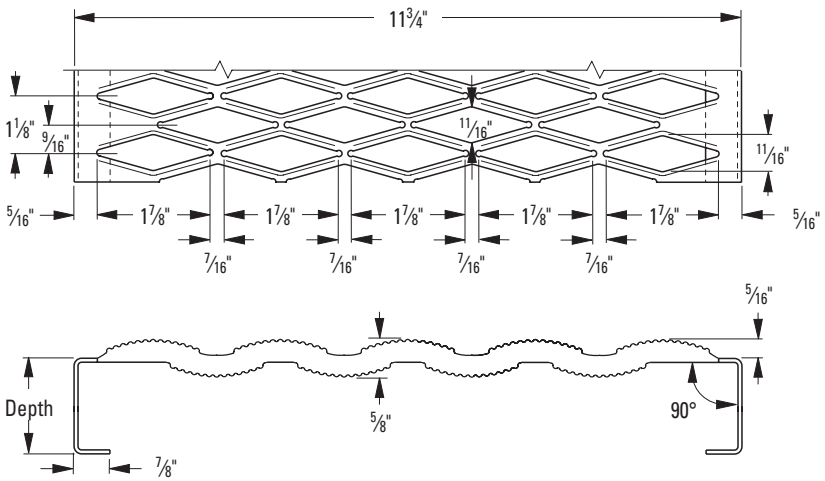
## Strut loading

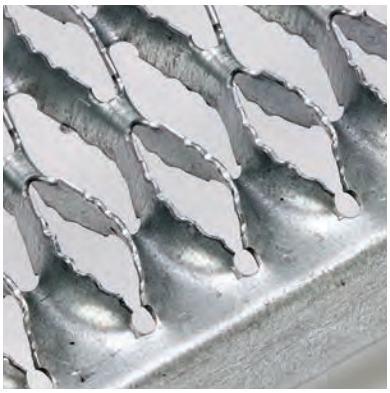
| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 1844 | .15 |
| | Cs | 730 | .11 |
| Steel 12 ga. | U | 3537 | .14 |
| | Cs | 1400 | .11 |
| Aluminum .080" | U | 1435 | .19 |
| | Cs | 568 | .15 |
| Aluminum .100" | U | 2238 | .23 |
| | Cs | 886 | .15 |
| Stainless 304 16 ga. | U | 1450 | .29 |
| | Cs | 574 | .19 |
| Stainless 316L 16 ga. | U | 1243 | .20 |
| | Cs | 492 | .16 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Safe Loading Tables

## 5-Diamond plank — 11¾" width (available in stainless steel)



Relief hole available upon request on 3, 4, & 5-diamond planks

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 1½" (38.1) | 4.2 (6.25) | 51514 | U | 536 | 344 | 240 | 177 | 136 | 108 | 88 | 74 | 62 | | | | | | | | |
| | | | | D | .06 | .10 | .14 | .20 | .26 | .33 | .41 | .50 | .60 | | | | | | | | |
| | | | | C | 525 | 422 | 353 | 304 | 267 | 239 | 216 | 198 | 183 | | | | | | | | |
| | | | | D | .05 | .08 | .12 | .16 | .21 | .26 | .33 | .40 | .48 | | | | | | | | |
| | 2" (50.8) | 4.4 (6.55) | 52014 | U | 890 | 571 | 397 | 293 | 225 | 178 | 145 | 120 | 102 | 87 | 76 | 66 | 59 | 47 | | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29 | .36 | .43 | .52 | .61 | .71 | .83 | .95 | 1.21 | | | |
| | | | | C | 707 | 699 | 584 | 502 | 440 | 393 | 355 | 324 | 299 | 277 | 259 | 243 | 230 | 207 | | | |
| | | | | D | .04 | .07 | .10 | .14 | .18 | .23 | .29 | .35 | .42 | .49 | .57 | .66 | .76 | .97 | | | |
| | 2½" (63.5) | 4.7 (6.99) | 52514 | U | 1021 | 655 | 456 | 336 | 258 | 204 | 166 | 138 | 116 | 100 | 86 | 76 | 67 | 54 | 44 | | |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .28 | .33 | .39 | .45 | .52 | .60 | .77 | .96 | | |
| | | | | C | 707 | 707 | 669 | 575 | 505 | 450 | 407 | 371 | 342 | 317 | 296 | 278 | 262 | 236 | 216 | | |
| | | | | D | .02 | .04 | .06 | .09 | .12 | .15 | .18 | .22 | .26 | .31 | .36 | .42 | .48 | .62 | .77 | | |
| Steel 12 ga. | 1½" (38.1) | 5.9 (8.78) | 51512 | U | 710 | 456 | 318 | 235 | 181 | 144 | 117 | 98 | 83 | 71 | 62 | 55 | 49 | | | | |
| | | | | D | .07 | .11 | .15 | .21 | .27 | .35 | .44 | .53 | .64 | .76 | .89 | 1.03 | 1.18 | | | | |
| | | | | C | 695 | 558 | 467 | 402 | 354 | 317 | 287 | 263 | 244 | 227 | 213 | 201 | 190 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .35 | .43 | .51 | .60 | .71 | .82 | .95 | | | | |
| | 2" (50.8) | 6.2 (9.23) | 52012 | U | 1131 | 725 | 505 | 372 | 286 | 227 | 185 | 154 | 130 | 111 | 97 | 85 | 75 | 60 | 50 | 42 | |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | .56 | .65 | .75 | .86 | 1.11 | 1.39 | 1.70 | |
| | | | | C | 1107 | 888 | 742 | 638 | 561 | 501 | 453 | 414 | 382 | 355 | 332 | 312 | 295 | 266 | 243 | 224 | |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .31 | .38 | .44 | .52 | .60 | .69 | .89 | 1.11 | 1.36 | |
| | 2½" (63.5) | 6.6 (9.82) | 52512 | U | 1691 | 1083 | 753 | 554 | 425 | 337 | 273 | 226 | 151 | 141 | 123 | 109 | 87 | 71 | 59 | 59 | 50 |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .45 | .52 | .60 | .68 | .87 | 1.09 | 1.33 | 1.60 |
| | | | | C | 1115 | 1115 | 1106 | 950 | 833 | 742 | 669 | 610 | 561 | 519 | 484 | 453 | 426 | 382 | 347 | 319 | 295 |
| | | | | D | .02 | .04 | .07 | .10 | .13 | .17 | .21 | .25 | .30 | .36 | .41 | .48 | .55 | .70 | .87 | 1.06 | 1.28 |
| | 3" (76.2) | 7.0 (10.40) | 53012 | U | 2138 | 1370 | 952 | 701 | 537 | 425 | 345 | 286 | 241 | 206 | 178 | 155 | 137 | 109 | 89 | 74 | 63 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .27 | .32 | .38 | .44 | .51 | .58 | .74 | .93 | 1.13 | 1.36 |
| | | | | C | 1115 | 1115 | 1115 | 1115 | 1052 | 937 | 845 | 770 | 707 | 654 | 609 | 570 | 537 | 480 | 436 | 399 | 369 |
| | | | | D | .02 | .03 | .05 | .08 | .11 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .60 | .74 | .90 | 1.09 |
| Stain-less 304 16 ga. | 2" (50.8) | 3.7 (5.51) | 52016-S | U | 583 | 374 | 261 | 192 | 148 | 118 | 96 | 80 | 68 | 58 | 48 | | | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .20 | .26 | .32 | .39 | .47 | .56 | .48 | | | | | | |
| | | | | C | 464 | 458 | 323 | 330 | 290 | 259 | 235 | 215 | 199 | 185 | 165 | | | | | | |
| | | | | D | .03 | .06 | .09 | .12 | .16 | .21 | .26 | .32 | .38 | .45 | .49 | | | | | | |
| Stain-less* 316L 16 ga. | 2" (50.8) | 3.7 (5.51) | 52016-SL | U | 406 | 324 | 225 | 165 | 126 | 100 | 81 | 66 | 56 | 47 | | | | | | | |
| | | | | D | .04 | .06 | .10 | .13 | .17 | .22 | .27 | .32 | .39 | .45 | | | | | | | |
| | | | | C | 398 | 397 | 330 | 283 | 248 | 220 | 198 | 180 | 165 | 152 | | | | | | | |
| | | | | D | .03 | .05 | .08 | .10 | .14 | .17 | .22 | .26 | .31 | .36 | | | | | | | |

* Available on special order. Consult factory.

5-Diamond plank — 11¾"width (available in stainless steel)



## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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" | 1½"* (38.1) | 1.49 (2.22) | 51512-A | U | 403 | 255 | 179 | 132 | 100 | | | | | | | | | | | | |
| | | | | D | .10 | .15 | .22 | .31 | .40 | | | | | | | | | | | | |
| | | | | C | 395 | 316 | 263 | 226 | 197 | | | | | | | | | | | | |
| | | | | D | .08 | .12 | .18 | .25 | .32 | | | | | | | | | | | | |
| | 2" (50.8) | 1.59 (2.36) | 52012-A | U | 592 | 379 | 263 | 193 | 148 | 117 | 95 | 78 | | | | | | | | | |
| | | | | D | .08 | .13 | .18 | .25 | .33 | .42 | .52 | .63 | | | | | | | | | |
| | | | | C | 466 | 466 | 386 | 331 | 290 | 257 | 232 | 211 | | | | | | | | | |
| | | | | D | .05 | .10 | .15 | .20 | .27 | .34 | .42 | .51 | | | | | | | | | |
| | 2½"* (63.5) | 1.67 (2.48) | 52512-A | U | 889 | 569 | 395 | 290 | 222 | 176 | 142 | 118 | 99 | 84 | 73 | 63 | | | | | |
| | | | | D | .07 | .10 | .15 | .21 | .28 | .35 | .43 | .53 | .63 | .74 | .85 | .98 | | | | | |
| | | | | C | 466 | 466 | 466 | 466 | 435 | 387 | 348 | 316 | 290 | 268 | 249 | 232 | | | | | |
| | | | | D | .02 | .05 | .10 | .16 | .22 | .28 | .35 | .42 | .50 | .59 | .68 | .78 | | | | | |
| | 3"* (76.2) | 1.75 (2.60) | 53012-A | U | 951 | 699 | 485 | 357 | 273 | 216 | 175 | 144 | 121 | 103 | 89 | 78 | 68 | | | | |
| | | | | D | .05 | .09 | .14 | .19 | .25 | .31 | .39 | .47 | .56 | .66 | .77 | .88 | 1.00 | | | | |
| | | | | C | 466 | 466 | 466 | 466 | 466 | 466 | 428 | 389 | 356 | 329 | 305 | 285 | 267 | | | | |
| | | | | D | .02 | .04 | .07 | .11 | .17 | .24 | .31 | .38 | .45 | .53 | .61 | .70 | .80 | | | | |
| Alum. Alloy 5052 .100" | 1½"* (38.1) | 1.88 (2.79) | 51510-A | U | 459 | 294 | 204 | 150 | 115 | 91 | | | | | | | | | | | |
| | | | | D | .09 | .15 | .22 | .30 | .39 | .50 | | | | | | | | | | | |
| | | | | C | 450 | 360 | 300 | 257 | 225 | 200 | | | | | | | | | | | |
| | | | | D | .07 | .12 | .17 | .24 | .31 | .40 | | | | | | | | | | | |
| | 2" (50.8) | 2.00 (2.98) | 52010-A | U | 829 | 530 | 368 | 271 | 207 | 164 | 133 | 110 | 92 | 78 | 68 | 59 | | | | | |
| | | | | D | .09 | .14 | .20 | .28 | .37 | .46 | .58 | .70 | .83 | .98 | 1.13 | 1.30 | | | | | |
| | | | | C | 714 | 649 | 541 | 464 | 406 | 361 | 325 | 295 | 270 | 250 | 232 | 216 | | | | | |
| | | | | D | .06 | .11 | .16 | .22 | .29 | .37 | .46 | .56 | .66 | .78 | .90 | 1.04 | | | | | |
| | 2½"* (63.5) | 2.11 (3.14) | 52510-A | U | 1140 | 730 | 507 | 372 | 285 | 225 | 182 | 151 | 127 | 105 | 93 | 81 | 71 | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .28 | .36 | .45 | .54 | .64 | .76 | .88 | 1.01 | 1.15 | | | | |
| | | | | C | 714 | 714 | 714 | 638 | 558 | 496 | 446 | 406 | 372 | 343 | 319 | 298 | 279 | | | | |
| | | | | D | .03 | .07 | .12 | .17 | .23 | .29 | .36 | .43 | .51 | .60 | .70 | .81 | .92 | | | | |
| | 3"* (76.2) | 2.22 (3.30) | 53010-A | U | 1458 | 942 | 654 | 481 | 368 | 291 | 235 | 195 | 164 | 139 | 120 | 105 | 92 | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .68 | .78 | .89 | | | | |
| | | | | C | 714 | 714 | 714 | 714 | 714 | 640 | 576 | 524 | 280 | 443 | 412 | 384 | 360 | | | | |
| | | | | D | .02 | .04 | .07 | .12 | .17 | .22 | .27 | .33 | .40 | .47 | .54 | .62 | .71 | | | | |

* Available on special order. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth - in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 1½" | .174 | .102 | 2.96 x 10⁶ |
| | 2" | .270 | .193 | 5.60 x 10⁶ |
| | 2½" | .307 | .335 | 9.71 x 10⁶ |
| Steel 12 ga. | 1½" | .216 | .125 | 3.62 x 10⁶ |
| | 2" | .342 | .264 | 7.66 x 10⁶ |
| | 2½" | .504 | .488 | 14.09 x 10⁶ |
| | 3" | .625 | .722 | 20.94 x 10⁶ |
| Aluminum .080" | 1½" | .171 | .137 | 1.40 x 10⁶ |
| | 2" | .251 | .246 | 2.51 x 10⁶ |
| | 2½" | .379 | .441 | 4.50 x 10⁶ |
| | 3" | .464 | .602 | 6.14 x 10⁶ |
| Aluminum .100" | 1½" | .196 | .156 | 1.59 x 10⁶ |
| | 2" | .352 | .309 | 3.15 x 10⁶ |
| | 2½" | .486 | .544 | 5.55 x 10⁶ |
| | 3" | .627 | .911 | 9.29 x 10⁶ |
| Stainless 304 16 ga. | 2" | .165 | .1425 | 4.13 x 10⁶ |
| Stainless 316L 16 ga. | 2" | .165 | .1425 | 4.13 x 10⁶ |

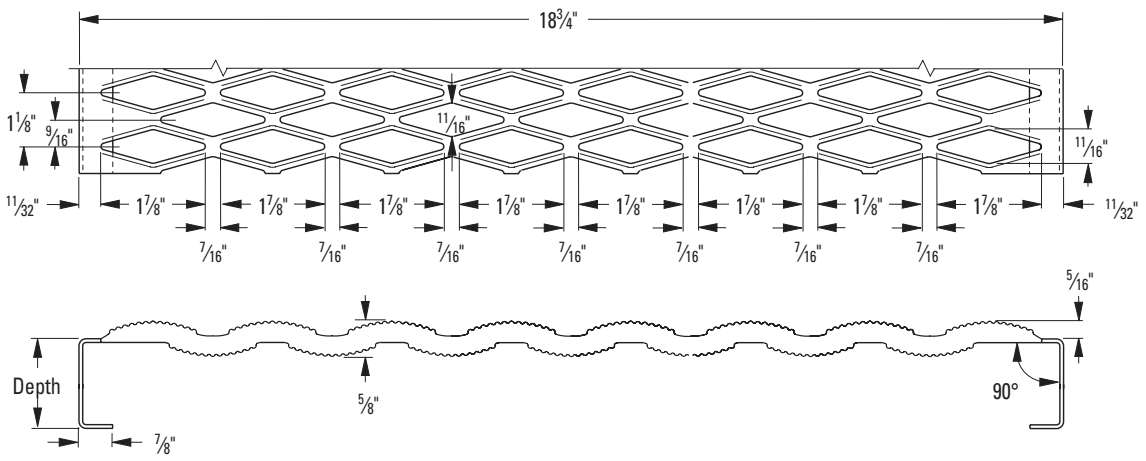
## Strut loading

| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 1444 | .18 |
| | Cs | 707 | .15 |
| Steel 12 ga. | U | 2277 | .15 |
| | Cs | 1115 | .12 |
| Aluminum .080" | U | 951 | .24 |
| | Cs | 466 | .20 |
| Aluminum .100" | U | 1458 | .27 |
| | Cs | 714 | .22 |
| Stainless 304 16 ga. | U | 947 | .38 |
| | Cs | 464 | .31 |
| Stainless 316L 16 ga. | U | 812 | .31 |
| | Cs | 398 | .25 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Safe Loading Tables

## 8-Diamond plank — 18¾" width




## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 1½" (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 | | | | | | | | | |
| | | | | D | .16 | .15 | .15 | .16 | .17 | .19 | .22 | .25 | | | | | | | | | |
| | 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 | | | | | |
| | | | | D | .24 | .21 | .20 | .19 | .20 | .21 | .23 | .26 | .29 | .32 | .36 | .40 | | | | | |
| | 2½" (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 | | | | |
| | | | | D | .24 | .22 | .20 | .19 | .19 | .19 | .20 | .21 | .23 | .24 | .27 | .29 | .32 | | | | |
| Steel 12 ga. | 1½" (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 | | | | | | |
| | | | | D | .12 | .12 | .12 | .14 | .16 | .19 | .22 | .26 | .30 | .35 | .40 | | | | | | |
| | 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 | | | | |
| | | | | D | .17 | .15 | .14 | .15 | .16 | .17 | .19 | .22 | .25 | .28 | .32 | .36 | .40 | | | | |
| | 2½" (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 | | |
| | | | | D | .23 | .20 | .18 | .18 | .18 | .18 | .19 | .21 | .23 | .25 | .28 | .31 | .34 | .41 | .50 | | |
| | 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 |
| | | | | D | .22 | .23 | .22 | .20 | .20 | .20 | .20 | .21 | .22 | .24 | .26 | .28 | .31 | .37 | .44 | .52 | .61 |

**Note:** Stainless is unavailable.

8-Diamond plank — 18¾" width



## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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" | 1½"* (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" (50.8) | 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 | | | | | | | | | |
| | 2½"* (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" | 1½"* (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" (50.8) | 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 | | | | | | | |
| | 2½"* (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. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 1½" | .174 | .102 | 2.96 x $10^6$ |
| | 2" | .270 | .193 | 5.60 x $10^6$ |
| | 2½" | .307 | .335 | 9.71 x $10^6$ |
| Steel 12 ga. | 1½" | .216 | .125 | 3.62 x $10^6$ |
| | 2" | .342 | .264 | 7.66 x $10^6$ |
| | 2½" | .504 | .488 | 14.09 x $10^6$ |
| | 3" | .625 | .722 | 20.94 x $10^6$ |
| Aluminum .080" | 1½" | .171 | .137 | 1.40 x $10^6$ |
| | 2" | .251 | .246 | 2.51 x $10^6$ |
| | 2½" | .379 | .441 | 4.50 x $10^6$ |
| | 3" | .464 | .602 | 6.14 x $10^6$ |
| Aluminum .100" | 1½" | .196 | .156 | 1.59 x $10^6$ |
| | 2" | .352 | .309 | 3.15 x $10^6$ |
| | 2½" | .456 | .544 | 5.55 x $10^6$ |
| | 3" | .627 | .911 | 9.29 x $10^6$ |

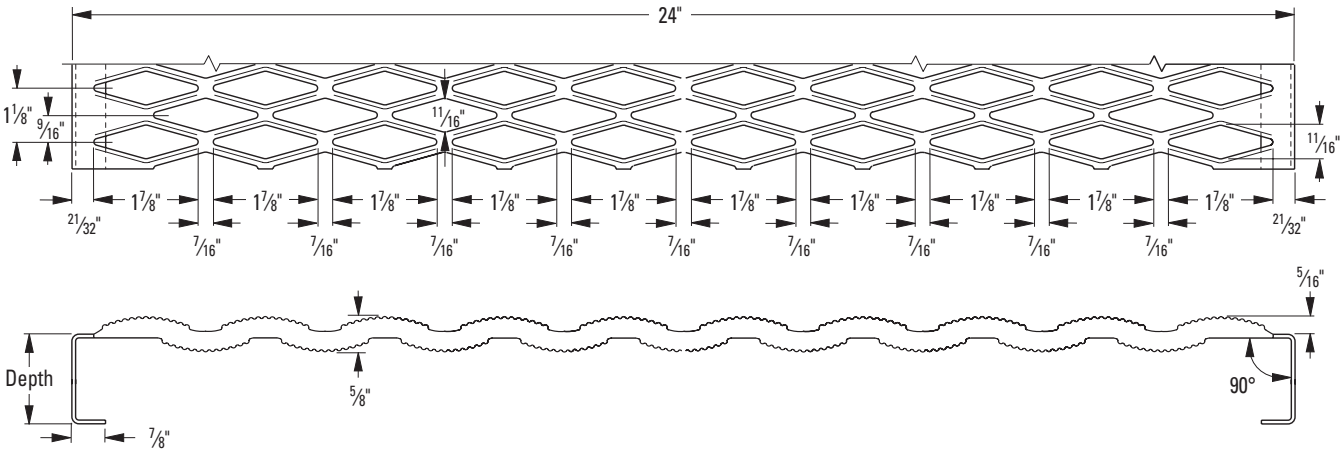
## Strut loading

| 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.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Safe Loading Tables

## 10-Diamond plank — 24" width




## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 2" (50.8) | 7.4 (11.0) | 102014 | U | 300 | 300 | 228 | 168 | 128 | 102 | 82 | 68 | 57 | 49 | 42 | | | | | | |
| | | | | D | .46 | .48 | .42 | .38 | .38 | .41 | .44 | .49 | .55 | .62 | .70 | | | | | | |
| | | | | C | 400 | 400 | 343 | 294 | 257 | 229 | 206 | 187 | 172 | 158 | 147 | | | | | | |
| | | | | D | .34 | .35 | .32 | .30 | .29 | .29 | .30 | .31 | .33 | .35 | .37 | | | | | | |
| | 3" (76.2) | 7.9 (11.8) | 103014 | U | 300 | 300 | 300 | 264 | 202 | 160 | 130 | 107 | 90 | 77 | 66 | 58 | 51 | 40 | | | |
| | | | | D | .42 | .43 | .46 | .44 | .39 | .36 | .35 | .36 | .39 | .44 | .45 | .49 | .54 | .65 | | | |
| | | | | C | 400 | 400 | 400 | 400 | 400 | 360 | 324 | 295 | 270 | 249 | 232 | 216 | 203 | 180 | | | |
| | | | | D | .33 | .33 | .34 | .35 | .37 | .35 | .33 | .33 | .32 | .32 | .33 | .34 | .35 | .38 | | | |
| Steel 12 ga. | 2" (50.8) | 10.4 (15.5) | 102012 | U | 475 | 416 | 289 | 212 | 162 | 128 | 104 | 86 | 72 | 62 | 53 | 46 | | | | | |
| | | | | D | .40 | .39 | .33 | .31 | .31 | .34 | .38 | .44 | .48 | .56 | .63 | .71 | | | | | |
| | | | | C | 650 | 520 | 434 | 372 | 325 | 289 | 260 | 237 | 217 | 200 | 186 | 174 | | | | | |
| | | | | D | .26 | .22 | .19 | .20 | .20 | .21 | .22 | .23 | .25 | .28 | .31 | .34 | | | | | |
| | 3" (76.2) | 11.1 (16.5) | 103012 | U | 475 | 475 | 475 | 392 | 300 | 237 | 192 | 159 | 133 | 114 | 98 | 85 | 75 | 59 | 48 | | |
| | | | | D | .38 | .39 | .42 | .38 | .36 | .34 | .35 | .37 | .39 | .43 | .47 | .52 | .58 | .70 | .85 | | |
| | | | | C | 900 | 900 | 800 | 686 | 600 | 534 | 480 | 437 | 400 | 369 | 343 | 320 | 300 | 267 | 240 | | |
| | | | | D | .34 | .35 | .33 | .29 | .27 | .26 | .26 | .26 | .26 | .27 | .29 | .30 | .32 | .36 | .41 | | |

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 2" | .303 | .232 | 6.73 x $10^6$ |
| | 3" | .484 | .713 | 20.68 x $10^6$ |
| Steel 12 ga. | 2" | .387 | .346 | 10.03 x $10^6$ |
| | 3" | .715 | .959 | 27.81 x $10^6$ |

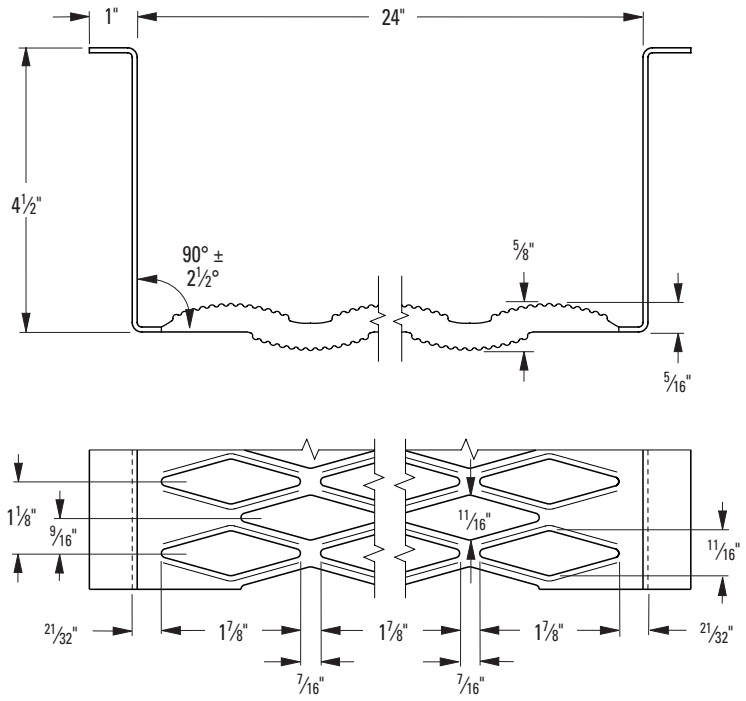
## Strut loading

| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 300 | .49 |
| | Cs | 300 | .40 |
| Steel 12 ga. | U | 475 | .45 |
| | Cs | 475 | .36 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

10-Diamond walkway — 24" width






## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)
Spans to the left of heavy red line produce a deflection of ¼" or less under a uniform load of 100 lb./ft.²

| Material Gauge | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. | 8.9 (13.2) | 104514-U | U | 300 | 300 | 300 | 300 | 300 | 263 | 213 | 176 | 148 | 126 | 109 | 95 | 83 | 66 | 53 | 43 | |
| | | | D | .41 | .41 | .42 | .45 | .48 | .47 | .42 | .40 | .40 | .41 | .43 | .45 | .47 | .55 | .64 | .75 | |
| | | | C | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 380 | 355 | 333 | 296 | 266 | 242 | |
| | | | D | .32 | .33 | .33 | .33 | .34 | .35 | .36 | .38 | .39 | .41 | .42 | .41 | .41 | .42 | .44 | .47 | |
| Steel 12 ga. | 12.5 (18.6) | 104512-U | U | 475 | 475 | 475 | 475 | 475 | 420 | 340 | 281 | 236 | 201 | 173 | 151 | 133 | 105 | 85 | 70 | 59 |
| | | | D | .37 | .37 | .38 | .40 | .43 | .43 | .39 | .37 | .37 | .37 | .39 | .41 | .44 | .51 | .59 | .69 | .80 |
| | | | C | 900 | 900 | 900 | 900 | 900 | 900 | 850 | 773 | 709 | 654 | 607 | 567 | 531 | 472 | 425 | 387 | 354 |
| | | | D | .34 | .34 | .35 | .35 | .36 | .37 | .37 | .35 | .34 | .33 | .33 | .33 | .33 | .35 | .37 | .40 | .44 |

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ | E I lb. x in.² |
|---|---|---|---|---|
| Steel 14 ga. | 4½" | .806 | 1.43 | 41.47 x $10^6$ |
| Steel 12 ga. | 4½" | 1.290 | 2.42 | 10.03 x $10^6$ |

## Strut loading

| Material Gauge | Type Loading** | Load | Deflection in. |
|---|---|---|---|
| Steel 14 ga. | U | 300 | .49 |
| | Cs | 300 | .40 |
| Steel 12 ga. | U | 475 | .45 |
| | Cs | 475 | .36 |

** U = Allowable uniform load (lb./ft.²)
Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

# Grip Strut Grating - Comparative Performance Tables

## 8-Diamond plank — 18¾" width

**Note:** The data in these tables represents the performances of both side channels ignoring grating surface performance. These values are not to be used for product selection but should be used when comparisons are being made with other products whose published information does not include grating surface performance. For product selection and design tables, see pages 8 through 19.

U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load Defl. Code | 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. | 1½" (38.1) | 6.1 (9.1) | **81514** | U | 337 | 217 | 151 | 112 | 86 | 69 | 56 | 47 | 40 | | | | | | | | |
| | | | | D | .06 | .10 | .14 | .20 | .26 | .33 | .41 | .51 | .61 | | | | | | | | |
| | | | | C | 525 | 421 | 355 | 306 | 270 | 242 | 220 | 202 | 187 | | | | | | | | |
| | | | | D | .05 | .08 | .12 | .16 | .21 | .27 | .33 | .41 | .49 | | | | | | | | |
| | 2" (50.8) | 6.3 (9.4) | **82014** | U | 557 | 358 | 250 | 184 | 142 | 113 | 92 | 76 | 65 | 55 | 48 | 42 | | | | | |
| | | | | D | .06 | .09 | .13 | .17 | .23 | .29 | .36 | .44 | .53 | .62 | .73 | .84 | | | | | |
| | | | | C | 873 | 698 | 583 | 501 | 440 | 396 | 358 | 328 | 303 | 281 | 264 | 248 | | | | | |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .29 | .35 | .42 | .50 | .58 | .67 | | | | | |
| | 2½" (63.5) | 6.6 (9.8) | **82514** | U | 639 | 411 | 286 | 211 | 162 | 129 | 105 | 87 | 74 | 63 | 55 | 48 | 43 | | | | |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .28 | .33 | .39 | .46 | .53 | .61 | | | | |
| | | | | C | 1003 | 803 | 669 | 574 | 504 | 449 | 410 | 375 | 346 | 321 | 301 | 283 | 267 | | | | |
| | | | | D | .03 | .04 | .06 | .09 | .12 | .15 | .18 | .22 | .27 | .32 | .37 | .43 | .49 | | | | |
| Steel 12 ga. | 1½" (38.1) | 8.5 (12.6) | **81512** | U | 446 | 287 | 201 | 148 | 115 | 91 | 75 | 63 | 53 | 46 | 40 | | | | | | |
| | | | | D | .07 | .11 | .15 | .21 | .28 | .36 | .44 | .54 | .65 | .78 | .91 | | | | | | |
| | | | | C | 718 | 560 | 470 | 406 | 358 | 321 | 292 | 269 | 249 | 233 | 219 | | | | | | |
| | | | | D | .06 | .08 | .12 | .17 | .22 | .28 | .35 | .43 | .52 | .62 | .73 | | | | | | |
| | 2" (50.8) | 8.9 (13.2) | **82012** | U | 710 | 456 | 318 | 235 | 181 | 144 | 117 | 98 | 83 | 71 | 62 | 54 | 48 | | | | |
| | | | | D | .05 | .08 | .11 | .16 | .21 | .26 | .33 | .40 | .48 | .57 | .66 | .77 | .88 | | | | |
| | | | | C | 1107 | 887 | 741 | 637 | 564 | 505 | 458 | 419 | 387 | 361 | 338 | 319 | 302 | | | | |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .21 | .26 | .32 | .38 | .45 | .53 | .61 | .71 | | | | |
| | 2½" (63.5) | 9.2 (13.7) | **82512** | U | 1059 | 680 | 473 | 348 | 267 | 212 | 172 | 143 | 120 | 103 | 89 | 78 | 69 | 55 | 45 | | |
| | | | | D | .04 | .06 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .45 | .52 | .60 | .69 | .88 | 1.10 | | |
| | | | | C | 1656 | 1325 | 1106 | 949 | 832 | 741 | 668 | 613 | 564 | 523 | 488 | 458 | 431 | 388 | 353 | | |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .26 | .30 | .36 | .42 | .48 | .55 | .71 | .88 | | |
| | 3" (76.2) | 9.6 (14.3) | **83012** | U | 1340 | 858 | 598 | 440 | 337 | 267 | 217 | 180 | 152 | 130 | 112 | 98 | 87 | 69 | 57 | 47 | 40 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .23 | .27 | .33 | .38 | .45 | .52 | .59 | .75 | .94 | 1.15 | 1.39 |
| | | | | C | 2097 | 1678 | 1398 | 1200 | 1051 | 936 | 844 | 769 | 706 | 653 | 614 | 575 | 542 | 486 | 442 | 406 | 377 |
| | | | | D | .03 | .04 | .06 | .09 | .11 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .60 | .75 | .92 | 1.11 |
| Alum. Alloy 5052 .080" | 1½"* (38.1) | 2.11 (3.13) | **81512-A** | U | 253 | 162 | 112 | 83 | | | | | | | | | | | | | |
| | | | | D | .10 | .15 | .22 | .31 | | | | | | | | | | | | | |
| | | | | C | 395 | 316 | 263 | 226 | | | | | | | | | | | | | |
| | | | | D | .08 | .12 | .18 | .25 | | | | | | | | | | | | | |
| | 2" (50.8) | 2.20 (3.27) | **82012-A** | U | 371 | 237 | 165 | 121 | 93 | 73 | 59 | 49 | | | | | | | | | |
| | | | | D | .08 | .13 | .18 | .25 | .33 | .42 | .52 | .63 | | | | | | | | | |
| | | | | C | 579 | 463 | 386 | 331 | 290 | 257 | 232 | 211 | | | | | | | | | |
| | | | | D | .06 | .10 | .15 | .20 | .27 | .34 | .42 | .51 | | | | | | | | | |
| | 2½"* (63.5) | 2.29 (3.40) | **8251A** | U | 557 | 357 | 248 | 182 | 139 | 110 | 89 | 74 | 62 | 53 | 46 | | | | | | |
| | | | | D | .07 | .10 | .15 | .21 | .28 | .35 | .43 | .53 | .63 | .74 | .85 | | | | | | |
| | | | | C | 812 | 696 | 580 | 497 | 435 | 387 | 348 | 316 | 290 | 268 | 249 | | | | | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .35 | .42 | .50 | .59 | .68 | | | | | | |
| | 3"* 76.2) | 2.39 (3.55) | **8301A** | U | 684 | 438 | 304 | 223 | 171 | 135 | 109 | 90 | 76 | 65 | 56 | 49 | | | | | |
| | | | | D | .06 | .09 | .14 | .19 | .25 | .31 | .39 | .47 | .56 | .66 | .77 | .88 | | | | | |
| | | | | C | 1069 | 856 | 713 | 611 | 535 | 475 | 428 | 389 | 356 | 329 | 305 | 285 | | | | | |
| | | | | D | .04 | .07 | .11 | .15 | .20 | .25 | .31 | .38 | .45 | .53 | .61 | .70 | | | | | |
| Alum. Alloy 5052 .100" | 1½"* (38.1) | 2.68 (3.98) | **81510-A** | U | 288 | 184 | 128 | 94 | 72 | 57 | | | | | | | | | | | |
| | | | | D | .09 | .15 | .22 | .30 | .39 | .50 | | | | | | | | | | | |
| | | | | C | 450 | 360 | 300 | 257 | 225 | 200 | | | | | | | | | | | |
| | | | | D | .07 | .12 | .17 | .24 | .31 | .40 | | | | | | | | | | | |
| | 2" (50.8) | 2.79 (4.15) | **82010-A** | U | 519 | 332 | 231 | 170 | 130 | 103 | 83 | 68 | 58 | 49 | | | | | | | |
| | | | | D | .09 | .14 | .20 | .28 | .37 | .46 | .58 | .70 | .83 | .98 | | | | | | | |
| | | | | C | 811 | 649 | 541 | 464 | 406 | 361 | 325 | 295 | 270 | 250 | | | | | | | |
| | | | | D | .07 | .11 | .16 | .22 | .29 | .46 | .46 | .56 | .66 | .78 | | | | | | | |
| | 2½"* (63.5) | 2.91 (4.33) | **82510-A** | U | 714 | 457 | 317 | 233 | 179 | 141 | 114 | 94 | 79 | 68 | 58 | 51 | 45 | 40 | | | |
| | | | | D | .07 | .11 | .16 | .22 | .28 | .36 | .45 | .54 | .64 | .76 | .88 | 1.01 | 1.15 | 1.30 | | | |
| | | | | C | 1116 | 893 | 744 | 638 | 558 | 496 | 446 | 406 | 373 | 343 | 319 | 298 | 279 | 263 | | | |
| | | | | D | .05 | .09 | .12 | .17 | .23 | .29 | .36 | .43 | .51 | .60 | .70 | .81 | .92 | 1.04 | | | |
| | 3"* (76.2) | 3.02 (4.50) | **83010-A** | U | 922 | 590 | 410 | 301 | 231 | 182 | 148 | 122 | 102 | 87 | 75 | 66 | 58 | 51 | 46 | | |
| | | | | D | .05 | .08 | .12 | .17 | .22 | .28 | .34 | .42 | .50 | .59 | .68 | .78 | .89 | 1.01 | 1.13 | | |
| | | | | C | 1441 | 1153 | 961 | 823 | 720 | 640 | 576 | 524 | 480 | 443 | 412 | 384 | 360 | 339 | 320 | | |
| | | | | D | .04 | .06 | .10 | .13 | .17 | .22 | .27 | .33 | .40 | .47 | .54 | .62 | .71 | .80 | .90 | | |

* Available on special order. Consult factory.

## 10-Diamond plank & walkway 24" width

**Note:** The data in these tables represents the performances of both side channels ignoring grating surface performance. These values are not to be used for product selection but should be used when comparisons are being made with other products whose published information does not include grating surface performance.

For product selection and design tables, see pages 8 through 19.

U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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. Plank | 2" (50.8) | 7.4 (11.0) | 102014 | U | 514 | 329 | 228 | 168 | 128 | 102 | 82 | 68 | 57 | 49 | | | | | | | |
| | | | | D | .05 | .08 | .12 | .16 | .21 | .27 | .33 | .40 | .47 | .55 | | | | | | | |
| | | | | C | 1028 | 822 | 685 | 587 | 514 | 457 | 411 | 374 | 343 | 316 | 294 | 274 | 257 | 228 | 206 | 187 | 171 |
| | | | | D | .04 | .07 | .09 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .51 | .59 | .67 | .85 | 1.05 | 1.27 | 1.51 |
| | 3" (76.2) | 7.9 (11.8) | 103014 | U | 810 | 518 | 360 | 264 | 202 | 160 | 130 | 107 | 90 | 77 | 66 | 58 | 51 | | | | |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .18 | .22 | .27 | .31 | .36 | .41 | .47 | | | | |
| | | | | C | 1620 | 1296 | 1080 | 926 | 810 | 720 | 648 | 589 | 540 | 498 | 463 | 432 | 405 | 360 | 324 | 295 | 270 |
| | | | | D | .02 | .04 | .05 | .07 | .09 | .12 | .15 | .18 | .21 | .25 | .29 | .33 | .38 | .48 | .59 | .71 | .85 |
| Steel 12 ga. Plank | 2" (50.8) | 10.4 (15.5) | 102012 | U | 650 | 416 | 289 | 212 | 162 | 128 | 104 | 86 | 72 | 62 | 53 | | | | | | |
| | | | | D | .07 | .08 | .11 | .15 | .19 | .24 | .30 | .37 | .43 | .51 | .59 | | | | | | |
| | | | | C | 1300 | 1040 | 867 | 743 | 650 | 578 | 520 | 473 | 433 | 400 | 371 | 347 | 325 | 289 | 260 | 236 | 217 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .20 | .24 | .29 | .35 | .41 | .47 | .54 | .62 | .78 | .96 | 1.17 | 1.39 |
| | 3" (76.2) | 11.1 (16.5) | 103012 | U | 1200 | 768 | 533 | 392 | 300 | 237 | 192 | 159 | 133 | 114 | 98 | 85 | 75 | 59 | | | |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .16 | .20 | .25 | .29 | .34 | .40 | .46 | .52 | .66 | | | |
| | | | | C | 2400 | 1920 | 1600 | 1371 | 1200 | 1067 | 960 | 873 | 800 | 736 | 686 | 640 | 600 | 533 | 480 | 436 | 400 |
| | | | | D | .03 | .04 | .06 | .08 | .10 | .13 | .16 | .20 | .23 | .27 | .32 | .37 | .42 | .53 | .65 | .79 | .94 |
| Steel 14 ga. Walkway | 4.5" (114.3) | 8.9 (13.2) | 104514-U | U | 1330 | 851 | 591 | 434 | 332 | 263 | 213 | 176 | 148 | 126 | 109 | 95 | 83 | 66 | 53 | | |
| | | | | D | .02 | .04 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .24 | .28 | .32 | .36 | .46 | .57 | | |
| | | | | C | 2660 | 2128 | 1773 | 1520 | 1339 | 1182 | 1064 | 967 | 887 | 818 | 760 | 709 | 665 | 591 | 532 | 484 | 443 |
| | | | | D | .02 | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .26 | .29 | .37 | .45 | .55 | .65 |
| Steel 12 ga. Walkway | 4.5" (114.3) | 12.5 (18.6) | 104512-U | U | 2125 | 1360 | 944 | 694 | 531 | 420 | 340 | 281 | 236 | 201 | 173 | 151 | 133 | 105 | 85 | 70 | 59 |
| | | | | D | .02 | .03 | .05 | .06 | .08 | .11 | .13 | .16 | .19 | .22 | .26 | .30 | .34 | .43 | .53 | .64 | .76 |
| | | | | C | 4200 | 3400 | 2833 | 2429 | 2125 | 1889 | 1700 | 1545 | 1417 | 1308 | 1214 | 1133 | 1062 | 944 | 850 | 773 | 708 |
| | | | | D | .02 | .03 | .04 | .05 | .07 | .09 | .11 | .13 | .15 | .18 | .21 | .24 | .27 | .34 | .42 | .51 | .61 |

* Available on special order. Consult factory.

### Load and deflection conversion formulas

In the elastic range, deflection is proportional to the applied load for both uniform and concentrated loads. This relationship can be used to determine the deflection that any load which is less than the allowable load will produce (as shown in **Example A.)** Also, if desired, the load which will produce a specific deflection can also be determined if the load is in the elastic range (as illustrated in **Example B.)**

**Example A**

What deflection will a 300 lb. concentrated load produce on a plank (catalog number 103012) spanning 5"-0"?

See page 18 for item 103012 at a span = 5'-0" C = 480 lb. D = 0.26"
D @ 300 lb. = 0.26"/480 lb. x 300 lb. = 0.16"

**Example B**

If a plank (catalog number 103012) is spanning 6'-0", what concentrated load will produce a ¼" deflection?

See page 18 for item 103012 at a span = 6'-0" C = 400 lb. D = 0.26"
C @ ¼" = 400 lb./0.26" x 0.25" = 385 lb.

# Grip Strut Grating - Fastening Anchor Accessories

## Diamond washer

**Field drilling is required.**

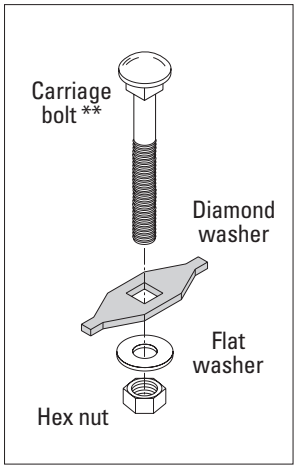
** Plank carriage bolt lengths = Side channel height + 1"
Walkway carriage bolt = 5⁄16"-18 x 2"

**Part number includes**
(1) Diamond washer

**Source locally**
(1) 5⁄16"-18 Carriage bolt **
(1) 5⁄16" Flat washer
(1) 5⁄16"-18 Hex nut

Finish: G-90 mill galvanized

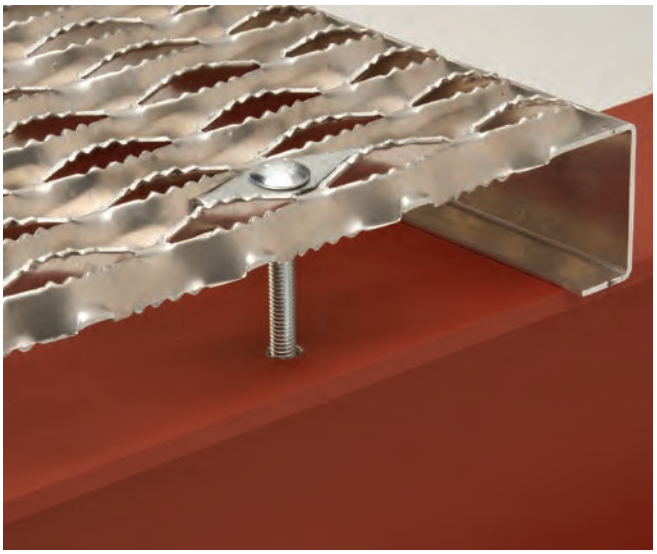
Also available in 304 stainless steel

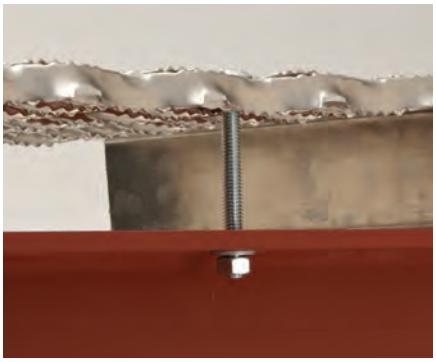



**Diamond Washer**

| UPC Number | Catalog Number | Wt./Box of 300 |
|---|---|---|
| 66251626610 | 12262 | 9.00 |

Sold in box qty. only. (300/box)





### Assembly

1. Align Grip Strut™ planks on I-beam or other anchoring cross-member.
2. Mark the I-beam for drilling purposes under a slot near the end of Grip Strut plank. Drill a pilot hole.
3. Remove Grip Strut plank and drill a finish hole.
4. Replace Grip Strut plank. Align diamond washer over the drilled hole. Run the carriage bolt through the diamond washer and I-beam. Tighten the washer and nut until secure.
5. Test for movement or slippage. If Grip Strut planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 4.

