

Aluminum Bar Grating

IGtru™ Load Table

Use this table when evaluating spans and loads for the following types of aluminum grating:
11-ADT-4 and 11-ADT-2 IGtru™ is manufactured to NAAMM standards and is fully ADA compliant with a minimum 3/16" bearing bar thickness

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	9'-0	
3/4 x 3/16	3.2	3'-4"	U	614	393	273	200	153									
			D	0.192	0.300	0.432	0.588	0.768									
			C	614	491	409	351	307									
			D	0.154	0.240	0.346	0.470	0.614									
1 x 1/8	2.8	3'-9"	U	727	465	323	237	182	144								
			D	0.144	0.225	0.324	0.441	0.576	0.729								
			C	727	582	485	416	364	323								
			D	0.115	0.180	0.259	0.353	0.461	0.583								
1 x 3/16	4.1	4'-2"	U	1,091	698	485	356	273	215	175							
			D	0.144	0.225	0.324	0.441	0.576	0.729	0.900							
			C	1,091	873	727	623	545	485	436							
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720							
1-1/4 x 1/8	3.5	4'-5"	U	1,136	727	505	371	284	224	182							
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720							
			C	1,136	909	758	649	568	505	455							
			D	0.092	0.144	0.207	0.282	0.369	0.467	0.576							
1-1/4 x 3/16	5.1	4'-11"	U	1,705	1,091	758	557	426	337	273	225	189					
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871	1.037					
			C	1,705	1,364	1,136	974	852	758	682	620	568					
			D	0.092	0.144	0.207	0.282	0.369	0.467	0.576	0.697	0.829					
1-1/2 x 1/8	4.1	5'-1"	U	1,636	1,047	727	534	409	323	262	216	182	155	134	102	81	
			D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.536	1.944	
			C	1,636	1,309	1,091	935	818	727	655	595	545	503	468	409	364	
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.229	1.555	
1-1/2 x 3/16	6.1	5'-8"	U	2,455	1,571	1,091	801	614	485	393	325	273	232	200	153	121	
			D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.536	1.944	
			C	2,455	1,964	1,636	1,403	1,227	1,091	982	893	818	755	701	614	545	
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.229	1.555	
1-3/4 x 1/8	4.8	5'-9"	U	2,227	1,425	990	727	557	440	356	295	247	211	182	139	110	
			D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008	1.317	1.666	
			C	2,227	1,782	1,485	1,273	1,114	990	891	810	742	685	636	557	495	
			D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	1.053	1.333	
1-3/4 x 3/16	7.1	6'-4"	U	3,341	2,138	1,485	1,091	835	660	535	442	371	316	273	209	165	
			D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008	1.317	1.666	
			C	3,341	2,673	2,227	1,909	1,670	1,485	1,336	1,215	1,114	1,028	955	835	742	
			D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	1.053	1.333	
2 x 1/8	5.4	6'-4"	U	2,909	1,862	1,293	950	727	575	465	385	323	275	237	182	144	
			D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.152	1.458	
			C	2,909	2,327	1,939	1,662	1,455	1,293	1,164	1,058	970	895	831	727	646	
			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	1.166	
2 x 3/16	8.0	7'-0"	U	4,364	2,793	1,939	1,425	1,091	862	698	577	485	413	356	273	215	
			D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.152	1.458	
			C	4,364	3,491	2,909	2,494	2,182	1,939	1,745	1,587	1,455	1,343	1,247	1,091	970	
			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	1.166	
2-1/4 x 3/16	9.0	7'-8"	U	5,523	3,535	2,455	1,803	1,381	1,091	884	730	614	523	451	345	273	
			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	1.296	
			C	5,523	4,418	3,682	3,156	2,761	2,455	2,209	2,008	1,841	1,699	1,578	1,381	1,227	
			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	1.037	
2-1/2 x 3/16	10.0	8'-4"	U	6,818	4,364	3,030	2,226	1,705	1,347	1,091	902	758	646	557	426	337	
			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	1.166	
			C	6,818	5,455	4,545	3,896	3,409	3,030	2,727	2,479	2,273	2,098	1,948	1,705	1,515	
			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	0.933	

* Weight per square foot based upon IGtru™ 11-W-4 grating. Add .60 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.

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	12	13	14	15	16
Panel Width	7/8"	1-1/2"	2-3/16"	2-13/16"	3-1/2"	4-1/8"	4-13/16"	5-7/16"	6-1/8"	6-3/4"	7-7/16"	8-1/16"	8-3/4"	9-3/8"	10-1/16"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	10-11/16"	11-3/8"	12"	12-11/16"	13-5/16"	14"	14-5/8"	15-5/16"	15-15/16"	16-5/8"	17-1/4"	17-15/16"	18-9/16"	19-1/4"	19-7/8"
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Panel Width	20-9/16"	21-3/16"	21-7/8"	22-1/2"	23-3/16"	23-13/16"	24-1/2"	25-1/8"	25-13/16"	26-7/16"	27-1/8"	27-3/4"	28-7/16"	29-1/16"	29-3/4"
Number of Bearing Bars	47	48	49	50	51	52	53	54	55	56					
Panel Width	30-3/8"	31-1/16"	31-11/16"	32-3/8"	33"	33-11/16"	34-5/16"	35"	35-5/8"	36-5/16"					

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.

