

Stainless Steel Bar Grating

8 Space Load Table

Use this table when evaluating spans and loads for the following types of stainless steel grating:
8-DTS-4, 8-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	12.3	4'-8"	U	1,406	900	625	459	352	278	225	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	0.714									
			C	1,406	1,125	938	804	703	625	563									
			D	0.091	0.143	0.206	0.280	0.366	0.463	0.571									
1 x 1/8	11.0	5'-3"	U	1,667	1,067	741	544	417	329	267	220								
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648								
			C	1,667	1,333	1,111	952	833	741	667	606								
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519								
1 x 3/16	16.2	5'-10"	U	2,500	1,600	1,111	816	625	494	400	331	278							
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648								
			C	2,500	2,000	1,667	1,429	1,250	1,111	1,000	909	833							
			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	13.6	6'-2"	U	2,604	1,667	1,157	850	651	514	417	344	289	247						
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617							
			C	2,604	2,083	1,736	1,488	1,302	1,157	1,042	947	868	801						
			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	20.0	6'-10"	U	3,906	2,500	1,736	1,276	977	772	625	517	434	370	319	244				
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724	0.840	1,097				
			C	3,906	3,125	2,604	2,232	1,953	1,736	1,563	1,421	1,302	1,202	1,116	1,037				
			D	0.055	0.086	0.123	0.168	0.219	0.278	0.343	0.415	0.494	0.579	0.672	0.778				
1-1/2 x 1/8	16.2	7'-1"	U	3,750	2,400	1,667	1,225	938	741	600	496	417	355	306	234				
			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	3,750	3,000	2,500	2,143	1,875	1,667	1,500	1,364	1,250	1,154	1,071	938				
			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				
1-1/2 x 3/16	24.0	7'-11"	U	5,625	3,600	2,500	1,837	1,406	1,111	900	744	625	533	459	352	278			
			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	5,625	4,500	3,750	3,214	2,813	2,500	2,250	2,046	1,875	1,731	1,607	1,406	1,250			
			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	0.926			
1-3/4 x 1/8	18.9	8'-0"	U	5,104	3,267	2,269	1,667	1,276	1,008	817	675	567	483	417	319	252			
			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				
			C	5,104	4,083	3,403	2,917	2,552	2,269	2,042	1,856	1,701	1,571	1,458	1,276	1,134			
			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	27.9	8'-10"	U	7,656	4,900	3,403	2,500	1,914	1,512	1,225	1,012	851	725	625	479	378			
			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				
			C	7,656	6,125	5,104	4,375	3,828	3,403	3,063	2,784	2,552	2,356	2,188	1,914	1,701			
			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	21.5	8'-10"	U	6,667	4,267	2,963	2,177	1,667	1,317	1,067	882	741	631	544	417	329			
			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				
			C	6,667	5,333	4,444	3,810	3,333	2,963	2,667	2,424	2,222	2,051	1,905	1,667	1,482			
			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	31.8	9'-9"	U	10,000	6,400	4,444	3,265	2,500	1,975	1,600	1,322	1,111	947	816	625	494			
			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				
			C	10,000	8,000	6,667	5,714	5,000	4,444	4,000	3,636	3,333	3,077	2,857	2,500	2,222			
			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	35.7	10'-8"	U	12,656	8,100	5,625	4,133	3,184	2,500	2,025	1,674	1,406	1,198	1,033	791	625			
			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				
			C	12,656	10,125	8,438	7,232	6,328	5,625	5,063	4,602	4,219	3,894	3,616	3,164	2,813			
			D	0.030	0.048	0.069	0.093	0.122	0.154	0.190	0.230	0.274	0.322	0.373	0.468	0.617			
2-1/2 x 3/16	39.6	11'-7"	U	15,625	10,000	6,944	5,102	3,906	3,086	2,500	2,066	1,736	1,479	1,276	977	772			
			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				
			C	15,625	12,500	10,417	8,929	7,813	6,944	6,250	5,682	5,208	4,808	4,464	3,906	3,472			
			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 8-SLS-4 grating. Add .30 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.

No. of Bearing Bars Panel Width	2 11/16"	3 1-3/16"	4 1-11/16"	5 2-3/16"	6 2-11/16"	7 3-3/16"	8 3-11/16"	9 4-3/16"	10 4-11/16"	11 5-3/16"	12 5-11/16"	13 6-3/16"	14 6-11/16"	15 7-3/16"	16 7-11/16"
No. of Bearing Bars Panel Width	17 8-3/16"	18 8-11/16"	19 9-3/16"	20 9-11/16"	21 10-3/16"	22 10-11/16"	23 11-3/16"	24 11-11/16"	25 12-3/16"	26 12-11/16"	27 13-3/16"	28 13-11/16"	29 14-3/16"	30 14-11/16"	31 15-3/16"
No. of Bearing Bars Panel Width	32 15-11/16"	33 16-3/16"	34 16-11/16"	35 17-3/16"	36 17-11/16"	37 18-3/16"	38 18-11/16"	39 19-3/16"	40 19-11/16"	41 20-3/16"	42 20-11/16"	43 21-3/16"	44 21-11/16"	45 22-3/16"	46 22-11/16"
No. of Bearing Bars Panel Width	47 23-3/16"	48 23-11/16"	49 24-3/16"	50 24-11/16"	51 25-3/16"	52 25-11/16"	53 26-3/16"	54 26-11/16"	55 27-3/16"	56 27-11/16"	57 28-3/16"	58 28-11/16"	59 29-3/16"	60 29-11/16"	61 30-3/16"
No. of Bearing Bars Panel Width	62 30-11/16"	63 31-3/16"	64 31-11/16"	65 32-3/16"	66 32-11/16"	67 33-3/16"	68 33-11/16"	69 34-3/16"	70 34-11/16"	71 35-3/16"	72 35-11/16"				

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.