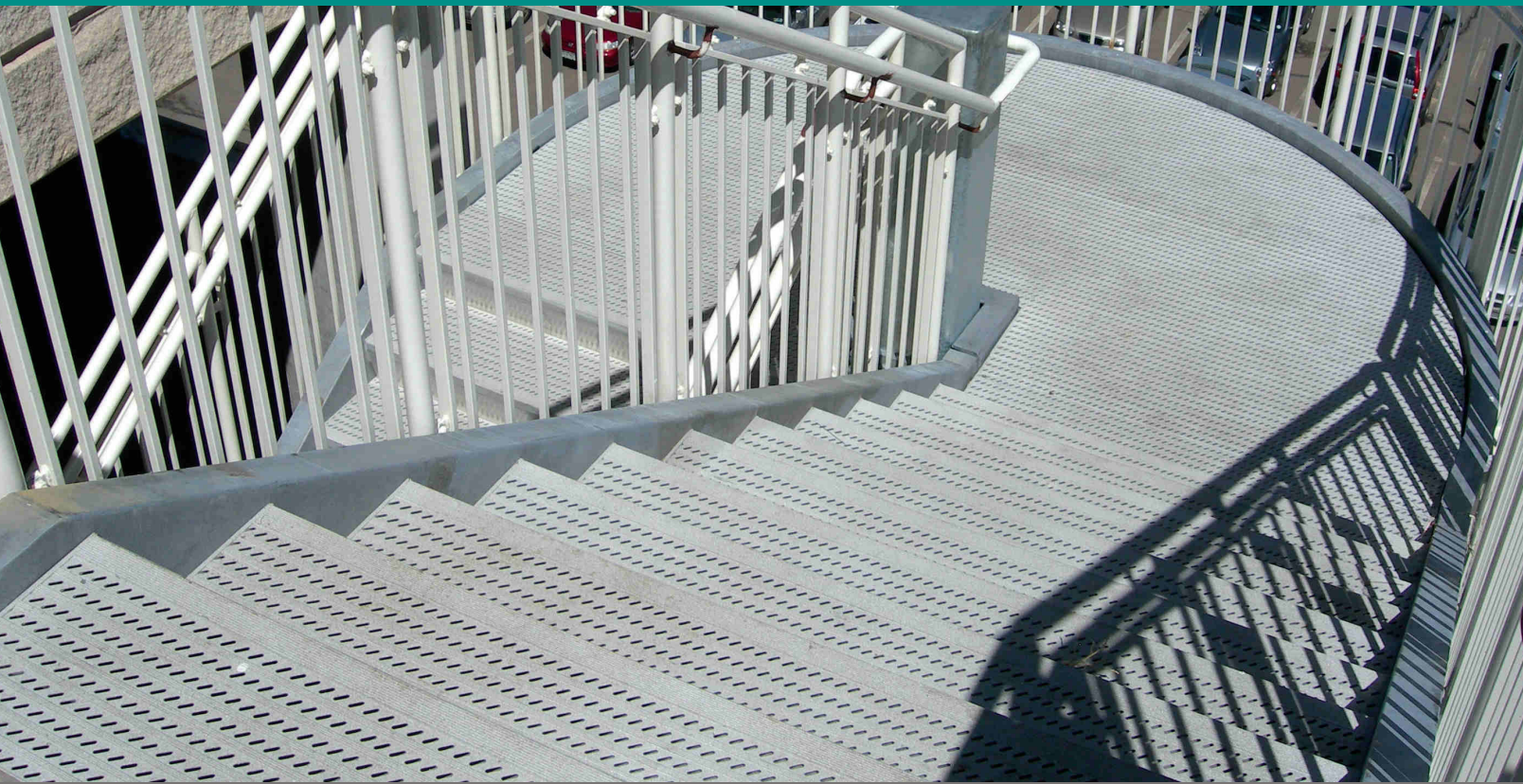
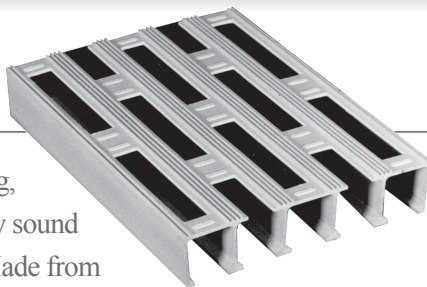


# ALUMINUM PLANK



## PLANK

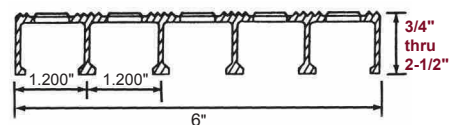


As an alternative to bar grating, aluminum plank is structurally sound and cosmetically attractive. Made from extruded aluminum, plank grating is relatively maintenance free and has no parts to work loose or splinter. The surface can be provided unpunched or with a variety of punch patterns for the passage of air, light, heat or moisture. A diagonal pattern is also available which meets the ADA requirements for wheelchair accessibility and high heel foot traffic.

