



GRATING PACIFIC

7 SPACE (7/16") STEEL GRATING LOAD TABLE

Use this table when evaluating spans and loads of the following types of steel grating: **7-W-4, 7-W-2, 7-SL-4, 7-SL-2, 7-DT-4, 7-DT-2**

Bearing Bar Size (inches)	Approx. Weight psf *	Max. Ped. Span**	Sec. Prop.*** Sx in ³ Ix in ⁴	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	13.9	4'-10"	0.482 0.181	U	1,446	926	643	472	362	286	231	191	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 18,000 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 = uniform load in pounds/sq. ft. C = concentrated load in pounds/ft. of grating width D = deflection in inches												
				D	0.099	0.155	0.223	0.304	0.397	0.503	0.621	0.751													
				C	1,446	1,157	964	827	723	643	579	526													
				D	0.079	0.124	0.179	0.243	0.318	0.402	0.497	0.601													
1 x 1/8	12.4	5'-6"	0.571 0.286	U	1,714	1,097	762	560	429	339	274	227						191	286	243	219	251	286		
				D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563						0.670	0.787	0.904	1.021	1.138	1.255	1.372	
				C	1,714	1,371	1,143	980	857	762	686	623						571	526	481	436	391	346	301	256
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451						0.536	0.629	0.722	0.815	0.908	1.001	1.094	1.187
1 x 3/16	18.3	6'-1"	0.857 0.429	U	2,571	1,646	1,143	840	643	508	411	340						286	243	219	251	286			
				D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563						0.670	0.787	0.904	1.021	1.138	1.255	1.372	
				C	2,571	2,057	1,714	1,469	1,286	1,143	1,029	935						857	791	725	659	593	527	461	395
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451						0.536	0.629	0.722	0.815	0.908	1.001	1.094	1.187
1-1/4 x 1/8	15.3	6'-6"	0.893 0.558	U	2,679	1,714	1,191	875	670	529	429	354						298	254	219	251	286			
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730	0.831	0.932	1.033	1.134						
				C	2,679	2,143	1,786	1,531	1,339	1,191	1,071	974	893	824	765	706	647	588	529	470					
				D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	0.664	0.744	0.824	0.904	0.984					
1-1/4 x 3/16	22.7	7'-2"	1.339 0.837	U	4,018	2,571	1,786	1,312	1,005	794	643	531	446	380	328	286	251	286							
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730	0.831	0.932	1.033	1.134						
				C	4,018	3,214	2,679	2,296	2,009	1,786	1,607	1,461	1,339	1,236	1,148	1,060	972	884	796	708					
				D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	0.664	0.744	0.824	0.904	0.984					
1-1/2 x 1/8	18.3	7'-5"	1.286 0.964	U	3,857	2,469	1,714	1,260	964	762	617	510	429	365	315	274	243	286							
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.692	0.776	0.860	0.944						
				C	3,857	3,086	2,571	2,204	1,929	1,714	1,543	1,403	1,286	1,187	1,094	1,001	908	815	722	629					
				D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.554	0.621	0.688	0.755	0.822					
1-1/2 x 3/16	27.2	8'-3"	1.929 1.446	U	5,786	3,703	2,571	1,889	1,446	1,143	926	765	643	548	472	406	340	286							
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.692	0.776	0.860	0.944						
				C	5,786	4,629	3,857	3,306	2,893	2,571	2,314	2,104	1,929	1,780	1,653	1,536	1,419	1,302	1,185	1,068					
				D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.554	0.621	0.688	0.755	0.822					
1-3/4 x 1/8	21.3	8'-4"	1.750 1.531	U	5,250	3,360	2,333	1,714	1,313	1,037	840	694	583	497	429	365	315	274	243						
				D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.592	0.663	0.734	0.805	0.876					
				C	5,250	4,200	3,500	3,000	2,625	2,333	2,100	1,909	1,750	1,615	1,500	1,385	1,270	1,155	1,040	925					
				D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.475	0.533	0.591	0.649	0.707					
1-3/4 x 3/16	31.6	9'-3"	2.625 2.297	U	7,875	5,040	3,500	2,571	1,969	1,556	1,260	1,041	875	746	643	560	492	429	365						
				D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.592	0.663	0.734	0.805	0.876					
				C	7,875	6,300	5,250	4,500	3,938	3,500	3,150	2,864	2,625	2,423	2,250	2,099	1,948	1,797	1,646	1,495					
				D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.475	0.533	0.591	0.649	0.707					
2 x 1/8	24.3	9'-3"	2.286 2.286	U	6,857	4,389	3,048	2,239	1,714	1,355	1,097	907	762	649	560	492	429	365	315						
				D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.519	0.582	0.645	0.708	0.771					
				C	6,857	5,486	4,571	3,918	3,429	3,048	2,743	2,494	2,286	2,110	1,959	1,714	1,524	1,373	1,222	1,071					
				D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.417	0.470	0.522	0.574	0.626					
2 x 3/16	36.0	10'-3"	3.429 3.429	U	10,286	6,583	4,571	3,359	2,571	2,032	1,646	1,360	1,143	974	840	746	664	582	500						
				D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.519	0.582	0.645	0.708	0.771					
				C	10,286	8,229	6,857	5,878	5,143	4,571	4,114	3,740	3,429	3,165	2,939	2,713	2,487	2,261	2,035	1,809					
				D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.417	0.470	0.522	0.574	0.626					
2-1/4 x 3/16	40.5	11'-2"	4.339 4.882	U	13,018	8,331	5,786	4,251	3,255	2,571	2,083	1,721	1,446	1,233	1,063	914	796	706	628						
				D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.463	0.520	0.577	0.634	0.691					
				C	13,018	10,414	8,679	7,439	6,509	5,786	5,207	4,734	4,339	4,006	3,719	3,422	3,125	2,828	2,531	2,234					
				D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.372	0.420	0.468	0.516	0.564					
2-1/2 x 3/16	44.9	12'-1"	5.357 6.696	U	16,071	10,286	7,143	5,248	4,018	3,175	2,571	2,125	1,786	1,522	1,312	1,105	954	836	746						
				D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.417	0.470	0.522	0.574	0.626					
				C	16,071	12,857	10,714	9,184	8,036	7,143	6,429	5,844	5,357	4,945	4,592	4,239	3,886	3,533	3,180	2,827					
				D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.331	0.370	0.409	0.448	0.487					

