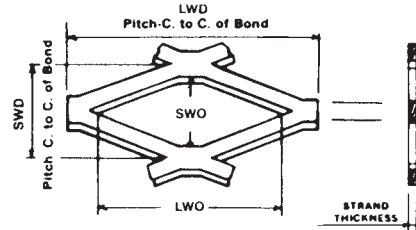
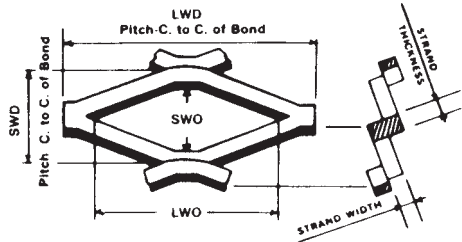


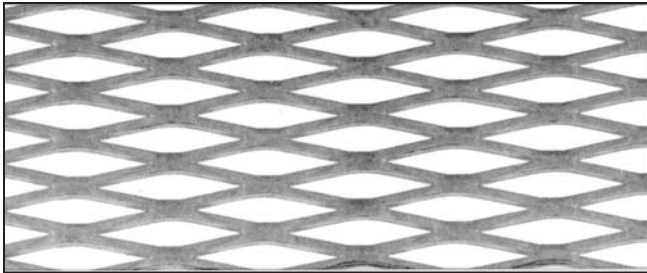
Expanded Metal

REGULAR EXPANDED METAL is a finished product as it comes from the press after having been die cut and expanded. The illustration shows that the strands and bonds form a sharp angle to the original plane of the solid sheet.

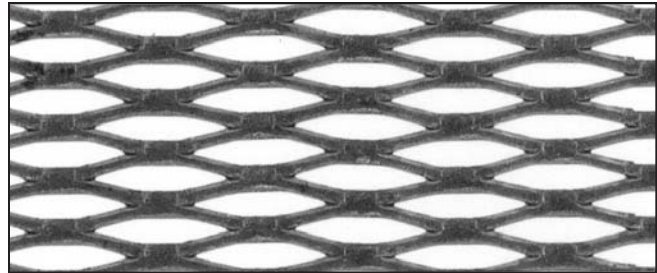
FLATTENED EXPANDED METAL is a regular expanded metal which has been cold rolled, leaving a flat, smooth surface. The length of the sheet is elongated usually by 5% while the width stays the same.



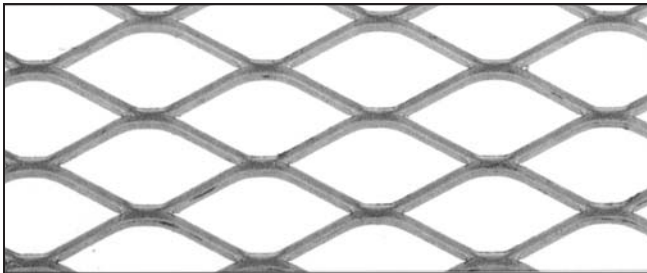
Patterns shown actual size



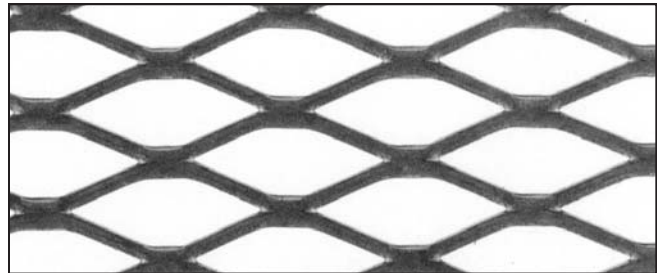
1/4" #20 REGULAR



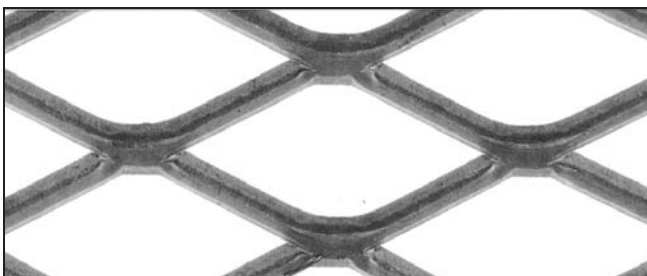
1/4" #20 FLATTENED



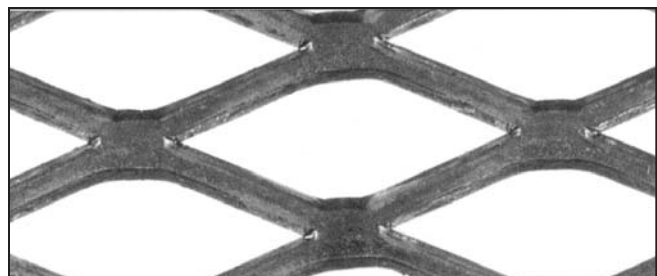
1/2" #16 REGULAR



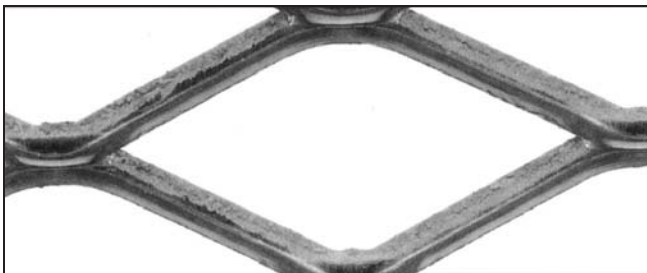
1/2" #16 FLATTENED



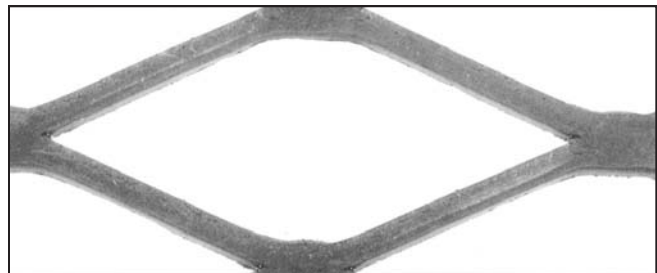
3/4" #9 REGULAR



3/4" #9 FLATTENED



1 1/2" #9 REGULAR



1 1/2" #9 FLATTENED

Expanded Metal

REGULAR

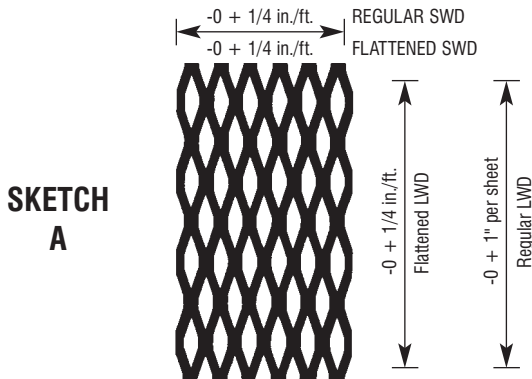
SWD – Shall not vary greater than $-0 + 1/4$ inches per foot of SWD dimension, to a maximum of 1 inch overall.

