

LOADING TABLES (STANDARD)

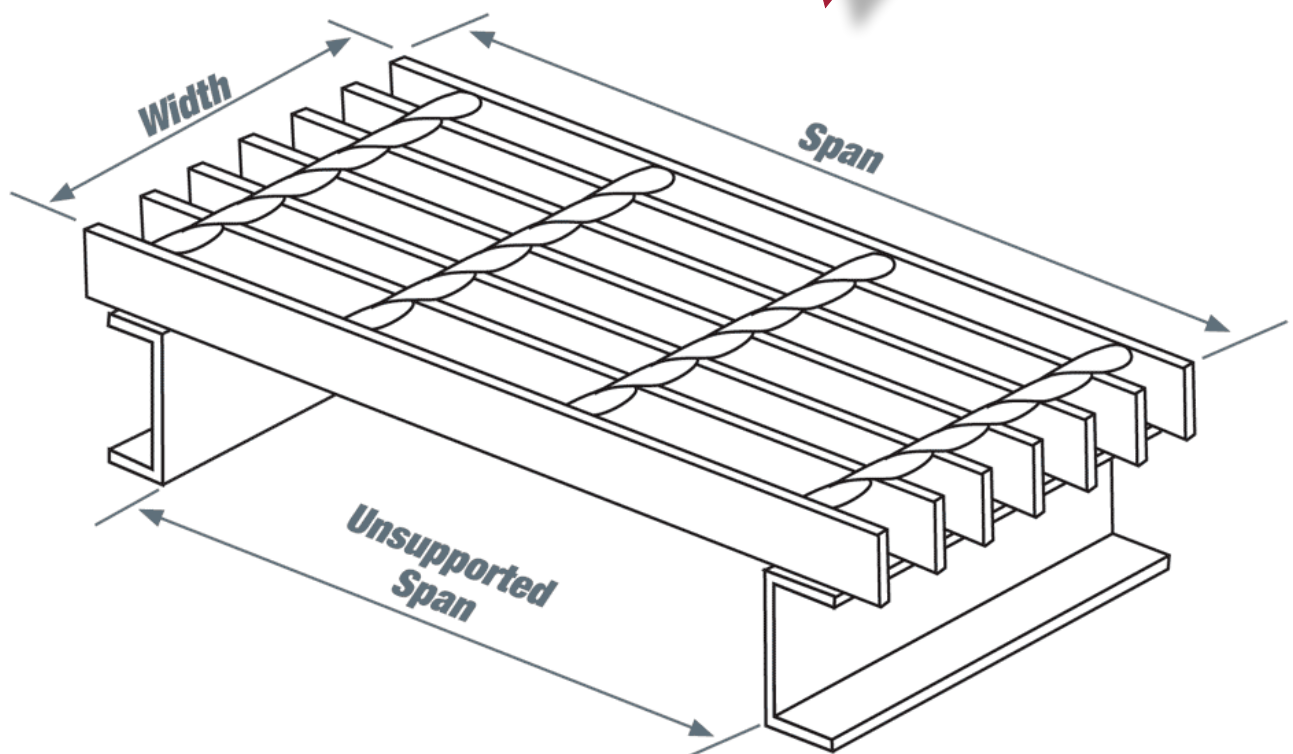
Service Loads

The load tables provide load/deflection criteria for most common applications. These tables provide a concise reference allowing the specifying authority to select the appropriate bearing bar size and spacing for the intended application.

Pedestrian loads are commonly analyzed with uniform and concentrated loads. For pedestrian comfort, deflection is typically limited to 1/4".

Heavy duty and vehicular load tables are presented for specific load conditions. Heavy duty load tables are presented with deflection limited to the lesser of 1/8" or L/400.

