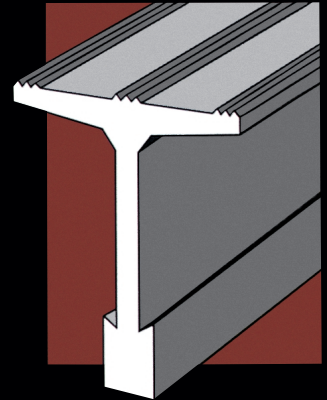


# **SAFEGRID<sup>®</sup>** *Aluminum Grating*



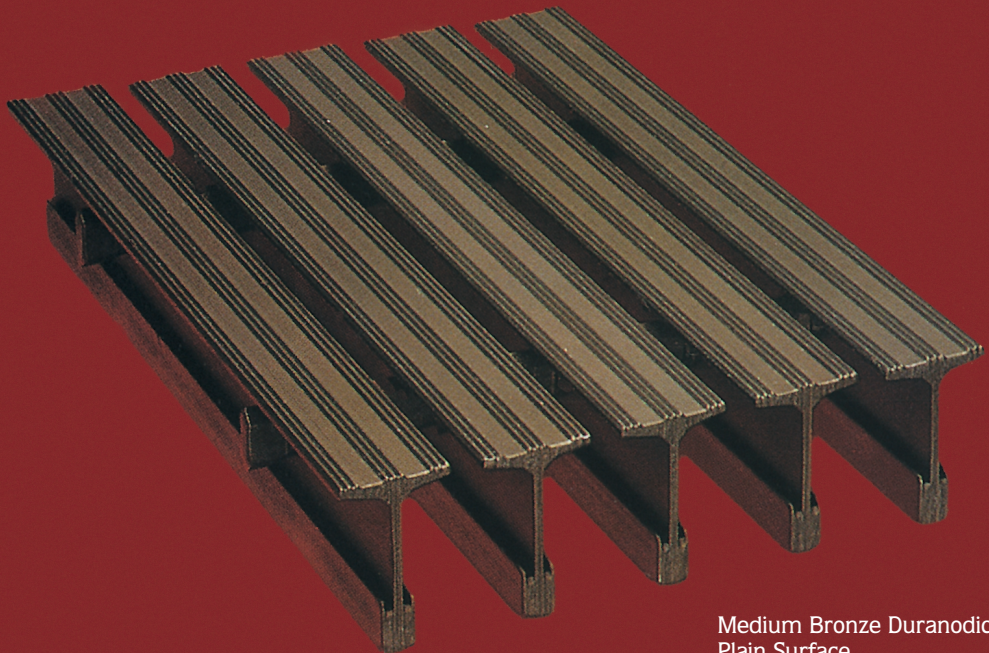
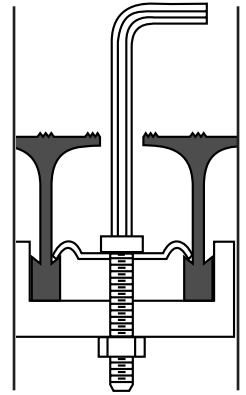
**IKG**

**IKG Industries**

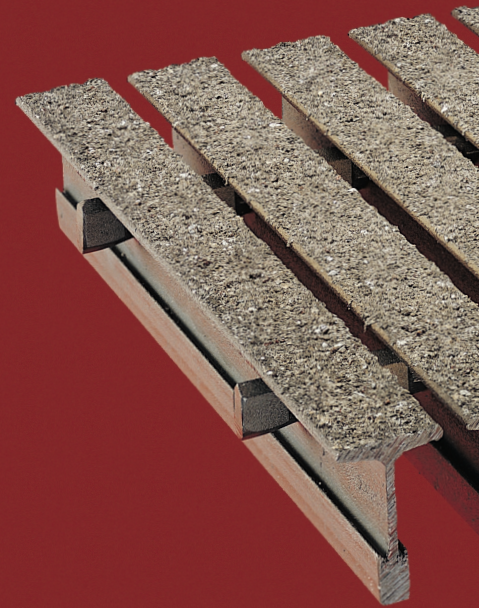
Harsco

- Attractive • Durable • Practical
- Economical • Strong
- Safe • Corrosion Resistant