LWD – Shall not vary greater than $-0 + 1$ inch per foot of length.

FLATTENED

SWD – After flattening – shall not vary from the nominal dimension more than $-0 + 1/4$ inch per foot of dimension to a maximum of 1 inch overall.

LWD – After flattening – shall not vary from the nominal dimension more than $-0 + 1/4$ inch per foot of dimension.



SKETCH
A

CLOSED DIAMONDS ALL FOUR SIDES

Flatness (Levelness) – Sheets shall be free from waves or buckles that are in excess of $3/4$ in. from a plane surface.

Sketch A typifies the edge conditions of a normal standard size sheet as it emerges from the expanding press. It is simply expanded to size and is characterized by closed diamonds on all four sides.

RANDOM SHEARED TOLERANCE

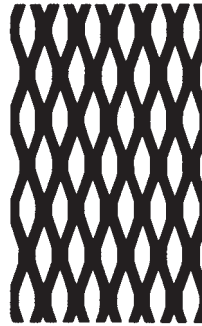
SKETCH
B



Random sheared one side and one end $\pm 1/4$ ", causing open diamond one side SWD and one side LWD.

Expanded Metal Grating $\pm 1/2$ ".

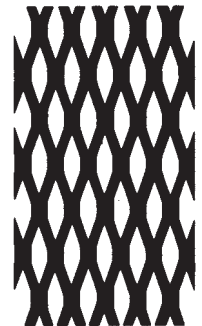
SKETCH
C



Random sheared LWD ends $\pm 1/8$ ", causing open diamonds on LWD.

Expanded Metal Grating $\pm 1/4$ ".

SKETCH
D

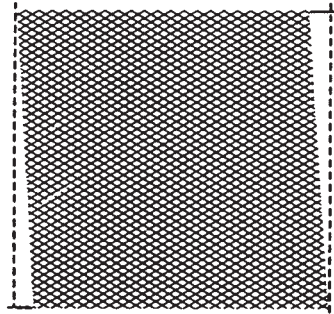


Random sheared SWD and LWD $\pm 1/8$ ". Open diamonds all four sides. This process will resquare the sheet and eliminates the out of square and camber tolerance found in stock size sheets.

Note: Random sheared on Expanded Metal Grating $\pm 1/4$ ".

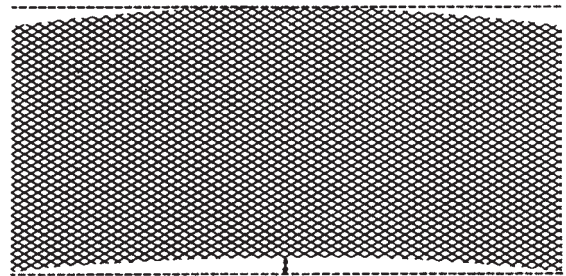
Squareness – Edges shall be such that any intersecting sides shall not be out of square in excess of $1/8$ in. per foot either direction, to a maximum of $1/2$ in. overall regular.

Squareness After Flattening – Ends shall not be more than $1/8$ in. per foot out of square or $3/8$ in. overall in relation to the side of the sheet used to gauge the shearing.



Camber – The greatest deviation of a side edge from a straight line shall not exceed $1/16$ in. per foot of dimension, SWD and LWD. Regular.

Camber After Flattening – The greatest deviation of a side edge from a straight line after flattening shall not exceed $3/32$ in. per foot of dimension.



