

RIVETED GRATING

Riveted grating is one of the steel grating products available with high load capacity, flexibility, alkali and acid resistance and anti-slip surface. It uses high-strength rivets to fuse the reticulated and bearing bars together and forms a solid joint. It can be constructed of carbon steel, stainless steel or aluminum. Additionally, it is available in both smooth and serrated surfaces. Riveted grating can be widely used as stair treads, walkways, floors, covers and bridge decking.

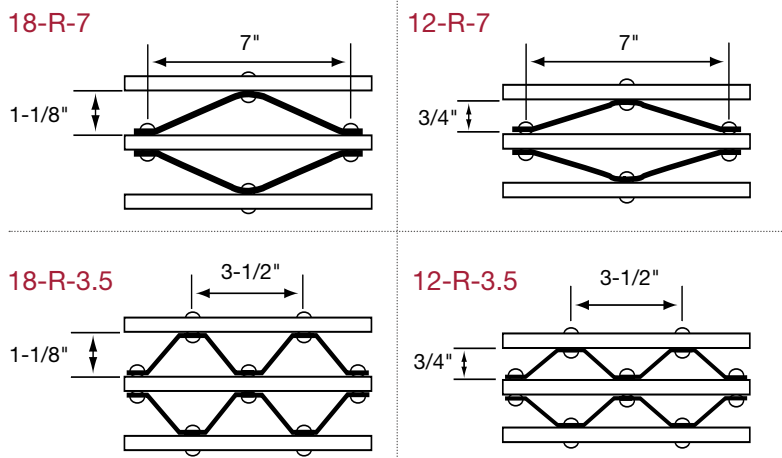
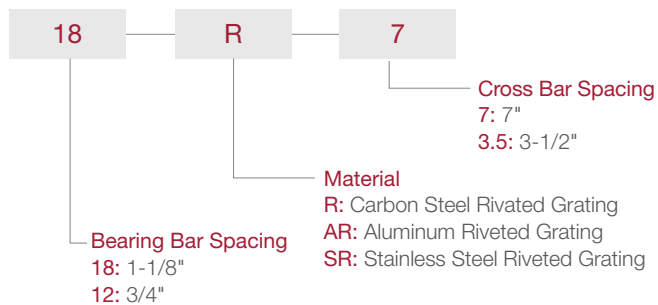


MATERIALS

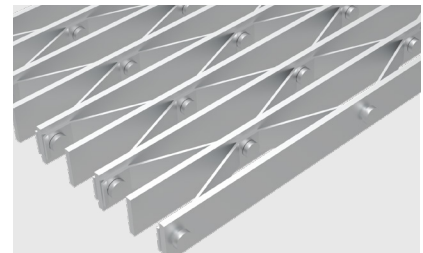
Riveted gratings are available in carbon steel, 6000 series aluminum, and 300 series stainless steels.

TABLE OF SPACING AVAILABLE

These products are manufactured with bearing bars spaced either 1-1/8" or 3/4" apart and the standard rivet spacing is 7 inches on center. Optional close rivet spacing of 3-1/2" on center is also available.

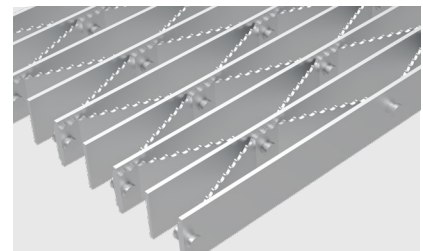


Surface type



Smooth surface

It is ideal in applications using rolling stock and wheeled equipment, especially with casters, since the reticulated bars provide a smoother surface. It is also ideally suited for walkways because of its added walking comfort.



Serrated surface

- Standard serrated. It is generally to serrate the crimped cross member to provide a superior slip-resistant surface.
- 100% serrated. It is to serrated both the bearing bars and cross members when higher walking security is required.

Use this table when evaluating spans and loads for the following types of steel grating:

