

11 SPACE LOAD TABLE

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

11-SG-4, 11-SG-2, 11-SGI-4, 11-SGI-2, 11-SGF-4, 11-SGF-2, 11-ADT-4 and 11-ADT-2.

Bearing Bar Size	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"	
3/4" x 3/16"	4.8	3'-9"	U	614	393	273	200	153	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 12,000 psi.							
			D	.192	.300	.432	.588	.768								
3/4" I-Bar	3.8		C	614	491	409	351	307								
			D	.154	.240	.346	.470	.614								
1" x 1/8"	4.3	4'-2"	U	727	466	323	238	182	144	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	.144	.225	.324	.441	.576	.729							
			C	727	582	485	416	364	323							
			D	.115	.180	.259	.353	.461	.583							
1" x 3/16"	6.3	4'-8"	U	1091	698	485	356	273	216	175	Grating for spans to the left of the heavy line have a deflection ≤ 1/4" for uniform loads of 100 psi.					
			D	.144	.225	.324	.441	.576	.729	.900						
1" I-Bar	4.8		C	1091	873	727	623	546	485	436						
			D	.115	.180	.259	.353	.461	.583	.720						
1-1/4" x 1/8"	5.3	4'-11"	U	1136	727	505	371	284	225	182	U = Safe Uniform Load in pounds/sq. foot C = Concentrated Load in pounds/foot of grating width D = Deflection in inches					
			D	.115	.180	.259	.353	.461	.583	.720						
			C	1136	909	758	649	568	505	455						
			D	.092	.144	.207	.282	.369	.467	.576						
1-1/4" x 3/16"	7.9	5'-6"	U	1705	1091	758	557	426	337	273	225	189				
			D	.115	.180	.259	.353	.461	.583	.720	.871	1.037				
1-1/4" I-Bar	5.8		C	1705	1364	1136	974	852	758	682	620	568				
			D	.092	.144	.207	.282	.369	.467	.576	.697	.829				
1-1/2" x 1/8"	6.3	5'-8"	U	1636	1047	727	534	409	323	262	216	182	155	134	102	
			D	.096	.150	.216	.294	.384	.486	.600	.726	.864	1.014	1.176	1.536	
			C	1636	1309	1091	935	818	727	655	595	546	504	468	409	
			D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229	
1-1/2" x 3/16"	9.4	6'-4"	U	2455	1571	1091	802	614	485	393	325	273	232	200	153	
			D	.096	.150	.216	.294	.384	.486	.600	.726	.864	1.014	1.176	1.536	
1-1/2" I-Bar	6.8		C	2455	1964	1636	1403	1227	1091	982	893	818	755	701	614	
			D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229	
1-3/4" x 1/8"	7.4	6'-5"	U	2227	1426	990	727	557	440	356	295	248	211	182	139	
			D	.082	.129	.185	.252	.329	.417	.514	.622	.741	.869	1.008	1.317	
			C	2227	1782	1485	1273	1114	990	891	810	742	685	636	557	
			D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695	.806	1.053	
1-3/4" x 3/16"	10.9	7'-1"	U	3341	2138	1485	1091	835	660	535	442	371	316	273	209	
			D	.082	.129	.185	.252	.329	.417	.514	.622	.741	.869	1.008	1.317	
1-3/4" I-Bar	7.7		C	3341	2673	2227	1909	1671	1485	1336	1215	1114	1028	955	835	
			D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695	.806	1.053	
2" x 1/8"	8.4	7'-1"	U	2909	1862	1293	950	727	575	466	385	323	275	238	182	
			D	.072	.113	.162	.221	.288	.365	.450	.545	.648	.761	.882	1.152	
			C	2909	2327	1939	1662	1455	1293	1164	1058	970	895	831	727	
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922	
2" x 3/16"	12.5	7'-10"	U	4364	2793	1939	1425	1091	862	698	577	485	413	356	273	
			D	.072	.113	.162	.221	.288	.365	.450	.545	.648	.761	.882	1.152	
2" I-Bar	8.7		C	4364	3491	2909	2494	2182	1939	1746	1587	1455	1343	1247	1091	
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922	
2-1/4" x 3/16"	14.0	8'-7"	U	5523	3535	2455	1803	1381	1091	884	730	614	523	451	345	
			D	.064	.100	.144	.196	.256	.324	.400	.484	.576	.676	.784	1.024	
2-1/4" I-Bar	9.6		C	5523	4418	3682	3156	2761	2455	2209	2008	1841	1699	1578	1381	
			D	.051	.080	.115	.157	.205	.259	.320	.387	.461	.541	.627	.819	
2-1/2" x 3/16"	15.5	9'-3"	U	6818	4364	3030	2226	1705	1347	1091	902	758	646	557	426	
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922	
2-1/2" I-Bar	10.7		C	6818	5455	4546	3896	3409	3030	2727	2479	2273	2098	1948	1705	
			D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.487	.564	.737	

* Weight per square foot based upon 11-SG-4 grating. Add 0.30 psf for 2" on center cross bars.

** Maximum pedestrian load is defined as a 100# Uniform Load with deflection ≤ 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.

Note: When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

11 SPACE

PANEL WIDTHS

Grating panels are available from stock in nominal 24" and 36" widths. When considering alternative widths, consult this table to select widths that will maintain uniform "out-to-out" spacing of the bearing bars. Specified widths deviating from this table will be fabricated to size with side banding and the bar spacing on one side of the finished panel will deviate from the spacing throughout the remainder of the panel.

Number of Bearing Bars	2	3	4	5	6	7	8	9	10	11
Panel Width	7/8"	1-9/16"	2-1/4"	2-15/16"	3-5/8"	4-5/16"	5"	5-11/16"	6-3/8"	7-1/16"
Number of Bearing Bars	12	13	14	15	16	17	18	19	20	21
Panel Width	7-3/4"	8-7/16"	9-1/8"	9-13/16"	10-1/2"	11-3/16"	11-7/8"	12-9/16"	13-1/4"	13-15/16"
Number of Bearing Bars	22	23	24	25	26	27	28	29	30	31
Panel Width	14-5/8"	15-5/16"	16"	16-11/16"	17-3/8"	18-1/16"	18-3/4"	19-7/16"	20-1/8"	20-13/16"
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41
Panel Width	21-1/2"	22-3/16"	22-7/8"	23-9/16"	24-1/4"	24-15/16"	25-5/8"	26-5/16"	27"	27-11/16"
Number of Bearing Bars	42	43	44	45	46	47	48	49	50	51
Panel Width	28-3/8"	29-1/16"	29-3/4"	31-1/8"	31-1/8"	32-1/2"	32-1/2"	33-7/8"	33-7/8"	34-9/16"
Number of Bearing Bars	52	53								
Panel Width	35-1/4"	35-15/16"								

Panel widths indicated are for gratings with 3/16" thick bearing bars. For 1/8" thick bearing bars deduct 1/16" from the stated values. Add 1/4" to all dimensions for extended cross bars on all aluminum products.