Regular Expanded Metal

CARBON STEEL - ASTM A 1011

Style	Weight in lbs. per C.S.F		Standard Sizes in Feet		Size of Openings in inches		Center to Center of Bond in inches		Size of Strands in inches		Percent Open Area	No. of Diamonds per ft. SWD	Overall Thickness in inches
	Plain	Galv.	Width	Length	Width	Length	Width	Length	Width	Thickness			
3/16" #22	62	A	B	B	0.166	0.437	0.200	0.500	0.050	0.030	60	60	0.086
3/16" #20	75	A	B	B	0.166	0.437	0.200	0.500	0.050	0.036	57	60	0.090
1/4" #20	86	129	4-8	8-4	0.172	0.719	0.255	1.000	0.073	0.036	45	47	0.125
1/4" #18	114	171	4-8	8-4	0.172	0.719	0.255	1.000	0.073	0.048	43	47	0.125
5/16" #18	104	-	4-8	8-4	0.188	0.688	0.333	1.000	0.094	0.048	60	36	0.170
1/2" #20	43	59	4-8	8-4	0.438	0.938	0.500	1.200	0.072	0.036	80	24	0.124
1/2" #18	70	85	4-6-8	8-10-4	0.438	0.938	0.500	1.200	0.088	0.048	77	24	0.155
1/2" #16	86	97	4-6-8	8-10-4	0.375	0.938	0.500	1.200	0.086	0.060	71	24	0.157
1/2" #13	147	173	4-6-8	8-10-4	0.313	0.938	0.500	1.200	0.096	0.092	58	24	0.182
1/2" #13	282	310	8	4	0.250	0.800	0.500	1.200	0.188	0.092	25	24	0.275
3/4" #16	54	65	4-6-8	8-10-4	0.813	1.750	0.923	2.000	0.099	0.060	85	13	0.186
3/4" #13	80	92	4-6-8	8-10-4	0.750	1.688	0.923	2.000	0.096	0.092	78	13	0.195
3/4" #10	120	136	4-6-8	8-10-4	0.750	1.625	0.923	2.000	0.144	0.092	77	13	0.282
3/4" #9	180	195	4-6-8	8-10-12	0.688	1.563	0.923	2.000	0.148	0.134	68	13	0.300
1" #16	44	51	4-8	8-4	1.000	2.063	1.090	2.400	0.096	0.060	86	11	0.182
1" #14	76	82	4-8	8-4	0.875	1.563	1.090	2.400	0.122	0.075	75	11	0.225
1" #12	101	108	4-8	8-4	0.907	1.563	1.090	2.400	0.109	0.105	78	11	0.225
1" #10	170	187	4-8	8-4	0.750	1.563	1.090	2.400	0.155	0.135	62	11	0.375
1" #10H	200	221	4-8	8-4	0.725	1.563	1.090	2.400	0.180	0.135	60	11	0.390
1" #7	412	453	8	4	0.576	1.563	1.090	2.400	0.275	0.183	45	11	0.550
1 1/2" #18	20	25	4-8	8-4	1.313	2.625	1.330	3.000	0.067	0.048	93	9	0.140
1 1/2" #16	40	48	4-8	8-10-12-4	1.250	2.625	1.330	3.000	0.107	0.060	89	9	0.211
1 1/2" #14	44	50	4-8	8-4	1.188	2.625	1.330	3.000	0.097	0.075	85	9	0.242
1 1/2" #13	60	68	4-6-8	8-10-12-4	1.188	2.500	1.330	3.000	0.104	0.092	86	9	0.215
1 1/2" #12	72	85	4-8	8-4	1.112	2.375	1.330	3.000	0.109	0.105	83	9	0.225
1 1/2" #10	79	89	4-6-8	8-10-4	1.188	2.500	1.330	3.000	0.137	0.092	85	9	0.289
1 1/2" #10	170	187	4-8	8-4	1.000	2.375	1.330	3.000	0.200	0.135	74	9	0.350
1 1/2" #10H	200	220	4-8	8-4	0.830	2.375	1.330	3.000	0.240	0.135	72	9	0.460
1 1/2" #9	120	131	4-6-8	8-10-12-4	1.125	2.375	1.330	3.000	0.142	0.135	75	9	0.295
1 1/2" #6	250	273	4-6-8	8-10-12-4	1.000	2.313	1.330	3.000	0.201	0.198	63	9	0.425
2" #10	68	75	B	B	1.625	3.438	1.850	4.000	0.164	0.092	86	6.5	0.312
2" #9	90	102	B	B	1.563	3.375	1.850	4.000	0.149	0.134	86	6.5	0.325

Above conforms to EMMA 557-99

A. Not Available
B. Special Order only



Flattened Expanded Metal

CARBON STEEL - ASTM A 1011

Style	Weight in lbs. per C.S.F		Standard Sizes in Feet		Size of Openings in inches		Center to Center of Bond in inches		Size of Strands in inches		Percent Open Area	No. of Diamonds per ft. SWD	Overall Thickness in inches
	Plain	Galv.	Width	Length	Width	Length	Width	Length	Width	Thickness			
3/16" #22	60	A	B	B	0.085	0.459	0.200	0.520	0.057	0.024	40	60	0.024
3/16" #20	72	A	B	B	0.085	0.459	0.200	0.520	0.057	0.029	39	60	0.029
1/4" #20	83	124	4-8	8-4	0.094	0.688	0.255	1.030	0.086	0.030	47	47	0.030
1/4" #18	111	165	4-8	8-4	0.094	0.688	0.255	1.030	0.086	0.040	40	47	0.040
5/16" #18	95	-	4-8	8-4	0.172	0.813	0.333	1.030	0.099	0.040	45	36	0.040
1/2" #20	40	51	4-8	8-4	0.375	1.000	0.500	1.260	0.070	0.029	72	24	0.029
1/2" #18	66	88	3-4-6-8	8-10-4	0.281	1.000	0.500	1.260	0.109	0.039	69	24	0.039
1/2" #16	82	100	3-4-6-8	8-10-4	0.250	1.000	0.500	1.260	0.103	0.050	60	24	0.050
1/2" #13	140	162	3-4-6-8	8-10-4	0.250	1.000	0.500	1.260	0.122	0.070	57	24	0.070
3/4" #16	51	61	3-4-6-8	8-10-4	0.750	1.750	0.923	2.100	0.115	0.048	75	13	0.048
3/4" #14	63	75	3-4-6-8	8-10-4	0.688	1.813	0.923	2.100	0.119	0.061	70	13	0.061
3/4" #13	75	86	3-4-6-8	8-10-4	0.688	1.782	0.923	2.100	0.119	0.070	73	13	0.070
3/4" #10	114	125	4-8	8-4	0.637	1.755	0.923	2.100	0.160	0.070	68	13	0.070
3/4" #9	171	186	3-4-6-8	8-10-12-4	0.563	1.688	0.923	2.100	0.164	0.120	63	13	0.120
1" #16	41	50	4-8	8-4	0.875	2.250	1.090	2.560	0.115	0.048	77	11	0.048
1" #14	73	77	4-8	8-4	0.790	2.000	1.090	2.560	0.125	0.070	80	11	0.070
1" #12	96	110	4-8	8-4	0.785	2.000	1.090	2.560	0.156	0.085	74	11	0.085
1" #10	165	179	4-8	8-4	0.750	1.900	1.090	2.560	0.160	0.110	58	11	0.110
1 1/2" #16	38	44	4-8	8-4	1.063	2.750	1.330	3.200	0.123	0.048	82	9	0.048
1 1/2" #14	46	56	3-4-6-8	8-4	1.063	2.750	1.330	3.200	0.138	0.060	82	9	0.060
1 1/2" #13	57	68	3-4-6-8	8-4	1.063	2.750	1.330	3.200	0.138	0.070	80	9	0.070
1 1/2" #12	66	76	4-8	8-4	1.296	2.625	1.330	3.200	0.116	0.085	85	9	0.085
1 1/2" #10	165	179	4-8	8-4	0.900	2.560	1.330	3.200	0.188	0.110	63	9	0.110
1 1/2" #9	111	128	3-4-6-8	8-10-12-4	1.000	2.563	1.330	3.200	0.175	0.110	77	9	0.110
1 1/2" #6	241	260	3-4	8-10	1.000	2.563	1.33	3.20	0.255	0.173	65	9	0.172