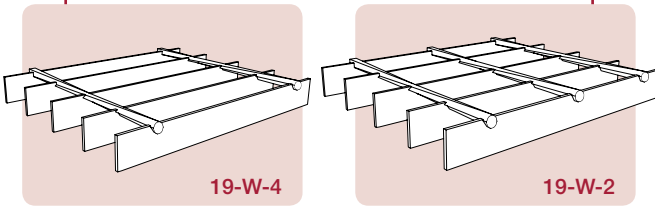
For more detailed information, see Loading Table.



Carbon Steel Welded Bar Grating Carbon Steel Press-Locked Bar Grating

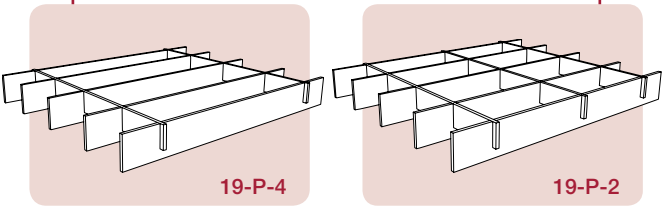
Steel Welded Grating

1-3/16" Center to Center of Bearing Bars



Steel Pressure-Locked

1-3/16" Center to Center of Bearing Bars



Static Load Table – Loads & deflections are theoretical, based on a maximum allowable fiber stress of 18,000 PSI. E = 30,000,000 PSI

