

LOAD & DEFLECTION TABLE:

Loads and deflections are theoretical and based on static loading.

U = safe uniform load (psf)
 C = safe concentrated load (psf)
 D = deflection in 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.

Bar Size	Symbol	# per sq	Sec. Mod per ft. of width	SAFE SPAN (Direction of Bearing Bar)													
				2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0			
3/4" x 1/8" Non-Serrated Only	7W4	9.3	0.32	964	617	429	315	241	190	154							
	7P4	9.8		964	771	643	551	482	429	386							
	7P2	10.7		0.079	0.124	0.179	0.243	0.318	0.402	0.497							
3/4" x 3/16" Non-Serrated Only	7W4	13.7	0.48	1446	926	643	472	362	286	231	191						
	7P4	14.6		1446	1157	964	827	723	643	579	526						
	7P2	16.1		0.079	0.124	0.179	0.243	0.318	0.402	0.497	0.601						
1" x 1/8"	7W4	12.3	0.57	1714	1097	762	560	429	339	274	227	190	162				
	7P4	12.7		1714	1371	1143	980	857	762	686	623	571	527	0.670	0.787		
	7P2	13.7		0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730	0.847		
1" x 3/16"	7W4	18.1	0.86	2571	1646	1143	840	643	508	411	340	286	243	210			
	7P4	19.0		2571	2057	1714	1469	1286	1143	1029	935	857	791	735	0.670	0.787	0.912
	7P2	20.5		0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730	0.847		
1-1/4" x 1/8"	7W4	15.3	0.89	2679	1714	1190	875	670	529	429	354	298	254	219	167		
	7P4	16.0		2679	2143	1786	1531	1339	1190	1071	974	893	824	765	670	0.953	
	7P2	17.3		0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	0.763	0.953	
1-1/4" x 3/16"	7W4	22.5	1.34	4018	2571	1786	1312	1004	794	643	531	446	380	328	251	198	
	7P4	23.9		4018	3214	2679	2296	2009	1786	1607	1461	1339	1236	1148	1004	893	1.207
	7P2	25.8		0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	0.763	0.965	
1-1/2" x 1/8"	7W4	18.1	1.29	3857	2469	1714	1259	964	762	617	510	429	365	315	241	190	
	7P4	18.9		3857	3086	2571	2204	1929	1714	1543	1403	1286	1187	1102	964	857	1.006
	7P2	20.2		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"	7W4	26.9	1.93	5786	3703	2571	1889	1446	1143	926	765	643	548	472	362	286	
	7P4	28.3		5786	4629	3857	3306	2893	2571	2314	2104	1929	1780	1653	1446	1286	1.006
	7P2	30.2		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"	7W4	32.7	2.63	7875	5040	3500	2571	1969	1556	1260	1041	875	746	643	492	389	
	7P4	34.6		7875	6300	5250	4500	3938	3500	3150	2864	2625	2423	2250	1969	1750	1.006
	7P2	36.6		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"	7W4	37.1	3.43	10286	6583	4571	3359	2571	2032	1646	1360	1143	974	840	643	508	
	7P4	39.0		10286	8229	6857	5878	5143	4571	4114	3740	3429	3165	2939	2571	2286	1.006
	7P2	41.5		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"	7W4	41.5	4.34	13018	8331	5786	4251	3254	2571	2083	1721	1446	1232	1063	814	643	
	7P4	43.4		13018	10414	8679	7439	6509	5786	5207	4734	4339	4005	3719	3254	2893	1.006
	7P2	45.8		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"	U		5.36	16071	10286	7143	5248	4018	3175	2571	2125	1786	1522	1312	1004	794	
	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	
	C			16071	12857	10714	9184	8036	7143	6429	5844	5357	4945	4592	4018	3571	
	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	

7W4 & 7P4 STANDARD 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	9/16"	1"	1-1/16"	1-1/8"	1-1/4"	1-3/8"	1-1/2"	1-5/8"	1-3/4"	1-7/8"	1-15/16"	1-1"	1-11/16"	1-5/8"	1-13/16"
3/16" Bar	5/8"	1-1/16"	1-1/2"	1-5/16"	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"
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1/8" Bar	7-1/8"	7-9/16"	8"	8-7/16"	8-7/8"	9-5/16"	9-3/4"	10-3/16"	10-5/8"	11-1/16"	11-1/2"	11-5/16"	12-3/8"	12-13/16"	13-1/4"
3/16" Bar	7-3/16"	7-5/8"	8-1/16"	8-1/2"	8-15/16"	9-3/8"	9-13/16"	9-1/4"	10-11/16"	11-1/8"	11-9/16"	12"	12-7/16"	12-7/8"	13-5/16"
No. of Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1/8" Bar	13-11/16"	14-1/8"	14-9/16"	15"	15-7/16"	15-7/8"	16-5/16"	16-3/4"	17-3/16"	17-5/8"	18-1/16"	18-1/2"	18-15/16"	19-3/8"	19-13/16"
3/16" Bar	13-3/4"	14-3/16"	14-5/8"	15-1/16"	15-1/2"	15-15/16"	16-3/8"	16-3/16"	17-1/4"	17-11/16"	18-1/8"	18-9/16"	19"	19-7/16"	19-7/8"
No. of Bars	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
1/8" Bar	20-1/4"	20-11/16"	21-1/8"	21-9/16"	22"	22-7/16"	22-7/8"	23-5/16"	23-3/4"	24-3/16"	24-5/8"	25-1/16"	25-1/2"	25-15/16"	26-1/8"
3/16" Bar	20-5/16"	20-3/4"	21-13/16"	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"
No. of Bars	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
1/8" Bar	26-13/16"	27-1/4"	27-11/16"	28-1/8"	28-9/16"	29"	29-7/16"	29-7/8"	30-5/16"	30-3/4"	31-3/16"	31-5/8"	32-1/16"	32-1/2"	32-15/16"
3/16" Bar	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"
No. of Bars	77	78	79	80	81	82	83								
1/8" Bar	33-3/8"	33-13/16"	34-1/4"	34-11/16"	35-1/8"	35-9/16"	36"								
3/16" Bar	33-7/16"	33-7/8"	34-5/16"	34-3/4"	35-3/16"	35-5/8"	36-1/16"								

7W4 Welded Panels (max.) 24" Width Available