Above conforms to EMMA 557-99

A. Not Available
B. Special Order only

Stainless Steel & Aluminum

Style	Weight in lbs. per C.S.F	Standard Sizes in Feet	Size of Openings in inches	Center to Center of Bond in inches	Size of Strands in inches	Percent Open Area	No. of Diamonds per ft. SWD	Overall Thickness in inches
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STAINLESS STEEL REGULAR-TYPE 304 (AVAILABLE IN T-304L, T-316, T-316L)

1/2" #20	50	4	8	0.437	0.937	0.500	1.200	0.080	0.037	70	24	0.164
1/2" #18	73	4	8	0.438	0.938	0.500	1.200	0.087	0.050	77	24	0.164
1/2" #16	91	4	8	0.438	0.938	0.500	1.200	0.087	0.062	70	24	0.164
1/2" #13	187	4	8	0.313	0.875	0.500	1.200	0.120	0.093	58	24	0.225
3/4" #18	48	4	8	0.813	1.750	0.923	2.000	0.106	0.050	89	13	0.200
3/4" #16	60	4	8	0.813	1.750	0.923	2.000	0.106	0.062	85	13	0.200
3/4" #13	91	4	8	0.750	1.688	0.923	2.000	0.108	0.093	78	13	0.200
3/4" #9	205	4	8	0.688	1.563	0.923	2.000	0.161	0.140	67	13	0.300
1 1/2" #16	45	4	8	1.250	2.750	1.333	3.000	0.115	0.062	89	9	0.220
1 1/2" #13	68	4	8	1.250	2.625	1.333	3.000	0.116	0.093	86	9	0.220
1 1/2" #9	137	4	8	1.125	2.500	1.333	3.000	0.155	0.140	75	9	0.280

Above conforms to EMMA 557-99

STAINLESS STEEL FLATTENED-TYPE 304 (AVAILABLE IN T-304L, T-316, T-316L)

1/2" #20	48	4	8	0.312	1.000	0.500	1.260	0.091	0.033	60	24	0.033
1/2" #18	69	4	8	0.313	1.000	0.500	1.260	0.093	0.040	68	24	0.040
1/2" #16	86	4	8	0.313	1.000	0.500	1.260	0.093	0.050	60	24	0.050
1/2" #13	178	4	8	0.250	1.000	0.500	1.260	0.132	0.080	56	24	0.080
3/4" #18	46	4	8	0.750	1.813	0.923	2.100	0.118	0.040	77	13	0.040
3/4" #16	57	4	8	0.750	1.813	0.923	2.100	0.118	0.050	75	13	0.050
3/4" #13	87	4	8	0.625	1.750	0.923	2.100	0.120	0.070	74	13	0.070
3/4" #9	195	4	8	0.563	1.688	0.923	2.100	0.160	0.119	64	13	0.119
1 1/2" #16	43	4	8	1.063	2.750	1.330	3.150	0.124	0.050	83	9	0.050
1 1/2" #13	65	4	8	1.000	2.625	1.330	3.150	0.124	0.079	79	9	0.079
1 1/2" #9	131	4	8	0.938	2.625	1.330	3.150	0.165	0.119	76	9	0.119

Above conforms to EMMA 557-99

ALUMINUM REGULAR-ALLOY 3003 H14 (AVAILABLE IN 5005 H34)

3/16" .032	23	B	B	0.166	0.437	0.200	0.500	0.050	0.032	52	60	0.068
1/2" .051	27	4	8	0.375	0.938	0.500	1.200	0.094	0.051	70	24	0.158
1/2" .081	44	4	8	0.375	0.938	0.500	1.200	0.096	0.081	60	24	0.186
3/4" .051	17	4	8	0.813	1.175	0.923	2.000	0.109	0.051	90	13	0.200
3/4" .064	22	4-8	8-4	0.823	1.660	0.923	2.000	0.111	0.064	75	13	0.200
3/4" .081	41	4	8	0.750	1.688	0.923	2.000	0.166	0.081	74	13	0.300
3/4" .081L	27	4-8	8-4	0.750	1.680	0.923	2.000	0.110	0.081	76	13	0.200
3/4" .081H	41	4-8	8-4	0.750	1.688	0.923	2.000	0.165	0.081	69	13	0.300
3/4" .125	65	4	8	0.688	1.688	0.923	2.000	0.170	0.125	66	13	0.305
3/4" .188	113	4-8	8-4	0.590	1.350	0.923	2.000	0.200	0.188	60	13	0.400
1 1/2" .051	13	4-8	8-4	1.225	2.400	1.330	3.000	0.110	0.051	88	9	0.200
1 1/2" .081	22	4	8	1.188	2.500	1.333	3.000	0.128	0.081	87	9	0.240
1 1/2" .125	43	4	8	1.188	2.500	1.333	3.000	0.163	0.125	78	9	0.300

A. Not Available

Above conforms to EMMA 557-99

B. Special Order Only

ALUMINUM FLATTENED-ALLOY 3003 H14 (AVAILABLE IN 5005 H34)

3/16" .032	25	8	4	0.078	0.313	0.218	0.438	0.060	0.029	43	60	0.028
1/2" .051	25	4	8	0.313	1.000	0.500	1.270	0.091	0.040	57	24	0.040
1/2" .081	41	4	8	0.313	1.000	0.500	1.270	0.103	0.060	57	24	0.060
3/4" .051	16	4	8	0.750	1.813	0.923	2.120	0.114	0.040	73	13	0.040
3/4" .064	20	4-8	8-4	0.750	1.780	0.923	2.130	0.122	0.051	72	13	0.051
3/4" .081L	25	4-8	8-4	0.687	1.750	0.923	2.215	0.134	0.070	70	13	0.070
3/4" .081H	38	4-8	8-4	0.688	1.750	0.923	2.120	0.172	0.070	63	13	0.070
3/4" .125	61	4	8	0.625	1.750	0.923	2.120	0.180	0.095	55	13	0.095
3/4" .188	107	4-8	8-4	0.484	1.593	0.923	2.130	0.205	0.170	60	13	0.170
1 1/2" .051	11	4-8	8-4	1.095	2.750	1.330	3.090	0.120	0.040	80	9	0.040
1 1/2" .081	20	4	8	1.063	2.750	1.333	3.150	0.144	0.055	75	9	0.055
1 1/2" .125	40	4	8	1.000	2.750	1.333	3.150	0.190	0.080	65	9	0.080

