

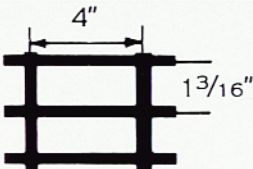
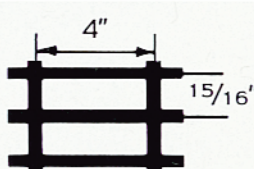
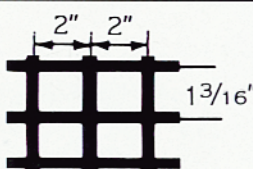
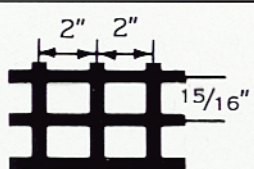
Aluminum Flush Top Swaged Grating



Patented

IKE BORDEN®

Aluminum Flush Top Swaged Grating

STANDARD SPACE	Type BS Flush Approved for general purposes. 	CLOSE SPACE	Type DS Flush The close bearing bars provide a greater loading capability than BS without increasing the depth of the section. 
	Type FS Flush Same as BS, but with additional cross bars to provide increased lateral stability. 		Type DFS Flush Combines the features of DS and FS grating. 

Safe Load Tables For Types BS and FS

For Types DS and DFS multiply load value shown in table by 1.27.
Deflection under factored loads remain as shown in table.

CONVERSION
DATA:
SERRATED
GRATING

Size No.	Bearing Bar Size	span								Grating Size	Multiply U&C By	Multiply Deflection By
			2'0"	2'6"	3'0"	3'6"	4'0"	4'6"	5'0"			
3	1 x 1/8	U	458	293	203	149	114	90	73	1 x 1/8	.77	1.14
		D	.144	.225	.324	.441	.576	.728	.899	1 x 3/16	.77	1.14
		C	458	366	305	261	229	203	183	1 1/4 x 1/8	.81	1.11
		D	.115	.180	.259	.352	.461	.583	.719	1 1/4 x 3/16	.81	1.11
4	1 x 3/16	U	686	439	305	224	172	136	110	1 1/2 x 1/8	.84	1.09
		D	.144	.225	.324	.441	.576	.728	.899	1 1/2 x 3/16	.84	1.09
		C	686	549	458	392	343	305	274	1 3/4 x 3/16	.86	1.08
		D	.115	.180	.259	.352	.461	.583	.719	2 x 3/16	.88	1.07
5	1 1/4 x 1/8	U	715	458	318	233	179	141	114	2 1/4 x 3/16	.89	1.06
		D	.092	.144	.207	.282	.369	.466	.575	2 1/2 x 3/16	.90	1.05
		C	715	572	477	408	358	318	286			
		D	.092	.144	.207	.282	.369	.466	.575			
6	1 1/4 x 3/16	U	1074	687	477	350	268	212	172			
		D	.115	.180	.250	.351	.460	.581	.717			
		C	1074	859	716	614	537	477	429			
		D	.092	.144	.207	.282	.369	.466	.575			
7	1 1/2 x 1/8	U	1030	659	458	336	257	203	165			
		D	.096	.150	.216	.294	.383	.485	.599			
		C	1030	824	686	588	515	458	412			
		D	.077	.120	.173	.235	.307	.389	.480			
8	1 1/2 x 3/16	U	1547	990	687	505	387	306	247			
		D	.077	.120	.173	.235	.307	.389	.480			
		C	1547	1237	1031	884	773	687	619			
		D	.077	.120	.173	.235	.307	.389	.480			
9	1 3/4 x 3/16	U	2105	1347	936	687	526	416	337			
		D	.082	.128	.185	.252	.329	.417	.515			
		C	2105	1684	1404	1203	1053	936	842			
		D	.066	.103	.146	.202	.264	.334	.412			
10	2 x 3/16	U	2750	1760	1222	898	688	543	440			
		D	.072	.112	.162	.220	.288	.364	.450			
		C	2750	2200	1833	1571	1375	1222	1100			
		D	.058	.090	.130	.176	.230	.292	.360			
11	2 1/4 x 3/16	U	3480	2227	1547	1136	870	687	557			
		D	.064	.100	.144	.196	.256	.324	.400			
		C	3480	2784	2320	1989	1740	1547	1392			
		D	.051	.080	.115	.157	.205	.259	.320			
12	2 1/2 x 3/16	U	4297	2750	1910	1403	1074	849	687			
		D	.058	.090	.130	.176	.230	.292	.360			
		C	4297	3437	2864	2455	2148	1910	1719			
		D	.046	.072	.104	.141	.184	.233	.288			

NOTE: Spans listed in the blue area produce a deflection of 1/4" or less under a uniform load of 100 pounds per sq. ft. This deflection is recommended as the maximum to provide pedestrian comfort. It can be exceeded at the discretion of the engineer.

