

## 12-AR-7 & 12-AR-3 Riveted Grating

### 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

Bar Size	Symbol	Approx. Weight psf	Sec mod Per Ft of Width		SPAN (Length of Bearing Bar)												
					2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"							
<b>3/4" x 1/8"</b>	<b>12-7-32</b>	3.2	0.161	3/4" x 1/8" CRIMP BAR	U	321	206	143	105	80	63						
					D	0.192	0.300	0.432	0.588	0.768	0.972						
	<b>12-3-32</b>	3.4	C		321	257	214	184	161	143							
			D		0.154	0.240	0.346	0.470	0.614	0.778							
<b>3/4" x 3/16"</b>	<b>12-7-33</b>	3.7	0.225		U	450	288	200	147	113	89						
					D	0.192	0.300	0.432	0.588	0.768	0.972						
	<b>12-3-33</b>	3.9	C		450	360	300	257	225	200							
			D		0.154	0.240	0.346	0.470	0.614	0.778							
<b>1" x 1/8"</b>	<b>12-7-42</b>	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					
	<b>12-3-42</b>	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						
<b>1" x 3/16"</b>	<b>12-7-43</b>	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					
	<b>12-3-43</b>	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						
<b>1-1/4" x 1/8"</b>	<b>12-7-52</b>	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		
	<b>12-3-52</b>	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			
<b>1-1/4" x 3/16"</b>	<b>12-7-53</b>	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		
	<b>12-3-53</b>	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			
<b>1-1/2" x 1/8"</b>	<b>12-7-62</b>	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
	<b>12-3-62</b>	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	
<b>1-1/2" x 3/16"</b>	<b>12-7-63</b>	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	0.216	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.536	1.944
	<b>12-3-63</b>	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	
<b>1-3/4" x 3/16"</b>	<b>12-7-73</b>	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
	<b>12-3-73</b>	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	
<b>2" x 3/16"</b>	<b>12-7-83</b>	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
	<b>12-3-83</b>	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	
<b>2-1/4" x 3/16"</b>	<b>12-7-93</b>	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	1.204	1.296
	<b>12-3-93</b>	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	
<b>2-1/2" x 3/16"</b>	<b>12-7-103</b>	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
	<b>12-3-103</b>	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	

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

**12-AR-7 & 12-AR-3 PANEL WIDTH (inches)** Note: Includes 1/4" (1/8" each side) for extended cross bars on press-locked (AP).

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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
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
No. of Bars	23	24	25t	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	
1/8" Bar	19 5/8	20 1/2	21 3/8	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	21 1/16	22	22 15/16	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	