

## Steel Bar 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"	8'-0"	9'-0"	19-4	19-2	15-4	15-2	11-4	11-2	7-4	7-2									
3/4 x 1/8	U	355	227	158	116	89	70	<b>LOADS AND DEFLECTIONS ARE THEORETICAL VALUES BASED ON 18,000 PSI UNIT STRESS. FOR PEDESTRIAN COMFORT DEFLECTIONS IN EXCESS OF 1/4" ARE NOT RECOMMENDED.</b>													4.0	4.8	4.9	5.7	6.4	7.2	9.7	10.7			
	D	.099	.155	.223	.304	.397	.503																								
	C	355	284	237	203	178	158																								
3/4 x 3/16	U	533	341	237	174	133	105														5.6	6.4	6.9	7.7	9.2	10.0	14.5	16.0			
	D	.099	.155	.223	.304	.397	.503																								
	C	533	426	355	305	266	237																								
1 x 1/8	U	632	404	281	206	156	125														101	84	70	5.1	5.9	6.2	7.1	8.2	9.0	12.9	14.2
	D	.074	.116	.168	.228	.298	.377														.466	.563	.670								
	C	632	505	421	361	316	281														253	230	211								
1 x 3/16	U	947	606	421	309	237	187														152	125	105	7.4	8.4	9.2	10.2	12.1	13.1	19.4	21.3
	D	.074	.116	.168	.228	.298	.377														.466	.563	.670								
	C	947	758	632	541	474	421														379	344	316								
1-1/4 x 1/8	U	987	632	439	322	247	195	158	130	110	93	81	6.4	7.4	7.8	8.8	10.3	11.3	15.8	17.1											
	D	.060	.093	.134	.182	.238	.302	.372	.451	.536																					
	C	987	789	658	564	493	439	395	359	329	304	282																			
1-1/4 x 3/16	U	1480	947	658	483	370	292	237	196	164	140	121	9.0	10.0	11.2	12.2	14.9	15.9	23.8	25.7											
	D	.060	.093	.134	.182	.238	.302	.372	.451	.536	.629	.730																			
	C	1480	1184	987	846	740	658	592	538	493	455	423																			
1-1/2 x 1/8	U	1421	909	632	464	355	281	227	188	158	135	116	89	70	7.4	8.4	9.2	10.2	12.1	13.1	18.8	20.0									
	D	.050	.078	.112	.152	.199	.251	.310	.376	.447	.524	.608	.794	1.006																	
	C	1421	1137	947	812	711	632	568	517	474	437	406	355	316																	
1-1/2 x 3/16	U	2132	1364	947	696	533	421	341	282	237	202	174	133	105	11.1	12.5	13.7	15.1	18.1	19.6	28.1	30.1									
	D	.050	.078	.112	.152	.199	.251	.310	.376	.447	.524	.608	.794	1.006																	
	C	2132	1705	1421	1218	1066	947	853	775	711	656	609	533	474																	
1-3/4 x 3/16	U	2901	1857	1289	947	725	573	464	384	322	275	237	181	143	12.7	14.1	15.7	17.1	20.9	22.3	32.5	34.4									
	D	.043	.067	.096	.130	.170	.215	.266	.322	.383	.450	.521	.681	.862																	
	C	2901	2321	1934	1658	1451	1289	1161	1055	967	893	829	725	645																	
2 x 3/16	U	3789	2425	1684	1237	947	749	606	501	421	359	309	237	187	14.3	15.7	17.8	19.2	23.7	25.1	36.9	38.8									
	D	.037	.058	.084	.114	.149	.189	.233	.282	.335	.393	.456	.596	.754																	
	C	3789	3032	2526	2165	1895	1684	1516	1378	1263	1166	1083	947	842																	
2-1/4 x 3/16	U	4796	3069	2132	1566	1199	947	767	634	533	454	392	300	237	15.9	17.4	19.8	21.2	26.5	27.9	41.3	43.2									
	D	.033	.052	.074	.101	.132	.168	.207	.250	.298	.350	.406	.530	.670																	
	C	4796	3837	3197	2741	2398	2132	1918	1744	1599	1476	1370	1199	1066																	
2-1/2 x 3/16	U	5921	3789	2632	1933	1480	1170	947	783	658	561	483	370	292	17.5	19.0	21.8	23.3	29.2	30.7	45.6	47.5									
	D	.030	.047	.067	.091	.119	.151	.186	.225	.268	.315	.365	.477	.603																	
	C	5921	4737	3947	3383	2961	2632	2368	2153	1974	1822	1692	1480	1316																	

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'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"
50	1 x 1/8	1 x 1/8	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 1/8	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
75	1 x 1/8	1 x 1/8	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 1/8	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
100	1 x 1/8	1 x 1/8	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 1/8	1-1/4 x 3/16	1-1/2 x 3/16	1-3/4 x 3/16	1-3/4 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16
125	1 x 1/8	1 x 1/8	1 x 1/8	1 x 1/8	1-1/4 x 1/8	1-1/4 x 3/16	1-1/2 x 1/8	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
150	1 x 1/8	1 x 1/8	1 x 1/8	1 x 3/16	1-1/4 x 1/8	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	2-1/2 x 3/16	-
200	1 x 1/8	1 x 1/8	1 x 1/8	1-1/4 x 1/8	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	-	-
300	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	2 x 3/16	2 x 3/16	2-1/4 x 3/16	2-1/2 x 3/16	-	-