Above conforms to EMMA 557-99



Expanded Metal

Style	Weight in lbs. per C.S.F		Standard Sizes in Feet		Size of Openings in inches		Center to Center of Bond in inches		Size of Strands in inches		Percent Open Area	No. of Diamonds per ft. SWD	Overall Thickness in inches
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CARBON STEEL GRATING-ASTM A1011

	Plain	Galv.	Width	Length	Width	Length	Width	Length	Width	Thickness			
2 lb	200	218	4-6	8	1.000	3.600	1.333	5.330	0.235	0.135	77	9	0.460
3 lb	300	320	4-6	8-10	0.938	3.438	1.333	5.330	0.261	0.183	73	9	0.500
3.14 lb	314	334	4-6	8-10	1.625	4.875	2.000	6.000	0.308	0.250	74	6	0.562
4 lb	400	430	4-5-6	8-10	0.938	3.438	1.333	5.330	0.297	0.215	65	9	0.625
4.27 lb	427	457	4-6	8-10	1.000	2.875	1.412	4.000	0.297	0.250	58	8.5	0.625
5 lb	500	550	4-5-6	8-10	0.813	3.375	1.333	5.330	0.327	0.250	52	9	0.625
6.25 lb	625	685	4-6	8-10	0.813	3.375	1.412	5.330	0.347	0.312	55	8.5	0.750
7 lb	700	750	4-6	8	0.813	3.375	1.412	5.330	0.388	0.312	60	8.5	0.750

Above conforms to EMMA 557-99

ALUMINUM GRATING-ALLOY 5052 H32

2 lb	200	-	4-6	8	1.000	3.600	1.333	5.330	0.235	0.250	77	9	0.460
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Above conforms to EMMA 557-99

CARBON STEEL LONG LENGTH SWD (CATWALK GRATING)-ASTM A 569/569M

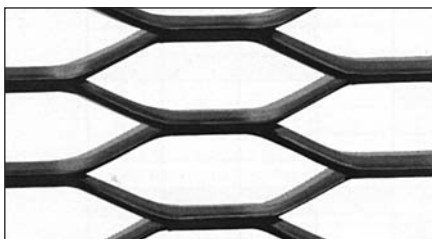
			Width	Length	Width	Length	Width	Length	Width	Thickness			
2 lb	200	218	8	4	1.000	3.600	1.333	5.330	0.235	0.135	77	9	0.460
3 lb	300	320	8-10	2-2.6-3-4	0.938	3.438	1.333	5.330	0.261	0.183	73	9	0.500
3.14 lb	314	334	8-10	2-2.6-3-4	1.625	4.875	2.000	6.000	0.308	0.250	74	6	0.562
4 lb	400	430	8-10	2-2.6-3-4	0.938	3.438	1.330	5.330	0.297	0.215	65	9	0.625
4.27 lb	427	457	8-10	2-2.6-3-4	1.000	2.875	1.412	4.000	0.297	0.250	58	8.5	0.625
5 lb	500	550	8-10	2-2.6-3-4	0.813	3.375	1.333	5.330	0.327	0.250	52	9	0.625
6.25 lb	625	685	8	4	0.813	3.375	1.412	5.330	0.347	0.312	55	8.5	0.750

Above conforms to EMMA 557-99

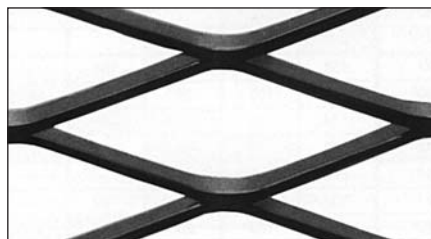
ALUMINUM LONG LENGTH SWD (CATWALK GRATING)-ALLOY 5052 H32

2 lb	200	-	8	2-2.6-3-4	1.000	3.600	1.333	5.330	0.235	0.250	77	9	0.460
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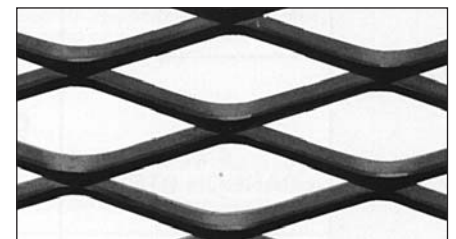
Above conforms to EMMA 557-99



2.0 lb-3.0 lb-4.0 lb-5.0 lb-6.25 lb-7.0 lb



3.14 lb



4.27 lb

Style	Weight in lbs. per C.S.F		Standard Sizes in Feet		Size of Openings in inches		Center to Center of Bond in inches		Size of Strands in inches		Percent Open Area
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ORNAMESH CARBON STEEL-ASTM A 1011-ALUMINUM ALLOY 5005 H34

	Plain	Width	Length	Width	Length	Width	Length	Width	Thickness	
Steel	1.590	4-6	8	1.327	6.400	1.550	7.100	0.122	0.131	65
Aluminum	0.630	4-6	8	1.250	6.125	1.500	5.330	0.125	0.134	65

Above conforms to EMMA 557-99

Expanded Metal Grating

LOAD & DEFLECTION TABLE

Deflections shown in shaded areas can be safely used at the discretion of the engineer: however, these deflections exceed 1/4".

