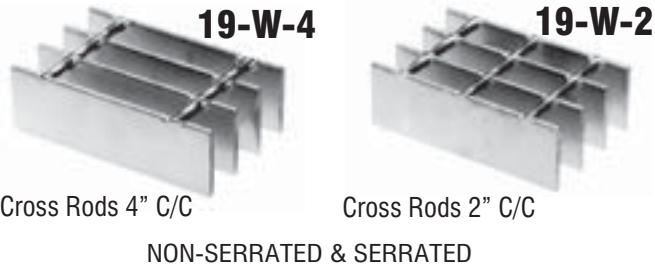
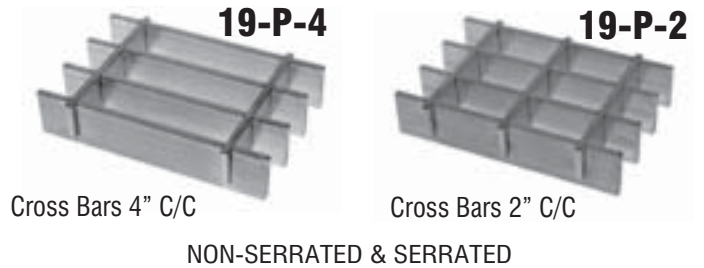


Steel Bar Grating

WELDED (W) 1-3/16" C/C Bearing Bars



PRESS-LOCKED (P) 1-3/16" C/C Bearing Bars



LOAD & DEFLECTION TABLE

General: Loads and deflections are theoretical and based on static loading.

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)																	
				24"	30"	36"	42"	48"	54"	60"	66"	72"	78"	84"	96"	108"					
3/4" x 1/8" Non-Serrated Only	19-W-4	3.9	0.118	U	355	227	158	116	89	70											
	19-P-4	4.3		D	0.099	0.155	0.223	0.304	0.397	0.503											
	19-P-2	5.2		C	355	284	237	203	178	158											
	19-W-4	5.6		D	0.079	0.124	0.179	0.243	0.318	0.402											
3/4" x 3/16" Non-Serrated Only	19-W-4	5.6	0.178	U	533	341	237	174	133	105											
	19-P-4	6.4		D	0.099	0.155	0.223	0.304	0.397	0.503											
	19-P-2	7.8		C	533	426	355	305	266	237											
	19-W-4	5.0		D	0.079	0.124	0.179	0.243	0.318	0.402	60"	66"									
1" x 1/8"	19-W-4	5.0	0.211	U	632	404	281	206	158	125											
	19-W-2	5.5		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563									
	19-P-4	5.4		C	632	505	421	361	316	281	253	230									
	19-P-2	6.3		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451									
1" x 3/16"	19-W-4	7.2	0.316	U	947	606	421	309	237	187											
	19-W-2	7.8		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563									
	19-P-4	8.1		C	947	758	632	541	474	421	379	344									
	19-P-2	9.5		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	72"	78"	84"						
1-1/4" x 1/8"	19-W-4	6.1	0.329	U	987	632	439	322	247	195											
	19-W-2	6.6		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730						
	19-P-4	6.8		C	987	789	658	564	493	439	395	359	329	304	282						
	19-P-2	8.1		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584						
1-1/4" x 3/16"	19-W-4	8.9	0.493	U	1480	947	658	483	370	292											
	19-W-2	9.5		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730						
	19-P-4	10.2		C	1480	1184	987	846	740	658	592	538	493	455	423						
	19-P-2	12.1		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	96"	108"				
1-1/2" x 1/8"	19-W-4	7.2	0.474	U	1421	909	632	464	355	281											
	19-W-2	7.7		D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	1.006				
	19-P-4	7.9		C	1421	1137	947	812	711	632	568	517	474	437	406	355	316				
	19-P-2	9.2		D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	0.804				
1-1/2" x 3/16"	19-W-4	10.5	0.711	U	2132	1364	947	696	533	421											
	19-W-2	11.2		D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	1.006				
	19-P-4	11.8		C	2132	1705	1421	1218	1066	947	853	775	711	656	609	533	474				
	19-P-2	13.8		D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	0.804				
1-3/4" x 3/16"	19-W-4	12.2	0.967	U	2901	1857	1289	947	725	573											
	19-W-2	12.8		D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862				
	19-P-4	13.5		C	2901	2321	1934	1658	1451	1289	1161	1055	967	893	829	725	645				
	19-P-2	15.4		D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689				
2" x 3/16"	19-W-4	13.9	1.263	U	3789	2425	1684	1237	947	749											
	19-W-2	14.5		D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596	0.754				
	19-P-4	15.2		C	3789	3032	2526	2165	1895	1684	1516	1378	1263	1166	1083	947	842				
	19-P-2	17.1		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603				
2-1/4" x 3/16"	19-W-4	15.5	1.599	U	4796	3069	2132	1566	1199	947											
	19-W-2	16.1		D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530	0.670				
	19-P-4	16.8		C	4796	3837	3197	2741	2398	2132	1918	1744	1599	1476	1370	1199	1066				
	19-P-2	18.7		D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424	0.536				
2-1/2" x 3/16"	19-W-4	17.2	1.974	U	5921	3789	2632	1933	1480	1170											
	19-W-2	17.8		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603				
	19-P-4	18.5		C	5921	4737	3947	3383	2961	2632	2368	2153	1974	1822	1692	1480	1316				
	19-P-2	20.4		D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.381	0.483				

U = safe uniform load, psf
 C = safe concentrated load, psf
 D = deflection, inches
 E = modulus of elasticity, 29,000,000 psi
 F = fiber stress, 18,000 psi

Material: ASTM A-1011 standard
 Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval.

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

W/P-19 PANEL WIDTH (inches) Note: P-Press-Locked cross bars typically extend 1/8" each side. W-Welded cross rods may extend 1/8" each side. Panel widths do not include these extensions.

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