



GRATING PACIFIC

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

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

Bearing Bar Size (inches)	Approx. Weight psf *	Maximum Pedestrian Span**	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							
1 x 1/8	2.7	3'-5"	U	484	310	215	158	121	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 12,000 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 $\leq \frac{1}{4}$ " 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	0.144	0.225	0.324	0.441	0.576													
			C	484	387	323	277	242													
			D	0.115	0.180	0.259	0.353	0.461													
1 x 3/16	3.3	3'-9"	U	726	465	323	237	182	144	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches											
			D	0.144	0.225	0.324	0.441	0.576	0.729												
			C	726	581	484	415	363	323												
			D	0.115	0.180	0.259	0.353	0.461	0.583												
1-1/4 x 1/8	3.1	4'-0"	U	757	484	336	247	189	149	121	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches										
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720											
			C	757	605	504	432	378	336	303											
			D	0.092	0.144	0.207	0.282	0.369	0.467	0.576											
1-1/4 x 3/16	3.8	4'-5"	U	1,135	726	504	371	284	224	182	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches										
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720											
			C	1,135	908	757	649	567	504	454											
			D	0.092	0.144	0.207	0.282	0.369	0.467	0.576											
1-1/2 x 1/8	3.4	4'-7"	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	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726										
			C	1,090	872	726	623	545	484	436	396										
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581										
1-1/2 x 3/16	4.4	5'-1"	U	1,634	1,046	726	534	409	323	262	216	182	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches								
			D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864									
			C	1,634	1,307	1,090	934	817	726	654	594	545									
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691									
1-3/4 x 3/16	4.9	5'-9"	U	2,224	1,424	989	726	556	439	356	294	247	211	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches							
			D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869								
			C	2,224	1,780	1,483	1,271	1,112	989	890	809	741	684								
			D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695								
2 x 3/16	5.8	6'-4"	U	2,905	1,859	1,291	949	726	574	465	384	323	275	237	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches						
			D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882							
			C	2,905	2,324	1,937	1,660	1,453	1,291	1,162	1,057	968	894	830							
			D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706							
2-1/4 x 3/16	6.4	6'-11"	U	3,677	2,353	1,634	1,201	919	726	588	486	409	348	300	230	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches					
			D	0.064	0.100	0.144	0.196	0.256	0.324	0.400	0.484	0.576	0.676	0.784	1.024						
			C	3,677	2,942	2,451	2,101	1,839	1,634	1,471	1,337	1,226	1,131	1,051	919						
			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						
2-1/2 x 3/16	6.9	7'-6"	U	4,540	2,905	2,018	1,482	1,135	897	726	600	504	430	371	284	U = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches					
			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						
			C	4,540	3,632	3,026	2,594	2,270	2,018	1,816	1,651	1,513	1,397	1,297	1,135						
			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						

* Weight per square foot based upon rivets spaced at 7" on center. Add .20 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.