



**EXPANDED METAL & BAR GRATING**

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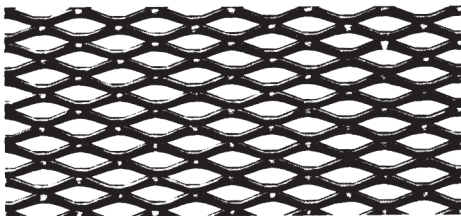
## EXPANDED METAL

Expanded Metal is a single sheet of steel that has been cut and expanded by the action of a special knife which acts as both a cutting shear and forming die. The knife first pierces and slits the steel sheet, then expands these slits into the openings characteristic of Expanded Metal. It is lighter per foot and stronger per pound than the solid sheet of steel from which it is made. Being made from a solid sheet of steel, it can never ravel or fray. Its uses are many and varied: machine guards, storage bins, baskets, tool enclosures, platforms, stair treads, room dividers, lawn furniture, decorative grills, and many more.

### STANDARD EXPANDED METAL

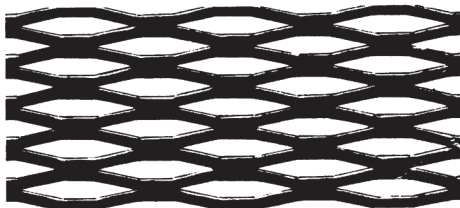
(SAFE-T-MESH)

This is the unflattened form of Expanded Metal. The diamond strands are rectangular and at a sharp angle to the original plane of the metal sheet from which they were formed, allowing maximum air circulation and visibility. It can be cut or formed to almost any size and shape required.



### FLATTENED EXPANDED METAL

Flattened Expanded Metal is formed by the same cutting and expanding operations used in making Safe-T-Mesh, but with the addition of one more step. After the metal is cut and expanded, it is passed through a series of rolls that flatten and smooth the strands and bridges. The resulting sheet of expanded metal is approximately two gauges thinner than the original sheet, although all the original metal is retained.



## REGULAR Manufactured from Mild Carbon Steel

Style Designation	Weight In Pounds Per Sq. Ft.		Standard Sizes In Feet		Size of Openings in Inches		Center to Center of Bond In Inches		Size of Strands in Inches		Number of Diamonds In 12 Inches		Percent Open Area
	Plain	Galv.	Width	Length	Width	Lgth.	Width	Lgth.	Thickness	Width	Width	Lgth.	
3/8" -#24-R 50 lb.	.500	—	2	4	.166	.437	.200	.50	.024	0.50	60	24	55.67
3/8" -#22-R 63 lb.	.625	—	2	4	.166	.437	.200	.50	.030	.050	60	24	54.65
3/8" -#20-R 75 lb.	.750	—	2	4	.166	.437	.200	.50	.036	.050	60	24	46.63
1/2" -#20-%	.86	1.29	3-4	8	.172	.719	.255	1.0	.036	.073	47	12	48.58
1/2" -#18-R	1.14	1.71	3-4	8	.172	.719	.255	1.0	.048	.073	47	12	42.57
1/2" -#20-R	.43	.59	3-4-6	8	.438	.938	.500	1.2	.036	.072	24	10	76.82
1/2" -#18-R	.70	.85	3-4-6	8-10-12	.438	.938	.500	1.2	.048	.088	24	10	74.80
1/2" -#16-R	.86	.97	3-4-6	8-10-12	.375	.938	.500	1.2	.060	.086	24	10	69.73
1/2" -#13-R	1.47	1.73	3-4-6	8-10-12	.313	.938	.500	1.2	.092	.096	24	10	56.60
3/4" -#16 H-R	.54	.65	3-4-6	8-10-12	.813	1.750	.923	2.0	.060	.089	13	6	84.86
3/4" -#13-R	.80	.92	3-4-6	8-10-12	.750	1.688	.923	2.0	.092	.096	13	6	76.80
3/4" -#10-R	1.20	1.36	3-4-6	8-10-12	.750	1.625	.923	2.0	.092	.144	13	6	71.77
3/4" -# 9-R	1.80	1.95	4	8-10-12	.688	1.563	.923	2.0	.134	.148	13	6	65.68
1" -#16-R	.44	.51	4	8-10-12	1.000	2.063	1.090	2.4	.060	.096	11	5	84.88
1 1/2" -#18-R	.20	.25	4	8-10-12	1.313	2.625	1.330	3.0	.048	.067	9	4	93.94
1 1/2" -#16-R	.40	.48	3-4-6	8-10-12	1.250	2.625	1.330	3.0	.060	.107	9	4	88.90
1 1/2" -#13-R	.60	.68	3-4-6	8-10-12	1.188	2.500	1.330	3.0	.092	.104	9	4	84.88
1 1/2" -#10-R	.79	.89	3-4-6	8-10-12	1.188	2.500	1.330	3.0	.092	.137	9	4	84.86
1 1/2" -# 9-R	1.20	1.31	3-4-6	8-10-12	1.125	2.375	1.330	3.0	.134	.142	9	4	74.77
1 1/2" -# 6-R	2.50	2.73	to order 8-10-12		1.000	2.313	1.330	3.0	.198	.201	9	4	61.65
2" -#10-R	.68	.75	8-10-12		1.625	3.438	1.850	4.0	.092	.165	6.5	3	84.89
2" -# 9-R	.90	1.02			1.563	3.375	1.850	4.0	.134	.149	6.5	3	83.87