**Ideal for entrance mats, pedestrian walkways, trench grates in high pedestrian traffic.**



Medium Bronze Duranodic  
Plain Surface



## Features

**Wide surface, Low weight.** Safe-T-Grid's patented design provides maximum walking surface at comparatively low weight. This produces an excellent look and feel for a variety of commercial and architectural applications. The lightweight design also makes Safe-T-Grid an ideal choice for untraditional uses such as sunscreens or facades.

**Cost-effective.** The unique "T" construction makes Safe-T-Grid more cost-effective than many other ADA approved gratings.

**Architectural finishes.** Safe-T-Grid can be supplied with any finish that is normally applied to aluminum, including anodizing and Duranodic finishes. The Aluminum Mebac® surface may also be anodized. Ideally, for architectural applications, samples are first produced to ensure the proper appearance is achieved.



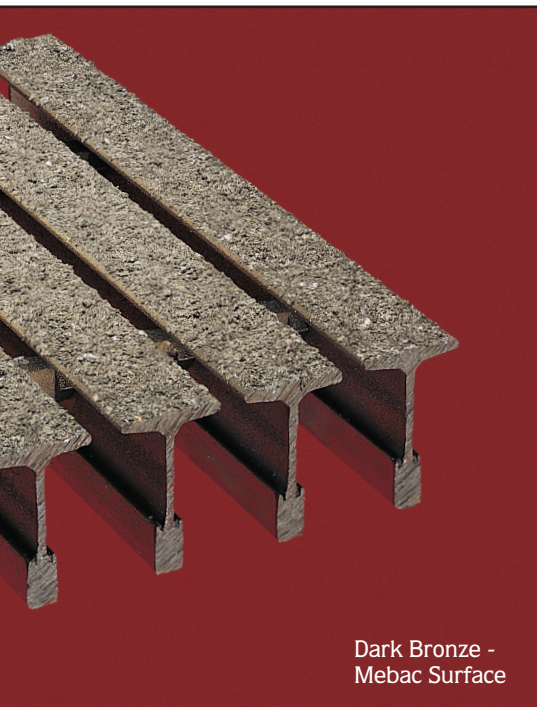
# SAFE-T-GRID® Aluminum Grating provides a unique walking surface.

## America's Leading Grating Manufacturer

IKG began in the early 1900's and soon afterward invented the first "subway grating" to enable construction of New York City's subway system. Today, IKG Industries is the leading manufacturer of grating products utilized in industrial, commercial and architectural applications.

## Safe-T-Grid Aluminum Grating

Safe-T-Grid is a patented design that uses the special properties of aluminum to create a unique walking surface. The bearing bars are a specially designed and manufactured T-bar extrusion. This efficient structural shape yields high load bearing capability considering the amount of material used. The result is a product that is high-strength, lightweight and economical.



Dark Bronze -  
Mebac Surface



Cutaway shows Safe-T-Grid  
Fastening System -  
Frame, Hidden Fastener, Grating

**Frames to fit.** We offer aluminum frames for concrete embedment that are made specifically for Safe-T-Grid installation. Frames can be supplied with rubber cushion for total noise elimination and can be supplied with the same finish specified for the grating.

**Comfortable.** For both walking and standing. The broad top flange walking surface feels much like solid flooring underfoot.

**Maximum slip resistance.** Mebac® surfaces have the highest coefficient of friction available on metal today, far in excess of OSHA standards.

**Aluminum Mebac®** surface. Aluminum oxide grit bonded with molten aluminum to the top surface of the grating. Proven in heavy pedestrian service to last up to 15 years or more.

**ADA compliant.** The openings of Type TB-940 are less than 1/4" wide, thereby complying to the requirements of the Americans with Disabilities Act.