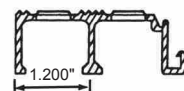
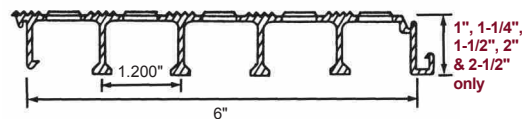
The interconnecting webs offer a flush top walking surface for maximum foot contact and comfort. Plank can be used as an alternative to applications requiring open grating with plate attached to the top surface. OnGrip® Spray Traction Surface is also available. Aluminum Plank is used at waste water treatment plants, for entranceways, walkways, bridges, trails, marine refrigeration, stadiums and more.

### PLANK SECTION AVAILABILITY...

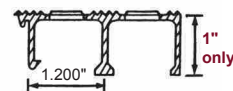
#### Heavy Duty (Plain Sides)



#### Heavy Duty (Interlocking Sides)

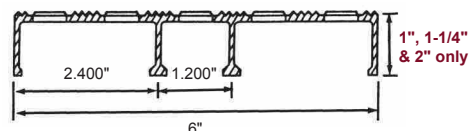


2-1/2" Female Edge



2-1/2" Male Edge

#### Light Series (Plain Sides)



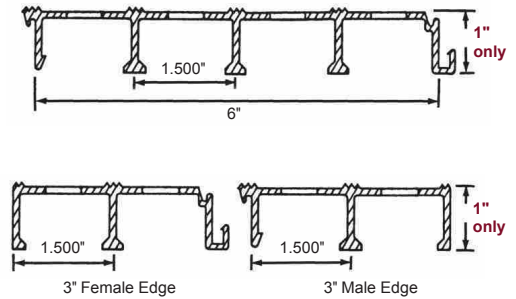
# ALUMINUM PLANK

## PLANK SECTION AVAILABILITY (continued)...

Aluminum plank grating is available in five cross-sectional designs: Heavy Duty (plain sides/interlocking sides), Light Series (plain sides) and Reefer (interlocking sides). The Heavy Duty sections are used primarily in the water and waste treatment markets and the marine market, while the Light Series and Reefer sections are used exclusively in the marine refrigerated stores application. Interlocking Heavy Duty and Reefer sections and edge sections are available in 1" deep grating only.

**NOTE:** Plank is also available in a Pivot-Lock interlocking design by special request.

### Reefer (Interlocking Sides)

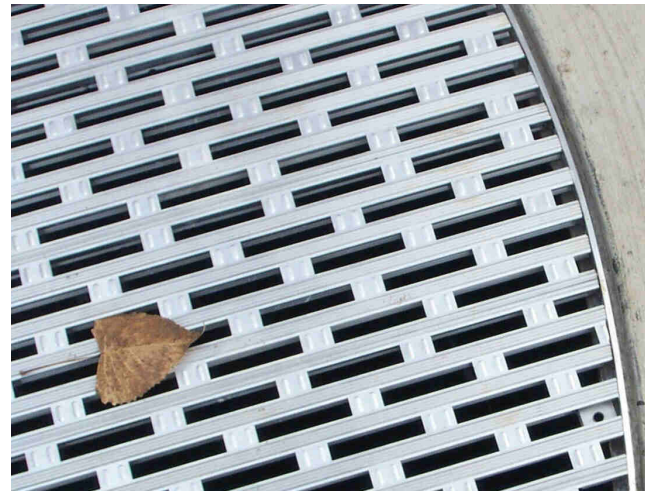


## PUNCH PATTERN GUIDE

Aluminum plank grating is available unpunched or with a variety of punch patterns as shown. Rectangular or square punched holes are most commonly used for water and waste treatment plants and in marine applications.

The surface of plank grating can be specified as plain or with one of two styles of upsets (OGi or WACO) designed to promote a slip resistant walkway, especially in the presence of moisture, oil or other spilled substances.

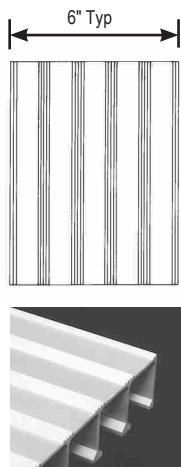
All of our Diagonal Punched Patterns meet ADA specifications for high heel and wheelchair traffic.