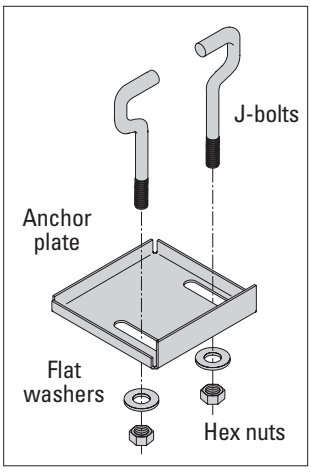
**WARNING: Do not walk on Grip Strut planks if they are not secure. Serious injury could result.**

### Welding

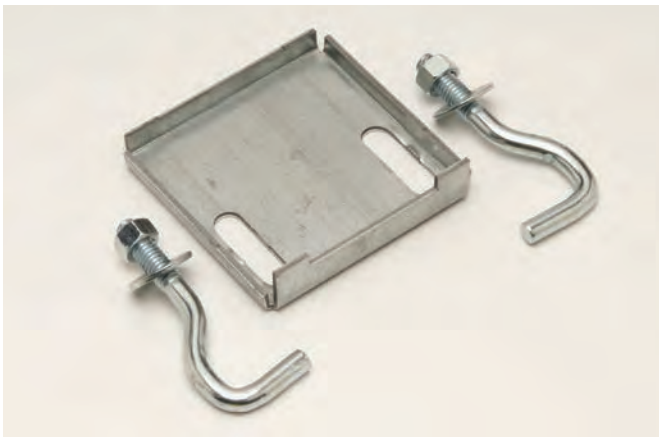
A common method of fastening safety grating is welding. It is recommended that all Eaton B-Line series safety grating products be fillet welded per AWS D1.3.

For more information, consult technical services.

## Anchor plate




Finish: G-90 mill galvanized



**No field drilling required.**

### Part Number Includes

(1) Anchor plate
(2) ⅜"-16 J-polts
(2) ⅜" Flat washer
(2) ⅜"-16 Hex nut

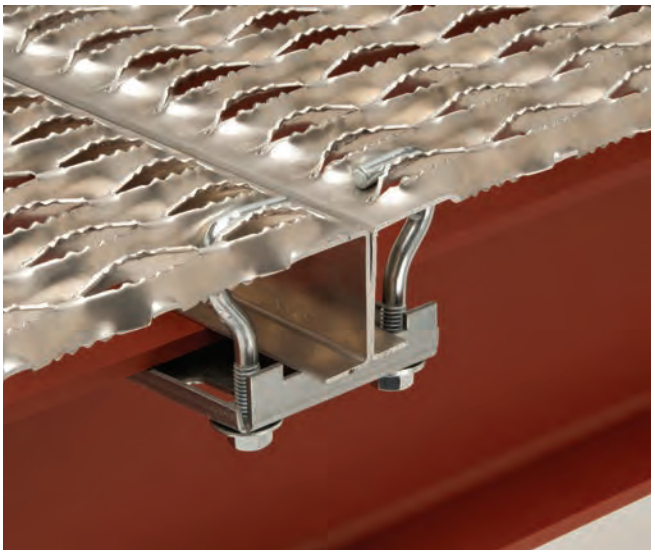
**Anchor plate assemblies**

| UPC Number | Catalog Number | Grating Height | J-Bolt Size | Wt./Ea. |
|---|---|---|---|---|
| 66251634139 | **ACA15** | 1½" | ⅜"-16 x 1½" | 0.80 |
| 66251634141 | **ACA20** | 2" | ⅜"-16 x 2" | 0.80 |
| 66251634142 | **ACA25** | 2½" | ⅜"-16 x 2½" | 0.80 |
| 66251634144 | **ACA30** | 3" | ⅜"-16 x 3" | 0.90 |

## Assembly

1. Align two (2) Grip Strut™ planks side-by-side on I-beam or other anchoring cross-member.
2. Place J-bolts in Grip Strut openings opposite each other. Make sure you choose the openings nearest to the inner edge of the plank .
3. Slide ACA anchor plate up J-bolts until snug. Make sure the inside edge of the ACA anchor plate is as close as possible to the center of the cross member.
4. Tighten nuts until planks are secured.
5. Test for movement or slippage. If Grip Strut planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 4.

**WARNING: Do not walk on Grip Strut planks if they are not secure. Serious injury could result.**

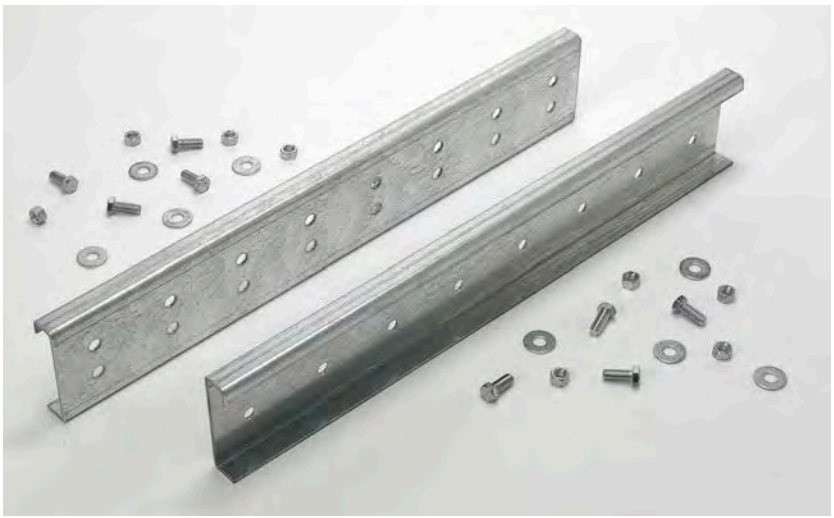


## Welding

A common method of fastening safety grating is welding. It is recommended that all Eaton B-Line series safety grating products be fillet welded per AWS D1.3. For more information, consult technical services.

# Grip Strut Grating - Walkway Accessories

## Walkway splice plate (30" long) kit



**Part number includes**

(2) Splice plates
(32) ½"-13 x 1¼" Hex bolts
(32) ½"-13 Hex nuts
(32) ½" Washers

**Walkway Splice Plate Kit**

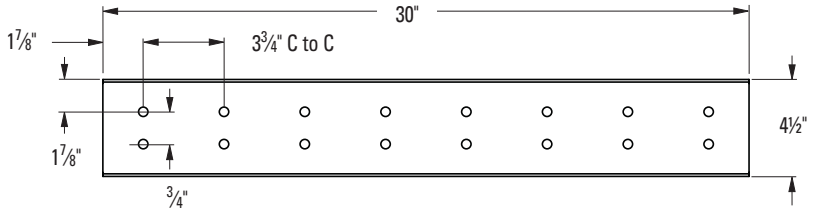
| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251642714 | SP-10DU-30 | 18.1 |

Walkway splice plates provide continuity when multiple lengths of Grip Strut™ walkway are desired. Connections are reinforced with the addition of splice plates attached to side channels.

Splice plates are formed from 12 gauge mill-galvanized steel, prepunched and supplied with hardware shown above.

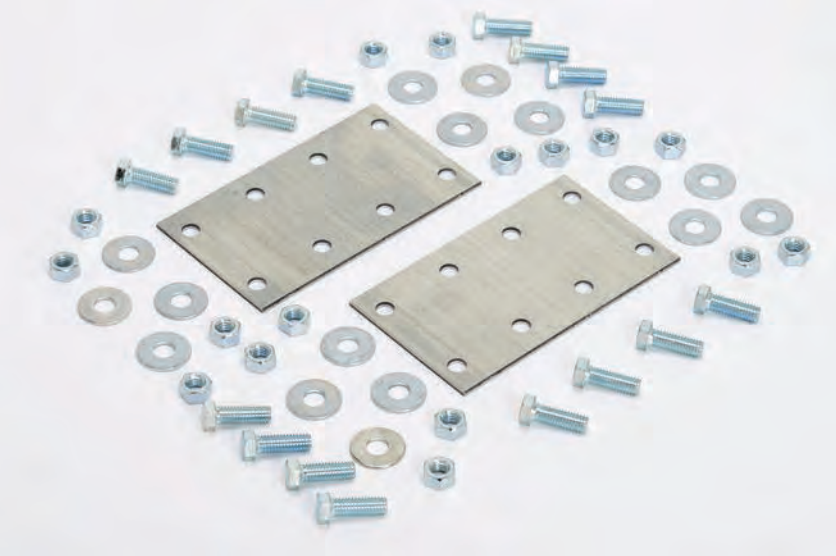
SP-10DU-7 and SP10DU-30 are used with 12 and 14 gauge Grip Strut walkway.

Torque to 40 ft.-lbs.



## Walkway splice plate (7" long) kit

**Part number includes**
(2) Splice plates - 4" x 7"
(16) 7⁄16"-14 x 1¼" Hex bolts
(16) 7⁄16"-14 Hex nuts
(16) 7⁄16" Washers



**Walkway splice plate kit**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251642716 | **SP-10DU-7** | 4.1 |

Kit joins continuous sections together in a run only over supports.

Splice plates are formed from 10 gauge mill-galvanized steel, prepunched and supplied with hardware shown above.

SP-10DU-7 and SP10DU-30 are used with 12 and 14 gauge Grip Strut walkway.

Torque to 55 ft.-lbs. (minimum)

**Note:** Contact factory for information on pre-punched holes in walkway grating.

# Grip Strut Grating - Specials

## Reconditioning material

The recommended "safety first" way to re-do worn and unsafe floors and stairs: Resurface with non-slip Grip Strut™ safety grating reconditioning material (RM).

Grip Strut safety grating is the only product that gives 500 wall-to-wall teeth per square foot. Serrated, diamond-shaped openings make Grip Strut safety grating safer than conventional gratings — permit mud, oil, grease and industrial waste to fall through, when used over open floor materials such as bar grating. Even ice shears free under normal foot pressure. Down-turned edges allow grating to lie flat and secure over existing flooring. Consult distributor for product specifications.

Other important Grip Strut safety grating advantages include:

- Easy field fabrication and fast, low-cost installation.
- Reconditioned material products available on special order in standard materials and sizes.

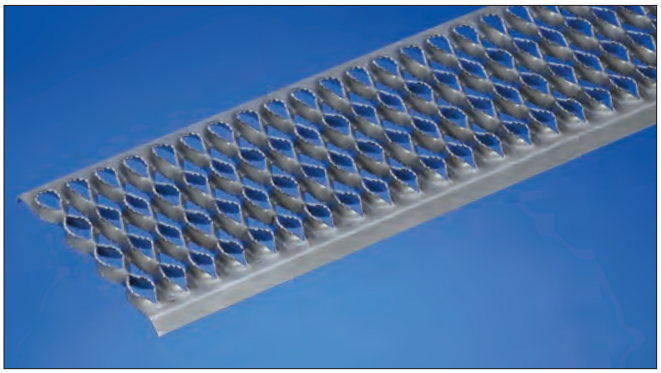
## Flat stock material

Flat stock can be manufactured to specified dimensions of flat metal on either or both sides. Consult your distributor for specifications and availability.

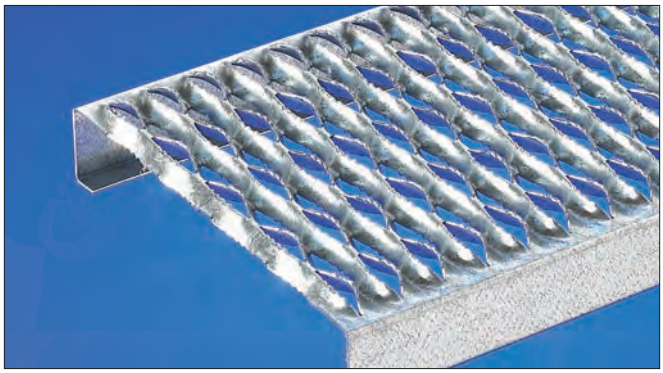
## Versatility in form and function for new or special products

Because of its light-weight plank design, Grip Strut safety grating is easy to handle and economical to install. Most sections can be handled by one man and can be quickly field-cut with standard tools. Layout and erection goes quickly because panels match perfectly. Various widths may be used to suit space requirements.

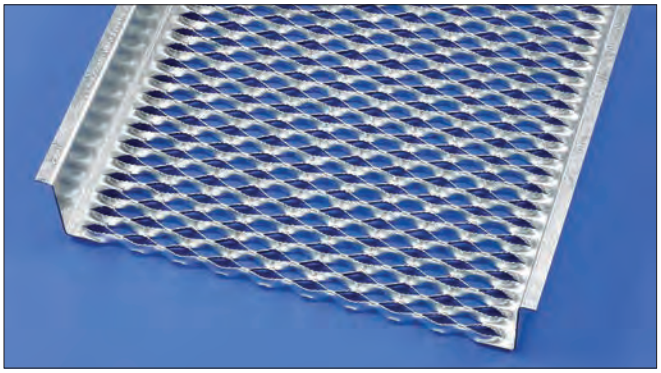
Many variations of Grip Strut safety grating panels are available to suit specific requirements. Special forming can be accomplished to suit requirements not covered by the standard panels. Consult your distributor for availability.



**Reconditioning material**

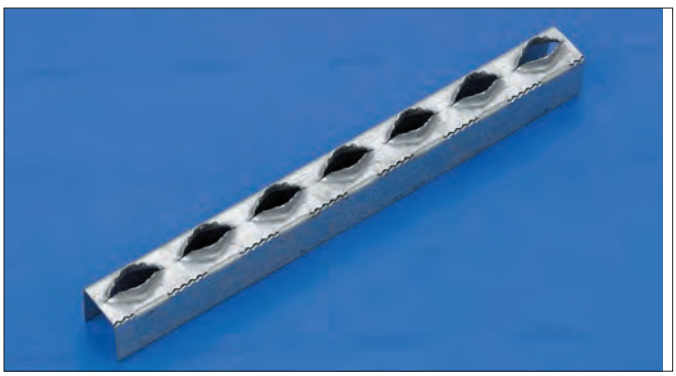


**Grip Strut with standard serrated surface**

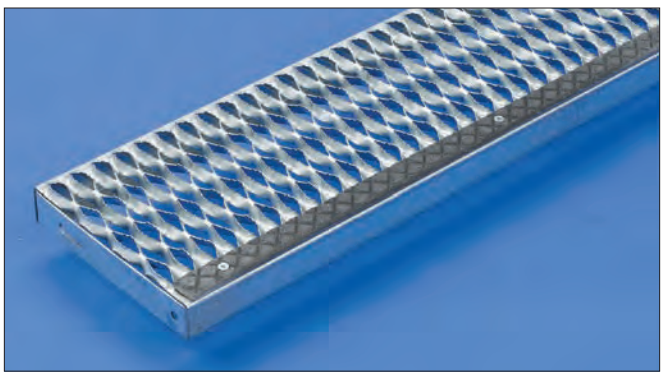


**Grip Strut walkways**

**Grip Strut with non-serrated surface**



**Grip Strut 1-diamond rungs**

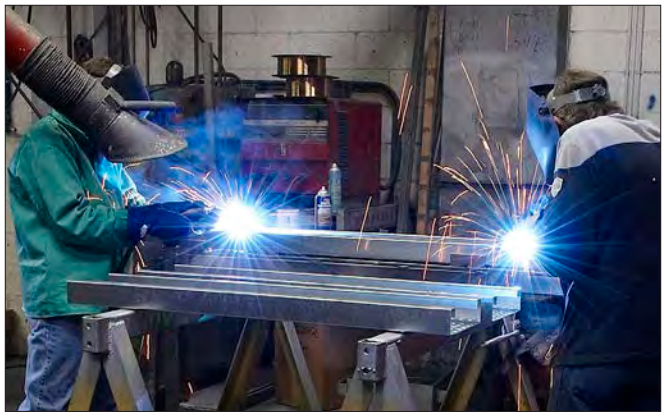


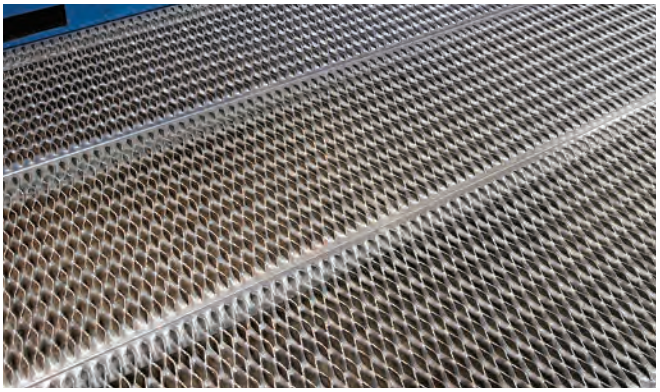
**Grip Strut stair treads**

## Fabricating services

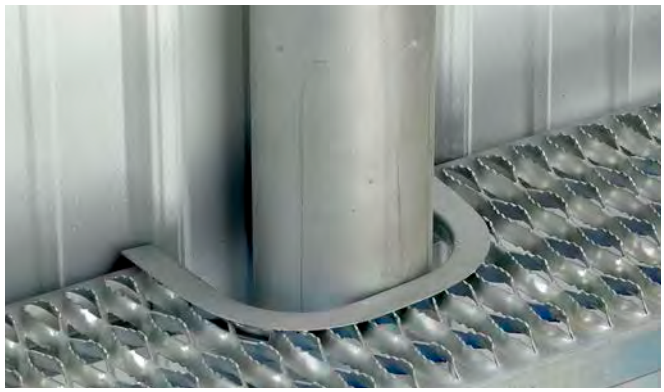
We can quote large jobs, including detailing and fabricating of special material, according to your project specifications. Submit plans and specifications through your Grip Strut™ safety grating distributor.

After your order is received, a bill of materials and shop drawings will be prepared for your approval before fabrication is begun. A few of the fabricating services available include: special cutting, marking according to layout, banding and toe plates. “Additional fees may apply.”





**Grip Strut flooring**



**Grip Strut special fabrication**

**Special walkways**

**Grip Strut railcar walkways**

**Industrial walkways**

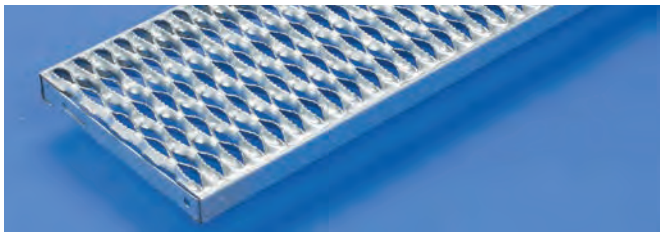
**Grip Strut stairs and ramps**

# Grip Strut Grating - Stair Tread Information

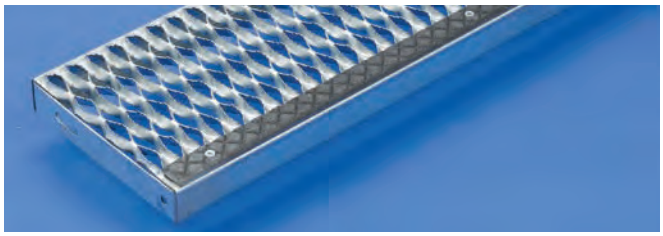
## Safe loading information

Load data below takes eccentric loads into consideration. Although load values include allowances for normal impact conditions and usual pedestrian traffic, be sure to make provisions in the structural design for special uses and loads involving unusual impact forces or vibratory forces. Load-carrying capacity of stair treads increases as side channel height and gauge or material increase.

**Grip Strut stair tread application**



**Grip Strut stair tread**



**Grip Strut stair tread with abrasive nosing**

U=Uniform load (lb./ft.$^2$)  C= Concentrated load (lb.)

| | | 2-Diamond 4¾" Depth | | | | 3-Diamond 7" Depth | | | | 4-Diamond 9½" Depth | | | | 5-Diamond 11¾" Depth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material | | Steel | | | | Steel | | | | Steel | | | | Steel | | | |
| Thickness | | 14 | | 12 | | 14 | | 12 | | 14 | | 12 | | 14 | | 12 | |
| Span | Channel Depth - in. (mm) | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C |
| 2'-0" | 1½" (38.1) | 1191 | 472 | 1576 | 624 | 761 | 443 | 1006 | 587 | 549 | 435 | 750 | 595 | 434 | 425 | 575 | 563 |
| | 2" (50.8) | 1978 | 783 | 2513 | 995 | 1262 | 737 | 1604 | 936 | 911 | 604 | 1158 | 917 | 721 | 573 | 916 | 897 |
| 2'-6" | 1½" (38.1) | 764 | 378 | 1011 | 500 | 488 | 356 | 645 | 470 | 353 | 349 | 481 | 476 | 278 | 342 | 369 | 452 |
| | 2" (50.8) | 1268 | 611 | 1611 | 797 | 810 | 590 | 1029 | 750 | 584 | 578 | 742 | 734 | 463 | 566 | 587 | 719 |
| 3'-0" | 1½" (38.1) | 532 | 315 | 703 | 418 | 340 | 300 | 450 | 393 | 245 | 300 | 335 | 398 | 194 | 300 | 258 | 378 |
| | 2" (50.8) | 882 | 524 | 1121 | 665 | 563 | 492 | 716 | 626 | 407 | 483 | 517 | 614 | 322 | 473 | 409 | 601 |
| 4'-0" (1) | 2" (50.8) | 498 | 394 | 633 | 501 | 318 | 372 | 404 | 472 | 230 | 364 | 292 | 463 | 182 | 356 | 232 | 454 |

(1) Intermediate stringer is recommended for spans over 4 feet.

| | | 2-Diamond 4¾" Depth | | | | 3-Diamond 7" Depth | | | | 4-Diamond 9½" Depth | | | | 4-Diamond 9½" Depth | | | | 5-Diamond 11¾" Depth | | | | 5-Diamond 11¾" Depth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material | | Aluminum | | | | Aluminum | | | | Aluminum | | | | Stainless Steel | | | | Aluminum | | | | Stainless Steel | | | |
| Thickness | | .080" | | .100" | | .080" | | .100" | | .080" | | .100" | | 304 | | 316L | | .080" | | .100" | | 304 | | 316L | |
| Span | Channel Depth in. (mm) | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C | U | C |
| 2'-0" | 2" (50.8) | 1328 | 526 | 1862 | 737 | 862 | 503 | 1208 | 705 | 607 | 481 | 867 | 687 | 610 | 483 | 525 | 416 | 396 | 388 | 607 | 595 | 394 | 386 | 338 | 331 |
| 2'-6" | 2" (50.8) | 850 | 420 | 1191 | 590 | 551 | 402 | 773 | 564 | 388 | 392 | 555 | 550 | 390 | 387 | 336 | 336 | 253 | 388 | 388 | 540 | 252 | 381 | 216 | 339 |
| 3'-0" | 2" (50.8) | 590 | 350 | 827 | 491 | 383 | 335 | 537 | 470 | 270 | 327 | 385 | 458 | 271 | 323 | 233 | 279 | 176 | 321 | 270 | 450 | 175 | 319 | 150 | 275 |
| 4'-0" (1) | 2" (50.8) | 332 | 263 | 465 | 369 | 215 | 252 | 302 | 353 | 152 | 245 | 216 | 344 | 152 | 244 | 131 | 210 | 99 | 241 | 151 | 338 | 98 | 241 | 84 | 221 |

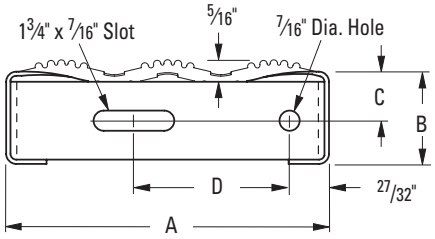
(1) Intermediate stringer is recommended for spans over 4 feet.

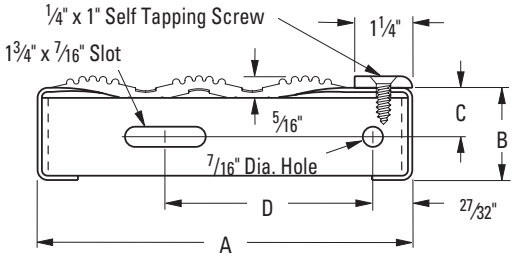
## Standard sizes and recommended spans (1)

| Steel | | | Standard Stair Treads | | Stair Treads with Abrasive Nosing | |
|---|---|---|---|---|---|---|
| Span in. | Thickness | Channel Depth - in. | Catalog Number | Size in. | Catalog Number | Size in. |
| Up to 30" | 14 ga. | 1½" | T-21514<br>T-31514<br>T-41514<br>T-51514 | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-31514-N<br>T-41514-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| 30" to 36" | 14 ga. | 1½" | T-21514<br>T-31514<br>T-41514<br>T-51514 | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-31514-N<br>T-41514-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| 36" to 42" | 14 ga. | 1½" | T-21514<br>T-31514<br>T-41514<br>T-51514 | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-31514-N<br>T-41514-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| 42" to 48" | 14 ga. | 2" | T-21514<br>T-31514<br>T-41514<br>T-51514 | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-31514-N<br>T-41514-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| **Aluminum** | | | | | | |
| Up to 42" | .080" | 2" | T-22012-A<br>T-32012-A<br>T-42012-A<br>T-52012-A | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-32012-A-N<br>T-42012-A-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| Up to 48" | .100" | 2" | T-22010-A*<br>T-32010-A*<br>T-42010-A*<br>T-52010-A* | 2-Diamond - 4¾"<br>3-Diamond - 7"<br>4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>T-32010-A-N<br>T-42010-A-N<br>-- | --<br>3-Diamond - 8⅛"<br>4-Diamond - 10½"<br>-- |
| **Stainless Steel** | | | | | | |
| Up to 30" | Type 316L 16 ga. | 2" | T-42016-SL*<br>T-52016-SL* | 4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>-- | --<br>-- |
| Up to 36" | Type 304 16 ga. | 2" | T-42012-SS<br>T-52012-SS | 4-Diamond - 9½"<br>5-Diamond - 11¾" | --<br>-- | --<br>-- |

(1) Recommendations are based on approximate minimum loads of 300 lbs. concentrated; 100 lbs. uniform. Specific performance criteria may vary by municipality/building code body and should be locally checked prior to finalizing specifications.

* Available on special order. Consult factory.




### Steel, aluminum and stainless steel (1)

| Standard | | | | With Abrasive Nosing | | | |
|---|---|---|---|---|---|---|---|
| A | B | C | D | A | B | C | D |
| 4¾"<br>(2-Diamond) | 1½"<br>2" | ¾"<br>1" | 2⅝"<br>2⅝" | --<br>-- | --<br>-- | --<br>-- | --<br>-- |
| 7"<br>(3-Diamond) | 1½"<br>2" | ¾"<br>1" | 3⅜"<br>3⅜" | 8⅛"<br>(3-Diamond) | 1½"<br>2" | ¾"<br>1" | 4½"<br>4½" |
| 9½"<br>(4-Diamond) | 1½"<br>2" | ¾"<br>1" | 5⅞"<br>5⅞" | 10½"<br>(4-Diamond) | 1½"<br>2" | ¾"<br>1" | 6⅞"<br>6⅞" |
| 11¾"<br>(5-Diamond) | 1½"<br>2" | ¾"<br>1" | 8⅛"<br>8⅛" | --<br>-- | --<br>-- | --<br>-- | --<br>-- |

(1) Stainless steel not available in 2-diamond or 3-diamond widths.

## Part 1: General

### 1.1 Section includes

**A.** Safety grating walkways, planks, stair-treads with reticulated and formed metal cross struts.

**B.** Regular and heavy duty safety grating products constructed from single-sheet with integrally-formed channels at the edges.

**C.** Slip resistant walkways, planks and stair-treads with stamped surface textures/patterns.

### 1.2 Related documents & sections

Drawings and general provisions of the contract, including general and supplementary conditions and division 01

Specification Sections, apply to this section. Other related sections include:

**A.** 05 51 00, Metal stairs

05 51 19, Metal grating stairs

05 51 13, Metal ladders

05 51 36, Catwalks

**B.** 05 55 00, Metals stair treads and nosings

### 1.3 Submittals

**A.** Submit drawings of safety grating products, accessories and attachments.

**B.** Submit manufacturer's product data on safety grating products including, but not limited to; types, materials, finishes, gauge thickness, surface patterns. For each grating cross-section, submit dimensional information, span, load capacity and deflection requirements.

**C.** Shop drawings:

1. Show fabrication and installation details, including plans.
2. Coordination of drawings: Floor plans and sections, drawn to scale. Include scaled layout and relationships between grating and adjacent structural elements.

### 1.4 References

**A.** ASTM A 123 - Standard specification for zinc (hot-dip galvanized) coatings on iron and steel products.

**B.** ASTM A 240 - Standard specification for chromium and chromium-nickel stainless steel plate, sheet, and strip for pressure vessels and for general applications.

**C.** ASTM A 653 - Standard specification for steel sheet, zinc-coated (galvanized) or zinc-iron alloy-coated (galvannealed) by the hot-dip process.

**D.** ASTM A 924 - Standard specification for general requirements for steel sheet, metallic coated by the hot-dip process.

**E.** ASTM A 1011 - Standard specification for steel, sheet and strip, hot-rolled, carbon, structural, high-strength low-alloy, and high-strength low-alloy with improved formability.

**F.** ASTM B 209 - Standard specification for aluminum and aluminum-alloy sheet and plate.

**G.** OSHA-Occupational safety and health administration-standards for walking-working surfaces. Part number 1910, subpart D.

**H.** RR-G-1602D- Federal specification for safety grating (other than bar type & excluding naval vessels).

**I.** ISO 9001:2000 Quality management system-requirements.

### 1.5 Quality Assurance

**A.** Manufacturers: firms regularly engaged in the manufacture of safety grating of the types required, whose products have been in satisfactory use in similar service for not less than 5 years.

**B.** OSHA Compliance: all grating installations must comply with OSHA standards for walking working surfaces.

**C.** Federal specification RR-G-1602D (or current revision) defines the criteria for items to be considered "safety grating". Slip resistant performance data must be available to support compliance.

**D.** Manufacturer must have an ISO registered quality system in place, and manual available upon request.

### 1.6 Delivery, storage and handling

**A.** Deliver safety grating and components carefully to avoid damage, denting and scoring of finishes. Do not install damaged material.

**B.** Store materials in original packaging and in clean, dry space; protect from weather and construction traffic. Materials to be elevated off of ground by blocks or skids or pallets.

## Part 2: Products

### 2.1 Acceptable manufacturers

Safety Gratings: Subject to compliance with these specifications, safety gratings shall be installed as manufactured by Eaton B-Line series Grip Strut™ safety grating (or engineer approved equal).

### 2.2 Materials and finish

**A.** Hot rolled, pickled & oiled steel: commercial steel per ASTM A 1011, minimum yield of 33 ksi.

**B.** Mill galvanized steel: commercial steel per ASTM A 653 and ASTM A 924 with G-90 coating designation, minimum yield of 33 ksi.

**C.** Hot-dip galvanized after fabrication: commercial steel per ASTM A 1011, minimum yield of 33 ksi, hot-dip galvanized after fabrication per ASTM A 123.

**D.** Aluminum: alloy 5052, temper H32 aluminum per ASTM B 209.

**E.** Stainless steel: type 304 (type 316) stainless steel, 2B or 2D finish, per ASTM A 240.

### 2.3 Gratings and components

Safety grating: (planks) (walkways) (treads) (ladder rungs) shall meet or exceed the federal standard RR-G-1602D for safety grating.

## Part 3: Execution

### 3.1 Installation

**A.** Inspect areas to receive grating for obstacles. Notify the engineer of conditions that would adversely affect the installation or subsequent utilization of the areas. Do not proceed with installation until unsatisfactory conditions are corrected.

**B.** Install grating according to manufacturer's recommendations and as shown on the construction drawings.

**C.** Position grating sections flat and square with ends bearing minimum 1½" on supporting structure.

**D.** Keep sections at least ¼" away from vertical steel sections and ½" from concrete walls.

**E.** Allow clearance at joints between sections of maximum ½" at side channels and maximum ⅜" at ends.

**F.** Band random cut ends and diagonal or circular cut exposed edges with a minimum ⅛" thick bar welded at contact points.

**G.** Join abutting walkway sections with manufacturer supplied splice plates; bolted or welded as specified.

**H.** For stair treads, intermediate stringer is recommended for spans over 4 feet.

# Grip Strut Grating - General Installation Recommendations

Grip Strut™ safety grating and stair treads are stocked in all major markets. For the finest in safety grating and stair treads, contact us or look for your local Grip Strut grating distributor on the internet using www.cooperbline.com/grating.

## Catalog number code

The catalog number code given below will assist you in ordering the material according to the specifications required.

### 1. Steel

- First numeral is width. "5" denotes 5-diamond or 11¾" width.
- Second and third numerals denote channel size. "20" denotes 2", "15" denotes 1½", etc.
- Last two numbers denote gauge. "12" denotes 12 gauge, "14" denotes 14 gauge.
- Standard material is mill galvanized G-90 (ASTM A653)

*Example*: 52014 = 5-diamond, 11¾" wide, 2" channel, 14 gauge

### 2. Aluminum

- First numeral is width. "5" denotes 5-diamond or 11¾" width.
- Second and third numerals denote channel size. "20" denotes 2", "15" denotes 1½", etc.
- Last two numbers denote gauge. "10" denotes .100" thick, "12" denotes .080" thick.
- Material - AL: Denotes aluminum.

*Example*: 52012-AL = 5-diamond, 11¾" wide, 2" channel, .080 thick, aluminum

### 3. Stainless Steel

- First numeral is width. "5" denotes 5-diamond or 11¾" width.
- Second and third numerals denote channel size. "20" denotes 2", "15" denotes 1½", etc.
- Last two numbers denote gauge. "16" denotes 16 gauge.
- Material - SS = Type 304, SL = 316L

*Example*: 52016-SS = 5-diamond, 11¾" wide, 2" channel, 16 gauge, Type 304 stainless

### 4. Stair Treads

- Any of the above numbers preceded by "T-"

*Example*: T-42014 = 4-diamond, 9½" wide, 2" channel, 14 gauge, steel stair tread

### 5. Plain:

- For ordering purposes, any catalog number followed by "BL" signifies plain unpainted steel (HRP&O).

*Example*: 52012-BL = 5-diamond, 11¾" wide, 2" channel, 12 gauge, plain steel

### 6. Special Products:

- Consult local Grip Strut safety grating distributor for identification and order placement of special products not herein identified.

## Standard Sizes

- Length: (nominal 10'-0" and 12'-0")

## Tolerances

- Planks: standard 10'-0" and 12'-0" lengths are 120" and 144" respectively, with a tolerance of ±⅛".
- Special lengths are available.
- Treads: standard stair tread lengths are as shown in this catalog with tolerances of ± ⅛".

## Raw Materials

- Steel
  - Pre-galvanized - ASTM A653
  - 14 gauge: hot rolled, commercial quality, oiled black steel and commercial quality, commercial coating, chemically treated galvanized steel
  - 12 gauge: hot rolled, pickled and oiled, commercial quality black steel and commercial quality, commercial coating, chemically treated galvanized steel
- Aluminum: alloy 5052 H-32 mill finish
- Stainless steel: 2B finish - 316L (light, cold rolled) — 2D finish - 304 (cold rolled)

## Fabrication service

- On large jobs, we estimate, quote, detail, and fabricate to your requirements.
- After receipt of order, a bill of materials and necessary layout drawings are prepared.
- Grating is supplied with special cutting, banding and toe plates installed where needed.
- Stair treads are also available fabricated and non-serrated.
- This fabrication service is available through Grip Strut safety grating distributors.

## Recommended clearance

***Steel***

- ¼" minimum is recommended at perimeter and ⅜" maximum at end joints.
- Maximum between panels is ¼"; ⅛" is generally used.

***Concrete***

- Concrete form deflection calls for slightly greater perimeter clearance. ½" is recommended.
- Maximum between panels is ¼".

## Bearing Surfaces

- Recommended minimum bearing 1½".
- Surfaces supporting Grip Strut™ safety grating must be smooth and level to insure that adjoining sections provide a safe, even walking surface.

## Permanent installation

Grip Strut safety grating is easily welded to supports for permanent installations. Channels are quickly welded together between supports to provide uniform deflection in adjacent panels.

For welded-attachment, secure side channels to supports by fusion welding with ⅛" fillet welds, 1" long. Weld adjacent planks together with ⅛" fillet welds, 1" long, 24" on center staggered top and bottom.

Install Grip Strut safety grating according to details as shown on individual job drawings, or as follows:

- Single width applications. Utilizing the anchoring device or weldings, attach Grip Strut safety grating plank at every point of contact with supporting structure around perimeter of plank.
- Multiple width applications. Utilizing the Grip Strut safety grating anchoring device or welded as recommended by A.I.S.I., attach grating plank around the perimeter at each point of contact with supporting structure. In field of platform, attach plank to supporting structure with a minimum of one attachment at each end of plank on alternate sides.

When span exceeds 8 feet, weld or bolt side channels of adjacent planks together at midpoint of span. When spans exceed 6 feet, consider similar treatment.

## How to build a part number:

**5 20 10 - AL**

**Plank width**
2 = 2-diamond/4¾" width
3 = 3-diamond/7" width
4 = 4-diamond/9½" width
5 = 5-diamond/11¾" width
8 = 8-diamond/18¾" width
10 = 10-diamond/24" width

**Channel size**
15 = 1½"
20 = 2"
25 = 2½"
30 = 3"
45 = 4½"

**Gauge:**
10 = .100" thick AL
12 = .080" thick AL
12 = 12 gauge BL, GL
14 = 14 gauge BL, GL
16 = 16 gauge SS

**Material**
AL = Aluminum
SS = Type 304 Stainless
BL = Unpainted Steel
GL = Galvanized Steel

# Perf-O Grip Grating - Design Load Table of Contents

**Perf-O Grip™ design load tables**


Steel, aluminum, stainless steel

2-Hole planks - 5" width..... 37

3-Hole planks - 7" width ..... 38

5-Hole planks - 10" width..... 39

6-Hole Planks - 12" width..... 40

Steel, aluminum

10-Hole planks - 18" width ..... 41

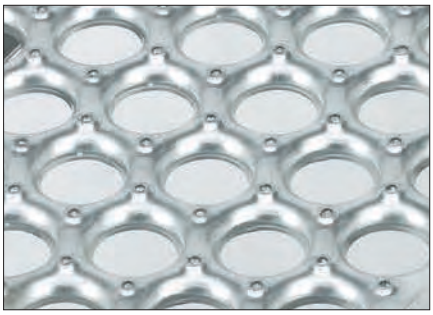
Steel

13-Hole planks - 24" width ..... 42

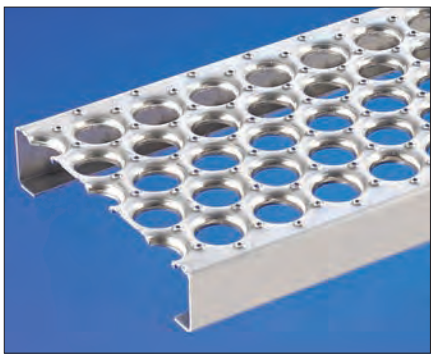
16-Hole planks - 30" width ..... 43

Walkways - 24" & 30" width ..... 44

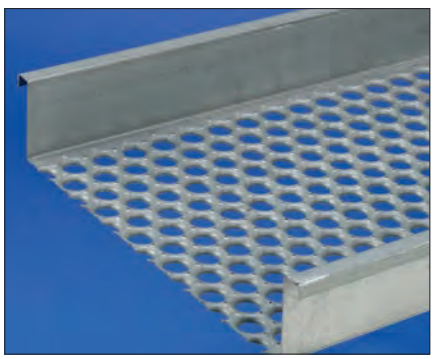
**Perf-O Grip 2 pattern**



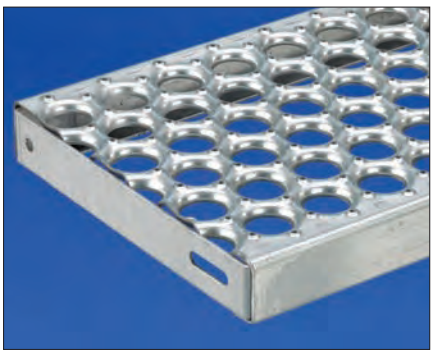
**Perf-O Grip pattern**



**Perf-O Grip grating**



**Perf-O Grip walkway**



**Perf-O Grip stair tread**

## Perf-O Grip safety grating

The unique surface of large debossed holes and perforated buttons helps provide maximum slip protection and performance under practically all conditions and in every direction.

- Allow fluids, mud, chips and other debris to drain away.
- With 5 inch high side channels, Perf-O Grip™ walkways meet OSHA requirements for toeboards on elevated structures.
- Canadian OH & S compliant designs are also available.
- Cushions the impact of footfalls thereby lessening worker fatigue and increasing efficiency.
- Available in 2-hole (5" wide) through 16-hole (30" wide).

## Perf-O Grip "2" safety grating

We offer a second style of Perf-O Grip grating.

- Features 1 15/16" on center hole spacing (compared to 2" on the original style).
- Can be produced with safety end margins on its 2-hole (5" wide) through 6 hole (12" wide) plank
- Can be made without end margins on its 10-hole (18" wide) through 16-hole (30" wide) plank.

## Safe surface - grips soles in all directions

- Non-slip surfaces ideal for inside or outside locations where mud, ice, snow, oil and detergents can create hazardous walking conditions.
- Circular openings (38% of surface area depending on product size) are small enough to catch most falling tools and other dangerous objects.
- Self-cleaning open design permits quick drainage of fluids, chips, grease and mud.
- Permits ventilation and lighting flow.
- Ice accumulation shears easily under normal foot pressure.
- Open design allows convenient access for cleaning.
- Easily cleaned with brush, liquid or air spray.

## Helps extend life

- High load capacity, long-life, and high strength-to-weight performance; achieved through depth of section and structural design.
- Formed struts with integral side channels form a plank can support loads with minimum transverse and longitudinal deflection.
- No rivets or pressure joints to break or loosen.
- Heavy load-carrying capacity with minimal deflection
- Rugged durability with longer-lasting performance.

## Fast installation

- Light, easy-to-handle planks make installation simple and quick.
- Can be handled by one person.
- Most sections are rapidly bolted, clamped or welded into place.
- Easily field cut at virtually any angle, or fabricated to adapt to field conditions.
- Attachment devices permit fastening to most existing surfaces, allowing for fast installation and disassembly.

## Economical to install and use

- Long-lasting, rust- resistant materials and finishes.
- Standard mill-galvanized finish resists corrosion to provide lasting surfaces.
- High-strength aluminum, Type 316-2B and Type 304-2B stainless steels are available to provide maximum corrosion resistance.
- Plain unpainted steel (HRP&O) is available for those installations requiring paint.
- Lightweight yet brawny panels permit substantial reduction in structural steel requirements.

## Safety, durability and versatility

- Variety of standard widths and channel heights are available.
- Numerous non-standard shapes and sizes to meet almost any requirement of strength, size, durability, weight, finish, appearance and application.
- One-piece construction.
- No welds or rivets to fail — minimizes need for field fabrication. Special shapes and forming can be accomplished to suit unusual requirements.
- All surfaces are accessible to brush or spray, making it simple and economical to apply finish coatings.
- May be hot dipped galvanized after fabrication, anodized, plated, plastic-coated or otherwise finished to suit job requirements.
- Available in materials and sizes to meet most load/span requirements.
- May be used as is, or banded, cut, welded or notched to suit requirements.

## Stocking levels

- 5", 7", 10" and 12" widths and in 10'-0" (120") and 12'-0" (144") lengths for planks.
- 24", 30" and 36" widths, in 10'-0" (120") and 12'-0" (144") lengths for walkways.
- Other lengths can be manufactured per order requirements.
- Standard metals are 11 gauge and 13 gauge carbon steel (mill-galvanized), 16 gauge stainless steel (type 304-2B to 12" wide), and .125" aluminum.
- Perf-O Grip can also be manufactured in HRPO steel and stainless steel (type 304-2B) on special order.

## How to read load tables

To select the proper size of Perf-O Grip™ grating, determine load, clear span and deflection requirements by first determining your loading requirements.

Example — Clear span of 4'-0" with a concentrated load requirement of 600 lbs. at 0.25" maximum deflection, for a 10'-0" wide plank; Refer to the 5-Hole plank (10" width), then locate the clear span subheading for 4'-0" to find the first occurrence of 600 lbs. (or greater) concentrated load (C). In this example, the 13 gauge, 2" depth product (part number P52013) carries a load of 648 lbs. with a 0.10" deflection.

While this is one product which meets the minimum requirements, other options might be selected to carry greater loads. For economical selection, choose the greatest width that will support the load consistent with job requirements and choose deeper channels rather than heavier steel gauges.

## How load tables were prepared

The values shown in the following tables are based on actual load tests. The tables have been prepared in accordance with the provisions of the AISI Specification for the Design of Cold-Formed Steel Structural Members, 1986 edition.

These load table values are based on consideration of side channel flexure only and do not consider grating surface performance. Side channel flexure occur when the channels at midspan of the plank deflect relative to support points. To verify the performance of the side channels, samples were loaded with concentrated and uniform loads at different spans (see figures 1 and 2). To approximate the most severe condition, there were no attachments between the channels and the supports.

Deflection values indicated in the tables are the midspan side channel deflection produced when the allowable uniform or allowable concentrated load is placed at midspan. Load data is based on yield strength of 33,000 psi for steel, 27,000 psi for aluminum, 35,000 psi for type 304 stainless steel, and 30,000 psi for type 316-2B stainless steel.

(U) = Allowable uniform load (lbs./ft.2)

(C) = Allowable concentrated load (lbs.) applied by 2" round bar across full width of grating

(D) = Vertical deflection (inches) of side channels at mid span resulting from allowable load

## Load and deflection conversion formulas

In the elastic range, deflection is proportional to the applied load for both uniform and concentrated loads. This relationship can be used to determine the deflection that any load which is less than the allowable load will produce, (as shown in **Example A.)** If desired, the load which will produce a specific deflection can also be determined if the load is in the elastic range (as illustrated in **Example B.)**

**Example A**
What deflection will a 300 lb. midspan concentrated load produce on a plank spanning 5'-0" (part number P133011 - page 42)?

C = 1517 lbs. D = 0.09"

D @ 300 lbs. = 0.09" x (300 lbs. ÷ 1517 lbs.) = 0.02 inches

**Example B**
If a plank (part number P132011 - page 42) is spanning 7'-0", what midspan concentrated load will produce a .25" deflection?

