

# Riveted Grating

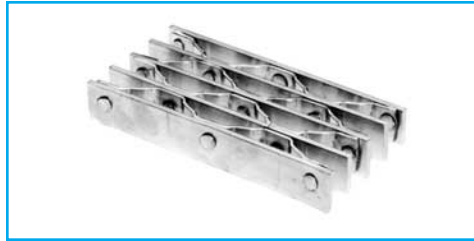
## STEEL RIVETED GRATING

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



**12-R-7**

7" Rivet Centers—1/4" Dia. Rivets



**12-R-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"	5'-0"			
3/4" x 1/8"	12-7-32	9.0	0.161	U	482	309	214	157	121	95			
	12-3-32	9.6		D	0.099	0.155	0.223	0.304	0.397	0.503			
3/4" x 3/16"	12-7-33	10.5	0.225	C	482	386	321	276	241	214			
	12-3-33	11.0		D	0.079	0.124	0.179	0.243	0.318	0.402			
1" x 1/8"	12-7-42	10.5	0.286	U	675	432	300	220	169	133	108		
	12-3-42	11.1		D	0.099	0.155	0.223	0.304	0.397	0.503	0.621		
1" x 3/16"	12-7-43	12.6	0.400	C	675	540	450	386	338	300	270		
	12-3-43	13.1		D	0.079	0.124	0.179	0.243	0.318	0.402	0.497		
1-1/4" x 1/8"	12-7-52	12.0	0.446	U	857	549	381	280	214	169	137	113	
	12-3-52	12.6		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	
1-1/4" x 3/16"	12-7-53	14.7	0.625	C	857	686	571	490	429	381	343	312	
	12-3-53	15.2		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	
1-1/2" x 1/8"	12-7-62	15.0	0.643	U	1200	768	533	392	300	237	192	159	133
	12-3-62	15.7		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	0.670
1-1/2" x 3/16"	12-7-63	18.1	0.900	C	1200	960	800	686	600	533	480	436	400
	12-3-63	18.8		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536
1-3/4" x 3/16"	12-7-73	20.2	1.225	U	1339	857	595	437	335	265	214	177	149
	12-3-73	20.9		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536
2" x 3/16"	12-7-83	22.3	1.600	C	1339	1071	893	765	670	595	536	487	446
	12-3-83	23.0		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429
2-1/4" x 3/16"	12-7-93	24.4	2.025	U	1875	1200	833	612	469	370	300	248	208
	12-3-93	25.1		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536
2-1/2" x 3/16"	12-7-103	26.5	2.500	C	1875	1500	1250	1071	938	833	750	682	625
	12-3-103	27.1		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429
3/4" x 1/8" CRIMP BAR	12-7-62	15.0	0.643	U	1929	1234	857	630	482	381	309	255	214
	12-3-62	15.7		D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447
1" x 1/8" CRIMP BAR	12-7-63	18.1	0.900	C	1929	1543	1286	1102	964	857	771	701	643
	12-3-63	18.8		D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358
1" x 3/16" CRIMP BAR	12-7-73	20.2	1.225	U	2700	1728	1200	882	675	533	432	357	300
	12-3-73	20.9		D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447
1" x 3/16" CRIMP BAR	12-7-83	22.3	1.600	C	2700	2160	1800	1543	1350	1200	1080	982	900
	12-3-83	23.0		D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358
1" x 3/16" CRIMP BAR	12-7-93	24.4	2.025	U	3675	2352	1633	1200	919	726	588	486	408
	12-3-93	25.1		D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383
1" x 3/16" CRIMP BAR	12-7-103	26.5	2.500	C	3675	2940	2450	2100	1838	1633	1470	1336	1225
	12-3-103	27.1		D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306
1" x 3/16" CRIMP BAR	12-7-113	28.9	3.000	U	4800	3072	2133	1567	1200	948	768	635	533
	12-3-113	29.6		D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335
1" x 3/16" CRIMP BAR	12-7-123	31.7	3.500	C	4800	3840	3200	2743	2400	2133	1920	1745	1600
	12-3-123	32.4		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268
1" x 3/16" CRIMP BAR	12-7-133	34.9	4.000	U	6075	3888	2700	1984	1519	1200	972	803	675
	12-3-133	35.6		D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298
1" x 3/16" CRIMP BAR	12-7-143	38.3	4.500	C	6075	4860	4050	3471	3038	2700	2430	2209	2025
	12-3-143	39.0		D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238
1" x 3/16" CRIMP BAR	12-7-153	41.8	5.000	U	7500	4800	3333	2449	1875	1481	1200	992	833
	12-3-153	42.5		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268
1" x 3/16" CRIMP BAR	12-7-163	45.6	5.500	C	7500	6000	5000	4286	3750	3333	3000	2727	2500
	12-3-163	46.3		D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215

U = safe uniform load, psf  
 C = safe concentrated load, plw  
 D = deflection, inches  
 E = modulus of elasticity, 29,000,000 psi  
 F = fiber stress, 18,000 psi  
**Material:** ASTM A-569  
**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-R-7 & 12-R-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 1/8	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 1/8	5 1/8	6 1/16	7	7 9/16	8 1/8	9 1/16	10 3/4	11 11/16	12 5/8	13 1/8	14 1/2	15 7/16	16 3/8	17 5/16	18 1/4	19 1/16	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 9/16	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 9/16	35 1/8	36 1/16	37	37 15/16	38 7/8							