Upset Pattern (OGI)

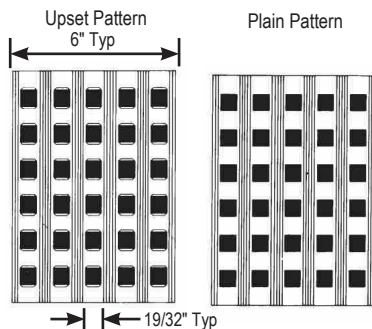
\*Alternate for plate covered aluminum grating

### UNPUNCHED



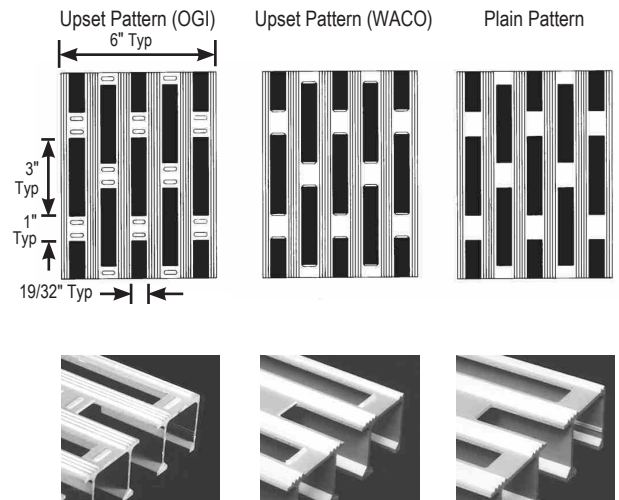
HEAVY DUTY,  
LIGHT SERIES

### SQUARE PUNCHED



HEAVY DUTY, LIGHT SERIES

### RECTANGULAR PUNCHED

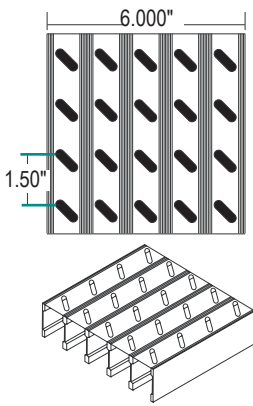


HEAVY DUTY, LIGHT SERIES

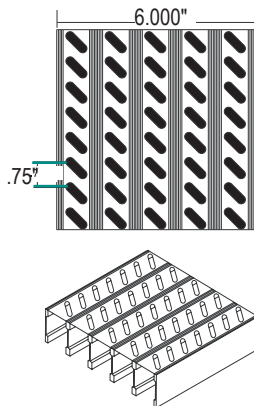
# ALUMINUM PLANK

## DIAGONAL (ADA) PUNCHED \* number indicates % open area

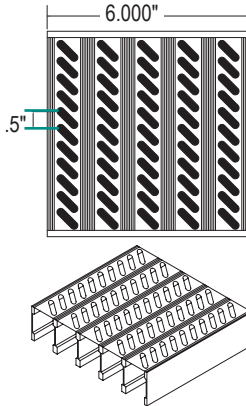
### AIPlank 8\*



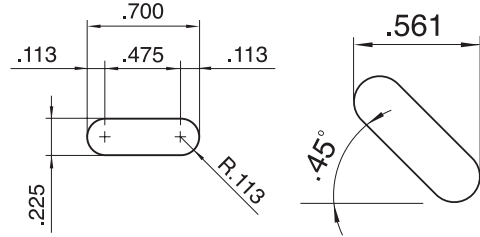
### AIPlank 15\*



### AIPlank 22\*



## DIMENSIONS



*Height of product based on load requirements*

**NOTE:** Other non-ADA punch styles (round, oval slot and dog bone) are available by special request.

## PLANK FABRICATION

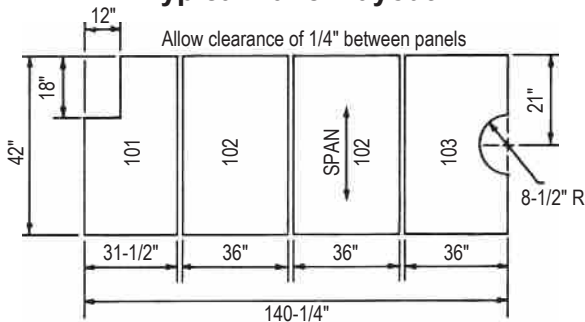
Aluminum plank grating is available in 20' or 26' lengths for customer fabrication, or as fabricated by Grating Systems according to customer plans and specifications.

