

Aluminum Grating Load Table

BEARING BAR SIZE		UNSUPPORTED SPAN												WEIGHT PER SQ. FT. (LBS.)													
		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	19-4	19-2	15-4	15-2	11-4	11-2	7-4	7-2					
1 x 1/8	U	.421	.269	.187	.137	.105	.083	LOADS AND DEFLECTIONS ARE THEORETICAL VALUES BASED ON 12,000 PSI UNIT STRESS. FOR PEDESTRIAN COMFORT DEFLECTIONS IN EXCESS OF 1/4" ARE NOT RECOMMENDED. U = SAFE UNIFORM LOAD, LBS. PER SQ. FT. C = SAFE CONCENTRATED MID-SPAN LOAD, LBS. PER FT. OF GRATING WIDTH D = DEFLECTION IN INCHES												1.8	2.2	2.2	2.6	2.9	3.3	4.4	4.7
	D	.144	.225	.324	.441	.576	.729																				
	C	.421	.337	.281	.241	.211	.187																				
1 x 3/16 OR 1" I-BAR	U	.632	.404	.281	.206	.158	.125													2.6	2.9	3.2	3.5	4.2	4.5	6.4	6.7
	D	.144	.225	.324	.441	.576	.729																				
	C	.632	.505	.421	.361	.316	.281																				
1-1/4 x 1/8	U	.658	.421	.292	.215	.164	.130													2.2	2.5	2.7	3.0	3.6	3.9	5.4	5.7
	D	.115	.180	.259	.353	.461	.583																				
	C	.658	.526	.439	.376	.329	.292																				
1-1/4 x 3/16 OR 1-1/4" I-BAR	U	.987	.632	.439	.322	.247	.195													3.1	3.5	3.9	4.2	5.2	5.5	7.9	8.3
	D	.115	.180	.259	.353	.461	.583																				
	C	.987	.789	.658	.564	.493	.439																				
1-1/2 x 1/8	U	.947	.606	.421	.309	.237	.187	2.6	2.9	3.2	3.5	4.2	4.5	6.4	6.7												
	D	.096	.150	.216	.294	.384	.486																				
	C	.947	.758	.632	.541	.474	.421																				
1-1/2 x 3/16 OR 1-1/2" I-BAR	U	1.421	.909	.632	.464	.355	.281	3.7	4.0	4.6	4.9	6.1	6.5	9.4	9.8												
	D	.096	.150	.216	.294	.384	.486																				
	C	1.421	1.137	.947	.812	.711	.632																				
1-3/4 x 3/16 OR 1-3/4" I-BAR	U	1.934	1.238	.860	.632	.484	.382	4.2	4.6	5.3	5.6	7.1	7.4	10.9	11.3												
	D	.082	.129	.185	.252	.329	.417																				
	C	1.934	1.547	1.289	1.105	.967	.860																				
2 x 3/16 OR 2" I-BAR	U	2.526	1.617	1.123	.825	.632	.499	4.8	5.1	6.0	6.3	8.0	8.4	12.4	12.8												
	D	.072	.113	.162	.221	.288	.365																				
	C	2.526	2.021	1.684	1.444	1.263	1.123																				
2-1/4 x 3/16 OR 2-1/4" I-BAR	U	3.197	2.046	1.421	1.044	.799	.632	5.4	5.7	6.7	7.0	9.0	9.3	14.0	14.3												
	D	.064	.100	.144	.196	.256	.324																				
	C	3.197	2.558	2.132	1.827	1.599	1.421																				
2-1/2 x 3/16 OR 2-1/2" I-BAR	U	3.947	2.526	1.754	1.289	.987	.780	5.9	6.3	7.4	7.7	10.0	10.3	15.5	15.8												
	D	.058	.090	.130	.176	.230	.292																				
	C	3.947	3.158	2.632	2.256	1.974	1.754																				

NOTE: WHEN GRATINGS WITH SERRATED BEARING BARS ARE SELECTED, THE DEPTH OF GRATING REQUIRED TO SERVICE A SPECIFIED LOAD WILL BE 1/4" GREATER THAN THAT SHOWN IN THE TABLES ABOVE.

CONVERSION TABLE

The loads shown above are for type 19-4 and 19-2 gratings. To determine the load carrying capacity for alternative bar spacings, multiply the loads given by the following conversion factors (DEFLECTION REMAINS CONSTANT): **FOR TYPES 15-4 AND 15-2: 1.26 FOR TYPES 11-4 AND 11-2: 1.72 FOR TYPES 7-4 AND 7-2: 2.71**

SELECTION GUIDE: 19-4 PLAIN SURFACE GRATING

For deflection of not more than 1/4" when subjected to the severest of the following: (1) the uniform loads below; (2) under concentrated mid-span loads of 300 lbs. up to 6'-0" span; or (3) 400 lbs. for spans 6'-0" and over.

SAFE UNIFORM LOAD LBS./SQ. FT.	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
50	1 x 1/8	1 x 1/8	1 x 3/16	1 x 3/16	1 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16
75	1 x 1/8	1 x 1/8	1 x 3/16	1 x 3/16	1-1/4 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16
100	1 x 1/8	1 x 1/8	1 x 3/16	1 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16
125	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16	-
150	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16	-
200	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16	-	-
300	1 x 1/8	1 x 3/16	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16	-	-	-