U = safe uniform load, lb./sq ft.  
D = deflection in inches  
C = safe concentrated load, lb./ft. of  
grating with, at mid-span

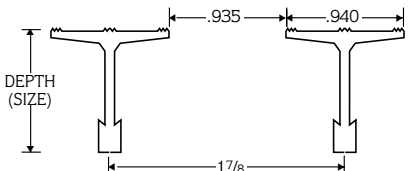
Theoretical values based on  $f = 12,000$  PSI,  $E = 10,000,000$  psi,  
gross section of bearing bar.

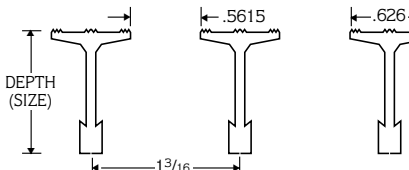
NOTE: Spans listed in the blue area produce a deflection of 1/4" or less under a uniform load of 100 pounds per sq. ft. This deflection is recommended as the maximum to provide pedestrian comfort. It can be exceeded at the discretion of the engineer. All deflection are theoretical and are based on standard engineering practices. They are provided for design selection only and should not be considered as absolute.


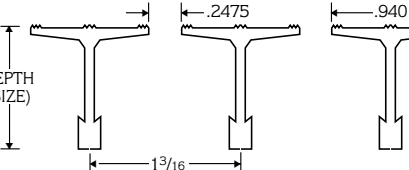
Size No.	Depth	Type	Top Flange Width	S/FT	I/FT	SPAN													
							1'-0	1'-6	2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0
4	1"	TP-940-4	.940	.332	.192	U	2662	1183	666	426	296	217	166	131	106	88	74	63	54
						D	0.031	0.070	0.124	0.195	0.280	0.381	0.498	0.629	0.776	0.943	1.123	1.317	1.519
						C	1331	887	666	532	444	380	333	296	266	242	222	205	190
						D	0.024	0.056	0.099	0.155	0.224	0.305	0.399	0.505	0.623	0.754	0.899	1.055	1.221
4	1"	TB-626-4	.626	.495	.262	U	3961	1761	990	634	440	323	248	196	158	131	110	94	81
						D	0.033	0.076	0.135	0.212	0.305	0.415	0.543	0.688	0.845	1.026	1.220	1.436	1.665
						C	1981	1320	990	792	660	566	495	440	396	360	330	305	283
						D	0.027	0.061	0.108	0.169	0.244	0.332	0.434	0.549	0.678	0.820	0.976	1.147	1.330
4	1"	TB-940-4	.940	.525	.303	U	4204	1868	1051	673	467	343	263	208	168	139	117	99	86
						D	0.031	0.070	0.124	0.195	0.280	0.382	0.499	0.633	0.779	0.944	1.125	1.311	1.532
						C	2102	1401	1051	841	701	601	525	467	420	382	350	323	300
						D	0.024	0.056	0.099	0.156	0.224	0.305	0.398	0.505	0.623	0.754	0.897	1.053	1.221
4	1"	TD-626-4	.626	.627	.332	U	5018	2230	1254	803	558	410	314	248	201	166	139	119	102
						D	0.033	0.076	0.135	0.212	0.305	0.415	0.543	0.687	0.849	1.026	1.217	1.436	1.655
						C	2509	1673	1254	1004	836	717	627	558	502	456	418	386	358
						D	0.027	0.061	0.108	0.169	0.244	0.332	0.434	0.550	0.678	0.820	0.976	1.146	1.328
6	1 1/4"	TP-940-6	.940	.550	.409	U	4403	1957	1101	705	489	359	275	217	176	146	122	104	90
						D	0.024	0.054	0.096	0.151	0.217	0.295	0.386	0.488	0.604	0.733	0.868	1.019	1.187
						C	2202	1468	1101	881	734	629	550	489	440	400	367	339	315
						D	0.019	0.43	0.077	0.120	0.174	0.237	0.309	0.391	0.483	0.584	0.696	0.818	0.949
6	1 1/4"	TB-626-6	.626	.757	.505	U	6063	2695	1516	970	674	495	379	299	243	200	168	144	124
						D	0.026	0.060	0.108	0.168	0.243	0.330	0.432	0.545	0.676	0.814	0.969	1.144	1.325
						C	3032	2021	1516	1213	1011	866	758	674	606	551	505	466	433
						D	0.021	0.048	0.086	0.135	0.194	0.264	0.345	0.437	0.539	0.653	0.777	0.911	1.058
6	1 1/4"	TB-940-6	.940	.869	.646	U	6952	3090	1738	1112	772	568	435	343	278	230	193	165	142
						D	0.024	0.054	0.096	0.151	0.217	0.296	0.387	0.489	0.604	0.732	0.870	1.024	1.186
						C	3476	2317	1738	1390	1159	993	869	772	695	632	579	535	497
