

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.							
			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	Grating for spans to the left of the heavy line have a deflection $\leq 1/4"$ for uniform loads of 100 psf.						
			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						
			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					
			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				
			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			
			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		
			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	
			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	
			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 .20psf 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.