

7 SPACE LOAD TABLE

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

7-SG-4, 7-SG-2, 7-SGI-4, 7-SGI-2, 7-SGF-4, 7-SGF-2, 7-ADT-4 and 7-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" × 3/16"	4.8	3'-9"	U	964	617	429	315	241	191	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 12,000 psi.					
3/4" I-Bar	3.8		D	.192	.300	.432	.588	.768	.972						
			C	964	771	643	551	482	429						
			D	.154	.240	.346	.470	.614	.778						
1" × 1/8"	4.3	4'-2"	U	1143	731	508	373	286	226	183	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	.900					
			C	1143	914	762	653	571	508	457					
			D	.115	.180	.259	.353	.461	.583	.720					
1" × 3/16"	6.3	4'-8"	U	1714	1097	762	560	429	339	274	227	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	1.089						
1" I-Bar	4.8		C	1714	1371	1143	980	857	762	686	623				
			D	.115	.180	.259	.353	.461	.583	.720	.871				
1-1/4" × 1/8"	5.3	4'-11"	U	1786	1143	794	583	446	353	286	236	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	.871				
			C	1786	1429	1191	1020	893	794	714	649				
			D	.092	.144	.207	.282	.369	.467	.576	.697				
1-1/4" × 3/16"	7.9	5'-6"	U	2679	1714	1191	875	670	529	429	354	298	254		
D	.115		.180	.259	.353	.461	.583	.720	.871	1.037	1.217				
1-1/4" I-Bar	5.8		C	2679	2143	1786	1531	1339	1191	1071	974	893	824		
			D	.092	.144	.207	.282	.369	.467	.576	.697	.829	.973		
1-1/2" × 1/8"	6.3	5'-8"	U	2571	1646	1143	840	643	508	411	340	286	243	210	161
			D	.096	.150	.216	.294	.384	.486	.600	.726	.864	1.014	1.176	1.536
			C	2571	2057	1714	1469	1286	1143	1029	935	857	791	735	643
			D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229
1-1/2 × 3/16	9.4	6'-4"	U	3857	2469	1714	1260	964	762	617	510	429	365	315	241
D	.096		.150	.216	.294	.384	.486	.600	.726	.864	1.014	1.176	1.536		
1-1/2" I-Bar	6.8		C	3857	3086	2571	2204	1929	1714	1543	1403	1286	1187	1102	964
			D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229
1-3/4" × 1/8"	7.4	6'-5"	U	3500	2240	1556	1143	875	691	560	463	389	331	286	219
			D	.082	.129	.185	.252	.329	.417	.514	.622	.741	.869	1.008	1.317
			C	3500	2800	2333	2000	1750	1556	1400	1273	1167	1077	1000	875
			D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695	.806	1.053
1-3/4" × 3/16"	10.9	7'-1"	U	5250	3360	2333	1714	1313	1037	840	694	583	497	429	328
D	.082		.129	.185	.252	.329	.417	.514	.622	.741	.869	1.008	1.317		
1-3/4" I-Bar	7.7		C	5250	4200	3500	3000	2625	2333	2100	1909	1750	1615	1500	1313
			D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695	.806	1.053
2" × 1/8"	8.4	7'-1"	U	4571	2926	2032	1493	1143	903	731	605	508	433	373	286
			D	.072	.113	.162	.221	.288	.365	.450	.545	.648	.761	.882	1.152
			C	4571	3657	3048	2612	2286	2032	1829	1662	1524	1407	1306	1143
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922
2" × 3/16"	12.5	7'-10"	U	6857	4389	3048	2239	1714	1355	1097	907	762	649	560	429
D	.072		.113	.162	.221	.288	.365	.450	.545	.648	.761	.882	1.152		
2" I-Bar	8.7		C	6857	5486	4571	3918	3429	3048	2743	2494	2286	2110	1959	1714
			D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922
2-1/4" × 3/16"	14.0	8'-7"	U	8679	5554	3857	2834	2170	1714	1389	1148	964	822	709	542
D	.064		.100	.144	.196	.256	.324	.400	.484	.576	.676	.784	1.024		
2-1/4" I-Bar	9.6		C	8679	6943	5786	4959	4339	3857	3471	3156	2893	2670	2480	2170
			D	.051	.080	.115	.157	.205	.259	.320	.387	.461	.541	.627	.819
2-1/2" × 3/16"	15.5	9'-3"	U	10714	6857	4762	3499	2679	2116	1714	1417	1191	1014	875	670
D	.058		.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922		
2-1/2" I-Bar	10.7		C	10714	8571	7143	6122	5357	4762	4286	3896	3571	3297	3061	2679
			D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.487	.564	.737

* Weight per square foot based upon 7-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 $\leq$ 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.

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.

7 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	5/8"	1-1/16"	1-1/2"	1-15/16"	2-3/8"	2-13/16"	3-1/4"	3-1/4"	4-1/8"	4-9/16"
Number of Bearing Bars	12	13	14	15	16	17	18	19	20	21
Panel Width	5"	5-7/16"	5-7/8"	6-5/16"	6-3/4"	7-3/16"	7-5/8"	8-1/16"	8-1/2"	8-15/16"
Number of Bearing Bars	22	23	24	25	26	27	28	29	30	31
Panel Width	9-3/8"	9-13/16"	10-1/4"	10-11/16"	11-1/8"	11-9/16"	12"	12-7/16"	12-7/8"	13-5/16"
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41
Panel Width	13-3/4"	14-3/16"	14-5/8"	15-1/16"	15-1/2"	15-15/16"	16-3/8"	16-13/16"	17-1/4"	17-11/16"
Number of Bearing Bars	42	43	44	45	46	47	48	49	50	51
Panel Width	18-1/8"	18-9/16"	19"	19-7/16"	19-7/8"	20-5/16"	20-3/4"	21-3/16"	21-5/8"	22-1/16"
Number of Bearing Bars	52	53	54	55	56	57	58	59	60	61
Panel Width	22-1/2"	22-15/16"	23-3/8"	23-13/16"	24-1/4"	24-11/16"	25-1/8"	25-9/16"	26"	26-7/16"
Number of Bearing Bars	62	63	64	65	66	67	68	69	70	71
Panel Width	26-7/8"	27-5/16"	27-3/4"	28-3/16"	28-5/8"	29-1/16"	29-1/2"	29-15/16"	30-3/8"	30-13/16"
Number of Bearing Bars	72	73	74	75	76	77	78	79	80	81
Panel Width	31-1/4"	31-11/16"	32-1/8"	32-9/16"	33"	33-7/16"	33-7/8"	34-5/16"	34-3/4"	35-3/16"
Number of Bearing Bars	82	83								
Panel Width	35-5/8"	36-1/16"								

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.