						D	0.019	0.043	0.077	0.120	0.174	0.236	0.309	0.391	0.483	0.585	0.696	0.817	0.948
6	1 1/4"	TD-626-6	.626	.960	.640	U	7680	3413	1920	1229	853	627	480	379	307	254	213	182	157
						D	0.027	0.060	0.108	0.168	0.242	0.330	0.432	0.546	0.674	0.817	0.970	1.142	1.325
						C	3840	2560	1920	1536	1280	1097	960	853	768	698	640	591	549
						D	0.021	0.048	0.086	0.135	0.194	0.264	0.345	0.437	0.54	0.653	0.777	0.912	1.059
8	1 1/2"	TP-940-8	.940	.742	.652	U	5939	2640	1485	950	660	485	371	293	238	196	165	141	121
						D	0.020	0.046	0.081	0.127	0.184	0.250	0.327	0.414	0.512	0.618	0.737	0.867	1.001
						C	2970	1980	1485	1188	990	848	742	660	594	540	495	457	424
						D	0.016	0.036	0.065	0.102	0.147	0.200	0.261	0.331	0.409	0.495	0.589	0.692	0.802
8	1 1/2"	TB-626-8	.626	1.010	.798	U	8084	3593	2021	1293	898	660	505	399	323	267	225	191	165
						D	0.022	0.051	0.091	0.142	0.205	0.279	0.364	0.461	0.568	0.688	0.821	0.960	1.116
						C	4042	2695	2021	1617	1347	1155	1011	898	808	735	674	622	577
						D	0.018	0.041	0.072	0.113	0.164	0.223	0.291	0.369	0.455	0.551	0.656	0.770	0.892
8	1 1/2"	TB-940-8	.940	1.172	1.030	U	9378	4168	2344	1500	1042	766	586	463	375	310	260	222	191
						D	0.020	0.046	0.081	0.127	0.184	0.250	0.327	0.414	0.511	0.619	0.735	0.865	1.001
						C	4689	3126	2344	1876	1563	1340	1172	1042	938	853	781	721	670
						D	0.016	0.036	0.065	0.102	0.147	0.200	0.261	0.331	0.409	0.495	0.589	0.691	0.802
8	1 1/2"	TD-626-8	.626	1.280	1.011	U	10240	4551	2560	1638	1138	836	640	506	410	339	284	242	209
						D	0.022	0.051	0.091	0.142	0.205	0.279	0.364	0.461	0.570	0.690	0.818	0.961	1.116
						C	5120	3413	2560	2048	1707	1463	1280	1138	1024	931	853	788	731
						D	0.018	0.041	0.072	0.113	0.164	0.223	0.291	0.369	0.445	0.511	0.655	0.770	0.892
10	2"	TP-940-10	.940	1.177	1.350	U	9421	4187	2355	1507	1047	769	589	465	377	311	262	223	192
						D	0.015	0.035	0.062	0.098	0.141	0.192	0.251	0.317	0.392	0.474	0.565	0.663	0.768
						C	4710	3140	2355	1884	1570	1346	1178	1047	942	856	785	725	673
						D	0.012	0.028	0.050	0.078	0.113	0.153	0.200	0.254	0.313	0.379	0.452	0.530	0.615
10	2"	TB-626-10	.626	1.586	1.647	U	12692	5641	3173	2031	1410	1036	793	627	508	420	353	300	259
						D	0.017	0.039	0.069	0.108	0.156	0.212	0.277	0.351	0.433	0.524	0.624	0.731	0.849
						C	6346	4231	3173	2538	2115	1813	1587	1410	1269	1154	1058	976	907
						D	0.013	0.031	0.055	0.086	0.124	0.169	0.221	0.280	0.346	0.419	0.499	0.585	0.679
10	2"	TB-940-10	.940	1.859	2.132	U	14875	6611	3719	2380	1653	1214	930	735	595	492	413	352	304
						D	0.015	0.035	0.062	0.098	0.141	0.192	0.251	0.318	0.392	0.475	0.564	0.663	0.770
						C	7438	4958	3719	2975	2479	2125	1859	1653	1488	1352	1240	1144	1063
						D	0.012	0.028	0.050	0.078	0.113	0.153	0.200	0.254	0.314	0.379	0.452	0.530	0.615
10	2"	TD-626-10	.626	2.009	2.086	U	16077	7145	4019	2572	1786	1312	1005	794	643	531	447	381	328
						D	0.017	0.039	0.069	0.108	0.156	0.212	0.277	0.351	0.433	0.523	0.624	0.733	0.849
						C	8038	5359	4019	3215	2679	2297	2010	1786	1608	1462	1340	1237	1148
						D	0.013	0.031	0.055	0.086	0.124	0.169	0.221	0.280	0.346	0.419	0.499	0.586	0.679