C = 598 lbs. D = 0.27"

C @ .25" = 598 lbs. x (0.25" ÷ 0.27") = 554 lbs.

## Special note on planks

As width increases, grating surface performance becomes more critical. Thus, for Perf-O Grip grating widths greater than 12", use of the grating surface splice kit is recommended to mechanically join butt ends of plank sections.

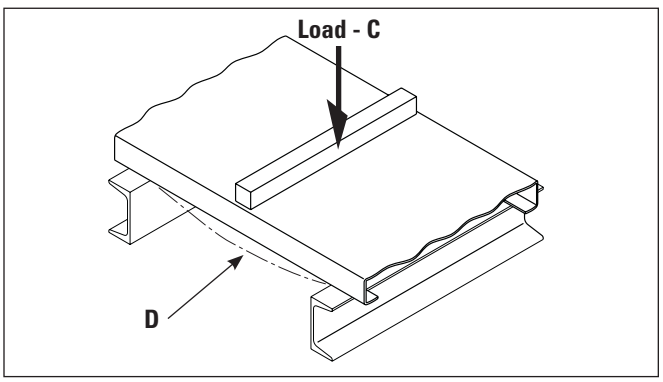



**Figure 1. Concentrated load**

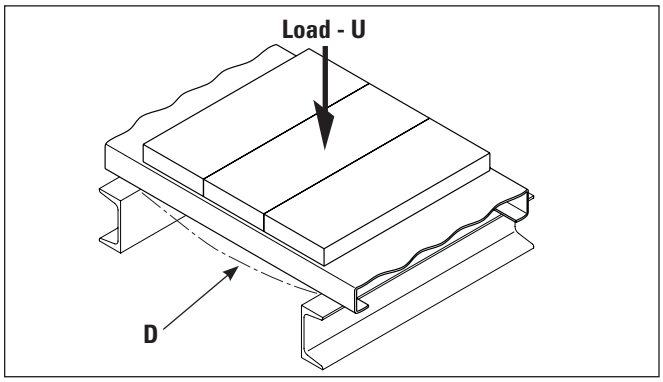
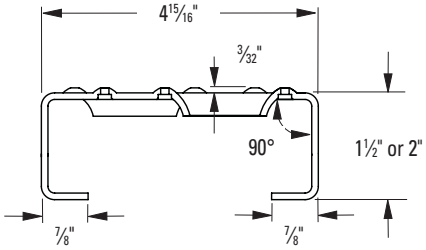
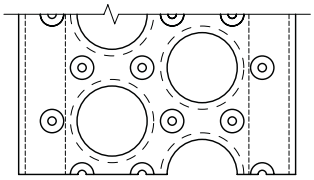


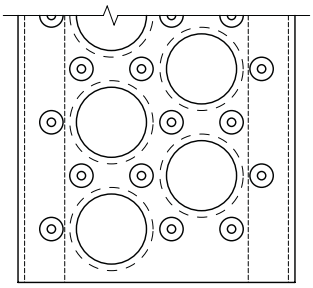

**Figure 2. Uniform load**

2-Hole plank — 5" width nominal



Perf-O Grip pattern



Perf-O Grip 2 pattern



## Plank selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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 13 ga. | 1½" (38.1) | 2.6 (3.8) | P21513† A21513 | U | 2008 | 1287 | 895 | 659 | 505 | 400 | 325 | 269 | 227 | 194 | 168 | 146 | 130 | 103 | 85 | 70 | 60 |
| | | | | D | .05 | .08 | .11 | .15 | .20 | .25 | .31 | .38 | .45 | .53 | .62 | .71 | .82 | 1.04 | 1.30 | 1.57 | 1.90 |
| | | | | C | 836 | 670 | 559 | 481 | 421 | 375 | 338 | 308 | 284 | 263 | 244 | 229 | 216 | 194 | 176 | 162 | 150 |
| | | | | D | .04 | .06 | .09 | .12 | .16 | .20 | .25 | .30 | .35 | .43 | .49 | .57 | .65 | .83 | 1.04 | 1.27 | 1.52 |
| | 2" (50.8) | 2.8 (4.1) | P22013† A22013 | U | 3035 | 1944 | 1352 | 994 | 762 | 603 | 490 | 405 | 341 | 292 | 253 | 221 | 194 | 155 | 126 | 105 | 89 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .29 | .34 | .41 | .47 | .54 | .62 | .79 | .98 | 1.20 | 1.43 |
| | | | | C | 1228 | 1003 | 845 | 725 | 635 | 566 | 510 | 465 | 427 | 395 | 368 | 344 | 324 | 290 | 263 | 240 | 223 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .19 | .23 | .28 | .32 | .38 | .43 | .50 | .63 | .79 | .96 | 1.15 |
| Alum. 0.125" | 2" (50.8) | 1.3 (1.9) | P220125† A220125 | U | 2910 | 1863 | 1294 | 950 | 728 | 575 | 466 | 385 | 323 | 276 | 237 | 207 | 182 | 143 | 116 | 96 | 81 |
| | | | | D | .08 | .12 | .18 | .24 | .32 | .40 | .50 | .60 | .72 | .84 | .98 | 1.12 | 1.27 | 1.61 | 1.99 | 2.41 | 2.87 |
| | | | | C | 1213 | 970 | 809 | 693 | 606 | 539 | 485 | 441 | 404 | 373 | 346 | 323 | 303 | 270 | 243 | 221 | 202 |
| | | | | D | .06 | .10 | .14 | .20 | .25 | .32 | .40 | .48 | .57 | .67 | .78 | .90 | 1.02 | 1.29 | 1.60 | 1.93 | 2.29 |
| Stainless Steel* 16 ga. | 2" (50.8) | 2.1 (3.1) | P22016S† | U | 2781 | 2049 | 1422 | 1046 | 800 | 632 | 512 | 424 | 355 | 303 | 262 | 227 | 200 | 159 | 128 | 106 | 89 |
| | | | | D | .05 | .08 | .12 | .16 | .21 | .26 | .32 | .39 | .46 | .54 | .63 | .72 | .82 | 1.04 | 1.28 | 1.56 | 1.85 |
| | | | | C | 1334 | 1066 | 889 | 761 | 666 | 593 | 534 | 485 | 445 | 410 | 381 | 355 | 334 | 296 | 267 | 243 | 223 |
| | | | | D | .04 | .06 | .09 | .13 | .16 | .21 | .26 | .31 | .37 | .43 | .50 | .58 | .66 | .83 | 1.03 | 1.25 | 1.48 |

Note: Also available in 11 ga.

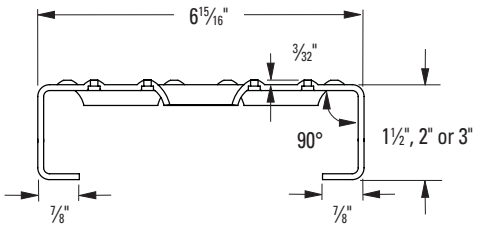
† **Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx".

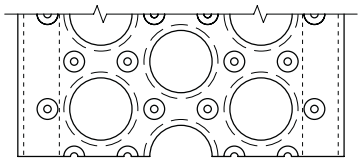
**Perf-O Grip 2**: To order Perf-O Grip 2 grating use part number "Axxxxx". End margins are standard on Perf-O Grip 2 grating 2-hole through 6-hole plank only ( 5" through 12" widths). Standard lengths are 10'-0" and 12'-0".

* Available on special order. Consult factory.

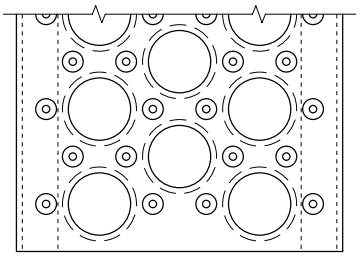
# Perf-O Grip Grating - Safe Loading Tables

## 3-Hole plank — 7" width nominal



**Perf-O Grip pattern**



**Perf-O Grip 2 pattern**

## Plank selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

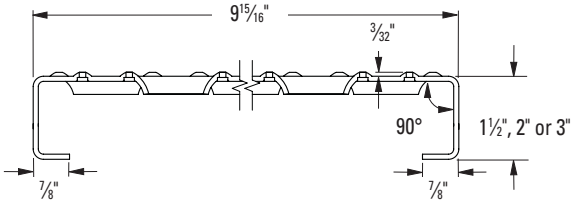
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 13 ga. | 1½" (38.1) | 3.0 (4.4) | P31513† A31513 | U | 1536 | 984 | 685 | 504 | 387 | 306 | 249 | 206 | 174 | 149 | 129 | 112 | 100 | 79 | 65 | 55 | 46 |
| | | | | D | .05 | .07 | .11 | .14 | .19 | .24 | .29 | .36 | .43 | .50 | .58 | .67 | .77 | .98 | 1.22 | 1.51 | 1.81 |
| | | | | C | 914 | 731 | 609 | 522 | 457 | 406 | 366 | 332 | 305 | 283 | 263 | 246 | 232 | 208 | 190 | 174 | 162 |
| | | | | D | .04 | .06 | .08 | .12 | .15 | .19 | .24 | .29 | .34 | .40 | .47 | .54 | .61 | .78 | .98 | 1.20 | 1.44 |
| | 2" (50.8) | 3.3 (4.9) | P32013† A32013 | U | 1965 | 1473 | 1024 | 754 | 578 | 458 | 371 | 307 | 259 | 222 | 192 | 167 | 147 | 118 | 96 | 80 | 68 |
| | | | | D | .03 | .06 | .08 | .11 | .14 | .18 | .23 | .27 | .33 | .38 | .44 | .51 | .58 | .74 | .92 | 1.13 | 1.36 |
| | | | | C | 1369 | 1096 | 913 | 783 | 685 | 609 | 548 | 498 | 456 | 421 | 391 | 366 | 344 | 308 | 279 | 257 | 237 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .18 | .22 | .26 | .31 | .35 | .41 | .47 | .59 | .74 | .90 | 1.08 |
| Steel 11 ga. | 1½" (38.1) | 4.2 (6.2) | P31511† A31511 | U | 1981 | 1269 | 883 | 650 | 498 | 394 | 320 | 265 | 224 | 191 | 165 | 144 | 128 | 101 | 83 | 69 | 59 |
| | | | | D | .05 | .07 | .11 | .15 | .19 | .24 | .30 | .36 | .43 | .51 | .59 | .68 | .78 | .98 | 1.22 | 1.50 | 1.81 |
| | | | | C | 1165 | 932 | 777 | 666 | 582 | 518 | 467 | 426 | 391 | 362 | 337 | 316 | 297 | 266 | 241 | 222 | 205 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .29 | .34 | .40 | .47 | .54 | .62 | .79 | .98 | 1.20 | 1.44 |
| | 2" (50.8) | 4.5 (6.7) | P32011† A32011 | U | 2899 | 1978 | 1375 | 1012 | 776 | 614 | 498 | 411 | 347 | 302 | 261 | 228 | 201 | 160 | 130 | 108 | 92 |
| | | | | D | .03 | .06 | .08 | .11 | .15 | .19 | .23 | .28 | .34 | .40 | .47 | .54 | .62 | .78 | .97 | 1.18 | 1.42 |
| | | | | C | 1762 | 1410 | 1175 | 1032 | 904 | 805 | 726 | 661 | 607 | 573 | 533 | 499 | 469 | 420 | 380 | 348 | 321 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .19 | .23 | .27 | .32 | .37 | .43 | .49 | .63 | .78 | .95 | 1.14 |
| | 3" (76.2) | 4.8 (7.1) | P33011† A33011 | U | 5806 | 3716 | 2581 | 1898 | 1454 | 1150 | 932 | 771 | 649 | 554 | 479 | 417 | 367 | 291 | 236 | 196 | 166 |
| | | | | D | .03 | .04 | .06 | .08 | .11 | .13 | .17 | .20 | .24 | .28 | .33 | .37 | .43 | .54 | .67 | .81 | .98 |
| | | | | C | 3188 | 2550 | 2125 | 1822 | 1594 | 1417 | 1275 | 1159 | 1132 | 1050 | 976 | 913 | 857 | 764 | 690 | 630 | 581 |
| | | | | D | .02 | .03 | .04 | .06 | .07 | .10 | .12 | .15 | .19 | .22 | .26 | .30 | .34 | .43 | .54 | .65 | .78 |
| Alum. 0.125" | 2" (50.8) | 1.5 (2.2) | P320125† A320125 | U | 2138 | 1491 | 1035 | 761 | 582 | 460 | 372 | 308 | 258 | 221 | 190 | 166 | 146 | 115 | 93 | 77 | 65 |
| | | | | D | .07 | .14 | .20 | .27 | .35 | .44 | .54 | .66 | .78 | .92 | 1.07 | 1.23 | 1.39 | 1.76 | 2.18 | 2.64 | 3.14 |
| | | | | C | 1509 | 1207 | 1006 | 862 | 755 | 671 | 604 | 549 | 503 | 464 | 431 | 402 | 377 | 335 | 302 | 274 | 252 |
| | | | | D | .07 | .11 | .16 | .21 | .28 | .35 | .44 | .53 | .63 | .74 | .85 | .98 | 1.12 | 1.41 | 1.74 | 2.11 | 2.51 |
| Stainless Steel* 16 ga. | 2" (50.8) | 2.4 (3.6) | P32016S† | U | 1419 | 1399 | 971 | 714 | 546 | 432 | 350 | 289 | 243 | 207 | 178 | 155 | 137 | 107 | 88 | 72 | 61 |
| | | | | D | .03 | .07 | .10 | .13 | .17 | .22 | .27 | .33 | .39 | .46 | .53 | .61 | .70 | .88 | 1.09 | 1.31 | 1.56 |
| | | | | C | 1275 | 1021 | 850 | 729 | 638 | 567 | 510 | 464 | 425 | 392 | 365 | 341 | 319 | 283 | 255 | 232 | 213 |
| | | | | D | .03 | .05 | .08 | .11 | .14 | .18 | .22 | .26 | .31 | .37 | .43 | .49 | .56 | .70 | .87 | 1.05 | 1.25 |

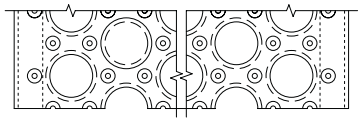
† **Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx".

**Perf-O Grip 2**: To order Perf-O Grip 2 grating use part number "Axxxxx". End margins are standard on Perf-O Grip 2 grating 2-hole through 6-hole plank only ( 5" through 12" widths). Standard lengths are 10'-0" and 12'-0".

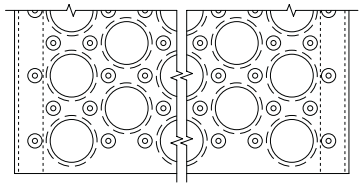
* Available on special order. Consult factory.

5-Hole plank — 10" width nominal



Perf-O Grip pattern



Perf-O Grip 2 pattern



## Plank selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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 13 ga. | 1½" (38.1) | 3.5 (5.2) | P51513† A51513 | U | 963 | 745 | 517 | 380 | 291 | 230 | 187 | 154 | 129 | 110 | 95 | 83 | 73 | 58 | 46 | 38 | 32 |
| | | | | D | .04 | .08 | .11 | .15 | .19 | .24 | .30 | .36 | .43 | .51 | .59 | .67 | .77 | .98 | 1.20 | 1.44 | 1.71 |
| | | | | C | 855 | 684 | 645 | 554 | 485 | 431 | 388 | 353 | 323 | 298 | 277 | 259 | 242 | 216 | 191 | 176 | 162 |
| | | | | D | .03 | .05 | .09 | .12 | .15 | .19 | .24 | .29 | .35 | .41 | .47 | .54 | .61 | .78 | .95 | 1.16 | 1.39 |
| | 2" (50.8) | 3.9 (5.8) | P52013† A52013 | U | 1735 | 1110 | 771 | 568 | 435 | 344 | 281 | 232 | 196 | 167 | 144 | 126 | 110 | 88 | 70 | 60 | 50 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .23 | .28 | .33. | .39 | .45 | .52 | .59 | .75 | .91 | 1.14 | 1.34 |
| | | | | C | 1297 | 1038 | 865 | 741 | 648 | 645 | 584 | 532 | 489 | 453 | 422 | 392 | 368 | 327 | 297 | 267 | 245 |
| | | | | D | .02 | .04 | .05 | .08 | .10 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .60 | .79 | .89 | 1.06 |
| Steel 11 ga. | 1½" (38.1) | 4.5 (6.7) | P51511† A51511 | U | 1385 | 888 | 618 | 455 | 349 | 276 | 225 | 186 | 157 | 134 | 117 | 101 | 90 | 71 | 59 | 48 | 41 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .29 | .35 | .41 | .49 | .57 | .65 | .75 | .95 | 1.20 | 1.45 | 1.74 |
| | | | | C | 1086 | 888 | 772 | 663 | 582 | 518 | 467 | 426 | 392 | 363 | 338 | 318 | 299 | 268 | 244 | 225 | 205 |
| | | | | D | .03 | .05 | .08 | .11 | .15 | .18 | .23 | .28 | .33 | .39 | .45 | .52 | .60 | .76 | .96 | 1.17 | 1.39 |
| | 2" (50.8) | 5.1 (7.6) | P52011† A52011 | U | 2261 | 1447 | 1005 | 739 | 567 | 449 | 364 | 300 | 253 | 216 | 186 | 162 | 142 | 112 | 91 | 75 | 63 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .19 | .23 | .28 | .33 | .39 | .45 | .52 | .59 | .75 | .92 | 1.12 | 1.32 |
| | | | | C | 1670 | 1336 | 1113 | 954 | 888 | 823 | 758 | 689 | 631 | 583 | 541 | 505 | 473 | 421 | 378 | 344 | 316 |
| | | | | D | .02 | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .27 | .31 | .36 | .42 | .47 | .60 | .74 | .89 | 1.06 |
| | 3" (76.2) | 5.1 (7.6) | P53011† A53011 | U | 4214 | 2697 | 1873 | 1376 | 1053 | 832 | 674 | 557 | 468 | 399 | 344 | 300 | 263 | 208 | 168 | 139 | 117 |
| | | | | D | .03 | .04 | .06 | .08 | .10 | .13 | .16 | .19 | .23 | .27 | .31 | .35 | .41 | .52 | .64 | .77 | .92 |
| | | | | C | 3095 | 2476 | 2064 | 1769 | 1548 | 1376 | 1238 | 1126 | 1032 | 952 | 927 | 902 | 878 | 781 | 702 | 638 | 585 |
| | | | | D | .02 | .03 | .04 | .05 | .07 | .08 | .11 | .14 | .16 | .19 | .24 | .28 | .33 | .41 | .51 | .62 | .74 |
| Alum. 0.125" | 2" (50.8) | 1.8 (2.7) | P520125† A520125 | U | 1048 | 1022 | 710 | 522 | 400 | 316 | 256 | 212 | 178 | 153 | 131 | 115 | 101 | 80 | 65 | 54 | 46 |
| | | | | D | .05 | .12 | .18 | .24 | .31 | .40 | .49 | .59 | .71 | .83 | .96 | 1.10 | 1.26 | 1.59 | 1.96 | 2.37 | 2.83 |
| | | | | C | 1431 | 1145 | 954 | 818 | 715 | 636 | 572 | 520 | 477 | 440 | 409 | 382 | 358 | 318 | 286 | 260 | 238 |
| | | | | D | .06 | .09 | .13 | .19 | .25 | .32 | .39 | .47 | .57 | .66 | .77 | .88 | 1.00 | 1.27 | 1.57 | 1.90 | 2.26 |
| Stainless Steel* 16 ga. | 2" (50.8) | 2.7 (4.0) | P52016S† | U | 1418 | 907 | 630 | 463 | 354 | 280 | 226 | 187 | 158 | 134 | 115 | 101 | 88 | 70 | 57 | 47 | 39 |
| | | | | D | .04 | .07 | .10 | .13 | .17 | .21 | .26 | .32 | .38 | .44 | .52 | .59 | .67 | .85 | 1.06 | 1.28 | 1.50 |
| | | | | C | 1148 | 918 | 765 | 656 | 574 | 510 | 459 | 430 | 393 | 363 | 337 | 315 | 295 | 263 | 237 | 215 | 197 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .26 | .30 | .36 | .41 | .48 | .54 | .69 | .85 | 1.02 | 1.22 |

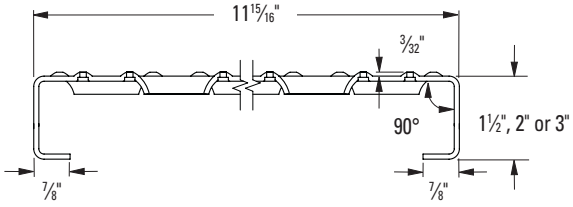
† **Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx".

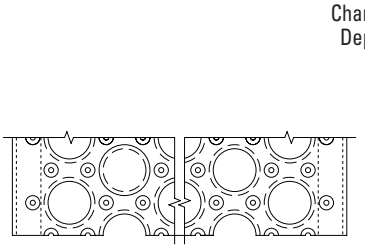
**Perf-O Grip 2**: To order Perf-O Grip 2 grating use part number "Axxxxx". End margins are standard on Perf-O Grip 2 grating 2-hole through 6-hole plank only ( 5" through 12" widths). Standard lengths are 10'-0" and 12'-0".

* Available on special order. Consult factory.

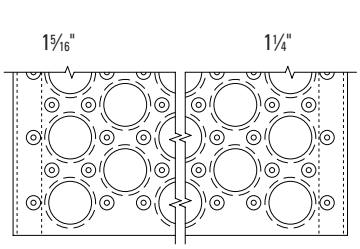
# Perf-O Grip Grating - Safe Loading Table

## 6-Hole plank — 12" width nominal




**Perf-O Grip pattern**




**Perf-O Grip 2 pattern**



## Plank selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

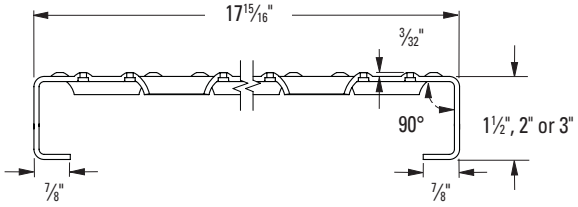
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 13 ga. | 1½" (38.1) | 4.3 (6.4) | P61513† | U | 669 | 655 | 456 | 336 | 258 | 204 | 166 | 138 | 117 | 100 | 87 | 76 | 67 | 54 | 44 | 37 | 31 |
| | | | | D | .03 | .07 | .10 | .13 | .17 | .22 | .27 | .33 | .40 | .47 | .55 | .63 | .72 | .92 | 1.16 | 1.43 | 1.68 |
| | | | A61513 | C | 960 | 819 | 684 | 588 | 516 | 460 | 416 | 380 | 349 | 325 | 303 | 285 | 268 | 241 | 218 | 198 | 182 |
| | | | | D | .03 | .05 | .08 | .11 | .14 | .18 | .22 | .26 | .32 | .37 | .44 | .50 | .58 | .74 | .91 | 1.11 | 1.32 |
| | 2" (50.8) | 4.6 (6.8) | P62013† | U | 1510 | 966 | 671 | 493 | 378 | 299 | 243 | 201 | 170 | 145 | 126 | 110 | 97 | 77 | 63 | 53 | 45 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .16 | .20 | .25 | .29 | .35 | .40 | .46 | .53 | .68 | .85 | 1.03 | 1.25 |
| | | | A62013 | C | 1442 | 1154 | 961 | 862 | 756 | 673 | 608 | 555 | 509 | 472 | 440 | 413 | 388 | 349 | 317 | 291 | 270 |
| | | | | D | .02 | .04 | .06 | .08 | .10 | .13 | .16 | .20 | .23 | .28 | .32 | .37 | .42 | .54 | .67 | .82 | .99 |
| Steel 11 ga. | 1½" (38.1) | 5.3 (7.9) | P61511† | U | 986 | 739 | 515 | 378 | 291 | 230 | 188 | 156 | 131 | 112 | 97 | 85 | 75 | 60 | 50 | 41 | 35 |
| | | | | D | .03 | .06 | .09 | .12 | .16 | .21 | .25 | .31 | .37 | .43 | .50 | .57 | .65 | .82 | 1.02 | 1.25 | 1.50 |
| | | | A61511 | C | 1231 | 985 | 821 | 703 | 615 | 547 | 492 | 448 | 410 | 379 | 352 | 328 | 308 | 274 | 246 | 227 | 210 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .16 | .20 | .25 | .29 | .34 | .40 | .46 | .52 | .66 | .81 | 1.00 | 1.20 |
| | 2" (50.8) | 5.5 (8.2) | P62011† | U | 1937 | 1240 | 861 | 633 | 486 | 385 | 312 | 259 | 218 | 186 | 161 | 140 | 124 | 99 | 80 | 67 | 57 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .16 | .20 | .24 | .29 | .34 | .40 | .46 | .52 | .67 | .83 | 1.01 | 1.22 |
| | | | A62011 | C | 1881 | 1505 | 1292 | 1109 | 971 | 865 | 781 | 712 | 654 | 604 | 563 | 527 | 496 | 444 | 403 | 389 | 341 |
| | | | | D | .02 | .04 | .06 | .08 | .10 | .13 | .16 | .20 | .23 | .27 | .32 | .37 | .42 | .54 | .67 | .81 | .98 |
| | 3" (76.2) | 6.2 (9.2) | P63011† | U | 3828 | 2450 | 1701 | 1250 | 957 | 757 | 614 | 507 | 427 | 365 | 315 | 274 | 242 | 192 | 156 | 130 | 108 |
| | | | | D | .02 | .04 | .05 | .07 | .10 | .12 | .15 | .18 | .22 | .25 | .29 | .34 | .39 | .49 | .61 | .74 | .87 |
| | | | A63011 | C | 3448 | 2759 | 2299 | 1971 | 1724 | 1533 | 1405 | 1396 | 1282 | 1185 | 1102 | 1030 | 968 | 864 | 781 | 714 | 652 |
| | | | | D | .02 | .02 | .04 | .05 | .07 | .09 | .11 | .14 | .17 | .20 | .24 | .27 | .31 | .39 | .49 | .59 | .70 |
| Alum. 0.125" | 2" (50.8) | 2.1 (3.1) | P620125† | U | 1463 | 936 | 650 | 478 | 366 | 290 | 235 | 194 | 163 | 140 | 120 | 104 | 93 | 73 | 60 | 49 | 41 |
| | | | | D | .08 | .12 | .17 | .23 | .30 | .38 | .47 | .57 | .68 | .79 | .92 | 1.05 | 1.20 | 1.52 | 1.88 | 2.27 | 2.70 |
| | | | A620125 | C | 1612 | 1290 | 1075 | 921 | 806 | 716 | 645 | 586 | 537 | 496 | 461 | 430 | 403 | 358 | 322 | 293 | 269 |
| | | | | D | .06 | .09 | .14 | .18 | .24 | .30 | .38 | .45 | .54 | .63 | .74 | .84 | .96 | 1.22 | 1.50 | 1.82 | 2.16 |
| Stainless Steel* 16 ga. | 2" (50.8) | 3.2 (4.7) | P62016S† | U | 1289 | 825 | 573 | 421 | 322 | 255 | 206 | 170 | 143 | 122 | 105 | 91 | 80 | 64 | 51 | 42 | 35 |
| | | | | D | .04 | .07 | .10 | .13 | .17 | .22 | .27 | .33 | .39 | .46 | .53 | .61 | .69 | .88 | 1.08 | 1.30 | 1.54 |
| | | | | C | 1252 | 1002 | 835 | 715 | 626 | 556 | 501 | 469 | 430 | 397 | 368 | 343 | 322 | 286 | 257 | 234 | 215 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .17 | .21 | .26 | .31 | .37 | .42 | .49 | .55 | .70 | .86 | 1.05 | 1.25 |

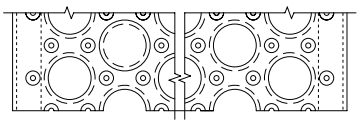
† **Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx".

**Perf-O Grip 2**: To order Perf-O Grip 2 grating use part number "Axxxxx". End margins are standard on Perf-O Grip 2 grating 2-hole through 6-hole plank only ( 5" through 12" widths). Standard lengths are 10'-0" and 12'-0".

* Available on special order. Consult factory.

10-Hole plank — 18" width nominal



Perf-O Grip pattern



## Plank selection/design tables

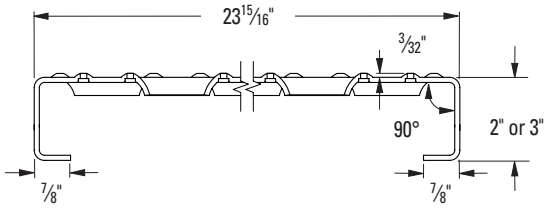
Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

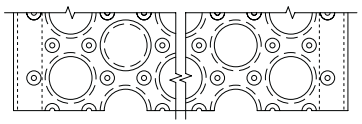
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
| Steel* 13 ga. | 1½" (38.1) | 5.7 (8.5) | P101513 | U | 714 | 457 | 317 | 233 | 179 | 142 | 116 | 96 | 82 | 69 | 60 | 52 | 45 | 36 | 29 | 24 | 21 |
| | | | | D | .04 | .07 | .10 | .13 | .17 | .21 | .26 | .32 | .39 | .45 | .52 | .60 | .68 | .86 | 1.05 | 1.27 | 1.56 |
| | | | | C | 964 | 771 | 642 | 551 | 495 | 481 | 434 | 397 | 366 | 337 | 314 | 293 | 274 | 243 | 220 | 199 | 183 |
| | | | | D | .03 | .04 | .07 | .09 | .12 | .17 | .21 | .26 | .31 | .36 | .42 | .48 | .55 | .69 | .85 | 1.03 | 1.23 |
| | 2" (50.8) | 6.0 (8.9) | P102013 | U | 1072 | 686 | 476 | 350 | 268 | 212 | 173 | 143 | 121 | 103 | 90 | 78 | 69 | 55 | 44 | 36 | 31 |
| | | | | D | .03 | .05 | .07 | .10 | .13 | .16 | .20 | .24 | .29 | .34 | .40 | .46 | .53 | .67 | .82 | .98 | 1.19 |
| | | | | C | 1452 | 1162 | 968 | 830 | 726 | 645 | 581 | 528 | 509 | 489 | 470 | 439 | 411 | 366 | 329 | 299 | 274 |
| | | | | D | .02 | .03 | .05 | .06 | .09 | .12 | .14 | .17 | .22 | .27 | .32 | .37 | .42 | .53 | .65 | .79 | .94 |
| Steel 11 ga. | 1½" (38.1) | 6.8 (10.1) | P101511 | U | 781 | 500 | 347 | 255 | 196 | 156 | 127 | 105 | 89 | 76 | 66 | 58 | 52 | 41 | 34 | 29 | 25 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .29 | .34 | .40 | .47 | .53 | .61 | .77 | .96 | 1.20 | 1.45 |
| | | | | C | 1257 | 1006 | 838 | 718 | 629 | 559 | 503 | 457 | 419 | 387 | 359 | 335 | 314 | 279 | 253 | 234 | 219 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .19 | .23 | .27 | .32 | .37 | .43 | .49 | .62 | .76 | .94 | 1.14 |
| | 2" (50.8) | 7.1 (10.5) | P102011 | U | 1250 | 800 | 555 | 408 | 314 | 249 | 201 | 167 | 141 | 121 | 104 | 91 | 80 | 64 | 53 | 44 | 37 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .18 | .22 | .26 | .31 | .35 | .41 | .46 | .59 | .74 | .91 | 1.08 |
| | | | | C | 1924 | 1539 | 1283 | 1099 | 962 | 855 | 770 | 700 | 641 | 592 | 550 | 514 | 484 | 434 | 395 | 363 | 337 |
| | | | | D | .02 | .04 | .05 | .07 | .09 | .12 | .14 | .17 | .21 | .24 | .28 | .33 | .37 | .48 | .59 | .73 | .87 |
| | 3" (76.2) | 7.9 (11.7) | P103011 | U | 2675 | 1712 | 1189 | 873 | 669 | 528 | 428 | 354 | 297 | 254 | 219 | 190 | 167 | 132 | 107 | 89 | 74 |
| | | | | D | .02 | .04 | .05 | .07 | .09 | .11 | .14 | .17 | .20 | .24 | .28 | .31 | .36 | .45 | .56 | .68 | .81 |
| | | | | C | 3531 | 2825 | 2354 | 2018 | 1766 | 1569 | 1412 | 1284 | 1177 | 1141 | 1106 | 1070 | 1003 | 892 | 802 | 730 | 669 |
| | | | | D | .01 | .02 | .03 | .04 | .06 | .08 | .10 | .12 | .14 | .20 | .23 | .25 | .29 | .36 | .45 | .54 | .65 |
| Alum.* 0.125" | 2" (50.8) | 2.8 (4.1) | P1020125 | U | 992 | 635 | 441 | 324 | 248 | 196 | 158 | 131 | 110 | 94 | 81 | 70 | 62 | 49 | 40 | 33 | 27 |
| | | | | D | .07 | .10 | .16 | .21 | .28 | .35 | .44 | .53 | .63 | .74 | .86 | .98 | 1.12 | 1.42 | 1.75 | 2.11 | 2.52 |
| | | | | C | 1652 | 1322 | 1102 | 944 | 826 | 734 | 661 | 601 | 551 | 508 | 472 | 441 | 413 | 367 | 330 | 300 | 275 |
| | | | | D | .05 | .08 | .13 | .17 | .22 | .28 | .35 | .42 | .50 | .59 | .69 | .79 | .89 | 1.13 | 1.40 | 1.69 | 2.01 |

* Available on special order. Consult factory.

# Perf-O Grip Grating - Safe Loading Table

13-Hole plank — 24" width nominal



**Perf-O Grip pattern**

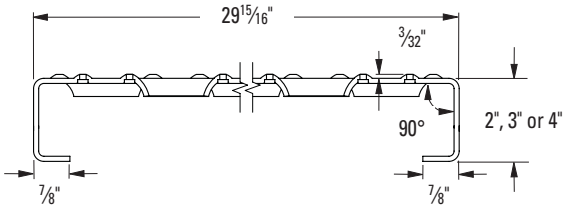
## Plank selection/design tables

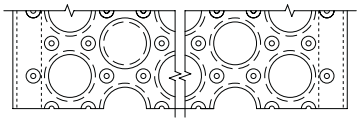
Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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 11 ga. | 2" (50.8) | 8.9 (13.2) | P132011 | U | 1094 | 700 | 486 | 357 | 273 | 216 | 175 | 145 | 123 | 105 | 91 | 79 | 70 | 56 | 45 | 38 | 33 |
| | | | | D | .03 | .05 | .06 | .09 | .12 | .15 | .18 | .22 | .26 | .31 | .36 | .41 | .47 | .60 | .75 | .92 | 1.13 |
| | | | | C | 2092 | 1674 | 1395 | 1196 | 1046 | 930 | 837 | 761 | 697 | 644 | 598 | 558 | 540 | 504 | 459 | 423 | 393 |
| | | | | D | .02 | .03 | .05 | .06 | .09 | .11 | .14 | .17 | .20 | .23 | .27 | .31 | .37 | .49 | .61 | .74 | .90 |
| | 3" (76.2) | 9.8 (14.5) | P133011 | U | 1971 | 1261 | 876 | 644 | 493 | 389 | 315 | 261 | 219 | 187 | 161 | 141 | 124 | 99 | 80 | 67 | 57 |
| | | | | D | .02 | .03 | .04 | .06 | .08 | .10 | .12 | .15 | .18 | .21 | .24 | .28 | .32 | .40 | .50 | .61 | .73 |
| | | | | C | 3792 | 3033 | 2528 | 2167 | 1896 | 1685 | 1517 | 1379 | 1264 | 1167 | 1083 | 1011 | 948 | 843 | 758 | 689 | 632 |
| | | | | D | .01 | .02 | .03 | .04 | .05 | .07 | .09 | .10 | .12 | .15 | .17 | .19 | .22 | .30 | .38 | .46 | .54 |

**Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx". Standard lengths are 10'-0" and 12'-0".

16-Hole plank — 30" width nominal



**Perf-O Grip pattern**



## Plank selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

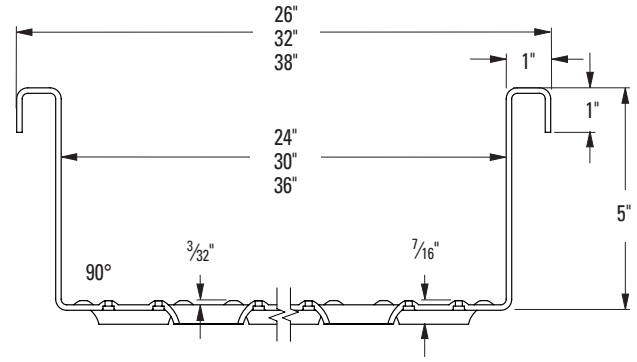
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 11 ga. | 2" (50.8) | 11.8 (17.5) | P162011* | U | 956 | 612 | 425 | 312 | 239 | 189 | 153 | 126 | 106 | 91 | 77 | 68 | 60 | 47 | 38 | 32 | 27 |
| | | | | D | .02 | .03 | .04 | .05 | .07 | .09 | .11 | .13 | .16 | .18 | .21 | .24 | .28 | .35 | .43 | .52 | .62 |
| | | | | C | 2564 | 2051 | 1709 | 1465 | 1282 | 1140 | 1026 | 932 | 855 | 789 | 733 | 684 | 641 | 570 | 513 | 466 | 427 |
| | | | | D | .01 | .02 | .03 | .04 | .06 | .07 | .09 | .10 | .12 | .15 | .17 | .20 | .22 | ,28 | .35 | .42 | .50 |
| | 3" (76.2) | 12.7 (18.9) | P163011* | U | 1413 | 904 | 628 | 461 | 353 | 279 | 226 | 187 | 157 | 134 | 116 | 100 | 89 | 70 | 57 | 46 | 39 |
| | | | | D | .02 | .03 | .04 | .06 | .08 | .10 | .12 | .14 | .17 | .20 | .23 | .26 | .30 | .38 | .47 | .57 | .67 |
| | | | | C | 3802 | 3041 | 2534 | 2172 | 1901 | 1690 | 1521 | 1382 | 1267 | 1170 | 1086 | 1014 | 950 | 845 | 760 | 691 | 634 |
| | | | | D | .01 | .02 | .03 | .04 | .05 | .07 | .09 | .10 | .12 | .14 | .17 | .19 | .22 | .28 | .34 | .41 | .53 |
| | 4" (101.6) | 13.5 (20.1) | P164011* | U | 2240 | 1434 | 996 | 731 | 560 | 443 | 358 | 296 | 249 | 212 | 183 | 159 | 140 | 111 | 91 | 75 | 64 |
| | | | | D | .01 | .02 | .03 | .04 | .06 | .07 | .09 | .11 | .13 | .15 | .17 | .20 | .23 | .29 | .36 | .44 | .52 |
| | | | | C | 5838 | 4670 | 3892 | 3336 | 2919 | 2595 | 2335 | 2123 | 1946 | 1796 | 1668 | 1557 | 1459 | 1297 | 1168 | 1061 | 973 |
| | | | | D | .01 | .02 | .02 | .03 | .04 | .05 | .07 | .08 | .09 | .11 | .13 | .15 | .17 | .21 | .26 | .32 | .38 |

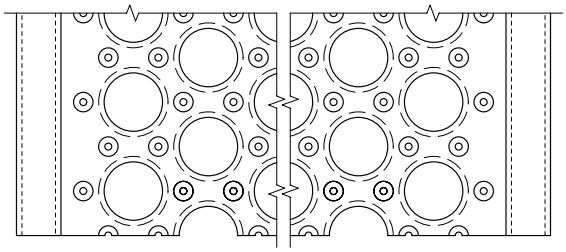
**Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx". Standard lengths are 10'-0" and 12'-0".

* Available on special order. Consult factory.

# Perf-O Grip Grating - Safe Loading Tables

## Walkway — 24", 30" & 36" widths nominal



**Perf-O Grip pattern**



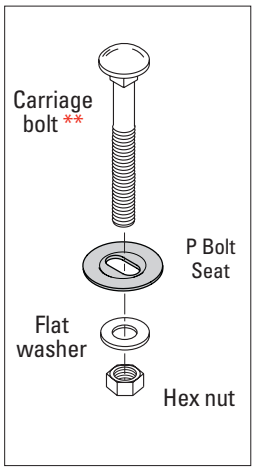
## Walkway selection/design tables (Note: consult factory for data on 36" width, 20 hole)

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Deft. Code | 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 11 ga. 24" wide (609.6) | 5" (127.0) | 11.8 (17.5) | P135011W | U | 5751 | 3681 | 2556 | 1878 | 1438 | 1136 | 920 | 760 | 639 | 544 | 469 | 409 | 359 | 284 | 230 | 190 | 160 |
| | | | | D | .02 | .02 | .04 | .05 | .06 | .08 | .10 | .12 | .14 | .16 | .19 | .22 | .25 | .31 | .39 | .47 | .56 |
| | | | | C | 9504 | 7603 | 6336 | 5431 | 4752 | 4224 | 3802 | 3456 | 3168 | 2924 | 2715 | 2534 | 2376 | 2112 | 1901 | 1728 | 1584 |
| | | | | D | .01 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .10 | .11 | .13 | .15 | .19 | .23 | .28 | .34 |
| Steel 11 ga. 30" wide (762.0) | 5" (127.0) | 13.6 (20.2) | P165011W | U | 3868 | 2475 | 1719 | 1263 | 967 | 764 | 619 | 511 | 430 | 366 | 316 | 275 | 242 | 191 | 155 | 128 | 107 |
| | | | | D | .01 | .02 | .03 | .04 | .05 | .06 | .08 | .10 | .12 | .13 | .16 | .18 | .20 | .26 | .32 | .39 | .46 |
| | | | | C | 9534 | 7627 | 6356 | 5448 | 4767 | 4237 | 3813 | 3467 | 3178 | 2933 | 2724 | 2542 | 2383 | 2119 | 1907 | 1733 | 1589 |
| | | | | D | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .10 | .11 | .13 | .15 | .19 | .23 | .28 | .33 |

**Perf-O Grip**: To order standard Perf-O Grip grating use part number "Pxxxxx".
Standard lengths are 10'-0" and 12'-0". Longer lengths of 20'-0" and 24'-0" are available. Consult factory.

## Perf-O Grip bolt washer seat




**Part number includes**
(1) Bolt washer seat (PBOLTSEAT)

**Source Locally**
(1) 3⁄8"-16 Carriage bolt **
(1) 3⁄8" Flat washer
(1) 3⁄8"-16 Hex nut

** Plank carriage bolt lengths = Side channel height + 1"
Walkway carriage bolt = 5⁄16"-18 x 2"

**Bolt Washer Seat (P Bolt Seat)**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251626616 | PBOLTSEAT | 0.10 |

**Field drilling is required.**

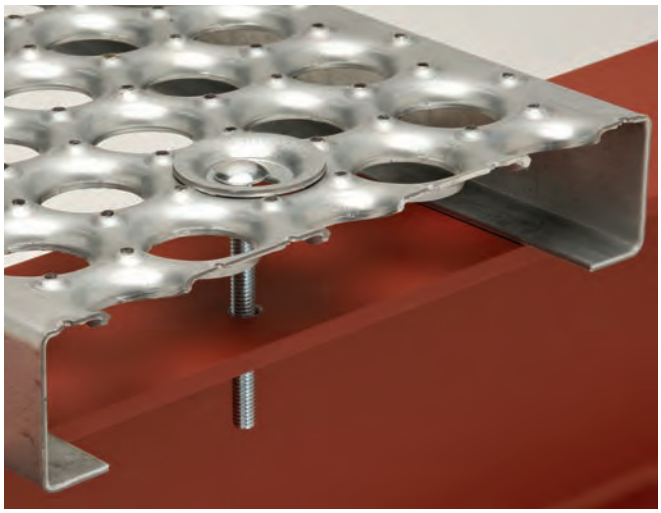
Perf-O Grip bolt seats help provide a secure anchor of the grating to structural supports. The standard bolt seat features oblong holes specifically designed to help ensure a vertical anchor (with a 3⁄8" bolt) even if the hole is off concentrically by as much as 1⁄4".

Hardware is not provided.



## Assembly

1. Align Perf-O Grip™ planks on I-beam or other anchoring cross-member.
2. Mark the I-beam for drilling purposes under the Perf-O Grip hole nearest the end. Drill a pilot hole.
3. Remove Perf-O Grip plank and drill a finish hole.
4. Replace Perf-O Grip plank to its original position. Place bolt seat in the Perf-O Grip hole which is now lined up with the drilled hole.
5. Run the carriage bolt through the bolt seat, Perf-O Grip and I-Beam, and tighten with washer and nut until secure.
6. Test for movement or slippage. If Perf-O Grip planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 5.



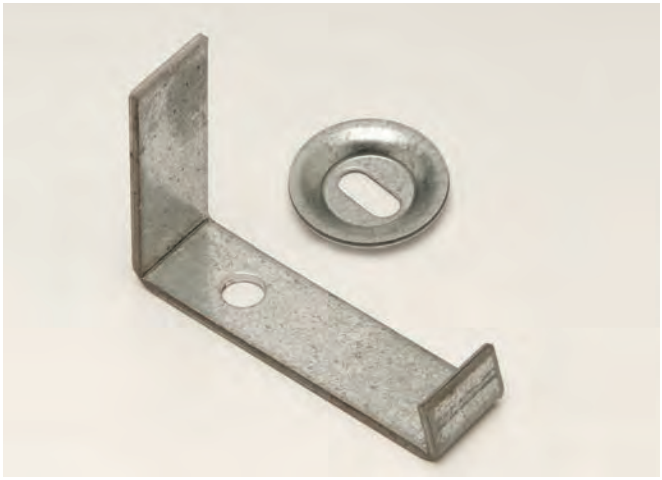
## Welding

A common method of fastening safety grating is welding. It is recommended that all B-Line series safety grating products be fillet welded per AWS D1.3. For more information, consult technical services.

**Note: Do not walk on Perf-O Grip planks if they are not secure. Serious injury could result.**

# Perf-O Grip Grating - Safe Loading Tables

## Perf-O Grip J-clip



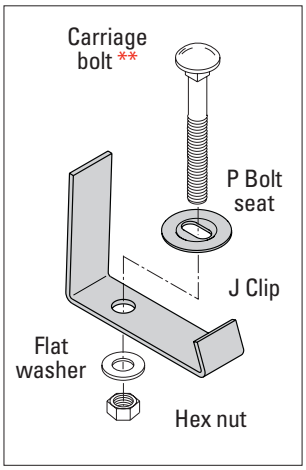
Perf-O Grip™ J-clips fasten the grating securely to the supporting steel without drilling holes.

