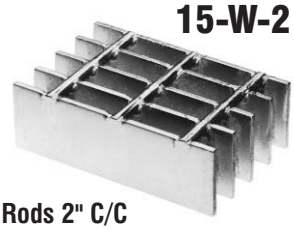
Steel Bar Grating

WELDED (W) 15/16" C/C Bearing Bars

15-W-4

Cross Rods 4" C/C



15-W-2

Cross Rods 2" C/C

NON-SERRATED & SERRATED

PRESS-LOCKED (P) 15/16" C/C Bearing Bars

15-P-4

Cross Bars 4" C/C

15-P-2

Cross Bars 2" C/C

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

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

U = safe uniform load, psf (page 92)
C = safe concentrated load, pfw(page 92)
D = deflection, inches
E = modulus of elasticity, 29,000,000 psi
F = fiber stress, 18,000 psi
Material: ASTM A-1011

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	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"	15-W-4	4.7	0.150	U	450	288	200	147	113	89							
				D	0.099	0.155	0.223	0.304	0.397	0.503							
	15-P-4	5.1		C	450	360	300	257	225	200							
	15-P2	6.1		D	0.079	0.124	0.179	0.243	0.318	0.402							
3/4" x 3/16"	15-W-4	6.9	0.225	U	675	432	300	220	169	133	108						
				D	0.099	0.155	0.223	0.304	0.397	0.503	0.621						
	15-P-4	7.7		C	675	540	450	386	338	300	270						
	15-P-2	9.1		D	0.079	0.124	0.179	0.243	0.318	0.402	0.497						
1" x 1/8"	15-W-4	6.1	0.267	U	800	512	356	261	200	158	128	106	89				
	15-W-2	6.7		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	0.670				
	15-P-4	6.5		C	800	640	533	457	400	356	320	291	267				
	15-P-2	7.5		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536				
1" x 3/16"	15-W-4	8.9	0.400	U	1200	768	533	392	300	237	192	159	133				
	15-W-2	9.6		D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	0.670				
	15-P-4	9.8		C	1200	960	800	686	600	533	480	436	400				
	15-P-2	11.2		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536				
1-1/4" x 1/8"	15-W-4	7.5	0.417	U	1250	800	556	408	313	247	200	165	139	118	102		
	15-W-2	8.1		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730		
	15-P-4	8.2		C	1250	1000	833	714	625	556	500	455	417	385	357		
	15-P-2	9.5		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"	15-W-4	11.0	0.625	U	1875	1200	833	612	469	370	300	248	208	178	153		
	15-W-2	11.6		D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730		
	15-P-4	12.3		C	1875	1500	1250	1071	938	833	750	682	625	577	536		
	15-P-2	14.2		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584		
1-1/2" x 1/8"	15-W-4	8.9	0.600	U	1800	1152	800	588	450	356	288	238	200	170	147	113	89
	15-W-2	9.4		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
	15-P-4	9.6		C	1800	1440	1200	1029	900	800	720	655	600	554	514	450	400
	15-P-2	10.9		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"	15-W-4	13.1	0.900	U	2700	1728	1200	882	675	533	432	357	300	256	220	169	133
	15-W-2	13.7		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
	15-P-4	14.4		C	2700	2160	1800	1543	1350	1200	1080	982	900	831	771	675	600
	15-P-2	16.3		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"	15-W-4	15.2	1.225	U	3675	2352	1633	1200	919	726	588	486	408	348	300	230	181
	15-W-2	15.8		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
	15-P-4	16.5		C	3675	2940	2450	2100	1838	1633	1470	1336	1225	1131	1050	919	817
	15-P-2	18.4		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"	15-W-4	17.3	1.600	U	4800	3072	2133	1567	1200	948	768	635	533	454	392	300	237
	15-W-2	17.9		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
	15-P-4	18.6		C	4800	3840	3200	2743	2400	2133	1920	1745	1600	1477	1371	1200	1067
	15-P-2	20.5		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"	15-W-4	19.4	2.025	U	6075	3888	2700	1984	1519	1200	972	803	675	575	496	380	300
	15-W-2	20.0		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
	15-P-4	20.7		C	6075	4860	4050	3471	3038	2700	2430	2209	2025	1869	1736	1519	1350
	15-P-2	22.6		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"	15-W-4	21.4	2.500	U	7500	4800	3333	2449	1875	1481	1200	992	833	710	612	469	370
	15-W-2	22.0		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
	15-P-4	22.7		C	7500	6000	5000	4286	3750	3333	3000	2727	2500	2308	2143	1875	1667
	15-P-2	24.7		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

W/P-15 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	17	18	19	20
1/8" Bar	1 1/16	2	2 15/16	3 7/8	4 13/16	5 3/4	6 11/16	7 5/8	8 9/16	9 1/2	10 7/16	11 3/8	12 5/16	13 1/4	14 3/16	15 1/8	16 1/16	17	17 15/16
3/16" Bar	1 1/8	2 1/16	3	3 15/16	4 7/8	5 13/16	6 3/4	7 11/16	8 5/8	9 9/16	10 1/2	11 7/16	12 3/8	13 5/16	14 1/4	15 3/16	16 1/8	17 1/16	18
No. of Bars	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**
1/8" Bar	18 7/8	19 13/16	20 3/4	21 11/16	22 5/8	23 9/16	24 1/2	25 7/16	26 3/8	27 5/16	28 1/4	29 3/16	30 1/8	31 1/16	32	32 15/16	33 7/8	34 13/16	35 3/4
3/16" Bar	18 15/16	19 7/8	20 13/16	21 3/4	22 11/16	23 5/8	24 9/16	25 1/2	26 7/16	27 3/8	28 5/16	29 1/4	30 3/16	31 1/8	32 1/16	33	33 15/16	34 7/8	35 13/16

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