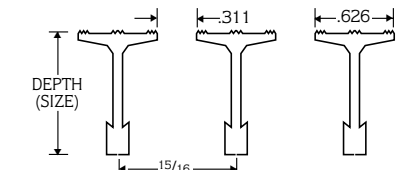


# Engineering Data

<b>TYPE TP-940</b>			
	DEPTH (SIZE)		
Size	Depth	Wt./ Sq. Ft.	Open Area
4	1 in.	2.1	49.9 %
6	1 1/4 in.	2.8	49.9 %
8	1 1/2 in.	3.0	49.9 %
10	2 in.	3.4	49.9 %

<b>TYPE TB-626</b>			
	DEPTH (SIZE)		
Size	Depth	Wt./ Sq. Ft.	Open Area
4	1 in.	2.7	47.2 %
6	1 1/4 in.	3.3	47.2 %
8	1 1/2 in.	3.6	47.2 %
10	2 in.	4.1	47.2 %

<b>TYPE TB-940</b> 			
	DEPTH (SIZE)		
Size	Depth	Wt./ Sq. Ft.	Open Area
4	1 in.	3.0	20.8 %
6	1 1/4 in.	4.2	20.8 %
8	1 1/2 in.	4.4	20.8 %
10	2 in.	5.0	20.8 %

<b>TYPE TD-626</b> 			
	DEPTH (SIZE)		
Size	Depth	Wt./ Sq. Ft.	Open Area
4	1 in.	3.4	33.2 %
6	1 1/4 in.	4.1	33.2 %
8	1 1/2 in.	4.4	33.2 %
10	2 in.	5.1	33.2 %

## SAFE-T-GRID TREADS

Recommended Spans*		
Size	General Public Use	Commercial/Industrial
1" TP-940	2'-2	2'-2
1" TB-626	2'-4	2'-7
1" TB-940	2'-5	2'-9
1" TD-626	2'-6	2'-11
1 1/4" TP-940	2'-11	3'-3
1 1/4" TB-626	2'-11	3'-5
1 1/4" TB-940	3'-3	3'-9
1 1/4" TD-626	3'-3	3'-9
1 1/2" TP-940	3'-6	4'-1
1 1/2" TB-626	3'-7	4'-2
1 1/2" TB-940	4'-0	4'-7
1 1/2" TD-626	3'-11	4'-7
2" TP-940	4'-10	5'-7
2" TB-626	4'-11	5'-8
2" TB-940	5'-4	6'-2
2" TD-626	5'-4	6'-1