Standard finish is galvanized.

Hardware is not provided.

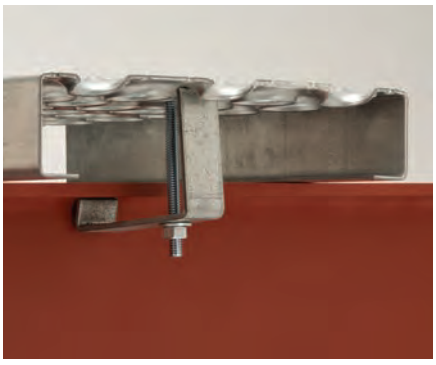
**Part number includes**
(1) J-Clip & (1) P Bolt Seat

**Source Locally**
(1) 3⁄8"-16 Carriage bolt **
(1) 3⁄8" Flat washer
(1) 3⁄8"-16 Hex nut




** Plank carriage bolt lengths = Side channel height + 1"
walkway carriage bolt = 5⁄16"-18 x 2"

| Seated J Clip | | |
|---|---|---|
| **UPC Number** | **Catalog Number** | **Wt./Ea.** |
| 78205153667 | **JCLIP** | 0.30 |



**Note:** Stainless is unavailable.

### Assembly

1. Align Perf-O Grip planks on I-beam or other anchoring cross-member.
2. Place bolt seat on center hole of Perf-O Grip nearest the overhanging end.
3. Align J-clip below Perf-O Grip plank so that the carriage bolt can slide through. Make sure the lower lip of the J-clip reaches well into the I-beam.
4. Run the carriage bolt through the bolt seat to the J-clip and tighten securely with the washer and nut.
5 Test for movement or slippage. If Perf-O Grip planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 4.

### Welding

A common method of fastening safety grating is welding. It is recommended that all B-Line series safety grating products be fillet welded per AWS D1.3. For more information, consult technical services.

**Note: Do not walk on Perf-O Grip planks if they are not secure. Serious injury could result.**

## Perf-O Grip mid support clip with hardware

**Part number includes**
(1) Clip & (2) Set Screws

Perf-O Grip™ mid support clips can be used at midspan to increase load carrying capacities of individual channels by fastening several planks together to form an integral section. Mid support clip is manufactured from galvanized steel and includes two set screws.

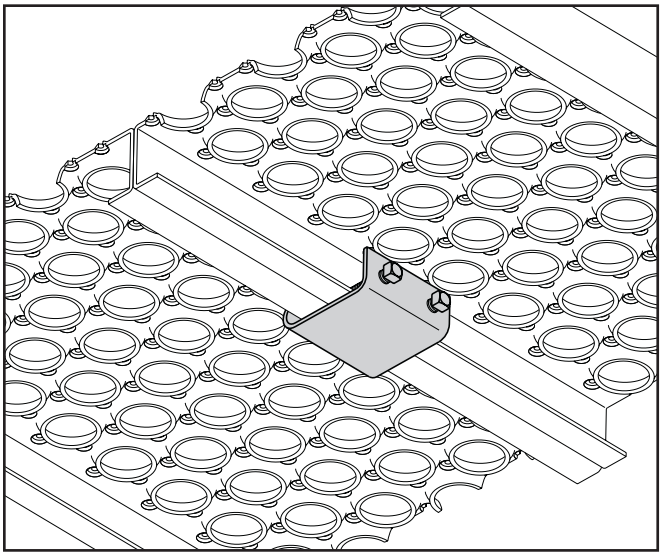
**Mid Support Clip (with hardware)**

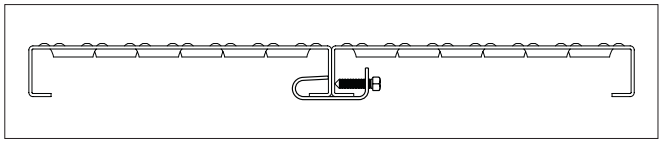
| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251639386 | **MSCLIP** | 0.50 |



### Assembly

1. Align Perf-O Grip planks on I-beam or other anchoring cross-member.
2. Place clip around the bottom flanges of the Perf-O Grip planks.
3. Slide to the required location.
4. Tighten the set screws.
5. Test for movement or slippage. If Perf-O Grip planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 4 as required.



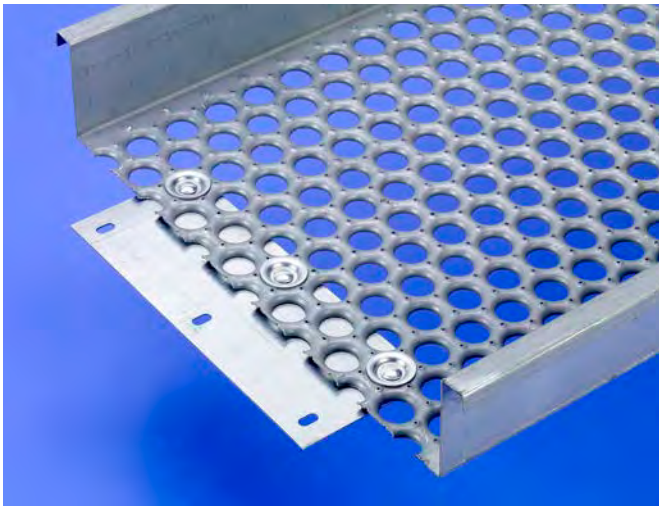


### Welding

A common method of fastening safety grating is welding. It is recommended that all B-Line series safety grating products be fillet welded per AWS D1.3. For more information, consult technical services.

**Note: Do not walk on Perf-O Grip planks if they are not secure. Serious injury could result.**

## Perf-O Grip splice plate kits



POG-ES-10 shown

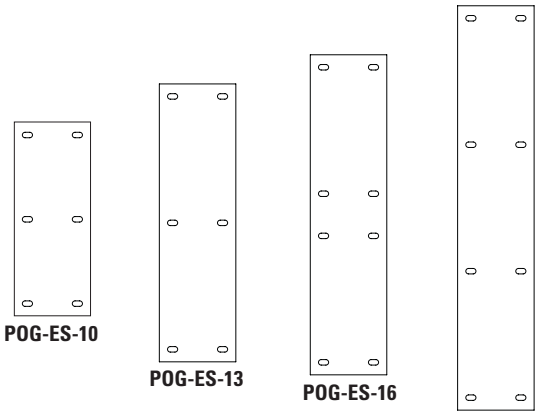
### Surface splice plate kits

As width increases, grating surface performance becomes more critical. Thus, for Perf-O Grip™ product widths greater than 12", use of the grating surface splice kit is recommended to mechanically join butt ends of plank sections.

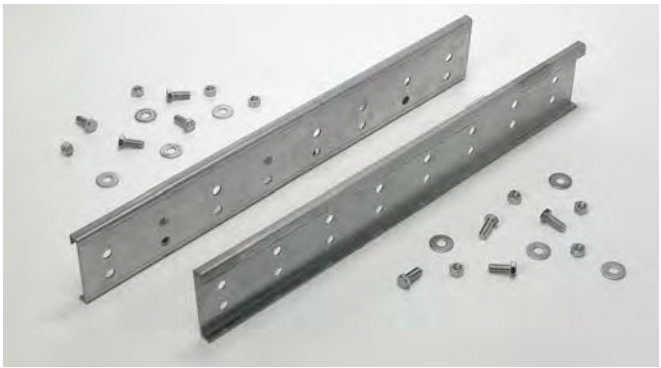
- **POG-ES-10** (for 18" wide plank) & **POG-ES-13** (for 24" wide plank) includes six (6) each of hardware shown below.
- **POG-ES-16** (for 30" wide plank) & POG-ES-20 (for 36" wide plank) includes eight (8) each of hardware shown below.
- **Hardware included:** ⅜" x 1" carriage bolts, ⅜" flat washers and bolt seats.

**Perf-O Grip splice plate kits**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251640777 | POG-ES-10 | 4.40 |
| 66251640778 | POG-ES-13 | 5.95 |
| 66251640779 | POG-ES-16 | 7.00 |
| 78205167734 | POG-ES-20 | 7.24 |



POG-ES-10 POG-ES-13 POG-ES-16 POG-ES-20



POG-WS-30

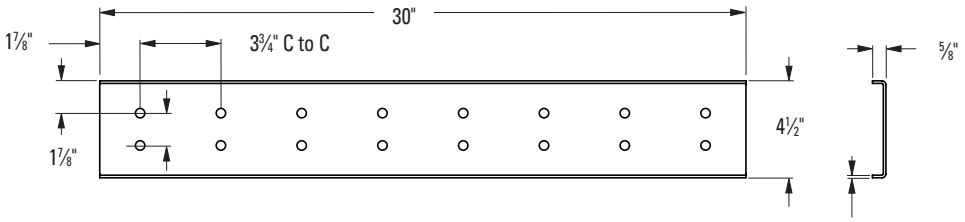
### Walkway splice plate kits

Walkway splice plates provide continuity when multiple lengths of Perf-O Grip are desired. Connections are reinforced with the addition of splice plates attached to side channels.

- **POG-WS-30** for 24", 30" and 36" wide walkway.
- **Each kit includes:** two (2) splice plates and thirty-two (32) each of the following hardware: ½" x 1¼" hex bolts, ½"-13 hex nuts and ½" flat washers.

**Walkway splice plate kits**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 78205166238 | POG-WS-30 | 18.04` |



## Perf-O Grip stair treads

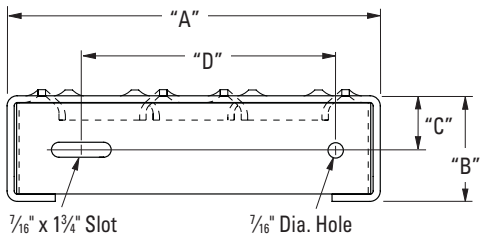
Specify original Perf-O Grip™ or Perf-O Grip 2 stair treads. All treads have welded ends for attachment to stringers.

- Mill-galvanized steel: 11 ga and 13 ga.
- Hot rolled, pickled and oiled carbon steel: 11 ga. and 13 ga.
- 24", 30", 36" and 48" lengths.
- 5", 7" 10" and 12" (nominal) widths.
- 1½" and 2" channel heights.
- For stair treads, intermediate stringer is recommended for spans over 4 feet.

## Perf-O Grip carrier plates

Carrier plates allow you to create your own custom stair treads. They are sold by the pair.

(2 plates = one pair).




**Perf-O Grip carrier plate**

| Product | Nominal Width | "A" | "B" | "C" | "D" |
|---|---|---|---|---|---|
| 2-Hole Tread | 5" (127mm) | 4 15/16" (125mm) | 1½" (38mm) | ¾" (19mm) | 2" (51mm) |
| | | 4 15/16" (125mm) | 2" (51mm) | 1" (25mm) | 2" (51mm) |
| 3-Hole Tread | 7" (178mm) | 6 15/16" (176mm) | 1½" (38mm) | ¾" (19mm) | 4" (102mm) |
| | | 6 15/16" (176mm) | 2" (51mm) | 1" (25mm) | 4" (102mm) |
| 5-Hole Tread | 10" (254mm) | 9 15/16" (254mm) | 1½" (38mm) | ¾" (19mm) | 7" (178mm) |
| | | 9 15/16" (254mm) | 2" (51mm) | 1" (25mm) | 7" (178mm) |
| 6-Hole Tread | 12" (305mm) | 11 15/16" (303mm) | 1½" (38mm) | ¾" (19mm) | 9" (227mm) |
| | | 11 15/16" (303mm) | 2" (51mm) | 1" (25mm) | 9" (227mm) |

## Notes to architect

1. Perf-O Grip™ and Perf-O Grip 2 gratings are intended for general purpose use in plants and process facilities by industry, commerce, and public utilities, and on air, water, and surface, for both mobile and stationary equipment.
2. Perf-O Grip and Perf-O Grip 2 stair treads are intended for utility stairs and fire escapes in commercial, public and private buildings where local code permits. They are not intended for staircases used regularly by the general public where flat closed surfaces are desired. For this type of application, see Traction-Tread™ stair treads and sheets.
3. These specifications are presented as a general guide to the architect or structural engineer in preparing project specifications. Allowable loads, spans and other limiting conditions presented in this catalog offer product data for use in design and construction.
4. All supports should provide a smooth, level, 1½" minimum bearing surface, free of burrs, bridging, welds or other irregularities.
5. Random cut ends and diagonal or circular cut exposed edges should be banded with a bar at least ⅛" thick and equal to the overall side channel depth of grating welded at contact points at the discretion of the design engineer.
6. Bolted connections, except stair or ladder tread attachment to stringer channels, may be replaced by welded connections that develop the same strength.

## Part 1: General

### 1.1 Scope

The contractor shall furnish and install Perf-O Grip and Perf-O Grip 2 Gratings and Stair Treads, as specified and shown on the drawings.

### 1.2 Qualifications

Perf-O Grip and Perf-O Grip 2 gratings, stair tread and accessories, unless otherwise indicated, shall be manufactured by Eaton's B-Line Division, and shall be installed in accordance with its current printed directions.

Safety surface shall be slip-resistant in all directions.

### 1.3 Submittals

The contractor shall furnish shop drawings of grating layout, framing and supports, unit dimensions and sections, type and location of fasteners and welds.

### 1.4 Storage and handling

All materials shall be stored and handled to avoid damage. Damaged materials shall be removed from the premises.

## Part 2: Products

### 2.1 Grating materials

**a. Type:** Perf-O Grip, Perf-O Grip 2 gratings and Perf-O Grip walkways)

**b. Metal and finish:** Standard (mill-galvanized steel, ASTM A924) (stainless steel, alloy types 304-2B/D) (aluminum, alloy 5052 H32); Special order (carbon steel — hot rolled, pickled and oiled, ASTM-A569) (stainless steel, alloy type 316-2B/D)

**c. Metal gauge:** (13-ga. steel) (11-ga. steel) (16-ga. stainless steel) (.125" aluminum)

**d. Section width:** (5") (7") (10") (12") (18") (24") (30") plank; (24") (30") (36") walkway

**e. Channel height:** Safety grating (1½") (2") (3") (4") plank; (5") Walkway grating - OSHA compliant; Canadian OH & S compliant

**f. Standard lengths:** (10'-0") (12'-0")

### 2.2 Stair tread materials

**a. Type:** (Perf-O Grip and Perf-O Grip 2 stair tread)

**b. Metal and finish:** Standard (mill-galvanized steel, ASTM G90 and A653 Galv.) (stainless steel, alloy types 304-2B/D) (aluminum, alloy 5052 H32); Special order (carbon steel — hot rolled, pickled and oiled, ASTM-A1011) (stainless steel, alloy type 316-2B/D)

**c. Metal gauge:** (13-ga. steel) (11-ga. steel) (16-ga. stainless steel) (.125" aluminum)

**d. Tread depth:** Standard (10"); Special order (5") (7") (12")

**e. Channel height:** Standard (1½"); Special order (2")

**f. Span or width of staircase:** (24") (30") (36")

### 2.3 Accessories

**a. Bolt seats:** Standard (mill-galvanized steel, ASTM A924); Special order (carbon steel — hot rolled, pickled and oiled, ASTM A569) (aluminum, alloy 5052-H32); (stainless steel, alloy Types 304-2B/D) (stainless steel, alloy Type 316-2B/D)

**b. "J" clip attachment:** Standard (mill-galvanized steel, ASTM A924); Special order (carbon steel — hot rolled, pickled and oiled, ASTM A569) (aluminum, alloy 5052-H32); (stainless steel, alloy Types 304-2B/D) (stainless steel, alloy Type 316-2B/D)

**c. Midsupport clip:** Standard (mill-galvanized steel, ASTM A924); Special order (carbon steel — hot rolled, pickled and oiled, ASTM A1011) (aluminum, alloy 5052-H32); (stainless steel, alloy types 304-2B/D) (stainless steel, alloy type 316-2B/D)

d. **Surface splice kit:** Standard (mill-galvanized steel, ASTM A924); Special order (carbon steel — hot rolled, pickled and oiled, ASTM A1011) (aluminum, alloy 5052-H32); (stainless steel, alloy types 304-2B/D) (stainless steel, alloy type 316-2B/D)

e. **Walkway splice kit:** Standard (mill-galvanized steel, ASTM A924); Special order (carbon steel — hot rolled, pickled and oiled, ASTM A1011) (aluminum, alloy 5052-H32); (stainless steel, alloy types 304-2B/D) (stainless steel, alloy type 316-2B/D)

f. **Universal handrail bracket for walkways:** Eliminates unnecessary substructure for supporting handrail posts.

## Part 3: Execution

### 3.1 Condition of surfaces

Prior to grating installation, contractor shall inspect supports for correct size, layout and alignment and verify that surfaces to receive grating are free of debris. The contractor shall report to the design or consulting engineer or owner's agent in writing any defects considered detrimental to proper application of grating so defects can be remedied before grating is applied.

### 3.2 Grating installation

Install grating in accordance with manufacturer's recommendations and shop drawings. Position grating sections flat and square with ends bearing min. 1½" on supporting structure. Keep grating sections at least ¼" away from vertical steel sections and ½" from concrete walls. Installation clearances are built into this product. Allow clearance at joints between sections of max. ¼" at side channels and max. ⅜" at ends. When specified, band random cut ends and diagonal or circular cut exposed edges with a min. ⅛" thick bar welded at contact points.

### 3.3 Grating attachment

Attach grating to supports without warp or deflection as follows:

a. **Single plank application:** Secure plank ends to supporting members at every point of contact. Use (2) Perf-O Grip™ bolt seats or "J" Clip assemblies at each end or secure both side channels at each end to supports by fusion welding with ⅛" fillet welds, 1" long.

b. **Multiple plank application:** Secure perimeter plank to supporting members at every point of contact and intermediate grating sections with at least (1) attachment each end of plank, on alternate sides. For added rigidity when span exceeds (6'-0") (8'-0"), attach side channels of adjacent plank together (at mid-point of span) using mid support clip.

c. **Welded attachment:** Secure side channels to supports by fusion welding with ⅛" fillet welds, 1" long. Weld adjacent planks together with ⅛" fillet welds, 1" long, 24" o.c. staggered top and bottom.

d. **Clip attachment:** Secure intermediate planks to supports using bolt seat and "J" Clip assembly. Use bolt seat with ⅜" carriage bolts and nuts for securing perimeter planks. Fasten adjacent side rails together with mid support clip or ⅜" machine bolts and nuts through locally drilled holes.

### 3.4 Stair tread installation

Install Perf-O Grip and Perf-O Grip 2 stair treads as shown on the drawings. Fasten treads to stair stringers with ⅜" x 1" machine bolts and nuts.

a. **For stair treads,** intermediate stringer is recommended for spans over 4 feet.



# How to order

## Technical assistance

For technical assistance not found in this catalog, contact your local Perf-O Grip and Perf-O Grip 2 gratings distributor, or contact our technical service department at 1-800-582-3643 (phone) or 1-770-268-7213 (fax).

Perf-O Grip and Perf-O Grip 2 gratings are stocked in all major markets. For the finest in slip-resistant grating and stair treads, contact us or go to www.eaton.com/b-lineseries to locate your local distributor. You will receive skilled consulting service on your specific requirements.

## Fabrication service

On large jobs, we estimate, quote, detail and fabricate to your requirement. After receipt of order, layout drawings are prepared for easy installation.

**Notice:** We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claims shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

See terms and conditions at www.cooperbline.com/legal.

# Traction Tread Grating - Design Load Table of Contents & Advantages

**Traction Tread™ Design Load Tables**

Steel, aluminum, stainless steel


Planks - 7" width ..... 54

Planks - 10" width..... 55

Planks - 12" width..... 56

Planks - 10" width, large hole ..... 57

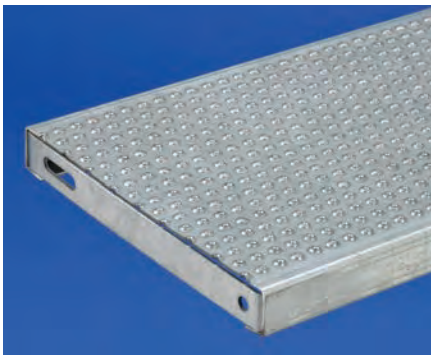
Stair treads .....58

Ladder rungs .....59

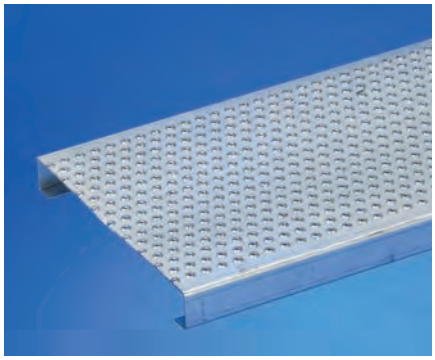

## Advantages

Traction Tread flooring feature a surface with hundreds of perforated buttons that provide slip-resistance in all directions making it a practical choice for industrial applications.

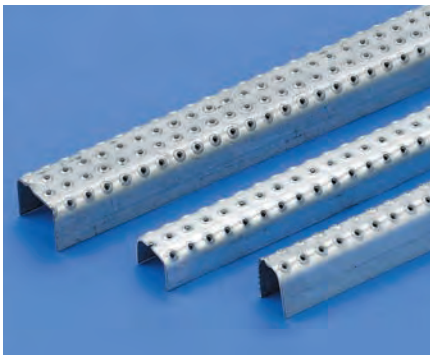
- Appropriate for commercial & industrial applications where pedestrian traffic is a consideration
- Perfectly suited for ADA-compliant requirements
- Easily adapted for a multitude of applications, offering a safe walking-working surface for walkways, ramps, stair treads and equipment platforms
- Ideal for the manufacture of special and fabricated products, and is often used as a reconditioning material over existing surfaces that do not provide slip-resistance
- Sheet size - 36" x 120"
- Can be cut to order
- Variations of hole patterns are available upon request
- Special fabrication, cutting or specialty configurations available upon request
- Material options: see page 53



**Traction Tread stair treads**

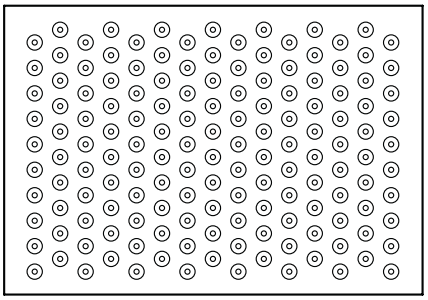


**Traction Tread planks**

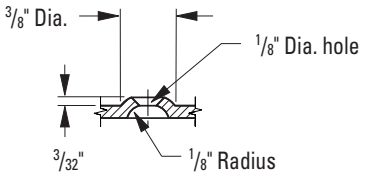


**Traction Tread ladder rungs**

Standard pattern



Button detail




## Material options

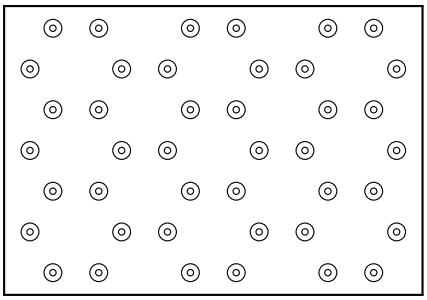
- Hot rolled, pickled and oiled carbon steel:
  - 11 gauge (5.0 lbs./sq. ft.)
  - 12 gauge (4.3 lbs./sq. ft.)
  - 13 gauge (3.8 lbs./sq. ft.)
  - 14 gauge (3.1 lbs./sq. ft.)
  - 16 gauge (2.5 lbs./sq. ft.)
- Aluminum alloy 5052-H32:
  - .125" (1.6 lbs./sq. ft.)

## Sheet size

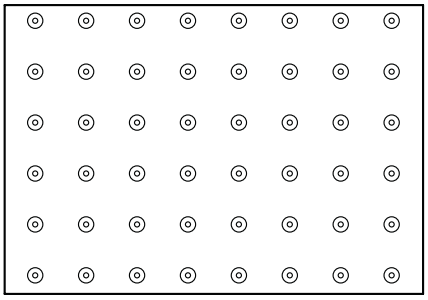
- Standard - 36" x 120"
- Cut to order

- Traction Tread™ is available as shown above as a standard product. However, variations to the surface design can be produced according to your requirement (see examples illustrated below).

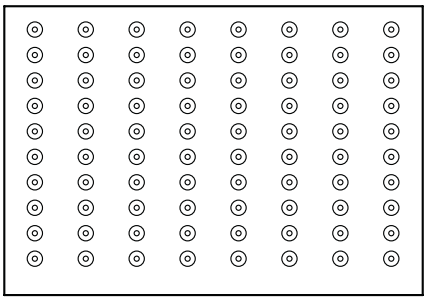
Star pattern



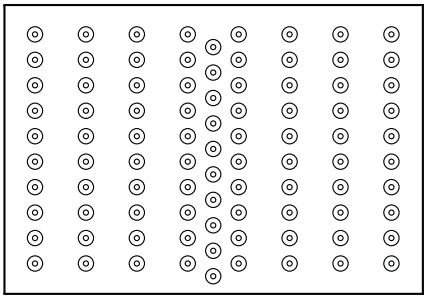
Square pattern



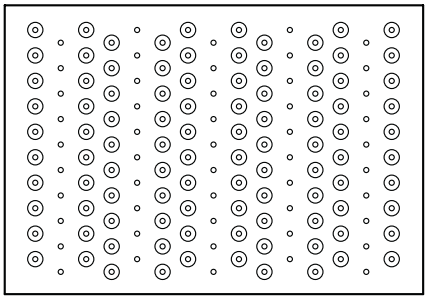
Rectangular pattern



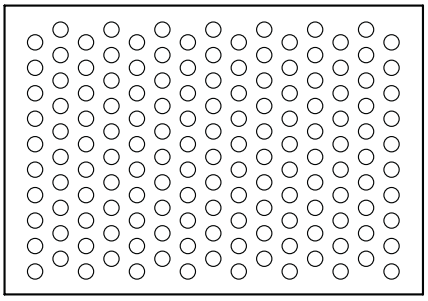
OEM pattern



Drain hole pattern

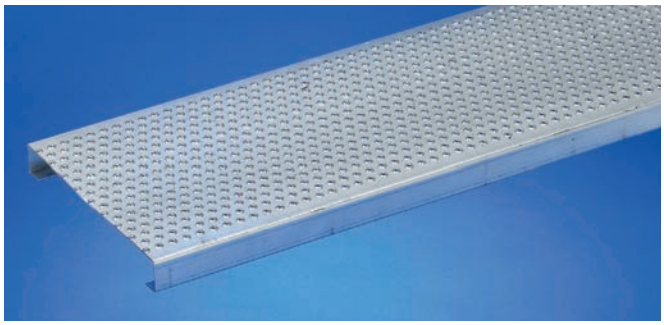


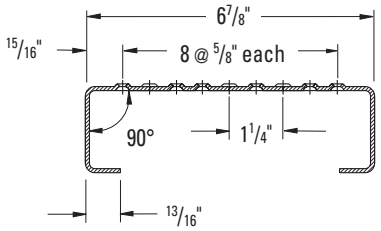
Dimple only pattern



# Traction Tread Grating - Safe Loading Tables

## Traction Tread Plank — Width 7" Nominal






### Plank lengths

- 120" and 144" lengths

### Material options

- Mill-galvanized steel: 11 gauge and 13 gauge
- Aluminum alloy 5052-H32: .125"
- Also available by special order in hot rolled, pickled and oiled carbon steel: 11 gauge and 13 gauge; consult factory

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) D=Deflection (in.)

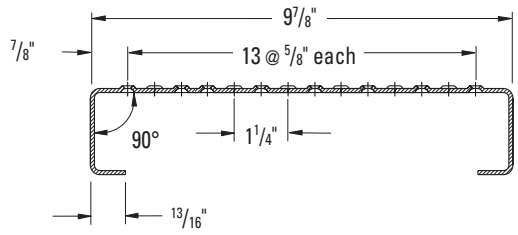
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 13 ga. | 1½" (38.1) | 3.40 (5.06) | TT71513 GL | U | 824 | 675 | 488 | 351 | 257 | 201 | 158 | 144 | 127 | 92 | 69 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 3.71 (5.52) | TT72013 GL | U | 1642 | 1345 | 973 | 700 | 513 | 400 | 315 | 287 | 253 | 184 | 137 | 104 | 80 | 50 | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | |
| | 3" (76.2) | 4.11 (6.11) | TT73013 GL* | U | 4378 | 3587 | 2595 | 1867 | 1368 | 1068 | 841 | 766 | 676 | 491 | 365 | 277 | 214 | 133 | 88 | 60 | 42 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Steel 11 ga. | 1½" (38.1) | 4.72 (7.02) | TT71511 GL | U | 1032 | 845 | 612 | 440 | 323 | 252 | 198 | 180 | 159 | 116 | 86 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 5.15 (7.66) | TT72011 GL | U | 2084 | 1707 | 1235 | 889 | 651 | 508 | 400 | 364 | 322 | 233 | 174 | 132 | 102 | 64 | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | |
| | 3" (76.2) | 6.13 (9.12) | TT73011 GL* | U | 5619 | 4603 | 3330 | 2396 | 1756 | 1370 | 1079 | 982 | 867 | 630 | 468 | 355 | 274 | 171 | 112 | 77 | 54 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Alum 0.125" | 1½" (38.1) | 1.63 (2.42) | TT715125 AL* | U | 359 | 294 | 213 | 153 | 112 | 88 | 69 | 63 | 55 | 40 | 30 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 1.80 (2.68) | TT720125 AL | U | 727 | 595 | 431 | 310 | 227 | 177 | 139 | 127 | 112 | 81 | 61 | 46 | 35 | 22 | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | |

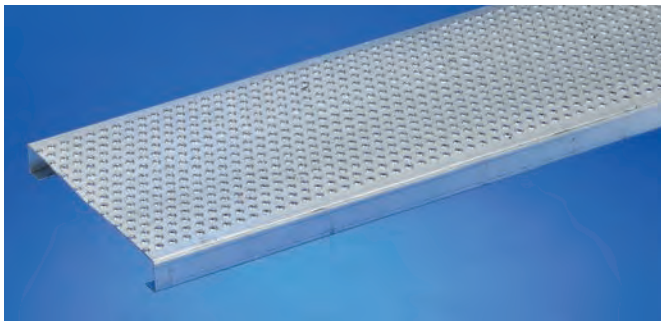
* Available on special order. Consult factory.

## Engineering Data For Both Channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ |
|---|---|---|---|
| Steel 13 ga. | 1½" | 0.344 | 0.396 |
| | 2" | 0.534 | 0.806 |
| | 3" | 1.000 | 2.196 |
| Steel 11 ga. | 1½" | 0.273 | 0.316 |
| | 2" | 0.420 | 0.636 |
| | 3" | 1.711 | 0.782 |
| Aluminum .125" | 1½" | 0.348 | 0.400 |
| | 2" | 0.540 | 0.815 |

Traction Tread Plank — Width 10" Nominal



## Material Options:

- Mill-galvanized steel: 11 gauge and 13 gauge
- Aluminum alloy 5052-H32: .125"
- Also available by special order in hot rolled, pickled and oiled carbon steel: 11 gauge and 13 gauge; consult factory

## Plank Lengths:

- 120" and 144" lengths

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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 13 ga. | 1½" (38.1) | 4.32 (6.43) | TT101513 GL | U | 628 | 515 | 372 | 268 | 196 | 153 | 121 | 110 | 97 | 70 | 52 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 4.63 (6.89) | TT102013 GL | U | 1267 | 1038 | 751 | 540 | 396 | 309 | 243 | 221 | 195 | 142 | 106 | 80 | 62 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |
| | 3" (76.2) | 5.24 (7.80) | TT103013 GL* | U | 3412 | 2795 | 2022 | 1455 | 1066 | 832 | 655 | 597 | 527 | 382 | 284 | 216 | 167 | 104 | 68 | 47 | 33 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Steel 11 ga. | 1½" (38.1) | 6.01 (8.94) | TT101511 GL | U | 787 | 645 | 466 | 336 | 246 | 192 | 151 | 138 | 121 | 88 | 66 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 6.44 (9.58) | TT102011 GL | U | 1605 | 1315 | 951 | 685 | 502 | 392 | 308 | 281 | 248 | 180 | 134 | 101 | 78 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |
| | 3" (76.2) | 7.45 (11.06) | TT103011 GL* | U | 4380 | 3588 | 2595 | 1868 | 1369 | 1068 | 841 | 766 | 676 | 491 | 365 | 277 | 214 | 134 | 88 | 60 | 42 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Alum 0.125" | 1½" (38.1) | 2.07 (3.08) | TT1015125 AL* | U | 275 | 225 | 163 | 117 | 86 | 67 | 53 | 48 | 42 | 31 | 23 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 2.22 (3.30) | TT1020125 AL | U | 560 | 469 | 332 | 239 | 175 | 137 | 107 | 98 | 86 | 63 | 47 | 35 | 27 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |

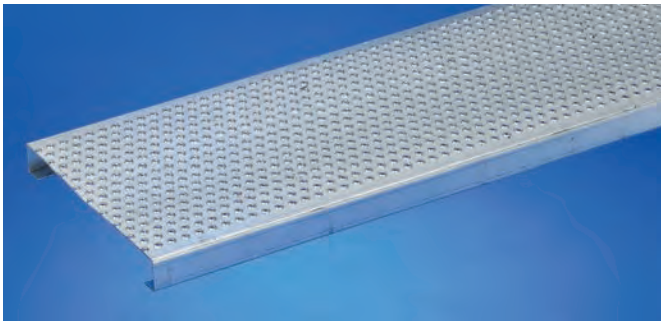
* Available on special order. Consult factory.

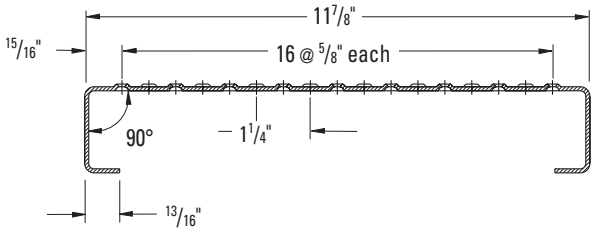
## Engineering Data For Both Channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ |
|---|---|---|---|
| Steel 13 ga. | 1½" | 0.344 | 0.396 |
| | 2" | 0.534 | 0.806 |
| | 3" | 1.000 | 2.196 |
| Steel 11 ga. | 1½" | 0.273 | 0.316 |
| | 2" | 0.420 | 0.636 |
| | 3" | 1.711 | 0.782 |
| Aluminum .125" | 1½" | 0.348 | 0.400 |
| | 2" | 0.540 | 0.815 |

# Traction Tread Grating - Safe Loading Table

## Traction Tread Plank — Width 12" Nominal






### Plank Lengths:

- 120" and 144" lengths

### Material Options:

- Mill-galvanized steel: 11 gauge and 13 gauge
- Aluminum alloy 5052-H32: .125"
- Also available by special order in hot rolled, pickled and oiled carbon steel: 11 gauge and 13 gauge; consult factory

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) D=Deflection (in.)

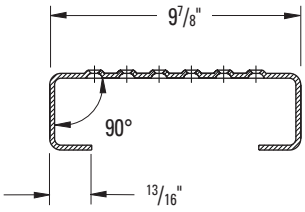
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 13 ga. | 1½" (38.1) | 4.93 (7.33) | TT121513 GL | U | 544 | 445 | 322 | 232 | 170 | 133 | 104 | 95 | 84 | 61 | 45 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 5.24 (7.80) | TT122013 GL | U | 1101 | 902 | 652 | 469 | 344 | 268 | 211 | 192 | 170 | 123 | 92 | 70 | 54 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |
| | 3" (76.2) | 5.57 (8.29) | TT123013 GL* | U | 2986 | 2446 | 1769 | 1273 | 933 | 728 | 573 | 522 | 461 | 335 | 249 | 189 | 146 | 91 | 60 | 41 | 29 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Steel 11 ga. | 1½" (38.1) | 6.90 (10.27) | TT121511 GL | U | 682 | 559 | 404 | 291 | 213 | 166 | 131 | 119 | 105 | 76 | 57 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 7.30 (10.86) | TT122011 GL | U | 1395 | 1143 | 827 | 595 | 436 | 340 | 268 | 244 | 215 | 156 | 116 | 88 | 68 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |
| | 3" (76.2) | 8.23 (12.25) | TT123011 GL* | U | 3831 | 3138 | 2270 | 1634 | 1197 | 934 | 736 | 670 | 591 | 429 | 319 | 242 | 187 | 117 | 77 | 52 | 37 |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Alum 0.125" | 1½" (38.1) | 2.37 (3.52) | TT1215125 AL | U | 238 | 195 | 141 | 101 | 74 | 58 | 46 | 42 | 37 | 27 | 20 | | | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | | | |
| | 2" (50.8) | 2.52 (3.75) | TT1220125 AL* | U | 487 | 399 | 288 | 207 | 152 | 119 | 93 | 85 | 75 | 55 | 41 | 31 | 24 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | | | |

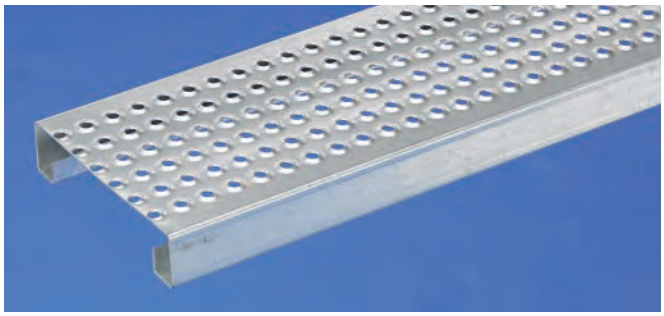
* Available on special order. Consult factory.

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.$^3$ | Ix in.$^4$ |
|---|---|---|---|
| Steel 13 ga. | 1½" | 0.344 | 0.396 |
| | 2" | 0.534 | 0.806 |
| | 3" | 1.000 | 2.196 |
| Steel 11 ga. | 1½" | 0.273 | 0.316 |
| | 2" | 0.420 | 0.636 |
| | 3" | 1.711 | 0.782 |
| Aluminum .125" | 1½" | 0.348 | 0.400 |
| | 2" | 0.540 | 0.815 |

## Traction Tread Plank (Large Hole) — Width 10"



### Material Options:

- Mill-galvanized steel: 11 gauge and 13 gauge
- Aluminum alloy 5052-H32: .125"
- Also available by special order in hot rolled, pickled and oiled carbon steel: 11 gauge and 13 gauge; consult factory
- LH (large hole) pattern

### Plank Dimensions:

- 120" and 144" lengths
- 1½" minimum or 2" channel height
- ⅜" hole diameter
- Not available in sheets

## Product selection/design tables

Allowable loads and deflections: U=Uniform load (lb./ft.²) D=Deflection (in.)

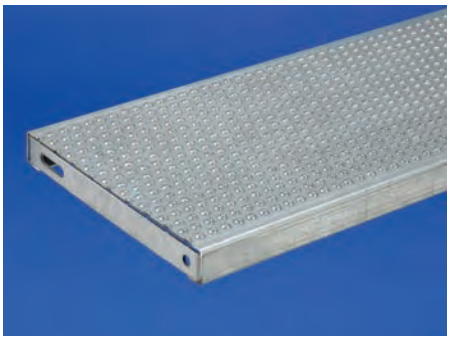
| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0" | 4'-6" | 5'-0" | 5'-6" | 6'-0" | 6'-6" | 7'-0" | 7'-6" | 8'-0" | 9'-0" | 10'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel 13 ga. | 1½" (38.1) | 4.28 (6.37) | **TT101513LH GL** | U | 621 | 508 | 368 | 265 | 194 | 151 | 119 | 109 | 96 | 70 | 52 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | |
| | 2" (50.8) | 4.60 (6.84) | **TT102013LH GL** | U | 1251 | 1025 | 741 | 533 | 391 | 305 | 240 | 219 | 193 | 140 | 104 | 79 | 61 | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | |
| Steel 11 ga. | 1½" (38.1) | 5.95 (8.85) | **TT101511LH GL** | U | 777 | 637 | 461 | 331 | 243 | 190 | 149 | 136 | 120 | 87 | 65 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | |
| | 2" (50.8) | 6.37 (9.48) | **TT102011LH GL** | U | 1585 | 1299 | 939 | 676 | 495 | 387 | 304 | 277 | 245 | 178 | 132 | 100 | 77 | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | |
| Alum 0.125" | 1½" (38.1) | 2.05 (3.05) | **TT1015125LH AL** | U | 271 | 222 | 161 | 116 | 85 | 66 | 52 | 47 | 42 | 30 | 23 | | | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | | | | |
| | 2" (50.8) | 2.20 (3.27) | **TT1020125LH AL** | U | 553 | 453 | 328 | 236 | 173 | 135 | 106 | 97 | 85 | 62 | 46 | 35 | 27 | | |
| | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 | 0.13 | 0.15 | 0.20 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | | |

## Engineering data For both channels

| Material Gauge | Channel Depth in. | Sx in.³ | Ix in.⁴ |
|---|---|---|---|
| Steel 13 ga. | 1½" | 0.344 | 0.396 |
| | 2" | 0.534 | 0.806 |
| Steel 11 ga. | 1½" | 0.273 | 0.316 |
| | 2" | 0.420 | 0.636 |
| Aluminum .125" | 1½" | 0.348 | 0.400 |
| | 2" | 0.540 | 0.815 |

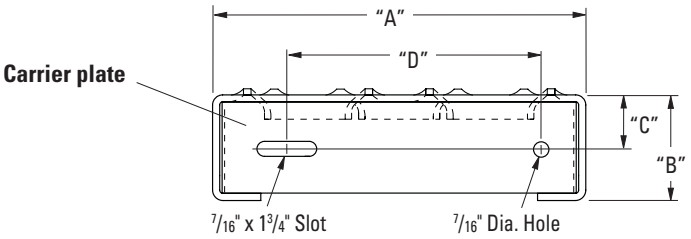
# Traction Tread Grating - Safe Loading Table

## Stair treads



All treads have welded ends for attachment to stringers.

- Mill-galvanized steel: 11 gauge and 13 gauge
- Aluminum alloy 5052-H32: .125"
- Also available in Hot rolled, pickled and oiled carbon steel: 11 gauge and 13 gauge
- 24" to 48" lengths
- Custom lengths can be made with the use of carrier plates
- 7" 10" and 12" (nominal) widths
- 1½" and 2" channel heights




## Product selection/design tables

C = Safe allowable concentrated load of center span on simple beam (lbs.)
D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span 2'-0" | 2'-6" | 3'-0" | 3'-6" | 4'-0"(1) |
|---|---|---|---|---|---|---|---|---|---|
| **7" Width** | | | | | | | | | |
| Steel 13 ga. | 1½" (38.1) | 3.73 (5.55) | **T-TT71513 GL** | C | 555 | 483 | 420 | 352 | 295 |
| | 2" (50.8) | 4.06 (6.04) | **T-TT72013 GL** | C | 1107 | 963 | 836 | 702 | 588 |
| Steel 11 ga. | 1½" (38.1) | 4.87 (7.25) | **T-TT71511 GL** | C | 696 | 605 | 526 | 441 | 370 |
| | 2" (50.8) | 5.43 (8/08) | **T-TT72011 GL** | C | 1405 | 1222 | 1061 | 891 | 746 |
| Alum .125 | 1½" (38.1) | 1.70 (2.53) | **T-TT715125 AL** | C | 242 | 211 | 183 | 154 | 129 |
| | 2" (50.8) | 1.87 (2.78) | **T-TT720125 AL** | C | 490 | 426 | 370 | 311 | 260 |
| **10" Width** | | | | | | | | | |
| Steel 13 ga. | 1½" (38.1) | 4.61 (7.16) | **T-TT101513 GL** | C | 608 | 530 | 460 | 386 | 323 |
| | 2" (50.8) | 4.89 (7.28) | **T-TT102013 GL** | C | 1226 | 1067 | 927 | 778 | 651 |
| Steel 11 ga. | 1½" (38.1) | 6.24 (9.28) | **T-TT101511 GL** | C | 762 | 663 | 576 | 483 | 405 |
| | 2" (50.8) | 6.70 (9.97) | **T-TT102011 GL** | C | 1554 | 1353 | 1174 | 986 | 826 |
| Alum .125 | 1½" (38.1) | 2.11 (3.14) | **T-TT1015125 AL** | C | 266 | 232 | 201 | 169 | 141 |
| | 2" (50.8) | 2.35 (3.50) | **T-TT1020125 AL** | C | 542 | 472 | 409 | 344 | 288 |
| **12" Width** | | | | | | | | | |
| Steel 13 ga. | 1½" (38.1) | 5.00 (7.44) | **T-TT121513 GL** | C | 633 | 551 | 478 | 402 | 336 |
| | 2" (50.8) | 5.70 (8.48) | **T-TT122013 GL** | C | 1281 | 1115 | 968 | 813 | 681 |
| Steel 11 ga. | 1½" (38.1) | 7.16 (10.65) | **T-TT121511 GL** | C | 794 | 691 | 600 | 504 | 422 |
| | 2" (50.8) | 7.58 (11.28) | **T-TT122011 GL** | C | 1624 | 1414 | 1227 | 1031 | 863 |
| Alum .125 | 1½" (38.1) | 2.45 (3.64) | **T-TT1215125 AL** | C | 277 | 241 | 209 | 176 | 147 |
| | 2" (50.8) | 2.60 (3.87) | **T-TT1220125 AL** | C | 566 | 493 | 428 | 359 | 301 |
| Deflection (same for all widths and depths) | | | | D | 0.02 | 0.04 | 0.06 | 0.08 | 0.10 |

Safe allowable design loads shown are concentrated at center of span on simple beam.
(1) For stair treads, intermediate stringer is recommended for spans over 4 feet.

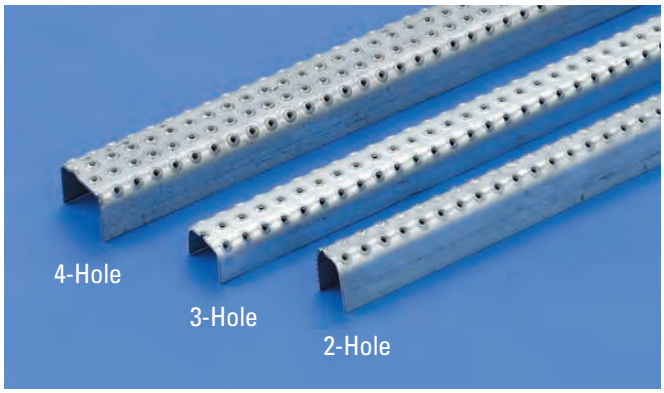
### Carrier plates

Carrier plates allow you to create your own custom stair treads. They are sold by the pair. (2 plates = one pair).