* Weight per square foot based upon 7-W-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.) *** Section properties per foot of width.

Welded grating types 7-W-4 and 7-W-2 are available in bearing bar depths from 3/4" to 1-1/2".

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 vary 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	5/8"	1-1/16"	1-1/2"	1-15/16"	2-3/8"	2-13/16"	3-1/4"	3-11/16"	4-1/8"	4-9/16"	5"	5-7/16"	5-7/8"	6-5/16"	6-3/4"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	7-3/16"	7-5/8"	8-1/16"	8-1/2"	8-15/16"	9-3/8"	9-13/16"	10-1/4"	10-11/16"	11-1/8"	11-9/16"	12"	12-7/16"	12-7/8"	13-5/16"
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Panel Width	13-3/4"	14-3/16"	14-5/8"	15-1/16"	15-1/2"	15-15/16"	16-3/8"	16-13/16"	17-1/4"	17-11/16"	18-1/8"	18-9/16"	19"	19-7/16"	19-7/8"
Number of Bearing Bars	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
Panel Width	20-5/16"	20-3/4"	21-3/16"	21-5/8"	22-1/16"	22-1/2"	22-15/16"	23-3/8"	23-13/16"	24-1/4"	24-11/16"	25-1/8"	25-9/16"	26"	26-7/16"
Number of Bearing Bars	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
Panel Width	26-7/8"	27-5/16"	27-3/4"	28-3/16"	28-5/8"	29-1/16"	29-1/2"	29-15/16"	30-3/8"	30-13/16"	31-1/4"	31-11/16"	32-1/8"	32-9/16"	33"
Number of Bearing Bars	77	78	79	80	81	82	83								
Panel Width	33-7/16"	33-7/8"	34-5/16"	34-3/4"	35-3/16"	35-5/8"	36-1/16"								

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.