Individual 6" plank sections can be banded together to form standard panel widths for ease of handling and installation. When the width of the total grating "run" (number of continuous series of panels) does not result in a total measurement evenly divisible by the 6" sections, the last

panel can be fabricated from several whole sections and a partial section according to the panel width chart shown. In order to meet flatness tolerances, fabricated panels must always be end banded, and should not exceed 36" in width.

The two arrows on the typical panel layout show the span direction which runs at right angles to the supporting members. Identical panels have the same mark numbers. Cutouts and banding are charged as extras according to quantity and size.

### Typical Panel Layout

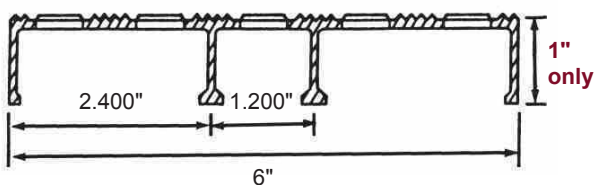


### Panel Width Chart (in.)

	1-1/2	2-11/16	3-7/8	5-1/8
6	7-1/2	8-11/16	9-7/8	11-1/8
12	13-1/2	14-11/16	15-7/8	17-1/8
18	19-1/2	20-11/16	21-7/8	23-1/8
24	25-1/2	26-11/16	27-7/8	29-1/8
30	31-1/2	32-11/16	33-7/8	35-1/8
36				

**NOTE:** Panels made from 6" sections and partial sections are banded on the ends only. Side bands typically are not furnished, unless specified by the customer.

### Light Series



## LIGHT SERIES LOAD TABLE

Plank Size, Inches	Sec. Prop Sx*, in³ Ix*, in⁴	Weight Per Sq. Ft.			ClearSpan						
		Non Punched	Rect. Punched	Square Punched	2'- 0"	2'- 6"	3'- 0"	3'- 6"	4'- 0"	4'- 6"	
1	0.273	2.1	1.7	1.9	U	546	349	242	178	136	107
	D				0.113	0.177	0.254	0.347	0.452	0.570	
	C				546	436	364	312	273	242	
	D				0.090	0.141	0.204	0.278	0.363	0.458	

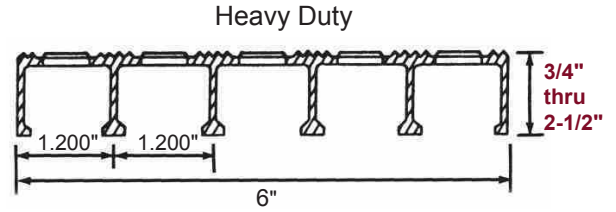
**NOTE:** Contact GSI for load ratings on the 2" size.

**Note:** Grating for spans to the left of the heavy line have a deflection less than 1/4" for uniform loads of 100 lbs./sq. ft. This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer. The actual Ped (pedestrian) Span under this condition is shown above for each size of grating. This grating conforms to MIL-G-18015 (SHIPS).

# ALUMINUM PLANK

% Open Area*	
Rect.	37%
Square	23%

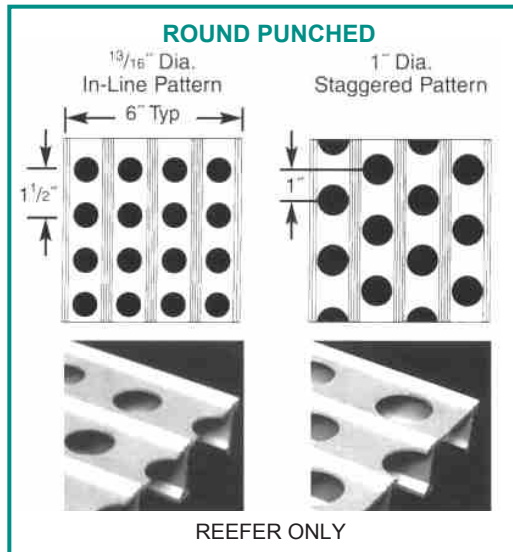
% Open Area*	
Round 13/16" Dia.	23%
Round 1" Dia.	26%



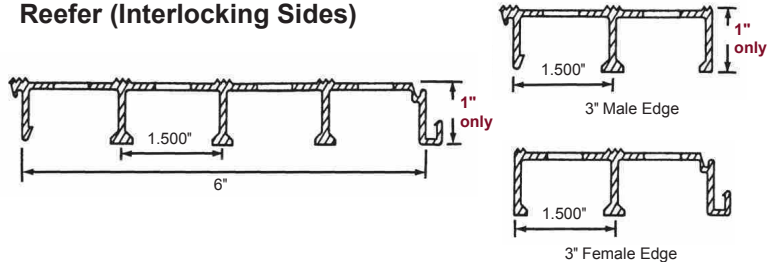
## HEAVY DUTY LOAD TABLE

\*Based on punched plank.

