

19-W-4, 19-W-2 & 19-P-4, 19-P-2 Steel Bar Grating

Welded

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



19-W-4
Cross Rods 4" C/C



19-W-2
Cross Rods 2" C/C

Press-Locked

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



19-P-4
Cross Bars 4" C/C



19-P-2
Cross Bars 2" C/C

Load & Deflection Table

Bar Size	Symbol	Approx. Weight psf	Sec mod Per Fl of Width	SPAN (Length of Bearing Bar)			3'6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
				2'-0"	2'-6"	3'-0"								
3/4" x 1/8"	W	3.9	0.118	U	355	227	158	116	89	70	0.402	0.451	0.536	0.629
	19-4-32	P		D	0.099	0.155	0.223	0.304	0.397	0.503				
	19-2-32	W		C	355	284	237	203	178	158				
		P		D	0.079	0.124	0.179	0.243	0.318	0.402				
3/4" x 3/16"	W	5.6	0.178	U	533	341	237	174	133	105	0.318	0.372	0.466	0.563
	19-4-33	P		D	0.099	0.155	0.223	0.304	0.397	0.503				
	19-2-33	W		C	533	426	355	305	266	237				
		P		D	0.079	0.124	0.179	0.243	0.318	0.402				
1" x 1/8"	W	5.0	0.211	U	632	404	281	206	158	125	0.402	0.451	0.536	0.629
	19-4-42	P		D	0.074	0.116	0.168	0.228	0.298	0.377				
	19-2-42	W		C	632	505	421	361	316	281				
		P		D	0.060	0.093	0.134	0.182	0.238	0.302				
1" x 3/16"	W	7.2	0.316	U	947	606	421	309	237	187	0.302	0.372	0.451	0.536
	19-4-43	P		D	0.074	0.116	0.168	0.228	0.298	0.377				
	19-2-43	W		C	947	758	632	541	474	421				
		P		D	0.060	0.093	0.134	0.182	0.238	0.302				
1-1/4" x 1/8"	W	6.1	0.329	U	987	632	439	322	247	195	0.302	0.372	0.451	0.536
	19-4-52	P		D	0.060	0.093	0.134	0.182	0.238	0.302				
	19-2-52	W		C	987	789	658	564	493	439				
		P		D	0.048	0.074	0.107	0.146	0.191	0.241				
1-1/4" x 3/16"	W	8.9	0.493	U	1480	947	658	483	370	292	0.302	0.372	0.451	0.536
	19-4-53	P		D	0.060	0.093	0.134	0.182	0.238	0.302				
	19-2-53	W		C	1480	1184	987	846	740	658				
		P		D	0.048	0.074	0.107	0.146	0.191	0.241				
1-1/2" x 1/8"	W	7.2	0.474	U	1421	909	632	464	355	281	0.302	0.372	0.451	0.536
	19-4-62	P		D	0.050	0.078	0.112	0.152	0.199	0.251				
	19-2-62	W		C	1421	1137	947	812	711	632				
		P		D	0.040	0.062	0.089	0.122	0.159	0.201				
1-1/2" x 3/16"	W	10.5	0.711	U	2132	1364	947	696	533	421	0.302	0.372	0.451	0.536
	19-4-63	P		D	0.050	0.078	0.112	0.152	0.199	0.251				
	19-4-73	W		C	2132	1705	1421	1218	1066	947				
		P		D	0.040	0.062	0.089	0.122	0.159	0.201				
1-3/4" x 3/16"	W	12.2	0.967	U	2901	1857	1289	947	725	573	0.302	0.372	0.451	0.536
	19-4-73	P		D	0.043	0.067	0.096	0.130	0.170	0.215				
	19-2-73	W		C	2901	2321	1934	1658	1451	1289				
		P		D	0.034	0.053	0.077	0.104	0.136	0.172				
2" x 3/16"	W	13.9	1.263	U	3789	2425	1684	1237	947	749	0.302	0.372	0.451	0.536
	19-4-83	P		D	0.037	0.058	0.084	0.114	0.149	0.189				
	19-2-83	W		C	3789	3032	2526	2165	1895	1684				
		P		D	0.030	0.047	0.067	0.091	0.119	0.151				
2-1/4" x 3/16"	W	15.5	1.599	U	4796	3069	2132	1566	1199	947	0.302	0.372	0.451	0.536
	19-4-93	P		D	0.033	0.052	0.074	0.101	0.132	0.168				
	19-2-93	W		C	4796	3837	3197	2741	2398	2132				
		P		D	0.026	0.041	0.060	0.081	0.106	0.134				
2-1/2" x 3/16"	W	17.2	1.974	U	5921	3789	2632	1933	1480	1170	0.302	0.372	0.451	0.536
	19-4-103	P		D	0.030	0.047	0.067	0.091	0.119	0.151				
	19-2-103	W		C	5921	4737	3947	3383	2961	2632				
		P		D	0.024	0.037	0.054	0.073	0.095	0.121				

U= safe uniform load, psf - C= safe concentrated load, pfw - D= deflection, inches - E= modulus of elasticity, 2,000,000 psi - F= fiber stress, 18,000 psi

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 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 11/16	32 1/4	33 7/16	34 5/8	35 13/16