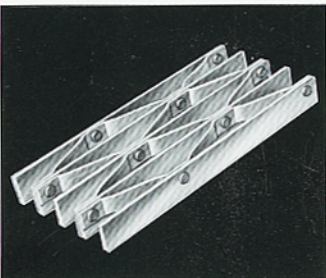
Spans listed in the blue area also define those gratings in conformity with NAAMM.

NOTE: The carrying capacity of a piece of grating subjected to a concentrated load over only a portion of its width is determined by the stiffness of both the bearing bars and the cross bars, and therefore differs with the type of grating used. To determine the carrying capacity of gratings subject to such loadings, the IKG Borden engineering department should be consulted.

How to Specify IKG Borden Swaged Flush Top Grating*

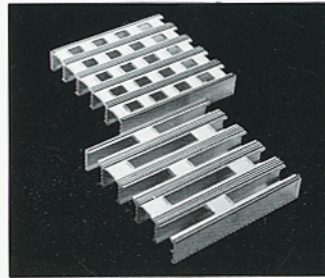
Floor grating shall be IKG Borden aluminum swaged flush top grating. Grating shall be constructed with bearing bars placed edgewise and joined by swaged cross bars. Size and spacing of bearing bars shall be as follows: Bearing bars to be rectangular configuration. The depth of the bearing bar to be 1 inches, spaced on 1 3/16" centers. The cross bar is to be spaced on 4" centers. The bearing bar shall be punched to receive the cross bar. Notching, slotting, or cutting the top of the bearing bar will not be permitted. Cross bars shall be secured to the main bearing bars by a swaging process to prevent turning, twisting, or coming loose. The top walking surface of the cross bar after swaging shall be "nominally flush" with the top surface of the bearing bar. Ends of cross bars to be trimmed flush with outside face of bearing bars. Trimming will be made in such a manner as to prevent destruction of swaged lock on bearing bar. Material to be 6063 aluminum alloy. Finish shall be mill finish [Mill finish standard, or specify anodic finish desired.]

Other IKG Borden aluminum grating styles with flush top walking surfaces.



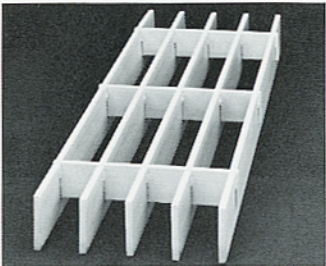
Riveted

Our riveted aluminum grating is our premium product. It offers a **flush walking surface** and the highest durability of any aluminum grating, but it is more expensive. It is recommended for areas with the heaviest pedestrian traffic and the greatest structural stress.



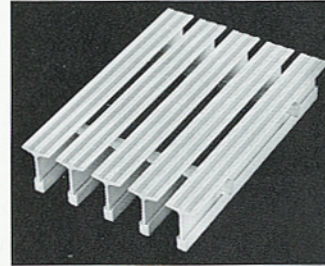
Plank Aluminum Grating

Available in a number of patterns for varying percentages of open space, each plank is a single unit extrusion. This is not true bar grating, but functions in the same fashion.



Dove Tail Pressure Locked

Made by cutting slightly undersized slots in both the bearing bar and cross bar and then pressing the bars together in a hydraulic press, this style has a **flush top walking surface** and proven durability. Recommended for heavy traffic areas. Especially well suited for areas where close spacing of bearing bars is desirable to prevent penetration of the surface by high heels or other objects.



SAFEGRID Swaged T-Bar

A special T-Bar extruded section gives this product an exceptionally high strength-to-weight ratio, while the top flange of the T-Bar forms a broad walking surface underfoot. This design is ideal for application of our patented, metal bonded Mebac anti-slip surfacing. Select this product where high slip resistance in combination with walking safety are the prime consideration, and decreased percentage of open space is desired.

For more information on IKG Borden Products call or write the sales office below for our brochure on:

- IKG Borden Grating
- IKG Borden Fiberglass Systems
- IKG Borden Mebac—Slip Resistant Surface
- IKG Deckspan Safety Grating
- IKG Fiberglass Structures
- IKG Borden Safe-T-Grid
- IKG Borden Stair Tread Nosing
- IKG Greulich Bridge Flooring Systems
- IKG Borden Grid Steel Floor Armor

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IKG BORDEN
a harsco company

IKG DECKSPAN
a harsco company

IKG GREULICH
a harsco company

Associate Member Steel Service Center Institute

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THE NATIONAL ASSOCIATION
OF ARCHITECTURAL METAL
MANUFACTURERS

When and Why to Choose Grating

In many applications, grating is the best flooring you can choose for strength, safety and long-term cost savings.

Choose grating instead of solid flooring when you need:

- Open area to allow passage of light, air, heat and sound between flooring levels
- Flooring on which liquids and/or debris cannot collect
- Easy installation and fabrication
- Adaptability to complex floor patterns and hard-to-fit areas
- High strength-to-weight ratio

Flooring is just one of the many uses for grating. Its adaptability and strength make it also well suited for use as catwalks, stairs, platforms, grates, grills, fencing, vault and machine covers, scaffolding, ventilated bin floors, ramps, docks, trench covers, fire escapes, window and machinery safe guards, wash racks, running boards, ventilated screens, mezzanines, and many more applications.