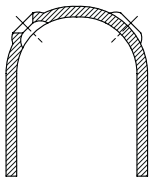
| Product Width | "A" | "B" | "C" | "D" |
|---|---|---|---|---|
| 7" (178mm) | 6 15/16" (176mm) | 1½" (38mm) | ¾" (19mm) | 4" (102mm) |
| | 6 15/16" (176mm) | 2" (51mm) | 1" (25mm) | 4" (102mm) |
| 10" (254mm) | 9 15/16" (252mm) | 1½" (38mm) | ¾" (19mm) | 7" (178mm) |
| | 9 15/16" (252mm) | 2" (51mm) | 1" (25mm) | 7" (178mm) |
| 12" (305mm) | 11 15/16" (303mm) | 1½" (38mm) | ¾" (19mm) | 9" (227mm) |
| | 11 15/16" (303mm) | 2" (51mm) | 1" (25mm) | 9" (227mm) |

## Ladder rungs

Traction Tread™ ladder rungs feature a hand-overhand friendly surface with moderate slip resistance. Products are sold in efficient lengths, well suited to fabricators of ladders. Vehicle applications are an option.

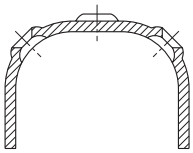



### 2-Hole ladder rung



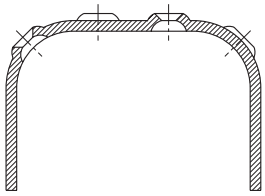
- Hot rolled, pickled and oiled carbon steel: 13 gauge (1.2 lbs./ft.)
- Aluminum alloy 5052-H32: .125" (0.5 lbs./ft.)
- 1¼" wide x 1½" high x 48" or 60" long

### 3-Hole ladder rung



- Hot rolled, pickled and oiled carbon steel: 13 gauge (1.3 lbs./ft.)
- Aluminum alloy 5052-H32: .125" (0.5 lbs./ft.)
- 1⅝" wide x 1⅛" high x 48" or 60" long

### 4-Hole ladder rung



- Hot rolled, pickled and oiled carbon steel: 13 gauge (1.5 lbs./ft.)
- Aluminum alloy 5052-H32: .125" (0.7 lbs./ft.)
- 2¼" wide x 1½" high x 48" or 60" long

**2 Row ladder rungs**

| Material | Safe Allowable Concentrated Load (Lbs.) 48¾" Span | 60" Span | Weight Lbs./Ln. Ft. |
|---|---|---|---|
| 11 Gauge Steel* | 515 | 383 | 1.52 |
| 13 Gauge Steel | 328 | 252 | 1.18 |
| .125" Aluminum | 207 | 187 | 0.56 |
| 16 Gauge Stainless Steel* | 218 | 183 | 0.82 |

**3 Row ladder rungs**

| Material | Safe Allowable Concentrated Load (Lbs.) 48¾" Span | 60" Span | Weight Lbs./Ln. Ft. |
|---|---|---|---|
| 11 Gauge Steel* | 297 | 229 | 1.46 |
| 13 Gauge Steel | 187 | 151 | 1.06 |
| .125" Aluminum | 163 | 135 | 0.50 |
| 16 Gauge Stainless Steel* | 151 | 103 | 0.73 |

**4 Row ladder rungs**

| Material | Safe Allowable Concentrated Load (Lbs.) 48¾" Span | 60" Span | Weight Lbs./Ln. Ft. |
|---|---|---|---|
| 11 Gauge Steel* | 523 | 408 | 2.08 |
| 13 Gauge Steel | 372 | 274 | 1.49 |
| .125" Aluminum | 280 | 248 | 0.70 |
| 16 Gauge Stainless Steel* | 236 | 201 | 1.03 |

Safe allowable design loads shown are concentrated at center of span on simple beam

The minimum safety factor = 2.0

* Available on special order. Consult factory.

# Traction Tread Grating - Accessories

**Field drilling is required.**

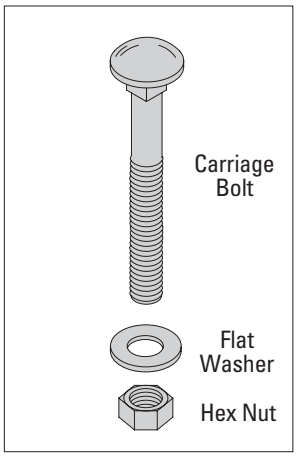
**Source Locally**

(1) ⅜"-16 Carriage bolt **

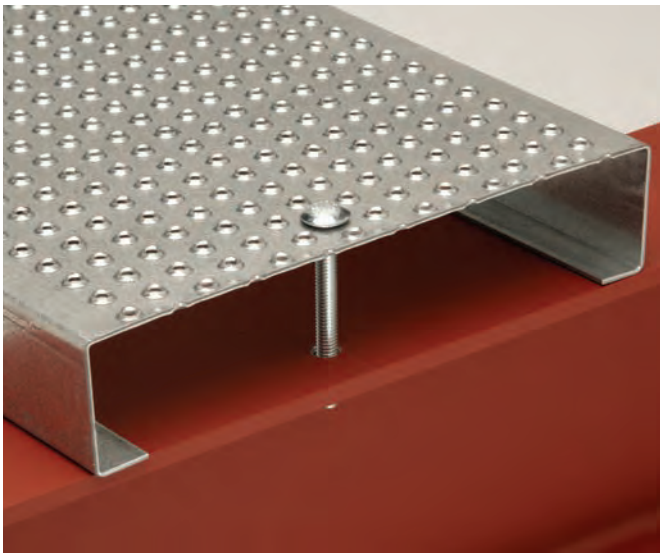
(1) ⅜" Flat washer

(1) ⅜"-16 Hex nut

** Plank carriage bolt lengths = Side Channel Height + 1"





## Assembly

1. Align Traction Tread™ planks on I-beam or other anchoring cross-member.
2. Mark the I-beam for drilling purposes under the third or fourth hole from the end of the Traction Tread plank. Drill a pilot hole.
3. Remove Traction Tread plank and drill a finish hole.
4. Drill out the hole in Traction Tread plank.
5. Replace Traction Tread plank to its original position. Run bolt through Traction Tread plank and I-beam. Tighten with washer and nut until secure.
6. Test for movement or slippage. If Traction Tread planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 5.

**Note: Do not walk on Traction Tread planks if they are not secure. Serious injury could result.**

## Welding

A common method of fastening safety grating is welding. It is recommended that all B-Line series safety grating products be fillet welded.

For more information, consult technical services.

### Notes to architect

1. Traction Tread™ is intended for general purpose use in plants and process facilities by industry, commerce, and public facilities, for both mobile and stationary equipment.
2. Traction Tread stair treads are intended for utility stairs and fire escapes in commercial, public and private buildings where local code permits.
3. These specifications are presented as a general guide to the architect or structural engineer in preparing project specifications. Allowable loads, spans and other limiting conditions presented in this catalog offer product data for use in design and construction.
4. All supports should provide a smooth, level, 1½" minimum bearing surface, free of burrs, bridging, welds or other irregularities.
5. Random cut ends and diagonal or circular cut exposed edges should be banded with a bar at least ⅛" thick and equal to the overall side channel depth of grating welded at contact points at the discretion of the design engineer.
6. Bolted connections, except stair or ladder tread attachment to stringer channels, may be replaced by welded connections that develop the same strength.

## Part 1: General

### 1.1 Scope

The contractor shall furnish and install Traction Tread as specified and shown on the drawings.

### 1.2 Qualifications

Traction Tread sheets, planks, ladder rungs, stair treads and accessories, unless otherwise indicated, shall be manufactured by Eaton's B-Line Division, and shall be installed in accordance with its current printed directions. Safety surface shall be slip-resistant in all directions.

### 1.3 Submittals

The contractor shall furnish shop drawings of grating layout, framing and supports, unit dimensions and sections, type and location of fasteners and welds.

### 1.4 Storage and handling

All materials shall be stored and handled to avoid damage. Damaged materials shall be removed from the premises.

## Part 2: Products

### 2.1 Flooring materials

a. Type: Traction Tread Flooring

b. Metal and Finish: (carbon steel — hot rolled, pickled and oiled, ASTM A1011) (aluminum, alloy 5052-H32)

c. Metal gauge: (14-ga. HRPO steel) (13-ga. HRPO steel) (12-ga. HRPO steel) (11-ga. HRPO steel) (16-ga. HRPO steel)(14-ga. stainless steel) ( .125" aluminum)

d. Sheet Size: (36" x 120")

### 2.2 Plank grating

a. Type: Traction Tread plank

b. Metal gauge and type: (11 and 13 gauge carbon steel — hot rolled, pickled and oiled, ASTM A1011) (11 and 13 gauge mill-galvanized steel — ASTM A924), (.125" aluminum, alloy 5052-H32)

### 2.3 Ladder rungs

a. Type: Traction Tread ladder rungs

b. Metal gauge and type: (13 gauge mill-galvanized steel, ASTM A924) (13 gauge carbon steel — hot rolled, pickled and oiled, ASTM A1011) (.125" aluminum, alloy 5052-H32) (14 gauge stainless steel, alloy types 304-2B/D)

c. Width: (1¼") (1⅝") (2¼")

d. Length: (48") (60")

## Part 3: Execution

### 3.1 Condition of surfaces

Prior to Traction Tread installation, contractor shall inspect supports for correct size, layout and alignment and verify that surfaces to receive grating are free of debris. The contractor shall report to the design or consulting engineer or owner's agent in writing any defects considered detrimental to proper application of Traction Tread so defects can be remedied before grating is applied.

### 3.2 Traction Tread installation

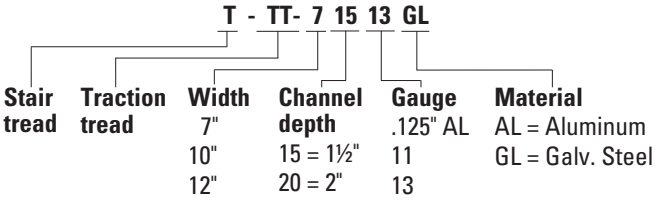
Install Traction Tread in accordance with manufacturer's recommendations and shop drawings. Sheet goods by their nature are intended to cover surface only. They require adequate support and hold down. Position Traction Tread planks flat and square with ends bearing min. 1½" on supporting structure. Keep Traction Tread sections at least ¼" away from vertical steel sections and ½" from concrete walls. Installation clearances are built into this product. Allow clearance at joints between sections of max. ¼" at side channels and max. ⅜" at ends. When specified, band random cut ends and diagonal or circular cut exposed edges with a min. ⅛" thick bar welded at contact points.

### 3.3 Stair Tread Installation

Install Traction Tread stair treads as shown on the drawings. Fasten treads to stair stringers with ⅜" x 1" machine bolts and nuts.

a. For stair treads, intermediate stringer is recommended for spans over 4 feet.

## How to build a part number:

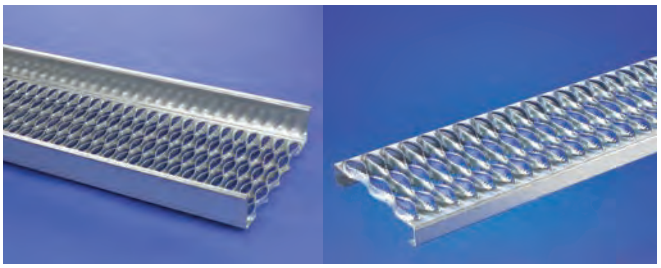


# Heavy Duty Grip Strut Grating Load Table of Contents - Advantages

## Heavy Duty Grip Strut™ Design Load Tables

Steel

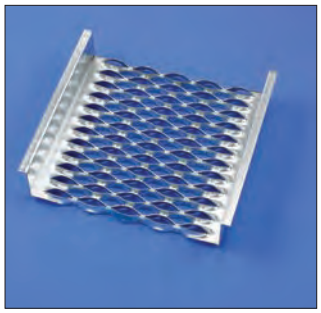

2-Diamond planks - 9¼" width . . . . . 68 - 69
3-Diamond planks - 13¾" width . . . . . 70 - 71
5-Diamond planks - 23¼" width . . . . . 72 - 73
6-Diamond planks - 27¾" width . . . . . 74 - 75
8-Diamond planks - 36" width . . . . . 76 - 77

## Advantages

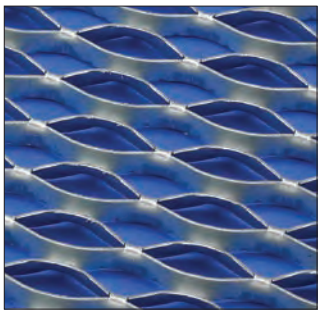
### Gratings for greater loads, safer walking

- High strength-to-weight ratio — efficient structural design means large-load capacity with low deadweight
- Slip resisting surface — scores of tiny teeth grip shoes tightly (exceeds Federal Specification RR-G-1602D slip-resistance requirements)
- Open design — sheds slip-causing stones, dirt and debris
- Slip-resisting serrated or less harsh non-serrated wearing surfaces tailor long life to diverse service conditions — sheds slip-causing stones, dirt and debris
- Complete line of products, design data, support services
- Handrail brackets available for maximum safety and meeting OSHA requirements
- Splice plates speed assembly without welding
- Integral, OSHA compliant toeboards. Canadian compliant OH&S designs available in some sizes.



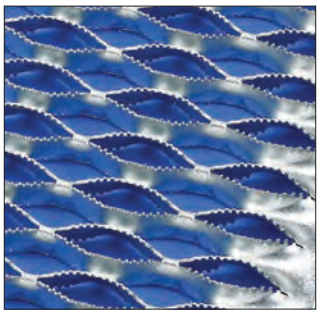
**Heavy Duty Grip Strut walkway**

Helps provide safer walking surface



**Heavy Duty Grip Strut pattern**

- No teeth -
Labor saving alternative to bar grating lowest installed solution



**Heavy Duty Grip Strut pattern**

- Standard with teeth -
cleaning and self draining all-in-one

**Heavy Duty Grip Strut Walkway**

-Reduced opening -
Limits items from falling through openings for safety below

## Heavy Duty Grip Strut overview

Every year, falls cost industry millions of dollars in lost time and production. The safer walking-working surfaces of Heavy Duty Grip Strut™ safety grating products help reduce accidents, and in doing so, may help cut insurance costs.

The secret is in the serrated surface and open design. The open diamond pattern allows fluids, mud, chips, ice and snow to fall through. The serrated surface helps provide high friction for maximum slip protection in all directions, and under practically all conditions. The resilience of Grip Strut grating cushions the impact of walking, lessening worker fatigue and increasing efficiency.

Heavy Duty Grip Strut safety grating products offer the advantage of regular Grip Strut safety grating, but are designed for applications of greater load and/or longer span. Basic design is the same, but diamond openings are larger and metal is thicker. Heavy Duty grating products are available in many of the same configurations, materials and finishes as regular Grip Strut safety grating. Heavy Duty Grip Strut grating products include: planks, walkways and stair treads; for specification see pages 84 & 85. For specifications and information on regular Grip Strut safety gratings, see pages 28-29.

## High load capacity, long life

- High strength-to-weight performance is achieved through section depth and integral side-channel design.
- Bridged struts form a rigid, strong plank surface that carries large loads with minimum deflection.
- No rivets, fabricated joints or pressure joints to loosen or break.

## Safety at all levels

- Serrated surfaces grip soles securely in all directions.
- Non-slip sheared edges are ideal for both indoor and outdoor locations — wherever mud, ice, snow, oil and detergents can create hazardous walking conditions.

## Minimal maintenance

- Openings allow fluids, chips, stones and mud to quickly drop through. Ice easily shears off under normal foot pressure.
- Open design is easily cleaned with a brush, liquid or air spray.

## Application versatility

- Variety of standard plank widths and channel heights can be combined with numerous special-order items to meet almost any application requirement.
- Special sizes and fabricating services are available for unusual requirements.
- May be painted, hot-dip galvanized after fabrication, anodized, plated, plastic-coated or specially finished in other ways to fit service requirements.
- Finish coatings are economically applied since all surfaces are accessible to brush or spray.

## Compliance with regulatory codes / standards

- Exceeds Federal Specification RR-G-1602D requirements.
- Meets OSHA toeboard requirements for elevated structures with standard upturned, 5 inch high integral side channels.

## Low life-cycle cost

- Lower upfront material costs and long-lasting, corrosion-resisting finishes help provide long service life to all Grip Strut gratings: steel or aluminum.
- Brawny yet lightweight, these planks, walkways and stair treads permit substantial reduction in supporting structural materials.
- Self-cleaning open design is virtually maintenance-free.

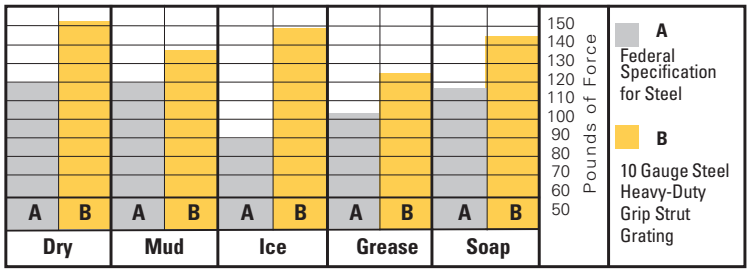
## Fast, simple Installation

- Light and simply installed.
- Regular maintenance personnel can do the job.
- Sections are easily field-cut, at virtually any angle, and field-adapted; connections are rapidly made with bolts, clamps or welding.
- Disassembly, when needed, can be just as rapid.



## Tested performance – slip resistance vs. federal specification

Statistics show falls as the second highest cause of lost-time injuries in industry. Yet tests prove that falls can be reduced by the safe surface of Heavy Duty Grip Strut safety grating, planks, walkways and stair treads. And fewer accidents mean lower workmen's compensation insurance costs, to save the cost of Grip Strut safety grating many times over. Independent laboratory tests prove that Heavy Duty Grip Strut safety grating exceeds Federal Specification RR-G-1602D requirements for slip resistance. Five shoe soles were tested, in longitudinal, transverse and diagonal directions; under five conditions: dry, greasy, muddy, soapy and icy. Heavy Duty Grip Strut safety grating tested more slip-resistant than other gratings (depending upon the condition).




(1) Value of force required to move 1 175 lb. load a distance of one inch across the grating surface of two Heavy-Duty Grip Strut serrated style safety gratings (B & C) compared with the respective Federal Specification RR-G-1602D standard (A). Letter coding is as follows:

* A — standard established for steel grating with each type of condition, by Federal Specification RR-G-1602D.
* B — average of tests on Heavy Duty Grip Strut safety gratings of 10 gauge steel.

Values were determined by test made in longitudinal, transverse and diagonal directions on each grating with five sole materials: leather, boot rubber, shoe rubber, Neolite®† and Hypaton®†.

† Mark shown is the property of its respective owner.

# Heavy Duty Grip Strut Grating - General Load Information

Walkways, Planks and Stair Treads

## General load information

Heavy Duty Grip Strut™ safety grating walkways and planks are available in three thicknesses of steel and one of aluminum; walkways have one standard siderail height, planks have four. In each category, walkways come in three widths, planks in five. Begin sizing, for maximum economy, with widest practical grating for the job (shallowest siderails and thinnest gauge); if this does not meet required load capacity, first consider deeper siderails, then heavier gauge, and finally narrower grating width, if necessary.

Flexural load tables have been calculated according to design load limiting criteria, and if not illustrated in this catalog they can be obtained from our technical services.

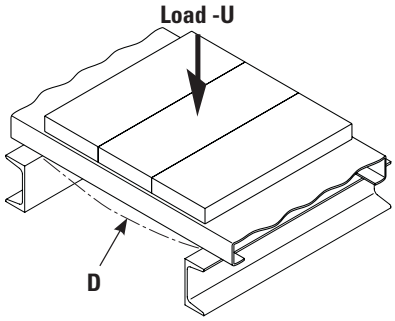
"Strut Load Tables" show flexural strength and deflection of individual grating surface struts relative to siderails. Since these are maximum values in the elastic range, lesser loads and deflections can be proportioned from them.

Design load assumptions differ according to load type: (1) uniform, (2) concentrated (see Figures 1, 2 and 3 below for explanation of load application). Concentrated load capacities generally vary with span, siderail height and material thickness, irrespective of grating width, although large differences in grating width cause concentrated loads to be distributed somewhat differently into siderails.

Siderail strength usually controls, but with shorter spans, deeper siderails, and/or wider grating surfaces, flexural strength of individual struts may control. In sizing walkways or planks with strength as a design criterion, be sure to check Heavy Duty Grip Strut safety grating for both: (1) strength of walkways/plank siderails, (2) strength of individual struts in grating surface. With deflection as a design criterion, loads may be limited by either: strength of individual surface struts, or total deflection of one siderail at midspan plus a surface strut at midwidth of walkway or plank (sum of siderail deflection plus strut deflection).

All load tables show maximum loads, based upon actual load tests performed at the Pinckneyville (IL) plant, and determined in accordance with AISI "Specification for the Design of Cold-Formed Steel Structural Members" , 1980 Edition, using minimum yield strength of 33 ksi for steel, 23 ksi for aluminum. Loads are designated:

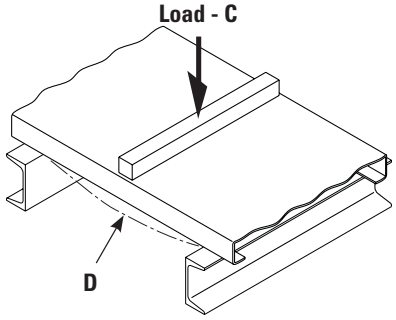
(U) for uniform, in./ft.$^2$
(C) for concentrated, in./lb.
(D) for corresponding deflections, in inches




### Figure 1

**Uniform load (U)**
**applications to all walkways/planks:**
Maximum load (lb./ft.2) permitted by flexural stress in siderail or grating strut, whichever is lower, applied to entire grating area (full-width by clear-span) between supports.

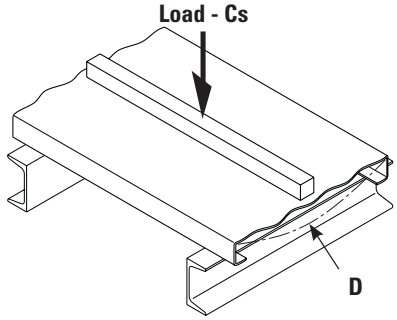
**Deflection (D) in all walkways/planks:**
Deflection (in.) corresponding to maximum load (U) or (C) permitted by flexural stress in siderail or grating strut, whichever is lower, applied as defined in Figures 1 or 2, and 3.




### Figure 2

**Concentrated load (C)**
**applications to all walkways/planks:**
Maximum load (lb.) permitted by flexural stress in siderail or grating strut, whichever is lower, applied transversely to total width of grating at midspan and assumed to be carried equally by both siderails.

**Deflection (D) in all walkways/planks:**
Deflection (in.) corresponding to maximum load (U) or (C) permitted by flexural stress in siderail or grating strut, whichever is lower, applied as defined in Figures 1 or 2, and 3.




### Figure 3

**Concentrated load (Cs)**
**applications to grating surface struts of all walkways/planks:**
Maximum load (lb./ft.) permitted by flexural stress in grating strut, applied longitudinally to a 1 foot length of grating at midwidth.

**Deflection (Ds) in all walkways/planks**
Deflection (in.) corresponding to maximum concentrated strut load (Cs) permitted by flexural stress in grating strut, applied longitudinally to a 1 foot length of grating at midwidth.

Walkways with Integrated Toeboards, Meeting OSHA Requirements

## Heavy Duty Grip Strut walkways* availability

| | | Walkway Width | | |
|---|---|---|---|---|
| **Material** | **Thickness** | **36"** | **30"** | **24"** |
| Steel | 11 ga.** | ✓ | ✓ | ✓ |
| | 10 ga. | ✓ | ✓ | ✓ |
| | 9 ga.** | ✓ | ✓ | ✓ |

* Standard toeboard depth of 5" .
** Available on special order. Consult factory.

Heavy Duty Grip Strut™ safety grating walkways, like Heavy Duty planks, offer additional strength for walkway applications with greater load requirements. Grating surface design is identical. The walkway difference is in the side channels, which are turned up as 5 inch toeboards, complying with OSHA requirements. Walkways offer all the slip-resistance and self-cleaning advantages of planks, and are available in the material and thickness combinations shown above.

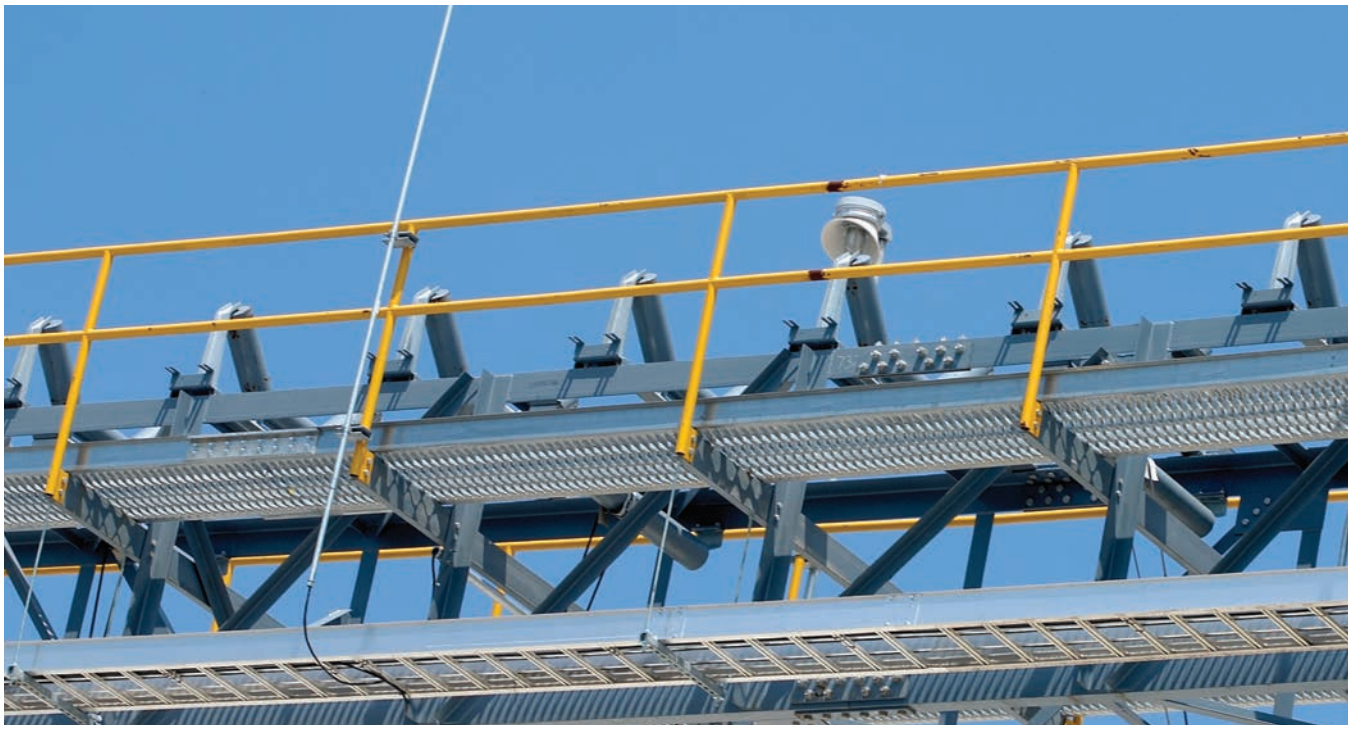
Heavy Duty Grip Strut safety grating walkways are ideal for many types of applications. They are equally at home in process plants, refineries, grain elevators, conveyor walkways and large machines in paper mills. Allowable design load and deflection data are complete on pages 78 & 79.

They are combined with Grip Strut stair treads for a complete walkway design. For further information on stair treads, see page 82. The pre-formed, integral design of stair treads helps reduce the costs by saving not only material, but fabrication and detailing time as well.

Heavy Duty Grip Strut walkways incorporate 5 inch integral toeboards, complying with OSHA regulations (appropriate safety devices may also be necessary during use — consult applicable safety regulations). Canadian compliant (OH&S) designs are also available in some sizes.

Handrail brackets are available for application on Heavy Duty Grip Strut steel walkways. This is a valuable accessory for those projects where utilization of Heavy Duty Grip Strut steel walkway is desirable for its superior long spanability. And handrailing with handrail post on maximum eight foot center is required per OSHA. The handrail bracket eliminates unnecessary and costly substructure to support handrail post.

Splice plates (P-H-SP-U) are available for use with Heavy Duty Grip Strut steel walkways. Splice plates can help reduce costly material cuts and waste. The Splice Plates may be used at midspan conditions without reducing the load carrying capacity of the Heavy Duty Grip Strut walkway.



# Heavy Duty Grip Strut Grating - Safe Loading Tables

## Planks — versatility of 9¼" to 36" widths for single- or multi-width platforms

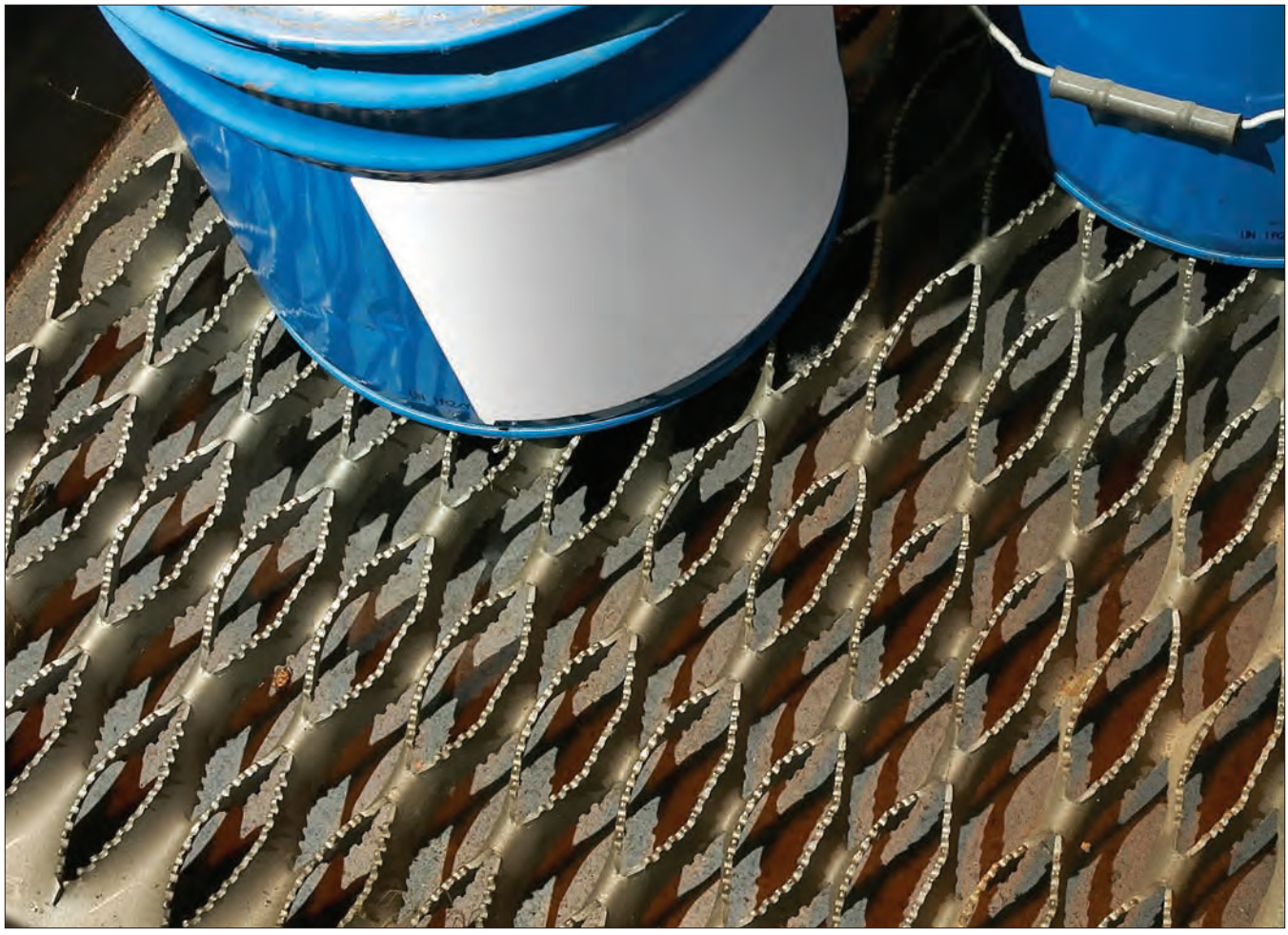
### Heavy Duty Grip Strut planks* availability

| Material | Thickness | Plank Width | | | | |
|---|---|---|---|---|---|---|
| | | 36" | 27¾" | 24" | 13¾" | 9¼" |
| Steel | 11 ga.** | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 10 ga. | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 9 ga.** | ✓ | ✓ | ✓ | ✓ | ✓ |

* All in depths of 2", 2½", 3" and 4".
** Available on special order. Consult factory.

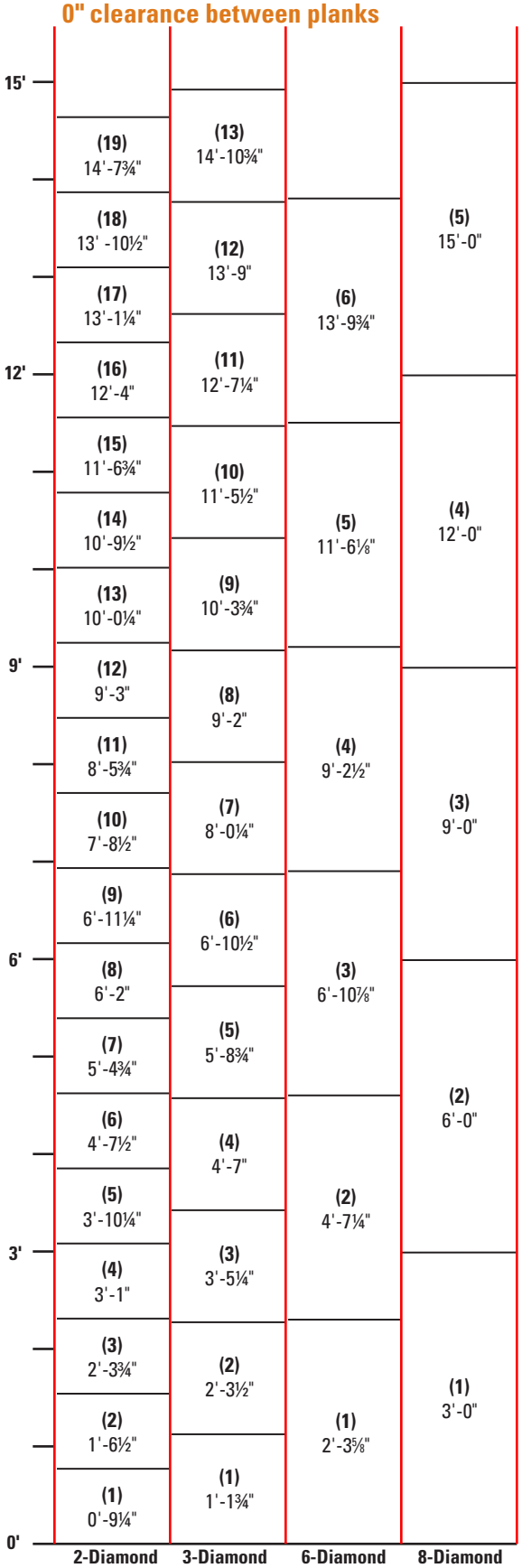
Heavy Duty Grip Strut™ safety grating planks are ideal for all types and sizes of platform applications with design load requirements beyond the capacities of regular Grip Strut safety grating (fully described in Grip Strut safety grating catalog). Four depths and five widths, each in steel and aluminum alloy 5052, provide versatility of load capacity for greatest economy, as well as adequate strength without over design. Each width and side channel depth combination is available in material and thickness combinations as shown above.

All can be used for single-plank applications, or in multi-plank combinations for large-area platforms (see Multi-plank width chart, opposite page). One combination of width/depth/metal thickness is certain to meet your requirements with exceptional economy. For special job requirements, or the fine-tuned economies required by O.E.M. applications, other materials and many special fabricating services are available (see page 82).

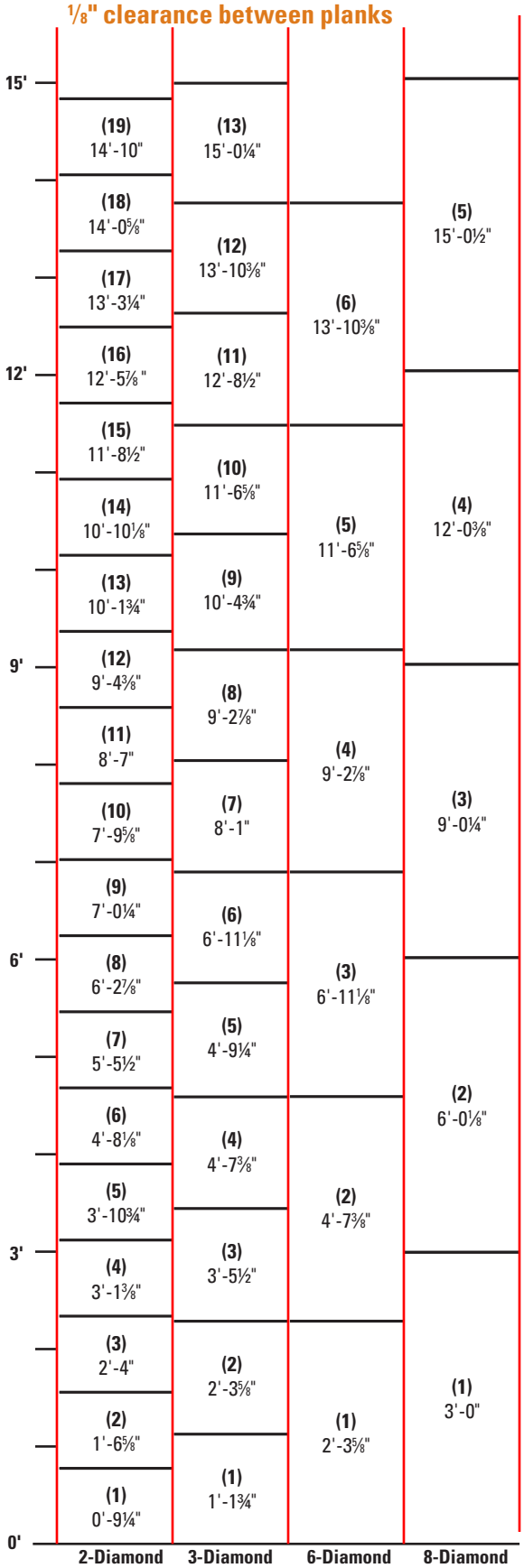


Multi-plank width comparison

## 0" clearance between planks

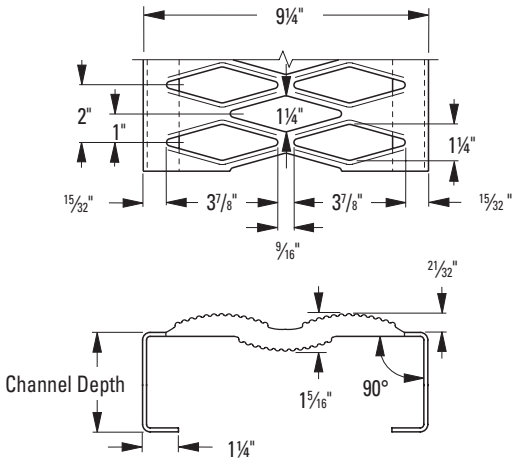



## ⅛" clearance between planks



# Heavy Duty Grip Strut Grating Plank - Safe Loading Table

2-Diamond plank — 9¼" width — "H" series




## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 11 ga. | 2" (38.1) | 6.6 (9.8) | H-22011 | U | 2413 | 1544 | 1027 | 788 | 629 | 476 | 385 | 319 | 270 | 228 | 196 | 172 | 150 | 119 | 98 | 81 | 67 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 1860 | 1488 | 1240 | 1063 | 930 | 827 | 744 | 677 | 620 | 572 | 531 | 496 | 465 | 413 | 372 | 338 | 310 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 7.0 (10.4) | H-22511 | U | 3657 | 2340 | 1625 | 1194 | 914 | 722 | 585 | 483 | 406 | 347 | 298 | 259 | 228 | 182 | 147 | 122 | 102 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 2820 | 2256 | 1880 | 1611 | 1410 | 1254 | 1128 | 1025 | 940 | 868 | 806 | 752 | 705 | 626 | 564 | 513 | 470 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 7.5 (11.1) | H-23011 | U | 3892 | 2490 | 1731 | 1272 | 974 | 767 | 623 | 515 | 431 | 368 | 319 | 276 | 242 | 193 | 154 | 130 | 109 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3000 | 2400 | 2000 | 1715 | 1500 | 1333 | 1180 | 1091 | 1000 | 923 | 857 | 800 | 750 | 667 | 600 | 545 | 500 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 8.3 (12.3) | H-24011 | U | 6382 | 4084 | 2837 | 2084 | 1598 | 1261 | 1022 | 844 | 707 | 606 | 522 | 455 | 400 | 315 | 256 | 211 | 176 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 4920 | 3936 | 3280 | 2812 | 2460 | 2187 | 1968 | 1789 | 1640 | 1514 | 1406 | 1312 | 1230 | 1094 | 935 | 895 | 820 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |
| Steel 10 ga. | 2" (50.8) | 7.4 (11.0) | H-22010 | U | 2681 | 1716 | 1141 | 876 | 699 | 529 | 428 | 354 | 300 | 253 | 218 | 191 | 167 | 132 | 109 | 90 | 74 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2067 | 1653 | 1378 | 1181 | 1033 | 919 | 827 | 752 | 689 | 636 | 590 | 551 | 517 | 459 | 413 | 376 | 344 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .96 | 1.16 |
| | 2½" (63.5) | 7.9 (11.7) | H-22510 | U | 4063 | 2600 | 1806 | 1327 | 1016 | 802 | 650 | 537 | 451 | 385 | 331 | 288 | 253 | 202 | 163 | 136 | 113 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3133 | 2507 | 2089 | 1790 | 1567 | 1393 | 1253 | 1139 | 1044 | 964 | 895 | 836 | 783 | 696 | 627 | 570 | 522 |
| | | | | D | .04 | .06 | .08 | .12 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 8.4 (12.5) | H-23010 | U | 4324 | 2767 | 1923 | 1413 | 1082 | 852 | 692 | 572 | 479 | 409 | 354 | 307 | 269 | 214 | 171 | 144 | 121 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3333 | 2667 | 2222 | 1905 | 1667 | 1481 | 1311 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 10.3 (15.3) | H-24010 | U | 7091 | 4538 | 3152 | 2316 | 1775 | 1401 | 1136 | 938 | 786 | 673 | 580 | 506 | 444 | 350 | 284 | 234 | 195 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 5467 | 4373 | 3644 | 3124 | 2733 | 2430 | 2187 | 1988 | 1822 | 1682 | 1562 | 1458 | 1367 | 1215 | 1039 | 994 | 911 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

2-Diamond plank — 9¼" width — "H" series cont.

## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 9 ga. | 2" (38.1) | 8.3 (12.3) | H-22009 | U | 2949 | 1888 | 1255 | 964 | 769 | 582 | 471 | 389 | 330 | 278 | 240 | 210 | 184 | 145 | 120 | 96 | 81 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2274 | 1618 | 1516 | 1299 | 1136 | 1011 | 910 | 827 | 758 | 700 | 649 | 606 | 569 | 505 | 454 | 414 | 378 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 8.8 (13.1) | H-22509 | U | 4469 | 2860 | 1987 | 1460 | 1118 | 882 | 715 | 591 | 496 | 424 | 364 | 317 | 278 | 222 | 179 | 150 | 124 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3446 | 2758 | 2298 | 1969 | 1724 | 1532 | 1378 | 1253 | 1148 | 1060 | 985 | 920 | 861 | 766 | 690 | 627 | 574 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 9.3 (13.8) | H-23009 | U | 4756 | 3044 | 2115 | 1554 | 1190 | 937 | 761 | 629 | 527 | 450 | 389 | 338 | 296 | 235 | 188 | 158 | 133 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3666 | 2934 | 2444 | 2096 | 1834 | 1629 | 1442 | 1333 | 1222 | 1129 | 1047 | 978 | 916 | 815 | 734 | 667 | 612 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 10.3 (15.3) | H-24009 | U | 7800 | 4992 | 3467 | 2548 | 1953 | 1541 | 1250 | 1032 | 865 | 740 | 638 | 557 | 488 | 385 | 312 | 257 | 215 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 6014 | 4810 | 4008 | 3436 | 3006 | 2673 | 2406 | 2187 | 2004 | 1850 | 1718 | 1604 | 1504 | 1337 | 1143 | 1093 | 1002 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

### Strut concentrated - loads/deflections(2)

| Plank Width | Thickness | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 9¼" | 11 ga. Steel | 1741 | 1985 |
| | 10 ga. Steel | 2004 | 2283 |
| | 9 ga. Steel | 2281 | 2594 |
| | Deflection (in.) | 0.01 | 0.01 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

### Strut uniform - loads/deflections(2)

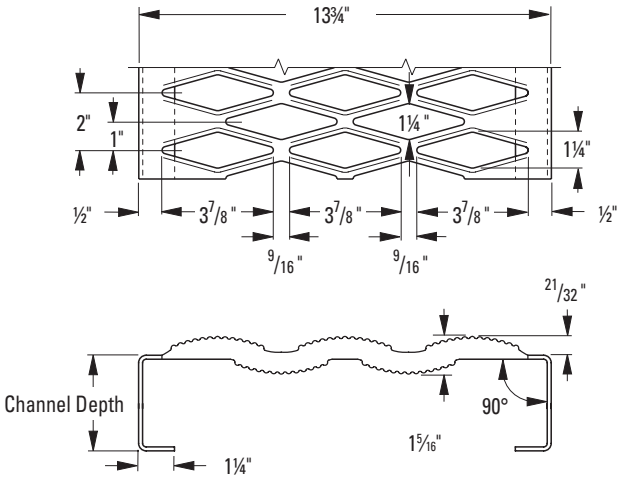
| Plank Width | Thickness | Concentrated U (lb./ft.$^2$) Serrated | Non-Serrated |
|---|---|---|---|
| 9¼" | 11 ga. Steel | 4516 | 5153 |
| | 10 ga. Steel | 5201 | 5925 |
| | 9 ga. Steel | 5917 | 6731 |
| | Deflection (in.) | 0.01 | 0.01 |

U = Allowable Uniform Load (lb./ft.$^2$)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

# Heavy Duty Grip Strut Grating Plank- Safe Loading Table

3-Diamond plank — 13¾" width — "H" series




## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 11 ga. | 2" (38.1) | 8.5 (12.6) | H-32011 | U | 1624 | 1039 | 721 | 530 | 405 | 320 | 259 | 214 | 182 | 153 | 132 | 115 | 102 | 80 | 66 | 54 | 45 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 1860 | 1488 | 1240 | 1063 | 930 | 827 | 744 | 677 | 620 | 572 | 531 | 496 | 465 | 413 | 372 | 338 | 310 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 8.9 (13.2) | H-32511 | U | 2460 | 1615 | 1093 | 804 | 615 | 485 | 393 | 325 | 274 | 233 | 201 | 175 | 153 | 122 | 99 | 83 | 68 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 2820 | 2256 | 1880 | 1611 | 1410 | 1254 | 1128 | 1025 | 940 | 868 | 806 | 752 | 705 | 626 | 564 | 513 | 470 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 9.3 (13.8) | H-33011 | U | 2618 | 1676 | 1164 | 855 | 655 | 516 | 419 | 347 | 290 | 248 | 214 | 186 | 163 | 130 | 104 | 87 | 73 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3000 | 2400 | 2000 | 1715 | 1500 | 1333 | 1180 | 1091 | 1000 | 923 | 857 | 800 | 750 | 667 | 600 | 545 | 500 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 10.1 (15.0) | H-34011 | U | 4293 | 2748 | 1909 | 1402 | 1075 | 849 | 689 | 568 | 476 | 408 | 351 | 306 | 268 | 212 | 172 | 141 | 118 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 4920 | 3936 | 3280 | 2812 | 2460 | 2187 | 1968 | 1789 | 1640 | 1514 | 1406 | 1312 | 1230 | 1094 | 935 | 895 | 820 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |
| Steel 10 ga. | 2" (50.8) | 9.5 (14.1) | H-32010 | U | 1804 | 1154 | 801 | 589 | 450 | 356 | 288 | 238 | 202 | 170 | 147 | 128 | 113 | 89 | 73 | 60 | 50 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2067 | 1653 | 1378 | 1181 | 1033 | 919 | 827 | 752 | 689 | 636 | 590 | 551 | 517 | 459 | 413 | 376 | 344 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 10.0 (14.9) | H-32510 | U | 2733 | 1794 | 1214 | 893 | 683 | 539 | 437 | 361 | 304 | 259 | 223 | 194 | 170 | 136 | 110 | 92 | 76 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3133 | 2507 | 2089 | 1790 | 1567 | 1393 | 1253 | 1139 | 1044 | 964 | 895 | 836 | 783 | 696 | 627 | 570 | 522 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 10.5 (15.6) | H-33010 | U | 2909 | 1862 | 1293 | 950 | 728 | 573 | 466 | 385 | 322 | 275 | 238 | 207 | 181 | 144 | 115 | 97 | 81 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3333 | 2667 | 2222 | 1905 | 1667 | 1481 | 1311 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .xx |
| | 4" (101.6) | 11.4 (16.9) | H-34010 | U | 4770 | 3053 | 2121 | 1558 | 1194 | 943 | 765 | 631 | 529 | 453 | 390 | 340 | 298 | 236 | 191 | 157 | 13x |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 5467 | 4373 | 3644 | 3124 | 2733 | 2430 | 2187 | 1988 | 1822 | 1682 | 1562 | 1458 | 1367 | 1215 | 1039 | 994 | 911 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .46 | .53 | .63 |

* Available on special order. Consult factory.

3-Diamond plank — 13¾" width — "H" series cont.

## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 9 ga. | 2" (38.1) | 10.6 (15.8) | H-32009 | U | 1984 | 1269 | 881 | 648 | 495 | 392 | 317 | 262 | 222 | 187 | 162 | 141 | 124 | 98 | 80 | 66 | 55 |
| | | | | D | .05 | .06 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2274 | 1818 | 1516 | 1299 | 1136 | 1011 | 910 | 827 | 758 | 700 | 649 | 606 | 569 | 505 | 454 | 414 | 378 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 11.1 (16.5) | H-32509 | U | 3006 | 1973 | 1335 | 982 | 751 | 593 | 481 | 397 | 334 | 285 | 245 | 213 | 187 | 150 | 121 | 101 | 84 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3446 | 2758 | 2298 | 1969 | 1724 | 1532 | 1378 | 1253 | 1148 | 1060 | 985 | 920 | 861 | 766 | 690 | 627 | 574 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 11.6 (17.2) | H-33009 | U | 3200 | 2048 | 1422 | 1045 | 801 | 630 | 513 | 424 | 354 | 303 | 262 | 228 | 199 | 158 | 127 | 107 | 89 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3666 | 2934 | 2444 | 2096 | 1834 | 1629 | 1442 | 1333 | 1222 | 1129 | 1047 | 978 | 916 | 815 | 734 | 667 | 612 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 12.7 (18.9) | H-34009 | U | 5247 | 3358 | 2333 | 1714 | 1313 | 1037 | 842 | 694 | 582 | 498 | 429 | 374 | 328 | 260 | 210 | 173 | 144 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 6014 | 4810 | 4008 | 3436 | 3006 | 2673 | 2406 | 2187 | 2004 | 1850 | 1718 | 1604 | 1504 | 1337 | 1143 | 1093 | 1002 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

## Strut concentrated- loads/deflections(2)

| Plank Width | Thickness | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 13¾" | 11 ga. Steel | 1171 | 1336 |
| | 10 ga. Steel | 1348 | 1536 |
| | 9 ga. Steel | 1534 | 1745 |
| | Deflection (in.) | 0.02 | 0.02 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

## Strut uniform - loads/deflections(2)

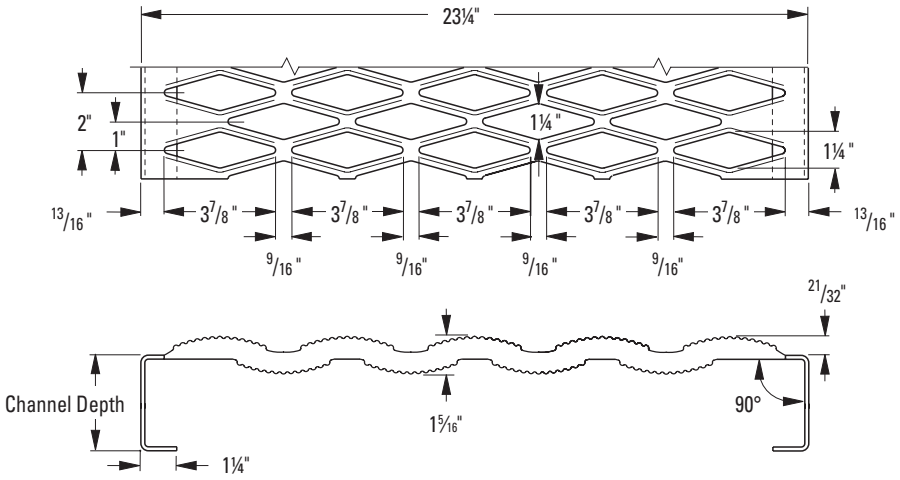
| Plank Width | Thickness | Concentrated U (lb./ft.$^2$) Serrated | Non-Serrated |
|---|---|---|---|
| 13¾" | 11 ga. Steel | 2044 | 2322 |
| | 10 ga. Steel | 2354 | 2681 |
| | 9 ga. Steel | 2678 | 3046 |
| | Deflection (in.) | 0.03 | 0.03 |

U = Allowable uniform Load (lb./ft.$^2$)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

# Heavy Duty Grip Strut Grating Plank - Safe Loading Tables

## 5-Diamond plank — 23¼" width — "H" series




## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 11 ga. | 2" (38.1) | 12.7 (18.9) | H-52011 | U | 930 | 595 | 413 | 304 | 232 | 184 | 149 | 123 | 104 | 88 | 76 | 66 | 58 | 46 | 38 | 31 | 26 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | | | | C | 1860 | 1488 | 1240 | 1063 | 930 | 827 | 744 | 677 | 620 | 572 | 531 | 496 | 465 | 413 | 372 | 338 | 310 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 13.1 (19.5) | H-52511 | U | 1409 | 925 | 626 | 460 | 352 | 278 | 225 | 186 | 157 | 134 | 115 | 100 | 88 | 70 | 57 | 47 | 39 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | | | | C | 2820 | 2256 | 1880 | 1611 | 1410 | 1254 | 1128 | 1025 | 940 | 868 | 806 | 752 | 705 | 626 | 564 | 513 | 470 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.06 |
| | 3" (76.2) | 13.6 (20.2) | H-53011 | U | 1547 | 989 | 687 | 504 | 387 | 305 | 247 | 204 | 170 | 146 | 125 | 110 | 96 | 76 | 60 | 51 | 42 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3000 | 2400 | 2000 | 1715 | 1500 | 1333 | 1180 | 1091 | 1000 | 923 | 857 | 800 | 750 | 667 | 600 | 545 | 500 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 14.4 (21.4) | H-54011 | U | 2538 | 1624 | 1129 | 828 | 635 | 502 | 406 | 334 | 280 | 240 | 207 | 181 | 158 | 125 | 101 | 84 | 70 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 4920 | 3936 | 3280 | 2812 | 2460 | 2187 | 1968 | 1789 | 1640 | 1514 | 1406 | 1312 | 1230 | 1094 | 935 | 895 | 820 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |
| Steel 10 ga. | 2" (50.8) | 14.4 (21.4) | H-52010 | U | 1034 | 661 | 459 | 337 | 258 | 204 | 165 | 136 | 116 | 97 | 84 | 73 | 65 | 51 | 42 | 34 | 29 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | | | | C | 2067 | 1653 | 1378 | 1181 | 1033 | 919 | 827 | 752 | 689 | 636 | 590 | 551 | 517 | 459 | 413 | 376 | 344 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 14.8 (22.0) | H-52510 | U | 1617 | 1034 | 718 | 528 | 404 | 319 | 259 | 214 | 180 | 153 | 132 | 115 | 101 | 81 | 65 | 54 | 45 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3133 | 2507 | 2089 | 1790 | 1567 | 1393 | 1253 | 1139 | 1044 | 964 | 895 | 836 | 783 | 696 | 627 | 570 | 522 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 15.4 (22.9) | H-53010 | U | 1720 | 1101 | 765 | 562 | 430 | 339 | 276 | 228 | 190 | 163 | 141 | 122 | 107 | 85 | 68 | 57 | 48 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3333 | 2667 | 2222 | 1905 | 1667 | 1481 | 1311 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .03 | .05 | .07 | .09 | .11 | .12 | .17 | .21 | .24 | /28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 16.4 (24.4) | H-54010 | U | 2821 | 1805 | 1254 | 921 | 706 | 557 | 452 | 373 | 312 | 268 | 231 | 201 | 177 | 139 | 113 | 93 | 77 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .76 |
| | | | | C | 5467 | 4373 | 3644 | 3124 | 2733 | 2430 | 2187 | 1988 | 1822 | 1682 | 1562 | 1458 | 1367 | 1215 | 1039 | 994 | 911 |
| | | | | D | .03 | .04 | .05 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

5-Diamond plank — 23¼" width — "H" series cont.

## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 9 ga. | 2" (38.1) | 16.1 (23.9) | H-52009 | U | 1137 | 727 | 505 | 371 | 284 | 224 | 182 | 150 | 127 | 107 | 93 | 81 | 71 | 56 | 46 | 38 | 32 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | | | | C | 2274 | 1818 | 1516 | 1299 | 1136 | 1011 | 910 | 827 | 758 | 700 | 649 | 606 | 569 | 505 | 454 | 414 | 378 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 16.7 (24.8) | H-52509 | U | 1778 | 1137 | 790 | 581 | 444 | 359 | 283 | 234 | 197 | 167 | 144 | 125 | 110 | 88 | 71 | 59 | 48 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3446 | 2758 | 2298 | 1969 | 1724 | 1532 | 1378 | 1253 | 1148 | 1060 | 985 | 920 | 861 | 766 | 690 | 627 | 574 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 17.2 (25.6) | H-53009 | U | 1892 | 1211 | 841 | 618 | 472 | 372 | 302 | 249 | 209 | 178 | 155 | 133 | 116 | 93 | 74 | 62 | 53 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3666 | 2934 | 2444 | 2096 | 1834 | 1629 | 1442 | 1333 | 1222 | 1129 | 1047 | 978 | 916 | 815 | 734 | 667 | 612 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 18.3 (27.2) | H-54009 | U | 3103 | 1985 | 1380 | 1013 | 775 | 613 | 497 | 410 | 344 | 294 | 252 | 221 | 194 | 153 | 124 | 102 | 85 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 6014 | 4810 | 4008 | 3436 | 3006 | 2673 | 2406 | 2187 | 2004 | 1850 | 1718 | 1604 | 1504 | 1337 | 1143 | 1093 | 1002 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

## Strut concentrated - loads/deflections(2)

| Plank Width | Thickness | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 23¼" | 11 ga. Steel | 823 | 939 |
| | 10 ga. Steel | 941 | 1072 |
| | 9 ga. Steel | 1059 | 1205 |
| | Deflection (in.) | 0.08 | 0.07 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

## Strut uniform - loads/deflections(2)

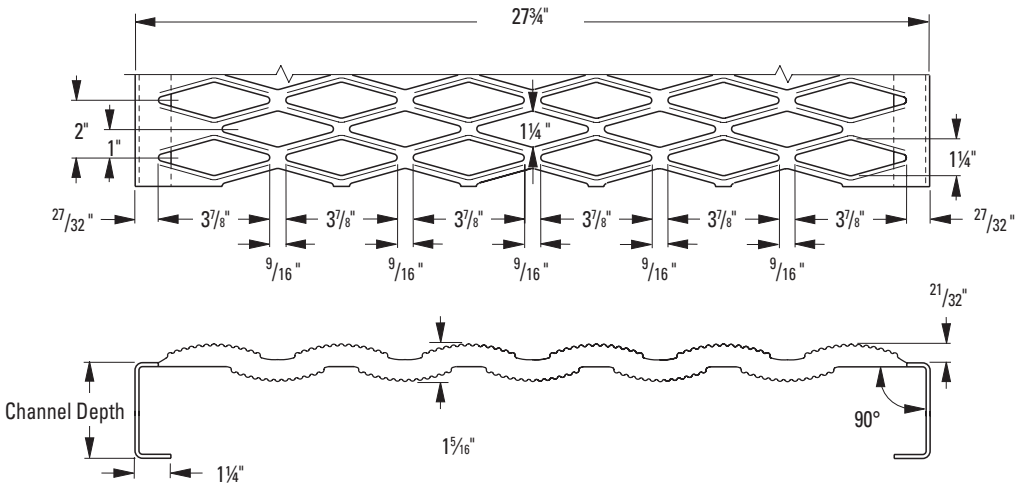
| Plank Width | Thickness | Concentrated U (lb./ft.$^2$) Serrated | Non-Serrated |
|---|---|---|---|
| 23¼" | 11 ga. Steel | 850 | 969 |
| | 10 ga. Steel | 971 | 1106 |
| | 9 ga. Steel | 1093 | 1244 |
| | Deflection (in.) | 0.10 | 0.09 |

U = Allowable Uniform Load (lb./ft.$^2$)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

# Heavy Duty Grip Strut Grating Plank - Safe Loading Tables

6-Diamond plank — 27¾" width — "H" series




## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 11 ga. | 2" (38.1) | 14.3 (21.3) | H-62011 | U | 830 | 530 | 368 | 271 | 206 | 163 | 132 | 108 | 93 | 78 | 67 | 59 | 51 | 40 | 34 | 27 | 22 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 1860 | 1488 | 1240 | 1063 | 930 | 827 | 744 | 677 | 620 | 572 | 531 | 496 | 465 | 413 | 372 | 338 | 310 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 14.7 (21.9) | H-62511 | U | 1258 | 805 | 559 | 410 | 313 | 247 | 201 | 166 | 139 | 119 | 102 | 88 | 78 | 61 | 49 | 42 | 35 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 2820 | 2256 | 1880 | 1611 | 1410 | 1254 | 1128 | 1025 | 940 | 868 | 806 | 752 | 705 | 626 | 564 | 513 | 470 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 15.2 (22.6) | H-63011 | U | 1338 | 855 | 594 | 436 | 335 | 264 | 214 | 176 | 147 | 126 | 108 | 95 | 83 | 66 | 52 | 44 | 36 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3000 | 2400 | 2000 | 1715 | 1500 | 1333 | 1180 | 1091 | 1000 | 923 | 857 | 800 | 750 | 867 | 600 | 545 | 500 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 16.0 (23.8) | H-64011 | U | 2234 | 1405 | 976 | 716 | 549 | 434 | 351 | 289 | 242 | 208 | 179 | 157 | 137 | 106 | 87 | 73 | 61 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 4920 | 3936 | 3280 | 2812 | 2460 | 2187 | 1968 | 1789 | 1640 | 1514 | 1406 | 1312 | 1230 | 1094 | 935 | 895 | 820 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |
| Steel 10 ga. | 2" (50.8) | 16.2 (24.1) | H-62010 | U | 923 | 590 | 410 | 301 | 230 | 182 | 147 | 122 | 103 | 87 | 75 | 66 | 58 | 46 | 37 | 31 | 25 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2067 | 1653 | 1378 | 1181 | 1033 | 919 | 827 | 752 | 689 | 636 | 590 | 551 | 517 | 459 | 413 | 376 | 344 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 16.7 (24.8) | H-62510 | U | 1398 | 894 | 621 | 457 | 349 | 276 | 224 | 185 | 156 | 132 | 114 | 99 | 87 | 70 | 56 | 47 | 39 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3133 | 2507 | 2089 | 1790 | 1567 | 1393 | 1253 | 1139 | 1044 | 964 | 895 | 836 | 783 | 696 | 627 | 570 | 522 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 17.2 (25.6) | H-63010 | U | 1488 | 952 | 662 | 486 | 372 | 293 | 239 | 197 | 164 | 141 | 122 | 106 | 93 | 74 | 59 | 49 | 42 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3333 | 2667 | 2222 | 1905 | 1667 | 1481 | 1311 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 18.2 (27.1) | H-64010 | U | 2440 | 1561 | 1805 | 797 | 611 | 482 | 391 | 323 | 270 | 232 | 200 | 174 | 153 | 120 | 98 | 80 | 67 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 5467 | 4373 | 3644 | 3124 | 2733 | 2430 | 2187 | 1988 | 1822 | 1682 | 1562 | 1458 | 1367 | 1215 | 1039 | 994 | 911 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

6-Diamond plank — 27¾" width — "H" series cont.

## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 9 ga. | 2" (38.1) | 18.2 (27.1) | H-62009 | U | 1013 | 650 | 450 | 330 | 253 | 200 | 162 | 134 | 112 | 95 | 81 | 71 | 63 | 49 | 40 | 34 | 27 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2274 | 1818 | 1516 | 1299 | 1136 | 1011 | 910 | 827 | 758 | 700 | 649 | 606 | 569 | 505 | 454 | 414 | 378 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 18.7 (27.8) | H-62509 | U | 1537 | 983 | 683 | 502 | 384 | 303 | 245 | 202 | 170 | 144 | 125 | 108 | 95 | 76 | 61 | 51 | 42 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3446 | 2758 | 2298 | 1969 | 1724 | 1532 | 1378 | 1253 | 1148 | 1060 | 985 | 920 | 861 | 766 | 690 | 627 | 574 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 19.3 (28.7) | H-63009 | U | 1636 | 1047 | 727 | 534 | 408 | 322 | 261 | 215 | 181 | 154 | 134 | 115 | 100 | 80 | 64 | 54 | 46 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3666 | 2934 | 2444 | 2096 | 1834 | 1629 | 1442 | 1333 | 1222 | 1129 | 1047 | 978 | 916 | 815 | 734 | 667 | 612 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 19.8 (29.4) | H-64009 | U | 2684 | 1717 | 1194 | 876 | 671 | 530 | 430 | 355 | 298 | 254 | 218 | 191 | 168 | 132 | 107 | 88 | 74 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 6014 | 4810 | 4008 | 3436 | 3006 | 2673 | 2406 | 2187 | 2004 | 1850 | 1718 | 1604 | 1505 | 1337 | 1143 | 1093 | 1002 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

## Strut concentrated - loads/deflections(2)

| Plank Width | Thickness | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 23¼" | 11 ga. Steel | 690 | 793 |
| | 10 ga. Steel | 788 | 906 |
| | 9 ga. Steel | 887 | 1019 |
| | Deflection (in.) | 0.11 | 0.10 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

## Strut uniform - loads/deflections(2)

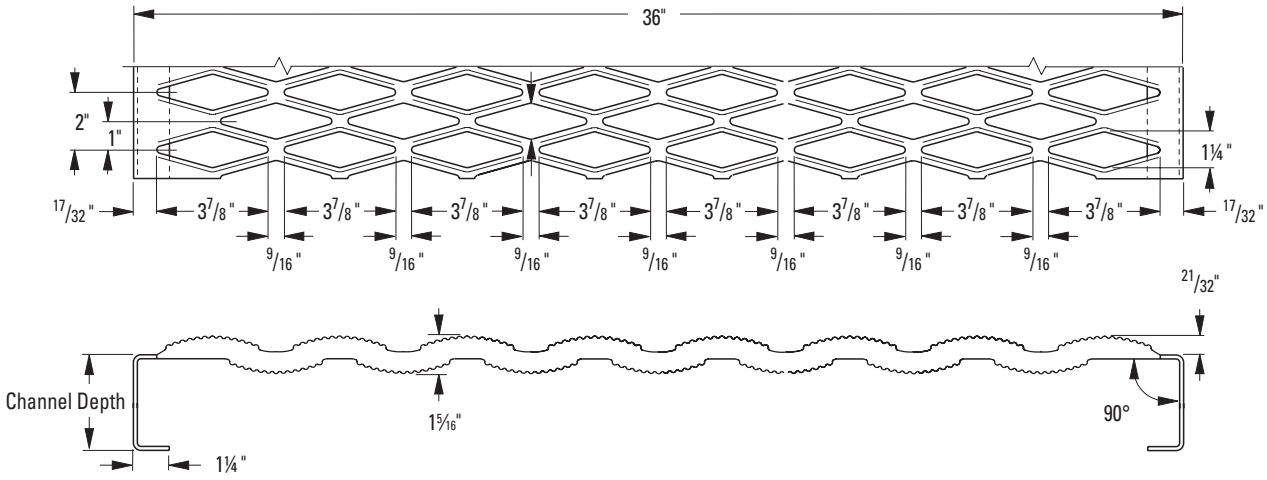
| Plank Width | Thickness | Concentrated U (lb./ft.²) Serrated | Non-Serrated |
|---|---|---|---|
| 23¼" | 11 ga. Steel | 597 | 686 |
| | 10 ga. Steel | 682 | 784 |
| | 9 ga. Steel | 767 | 882 |
| | Deflection (in.) | 0.14 | 0.13 |

U = Allowable Uniform Load (lb./ft.²)

(2) See "General Load information", page 64, for explanation of design load deflection conditions.

# Heavy Duty Grip Strut Grating Plank - Safe Loading Tables

## 8-Diamond plank — 36" width — "H" series




## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 11 ga. | 2" (38.1) | 18.0 (26.8) | H-82011 | U | 620 | 397 | 275 | 203 | 155 | 122 | 99 | 82 | 69 | 59 | 50 | 44 | 39 | 31 | 25 | 21 | 17 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 1860 | 1488 | 1240 | 1063 | 930 | 827 | 744 | 677 | 620 | 572 | 531 | 496 | 465 | 413 | 372 | 338 | 310 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 18.4 (27.4) | H-82511 | U | 950 | 601 | 418 | 307 | 235 | 185 | 150 | 124 | 104 | 89 | 77 | 67 | 59 | 47 | 38 | 32 | 26 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 2820 | 2256 | 1880 | 1611 | 1410 | 1254 | 1128 | 1025 | 940 | 868 | 806 | 752 | 705 | 626 | 564 | 513 | 470 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 18.9 (28.1) | H-83011 | U | 1000 | 640 | 445 | 327 | 250 | 197 | 160 | 132 | 111 | 95 | 82 | 71 | 62 | 50 | 40 | 33 | 28 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3000 | 2400 | 2000 | 1715 | 1500 | 1333 | 1180 | 1091 | 1000 | 923 | 857 | 800 | 750 | 667 | 600 | 545 | 500 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 19.7 (29.3) | H-84011 | U | 1640 | 1049 | 729 | 536 | 410 | 324 | 263 | 217 | 182 | 156 | 134 | 117 | 103 | 81 | 66 | 54 | 45 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 4920 | 3936 | 3280 | 2812 | 2460 | 2187 | 1968 | 1789 | 1640 | 1514 | 1406 | 1312 | 1230 | 1094 | 935 | 895 | 820 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |
| Steel 10 ga. | 2" (50.8) | 19.9 (29.6) | H-82010 | U | 689 | 441 | 306 | 225 | 172 | 136 | 110 | 91 | 77 | 65 | 56 | 49 | 43 | 34 | 28 | 23 | 19 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2067 | 1653 | 1378 | 1181 | 1033 | 919 | 827 | 752 | 689 | 636 | 590 | 551 | 517 | 459 | 413 | 376 | 344 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 20.4 (30.3) | H-82510 | U | 1044 | 668 | 464 | 341 | 261 | 206 | 167 | 138 | 116 | 99 | 85 | 74 | 65 | 52 | 42 | 35 | 29 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3133 | 2507 | 2089 | 1790 | 1567 | 1393 | 1253 | 1139 | 1944 | 964 | 895 | 836 | 783 | 696 | 627 | 570 | 522 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 20.9 (31.1) | H-83010 | U | 1111 | 711 | 494 | 363 | 278 | 219 | 178 | 147 | 123 | 105 | 91 | 79 | 69 | 55 | 44 | 37 | 31 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3333 | 2667 | 2222 | 1905 | 1667 | 1481 | 1311 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 21.8 (32.4) | H-84010 | U | 1822 | 1166 | 810 | 595 | 456 | 360 | 292 | 241 | 202 | 173 | 149 | 130 | 114 | 90 | 73 | 60 | 50 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 5467 | 4373 | 3644 | 3124 | 2733 | 2430 | 2187 | 1988 | 1822 | 1682 | 1562 | 1458 | 1367 | 1215 | 1039 | 994 | 911 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

8-Diamond plank — 36" width — "H" series cont.

## Plank selection & design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | 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* 9 ga. | 2" (38.1) | 22.1 (32.9) | H-82009 | U | 758 | 485 | 337 | 248 | 189 | 150 | 121 | 100 | 85 | 72 | 62 | 54 | 47 | 37 | 31 | 25 | 21 |
| | | | | D | .05 | .08 | .11 | .15 | .19 | .24 | .30 | .35 | .41 | .47 | .54 | .62 | .69 | .85 | 1.04 | 1.24 | 1.45 |
| | | | | C | 2274 | 1818 | 1516 | 1299 | 1136 | 1011 | 910 | 827 | 758 | 700 | 649 | 606 | 569 | 505 | 454 | 414 | 378 |
| | | | | D | .04 | .06 | .09 | .12 | .15 | .19 | .24 | .28 | .33 | .38 | .44 | .49 | .55 | .68 | .81 | .98 | 1.16 |
| | 2½" (63.5) | 22.7 (33.8) | H-82509 | U | 1148 | 735 | 510 | 375 | 287 | 227 | 184 | 152 | 128 | 109 | 94 | 81 | 72 | 57 | 46 | 39 | 32 |
| | | | | D | .05 | .07 | .10 | .14 | .18 | .23 | .27 | .32 | .36 | .42 | .49 | .55 | .62 | .79 | .96 | 1.15 | 1.35 |
| | | | | C | 3446 | 2758 | 2298 | 1969 | 1724 | 1532 | 1378 | 1253 | 1148 | 1060 | 985 | 920 | 861 | 766 | 690 | 627 | 574 |
| | | | | D | .04 | .06 | .08 | .11 | .14 | .18 | .22 | .25 | .29 | .34 | .39 | .44 | .50 | .63 | .76 | .91 | 1.08 |
| | 3" (76.2) | 23.9 (35.5) | H-83009 | U | 1222 | 782 | 543 | 399 | 306 | 241 | 196 | 162 | 135 | 116 | 100 | 87 | 76 | 61 | 48 | 41 | 34 |
| | | | | D | .04 | .06 | .08 | .11 | .15 | .18 | .22 | .26 | .30 | .34 | .39 | .44 | .48 | .58 | .68 | .80 | .95 |
| | | | | C | 3666 | 2934 | 2444 | 2096 | 1834 | 1629 | 1442 | 1333 | 1222 | 1129 | 1047 | 978 | 916 | 815 | 734 | 667 | 612 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .15 | .17 | .21 | .24 | .28 | .31 | .35 | .39 | .47 | .55 | .64 | .76 |
| | 4" (101.6) | 24.2 (36.0) | H-84009 | U | 2004 | 1283 | 891 | 655 | 502 | 396 | 321 | 265 | 222 | 190 | 164 | 143 | 125 | 99 | 80 | 66 | 56 |
| | | | | D | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20 | .23 | .27 | .31 | .35 | .39 | .47 | .56 | .66 | .78 |
| | | | | C | 6014 | 4810 | 4008 | 3436 | 3006 | 2673 | 2406 | 2187 | 2004 | 1850 | 1718 | 1604 | 1504 | 1337 | 1143 | 1093 | 1002 |
| | | | | D | .03 | .04 | .06 | .07 | .09 | .11 | .14 | .16 | .19 | .22 | .25 | .28 | .31 | .38 | .45 | .53 | .63 |

* Available on special order. Consult factory.

### Strut concentrated - loads/deflections(2)

| Plank Width | Thickness | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 36" | 11 ga. Steel | 447 | 510 |
| | 10 ga. Steel | 515 | 587 |
| | 9 ga. Steel | 586 | 667 |
| | Deflection (in.) | 0.16 | 0.15 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)
(2) See "General Load information", page 64, for explanation of design load deflection conditions.

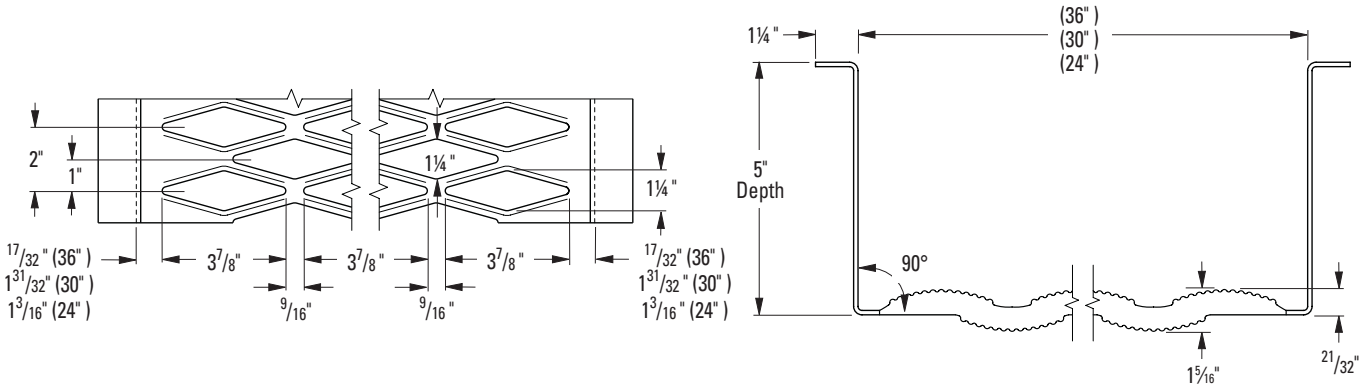
### Strut uniform - loads/deflections(2)

| Plank Width | Thickness | Concentrated U (lb./ft.$^2$) Serrated | Non-Serrated |
|---|---|---|---|
| 36" | 11 ga. Steel | 298 | 340 |
| | 10 ga. Steel | 343 | 391 |
| | 9 ga. Steel | 391 | 444 |
| | Deflection (in.) | 0.20 | 0.19 |

U = Allowable Uniform Load (lb./ft.$^2$)
(2) See "General Load information", page 64, for explanation of design load deflection conditions.

# Heavy Duty Grip Strut Grating Walkway - Safe Loading Tables

5-Diamond walkway — 24" width — 5" deep — "H" series
6-Diamond walkway — 30" width — 5" deep — "H" series
8-Diamond walkway — 36" width — 5" deep — "H" series




## Steel walkway selection design loads/deflections

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C= Concentrated load (lb.) D=Deflection (in.)

| Material Gauge | Channel Depth in. (mm) | Weight lb./lin. ft. (kg/m) | Catalog Number | Load/ Defl. Code | Span | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0' | 15'-0" | 16'-0" | 18'-0" | 20'-0" | 22'-0" | 24'-0" |
| 24" 5-Dia | 11 ga.* | 15.4 (22.9) | H-55011-W | U | 750 | 480 | 334 | 245 | 187 | 148 | 120 | 99 | 83 | 71 | 62 | 54 | 47 | 37 | 30 | 25 | 21 |
| | | | | D | .34 | .35 | .38 | .34 | .34 | .34 | .35 | .42 | .50 | .59 | .69 | .79 | .91 | 1.13 | 1.43 | 1.70 | 2.03 |
| | | | | C | 3000 | 2400 | 2000 | 1714 | 1500 | 1334 | 1200 | 1091 | 1000 | 922 | 857 | 800 | 750 | 666 | 600 | 546 | 500 |
| | | | | D | .27 | .28 | .31 | .28 | .28 | .27 | .28 | .34 | .41 | .48 | .56 | .63 | .72 | .91 | 1.13 | 1.36 | 1.62 |
| | 10 ga. | 17.5 (26.0) | H-55010-W | U | 937 | 600 | 417 | 306 | 234 | 185 | 150 | 124 | 104 | 89 | 77 | 67 | 59 | 46 | 38 | 31 | 26 |
| | | | | D | .38 | .39 | .42 | .38 | .38 | .38 | .39 | .47 | .56 | .66 | .77 | .88 | 1.01 | 1.26 | 1.59 | 1.89 | 2.25 |
| | | | | C | 3750 | 3000 | 2500 | 2143 | 1875 | 1667 | 1500 | 1364 | 1250 | 1153 | 1071 | 1000 | 938 | 833 | 750 | 682 | 625 |
| | | | | D | .30 | .31 | .34 | .31 | .30 | .30 | .31 | .36 | .45 | .53 | .61 | .70 | .80 | 1.01 | 1.25 | 1.51 | 1.80 |
| | 9 ga.* | 19.6 (29.1) | H-55009-W | U | 1031 | 660 | 459 | 337 | 257 | 204 | 165 | 136 | 114 | 98 | 85 | 74 | 65 | 51 | 42 | 34 | 29 |
| | | | | D | .38 | .39 | .42 | .38 | .38 | .38 | .39 | .47 | .56 | .66 | .77 | .88 | 1.01 | 1.26 | 1.59 | 1.89 | 2.25 |
| | | | | C | 4125 | 3300 | 2750 | 2357 | 2063 | 1834 | 1650 | 1500 | 1375 | 1268 | 1178 | 1100 | 1032 | 916 | 825 | 750 | 688 |
| | | | | D | .30 | .31 | .34 | .31 | .30 | .30 | .31 | .36 | .45 | .53 | .61 | .70 | .80 | 1.01 | 1.25 | 1.51 | 1.80 |
| 30" 6-Dia | 11 ga.* | 17.7 (26.3) | H-65011-W | U | 732 | 468 | 325 | 239 | 183 | 145 | 116 | 96 | 81 | 69 | 60 | 52 | 45 | 36 | 28 | 24 | 20 |
| | | | | D | .33 | .39 | .36 | .36 | .41 | .38 | .37 | .37 | .44 | .51 | .59 | .68 | .77 | .98 | 1.20 | 1.46 | 1.73 |
| | | | | C | 3667 | 2932 | 2444 | 2095 | 1832 | 1629 | 1467 | 1333 | 1222 | 1128 | 1047 | 977 | 916 | 815 | 732 | 667 | 610 |
| | | | | D | .27 | .31 | .29 | .29 | .33 | .31 | .30 | .30 | .35 | .41 | .48 | .55 | .62 | .78 | .97 | 1.17 | 1.40 |
| | 10 ga. | 19.9 (29.6) | H-65010-W | U | 916 | 586 | 407 | 299 | 229 | 182 | 146 | 121 | 102 | 87 | 75 | 65 | 57 | 45 | 36 | 30 | 25 |
| | | | | D | .37 | .43 | .40 | .40 | .46 | .42 | .41 | .41 | .49 | .57 | .66 | .75 | .86 | 1.09 | 1.33 | 1.62 | 1.92 |
| | | | | C | 4584 | 3666 | 3056 | 2619 | 2291 | 2037 | 1834 | 1667 | 1528 | 1410 | 1309 | 1222 | 1146 | 1019 | 916 | 834 | 763 |
| | | | | D | .30 | .34 | .32 | .32 | .37 | .34 | .33 | .33 | .39 | .45 | .53 | .61 | .69 | .87 | 1.08 | 1.30 | 1.55 |
| | 9 ga.* | 22.1 (32.9) | H-65009-W | U | 1007 | 644 | 447 | 328 | 251 | 200 | 160 | 133 | 112 | 95 | 82 | 71 | 62 | 49 | 39 | 33 | 27 |
| | | | | D | .37 | .43 | .40 | .40 | .46 | .42 | .41 | .41 | .49 | .57 | .66 | .75 | .86 | 1.09 | 1.33 | 1.62 | 1.92 |
| | | | | C | 5042 | 4032 | 3361 | 2880 | 2530 | 2240 | 2017 | 1833 | 1680 | 1551 | 1439 | 1344 | 1260 | 1120 | 1007 | 917 | 839 |
| | | | | D | .30 | .34 | .32 | .32 | .37 | .34 | .33 | .33 | .39 | .45 | .53 | .61 | .69 | .87 | 1.08 | 1.30 | 1.55 |
| 36" 8-Dia | 11 ga.* | 20.2 (30.0) | H-85011-W | U | 444 | 284 | 197 | 144 | 111 | 88 | 71 | 58 | 49 | 42 | 36 | 31 | 28 | 21 | 17 | 14 | 12 |
| | | | | D | .35 | .35 | .30 | .29 | .30 | .32 | .35 | .38 | .46 | .54 | .62 | .71 | .82 | 1.04 | 1.26 | 1.50 | 1.78 |
| | | | | C | 2664 | 2133 | 1777 | 1524 | 1333 | 1184 | 1066 | 969 | 888 | 820 | 761 | 711 | 666 | 592 | 533 | 484 | 444 |
| | | | | D | .28 | .28 | .23 | .23 | .23 | .26 | .28 | .31 | .37 | .43 | .50 | .58 | .65 | .83 | 1.02 | 1.23 | 1.47 |
| | 10 ga. | 22.7 (33.8) | H-85010-W | U | 556 | 356 | 247 | 181 | 139 | 110 | 89 | 73 | 62 | 53 | 45 | 39 | 35 | 27 | 22 | 18 | 15 |
| | | | | D | .39 | .39 | .33 | .32 | .33 | .36 | .39 | .42 | .51 | .60 | .69 | .79 | .91 | 1.15 | 1.40 | 1.67 | 1.98 |
| | | | | C | 3330 | 2667 | 2222 | 1905 | 1667 | 1481 | 1333 | 1212 | 1111 | 1026 | 952 | 889 | 833 | 741 | 667 | 606 | 556 |
| | | | | D | .31 | .31 | .26 | .26 | .26 | .29 | .31 | .34 | .41 | .46 | .55 | .64 | .72 | .92 | 1.13 | 1.37 | 1.63 |
| | 9 ga.* | 25.3 (37.6) | H-85009-W | U | 611 | 391 | 271 | 199 | 152 | 121 | 97 | 80 | 68 | 58 | 49 | 42 | 38 | 29 | 24 | 19 | 16 |
| | | | | D | .39 | .39 | .33 | .32 | .33 | .36 | .39 | .42 | .51 | .60 | .69 | .79 | .91 | 1.15 | 1.40 | 1.67 | 1.98 |
| | | | | C | 3663 | 2933 | 2444 | 2095 | 1833 | 1629 | 1466 | 1333 | 1222 | 1128 | 1047 | 977 | 916 | 815 | 733 | 666 | 611 |
| | | | | D | .31 | .31 | .26 | .26 | .26 | .29 | .31 | .34 | .41 | .46 | .55 | .64 | .72 | .92 | 1.13 | 1.37 | 1.63 |

* Available on special order. Consult factory.

5-Diamond walkway — 24" width — 5" deep — "H" series
6-Diamond walkway — 30" width — 5" deep — "H" series
8-Diamond walkway — 36" width — 5" deep — "H" series

## Strut concentrated - loads/deflections(2)

| Walkway Width | Thickness - Material | Concentrated $C_s$ (lb./ft.) Serrated | Non-Serrated |
|---|---|---|---|
| 24" 5-Diamond | 11 ga. - Steel | 798 | 917 |
| | 10 ga. - Steel | 912 | 1048 |
| | 9 ga. - Steel | 1026 | 1179 |
| | Deflection (in.) | 0.08 | 0.07 |
| 30" 6-Diamond | 11 ga. - Steel | 537 | 612 |
| | 10 ga. - Steel | 618 | 704 |
| | 9 ga. - Steel | 703 | 800 |
| | Deflection (in.) | 0.11 | 0.10 |
| 36" 8-Diamond | 11 ga. - Steel | 447 | 510 |
| | 10 ga. - Steel | 515 | 587 |
| | 9 ga. - Steel | 586 | 667 |
| | Deflection (in.) | 0.16 | 0.15 |

Cs = Allowable concentrated load per ft. of length at mid-width (lb./ft.)
(2) See "General Load information", page 64, for explanation of design load deflection conditions.

## Strut uniform - loads/deflections(2)

| Walkway Width | Thickness - Material | Uniform U (lb./ft.$^2$) Serrated | Non-Serrated |
|---|---|---|---|
| 24" 5-Diamond | 11 ga. - Steel | 798 | 917 |
| | 10 ga. - Steel | 912 | 1048 |
| | 9 ga. - Steel | 1026 | 1179 |
| | Deflection (in.) | 0.11 | 0.10 |
| 30" 6-Diamond | 11 ga. - Steel | 429 | 490 |
| | 10 ga. - Steel | 494 | 563 |
| | 9 ga. - Steel | 563 | 640 |
| | Deflection (in.) | 0.14 | 0.13 |
| 36" 8-Diamond | 11 ga. - Steel | 298 | 340 |
| | 10 ga. - Steel | 343 | 391 |
| | 9 ga. - Steel | 391 | 444 |
| | Deflection (in.) | 0.20 | 0.19 |

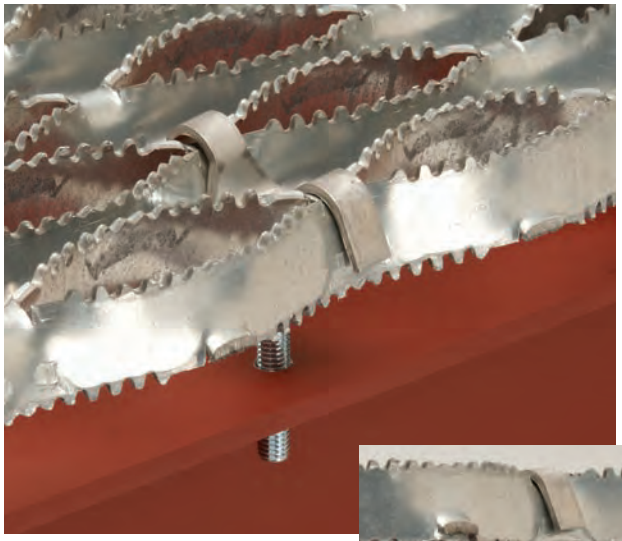
U = Allowable Uniform Load (lb./ft.$^2$)
(2) See "General Load information", page 64, for explanation of design load deflection conditions.

## Heavy Duty Grip Strut Hold-Down Clip

- Catalog number **H-BC-10** (G-90 Mill Galvanized)
- Use with ⅜" square-shank carriage bolts, nuts and washers obtained locally.
- Also available in stainless steel.

**Heavy Duty Grip strut Hold-Down Clip**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 66251626561 | H-BC-10 | .12 |



## Walkway Splice Plate

- Catalog number **P-H-SP-U.**
- Formed from 9 gauge mill-galvanized steel, prepunched and supplied with 1/2" hex bolts, nuts and washers.
- Torque to 40 ft.-lbs.

**Walkway Splice Plate Kit**

| UPC Number | Catalog Number | Wt./Ea. |
|---|---|---|
| 6625160771 | P-H-SP-U | 27.94 |

## Handrail Brackets

- Available for application on Heavy Duty Grip Strut™ steel walkways.
- Valuable accessory for those projects where utilization of Heavy Duty Grip Strut steel walkway is desired for its superior long spanability.
- Handrailing with handrail post on maximum eight foot center is required per OSHA.
- Eliminate unnecessary and costly substructure to support handrail post.
- Tested as a proper moment connection for handrail post to standards as outlined in "OSHA" 1910.23.