\* 1. Recommended span for general public uses is developed by using a concentrated load of 300 pound with a 33% impact at midspan supported by:

Nosing plus 3 "T" bars for TP spacing

Nosing plus 4 "T" bars for TB spacing

Nosing plus 5 "T" bars for TD spacing

with a deflection not to exceed L/240 or .250 inches

2. Recommended span for commercial/industrial uses is developed by using the same loading criteria as for general public but with a deflection not to exceed L/180 or .375 inches.

3. Types TB-940 and TD-626 comply with the requirements of the Americans with Disabilities Act Accessibility Guidelines. The ADA establishes minimum 1/2" openings in floor or ground surfaces in government facilities and in places of public accommodation and commercial facilities.



Safe-T-Grid Entrance Grating offers the architect the same eye appeal of a conventional entrance mat, but in a true, heavy duty bar grating. Rubber inserts on the tops of the bearing bars form a soft and aesthetically pleasing entrance grate for high value pedestrian entrances. The rubber inserts can be supplied in a wide range of colors to provide the perfect complement for your overall design.

## Rigid Construction


Safe-T-Grid utilizes a bearing bar locking system that enables it to be strong and noise-free. The result is an attractive, load-capable walking surface.

With IKG's matching frame (p. 7) and invisible fasteners the grate is secured in place with only four clips. This makes it easy for a worker to remove the grate for cleaning the catch-pit, and have it re-installed in almost no time at all.



Technical drawing showing three T-shaped components with dimensions:

- Vertical dimension: 1.5 INCH.
- Horizontal dimensions (from left to right):
  - .2475
  - .940
- Horizontal dimension at the bottom:  $.1\frac{3}{16}$

	Size	Depth	Wt./ Sq. Ft.*	Open Area
	8	1 1/2 in. nom.	4.9  * includes rubber insert	20.8 %

Made of high quality, long wearing thermal plastic rubber. The insert may be provided in various colors to suit. Black, green, brown, and red are standard. Other colors can be custom compounded to suit.

Black      Green      Brown      Red

Standard finish for the grating is mill finish. However it can easily be anodized or Duranodic finished on special order.

### Safe Load Table for Entrance Grating

Theoretical values based on  
f = 12,000 PSI, E = 10,000,000  
psi, gross section of bearing bar.

Depth	Type	S/Ft in <sup>3</sup>	I/Ft in <sup>4</sup>	SPAN													
					1'-0	1'-6	2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0
1.5	EB-150	1.010	0.855	U	8084	3593	2021	1293	898	660	505	399	323	267	225	191	165
				D	0.021	0.047	0.085	0.132	0.191	0.260	0.340	0.430	0.531	0.643	0.767	0.897	1.042
				U	4042	2695	2021	1617	1347	1155	1011	898	808	735	674	622	577
				D	0.017	0.038	0.068	0.106	0.153	0.208	0.272	0.344	0.425	0.514	0.613	0.719	0.833

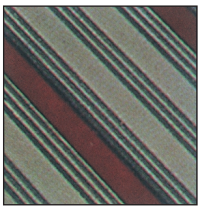
NOTE: Spans listed in the blue area produce deflections of 1/4" or less under a uniform load of 100 pounds per sq. ft. This deflection is recommended as the maximum to provide pedestrian comfort. It can be exceeded at the discretion of the engineer. All deflections are theoretical and are based on standard engineering practices. They are provided for design selection only and should not be considered as absolute.



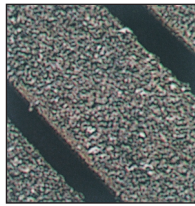
# Architectural and Industrial Flooring with a Safe and Comfortable Walking Surface

## Surfaces

Safe-T-Grid can be ordered with or without a Mebac® walking surface, but for architectural applications which are subject to high pedestrian traffic, it is strongly recommended for maximum pedestrian protection against slips and falls.