Plank Size, Inches	Ped Span, Inches	Sec. Prop Sx*, in <sup>3</sup> Ix*, in <sup>4</sup>	Weight Per Sq. Ft.			ClearSpan												
			Non Punched	Rect. Punched	Square Punched		2'- 0"	2'- 6"	3'- 0"	3'- 6"	4'- 0"	4'- 6"	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	8'- 0"
3/4	39	0.217	2.2	1.8	2.0	U	435	278	193	142	108	85	69	U - Safe uniform load in pounds/sq. ft. C - Safe concentrated load in pounds/ft. grating width D - Deflection in inches				
						D	0.121	0.237	0.342	0.465	0.608	0.770	0.950					
		0.103				C	435	348	290	248	217	193	174					
						D	0.121	0.190	0.273	0.371	0.485	0.614	0.760					
1	49	0.416	2.6	2.2	2.4	U	833	533	370	272	208	164	133	110	92	Loads and deflections given in this table are theoretical, and are based on a unit stress of 12,000 psi.		
						D	0.124	0.193	0.279	0.380	0.496	0.628	0.775	0.938	1.117			
		0.241				C	833	666	555	476	416	370	333	302	277			
						D	0.099	0.155	0.223	0.304	0.396	0.502	0.620	0.748	0.891			
1-1/4	58	0.732	3.2	2.8	3.0	U	1464	936	650	478	366	289	234	193	162	138	119	91
						D	0.107	0.167	0.241	0.328	0.428	0.542	0.669	0.810	0.964	1.131	1.312	1.714
		0.491				C	1464	1171	976	836	732	650	585	532	488	450	418	366
						D	0.085	0.133	0.192	0.262	0.342	0.433	0.535	0.647	0.771	0.904	1.049	1.371
1-1/2	67	1.083	3.8	3.4	3.6	U	2167	1387	963	707	541	428	346	286	240	205	176	135
						D	0.090	0.141	0.203	0.277	0.362	0.458	0.566	0.684	0.815	0.956	1.109	1.449
		0.861				C	2167	1734	1445	1238	1083	963	867	788	722	666	619	541
						D	0.072	0.113	0.163	0.221	0.289	0.366	0.452	0.547	0.651	0.764	0.887	1.157
1-3/4	75	1.496	4.4	4.0	4.2	U	2992	1915	1330	977	748	591	478	395	332	283	244	187
						D	0.078	0.123	0.177	0.241	0.315	0.398	0.492	0.595	0.708	0.832	0.964	1.260
		1.367				C	2992	2394	1995	1710	1496	1330	1197	1088	997	920	855	748
						D	0.062	0.098	0.141	0.192	0.251	0.318	0.393	0.476	0.566	0.664	0.771	1.007
2	83	1.987	4.9	4.5	4.7	U	3975	2544	1766	1298	993	785	636	525	441	376	324	248
						D	0.069	0.108	0.156	0.212	0.277	0.351	0.433	0.524	0.624	0.732	0.849	1.109
		2.063				C	3975	3180	2650	2271	1987	1766	1590	1445	1325	1223	1135	993
						D	0.055	0.086	0.124	0.169	0.221	0.280	0.346	0.419	0.499	0.586	0.679	0.887
2-1/4	91	2.554	5.5	5.0	5.3	U	5109	3270	2270	1668	1277	1009	817	675	567	483	417	319
						D	0.061	0.095	0.137	0.187	0.244	0.309	0.382	0.462	0.550	0.646	0.749	0.979
		3.004				C	5109	4087	3406	2919	2554	2270	2043	1858	1703	1572	1459	1277
						D	0.048	0.076	0.110	0.149	0.195	0.247	0.305	0.370	0.440	0.517	0.599	0.783
2-1/2	97	2.985	5.9	5.5	5.7	U	5971	3821	2654	1949	1492	1179	955	789	663	565	487	373
						D	0.055	0.086	0.124	0.169	0.221	0.279	0.345	0.418	0.497	0.584	0.677	0.884
		3.887				C	5971	4777	3981	3412	2985	2654	2388	2171	1990	1837	1706	1492
						D	0.044	0.069	0.099	0.135	0.176	0.223	0.276	0.334	0.398	0.467	0.541	0.707