Handrail Brackets come in two styles;
Universal Type and Clip Angle Type, and can be ordered by the following catalog system;

### How to order

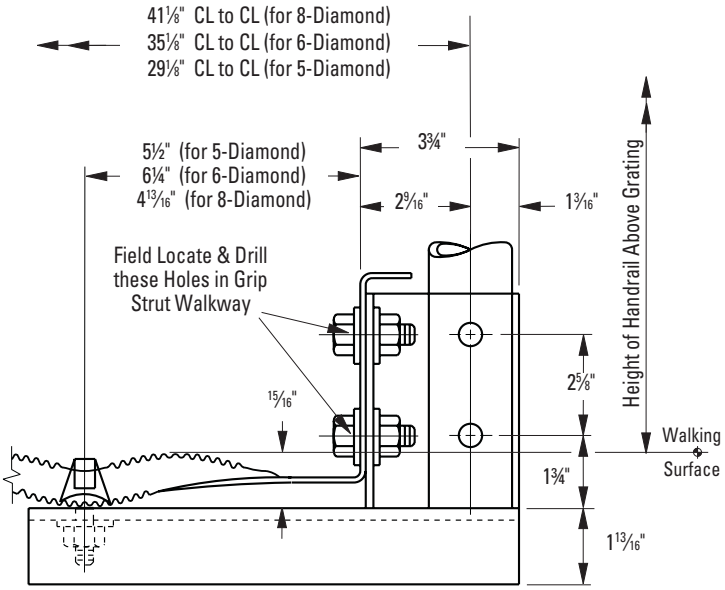
HRB-Hand Rail Bracket
5, 6, or 8 Diamond

**HRB-A-5**

A (Clip Angle Type)
or
UNIV_HRB_P (Universal Type)

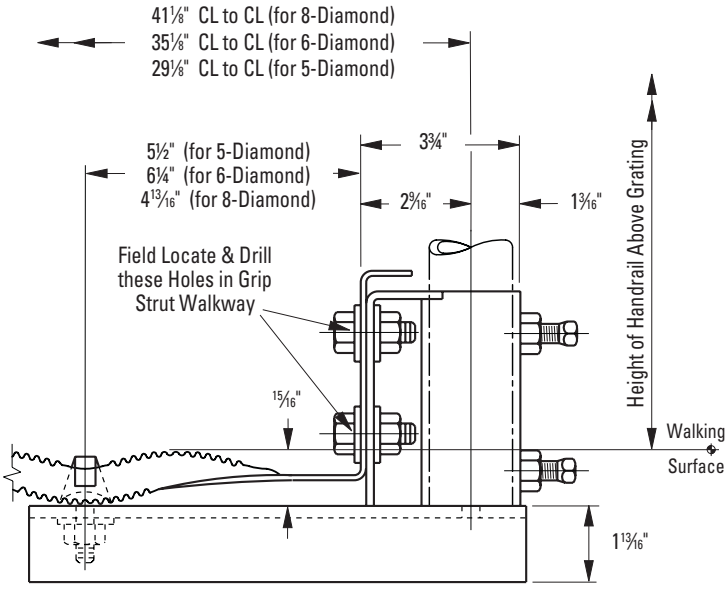
## Clip Angle/Handrail Bracket (HRB-A-_)

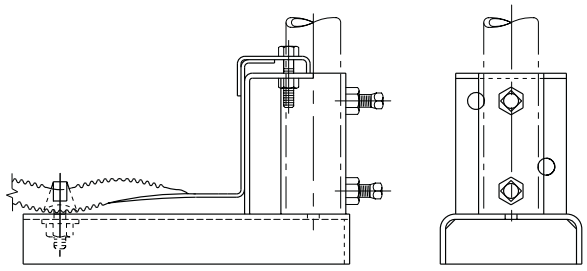
- Designed for use with all types of Handrail Post; Pipe, Angle, Tube etc.
- Handrail Post may be mounted to Handrail Bracket with two 1/2" bolts and nuts (not included) to holes conveniently located, or by welding.
- Sold in plain non-finished steel but may be ordered in a hot dipped galvanized after fabrication finish.
- All hardware for mounting Handrail Bracket to Heavy Duty steel walkway is included.




## Universal Handrail Bracket (UNIV_HRB_P)

- Designed for use with pipe style handrail post (maximum 2" O.D.) which allows for simple installation of handrail post.
- Secure post by tightening two allen head set screws.
- Bracket sold in plain non-finish steel but may be ordered in a hot dipped galvanized after fabrication finish.
- All hardware for mounting handrail bracket to Heavy Duty Steel walkway is included.



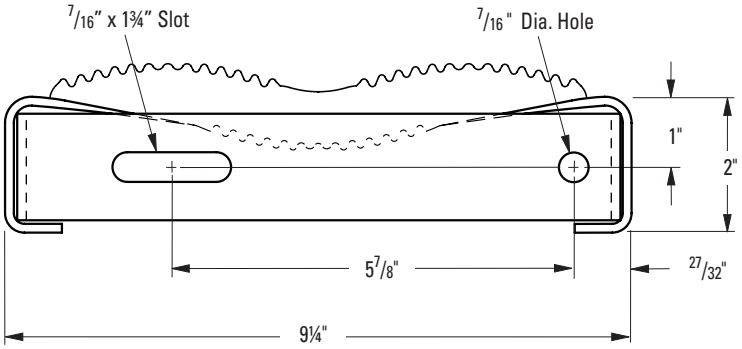
**Universal Handrail Bracket permits attachment without drilling**

## A step ahead with safety, two ways

No-where is sole-gripping design more critical than on stairs, where feet are more prone to slip, often with severe consequences. Heavy Duty Grip Strut™ stair treads provide the sole-gripping qualities of Grip Strut safety grating for extra safety in two ways: multi-directional scraping action of tiny-toothed surfaces keeps shoes clean; open design rids surface of debris. The open area also makes threads easy to see, and edges read well from above.

Heavy Duty Grip Strut stair treads are available in standard style only, 10-gauge steel: one depth (2"), two widths (91/4", 133/4"), and four standard spans (24", 30", 36", 48"), with others available upon request. They are ideal for new construction, or easily attached to stringers for rehabilitation of existing stairs.

### Heavy-Duty Grip Strut — 2-Diamond stair tread construction




## Stair tread selection & design loads (1)

Allowable loads and deflections: U=Uniform load (lb./ft.²) C= Concentrated load (lb.) D=Deflection (in.)

| Material | Thickness | Depth in. | Weight lb./lin. ft. (kg/m) | Catalog Number | Load Type | Clear Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2'-0" | 2'-6" | 3'-0" | 4'-0" (2) |
| Steel | 10 ga. | 2" | 7.4 (11.0) | HT22010 | U | 2412 | 1544 | 1026 | 629 |
| | | | | | C | 1860 | 1487 | 1240 | 929 |

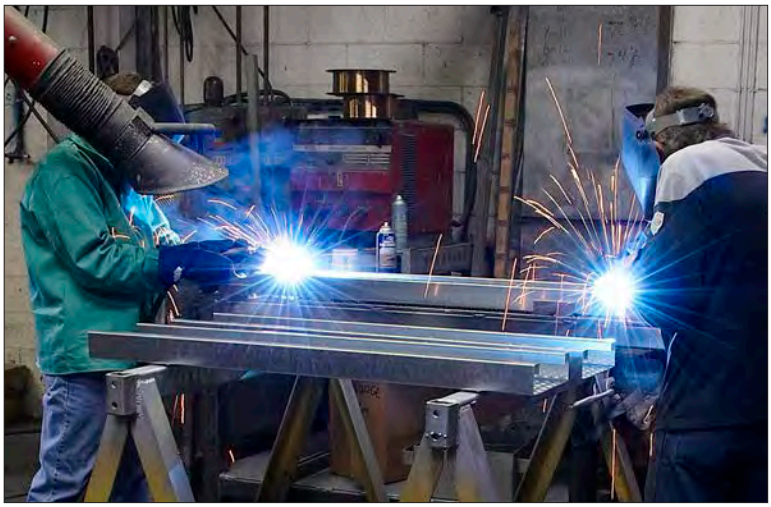
(1) See "General load information", page 64, for explanation of design load deflection conditions.
(2) For stair treads, intermediate stringer is recommended for spans over 4 feet.

## Fabricating services

We can quote large jobs, including detailing and fabricating of special material, according to your project specifications. Submit plans and specifications through your Grip Strut safety grating distributor.

After your order is received, a bill of materials and shop drawings will be prepared for your approval before fabrication is begun. A few of the fabricating services available include:

- Special cutting
- Marking according to layout
- Banding
- Toe plates



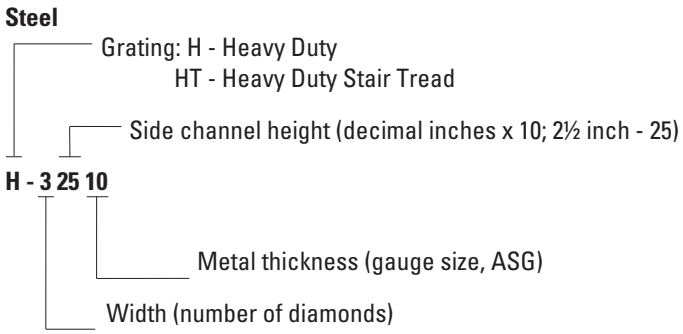
Heavy Duty Grip Strut™ safety grating planks, walkways and stair treads are available through any local Grip Strut safety grating distributors in all major market areas. For the finest in Safety Grating and Stair Treads, contact your local distributor or us. You will get skilled consulting service on your specific requirements.

All standard products are coded with a catalog number which should be used in ordering. For identification and ordering information on special products, consult your Grip Strut safety grating distributor or contact us.

## How to build a part number:

**Plank and walkway catalog numbers**
denote product configuration as follows:

**Steel —**
Standard material is mill-galvanized per ASTM A525. For plain, unpainted steel, "BL" follows the five-digit catalog number coded below.




**Examples:**
**Catalog Number H-82010-GL denotes a mill-galvanized, 10 gauge steel plank of 8-diamond (36") width and 2" high side channels;**
**Catalog Number H-65009-WBL denotes a plain, unpainted, 9 gauge steel walkway of 6-diamond (30") width and 5" high side channels.**
**Catalog Number H-65010-WBL denotes a plain, unpainted, 10 gauge steel walkway of 6-diamond (30") width and 5" high side channels.**

**Stair Tread catalog numbers —**
Use the above coding preceded by "HT" to denote stair tread.

**Example:**
**Catalog Number HT-22010-B denotes a stair tread of plain, unpainted, 10 gauge steel, 2-diamond (9¼" ) width and 2" high deep side channels.**

**Optional "W" = walkway.**

# Heavy Duty Grip Strut Grating - Specifications

## Notes to architect

1. These specifications are presented as a general guide to the architect or structural engineer in preparing project specifications. Allowable loads, spans, and other limiting conditions presented in this catalog are product data for use in design and construction. These products must not be used without prior structural design by a qualified engineer or architect.
2. Grip Strut safety gratings are intended for general purpose use in plants and process facilities by industry, commerce, and public utilities.

   Grip Strut safety grating stair treads are intended for utility stairs and fire escapes in commercial, industrial buildings where local code permits. They are not intended for staircases and other areas used regularly by the general public where flat closed surfaces are desired.
3. All supports should 1½" minimum bearing surface free of burrs, bridging, welds and other irregularities. (**Note**: When using Butterfly Anchor Clips "H-BC-10" it is advisable to provide a minimum of 3" for bearing per support per grating).
4. Random-, diagonal- or circular-cut exposed edges should be reinforced with a bar of grating thickness (minimum ⅛") and width equal to overall grating depth, welded at contact points of the designer's discretion.
5. Bolted connections, except stair or ladder tread attachment to stringers, may be replaced by welded connections of equal or greater strength.

**Part 1: General**

**1.1 Scope**
The contractor shall furnish and install Grip Strut grating and stair treads, as specified, in all areas where shown on the drawings.

**1.2 Qualifications**
All Grip Strut grating, stair tread and accessories, unless otherwise indicated, shall be manufactured by Eaton, and shall be installed in accordance with its current recommendations.

**1.3 Submittals**
The contractor shall furnish shop drawings of grating layout, framing and supports, unit dimensions and sections, fastener and weld types and locations.

**1.4 Storage and Handling**
All materials shall be stored and handled to avoid damage. Damaged or deteriorated materials shall be removed from the premises.

**Part 2: Products**

**2.1 Gratings**

- **a. Type:** Heavy Duty Grip Strut™ safety grating (plank) (walkway).
- **b. Metal:** (carbon steel).
- **c. Finish:** mill-galvanized before fabrication, ASTM A653 G-90 plain, unpainted, and oiled (HRP&O).
- **d. Metal gauge:** 11-ga., 10-ga., 9-ga. (ASG steel).
- **e. Section width:** 9¼", 13¾", 23¼", 27¾", 36" (plank); 24", 30", 36" (walkway).
- **f. Side channel height:** 2" , 2½", 3", 4" (plank); 5" (walkway), also Canadian OH & S compliant.
- **g. Standard lengths:** 10'-0" , 12'-0" , 24'-0" (walkway); 10'-0", 12-0" , special order (plank).
- **h. Opening diamond:** "H" series, 3⅞" x 1¼" wide (grating surface-projected dimensions).
- **i. Reticulated pattern:** 1⅝" high, minimum of 500 teeth per square foot.
- **j. Slip resistance:** Complies with Federal Specification RR-G-1602D standards.
- **k. Surface texture:** Standard serrated, non-serrated, and reduced opening.

**2.2 Stair Treads**

a. **Type:** Heavy Duty Grip Strut™ stair tread.
b. **Metal:** carbon steel - ASTM A653 G-90.
c. **Finish:** mill-galvanized before fabrication, ASTM A525 plain, unpainted, and oiled (HRP&O).
d. **Metal thickness:** 10-ga. (ASG, steel).
e. **Section width:** 9½" .
f. **Side channel height:** 2" .
g. **Standard lengths:** (2", 2½", 36", 4" (nominal and actual).
h. **Opening diamond:** "H" Series, 3⅞" x 1¼" wide (grating surface-projected dimensions).
i. **Open area:** 52%.
j. **Reticulated pattern:** 1 5/16" high, minimum of 500 teeth per square foot.
k. **Slip resistance:** Complies with Federal Specification RR-G-1602D standards.

**2.3 Accessories**

Heavy Duty Grip Strut hold-down clip, G-90 mill galvanized, Catalog number H-BC-10. (Use with ⅜" square-shank carriage bolts, nuts, and washers obtained locally). Also available in stainless steel.

Handrail bracket - hardware to attach bracket to walkway is supplied. Optional hot dipped galvanized after fabrication is available per request.

Heavy Duty Grip Strut splice plate (P-H-SP-U), 30" , 9 gauge mill-galvanized steel splice plate with bolts, hex nuts, and washers.

**Part 3: Execution**

**3.1 Bearing surfaces**

Prior to grating installation, inspect supports for correct size, layout and alignment, and verify that bearing surfaces are smooth and free of debris. Report in writing to the engineer or owner's agent and defects so they can be corrected before grating is installed.

**3.2 Grating installation**

Install grating in accordance with manufacturer's recommendations and shop drawings. Position grating sections flat and square with ends bearing min. 1½" on supporting structure; for sections over 12'-0" long, and when Heavy Duty Grip Strut hold-down clips are used, 3" minimum bearing surface is required. Bearing surface must be smooth, level, free of burrs, bridging, welds and other irregularities. Space grating sections a minimum ¼" from vertical steel sections, and ½" from concrete walls. Allow maximum clearance between sections at joints of ¼" at side channels, ⅜" at ends.

Band random-cut ends and diagonal or circular cut exposed edges with a bar of grating thickness (min. ⅛") and width equal to overall depth, welded at contact points of the designer's discretion.

**3.3 Grating attachment**

Attach grating to supports without warp or deflection as follows:

a. **Single plank application:** Secure plank ends to supporting members at every point of contact. At each end, use Heavy Duty Grip Strut hold-down clips with ⅜" square shank carriage bolts and nuts, or secure each side channel to support by ⅛" x 1" long fillet welds.
b. **Multiple plank application:** Secure perimeter plank to supporting members with ⅛" x 1" long fillet welds at every point of contact, intermediate grating sections with at least one attachment each end on alternate sides. When span exceeds 6'-0", attach side channels of adjacent planks together at mid-point of span for added rigidity. To joint adjacent planks together, weld them at 24" O.C. staggered top and bottom.

**3.4 Stair Tread Installation**

Fasten Grip Strut stair treads shown on the drawings, or as herein specified, to stair stringers with ⅜" x 1" machine bolts and nuts.

a. **For stair treads**, intermediate stringer is recommended for spans over 4 feet.

# Grate-Lock Safety Grating - Design Load Table of Contents

**Grate-Lock™ Safe Loading Tables (6", 9", & 12" Widths)**

1½" Channel Height ..... 90-91
2½" Channel Height ..... 92-93
3" Channel Height ..... 94-95
4" Channel Height ..... 96-97

**Accessories & Assembly**

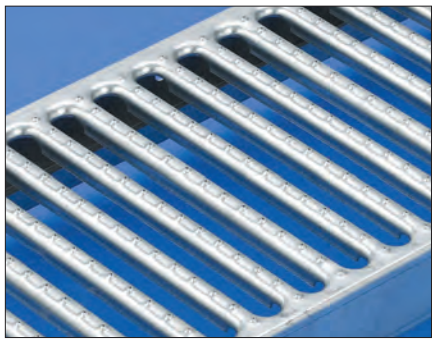
Hold Down Clamp ..... 98
Hold Down Clip ..... 99
Anchor J-Bolts ..... 100
Kickplate ..... 101

**Solid Deck Planking** ..... 102-103


## Advantages

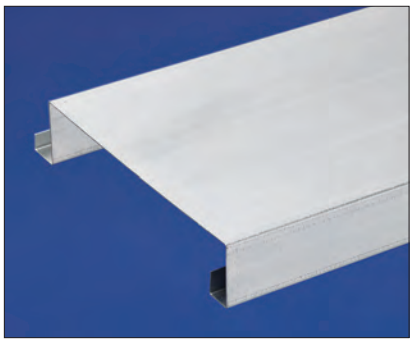
- Cost-saving design
- Wide range of sizes, accessories
- Fast field assembly
- Traction grip and plain surfaces
- Choice of two standard gauges: 14 and 18. Special 16 gauge is available
- Solid Deck is a durable, solid surface
- Low-cost installation and low maintenance
- Easy to replace
- Pre-galvanized with a variety of uses





**With sole-gripping dimples**

**Without dimples**



**Solid deck planking**

## Grate-Lock overview

Grate-Lock™ grating is an easy-to-install system of interlocking grating planks, treads, and accessories that helps provide safe, sturdy footing for mezzanine floors, platforms, walkways and other applications where non-slip performance is required.

Hundreds of sole-gripping dimples insure a safe surface in all kinds of weather and environments. The grating is available textured for safer working surfaces and non-textured for wheeled traffic or rack decking.

## Design helps improve loading performance

The unique design of Grate-Lock grating provides more design options. Increased load performance (see charts pages 6-13) has been achieved through interlocking planks, stronger rung design and an expanded selection of leg heights and material gauges. Grate-Lock lets you specify lighter gauge steel for substantial material savings.

## Sizes and gauges

Grate-Lock grating provides one of the broadest line of grating products of any manufacturer.

- Three (3) plank width options
- Four (4) plank height options
- Three (3) gauge options
- Lengths up to 24 feet
- For stair treads, intermediate stringer is recommended for spans over 4 feet

Interlocking sections provide the strength you need for extra-wide designs.

## Full line of accessories

Our line includes kickplates, hold-down clamps, attachment hardware and stair treads for complete job design.

## Fast bolt-together assembly

Helps save time in the field with Grate-Lock bolt-together slotted assemblies. Kickplates and plank sections are prepunched. For additional ease, planks can be straight, curved, or angle cut with hand tools.

## Specify Grate-Lock grating with confidence

We have constructed our tables using the most stringent interpretation of the AISI standards. Our safe allowable loads help guard against harmful local distortion as well as failure, while other manufacturers have prepared allowable load tables guarding against failure only.

## Recommended design practices

1. These specifications are presented as a general guide to the architect or structural engineer in preparing project specifications. Allowable loads, spans and other limiting conditions presented in this catalog offer product data for use in design and construction. These products must not be used without prior structural evaluation by a qualified engineer or architect.
2. All supports should provide a smooth, level, 1½" minimum bearing surface (2½" when using hold-down clip), free of burrs, bridging, welds or other irregularities.
3. Random cut ends and diagonal or circular cut exposed edges should be banded and welded at contact points at the discretion of the design engineer.
4. Bolted connections, except stair or ladder tread attachment to stringer channels, may be replaced by welded connections that develop the same strength.
5. Interlocking panels must be bolted or welded together when kickplates are used.
6. For stair treads, intermediate stringer is recommended for spans over 4 feet.

# Grate-Lock Safety Grating - Specifications & Special Services

**Part 1: General**

**1.1 Scope -** The contractor shall furnish and install Grate-Lock™ Mezzanine Gratings as specified in all areas where shown in the drawings and as specified herein.

**1.2 Qualifications -** All B-Line series Grate-Lock gratings and accessories, unless otherwise indicated, shall be manufactured by Eaton, and shall be installed in accordance with its current printed directions.

**1.3 Submittals -** The contractor shall furnish shop drawings of grating layout, framing and supports, unit dimensions and sections, type and location of fasteners and welds.

**1.4 Storage and Handling -** All materials shall be stored and handled to avoid damage. Damaged or deteriorated materials shall be removed from the premises.

**Part 2: Products**

**2.1 Grating Materials**

**a. Type:** Grate-Lock grating

**b. Metal:** (carbon steel) (hot dipped, mill-galvanized steel)

**c. Finish:** (mill-galvanized before fabrication, ASTM A653)

**d. Metal gauge:** (14-ga. steel) (16-ga./ steel special order), (18-ga. steel)

**e. Section width:** (12") (9") (6") (3"-4"-supplied FM flange only)

**f. Channel height:** (11/2") (21/2") (3") (4")

**g. Standard lengths:** 12', 20', 24' (other lengths to order)

**h. Flange options:** (FM) (MM) (FF)

**i. Surface condition:** (MG - traction grip) (MS - smooth)

**Part 3: Execution**

**3.1 Condition of Surfaces -** Prior to grating installation, contractor shall inspect supports for correct size, layout and alignment and verify that surfaces to relieve grating are free of debris. The contractor shall report to the design or consulting engineer or owner's agent in writing any defects considered detrimental to proper application or grating so defects can be remedied before grating is applied.

**3.2 Grating Installation -** Install grating in accordance with manufacturer's recommendations and shop drawings. Position grating sections flat and square with ends bearing min. 1½" on supporting structure. Keep grating sections at least ¼" away from vertical steel sections and ½" from concrete walls. Allow clearance at joints between sections of max. ¼" at side channels and max. ⅜" at ends. Band random cut ends and diagonal or circular cut exposed edges with a min. ⅛" thick bar welded at contact points.

**3.3 Grating Attachment -** Attach grating to supports without warp or deflection as follows:

**a. Single plank application -** Secure plank ends to supporting members at every point of contact. Use Grate-Lock Anchoring Devices.

**b. Multiple plank application -** Secure plank ends to supporting members at every point of contact and intermediate grating sections with at least one attachment each end of plank on alternate sides. For added rigidity, attach side channels of adjacent plank together (at mid-point of span)

**c. Welded attachment -** Secure side channels to supports by fusion welding with ⅛" fillet welds 1" long. Weld adjacent planks together with ⅛" fillet welds 1" long, 24" o.c. staggered top and bottom.

**d. Clamp and bolt attachment -** Secure intermediate planks to supports using proper length hold-down clamps.

## Special Services

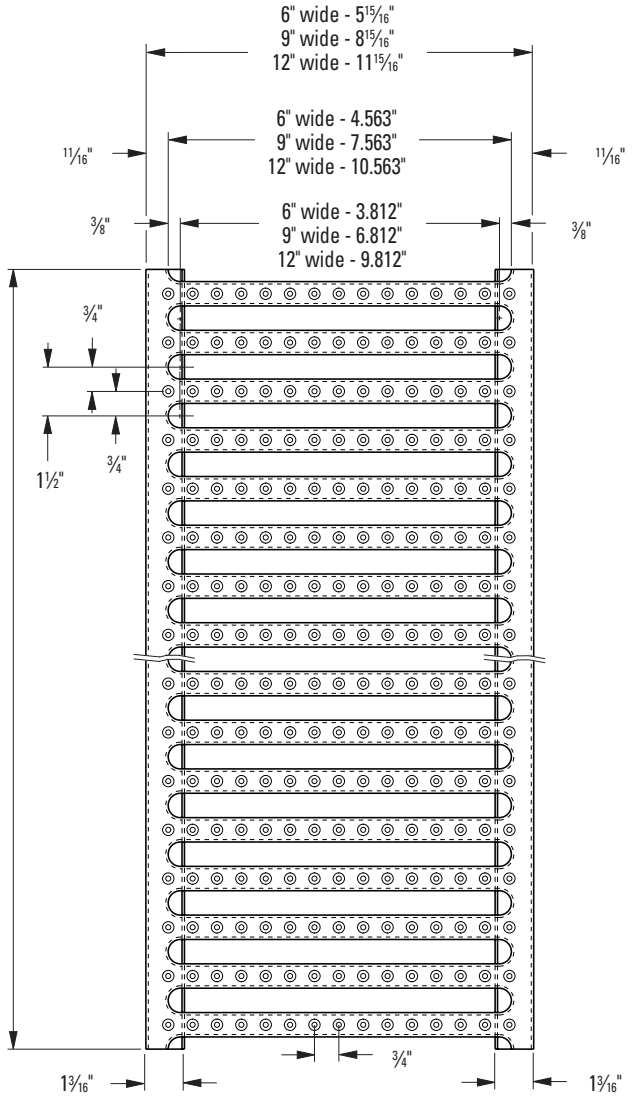
**Custom Fabrication -** On large jobs, Eaton estimates, quotes, details and fabricates to your specifications. Quotations are made from submitted plans and specification. After receipt of order, a bill of materials and necessary layout drawings are prepared. Grating is supplied with special cutting, banding and toe plates installed where needed. Fabrication services are available through your Grate-Lock grating distributor.

**Stair Treads -** Contact us at the toll-free number listed below for information on standard and custom stair tread designs.

**Distributors -** Grate-Lock grating for mezzanines are stocked by distributors in principal cities. Contact us for more information: 800-851-7415.

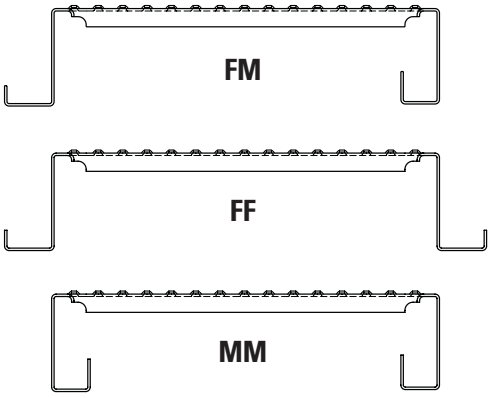
**NOTICE:** We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

## Grate-Lock non-slip plank sections



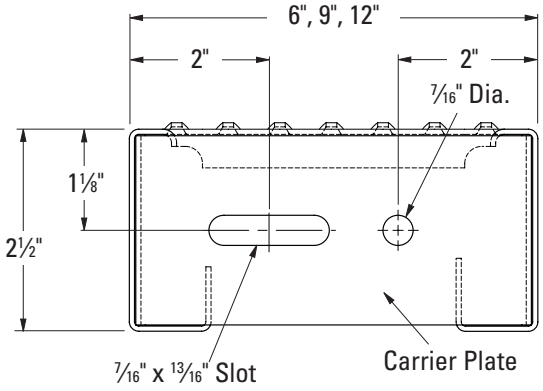

**Widths:** 3", 4"(*), 6", 9", 12"
**Heights:** 1½"(**), 2½", 3"(*), 4"(*)
**Gauges:** 18, 16(*), 14
**Lengths:** 12'-0", 20'-0", 24'-0"
**Other lengths available**

Note: 3" and 4" filler plank is solid. FM interlock.
(*) Special quote required.
(**) The 1½" product is available only in 12'-0" length and differs in side channel detail and loading capabilities. See pages 90 and 91.




## Stair Treads

Stair treads are available in standard and custom designs. Contact us for more information 800-851-7415.




## Stair tread design and selection table

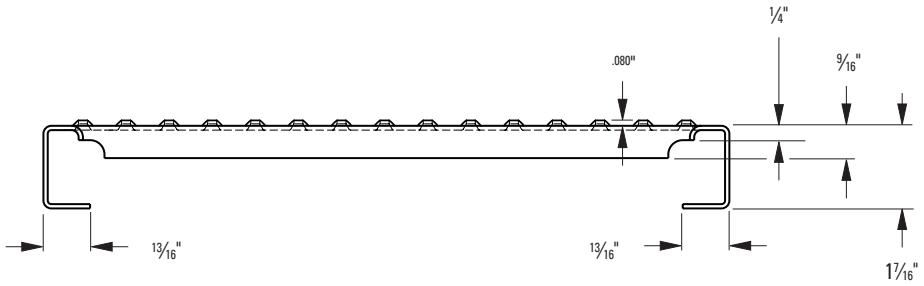
**Catalog Number**

| | T-MG62514 | | T-MG92514 | | T-MG122514 | |
|---|---|---|---|---|---|---|
| **Span** | **U** | **C** | **U** | **C** | **U** | **C** |
| 2'-0" | 3722 | 1461 | 2357 | 974 | 1276 | 730 |
| 2'-6" | 2382 | 1168 | 1508 | 974 | 816 | 730 |
| 3'-0" | 1654 | 1241 | 1050 | 974 | 783 | 730 |
| 4'-0" (1) | 931 | 931 | 593 | 889 | 442 | 730 |

**U** - Uniform Load (lb/sq. ft) **C** - Concentrated Load (lb)
(1) Intermediate stringer recommended for spans over 4

# Grate-Lock Safety Grating - Safe Loading Tables

## 1½" Channel Height — 6", 9", and 12" Widths

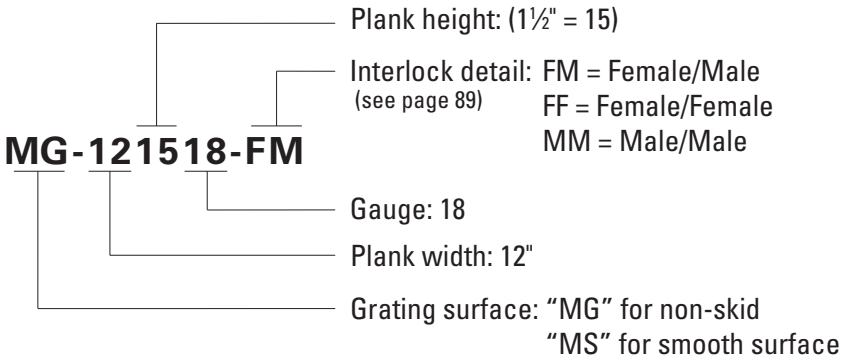



### Component availability of galvanized steel panels
**Section description**

| Interlock Detail | Steel Gauge | Width | Standard [3] Length | Catalog Number [2] | Wt./lin. ft. (lbs.) | Open Area (percent) |
|---|---|---|---|---|---|---|
| [1] | 18 | 12" | 12'-0" | **MG-121518** | 2.9 | 45 |
| | | 9" | | **MG-91518** | 2.3 | 43 |
| | | 6" | | **MG-61518** | 1.9 | 39 |
| [1] | 16* | 12" | 12'-0" | **MG-121516** | 3.5 | 43 |
| | | 9" | | **MG-91516** | 2.9 | 41 |
| | | 6" | | **MG-61516** | 2.3 | 37 |
| [1] | 14 | 12" | 12'-0" | **MG-121514** | 4.2 | 40 |
| | | 9" | | **MG-91514** | 3.5 | 38 |
| | | 6" | | **MG-61514** | 2.7 | 35 |

[1] Specify interlock detail of panel, i.e., FM, FF or MM. Refer to general catalog (page 86) for details.
[2] Traction grip surface (MG) is standard. For smooth surface replace "**MG**" in catalog number with "**MS**".
[3] 12' is the maximum length in 1 ½" channel height. .
Note: Refer to pages 98-101 for information on accessories and 2½", 3" and 4" channel height panels.
** Special order only. Consult factory.*

### How to build a part number:



## 1 1/2" Channel Height — 6", 9", and 12" Widths

### Panel Design Loads

Allowable Loads and Deflections: U=Uniform Load [3] (lb./ft.²) C=Concentrated Load [4] (lb.) D=Deflection (in.)

| Gauge | Width | Load/ Defl. Code | 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" | 8'-6" | 9'-0" | 9'-6" | 10'-0" | 10'-6" | 11'-0" | 11'-6" | 12'-0" |
| 18 | 12" | U | 443 | 283 | 196 | 144 | 110 | 87 | 70 | 58 | 49 | 41 | 36 | 31 | 27 | 24 | 21 | 19 | 17 | 16 | 14 | 13 | 12 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| | 9" | U | 591 | 378 | 263 | 193 | 147 | 116 | 94 | 78 | 65 | 56 | 48 | 42 | 37 | 32 | 29 | 26 | 23 | 21 | 19 | 17 | 16 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | 440 | 352 | 293 | 251 | 220 | 195 | 176 | 160 | 146 | 135 | 125 | 117 | 110 | 103 | 97 | 92 | 86 | 83 | 80 | 76 | 73 |
| | | D | .04 | .07 | .10 | .13 | .17 | .21 | .26 | .32 | .38 | .45 | .52 | .60 | .68 | .77 | .86 | .96 | 1.06 | 1.17 | 1.28 | 1.40 | 1.54 |
| | 6" | U | 890 | 570 | 395 | 290 | 222 | 175 | 142 | 117 | 99 | 84 | 72 | 63 | 55 | 49 | 44 | 39 | 35 | 32 | 29 | 26 | 24 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| 16* | 12" | U | 549 | 351 | 244 | 179 | 137 | 108 | 87 | 72 | 61 | 52 | 44 | 39 | 34 | 30 | 27 | 24 | 22 | 19 | 18 | 16 | 15 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| | 9" | U | 733 | 469 | 326 | 239 | 183 | 144 | 117 | 97 | 81 | 69 | 59 | 52 | 45 | 40 | 36 | 32 | 29 | 26 | 24 | 22 | 20 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | 546 | 437 | 364 | 312 | 273 | 242 | 218 | 198 | 182 | 168 | 156 | 145 | 136 | 128 | 121 | 115 | 109 | 104 | 99 | 95 | 91 |
| | | D | .04 | .07 | .10 | .13 | .17 | .21 | .26 | .32 | .38 | .45 | .52 | .60 | .68 | .77 | .86 | .96 | 1.06 | 1.17 | 1.28 | 1.40 | 1.54 |
| | 6" | U | 1104 | 706 | 490 | 360 | 276 | 218 | 176 | 146 | 122 | 104 | 90 | 78 | 69 | 61 | 54 | 49 | 44 | 40 | 36 | 33 | 30 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| 14 | 12" | U | 667 | 427 | 296 | 217 | 166 | 131 | 106 | 88 | 74 | 63 | 54 | 47 | 41 | 36 | 32 | 29 | 26 | 24 | 22 | 20 | 18 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| | 9" | U | 891 | 570 | 396 | 291 | 222 | 176 | 142 | 117 | 99 | 84 | 72 | 63 | 55 | 49 | 44 | 39 | 35 | 32 | 29 | 27 | 24 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | 663 | 531 | 442 | 379 | 331 | 295 | 265 | 241 | 221 | 204 | 189 | 177 | 165 | 156 | 147 | 139 | 132 | 126 | 120 | 115 | 110 |
| | | D | .04 | .07 | .10 | .13 | .17 | .21 | .26 | .32 | .38 | .45 | .52 | .60 | .68 | .77 | .86 | .96 | 1.06 | 1.17 | 1.28 | 1.40 | 1.54 |
| | 6" | U | 1341 | 858 | 596 | 438 | 335 | 265 | 214 | 177 | 149 | 127 | 109 | 95 | 83 | 74 | 66 | 59 | 53 | 48 | 44 | 40 | 37 |
| | | D | .10 | .11 | .14 | .18 | .22 | .27 | .33 | .40 | .48 | .56 | .65 | .74 | .84 | .95 | 1.06 | 1.18 | 1.31 | 1.45 | 1.59 | 1.73 | 1.89 |
| | | C | | | | | | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | |

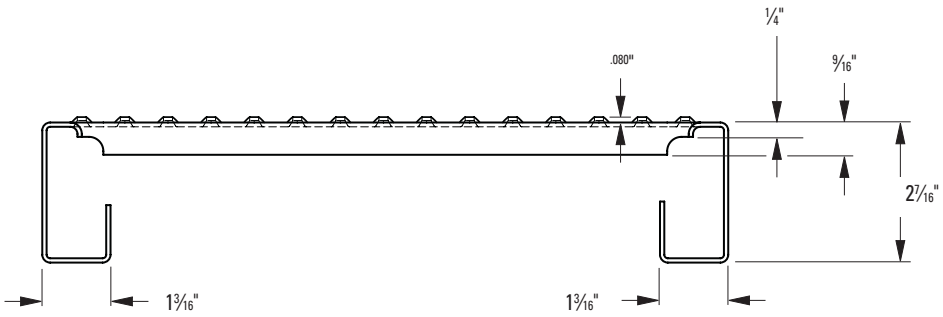
[3] Simple or equal-length double spans; multiply uniform load values by 1.07 for three, or 1.04 for four equal-length continuous spans. Deflections shown for simple spans (all were within 1/120th of span limitation); multiply deflection values by 0.71 for equal-length double spans, or by 0.76 for three of four equal-length continuous spans.

[4] Simple spans; multiply concentrated load volumes by 1.23 for equal-length double spans, 1.17 for three, or 1.19 for four equal length continuous spans. Load(s) applied to top section, as a line across entire section width, at center of (each) span.

* *Special Order Only Consult Factory*

# Grate-Lock Safety Grating - Safe Loading Table

## 2½" Channel Height — 6", 9", and 12" Widths

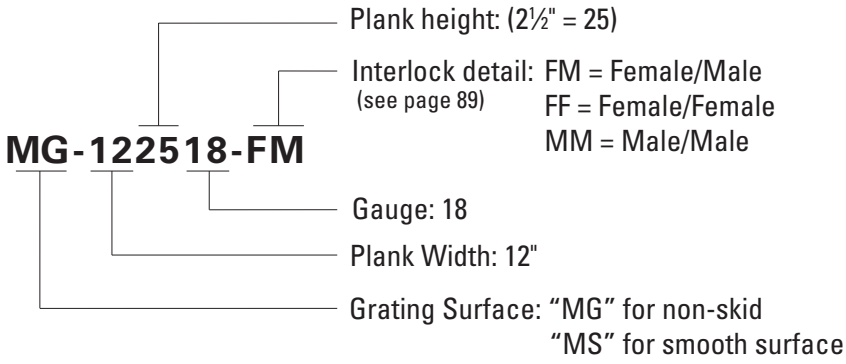



### Component availability/galvanized steel panels
**Section description**

| Interlock Detail | Steel Gauge | Width | Standard Length | Catalog Number [2] | Wt./lin. ft. (lbs.) | Open Area (percent) |
|---|---|---|---|---|---|---|
| [1] | 18 | 12" | 12'-0" | **MG-122518** | 3.5 | 45 |
| | | 9" | | **MG-92518** | 3.0 | 43 |
| | | 6" | | **MG-62518** | 2.5 | 39 |
| [1] | 16* | 12" | 12'-0" | **MG-122516** | 4.3 | 43 |
| | | 9" | | **MG-92516** | 3.7 | 41 |
| | | 6" | | **MG-62516** | 3.1 | 37 |
| [1] | 14 | 12" | 12'-0" | **MG-122514** | 5.2 | 40 |
| | | 9" | | **MG-92514** | 4.4 | 38 |
| | | 6" | | **MG-62514** | 3.7 | 35 |

[1] Specify interlock detail of panel, i.e., FM, FF or MM. Refer to general catalog (page 89) for details.
[2] Traction grip surface (MG) is standard. For smooth surface replace "**MG**" in catalog number with "**MS**".
Note: Refer to pages 98-101 for information on accessories.
* Available on special order. Consult factory.

### How to build a part number:



2½" Channel Height — 6", 9", and 12" Widths

## Product selection/design table

Allowable loads and deflections: U=Uniform load (lb./ft.²) C=Concentrated load (lb.) D=Deflection (in.)

| Gauge | Width | Weight Lb./lin.ft. | Cat. No. | Load/ Defl. Code | Clear Span (Lin.Ft.) 2'-0" | 3'-0" | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" | 17'-0" | 18'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 12" | 3.70 | MG122518 | U | 1057 | 552 | 312 | 200 | 140 | 103 | 80 | 64 | 52 | 43 | 36 | 31 | 27 | 23 | 20 | 18 | 16 |
| | | | | D | 0.03 | 0.10 | 0.17 | 0.27 | 0.39 | 0.54 | 0.71 | 0.90 | 1.13 | 1.38 | 1.61 | 1.91 | 2.23 | 2.47 | 2.83 | 3.20 | 3.60 |
| | | | | C | 529 | 529 | 529 | 501 | 420 | 362 | 319 | 286 | 260 | 239 | 217 | 207 | 194 | 184 | 175 | 167 | 160 |
| | | | | D | 0.01 | 0.05 | 0.12 | 0.22 | 0.31 | 0.43 | 0.57 | 0.72 | 0.90 | 1.09 | 1.33 | 1.57 | 1.85 | 2.15 | 2.48 | 2.85 | 3.24 |
| | 9" | 3.16 | MG92518 | U | 1552 | 691 | 390 | 251 | 175 | 129 | 100 | 79 | 65 | 54 | 46 | 40 | 35 | 30 | 27 | 24 | 21 |
| | | | | D | 0.05 | 0.10 | 0.18 | 0.28 | 0.41 | 0.56 | 0.74 | 0.95 | 1.18 | 1.44 | 1.73 | 2.05 | 2.41 | 2.80 | 3.22 | 3.69 | 4.01 |
| | | | | C | 705 | 705 | 585 | 470 | 394 | 339 | 299 | 268 | 243 | 223 | 207 | 193 | 181 | 171 | 163 | 153 | 145 |
| | | | | D | 0.02 | 0.07 | 0.14 | 0.23 | 0.33 | 0.45 | 0.59 | 0.76 | 0.94 | 1.15 | 1.38 | 1.64 | 1.93 | 2.24 | 2.58 | 2.91 | 3.27 |
| | 6" | 2.62 | MG62518 | U | 2141 | 954 | 538 | 346 | 241 | 178 | 137 | 109 | 89 | 74 | 63 | 54 | 47 | 42 | 37 | 33 | 30 |
| | | | | D | 0.04 | 0.09 | 0.16 | 0.25 | 0.36 | 0.50 | 0.65 | 0.83 | 0.04 | 1.27 | 1.52 | 1.80 | 2.11 | 2.45 | 2.82 | 3.23 | 3.67 |
| | | | | C | 1053 | 715 | 538 | 432 | 362 | 312 | 274 | 246 | 223 | 204 | 189 | 176 | 165 | 156 | 148 | 141 | 135 |
| | | | | D | 0.04 | 0.07 | 0.13 | 0.20 | 0.29 | 0.40 | 0.52 | 0.67 | 0.83 | 1.01 | 1.22 | 1.44 | 1.69 | 1.96 | 2.26 | 2.58 | 2.93 |
| 16* | 12" | 4.55 | MG122516 | U | 1276 | 655 | 370 | 238 | 166 | 123 | 95 | 76 | 62 | 52 | 44 | 37 | 32 | 28 | 24 | 22 | 20 |
| | | | | D | 0.03 | 0.10 | 0.17 | 0.27 | 0.39 | 0.54 | 0.71 | 0.91 | 1.13 | 1.39 | 1.67 | 1.94 | 2.21 | 2.55 | 2.81 | 3.34 | 3.59 |
| | | | | C | 638 | 638 | 638 | 595 | 499 | 432 | 381 | 342 | 312 | 285 | 261 | 241 | 224 | 209 | 196 | 184 | 174 |
| | | | | D | 0.01 | 0.05 | 0.12 | 0.22 | 0.31 | 0.43 | 0.57 | 0.72 | 0.91 | 1.10 | 1.31 | 1.53 | 1.78 | 2.04 | 2.34 | 2.63 | 2.94 |
| | 9" | 3.89 | MG92516 | U | 1949 | 869 | 491 | 316 | 220 | 163 | 126 | 100 | 82 | 69 | 58 | 49 | 43 | 37 | 33 | 29 | 26 |
| | | | | D | 0.05 | 0.10 | 0.18 | 0.29 | 0.41 | 0.57 | 0.75 | 0.96 | 1.19 | 1.46 | 1.76 | 2.05 | 2.39 | 2.69 | 3.16 | 3.48 | 3.92 |
| | | | | C | 851 | 851 | 736 | 592 | 496 | 428 | 378 | 339 | 308 | 383 | 261 | 241 | 224 | 209 | 196 | 184 | 174 |
| | | | | D | 0.02 | 0.09 | 0.15 | 0.23 | 0.33 | 0.45 | 0.60 | 0.76 | 0.95 | 1.17 | 1.40 | 1.64 | 1.90 | 2.19 | 2.48 | 2.77 | 3.15 |
| | 6" | 3.22 | MG62516 | U | 2774 | 1235 | 696 | 447 | 312 | 230 | 177 | 140 | 114 | 95 | 81 | 69 | 60 | 53 | 47 | 42 | 38 |
| | | | | D | 0.04 | 0.09 | 0.17 | 0.26 | 0.38 | 0.51 | 0.67 | 0.86 | 1.06 | 1.30 | 1.55 | 1.84 | 2.15 | 2.49 | 2.86 | 3.26 | 3.69 |
| | | | | C | 1134 | 926 | 696 | 559 | 467 | 402 | 354 | 316 | 286 | 262 | 242 | 225 | 211 | 198 | 188 | 178 | 170 |
| | | | | D | 0.02 | 0.07 | 0.13 | 0.21 | 0.30 | 0.41 | 0.54 | 0.69 | 0.85 | 1.04 | 1.24 | 1.47 | 1.72 | 1.99 | 2.29 | 2.61 | 2.95 |
| 14 | 12" | 5.62 | MG122514 | U | 1276 | 783 | 442 | 284 | 199 | 147 | 113 | 90 | 74 | 62 | 52 | 44 | 38 | 35 | 29 | 28 | 25 |
| | | | | D | 0.03 | 0.10 | 0.17 | 0.27 | 0.39 | 0.54 | 0.71 | 0.91 | 1.13 | 1.38 | 1.63 | 1.94 | 2.20 | 2.70 | 2.92 | 3.58 | 4.08 |
| | | | | C | 730 | 730 | 730 | 711 | 596 | 514 | 454 | 407 | 370 | 338 | 310 | 286 | 266 | 248 | 233 | 219 | 207 |
| | | | | D | 0.01 | 0.05 | 0.12 | 0.22 | 0.31 | 0.43 | 0.57 | 0.72 | 0.90 | 1.09 | 1.31 | 1.53 | 1.77 | 2.04 | 2.33 | 2.63 | 2.96 |
| | 9" | 4.80 | MG92514 | U | 2357 | 1050 | 593 | 381 | 266 | 196 | 151 | 121 | 98 | 82 | 70 | 58 | 50 | 45 | 40 | 36 | 32 |
| | | | | D | 0.04 | 0.10 | 0.18 | 0.28 | 0.41 | 0.56 | 0.74 | 0.94 | 1.17 | 1.43 | 1.72 | 1.88 | 2.21 | 2.57 | 2.96 | 3.39 | 3.85 |
| | | | | C | 974 | 974 | 889 | 714 | 598 | 516 | 454 | 407 | 369 | 339 | 314 | 282 | 265 | 250 | 238 | 227 | 218 |
| | | | | D | 0.02 | 0.07 | 0.14 | 0.23 | 0.33 | 0.45 | 0.59 | 0.75 | 0.94 | 1.14 | 1.38 | 1.50 | 1.77 | 2.05 | 2.37 | 2.71 | 3.08 |
| | 6" | 3.98 | MG62514 | U | 3722 | 1654 | 931 | 596 | 414 | 304 | 233 | 184 | 149 | 123 | 103 | 88 | 76 | 66 | 58 | 52 | 46 |
| | | | | D | 0.05 | 0.10 | 0.18 | 0.29 | 0.42 | 0.56 | 0.74 | 0.93 | 1.15 | 1.39 | 1.65 | 1.93 | 2.25 | 2.57 | 2.91 | 3.32 | 3.70 |
| | | | | C | 1461 | 1241 | 931 | 744 | 620 | 532 | 465 | 414 | 372 | 338 | 310 | 286 | 266 | 248 | 233 | 219 | 207 |
| | | | | D | 0.03 | 0.09 | 0.14 | 0.23 | 0.33 | 0.45 | 0.58 | 0.74 | 0.92 | 1.11 | 1.32 | 1.55 | 1.80 | 2.06 | 2.36 | 2.65 | 2.98 |

**Notes:**

These tables are prepared based on test conducted in accordance with the 1980 edition, section 6.2 of the American Iron and Steel Institute Specification for the design of cold-rolled steel structural members with results checked and adjusted where required by calculations in accordance with section 2 of the same specification.