**FLATTENED** Manufactured from Mild Carbon Steel

Style Designation	Weight In Pounds Per Sq. Ft.		Standard Sizes In Feet		Size of Openings in Inches		Center to Center of Bond In Inches		Finished Thickness In Inches	Number of Diamonds In 12 Inches		Percent Open Area
	Plain	Galv.	Width	Length	Width	Lgth.	Width	Lgth.		Thickness	Width	
3/16" #24-F 48 lb.	.485	—	2	4	.085	.459	.200	.520	.019	60	23	39.45
3/16" #22-R 61 lb.	.606	—	2	4	.085	.459	.200	.520	.024	60	23	39.45
3/16" #20-F 73 lb.	.727	—	2	4	.085	.459	.200	.520	.029	60	23	39.45
1/4" #20-F	.83	1.24	3-4	8	.094	.688	.255	1.031	.030	47	11.64	46.49
1/4" #18-F	1.11	1.65	3-4	8	.094	.688	.255	1.031	.040	47	11.64	39.42
1/2" #20-F	.40	.51	3-4	8	.375	1.000	.500	1.260	.029	24	9.5	70.73
1/2" #18-F	.66	.88	3-4-6	8-10-12	.281	1.000	.500	1.260	.039	24	9.5	67.70
1/2" #16-F	.82	1.00	3-4-6	8-10-12	.250	1.000	.500	1.260	.050	24	9.5	59.62
1/2" #13-F	1.40	1.62	3-4-6	8-10-12	.250	1.000	.500	1.260	.070	24	9.5	55.58
3/4" #16 H-F	.51	.71	3-4-6	8-10-12	.750	1.750	.923	2.100	.048	13	5.7	74.77
3/4" #14-F	.63	.75	3-4-6	8-10	.688	1.813	.923	2.120	.061	13	5.62	69.72
3/4" #13-F	.75	.86	3-4-6	8-10-12	.688	1.782	.923	2.100	.070	13	5.62	72.75
3/4" #9-F	1.71	1.86	3-4-6	8-10-12	.563	1.688	.923	2.120	.120	13	5.62	62.65
1" #16-F	.41	.50	4	8	.875	2.250	1.090	2.562	.048	11	4.684	76.79
1 1/2" #16-F	.38	.44	4	8	1.063	2.750	1.330	3.200	.048	9	3.8	81.84
1 1/2" #14-F	.46	.56	3-4-6	8	1.063	2.750	1.330	3.200	.060	9	3.8	81.84
1 1/2" #13-F	.57	.68	3-4-6	8	1.063	2.750	1.330	3.200	.070	9	3.8	78.81
1 1/2" #9-F	1.14	1.28	3-4-6	8-10-12	1.000	2.563	1.330	3.200	.110	9	3.747	75.78

## EXPANDED METAL WALKWAY, SKYWALK & GRATING

This is the most economical way to put strength, safety and non-slip surfaces underfoot. It is not pre-assembled, not welded, but sturdy, solid steel, cut and stretched from a single plate.

