ALUMINUM GRATING — LOAD TABLE

SERIES: GAL, GAL-2, GIA, GIA-2, SFT, SFT-2, GAA & GBB

Caution: When designing with serrated grating these loads should be reduced by the factors called out for serrated.

Theoretical values based on
f = 12,000 psi,
E = 10,000,000 psi, gross section of bearing bar.
U = safe uniform load, lb./sq. ft.
D = deflection in inches
C = safe concentrated load, lb./ft. of grating width at mid span

NOTE: Spans listed in shaded area produce a deflection of 1/4" or less under a uniform load of 100 pounds per square foot. This deflection is recommended as the maximum to provide pedestrian comfort.

Bearing Bar Size		Span 1-3/16" BEARING BAR CENTERS											
		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"	U	421	269	187	137	105	83	105	87	73			
	D	.144	.225	.324	.441	.576	.729	.720	.871	1.037			
	C	421	337	281	241	211	187	263	239	219			
	D	.115	.180	.259	.353	.461	.583	.576	.697	.829			
1" x 3/16" or 1" I-bar	U	632	404	281	206	158	125	158	130	110	93	81	
	D	.144	.225	.324	.441	.576	.729	.720	.871	1.037	1.217	1.411	
	C	632	505	421	361	316	281	395	359	329	304	282	
	D	.115	.180	.259	.353	.461	.583	.576	.697	.829	.973	1.129	
1-1/4" x 1/8"	U	658	421	292	215	164	130	152	125	105	90	77	59
	D	.115	.180	.259	.353	.461	.583	.600	.726	.864	1.014	1.176	1.536
	C	658	526	439	376	329	292	379	344	316	291	271	237
	D	.092	.144	.207	.282	.369	.467	.480	.581	.691	.811	.941	1.229
1-1/4" x 3/16" or 1-1/4" I-bar	U	987	632	439	322	247	195	227	188	158	135	116	89
	D	.115	.180	.259	.353	.461	.583	.600	.726	.864	1.014	1.176	1.536
	C	987	789	658	564	493	439	568	517	474	437	406	355
	D	.092	.144	.207	.282	.369	.467	.480	.581	.691	.811	.941	1.229
1-1/2" x 1/8"	U	947	606	421	309	237	187	215	183	158	135	116	89
	D	.096	.150	.216	.294	.384	.486	.600	.726	.864	1.014	1.176	1.536
	C	947	758	632	541	474	421	379	344	316	291	271	237
	D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229
1-1/2" x 3/16" or 1-1/2" I-bar	U	1421	909	632	464	355	281	309	256	215	183	158	121
	D	.096	.150	.216	.294	.384	.486	.514	.622	.741	.869	1.008	1.317
	C	1421	1137	947	812	711	632	568	517	474	437	406	355
	D	.077	.120	.173	.235	.307	.389	.480	.581	.691	.811	.941	1.229
1-3/4" x 3/16" or 1-3/4" I-bar	U	1934	1238	860	632	484	382	309	256	215	183	158	121
	D	.082	.129	.185	.252	.329	.417	.514	.622	.741	.869	1.008	1.317
	C	1934	1547	1289	1105	967	860	774	703	645	595	553	484
	D	.066	.103	.148	.202	.263	.333	.411	.498	.592	.695	.806	1.053
2" x 3/16" or 2" I-bar	U	2526	1617	1123	825	632	499	404	334	281	239	206	158
	D	.072	.113	.162	.221	.288	.365	.450	.545	.648	.761	.882	1.152
	C	2526	2021	1684	1444	1263	1123	1011	919	842	777	722	632
	D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922
2-1/4" x 3/16" or 2-1/4" I-bar	U	3197	2046	1421	1044	799	632	512	423	355	303	261	200
	D	.064	.100	.144	.196	.256	.324	.400	.484	.576	.676	.784	1.024
	C	3197	2558	2132	1827	1599	1421	1279	1163	1066	984	914	799
	D	.051	.080	.115	.157	.205	.259	.320	.387	.461	.541	.627	.819
2-1/2" x 3/16" or 2-1/2" I-bar	U	3947	2526	1754	1289	987	780	632	522	439	374	322	247
	D	.058	.090	.130	.176	.230	.292	.360	.436	.518	.608	.706	.922
	C	3947	3158	2632	2256	1974	1754	1579	1435	1316	1215	1128	987
	D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.487	.564	.737

Note: The carrying capacity of a piece of grating subjected to a concentrated load over only a portion of its width is determined by the stiffness of both the bearing bars & the cross bars, and therefore varies with the type of grating used. To determine carrying capacity of gratings subject to such loadings, please call us for information.

CONVERSION TABLE—Aluminum

TO DETERMINE LOAD FOR SERIES OTHER THAN SHOWN ABOVE—MULTIPLY TABLE VALUE BY LOAD FACTOR. NOTE: DEFLECTION UNDER FACTORED LOADS REMAINS AS SHOWN IN TABLE.

SERIES	SGAL, SGAL-2 SGIA, SGIA-2 GDD, GCC 15-SFT-2 15-SFT-4	GCM-1 7-SG-4 7-SG-2	GCM-2 8-SG-4	GCM-3	GCM-4, 11SG2, 11SG4	GCM-5	GM GO	GR GQ	GWH
LOAD FACTOR	1.27	2.7	2.35	1.9	1.72	1.45	1.15	1.61	.82