## Reffer (Interlocking Sides)



## REEFER LOAD TABLE

Plank Size, Inches	Sec.Prop Sx*, in <sup>3</sup> Ix*, in <sup>4</sup>	Weight Per Sq. Ft.			ClearSpan						
		Non Punched	13/16" Dia. In-line	1" Dia. Staggered	2'- 0"	2'- 6"	3'- 0"	3'- 6"	4'- 0"	4'- 6"	
1	0.384	2.8	2.5	2.5	U	768	491	341	250	192	151
	D				0.130	0.203	0.292	0.397	0.521	0.656	
	C				768	614	512	438	304	341	
	D				0.104	0.163	0.235	0.319	0.417	0.528	

# ALUMINUM PLANK

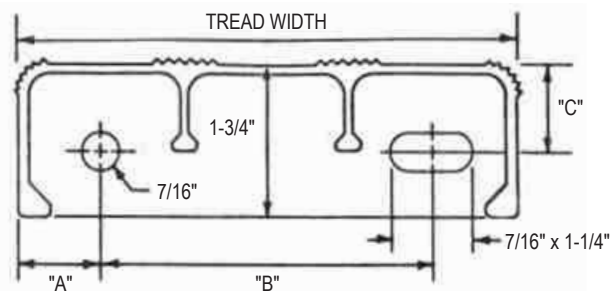
## PLANK TYPE "F" TREADS

Aluminum plank stair treads can be furnished as fabricated from full and partial plank sections with end plates and nosings or as individual extrusions with welded end plates, referred to as Type "F" treads. Type "F" treads are produced from a high-strength aluminum alloy, and meet requirements as specified by BuShips Hull Type plan BU-No. 1604-860041. Type "F" treads are 1-3/4" deep and are available in widths of 4", 6" or 9". The top surface can be supplied unpunched, or with a rectangular punched upset pattern. Type "F" treads are generally used for shipboard application, however, they can also provide safe, serviceable steps for ladder in sewage disposal, chemical and power plants, and refineries.



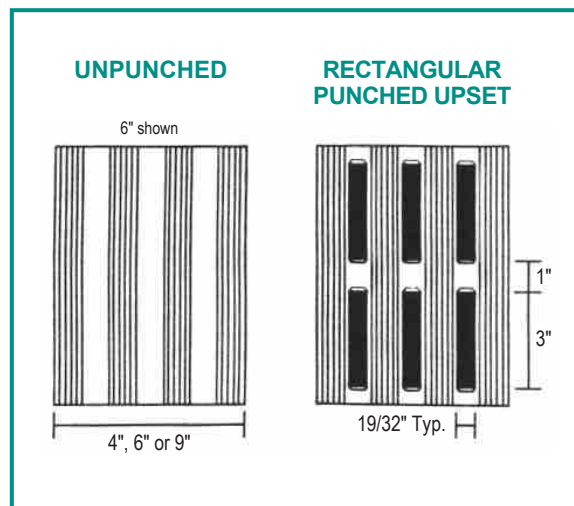
Panel Profiles

Typical Panel Layout

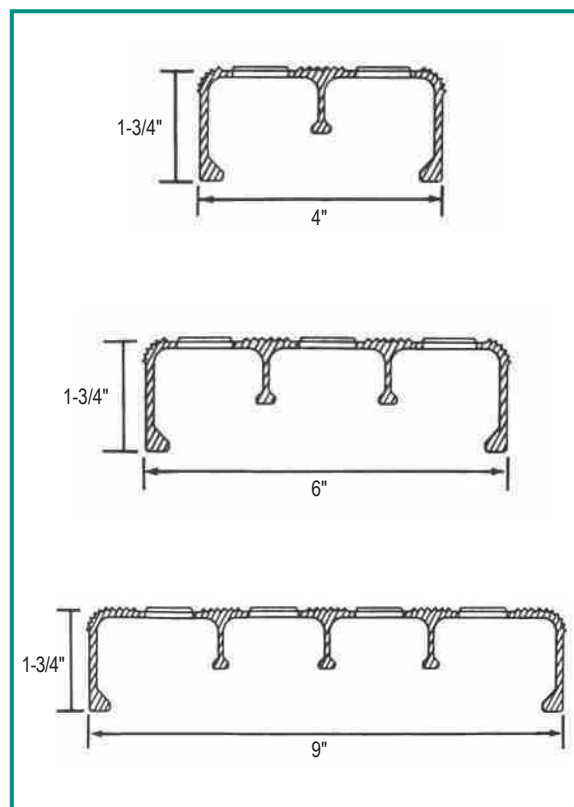


Tread Width	Lbs. Per Lin. Ft.		Dimensions			Suggested Max. Tread Length
	Unpunched	Punched	"A"	"B"	"C"	
4"	1.48	1.38	1"	2"	1"	3' - 8"
6"	1.90	1.75	1"	4"	1"	4' - 0"
9"	2.72	2.52	1-1/4"	6-1/2"	1"	5' - 1"