Plain with fluted pattern

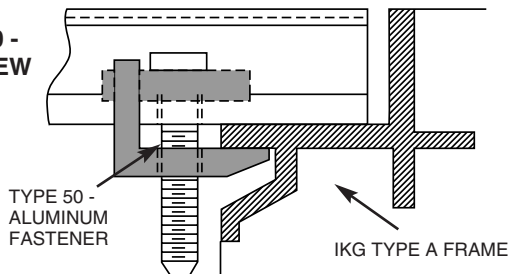


Mebac (metal bonded aluminum oxide grit)

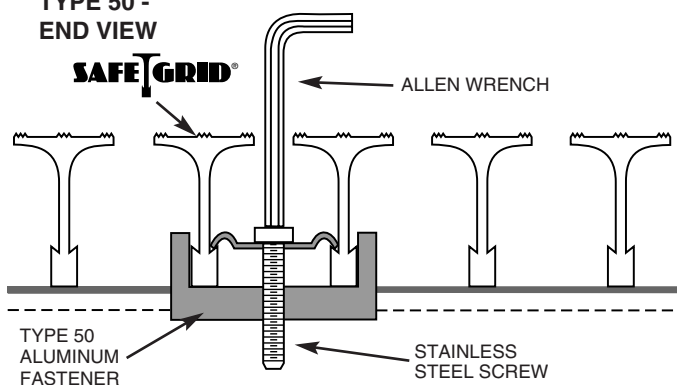
**Mebac® Surface** – The top flange of the bearing bars offer a broad surface to accept our premium anti-slip product – Mebac. Mebac is aluminum oxide grit that is bonded by molten aluminum to the aluminum surface of the bearing bars. Unlike other types of slip resistant coatings, Mebac does not rely on any type of glues or resins which have been shown to fail in a relatively short period of time.

## Fastener

### TYPE 50 - SIDE VIEW



### TYPE 50 - END VIEW



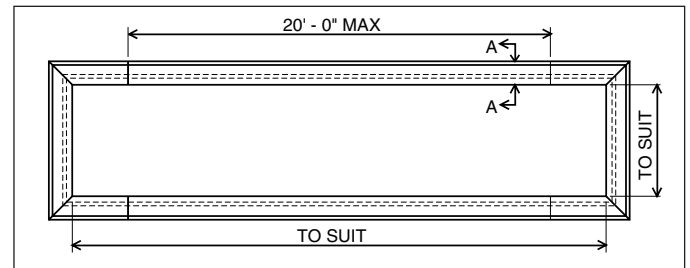
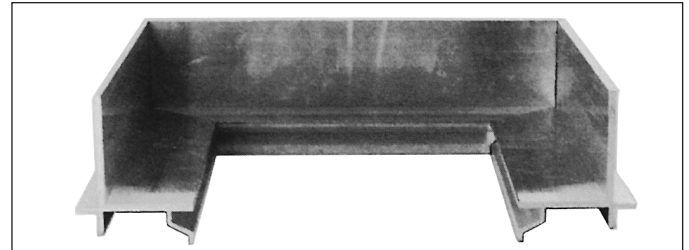
Fastener is hidden, does not protrude above surface, and therefore presents no trip hazard whatsoever. Fasteners can be easily removed to allow access to covered area, and just as easily reinstalled—all from above the grating.

## Finishes

When specified, IKG can provide Duranodic or anodized surfaces. Since the Mebac® surface employs aluminum to encapsulate the grit, it will accept anodizing in much the same way as the metal of the nosing itself, except the finish is not as smooth. To be certain of a satisfactory result, we recommend that you request samples for approval prior to placing your full order. Virtually all other aluminum architectural finishes are also available on special order.