Bar Size	Type	Approximate Weight #/Sq. Ft.	Sec. Mod. Per Foot of Width	Load Types	Maximum Safe Clear 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"	19-W-4	4.0	0.122	U	366	234	163	120	92	72	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft. which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.							
	19-W-2	4.3		D	.096	.150	.216	.295	.386	.484								
	19-P-4	4.6		C	366	293	244	209	183	163								
	19-P-2	4.9		D	.077	.120	.173	.235	.307	.389								
3/4" x 3/16"	19-W-4	5.6	0.183	U	549	351	244	179	137	108		NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table. EXAMPLE: (1 1/4" x 3/16") serrated bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.						
	19-W-2	6.4		D	.096	.150	.216	.294	.383	.482								
	19-P-4	6.3		C	549	439	366	314	275	244								
	19-P-2	7.1		D	.177	.120	.173	.236	.308	.389								
1" x 1/8"	19-W-4	5.1	0.216	U	648	415	288	212	162	128			104	86	72	U - Safe Uniform Load in lbs. per sq. ft.		
	19-W-2	5.4		D	.057	.112	.162	.221	.288	.364			.451	.546	.647			
	19-P-4	5.7		C	648	518	432	370	324	288			259	236	216			
	19-P-2	6.0		D	.057	.090	.129	.176	.230	.291			.359	.435	.517			
1" x 3/16"	19-W-4	7.3	0.325	U	975	624	433	318	244	193			156	129	108	C - Safe Concentrated Load in lbs. per foot of grating width.		
	19-W-2	8.0		D	.072	.113	.162	.221	.289	.366			.451	.546	.648			
	19-P-4	8.0		C	975	780	650	557	488	435	390		355	325				
	19-P-2	8.7		D	.058	.090	.130	.177	.231	.292	.361		.437	.520				
1 1/4" x 1/8"	19-W-4	6.1	0.339	U	1017	651	452	332	254	201	163		134	113	D - Deflection in inches.			
	19-W-2	6.5		D	.058	.090	.130	.177	.231	.293	.362		.435	.520		.609	.708	
	19-P-4	6.8		C	1017	814	678	581	509	452	407	370	339	313		291		
	19-P-2	7.2		D	.046	.072	.104	.142	.185	.234	.289	.350	.416	.488		.560		
1 1/4" x 3/16"	19-W-4	8.9	0.507	U	1521	973	676	497	380	300	243	201	169					
	19-W-2	9.7		D	.058	.090	.130	.177	.230	.291	.359	.435	.518		.608	.705		
	19-P-4	9.6		C	1521	1217	1014	869	761	676	608	553	507		468	435		
	19-P-2	10.4		D	.046	.072	.104	.141	.184	.233	.288	.348	.415		.487	.565		
1 1/2" x 1/8"	19-W-4	7.3	0.488	U	1464	937	651	478	366	289	234	194	163					
	19-W-2	7.9		D	.048	.075	.108	.147	.192	.233	.299	.363	.433		.508	.590	.772	.967
	19-P-4	7.9		C	1464	1171	976	837	732	651	586	532	488		450	418	366	325
	19-P-2	8.5		D	.038	.060	.086	.118	.153	.194	.240	.290	.345		.405	.470	.614	.770
1 1/2" x 3/16"	19-W-4	10.6	0.73	U	2190	1402	973	715	548	433	350	290	243					
	19-W-2	11.8		D	.048	.075	.108	.147	.192	.243	.300	.364	.431		.506	.589	.769	.971
	19-P-4	11.2		C	2190	1752	1460	1251	1095	973	876	796	730		674	626	548	487
	19-P-2	12.4		D	.038	.060	.086	.118	.154	.196	.240	.290	.346		.406	.471	.615	.778
1 3/4" x 3/16"	19-W-4	12.2	0.994	U	2982	1908	1325	974	746	589	477	394	331					
	19-W-2	13.5		D	.041	.064	.093	.126	.165	.208	.257	.311	.370		.434	.503	.657	.832
	19-P-4	12.9		C	2982	2386	1988	1704	1491	1325	1193	1084	994		918	852	746	663
	19-P-2	14.2		D	.033	.051	.074	.101	.132	.167	.206	.249	.296		.348	.403	.527	.667
2" x 3/16"	19-W-4	13.9	1.299	U	3897	2494	1732	1272	974	770	624	515	433					
	19-W-2	15.1		D	.036	.056	.081	.110	.144	.182	.225	.272	.324		.380	.441	.577	.728
	19-P-4	14.5		C	3897	3118	2598	2227	1949	1732	1559	1417	1299		1199	1113	974	866
	19-P-2	15.7		D	.029	.045	.065	.088	.115	.146	.180	.218	.259		.304	.353	.461	.583
2 1/4" x 3/16"	19-W-4	15.4	1.644	U	4932	3156	2192	1610	1233	974	789	652	548					
	19-W-2	16.7		D	.032	.050	.072	.098	.128	.162	.200	.242	.288		.338	.392	.512	.649
	19-P-4	16.1		C	4932	3946	3288	2818	2466	2192	1973	1793	1644		1518	1409	1233	1096
	19-P-2	17.4		D	.026	.040	.058	.078	.102	.130	.160	.194	.230		.271	.314	.410	.518
2 1/2" x 3/16"	19-W-4	17.1	2.029	U	6087	3896	2705	1988	1522	1202	974	805	676					
	19-W-2	18.3		D	.029	.045	.065	.088	.115	.146	.180	.218	.259		.304	.353	.460	.584
	19-P-4	17.7		C	6087	4870	4058	3478	3044	2705	2435	2213	2029		1873	1739	1522	1353
	19-P-2	18.9		D	.023	.036	.052	.071	.092	.117	.144	.174	.207		.243	.282	.369	.467

Panel Width Chart in Inche Dimensions are Outside to Outside of Bearing Bars.

Also Available in Stainless Steel

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1/8" Bar	15/16	2 1/2	3 11/16	4 7/8	6 1/16	7 1/4	8 7/16	9 5/8	10 13/16	12	13 3/16	14 3/8	15 9/16	16 3/4	17 15/16
3/16" Bar	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
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1/8" Bar	19 1/8	20 5/16	21 1/2	22 11/16	23 7/8	25 1/16	26 1/4	27 7/16	28 5/8	29 13/16	31	32 3/16	33 3/8	34 9/16	35 3/4
3/16" Bar	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

Shaded columns indicate Standard Panel Width

Carbon Steel Material: ASTM A-1011