## Punch Pattern Availability



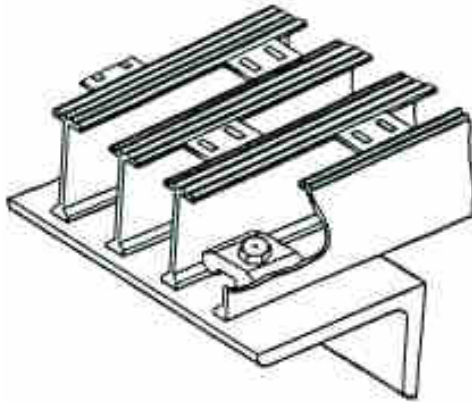
## Section Availability



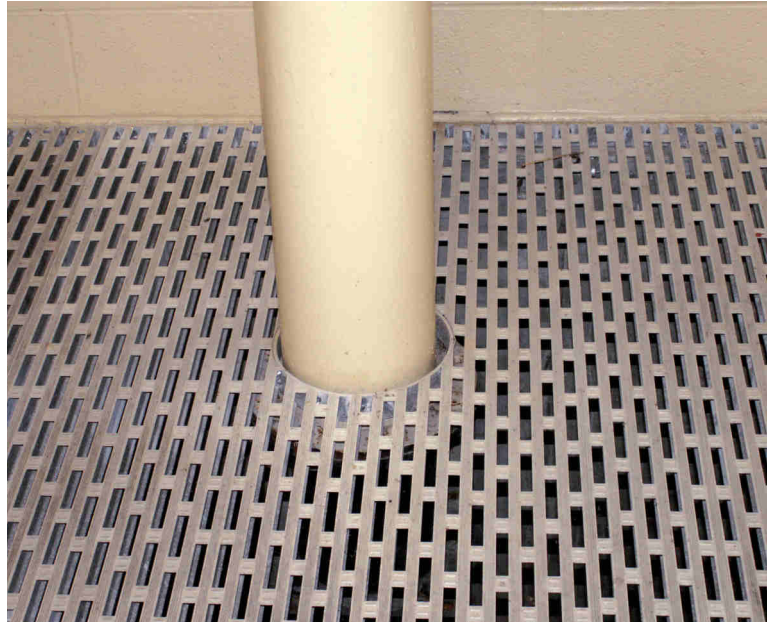
# ALUMINUM PLANK APPLICATIONS

## Plank Applications

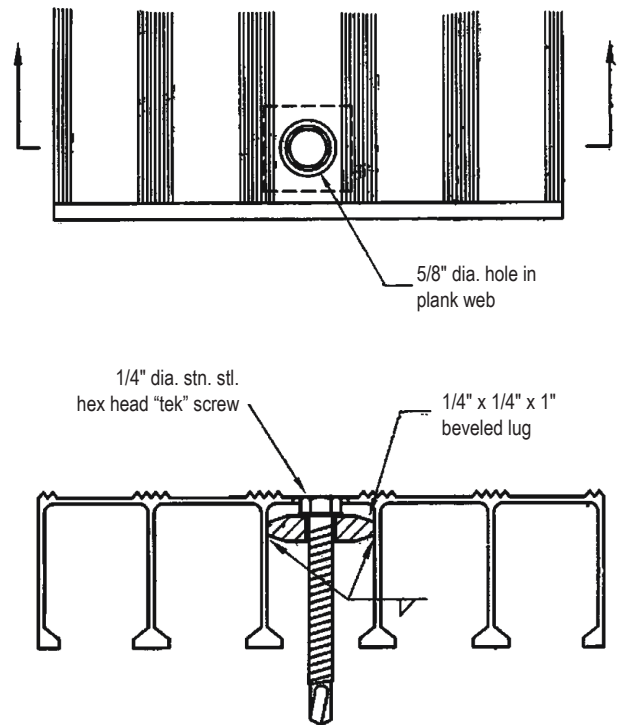
PLANK LUG



A plank lug inserted and tack welded between flanges, can serve as an anchor block for plank grating.



