

Stainless Steel Bar Grating

19 Space Use this table when evaluating spans and loads for the following types of stainless steel grating: Load Table **19-WS-4, 19-DTS-4, 19-DTS-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	9'-0						
3/4 x 1/8	3.9	3'-5"	U	395	253	175	129	99	78	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 20,000 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. ft. C = Concentrated Load in pounds/ft. of grating width D = Deflection in inches												
			D	0.114	0.179	0.257	0.350	0.457	0.579													
			C	395	316	263	226	197	175													
			D	0.091	0.143	0.206	0.280	0.366	0.463													
3/4 x 3/16	5.6	3'-9"	U	592	379	263	193	148	117	95												
			D	0.114	0.179	0.257	0.350	0.457	0.579	0.714												
			C	592	474	395	338	296	263	237												
			D	0.091	0.143	0.206	0.280	0.366	0.463	0.571												
1 x 1/8	5.0	4'-3"	U	702	449	312	229	175	139	112	93											
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648											
			C	702	561	468	401	351	312	281	255											
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519											
1 x 3/16	7.2	4'-8"	U	1,053	674	468	344	263	208	168	139	117										
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648	0.771										
			C	1,053	842	702	602	526	468	421	383	351										
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617										
1-1/4 x 1/8	6.1	5'-0"	U	1,097	702	487	358	274	217	175	145	122	104									
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724									
			C	1,097	877	731	627	548	487	439	399	366	337									
			D	0.055	0.086	0.123	0.168	0.219	0.278	0.343	0.415	0.494	0.579									
1-1/4 x 3/16	8.9	5'-6"	U	1,645	1,053	731	537	411	325	263	218	183	156	134								
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724	0.840								
			C	1,645	1,316	1,097	940	822	731	658	598	548	506	470								
			D	0.055	0.086	0.123	0.168	0.219	0.278	0.343	0.415	0.494	0.579	0.672								
1-1/2 x 1/8	7.2	5'-9"	U	1,579	1,011	702	516	395	312	253	209	175	150	129								
			D	0.057	0.089	0.129	0.175	0.229	0.289	0.357	0.432	0.514	0.604	0.700								
			C	1,579	1,263	1,053	902	790	702	632	574	526	486	451								
			D	0.046	0.071	0.103	0.140	0.183	0.231	0.286	0.346	0.411	0.483	0.560								
1-1/2 x 3/16	10.7	6'-4"	U	2,368	1,516	1,053	773	592	468	379	313	263	224	193	148							
			D	0.057	0.089	0.129	0.175	0.229	0.289	0.357	0.432	0.514	0.604	0.700	0.914							
			C	2,368	1,895	1,579	1,353	1,184	1,053	947	861	790	729	677	592							
			D	0.046	0.071	0.103	0.140	0.183	0.231	0.286	0.346	0.411	0.483	0.560	0.731							
1-3/4 x 1/8	8.5	6'-5"	U	2,149	1,375	955	702	537	425	344	284	239	204	175	134	106						
			D	0.049	0.077	0.110	0.150	0.196	0.248	0.306	0.370	0.441	0.517	0.600	0.784	0.992						
			C	2,149	1,719	1,433	1,228	1,075	955	860	782	716	661	614	537	478						
			D	0.039	0.061	0.088	0.120	0.157	0.198	0.245	0.296	0.353	0.414	0.480	0.627	0.793						
1-3/4 x 3/16	12.3	7'-2"	U	3,224	2,063	1,433	1,053	806	637	516	426	358	305	263	202	159						
			D	0.049	0.077	0.110	0.150	0.196	0.248	0.306	0.370	0.441	0.517	0.600	0.784	0.992						
			C	3,224	2,579	2,149	1,842	1,612	1,433	1,290	1,172	1,075	992	921	806	716						
			D	0.039	0.061	0.088	0.120	0.157	0.198	0.245	0.296	0.353	0.414	0.480	0.627	0.793						
2 x 1/8	9.6	7'-1"	U	2,807	1,797	1,248	917	702	555	449	371	312	266	229	175	139						
			D	0.043	0.067	0.096	0.131	0.171	0.217	0.268	0.324	0.386	0.453	0.525	0.686	0.868						
			C	2,807	2,246	1,871	1,604	1,404	1,248	1,123	1,021	936	864	802	702	624						
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694						
2 x 3/16	13.9	7'-11"	U	4,211	2,695	1,871	1,375	1,053	832	674	557	468	399	344	263	208						
			D	0.043	0.067	0.096	0.131	0.171	0.217	0.268	0.324	0.386	0.453	0.525	0.686	0.868						
			C	4,211	3,368	2,807	2,406	2,105	1,871	1,684	1,531	1,404	1,296	1,203	1,053	936						
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694						
2-1/4 x 3/16	15.6	8'-8"	U	5,329	3,411	2,368	1,740	1,332	1,053	853	705	592	505	435	333	263						
			D	0.038	0.060	0.086	0.117	0.152	0.193	0.238	0.288	0.343	0.402	0.467	0.610	0.771						
			C	5,329	4,263	3,553	3,045	2,665	2,368	2,132	1,938	1,776	1,640	1,523	1,332	1,184						
			D	0.030	0.048	0.069	0.093	0.122	0.154	0.190	0.230	0.274	0.322	0.373	0.488	0.617						
2-1/2 x 3/16	17.2	9'-4"	U	6,579	4,211	2,924	2,148	1,645	1,300	1,053	870	731	623	537	411	325						
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694						
			C	6,579	5,263	4,386	3,759	3,290	2,924	2,632	2,392	2,193	2,024	1,880	1,645	1,462						
			D	0.027	0.043	0.062	0.084	0.110	0.139	0.171	0.207	0.247	0.290	0.336	0.439	0.555						

* Weight per square foot based upon 19-WS-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	1-3/8"	2-9/16"	3-3/4"	4-15/16"	6-1/8"	7-5/16"	8-1/2"	9-11/16"	10-7/8"	12-1/16"	13-1/4"	14-7/16"	15-5/8"	16-13/16"	18"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	19-3/16"	20-3/8"	21-9/16"	22-3/4"	23-15/16"	25-1/8"	26-5/16"	27-1/2"	28-11/16"	29-7/8"	31-1/16"	32-1/4"	33-7/16"	34-5/8"	35-13/16"

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.