□ Indicates stock panel widths.

Aluminum Bar Grating

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 Space Load Table

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	3.2	3'-4"	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. 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 = Safe Uniform Load in pounds/sq. foot C = Concentrated Load in pounds/ft. of grating width D = Deflection in inches							
			D	0.192	0.300	0.432	0.588	0.768								
3/4" I-Bar	2.7	3'-4"	C	614	491	409	351	307								
			D	0.154	0.240	0.346	0.470	0.614								
1 x 1/8	2.8	3'-9"	U	727	466	323	238	182							144	
			D	0.144	0.225	0.324	0.441	0.576							0.729	
			C	727	582	485	416	364							323	
1 x 3/16	4.1	4'-2"	D	0.115	0.180	0.259	0.353	0.461							0.583	0.720
			U	1,091	698	485	356	273							216	175
			D	0.144	0.225	0.324	0.441	0.576							0.729	0.900
1" I-Bar	3.2	4'-2"	C	1,091	873	727	623	546							485	436
			D	0.115	0.180	0.259	0.353	0.461							0.583	0.720
			U	1,136	727	505	371	284	225	182						
1-1/4 x 1/8	3.5	4'-5"	D	0.115	0.180	0.259	0.353	0.461	0.583	0.720						
			C	1,136	909	758	649	568	505	455						
			D	0.092	0.144	0.207	0.282	0.369	0.467	0.576						
1-1/4 x 3/16	5.1	4'-11"	U	1,705	1,091	758	557	426	337	273	225	189				
			D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871	1.037				
			C	1,705	1,364	1,136	974	852	758	682	620	568				
1-1/4" I-Bar	3.8	4'-11"	D	0.092	0.144	0.207	0.282	0.369	0.467	0.576	0.697	0.829				
			U	1,636	1,047	727	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	1.014			
1-1/2 x 1/8	4.1	5'-1"	C	1,636	1,309	1,091	935	818	727	655	595	546	504	468	409	
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.081	1.229
			U	2,455	1,571	1,091	802	614	485	393	325	273	232	200	153	
1-1/2 x 3/16	6.1	5'-8"	D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014	1.176	1.336	
			C	2,455	1,964	1,636	1,403	1,227	1,091	982	893	818	755	701	614	
			D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	0.941	1.081	
1-1/2" I-Bar	4.4	5'-8"	U	2,227	1,426	990	727	557	440	356	295	248	211	182	139	
			D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008	1.137	
			C	2,227	1,782	1,485	1,273	1,114	990	891	810	742	685	636	557	
1-3/4 x 1/8	4.8	5'-9"	D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	0.929	
			U	3,341	2,138	1,485	1,091	835	660	535	442	371	316	273	209	
			D	0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008	1.137	
1-3/4" I-Bar	5.1	6'-4"	C	3,341	2,673	2,227	1,909	1,671	1,485	1,336	1,215	1,114	1,028	955	835	
			D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	0.929	
			U	2,909	1,862	1,293	950	727	575	466	385	323	275	238	182	
2 x 1/8	5.4	6'-4"	D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.012	
			C	2,909	2,327	1,939	1,662	1,455	1,293	1,164	1,058	970	895	831	727	
			D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.822	
2 x 3/16	8.0	7'-0"	U	4,364	2,793	1,939	1,425	1,091	862	698	577	485	413	356	273	
			D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.012	
			C	4,364	3,491	2,909	2,494	2,182	1,939	1,746	1,587	1,455	1,343	1,247	1,091	
2" I-Bar	5.7	7'-0"	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.822	
			U	5,523	3,535	2,455	1,803	1,381	1,091	884	730	614	523	451	345	
			D	0.064	0.100	0.144	0.196	0.256	0.324	0.400	0.484	0.576	0.676	0.784	0.904	
2-1/4" I-Bar	6.3	7'-8"	C	5,523	4,418	3,682	3,156	2,761	2,455	2,209	2,008	1,841	1,699	1,578	1,381	
			D	0.051	0.080	0.115	0.157	0.205	0.259	0.320	0.387	0.461	0.541	0.627	0.719	
			U	6,818	4,364	3,030	2,226	1,705	1,347	1,091	902	758	646	557	426	
2-1/2 x 3/16	10.0	8'-4"	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.822	
			C	6,818	5,455	4,546	3,896	3,409	3,030	2,727	2,479	2,273	2,098	1,948	1,705	
			D	0.046	0.072	0.104	0.141	0.184	0.233	0.288	0.348	0.415	0.487	0.564	0.647	

* Weight per square foot based upon 11-SG-4 grating. Add .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.

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	12	13	14	15	16
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"	7-3/4"	8-7/16"	9-1/8"	9-13/16"	10-1/2"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	11-3/16"	11-7/8"	12-9/16"	13-1/4"	13-15/16"	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	42	43	44	45	46
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"	28-3/8"	29-1/16"	29-3/4"	30-7/16"	31-1/8"
Number of Bearing Bars	47	48	49	50	51	52	53								
Panel Width	31-13/16"	32-1/2"	33-3/16"	33-7/8"	34-9/16"	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. For 1/4" I-bar add 1/16" to stated values. Add 1/4" to all dimensions for extended cross bars on all aluminum products. Indicates stock panel widths.