

Stainless Steel Bar Grating

15 Space Load Table

Use this table when evaluating spans and loads for the following types of stainless steel grating:
15-WS-4, 15-DTS-4, 15-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 3/16	6.9	4'-0"	U	750	480	333	245	188	148	120	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.						
			D	0.114	0.179	0.257	0.350	0.457	0.579	0.714							
			C	750	600	500	429	375	333	300							
1 x 1/8	6.2	4'-6"	U	889	569	395	290	222	176	142							
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536							
			C	889	711	593	508	444	395	356							
1 x 3/16	8.9	4'-11"	U	1,333	853	593	435	333	263	213	176	148	U = Safe Uniform Load in pounds/sq. ft. C = Concentrated Load in pounds/ft. of grating width D = Deflection in inches				
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648	0.771					
			C	1,333	1,067	889	762	667	593	533	485	444					
1-1/4 x 1/8	7.5	5'-4"	U	1,389	889	617	454	347	274	222	184	154	132				
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724				
			C	1,389	1,111	926	794	694	617	556	505	463	427				
1-1/4 x 3/16	11.0	5'-10"	U	2,083	1,333	926	680	521	412	333	276	232	197	170			
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724	0.840			
			C	2,083	1,667	1,389	1,191	1,042	926	833	758	694	641	595			
1-1/2 x 1/8	8.9	6'-1"	U	2,000	1,280	889	653	500	395	320	265	222	189	163	125		
			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	2,000	1,600	1,333	1,143	1,000	889	800	727	667	615	571	500		
1-1/2 x 3/16	13.2	6'-9"	U	3,000	1,920	1,333	980	750	593	480	397	333	284	245	188	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	1.157	
			C	3,000	2,400	2,000	1,714	1,500	1,333	1,200	1,091	1,000	923	857	750	667	
1-3/4 x 1/8	10.4	6'-10"	U	2,722	1,742	1,210	889	681	538	436	360	303	258	222	170	134	
			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	2,722	2,178	1,815	1,556	1,361	1,210	1,089	990	907	838	778	681	605	
1-3/4 x 3/16	15.3	7'-7"	U	4,083	2,613	1,815	1,333	1,021	807	653	540	454	387	333	255	202	
			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	4,083	3,267	2,722	2,333	2,042	1,815	1,633	1,485	1,361	1,256	1,167	1,021	907	
2 x 1/8	11.8	7'-7"	U	3,556	2,276	1,580	1,161	889	702	569	470	395	337	290	222	176	
			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	3,556	2,844	2,370	2,032	1,778	1,580	1,422	1,293	1,185	1,094	1,016	889	790	
2 x 3/16	17.3	8'-4"	U	5,333	3,413	2,370	1,742	1,333	1,054	853	705	593	505	435	333	263	
			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	5,333	4,267	3,556	3,048	2,667	2,370	2,133	1,939	1,778	1,641	1,524	1,333	1,185	
2-1/4 x 3/16	19.4	9'-2"	U	6,750	4,320	3,000	2,204	1,688	1,333	1,080	893	750	639	551	422	333	
			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	6,750	5,400	4,500	3,857	3,375	3,000	2,700	2,455	2,250	2,077	1,929	1,688	1,500	
2-1/2 x 3/16	21.5	9'-11"	U	8,333	5,333	3,704	2,721	2,083	1,646	1,333	1,102	926	789	680	521	412	
			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	8,333	6,667	5,556	4,762	4,167	3,704	3,333	3,030	2,778	2,564	2,381	2,083	1,852	
			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 15-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	1-1/8"	2-1/16"	3"	3-15/16"	4-7/8"	5-13/16"	6-3/4"	7-11/16"	8-5/8"	9-9/16"	10-1/2"	11-7/16"	12-3/8"	13-5/16"	14-1/4"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	15-3/16"	16-1/8"	17-1/16"	18"	18-15/16"	19-7/8"	20-13/16"	21-3/4"	22-11/16"	23-5/8"	24-9/16"	25-1/2"	26-7/16"	27-3/8"	28-5/16"
Number of Bearing Bars	32	33	34	35	36	37	38	39							
Panel Width	29-1/4"	30-3/16"	31-1/8"	32-1/16"	33"	33-15/16"	34-7/8"	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.