PLANK LUG DETAIL  
(4 required per panel)

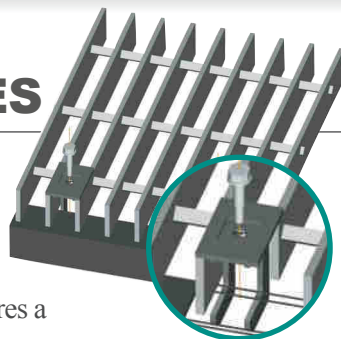


# ALUMINUM GRATING FRAMES

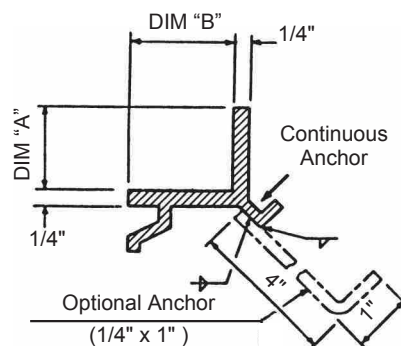


## GRATING FRAMES

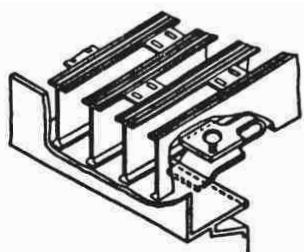
In conjunction with aluminum grating, Grating Systems offers an extruded aluminum grating frame for embedded concrete applications. This frame features a continuous ledge to accommodate plank fasteners, grating clamps, or self-tapping screws for other types of fasteners. The continuous anchor can be used alone or with supplementary anchor straps. Angle frame is available fabricated per drawings with mitred and welded corners or in long lengths with prefabricated corners for installation in the field. Frames can be provided



### GRATING FRAME DIMENSIONS



GR. SIZE	DIM "A"	DIM "B"
1"	1"	1-1/4"
1-1/4"	1-1/4"	1-1/2"
1-1/2"	1-1/2"	1-3/4"
1-3/4"	1-3/4"	2"
2"	2"	2"
2-1/4"	2-1/4"	2"
2-1/2"	2-1/2"	2"



in the mill finish condition or powder coated to protect surfaces which will come into contact with concrete.

◀ **Plank Grating with E Clip.**  
(Compatible with 1/4" flange thickness. Anchor not shown)

# ALUMINUM GRATING FRAMES

## MINI CASE STUDY

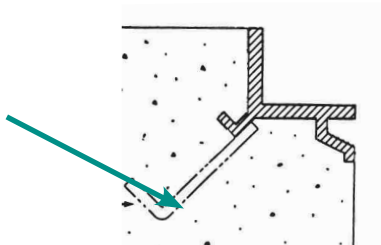
### Wastewater Treatment Plant Massillon, OH

The city began a major expansion project in 2002. Once again, aluminum was specified for the walkways in and around the plant. We provided our aluminum plank and “I-Bar” along with our aluminum angle frame.

Angle frame is available (see diagram) with mitred and welded corners. Long lengths are available with prefabricated corners for handy installations in the field (miscellaneous steel fabricators prefer aluminum for this reason in addition to the fact that it is lightweight, flexible and easily altered in the field).

Frames can be provided in mill finish or with a powder coat finish to protect surfaces that are in direct contact with concrete.

#### Optional Anchor

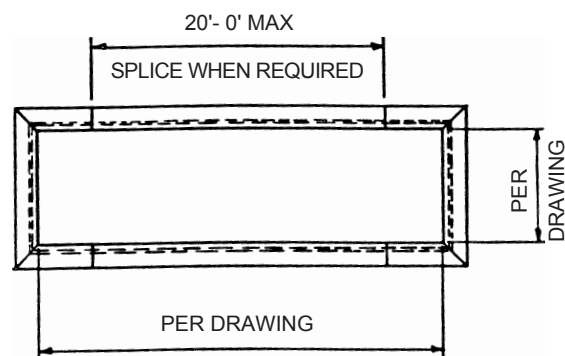


### Fabrication Guidelines

Frame sections can be purchased in stock lengths for customer fabrication or can be fabricated by Grating Systems for immediate installation in the field.

#### The following Guidelines apply to Fabricated Frames

1. All corners are mitred at 45 degrees and welded on the back side. Welds are not ground.
2. Nominal small frames (i.e. 1'0" x 1'0" through 5 x 10'0") are made in one piece.
3. Extended trench frames are provided with prefabricated end sections and long lengths shipped loose for field butt joining.
4. Stock lengths are 20'0". Longer lengths are available by request.



Plan View