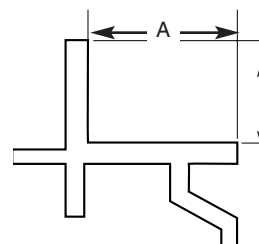
**Caution:** Duranodic and anodized finishes on the walking surface of Mebac® cannot be guaranteed. These finishes may wear off in time depending upon the activity or frequency of pedestrian traffic. However, the finish on the face of the nosing should have the same wearing quality as Duranodic or anodized finishes in other locations.

## Frames



Rectangular frames of up to 20 feet in length can be custom made from stock material to your order. Lengths of more than 20 feet can be achieved with one or more splices. The frame extrusion provides a continuous anchor when embedded in concrete.

Frames are constructed of aluminum alloy 6063-T6. Mill finish, caustic cleaned is standard, however, any finish you specify for the grating can also be applied to the frames.



Type	"A"	"B"
A-100	1 1/2"	1"
A-125	1 1/2"	1 1/4"
A-150	1 1/2"	1 1/2"
A-200	2"	2"
A-250	2"	2 1/2"



Safe-T-Grid with Mebac surface on pedestrian bridges.

*For additional information on other IKG products, or for sales literature, please contact one of our sales offices and request any of the following brochures...*

IKG General Grating Catalog  
 IKG Weldforged® Steel Grating  
 IKG Mezzanine Grating  
 IKG Kerrigan Weldforged® Railroad Safety Grating  
 IKG Aluminum Flush Top Grating  
 IKG Aluminum Plank Grating  
 IKG Mebac® Slip Resistant Surfaces  
 IKG Mebac® Stair Nosings  
 IKG CorGrate® Fiberglass Gratings  
 IKG Cortreads™ Stair Treads  
 IKG CorLight™ Structural Shapes  
 IKG CorGrip™ Handrail Systems  
 IKG CorPlate™ Covered Grating



# IKG Industries

## Harsco

*Executive Offices:*

**IKG INDUSTRIES**  
 Harsco Corporation  
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 Tel: (281) 452-0709 Fax: (281) 457 6054  
 e-mail: Sales@ikgindustries.com  
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 10M 12/02 HP

### Sales Offices:

**United States**  
 1423 Wadsworth  
 Houston, TX 77015  
 Tel: (800) 835-8356  
 Fax: (281) 457-6054

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 Aberdeen, NJ 07747  
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 Suite #120  
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**Mexico**  
 Irving,  
 Electroforjados,  
 Nacionales S.A.de C.V.  
 Prol.Sur 128 No. 134  
 Col. Jose Ma. Pino Suarez  
 01440 Mexico  
 Tel: (52) 26 - 14 - 14 - 14  
 Fax: (52) 26 - 14 - 14 - 11

## Applications

### Architectural

Entrance frames and grates  
 for all types of public build-  
 ings:

Airports  
 Banks  
 Churches  
 Hotels  
 Schools  
 Shopping Centers  
 Boat Docks  
 Stair treads  
 Trench Grates—  
 Shopping Malls  
 Handicap ramps

Sidewalk grates and frames

Drain grates and frames

### Industrial

Water and waste water  
 treatment plants  
 Work platforms\*  
 Stair treads  
 Walkways

### Other

Fences†  
 Sun Screens†

\*The high surface area of the top flange  
 supports the worker. It is comfortable to  
 stand on, yet allows free passage of light  
 and air.

## How to Specify Safe-T-Grid Grating

Flooring to be IKG Industries Type \_\_\_\_\_, manu-  
 factured with aluminum alloy 6063-T6, with a top  
 flange width of \_\_\_\_\_ in. and the depth of  
 flooring to be \_\_\_\_\_ in. Flooring to be designed to  
 support a 100 lb. per sq. ft.. uniform live load with a  
 theoretical design deflection of .25 inches or less. Finish  
 to be \_\_\_\_\_. The  
 walking surface shall be IKG Mebac, aluminum metal  
 bonded to substrate with encapsulated aluminum oxide  
 grit for a slip resistant surface.