Installation is done quickly and easily by welding or bolting. Irregular shapes are easy to cut and place. The neat appearance, long life, and freedom from repair offered by open mesh floorings mean maintenance costs are at a minimum.

**Uses:** Plant runways, catwalks, and working platforms.  
**GRATING—REGULAR** Manufactured from Mild Carbon Steel and Type 5052-H32 Aluminum

Style Designation	Weight In Pounds Per Sq. Ft.		Standard Sizes In Feet		Size of Openings in Inches		Center to Center of Bond In Inches		Size of Strands in Inches		Number of Diamonds In 12 Inches		Percent Percent Area		
	Plain	Galv.	Width	SWDLength	LWD	Width	Lgth.	Width	Lgth.	Thickness	Width	Width	Lgth.	Width	Lgth.
3.0 lb.-R	3.00	3.20	3-4-5-6	8-10-12	.938	3.438	1.333	5.330	.183	.261	9	2.25	70-76		
3.14 lb.-R	3.14	3.34	3-4-6	10	1.625	4.875	2.000	6.000	.250	.308	6	2.00	70-74		
4.0 lb.-R	4.00	4.30	3-4-5-6	8-10	.938	3.438	1.333	5.330	.215	.297	9	2.25	62-70		
4.27 lb.-R	4.27	4.46	3-4-6	8-10	1.036	2.969	1.412	4.000	.243	.300	8.5	3.00	56-62		
5.0 lb.-R	5.00	5.50	4-5-6	8-10	.813	3.375	1.333	5.330	.250	.327	9	2.25	49-54		
6.25 lb.-R	6.25	6.85	3-4-6	4-8-12	.813	3.375	1.412	5.330	.312	.347	8.5	2.25	52-60		
7.0 lb.-R	7.00	7.50	4	100'	.813	3.375	1.412	5.330	.312	.388	8.5	2.25	55-64		

## GRATING—REGULAR

Manufacturing from Mild Carbon Steel and Type 5052-H32 Aluminum

Style Designation	Weight In Pounds Per Sq. Ft.		Standard Sizes In Inches		Size of Openings in Inches		Center to Center of Bond In Inches		Size of Strands in Inches		Number of Diamonds In 12 Inches		Percent Open Area		
	Plain	Galv.	Width	SWDLength	LWD	Width	Lgth.	Width	Lgth.	Thickness	Width	Width	Lgth.	Width	Lgth.
Column Insert	2.69	—	6-8-10	96	1.250	6.125	1.500	5.330	.183	.264	8	—	65		
Railing Insert	2.69	—	36	27	1.250	6.125	1.500	5.330	.183	.264	8	—	65		
Sheets	2.69	—	36-48-72	96	1.250	6.125	1.500	5.330	.183	.264	8	—	65		

## WELDED STEEL GRATING & TREADS

Open steel flooring is manufactured of square-edge strips for your safety. This gives it a non-slip surface and permits light and air to pass through.

It is made in several types: Standard Welded, Heavy Welded, Serrated, and is used universally where strong rigid flooring is desired.

We can supply for immediate delivery. Welded Type in panels 24" and 36" wide and in lengths up to 24'. It can also be furnished in 36' lengths for special applications. Standard stock is painted black, but can easily be galvanized when required.

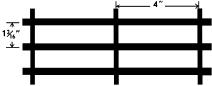

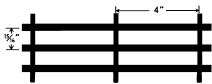

Steel flooring can be cut to specified sizes, as requested.

When ordering open steel flooring, specify the following:

1. Type of grating.
2. Depth and thickness of bearing bars.
3. Dimensions of area or areas to be covered. Unless otherwise specified, our standard tolerance of 1/4" will apply.
4. Span (direction of bearing bars).
5. Finish — mill unless otherwise specified.
6. Type of fasteners — if required.
7. Complete shipping instructions.
8. Drawing showing grating area and supports.
9. Specify whether drawings for approval and/or erection drawings are required.