America's Leading Grating Manufacturer

Founded on an 80-year tradition of service, IKG Industries was formed in 1969 by the merger of the Irving, Kerrigan, and Gary companies, and took its present shape with the acquisition of the former Borden Metal Products Co. in 1986. Today, IKG Borden is the leading U.S. manufacturer of grating products, with modern, efficient plants and service centers nationwide.

Aluminum Flush Top Swaged Grating a new product

This brochure covers one of our latest grating innovations - aluminum swaged grating with a flush walking surface.

Amongst architects and engineers and within the grating industry itself, it has long been recognized that bar grating which has both bearing bars and cross bars flush with the walking surface provides both greater safety and increased walking and standing comfort. Until recently, in aluminum grating, you could have either the safety of a flush top walking surface, or the economy of swaged construction, but not both in one product.

IKG's Flush Top Swaged Aluminum Grating is the first and only product to give you both in one product, without penetrating the top of the bearing bar.

This product is especially well suited to applications where pedestrian traffic is occasional and light, where walking and standing safety and comfort is a concern, and where economy in combination with high corrosion resistance is important. It is ideal for water and waste water treatment plants and similar operations.

Other IKG Borden aluminum grating styles include Riveted, Dove Tail Pressure Locked, Safe-T-Grid swaged T-Bar, and Plank Aluminum and are shown on back cover.

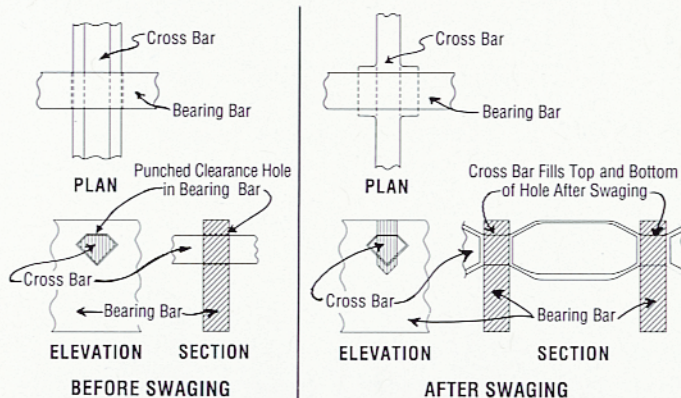
The Advantages of Aluminum Flush Top Swaged Grating

- Cross bar does not penetrate top of bearing bar
- Swaged shoulder of cross bar is large and tight to bearing bar for rigidity and reliability.
- Top of cross bars flush with bearing bars give slip resistance in both directions.
- High strength-to-weight ratio
- Economical
- High corrosion resistance

Weights for Aluminum Swaged Flush Top Grating (Lbs./Sq. Ft.)

Size	Bearing Bar Dimensions (inches)	Flush Top Swaged Type			
		BS	FS	DS	DFS
3	1 x 1/8	1.9	2.2	2.3	2.6
4	1 x 3/16	2.6	2.9	3.3	3.5
5	1 1/4 x 1/8	2.3	2.6	2.8	3.1
6	1 1/4 x 3/16	3.2	3.5	4.0	4.3
7	1 1/2 x 1/8	2.8	3.2	3.4	3.8
8	1 1/2 x 3/16	3.9	4.3	4.8	5.2
9	1 3/4 x 3/16	4.5	4.9	5.6	5.9
10	2 x 3/16	5.1	5.5	6.3	6.7
11	2 1/4 x 3/16	5.7	6.1	7.0	7.4
12	2 1/2 x 3/16	6.3	6.7	7.8	8.1

Typical Detail of Flush Top Swaged Joint



Advantages of Aluminum Grating

Economical to Use

Cost per pound is advantageous - aluminum gives you about three times greater volume of metal per pound than steel.

Resists Corrosion

Aluminum needs no protection in most ordinary environments. Steel grating requires painting or galvanizing adding to final cost.

Saves Weight

Aluminum weighs far less than many other metals.

Non Magnetic

Electrical losses and disturbances are reduced by this characteristic in applications such as cable shielding and electronic equipment.

Takes Anodic Coatings

Oxide coatings of many different colors and hard, wear-resisting surface finishes can be applied. Particularly suitable for architectural applications.

Easy to Work With

Aluminum can be fabricated economically by all the common processes. For grating applications, this gives the greatest flexibility of design over steel.

Safe for Foods

Aluminum is widely used in homes and food-processing plants because it is nontoxic and odor-free.

Has Clean Appearance

The metal itself looks attractive and needs no adornment for many applications.

Absorbs Impact Loads

A low modulus of elasticity gives aluminum extra ability to resist impact without deforming permanently.