18-R-7 and 18-R-3.5

18 Space (1-1/8") Steel Load Table

Bearing Bar Size (inches)	Approx. Weight psf *	Maximum Pedestrian Span**	Load Types	Unsupported Span											
				2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0	8'-0
3/4 x 3/16	7.8	4'-0"	U	613	392	272	200	153	121	98	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 18,000 psi. The values are not intended to be absolute since the actual load capacity will be affected by the slight variations in mill and manufacturing tolerances. Grating for spans to the left of the heavy line have a deflection $\leq 1/4"$ for uniform loads of 100 psf.				
			D	0.099	0.155	0.223	0.304	0.397	0.503	0.621					
			C	613	490	409	350	306	272	245					
			D	0.079	0.124	0.179	0.243	0.318	0.402	0.497					
1 x 1/8	7.6	4'-5"	U	726	465	323	237	182	144	116					
			D	0.074	0.116	0.168	0.228	0.298	0.377	0.466					
			C	726	581	484	415	363	323	291					
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372					
1 x 3/16	9.4	4'-11"	U	1,090	697	484	356	272	215	174	144	U - uniform load in pounds/sq. ft. C - concentrated load in pounds/ft. of grating width D - deflection in inches			
			D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563				
			C	1,090	872	726	623	545	484	436	396				
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451				
1-1/4 x 1/8	8.7	5'-3"	U	1,135	726	504	371	284	224	182	150	126			
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536			
			C	1,135	908	757	649	567	504	454	413	378			
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429			
1-1/4 x 3/16	11.0	5'-10"	U	1,702	1,090	757	556	426	336	272	225	189	161		
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629		
			C	1,702	1,362	1,135	973	851	757	681	619	567	524		
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504		
1-1/2 x 1/8	9.9	6'-0"	U	1,634	1,046	726	534	409	323	262	216	182	155	133	102
			D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794
			C	1,634	1,307	1,090	934	817	726	654	594	545	503	467	409
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636
1-1/2 x 3/16	12.5	6'-8"	U	2,451	1,569	1,090	800	613	484	392	324	272	232	200	153
			D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794
			C	2,451	1,961	1,634	1,401	1,226	1,090	981	891	817	754	700	613
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636
1-3/4 x 3/16	14.2	7'-6"	U	3,337	2,135	1,483	1,090	834	659	534	441	371	316	272	209
			D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681
			C	3,337	2,669	2,224	1,907	1,668	1,483	1,335	1,213	1,112	1,027	953	834
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545
2 x 3/16	16.8	8'-3"	U	4,358	2,789	1,937	1,423	1,090	861	697	576	484	413	356	272
			D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596
			C	4,358	3,486	2,905	2,490	2,179	1,937	1,743	1,585	1,453	1,341	1,245	1,090
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477
2-1/4 x 3/16	18.3	9'-0"	U	5,515	3,530	2,451	1,801	1,379	1,090	883	729	613	522	450	345
			D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530
			C	5,515	4,412	3,677	3,152	2,758	2,451	2,206	2,006	1,839	1,697	1,576	1,379
			D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424
2-1/2 x 3/16	19.9	9'-9"	U	6,809	4,358	3,026	2,223	1,702	1,345	1,090	900	757	645	556	426
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477
			C	6,809	5,447	4,540	3,891	3,405	3,026	2,724	2,476	2,270	2,095	1,946	1,702
			D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.381

* Weight per square foot based upon rivets spaced at 7" on center. Add .40 psf for 3-1/2" rivet centers.

** Maximum pedestrian load is defined as a 100# uniform load with deflection $\leq 1/4$ inch. The 1/4" maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.

Use this table when evaluating spans and loads for the following types of steel grating:

12-R-7 and 12-R-3.5

12 Space (3/4") Steel Load Table

Bearing Bar Size (inches)	Approx. Weight psf *	Maximum Pedestrian Span**	Load Types	Unsupported Span																
				2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0	8'-0					
3/4 x 3/16	10.7	4'-4"	U	858	549	381	280	215	170	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 18,000 psi. The values are not intended to be absolute since the actual load capacity will be affected by the slight variations in mill and manufacturing tolerances. Grating for spans to the left of the heavy line have a deflection $\leq 1/4"$ for uniform loads of 100 psf.										
			D	0.099	0.155	0.223	0.304	0.397	0.503											
			C	858	686	572	490	429	381											
			D	0.079	0.124	0.179	0.243	0.318	0.402											
1 x 3/16	12.8	5'-4"	U	1,525	976	678	498	381	301	244	202	U - uniform load in pounds/sq. ft. C - concentrated load in pounds/ft. of grating width D - deflection in inches								
			D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563									
			C	1,525	1,220	1,017	872	763	678	610	555									
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451									
1-1/4 x 3/16	15.0	6'-4"	U	2,383	1,525	1,059	778	596	471	381	315	265								
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536								
			C	2,383	1,907	1,589	1,362	1,192	1,059	953	867	794								
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429								
1-1/2 x 3/16	17.1	7'-3"	U	3,432	2,196	1,525	1,121	858	678	549	454	381	325	280	215					
			D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794					
			C	3,432	2,745	2,288	1,961	1,716	1,525	1,373	1,248	1,144	1,056	981	858					
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636					
1-3/4 x 3/16	19.4	8'-2"	U	4,671	2,989	2,076	1,525	1,168	923	747	618	519	442	381	292					
			D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681					
			C	4,671	3,737	3,114	2,669	2,336	2,076	1,868	1,699	1,557	1,437	1,335	1,168					
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545					
2 x 3/16	22.9	9'-0"	U	6,101	3,905	2,712	1,992	1,525	1,205	976	807	678	578	498	381					
			D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596					
			C	6,101	4,881	4,067	3,486	3,050	2,712	2,440	2,219	2,034	1,877	1,743	1,525					
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477					
2-1/4 x 3/16	25.0	9'-10"	U	7,721	4,942	3,432	2,521	1,930	1,525	1,235	1,021	858	731	630	483					
			D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530					
			C	7,721	6,177	5,148	4,412	3,861	3,432	3,089	2,808	2,574	2,376	2,206	1,930					
			D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424					
2-1/2 x 3/16	27.2	10'-8"	U	9,533	6,101	4,237	3,113	2,383	1,883	1,525	1,261	1,059	903	778	596					
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477					
			C	9,533	7,626	6,355	5,447	4,766	4,237	3,813	3,466	3,178	2,933	2,724	2,383					
			D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.381					

* Weight per square foot based upon rivets spaced at 7" on center. Add .40 psf for steel products with 3-1/2" rivet centers.

** Maximum pedestrian load is defined as a 100# uniform load with deflection $\leq 1/4$ inch. The 1/4" maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.