

# 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"	
3/4" x 1/8"	12-7-32	9.0	0.161	U	482	309	214	157	121	95
				D	0.099	0.155	0.223	0.304	0.397	0.503
	12-3-32	9.6	0.161	U	482	386	321	276	241	214
				D	0.079	0.124	0.179	0.243	0.318	0.402
3/4" x 3/16"	12-7-33	10.5	0.225	U	675	432	300	220	169	133
				D	0.099	0.155	0.223	0.304	0.397	0.503
	12-3-33	11.0	0.225	U	675	540	450	386	338	300
				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	857	549	381	280	214	169
				D	0.074	0.116	0.168	0.228	0.298	0.377
	12-3-42	11.1	0.286	U	857	686	571	490	429	381
				D	0.060	0.093	0.134	0.182	0.238	0.302
1" x 3/16"	12-7-43	12.6	0.400	U	1200	768	533	392	300	237
				D	0.074	0.116	0.168	0.228	0.298	0.377
	12-3-43	13.1	0.400	U	1200	960	800	686	600	533
				D	0.060	0.093	0.134	0.182	0.238	0.302
1-1/4" x 1/8"	12-7-52	12.0	0.446	U	1339	857	595	437	335	265
				D	0.060	0.093	0.134	0.182	0.238	0.302
	12-3-52	12.6	0.446	U	1339	1071	893	765	670	595
				D	0.048	0.074	0.107	0.146	0.191	0.241
1-1/4" x 3/16"	12-7-53	14.7	0.625	U	1875	1200	833	612	469	370
				D	0.060	0.093	0.134	0.182	0.238	0.302
	12-3-53	15.2	0.625	U	1875	1500	1250	1071	938	833
				D	0.048	0.074	0.107	0.146	0.191	0.241
1-1/2" x 1/8"	12-7-62	15.0	0.643	U	1929	1234	857	630	482	381
				D	0.050	0.078	0.112	0.152	0.199	0.251
	12-3-62	15.7	0.643	U	1929	1543	1286	1102	964	857
				D	0.040	0.062	0.089	0.122	0.159	0.201
1-1/2" x 3/16"	12-7-63	18.1	0.900	U	2700	1728	1200	882	675	533
				D	0.050	0.078	0.112	0.152	0.199	0.251
	12-3-63	18.8	0.900	U	2700	2160	1800	1543	1350	1200
				D	0.040	0.062	0.089	0.122	0.159	0.201
1-3/4" x 3/16"	12-7-73	20.2	1.225	U	3675	2352	1633	1200	919	726
				D	0.043	0.067	0.096	0.130	0.170	0.215
	12-3-73	20.9	1.225	U	3675	2940	2450	2100	1838	1633
				D	0.034	0.053	0.077	0.104	0.136	0.172
2" x 3/16"	12-7-83	22.3	1.600	U	4800	3072	2133	1567	1200	948
				D	0.037	0.058	0.084	0.114	0.149	0.189
	12-3-83	23.0	1.600	U	4800	3840	3200	2743	2400	2133
				D	0.030	0.047	0.067	0.091	0.119	0.151
2-1/4" x 3/16"	12-7-93	24.4	2.025	U	6075	3888	2700	1984	1519	1200
				D	0.033	0.052	0.074	0.101	0.132	0.168
	12-3-93	25.1	2.025	U	6075	4860	4050	3471	3038	2700
				D	0.026	0.041	0.060	0.081	0.106	0.134
2-1/2" x 3/16"	12-7-103	26.5	2.500	U	7500	4800	3333	2449	1875	1481
				D	0.030	0.047	0.067	0.091	0.119	0.151
	12-3-103	27.1	2.500	U	7500	6000	5000	4286	3750	3333
				D	0.024	0.037	0.054	0.073	0.095	0.121

U = safe uniform load, psf

D = safe concentrated load, plw

C = 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 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 1/8	5 1/8	6 1/16	7	7 9/16	8 7/8	9 9/16	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 5/16
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 5/16	38 7/8							