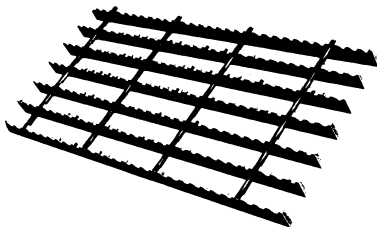
**The best type for use where floors are subject to extreme corrosion or moisture — chemical plants, breweries and other process industries. There are no cracks, open joints, or holes in bars.**

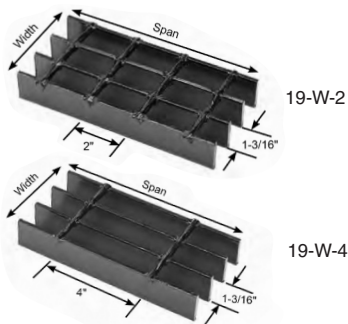
**All/weld gratings are furnished with 5/16" twisted square cross bars.**

STANDARD	Type <b>W/B</b>		Approved for all general purposes.
	Type <b>W/F</b>		Same as Type W/B but with close cross bars for conditions where more steel area is required.
SPECIAL ORDER	Type <b>W/D</b>		Close bearing bars. Best for heavy public traffic, or where smaller openings or increased carrying capacity are required.
	Type <b>W/DF</b>		With closer cross bar and bearing bars. For conditions requiring greatly reduced net opening.

### SERRATED ALL-WELD GRATING

Where moisture, oil or grease are present, an extra measure of safety can be provided by using serrated All-Weld grating as pictured here.





**GRATING PROFILES AVAILABLE...**  
**SGCS SERIES Light Duty Swaged Carbon Steel**

All profiles shown below are also available with 2" cross bar centers. Product numbers would be 19-SGCS-2, 15-SGCS-2, 11-SGCS-2 and 7-SGCS-2

See load tables beginning on page 45.  
 \*Note: Conforms with the spacing requirements of ADA (July 1991) when installed with the elongated opening perpendicular to the dominant direction of travel. See ADA Guidelines.

**LIGHT DUTY WELDED, LIGHT DUTY DOVE TAIL, LIGHT DUTY SWAGED CARBON STEEL**

Bar Size, Inches	Ped Span, Inches	Wt. Lbs. Sq. Ft.	Sec. Prop Sx', in <sup>2</sup> Bx', in <sup>2</sup>	Clear Span														
				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 x 3/16	46	5.43	0.178	U	533	341	237	174	133									
				D	0.099	0.155	0.224	0.304	0.397									
				C	533	426	355	305	266									
1 x 1/8	51	4.88	0.211	U	632	404	281	206	158	125								
				D	0.075	0.116	0.168	0.228	0.298	0.378								
				C	632	505	421	361	316	281								
1 x 3/16	57	7.04	0.316	U	947	606	421	309	237	187	152							
				D	0.074	0.116	0.168	0.228	0.298	0.378	0.467							
				C	947	756	632	541	474	421	379							
1-1/4 x 1/8	61	5.96	0.493	U	987	632	439	322	247	195	158	130						
				D	0.060	0.093	0.134	0.182	0.239	0.302	0.373	0.449						
				C	987	789	658	564	493	439	395	359						
1-1/4 x 3/16	67	8.64	0.308	U	1480	947	658	483	370	292	237	196	164					
				D	0.060	0.093	0.134	0.182	0.238	0.301	0.373	0.451	0.535					
				C	1480	1184	987	846	740	658	592	538	493					
1-1/2 x 1/8	70	7.04	0.474	U	1421	909	632	464	355	281	227	188	158					
				D	0.050	0.078	0.112	0.152	0.198	0.252	0.310	0.376	0.447					
				C	1421	1137	947	812	711	632	568	517	474					
1-1/2 x 3/16	77	10.25	0.533	U	2132	1364	947	696	533	421	341	282	237	202				
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.525				
				C	2132	1705	1421	1218	1066	947	853	775	711	656				
1-3/4 x 3/16	87	11.87	0.846	U	2901	1857	1289	947	725	573	464	384	322	275	237	181		
				D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.522	0.680		
				C	2901	2321	1934	1658	1451	1289	1160	1055	967	893	829	725		
2 x 3/16	96	13.48	1.263	U	3789	2425	1684	1237	947	749	606	501	421	359	309	237		
				D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.394	0.456	0.596		
				C	3789	3032	2526	2165	1895	1684	1516	1378	1263	1166	1083	947		
2-1/4 x 3/16	105	15.08	1.599	U	4796	3069	2132	1566	1199	947	767	634	533	454	392	300		
				D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530		
				C	4796	3837	3197	2741	2398	2132	1918	1744	1599	1476	1376	1199		
2-1/2 x 3/16	113	16.70	2.467	U	5921	3789	2632	1933	1480	1170	947	783	658	561	483	370		
				D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477		
				C	5921	4737	3947	3383	2960	2632	2368	2153	1974	1822	1692	1480		

