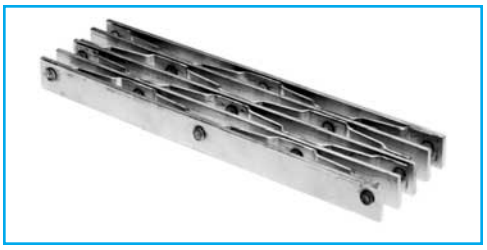
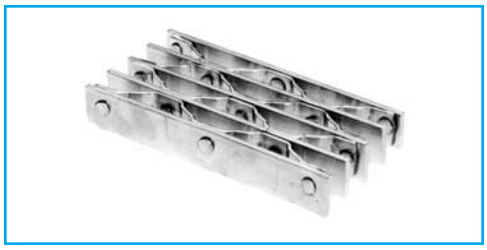
ALUMINUM RIVETED GRATING

3/4" Inside Face to Inside Face of Bearing Bars



12-AR-7
7" Rivet Centers–1/4" Dia. Rivets



12-AR-3
3-1/2" Rivet Centers–1/4" Dia. Rivets

LOAD & DEFLECTION TABLE

SPAN (Length of Bearing Bar)

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"
3/4" x 1/8"	12-7-32	3.2	0.161	U	321	206	143	105	80	63							
				D	0.192	0.300	0.432	0.588	0.768	0.972							
	12-3-32	3.4		C	321	257	214	184	161	143							
				D	0.154	0.240	0.346	0.470	0.614	0.778							
3/4" x 3/16"	12-7-33	3.7	0.225	U	450	288	200	147	113	89							
				D	0.192	0.300	0.432	0.588	0.768	0.972							
	12-3-33	3.9		C	450	360	300	257	225	200							
				D	0.154	0.240	0.346	0.470	0.614	0.778							
1" x 1/8"	12-7-42	3.7	0.286	U	571	366	254	187	143	113	91	76					
				D	0.144	0.225	0.324	0.441	0.576	0.729	0.900	1.089					
	12-3-42	4.0		C	571	457	381	327	286	254	229	208					
				D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871					
1" x 3/16"	12-7-43	4.4	0.400	U	800	512	356	261	200	158	128	106					
				D	0.144	0.225	0.324	0.441	0.576	0.729	0.900	1.089					
	12-3-43	4.7		C	800	640	533	457	400	356	320	291					
				D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871					
1-1/4" x 1/8"	12-7-52	4.2	0.446	U	893	571	397	292	223	176	143	118	99	85	73		
				D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871	1.037	1.217	1.411		
	12-3-52	4.5		C	893	714	595	510	446	397	357	325	298	275	255		
				D	0.092	0.144	0.207	0.282	0.369	0.467	0.576	0.697	0.829	0.973	1.129		
1-1/4" x 3/16"	12-7-53	5.1	0.625	U	1250	800	556	408	313	247	200	165	139	118	102		
				D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871	1.037	1.217	1.411		
	12-3-53	5.4		C	1250	1000	833	714	625	556	500	455	417	385	357		
				D	0.092	0.144	0.207	0.282	0.369	0.467	0.576	0.697	0.829	0.973	1.129		
1-1/2" x 1/8"	12-7-62	5.2	0.643	U	1286	823	571	420	321	254	206	170	143	122	105	80	63
				D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.536	1.944
	12-3-62	5.6		C	1286	1029	857	735	643	571	514	468	429	396	367	321	286
				D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.229	1.555
1-1/2" x 3/16"	12-7-63	6.3	0.900	U	1800	1152	800	588	450	356	288	238	200	170	147	113	89
				D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.536	1.944
	12-3-63	6.6		C	1800	1440	1200	1029	900	800	720	655	600	554	514	450	400
				D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.229	1.555
1-3/4" x 3/16"	12-7-73	7.1	1.225	U	2450	1568	1089	800	613	484	392	324	272	232	200	153	121
				D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008	1.317	1.666
	12-3-73	7.4		C	2450	1960	1633	1400	1225	1089	980	891	817	754	700	613	544
				D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	1.053	1.333
2" x 3/16"	12-7-83	7.8	1.600	U	3200	2048	1422	1045	800	632	512	423	356	303	261	200	158
				D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.152	1.458
	12-3-83	8.1		C	3200	2560	2133	1829	1600	1422	1280	1164	1067	985	914	800	711
				D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.922	1.166
2-1/4" x 3/16"	12-7-93	8.5	2.025	U	4050	2592	1800	1322	1013	800	648	536	450	383	331	253	200
				D	0.064	0.100	0.144	0.196	0.256	0.324	0.400	0.484	0.576	0.676	0.784	1.024	1.296
	12-3-93	8.8		C	4050	3240	2700	2314	2025	1800	1620	1473	1350	1246	1157	1013	900
				D	0.051	0.080	0.115	0.157	0.205	0.259	0.320	0.387	0.461	0.541	0.627	0.819	1.037
2-1/2" x 3/16"	12-7-103	9.2	2.500	U	5000	3200	2222	1633	1250	988	800	661	556	473	408	313	247
				D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.922	1.166
	12-3-103	9.5		C	5000	4000	3333	2857	2500	2222	2000	1818	1667	1538	1429	1250	1111
				D	0.046	0.072	0.104	0.141	0.184	0.233	0.288	0.348	0.415	0.487	0.564	0.737	0.933

3/4" x 1/8" CRIMP BAR

1" x 1/8" CRIMP BAR

U = safe uniform load, psf
C = safe concentrated load, pfw
D = deflection, inches
E = modulus of elasticity, 10,000,000 psi
F = fiber stress, 12,000 psi

Material: ASTM B-221

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval.

Serrated Bars: Normally we serrate the reticuline bar and raise it slightly above the top surface of the bearing bars. We can also serrate the bearing bars. When bearing bars are serrated, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Finish: Mill finish unless otherwise specified.

12-AR-7 & 12-AR-3 PANEL WIDTH (inches)

Note: Dimensions include 1/4" for rivet heads (1/8" each side).

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1/8" Bar	1 1/4	2 1/8	3	3 7/8	4 3/4	5 5/8	6 1/2	7 3/8	8 1/4	9 1/8	10	10 7/8	11 3/4	12 5/8	13 1/2	14 3/8	15 1/4	16 1/8	17	17 7/8	18 3/4	19 5/8	20 1/2	21 3/8
3/16" Bar	1 3/8	2 5/16	3 1/4	4 3/16	5 1/8	6 1/16	7	7 15/16	8 7/8	9 13/16	10 3/4	11 11/16	12 5/8	13 9/16	14 1/2	15 7/16	16 3/8	17 5/16	18 1/4	19 3/16	20 1/8	21 1/16	22	22 15/16

No. of Bars	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
1/8" Bar	22 1/4	23 1/8	24	24 7/8	25 3/4	26 5/8	27 1/2	28 3/8	29 1/4	30 1/8	31	31 7/8	32 3/4	33 5/8	34 1/2	35 3/8	36 1/4
3/16" Bar	23 7/8	24 13/16	25 3/4	26 11/16	27 5/8	28 9/16	29 1/2	30 7/16	31 3/8	32 5/16	33 1/4	34 3/16	35 1/8	36 1/16	37	37 15/16	38 7/8