Grating Style	Load Cond.	Clear Span	Load in Pounds							Deflection in Inches		
			50	100	150	200	250	300	350	400	450	500
2.0# CARBON STEEL	c	18"	.052	.105	.158	.211	.264	.317	.367			
		24"	.125	.250	.175	.500						
		30"	.244	.489								
		36"	.422									
	u	18"	.049	.099	.147	.196	.245	.294	.343			
		24"	.156	.313	.468							
		30"	.382									
		36"	.791									
3.0# CARBON STEEL	c	24"	.068	.132	.197	.263	.329	.395	.462			
		30"	.116	.228	.345	.460						
		36"	.192	.380	.570							
		42"	.280	.561								
	u	24"	.073	.146	.220	.293	.366	.440				
		30"	.155	.311	.463							
		36"	.330	.660								
		42"	.527									
3.14# CARBON STEEL	c	24"	.049	.094	.140	.187	.234	.280	.326	.372	.420	.465
		30"	.099	.198	.297	.395						
		36"	.180	.357	.535							
		42"	.225	.455	.684							
	u	24"	.057	.115	.173	.230	.288	.346	.404	.462		
		30"	.129	.259	.388	.517						
		36"	.315	.626								
		42"	.449									
4.0# CARBON STEEL	c	24"	.031	.064	.096	.128	.160	.192	.224	.256	.288	.320
		30"	.060	.120	.180	.240	.300	.360	.420	.480		
		36"	.101	.205	.310	.402	.505	.605				
		42"	.158	.315	.473	.630						
	u	24"	.037	.073	.111	.147	.184	.222	.259	.296	.333	.370
		30"	.068	.135	.205	.274	.340	.410	.477	.545		
		36"	.180	.358	.536							
		42"	.283	.565								
4.27# CARBON STEEL	c	24"	.038	.078	.116	.156	.196	.235	.275	.315	.355	.395
		30"	.081	.163	.245	.327	.409	.491				
		36"	.124	.250	.379	.505						
		42"	.199	.399	.598							
	u	24"	.038	.079	.120	.160	.200	.240	.280	.320	.360	.400
		30"	.078	.156	.235	.312	.390	.470				
		36"	.186	.373	.560							
		42"	.379									
5.0# CARBON STEEL	c	24"	.023	.047	.070	.093	.116	.140	.164	.186	.210	.234
		30"	.033	.087	.130	.174	.217	.261	.304	.348	.391	.433
		36"	.078	.154	.230	.305	.383	.458	.535			
		42"	.103	.206	.310	.414	.515	.617				
	u	24"	.025	.050	.075	.100	.125	.150	.175	.200	.225	.250
		30"	.061	.123	.184	.246	.307	.369	.430	.491	.552	
		36"	.133	.265	.395	.526						
		42"	.200	.400	.600							
5.0# CARBON STEEL	u	48"	.355	.708								
		54"	.605									

Expanded Metal Grating

LOAD & DEFLECTION TABLE

Grating Style	Load Cond	Clear Span	Load in Pounds					Deflection in Inches				
			50	100	150	200	250	300	350	400	450	500
6.25# CARBON STEEL	c	24"	.015	.030	.045	.060	.075	.090	.105	.120	.135	.150
		30"	.035	.069	.103	.137	.171	.206	.240	.274	.308	.342
		36"	.054	.108	.161	.216	.269	.324	.377	.431	.484	.537
		42"	.084	.166	.247	.329	.412	.492	.575			
		48"	.117	.236	.355	.474	.593					
		54"	.167	.336	.506	.670						
		60"	.225	.452	.683							
	72"	.456	.912									
	u	24"	.017	.035	.054	.072	.090	.110	.127	.145	.164	.181
		30"	.045	.091	.135	.180	.226	.270	.316	.360	.405	.450
		36"	.092	.184	.276	.368	.460	.552				
		42"	.150	.302	.451	.602						
		48"	.285	.576								
		54"	.457									
60"		.606										
7.0# CARBON STEEL	c	30"	.030	.061	.090	.121	.152	.182	.212	.242	.273	.303
		36"	.051	.101	.151	.201	.251	.301	.351	.401	.451	.501
		42"	.065	.130	.195	.259	.323	.389	.452	.515	.580	
		48"	.095	.190	.282	.376	.470	.565				
		54"	.143	.283	.423	.564						
		60"	.203	.405	.610							
		72"	.355	.708								
	u	30"	.039	.079	.118	.157	.196	.236	.274	.314	.353	.392
		36"	.085	.170	.252	.336	.420	.504	.587			
		42"	.126	.255	.385	.512	.642					
		48"	.210	.420	.628							
		54"	.365	.731								
		60"	.555									
		72"	1.080									
2.0# ALUMINUM	c	18"	.019	.039	.059	.079	.099	.119	.139	.159		
		24"	.046	.092	.138	.184	.230	.277				
		30"	.092	.181	.269	.360						
		36"	.125	.255	.385	.465						
		42"	.170	.340	.510	.620						
	u	18"	.017	.034	.051	.068	.085	.103	.121	.139	.157	
		24"	.047	.094	.141	.189	.236	.283				
		30"	.108	.216	.322							
		36"	.213	.430								
		42"	.280	.560								

CONCENTRATED LOAD: A load that is concentrated over a small area. Example, a pedestrian load, or light equipment load. Concentrated loads are shown in lbs per ft. of grating width measured perpendicular to span. (ie, in SWD Direction)

DEFLECTION: The deviation in inches from the original plane when the grating is placed under a load.

UNIFORM LOAD: A load that is equally distributed over all of the clear span. Measured in lbs per sq. ft. (i.e., inventories stacked on shelving.)

CLEAR SPAN: The distance between supporting members measured from the inside bearing point of one supporting member to the inside bearing point of the next supporting member.

AMICO GRATING APPLICATION GUIDE

This table is a convenient means of selecting grating for typical walk-way installations. If the distance between supports, and the load to be carried are known, the most economical type of grating to be used may be selected from the table below. Expanded metal grating has its greatest resistance to bending in the direction of the long way of the diamond. The LWD should always be placed across the span for best results.

Concentrated Load Lbs. Per Foot of Width	LOAD IN POUNDS	CLEAR SPAN						
		24"	30"	36"	42"	48"	54"	60"
Occasional Pedest. Load (Window Washers)	50#	3.0#	3.0#	3.0#	4.0#	4.0#	5.0#	6.25#
		3.14#*	3.14#*	3.14#*	4.27#**	4.27#**		
Normal Pedest. Load	100#	3.0#	3.0#	4.0#	5.0#	6.25#		
		3.14#*	3.14#*	4.27#**				
Heavy Pedest. (With Light Equip.)	150#	3.0#	4.0#	5.0#	6.25#			
		3.14#*	4.27#**					
	200#	3.14#	4.0#	6.25#	7.0#			
		4.0#	4.27#**					
	250#	4.0#	5.0#					
		4.27#**						
	300#	4.0#	6.25#					
		4.27#**						
	350#	4.0#	6.25#					
		4.27#**						
	400#	4.0#	6.25#					
		4.27#**						

*3.14# grating in lieu of 3# if the application requires a grating having a larger diamond. Example: Outside catwalk in ice and snow.