U-Safe uniform load in pounds/sq. ft.  
 C-Safe concentrated load in pounds/ft. grating width  
 D-Deflection in inches

Loads and deflections given in this table are theoretical and based on a unit stress of 18,000 psi.

\*Based on 10.105 bars/ft. of grating width. Bearing bars 1-3/16" c.c. Add .6 lbs./sq.ft. for 19-SGCS-2. 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. When serrated grating is specified, the depth of grating required for a specific load will be 1/4" greater than that shown in these tables. 3/4" x 3/16" serrated grating is not available.

**Panel Width Chart (in.) - 19-W-4, 19-W-2, 19-DT-4, 19-DT-2, 19-SGCS-4 & 19-SGCS-2**  
 Dimensions Are Out-to-Out of Bearing Bars\*\*

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3/16" Bars	1-3/8	2-9/16	3-3/4	4-15/16	6-1/8	7-5/16	8-1/2	9-11/16	10-7/8	12-1/16	13-1/4	14-7/16	15-5/8	16-13/16	18
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3/16" Bars	19-3/16	20-3/8	21-9/16	22-3/4	23-15/16	25-1/8	26-5/16	27-1/2	28-11/16	29-7/8	31-1/16	32-1/4	33-7/16	34-5/8	35-13/16

\*\*Add 1/4" for extended cross bars. Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.

# STAIR TREADS

Stair treads are fabricated in any grating type, complete with carrier plates at each end of tread for bolting to stair stringers. Tread nosing makes the leading edge of each step stand out clearly. Serrated treads are recommended to eliminate hazardous footing conditions.

Treads can be made to any specification required.

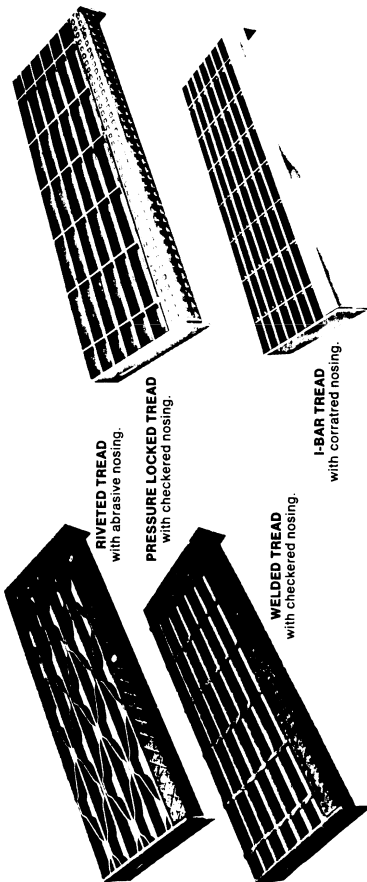




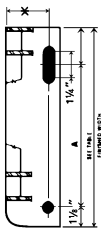


TABLE OF STANDARD TREAD WIDTHS FOR: Steel grating with checkered plate nosing. Aluminum grating with corrugated nosing. (Treads with abrasive nosings are 1/8" less in width)		RIVETED TYPE K (1/4" B.B.)
RECTANGULAR B W/B IB	(DIMENSION A) HOLE CENTERS	
6"	2 1/2"	6"
7"	4 1/4"	8"
8"	4 1/2"	9"
9"	7"	10 1/4"
11 1/2"	7"	12 1/2"
12 1/4"	7"	13 1/2"

NOSING TYPES	
	1 1/2" Checkered Plate
	1 1/2" Abrasive
	1 1/2" Corrugated
	Steel and Aluminum Treads only

Steel Treads  
1 3/4" up to and including  
1 1/2" deep treads  
2 1/8" for others  
Aluminum Treads  
2 1/2" all depths  
3/8" hole & slot for 3/8" dia bolt.