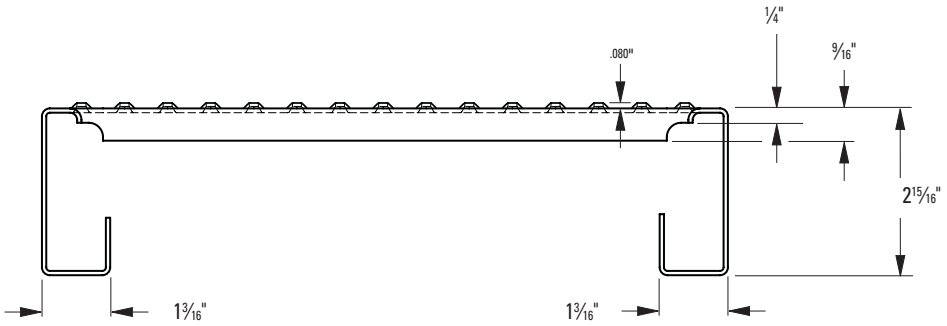
Safe Allowable Loads with deflections equal to or less than L/120

Safe Allowable Loads with deflections equal to or less than L/240

**Special Order Only Consult Factory*

# Grate-Lock Safety Grating - Safe Loading Table

3" Channel height — 6", 9", and 12" widths




## Component availability of galvanized steel panels

### Section description

| Interlock Detail | Steel Gauge | Width | Standard Length | Catalog Number [2] | Wt./lin. ft. (lbs.) | Open Area (percent) |
|---|---|---|---|---|---|---|
| [1] | 18 | 12" | 12'-0" | **MG-123018** | 3.6 | 45 |
| | | 9" | | **MG-93018** | 3.1 | 43 |
| | | 6" | | **MG-63018** | 2.6 | 39 |
| [1] | 16* | 12" | 12'-0" | **MG-123016** | 4.5 | 43 |
| | | 9" | | **MG-93016** | 3.7 | 41 |
| | | 6" | | **MG-63016** | 3.2 | 37 |
| [1] | 14 | 12" | 12'-0" | **MG-123014** | 5.4 | 40 |
| | | 9" | | **MG-93014** | 4.7 | 38 |
| | | 6" | | **MG-63014** | 3.9 | 35 |

[1] Specify interlock detail of panel, i.e., FM, FF or MM. Refer to general catalog (page 89) for details.

[2] Traction grip surface (MG) is standard. For smooth surface replace "**MG**" in catalog number with "**MS**".

Note: Refer to pages 98-101 for information on accessories.

* Available on special order. Consult factory.

### How to build a part number:

**MG-123018-FM**

- Plank height: (3" = 30)
- Interlock detail: FM = Female/Male, FF = Female/Female, MM = Male/Male (see page 89)
- Gauge: 18
- Plank Width: 12"
- Grating Surface: "MG" for non-skid, "MS" for smooth surface

3" Channel height — 6", 9", and 12" widths

## Product selection/design table

Allowable loads and deflections: U=Uniform load (lb./ft.²) C=Concentrated load (lb.) D=Deflection (in.)

| Gauge | Width | Weight Lb./lin.ft. | Cat. No. | Defl/ Load Code | Clear Span (Lin.Ft.) 2'-0" | 3'-0" | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" | 17'-0" | 18'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 12" | 3.88 | MG123018 | U | 1057 | 611 | 345 | 222 | 155 | 114 | 88 | 70 | 57 | 48 | 41 | 35 | 31 | 27 | 24 | 22 | 20 |
| | | | | D | 0.02 | 0.07 | 0.12 | 0.19 | 0.28 | 0.39 | 0.51 | 0.65 | 0.80 | 0.98 | 1.20 | 1.43 | 1.68 | 1.95 | 2.25 | 2.58 | 2.93 |
| | | | | C | 529 | 529 | 529 | 529 | 472 | 405 | 354 | 316 | 287 | 263 | 244 | 229 | 215 | 203 | 193 | 184 | 177 |
| | | | | D | 0.01 | 0.03 | 0.07 | 0.14 | 0.22 | 0.31 | 0.41 | 0.52 | 0.64 | 0.79 | 0.95 | 1.14 | 1.34 | 1.56 | 1.80 | 2.06 | 2.34 |
| | 9" | 3.34 | MG93018 | U | 1881 | 840 | 472 | 302 | 210 | 154 | 118 | 93 | 76 | 62 | 52 | 45 | 39 | 34 | 30 | 26 | 24 |
| | | | | D | 0.03 | 0.08 | 0.13 | 0.21 | 0.31 | 0.42 | 0.55 | 0.68 | 0.86 | 1.01 | 1.21 | 1.43 | 1.70 | 1.93 | 2.23 | 2.47 | 2.81 |
| | | | | C | 705 | 705 | 705 | 567 | 472 | 405 | 354 | 315 | 283 | 258 | 236 | 218 | 202 | 189 | 177 | 168 | 161 |
| | | | | D | 0.01 | 0.04 | 0.11 | 0.17 | 0.24 | 0.33 | 0.44 | 0.55 | 0.68 | 0.82 | 0.98 | 1.15 | 1.32 | 1.52 | 1.74 | 1.97 | 2.24 |
| | 6" | 2.80 | MG63018 | U | 2834 | 1260 | 709 | 453 | 315 | 231 | 177 | 140 | 113 | 94 | 79 | 67 | 58 | 50 | 44 | 39 | 35 |
| | | | | D | 0.04 | 0.07 | 0.13 | 0.21 | 0.29 | 0.39 | 0.52 | 0.66 | 0.80 | 0.99 | 1.19 | 1.37 | 1.14 | 1.82 | 2.08 | 2.34 | 2.60 |
| | | | | C | 1058 | 945 | 709 | 567 | 472 | 405 | 354 | 315 | 283 | 258 | 236 | 218 | 202 | 189 | 177 | 167 | 157 |
| | | | | D | 0.02 | 0.06 | 0.11 | 0.16 | 0.23 | 0.32 | 0.42 | 0.53 | 0.65 | 0.60 | 0.93 | 1.11 | 1.28 | 1.47 | 1.66 | 1.14 | 2.09 |
| 16* | 12" | 4.77 | MG123016 | U | 1276 | 775 | 438 | 282 | 197 | 160 | 123 | 98 | 80 | 66 | 56 | 45 | 39 | 35 | 31 | 28 | 25 |
| | | | | D | 0.02 | 0.07 | 0.12 | 0.20 | 0.28 | 0.45 | 0.59 | 0.75 | 0.93 | 1.13 | 1.35 | 1.43 | 1.69 | 1.96 | 2.27 | 2.61 | 2.97 |
| | | | | C | 638 | 638 | 638 | 638 | 591 | 559 | 492 | 440 | 398 | 365 | 337 | 293 | 276 | 262 | 249 | 238 | 229 |
| | | | | D | 0.01 | 0.03 | 0.07 | 0.05 | 0.23 | 0.36 | 0.47 | 0.60 | 0.74 | 0.90 | 1.08 | 1.15 | 1.35 | 1.57 | 1.82 | 2.09 | 2.38 |
| | 9" | 4.11 | MG93016 | U | 2275 | 1029 | 581 | 373 | 261 | 193 | 149 | 118 | 97 | 81 | 69 | 59 | 52 | 46 | 40 | 36 | 33 |
| | | | | D | 0.03 | 0.03 | 0.13 | 0.21 | 0.30 | 0.41 | 0.54 | 0.69 | 0.87 | 1.06 | 1.27 | 1.51 | 1.77 | 2.06 | 2.37 | 2.70 | 3.05 |
| | | | | C | 851 | 851 | 851 | 700 | 587 | 506 | 446 | 400 | 363 | 333 | 309 | 288 | 271 | 256 | 242 | 230 | 220 |
| | | | | D | 0.01 | 0.04 | 0.11 | 0.17 | 0.24 | 0.33 | 0.44 | 0.56 | 0.69 | 0.85 | 1.02 | 1.21 | 1.42 | 1.65 | 1.89 | 2.16 | 2.44 |
| | 6" | 3.44 | MG63016 | U | 3418 | 1519 | 854 | 547 | 380 | 279 | 214 | 169 | 137 | 113 | 95 | 82 | 71 | 62 | 55 | 49 | 45 |
| | | | | D | 0.03 | 0.07 | 0.12 | 0.20 | 0.28 | 0.39 | 0.50 | 0.64 | 0.79 | 0.95 | 1.13 | 1.34 | 1.56 | 1.81 | 2.08 | 2.37 | 2.68 |
| | | | | C | 1134 | 1134 | 854 | 684 | 570 | 480 | 427 | 380 | 342 | 310 | 286 | 266 | 249 | 234 | 221 | 210 | 201 |
| | | | | D | 0.02 | 0.05 | 0.10 | 0.15 | 0.23 | 0.31 | 0.40 | 0.51 | 0.63 | 0.76 | 0.91 | 1.07 | 1.25 | 1.45 | 1.66 | 1.89 | 2.14 |
| 14 | 12" | 5.89 | MG123014 | U | 1461 | 950 | 536 | 345 | 241 | 178 | 137 | 109 | 89 | 74 | 63 | 54 | 47 | 42 | 37 | 33 | 30 |
| | | | | D | 0.02 | 0.07 | 0.13 | 0.20 | 0.29 | 0.40 | 0.53 | 0.67 | 0.84 | 1.02 | 1.23 | 1.46 | 1.71 | 1.99 | 2.29 | 2.62 | 2.98 |
| | | | | C | 730 | 730 | 730 | 730 | 722 | 622 | 548 | 491 | 446 | 409 | 379 | 353 | 332 | 314 | 298 | 284 | 272 |
| | | | | D | 0.01 | 0.03 | 0.07 | 0.14 | 0.23 | 0.32 | 0.42 | 0.54 | 0.67 | 0.82 | 0.98 | 1.17 | 1.37 | 1.59 | 1.83 | 2.10 | 2.38 |
| | 9" | 5.07 | MG93014 | U | 2597 | 1477 | 831 | 532 | 369 | 271 | 208 | 164 | 133 | 110 | 92 | 79 | 68 | 59 | 52 | 46 | 41 |
| | | | | D | 0.03 | 0.09 | 0.16 | 0.25 | 0.36 | 0.48 | 0.63 | 0.79 | 0.98 | 1.19 | 1.40 | 1.67 | 1.94 | 2.18 | 2.53 | 2.81 | 3.14 |
| | | | | C | 974 | 974 | 974 | 974 | 831 | 712 | 623 | 554 | 498 | 453 | 415 | 383 | 356 | 332 | 311 | 293 | 277 |
| | | | | D | 0.01 | 0.04 | 0.10 | 0.20 | 0.28 | 0.38 | 0.50 | 0.63 | 0.78 | 0.95 | 1.12 | 1.32 | 1.54 | 1.76 | 2.00 | 2.27 | 2.54 |
| | 6" | 4.25 | MG63014 | U | 4984 | 2215 | 1246 | 797 | 554 | 407 | 311 | 246 | 199 | 165 | 138 | 118 | 102 | 89 | 78 | 69 | 62 |
| | | | | D | 0.04 | 0.09 | 0.15 | 0.24 | 0.34 | 0.46 | 0.60 | 0.76 | 0.94 | 1.14 | 1.35 | 1.60 | 1.85 | 2.12 | 2.42 | 2.72 | 3.05 |
| | | | | C | 1461 | 1461 | 1246 | 997 | 831 | 712 | 623 | 554 | 498 | 453 | 415 | 383 | 356 | 332 | 311 | 293 | 277 |
| | | | | D | 0.02 | 0.06 | 0.12 | 0.19 | 0.27 | 0.36 | 0.48 | 0.61 | 0.75 | 0.91 | 1.08 | 1.27 | 1.48 | 1.70 | 1.92 | 2.18 | 2.43 |

**Notes:**
These tables are prepared based on test conducted in accordance with the 1980 edition, section 6.2 of the American Iron and Steel Institute Specification for the design of cold-rolled steel structural members with results checked and adjusted where required by calculations in accordance with section 2 of the same specification.

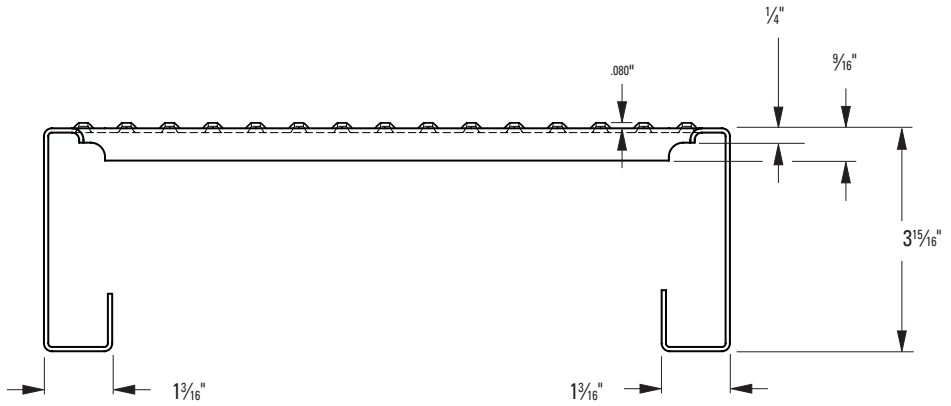
Safe Allowable Loads with deflections equal to or less than L/120

Safe Allowable Loads with deflections equal to or less than L/240

* Available on special order. Consult factory.

# Grate-Lock Safety Grating - Safe Loading Tables

4" Channel height — 6", 9", and 12" widths




## Component availability of galvanized steel panels

### Section description

| Interlock Detail | Steel Gauge | Width | Standard Length | Catalog Number [2] | Wt./lin. ft. (lbs.) | Open Area (percent) |
|---|---|---|---|---|---|---|
| [1] | 18 | 12" | 12'-0" | **MG-124018** | 4.0 | 45 |
| | | 9" | | **MG-94018** | 3.5 | 43 |
| | | 6" | | **MG-64018** | 3.0 | 39 |
| [1] | 16* | 12" | 12'-0" | **MG-124016** | 4.9 | 43 |
| | | 9" | | **MG-94016** | 4.3 | 41 |
| | | 6" | | **MG-64016** | 3.7 | 37 |
| [1] | 14 | 12" | 12'-0" | **MG-124014** | 5.9 | 40 |
| | | 9" | | **MG-94014** | 5.2 | 38 |
| | | 6" | | **MG-64014** | 4.4 | 35 |

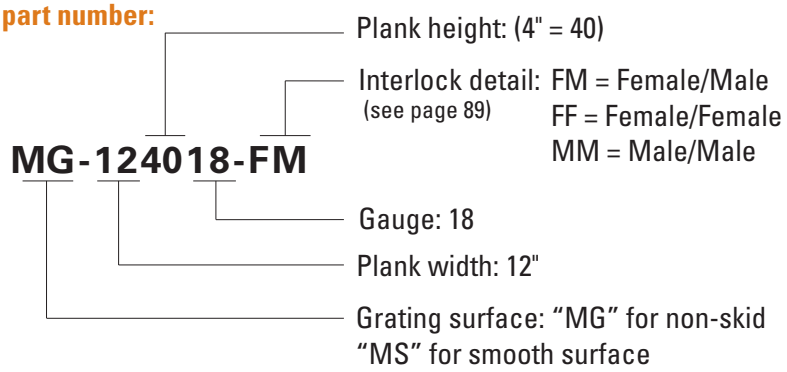
[1] Specify interlock detail of panel, i.e., FM, FF or MM. Refer to general catalog (page 89) for details.

[2] Traction grip surface (MG) is standard. For smooth surface replace "**MG**" in catalog number with "**MS**".

Note: Refer to pages 98-101 for information on accessories.

* *Special Order Only Consult Factory*

**How to build a part number:**



4" Channel height — 6", 9", and 12" widths

## Product selection/design table

Allowable loads and deflections: U=Uniform load (lb./ft.$^2$) C=Concentrated load (lb.) D=Deflection (in.)

| Gauge | Width | Weight Lb./lin.ft. | Cat. No. | Defl/ Load Code | Clear Span (Lin.Ft.) 2'-0" | 3'-0" | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" | 17'-0" | 18'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 12" | 4.24 | MG124018 | U | 1057 | 996 | 560 | 359 | 249 | 183 | 140 | 111 | 90 | 74 | 62 | 53 | 46 | 40 | 35 | 31 | 28 |
| | | | | D | 0.03 | 0.06 | 0.11 | 0.16 | 0.24 | 0.34 | 0.42 | 0.54 | 0.66 | 0.81 | 0.96 | 1.09 | 1.26 | 1.45 | 1.65 | 1.90 | 2.11 |
| | | | | C | 529 | 529 | 529 | 529 | 529 | 529 | 529 | 498 | 448 | 408 | 374 | 345 | 320 | 299 | 280 | 264 | 249 |
| | | | | D | 0.00 | 0.01 | 0.04 | 0.08 | 0.13 | 0.21 | 0.32 | 0.44 | 0.53 | 0.65 | 0.77 | 0.87 | 1.01 | 1.17 | 1.33 | 1.50 | 1.68 |
| | 9" | 3.70 | MG94018 | U | 1881 | 1329 | 747 | 478 | 332 | 244 | 187 | 148 | 120 | 99 | 83 | 71 | 61 | 53 | 47 | 41 | 37 |
| | | | | D | 0.02 | 0.06 | 0.12 | 0.18 | 0.26 | 0.35 | 0.47 | 0.58 | 0.72 | 0.86 | 1.03 | 1.21 | 1.41 | 1.60 | 1.83 | 2.05 | 2.34 |
| | | | | C | 705 | 705 | 705 | 705 | 705 | 641 | 560 | 498 | 448 | 408 | 374 | 345 | 320 | 299 | 280 | 264 | 249 |
| | | | | D | 0.01 | 0.02 | 0.06 | 0.12 | 0.20 | 0.28 | 0.36 | 0.46 | 0.57 | 0.70 | 0.83 | 0.96 | 1.12 | 1.28 | 1.47 | 1.65 | 1.85 |
| | 6" | 3.16 | MG64018 | U | 4232 | 1993 | 1121 | 717 | 498 | 366 | 280 | 221 | 179 | 148 | 125 | 106 | 92 | 80 | 70 | 62 | 55 |
| | | | | D | 0.03 | 0.06 | 0.10 | 0.18 | 0.25 | 0.34 | 0.44 | 0.55 | 0.69 | 0.83 | 0.99 | 1.17 | 1.35 | 1.54 | 1.77 | 1.98 | 2.24 |
| | | | | C | 1058 | 1058 | 1058 | 897 | 747 | 641 | 560 | 498 | 448 | 408 | 374 | 345 | 320 | 299 | 280 | 264 | 249 |
| | | | | D | 0.01 | 0.04 | 0.08 | 0.13 | 0.19 | 0.26 | 0.35 | 0.45 | 0.55 | 0.67 | 0.80 | 0.93 | 1.07 | 1.24 | 1.41 | 1.60 | 1.78 |
| 16* | 12" | 5.21 | MG124016 | U | 1276 | 1215 | 685 | 439 | 306 | 226 | 173 | 138 | 112 | 93 | 79 | 69 | 60 | 53 | 47 | 42 | 37 |
| | | | | D | 0.03 | 0.06 | 0.11 | 0.17 | 0.25 | 0.34 | 0.45 | 0.51 | 0.71 | 0.86 | 1.03 | 1.11 | 1.29 | 1.49 | 1.71 | 1.95 | 2.20 |
| | | | | C | 638 | 638 | 638 | 638 | 638 | 638 | 638 | 619 | 560 | 512 | 472 | 450 | 420 | 395 | 373 | 354 | 337 |
| | | | | D | 0.00 | 0.01 | 0.04 | 0.08 | 0.14 | 0.21 | 0.33 | 0.46 | 0.57 | 0.69 | 0.83 | 0.89 | 1.03 | 1.20 | 1.37 | 1.56 | 1.76 |
| | 9" | 4.55 | MG94016 | U | 2275 | 1612 | 907 | 580 | 403 | 296 | 227 | 179 | 145 | 120 | 101 | 86 | 75 | 66 | 58 | 52 | 47 |
| | | | | D | 0.02 | 0.06 | 0.10 | 0.16 | 0.24 | 0.37 | 0.48 | 0.60 | 0.75 | 0.91 | 1.07 | 1.27 | 1.48 | 1.71 | 1.96 | 2.22 | 2.51 |
| | | | | C | 851 | 851 | 851 | 851 | 851 | 777 | 680 | 604 | 544 | 495 | 453 | 420 | 393 | 369 | 348 | 330 | 314 |
| | | | | D | 0.01 | 0.02 | 0.05 | 0.10 | 0.18 | 0.29 | 0.38 | 0.49 | 0.60 | 0.73 | 0.86 | 1.01 | 1.18 | 1.37 | 1.56 | 1.78 | 2.01 |
| | 6" | 3.89 | MG64016 | U | 5118 | 2418 | 1360 | 870 | 604 | 444 | 340 | 269 | 218 | 180 | 151 | 129 | 111 | 97 | 85 | 75 | 67 |
| | | | | D | 0.02 | 0.06 | 0.10 | 0.16 | 0.22 | 0.30 | 0.40 | 0.51 | 0.63 | 0.76 | 0.90 | 1.05 | 1.22 | 1.41 | 1.59 | 1.80 | 2.02 |
| | | | | C | 1134 | 1134 | 1134 | 1088 | 907 | 777 | 680 | 604 | 544 | 495 | 453 | 418 | 389 | 363 | 340 | 320 | 302 |
| | | | | D | 0.01 | 0.03 | 0.07 | 0.12 | 0.18 | 0.25 | 0.32 | 0.41 | 0.50 | 0.60 | 0.72 | 0.85 | 0.98 | 1.13 | 1.28 | 1.44 | 1.61 |
| 14 | 12" | 6.49 | MG124014 | U | 1461 | 1448 | 814 | 521 | 362 | 266 | 204 | 161 | 131 | 109 | 92 | 79 | 69 | 61 | 54 | 48 | 43 |
| | | | | D | 0.01 | 0.06 | 0.10 | 0.16 | 0.24 | 0.32 | 0.42 | 0.54 | 0.67 | 0.82 | 0.98 | 1.16 | 1.35 | 1.57 | 1.80 | 2.06 | 2.33 |
| | | | | C | 730 | 730 | 730 | 730 | 730 | 730 | 730 | 724 | 655 | 599 | 554 | 515 | 483 | 455 | 430 | 409 | 391 |
| | | | | D | 0.00 | 0.01 | 0.04 | 0.07 | 0.12 | 0.20 | 0.30 | 0.43 | 0.54 | 0.65 | 0.78 | 0.93 | 1.08 | 1.26 | 1.44 | 1.65 | 1.87 |
| | 9" | 5.62 | MG94014 | U | 2597 | 1988 | 1120 | 719 | 501 | 369 | 284 | 225 | 184 | 153 | 129 | 111 | 96 | 84 | 75 | 67 | 60 |
| | | | | D | 0.02 | 0.06 | 0.11 | 0.17 | 0.25 | 0.34 | 0.44 | 0.57 | 0.70 | 0.85 | 0.02 | 1.21 | 1.41 | 1.63 | 1.88 | 2.14 | 2.42 |
| | | | | C | 974 | 974 | 974 | 974 | 974 | 969 | 852 | 761 | 688 | 629 | 581 | 540 | 505 | 475 | 449 | 426 | 406 |
| | | | | D | 0.01 | 0.02 | 0.05 | 0.10 | 0.17 | 0.27 | 0.36 | 0.45 | 0.56 | 0.68 | 0.82 | 0.97 | 1.13 | 1.31 | 1.50 | 1.71 | 1.93 |
| | 6" | 4.80 | MG64014 | U | 5843 | 2895 | 1629 | 1042 | 724 | 532 | 407 | 322 | 261 | 215 | 181 | 154 | 133 | 116 | 102 | 91 | 82 |
| | | | | D | 0.03 | 0.06 | 0.12 | 0.19 | 0.28 | 0.37 | 0.48 | 0.61 | 0.75 | 0.91 | 1.08 | 1.26 | 1.47 | 1.69 | 1.92 | 2.19 | 2.48 |
| | | | | C | 1461 | 1461 | 1461 | 1303 | 1086 | 931 | 814 | 724 | 651 | 592 | 513 | 501 | 465 | 434 | 407 | 386 | 367 |
| | | | | D | 0.01 | 0.04 | 0.09 | 0.15 | 0.21 | 0.30 | 0.39 | 0.49 | 0.60 | 0.73 | 0.87 | 1.01 | 1.18 | 1.35 | 1.54 | 1.75 | 1.98 |

**Notes:**
These tables are prepared based on test conducted in accordance with the 1980 edition, section 6.2 of the American Iron and Steel Institute Specification for the design of cold-rolled steel structural members with results checked and adjusted where required by calculations in accordance with section 2 of the same specification.

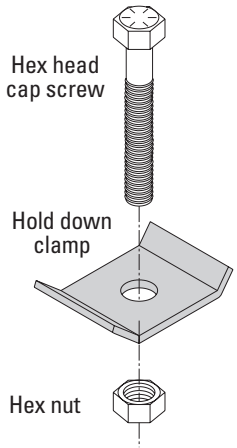
Safe Allowable Loads with deflections equal to or less than L/120

Safe Allowable Loads with deflections equal to or less than L/240

* Available on special order. Consult factory.

# Grate-Lock Safety Grating - Accessories & Assembly

## Hold down clamp



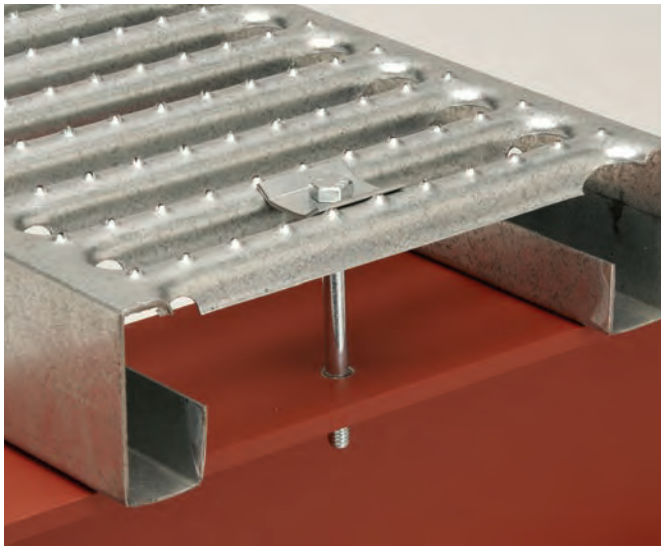

**Field drilling is required.**

| Hold down clamp | | |
|---|---|---|
| **UPC Number** | **Catalog Number** | **Wt./Ea.** |
| 662516419O5 | **RTM-SW** | 0.04 |

** Hex Head Cap Screw lengths = Side Channel Height + 1"

**Part number includes**
(1) Hold down clamp

**Source locally**
(1) 5⁄16"-18 HHCS **
(1) 5⁄16" Flat Washer
(1) 5⁄16"-18 Hex Nut



### Assembly

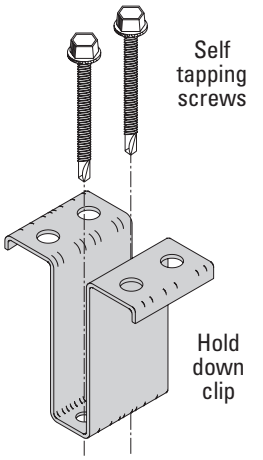
1. Align Grate-Lock™ plank on I-beam or otheranchoring cross-member.
2. Mark the I-beam for drilling purposes near the outer edges of Grate-Lock plank. Drill a pilot hole.
3. Remove Grate-Lock plank and drill a finish hole.
4. Replace Grate-Lock plank to its original position. Place the hold down clamp in slot Grate-Lock plank, which is now over the drilled hole. Make sure the hold down clamp and drilled hole line up.
5. Run cap screw through the hold down clamp, Grate-Lock plank, and I-beam. Tighten with washer and nut until secure.
6. Test for movement or slippage. If Grate-Lock planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 5.

**Note: Do not walk on Grate-Lock planks if they are not secure. Serious injury could result.**

### Welding

A common method of fastening safety grating is welding. It is recommended that all Eaton's B-Line series Safety Grating products be fillet welded per AWS D1.3. For more information, consult Technical Services.

## Hold down clip




**Part number includes**
(1) Hold down clip

**Order separately**
(2) ¼" Self tapping screws

**Field drilling is required.**

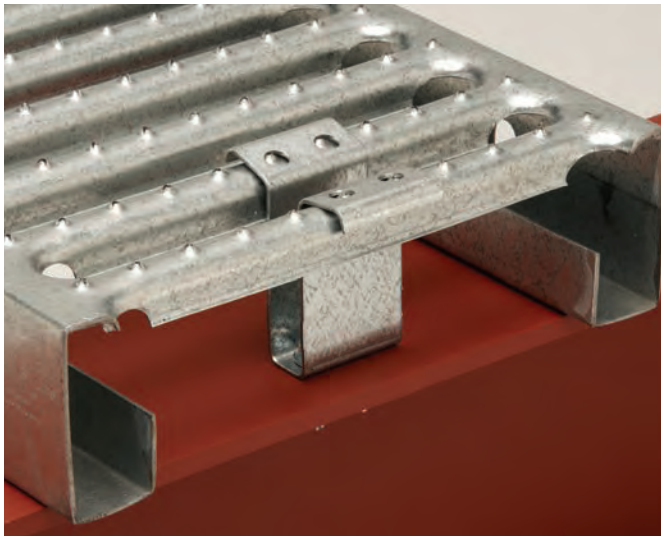
**Hold Down Clip**

| UPC Number | Catalog Number | Plank Height | Wt./Ea. |
|---|---|---|---|
| 66251626549 | M-HC-15 | 1½" | 0.10 |
| 66251626550 | M-HC-25 | 2½" | 0.20 |
| 66251626551 | M-HC-30 | 3" | 0.20 |
| 66251626552 | M-HC-40 | 4" | 0.30 |

## Assembly

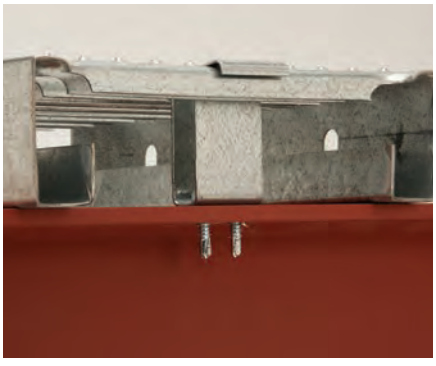
1. Align Grate-Lock™ planks on I-beam or other anchoring cross-member.
2. Mark the I-beam for drilling purposes under the second or third slot from the end of the Grate-Lock plank. Drill pilot holes.
3. Remove Grate-Lock plank and drill finish holes.
4. Replace Grate-Lock plank to its original position. Align hold down clip over the drilled holes. Make sure the top of the hold down clip attaches firmly to the ridges of the Grate-Lock plank.
5. Tighten screws until snug.
6. Test for movement or slippage. If Grate-Lock planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 5.

**Note: Do not walk on Grate-Lock planks if they are not secure. Serious injury could result.**



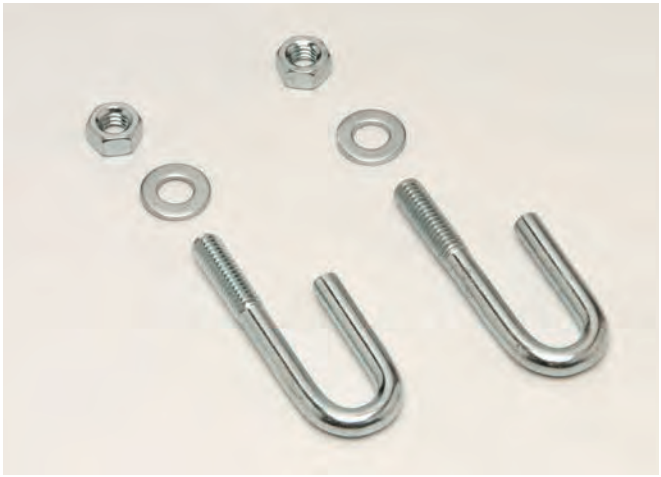
## Welding

A common method of fastening safety grating is welding. It is recommended that all Eaton's B-Line series Safety Grating products be fillet welded per AWS D1.3. For more information, consult technical services.



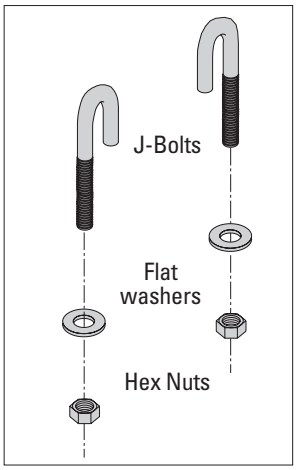
# Grate-Lock Safety Grating - Accessories & Assembly

## Anchor J-bolts



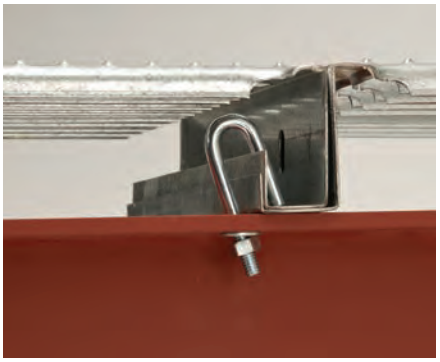
**Field drilling is required.**

**Part number includes**
(2) 5⁄16"-18 x 2 13⁄16" J-bolts
(2) 5⁄16" Flat washers
(2) 5⁄16"-18 Hex nuts




| Anchor J-Bolt | | |
|---|---|---|
| **UPC Number** | **Catalog Number** | **Wt./Box*** |
| 66251640737 | **M-250-J** | 0.10 |

* Sold in box quantity only. (50/box)



### Assembly

1. Align Grate-Lock™ planks on I-beam or other anchoring cross-member.
2. Mark the I-beam for drilling purposes near the outer edges of Grate-Lock plank. Drill pilot holes.
3. Remove Grate-Lock plank and drill finish holes.
4. Replace Grate-Lock plank to its original position. Place the threaded end of the J-Bolts into drilled holes. Place the 'J' end of the J-Bolt in the gutters along each edge of the Grate-Lock plank.Tighten the washer and nut until secure.
5. Test for movement or slippage. If GREAT-LOCK planks are not secure, check fastening system for loose or missing parts. Repeat steps 1 thru 4.

**Note: Do not walk on Grate-Lock planks if they are not secure. Serious injury could result.**

### Welding

A common method of fastening safety grating is welding. It is recommended that all Eaton's B-Line series Safety Grating products be fillet welded per AWS D1.3. For more information, consult Technical Services.

## Kickplates

| Item | UPC Number | Product Code | Height |
|---|---|---|---|
| Side kickplate (14 ga.) 12-ft. lengths | 66251639398 | **M-SK-2514** | 6½" |
| | 66251639411 | **M-SK-3014** | 7" |
| | 66251639419 | **M-SK-4014** | 8" |

**M-SK-2514**

| Item | UPC Number | Product Code | Height |
|---|---|---|---|
| End kickplate (14 ga.) 12-ft. lengths | 66251636794 | **M-EK-2514** | 6½" |
| | 66251636807 | **M-EK-3014** | 7" |
| | 66251630808 | **M-EK-4014** | 8" |

**M-EK-2514**

| Item | UPC Number | Product Code | Height |
|---|---|---|---|
| Kickplate clip | 66251639381 | **M-KC** | 3" |

**M-KC**

| Item | UPC Number | Product Code | Screw Size |
|---|---|---|---|
| Tap screw (self-drilling) | 66251639390 | **M-SDST-25*** | ¼" x 1" |

* 50/box - Sold in box quantity only.

**M-SDST-25**

| Item | UPC Number | Product Code | Bolt Size |
|---|---|---|---|
| ⅜" Hex head bolt with nut and washer | 66251640729 | **M-100-B*** | ⅜-16 x 1" |

Used as an option to attach the end kick plate to the Grate-Lock™ plank

* 50/box - Sold in box quantity only.

**M-100-B**

# Grate-Lock Safety Grating - Solid Deck Planking

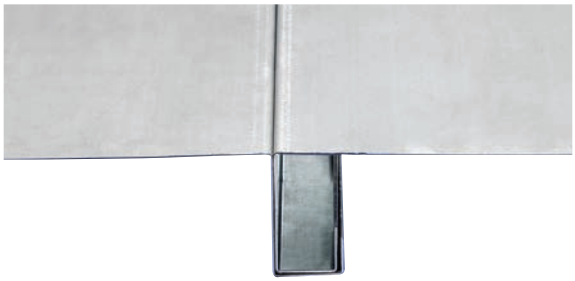
Solid deck planking provides the flexibility of a medium weight and a smooth surface. Manufactured with the same interlocking system of Grate-Lock™, solid deck locks into place for quick installation. Use solid deck in areas where a solid, sturdy covering surface is needed. Solid deck is available in a wide variety of gauges and special quote options.

**Single FM plank**

**Interlocked FM Planks**

## Solid Deck Planking Features

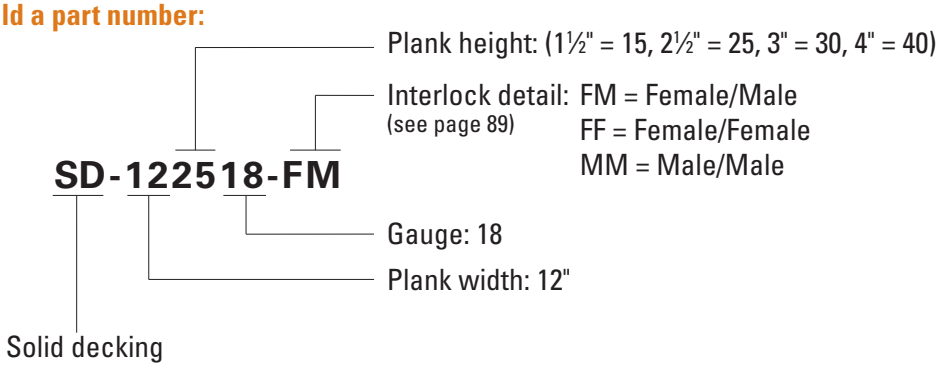
- Durable, pre-galvanized solid surface
- Quick, low-cost installation
- Easy to replace
- Minimum maintenance
- Accessories available
- Available in widths of 6", 9", and 12"
- Available in heights of 11/2" and 21/2"
- Available in lengths of 12'-0", 20'-0", 24'-0"
- Standard 14 gauge steel
- Applications include rack decking, filler planks, and light-load flooring
- Other gauges, widths, and lengths are available by special order. On large jobs, We estimate, detail, and fabricate to your specifications.



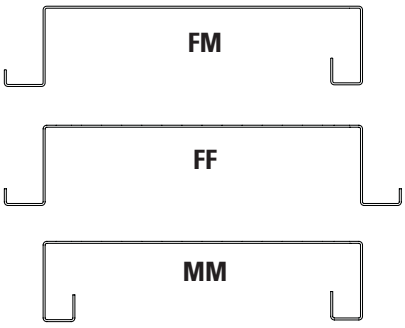
**Interlocked FM planks (end view)**

Standard accessories

## How to build a part number:



** Profile for 1½" Channel Depth




Interlocking Options for 2½" Channel Depth

Specify interlock detail of panel, i.e., FM, FF or MM.
Refer to page 89 for details.

| Channel Depth | Gauge | Width | Catalog Number | Weight Lb./lin.ft. | Load Defl/ Code | Clear Span (Lin.Ft.) 2'-0" | 3'-0" | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½"** | 14 | 12" | SD-121514 | 4.5 | U | **316** | **296** | 166 | 106 | 74 | 54 | 41 | 32 | 26 | 22 | 18 |
| | | | | | D | **0.03** | **0.14** | 0.22 | 0.33 | 0.48 | 0.65 | 0.84 | 1.06 | 1.31 | 1.59 | 1.89 |
| | | | | | C | **158** | **158** | **158** | **158** | **158** | **158** | **158** | 147 | 132 | 120 | 110 |
| | | | | | D | **0.01** | **0.03** | **0.08** | **0.16** | **0.27** | **0.44** | **0.65** | 0.86 | 1.06 | 1.28 | 1.54 |
| | | 9" | SD-91514 | 3.7 | U | **420** | **398** | 222 | 142 | 99 | 72 | 55 | 44 | 35 | 29 | 24 |
| | | | | | D | **0.03** | **0.14** | 0.22 | 0.33 | 0.48 | 0.65 | 0.85 | 1.06 | 1.31 | 1.59 | 1.89 |
| | | | | | C | **211** | **211** | **211** | **211** | **211** | 189 | 165 | 147 | 132 | 120 | 110 |
| | | | | | D | **0.01** | **0.05** | **0.11** | **0.21** | **0.37** | 0.52 | 0.68 | 0.86 | 1.06 | 1.28 | 1.54 |
| | | 6" | SD-61514 | 2.9 | U | **690** | **596** | 335 | 214 | 149 | 109 | 83 | 66 | 53 | 44 | 37 |
| | | | | | D | **0.03** | **0.06** | 0.10 | 0.18 | 0.25 | 0.34 | 0.44 | 0.55 | 0.69 | 0.83 | 0.99 |
| | | | | | C | **344** | **344** | 331 | 265 | 221 | 189 | 165 | 147 | 132 | 120 | 110 |
| | | | | | D | **0.02** | **0.07** | 0.17 | 0.26 | 0.38 | 0.52 | 0.68 | 0.86 | 1.06 | 1.28 | 1.54 |
| 2½" | 14 | 12" | SD-122514 | 5.8 | U | **316** | **316** | **316** | 284 | 199 | 147 | 113 | 90 | 74 | 62 | 52 |
| | | | | | D | **0.01** | **0.04** | **0.13** | 0.27 | 0.39 | 0.54 | 0.71 | 0.91 | 1.13 | 1.38 | 1.63 |
| | | | | | C | **158** | **158** | **158** | **158** | **158** | **158** | **158** | **158** | **158** | **158** | **158** |
| | | | | | D | **0.01** | **0.01** | **0.03** | **0.04** | **0.08** | **0.13** | **0.19** | **0.28** | **0.39** | **0.52** | **0.67** |
| | | 9" | SD-92514 | 5.0 | U | **420** | **420** | **420** | 381 | 266 | 196 | 151 | 121 | 98 | 82 | 70 |
| | | | | | D | **0.01** | **0.04** | **0.13** | 0.28 | 0.41 | 0.56 | 0.74 | 0.94 | 1.17 | 1.43 | 1.72 |
| | | | | | C | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** |
| | | | | | D | **0.01** | **0.01** | **0.03** | **0.07** | **0.11** | **0.18** | **0.27** | **0.38** | **0.52** | **0.69** | **0.90** |
| | | 6" | SD-62514 | 4.2 | U | **690** | **690** | **690** | 596 | 414 | 304 | 233 | 184 | 149 | 123 | 103 |
| | | | | | D | **0.01** | **0.04** | **0.14** | 0.29 | 0.42 | 0.56 | 0.74 | 0.93 | 1.15 | 1.39 | 1.65 |
| | | | | | C | **344** | **344** | **344** | **344** | **344** | **344** | **344** | **344** | **344** | 338 | 310 |
| | | | | | D | **0.01** | **0.02** | **0.05** | **0.11** | **0.18** | **0.29** | **0.43** | **0.62** | **0.85** | 1.11 | 1.32 |

**Notes:**
These tables are prepared based on tests conducted in accordance with the 1986 edition, section F.1 of the American Iron and Steel Institute Specification for the design of cold-rolled steel structural members with the results checked and adjusted where required by calculations in accordance with section A5 of the same specification.

Safe Allowable loads with deflections equal to or less than L/120

Safe Allowable loads with deflections equal to or less than L/240

**Bold Print** values designate loads/deflections limited due to 'Strut Loading'

U = Allowable simple span uniform load (lb./ft.$^2$) C = Allowable simple span concentrated line load (lb.) at Midspan

D = Vertical deflection (in.) at midspan

# Notes Page

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