**4.27# grating may be used in lieu of 4# if the application requires a smaller diamond to afford protection from dropped tools and other objects.

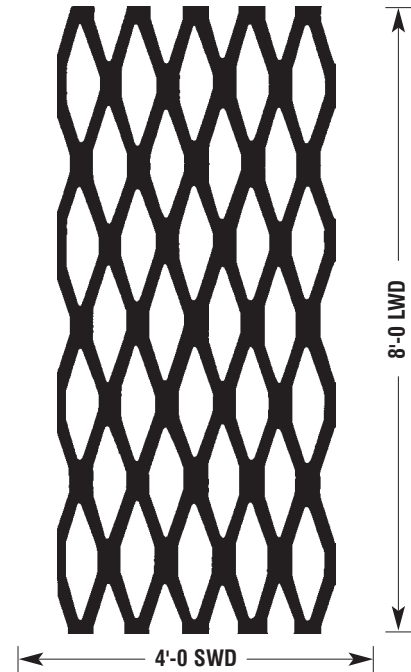


Expanded Metal & Expanded Metal Grating

HOW TO ORDER EXPANDED METAL

- Specify the size sheet required, listing SWD first.
Example: 4'-0 SWD x 8'-0 LWD
- Specify the number of sheets or pieces required.
- Specify the nominal width of the diamond SWD
Example: 3/16", 1/4", 1/2", 3/4", 1", 1 1/2", 2"
- Specify the style of the sheet
Example: #18, #20, #16, #13, #9
- Specify R (Regular), F (Flattened)
- Specify the type of metal required
Example: Carbon steel, Stainless steel, Aluminum, etc.

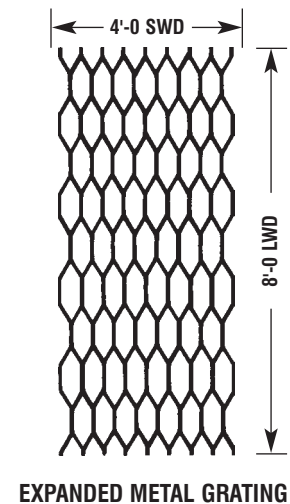
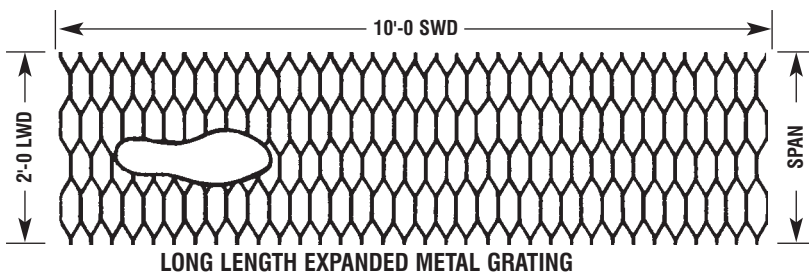
EXAMPLE OF TYPICAL ORDER:
100 SHEETS...3/4"...#9F
4'-0 X 8'-0 CARBON STEEL



HOW TO ORDER EXPANDED METAL GRATING OR LONG LENGTH GRATING

- Specify the size sheet required, listing SWD first.
Example: Expanded Metal Grating 4'-0 x 8'-0, 4'-0 x 10'-0, 6'-0 x 5'-0, 6'-0 x 10'-0.
- Specify the number of sheets or pieces required.
- Specify Wt./Sq. Ft. required
Example: 2.0 lb., 3.0 lb., 3.14 lb., 4.0 lb., 4.27 lb., 5.0 lb., 6.25 lb., 7.0 lb.

EXAMPLE TYPICAL ORDER
EXPANDED METAL LONG LENGTH GRATING
10'-0 x 2'-0 - 10'-0 x 2'-6 - 10'-0 x 3'-0



Expanded Metal & Expanded Metal Grating

STANDARD PALLET

100 PCS. PER PALLET	
MESH	SIZE
1/4" # 20 R&F	4 x 8
1/4" # 18 R&F	4 x 8

1/2" # 20 R&F	4 x 8
1/2" # 18 R&F	4 x 8
1/2" # 16 R&F	4 x 8
1/2" # 16 R&F	6 x 8
1/2" # 16 R&F	4 x 10

3/4" # 16 R&F	4 x 8
3/4" # 16 R&F	4 x 10
3/4" # 16 R&F	6 x 8
3/4" # 14 F	4 x 8
3/4" # 13 R&F	4 x 8
3/4" # 13 R&F	6 x 8
3/4" # 13 R&F	4 x 10
3/4" # 10 R	4 x 8

1" # 16 R&F	4 x 8
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1 1/2" # 16 R&F	4 x 8
1 1/2" # 13 R&F	4 x 8
1 1/2" # 13 R&F	6 x 8
1 1/2" # 13 R&F	4 x 10
1 1/2" # 13 R&F	6 x 10
1 1/2" # 10 R	4 x 8
1 1/2" # 10 R	6 x 8
1 1/2" # 10 R	4 x 10

50 PCS. PER PALLET	
MESH	SIZE
1/2" # 16 R&F	6 x 10
1/2" # 13 R&F	4 x 8

1/2" # 13 R&F	6 x 8
1/2" # 13 R&F	4 x 10

3/4" # 16 R&F	6 x 10
3/4" # 13 R&F	6 x 10
3/4" # 10 R	6 x 8
3/4" # 10 R	4 x 10
3/4" # 10 R	6 x 10
3/4" # 9 R&F	4 x 8
3/4" # 9 R&F	6 x 8
3/4" # 9 R&F	4 x 10
3/4" # 9 R&F	6 x 10

