

18 SPACE(1-1/8") RIVETED STEEL GRATING LOAD TABLE

Use this table when evaluating spans and loads of the following types of steel grating: **18-R-7, 18-R-3.5**

Bearing Bar Size (inches)	Approx. Weight psf*	Maximum Pedestrian Span**	Unsupported Span												
			2I-0	2I-6	3I-0	3I-6	4I-0	4I-6	5I-0	5I-6	6I-0	6I-6	7I-0	8I-0	
3/4 x 3/16	7.8	4I-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 ≤ 1/4" for uniform loads of 100 psf. U = uniform load in pounds/sq.ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches				
			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	4I-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	4I-11"	U	1,090	697	484	356	272	215	174	144				
			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	5I-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	5I-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	6I-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	6I-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	7I-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	8I-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	9I-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	9I-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.