1 1/2" # 10 R	6 x 10
1 1/2" # 9 R&F	4 x 8
1 1/2" # 9 R&F	6 x 8
1 1/2" # 9 R&F	4 x 10
1 1/2" # 9 R&F	6 x 10

30 PCS. PER PALLET	
MESH	SIZE
1 1/2" # 6 R	4 x 8

2.0 lb. Grating	4 x 8
2.0 lb. Grating	4 x 10
3.0 lb. Grating	4 x 8
3.0 lb. Grating	4 x 10
3.14 lb. Grating	4 x 8
3.14 lb. Grating	4 x 10
4.0 lb. Grating	4 x 8
4.0 lb. Grating	4 x 10
4.27 lb. Grating	4 x 8

25 PCS. PER PALLET	
MESH	SIZE

1 1/2" # 6 R	6 x 8
1 1/2" # 6 R	4 x 10
1 1/2" # 6 R	6 x 10

3.0 lb. Grating	6 x 8
3.0 lb. Grating	6 x 10
3.14 lb Grating	6 x 8
3.14 lb Grating	6 x 10
4.0 lb Grating	6 x 8
4.0 lb Grating	6 x 10
4.27 lb Grating	6 x 8
4.27 lb Grating	4 x 10
4.27 lb Grating	6 x 10
5.0 lb Grating	4 x 8
5.0 lb Grating	6 x 8
5.0 lb Grating	4 x 10
5.0 lb Grating	6 x 10

20 PCS. PER PALLET	
MESH	SIZE
6.25 lb. Grating	4 x 8

15 PCS. PER PALLET	
MESH	SIZE
6.25 lb. Grating	6 x 8
6.25 lb. Grating	4 x 10
6.25 lb. Grating	6 x 10
7.0 lb. Grating	4 x 8

30 PCS. PER PALLET	
MESH	SIZE
1.59 lb. Ornamesh	4 x 8
1.59 lb. Ornamesh	6 x 8

R(Regular) F(Flattened)



Expanded Metal & Expanded Metal Grating

NOMENCLATURE

C.S.F.—(hundred square feet) the unit of measure for price and weight.

DIAMOND OR OPENING—This is the description of the open area formed by strands and bonds. Normally the open area is diamond shaped.

BOND—The point where adjacent strands intersect. The bond is always twice the width of the strand.

SWD OR SWO—Short way of diamond or short way of opening is the dimension measured across the sheet in a direction parallel to the smallest dimension of the diamond.

LWD OR LWO—Long way of diamond or long way of opening is the dimension measured across the sheet in a direction parallel to the largest dimension of the diamond.

MESH—This is the nominal distance from the mid-point of one bond to the mid-point of the next bond measured across the SWD. Mesh is expressed in inches.

OPENING SIZE—The area enclosed by bonds and strands.

OVERALL THICKNESS—This is the finished thickness and often determines the selection of framing members.

PERCENT OF OPEN AREA—These important relative percentages are used by designers to calculate the degree with which light and air can pass through a piece of expanded metal.

PITCH—The measurement from a point on one diamond to the same point on an adjacent diamond.

STRAND—The single metal strip which forms the border of the diamond, or opening. Strand width is the amount of material advanced for expanding as differentiated from strand thickness which is the thickness of metal from which the expanded metal is produced.

STYLE—Is the gauge or thickness of metal from which expanded metal is made. Usually, but not always, this conforms to manufacturer's standard gauges. Style is expressed by a number. Expanded metal grating style is expressed in lbs. per square foot.

FORMABILITY—Each piece should be able to withstand a 90 degree bend with a 1/4 in. inside radius in either direction, without fracture.

LEVELING—All expanded metal products except grating are leveled after having been expanded.

OUT OF SQUARE—Expanded metal sheets are generally not perfectly square when finished. Sheets must be resquared by shearing on all sides for perfect squareness.

Reshearing at the mill is not usually done since most sheets are sheared to size to be within tolerance.

CAMBER—Bow in sheet. It is measured by placing a straight edge along the concave side of the sheet parallel to LWD, touching both ends of the sheet. The maximum distance between the edge of the expanded metal and the straight edge is the camber. A sheet may be within a width tolerance and still have camber.

PRODUCT DEFINITION

REGULAR EXPANDED METAL is sheet simultaneously slit and stretched into a rigid, non-raveling open mesh. It is readily available in carbon steel, aluminum and stainless steel.

FLATTENED EXPANDED METAL is manufactured by processing regular expanded metal in a rolling mill. This rolling reduces the thickness of the sheet and provides a smooth flat sheet.

EXPANDED METAL GRATING is produced from heavier plate, usually low-carbon steel, with larger diamonds. It is typically used for walkways and platforms.

DECORATIVE EXPANDED METAL is manufactured with unique shaped openings which possess great appeal for architects and designers.

STAIR TREADS—Expanded Metal Grating Stair Treads are fabricated using 4.0# Grating, angles and bars. They are shipped ready for installation on the job.

FINISHING—Limited finishes can be accomplished at manufacturing plants. This includes hot-dip galvanizing and pre-galvanizing.

Special finishing such as anodizing, enameling, and plastic coating can be arranged by contacting your steel service center.

SHEET SIZE—While expanded metal can be manufactured in many varying sheet sizes, practical limitations are such that it is wise to select sheet sizes shown in the catalog. Availability of sizes can be determined by contacting your steel service center.

DISTRIBUTION—expanded metal products are readily available from large stocks maintained by your local steel service center.

PRODUCT SELECTION

*The first step in the design of a product or fabricated assembly incorporating expanded metal is to **select the appropriate expanded metal pattern**, keeping in mind various product characteristics.*

The strength and rigidity of expanded metal material is determined by Long Way of Design. On a walkway, for example, the LWD should run perpendicular to the walkway support.

Diamond direction also affects air deflection and diffusion, concealment properties and aesthetic appearance. Consult your supplier for suggestions.

*Most manufacturers can and do routinely furnish expanded metal in special ("non-standard") sheet sizes when requested. In this event, it is important for the specifier to give some consideration to the **edge configuration** of the sheet as it relates to any particular requirement since the cost may be affected by the manufacturing operations necessary to shear the edge desired.*



Member
Steel Service Center Institute



The National Association of
Architectural Metal Manufacturers

