BORDEN GRATINGS

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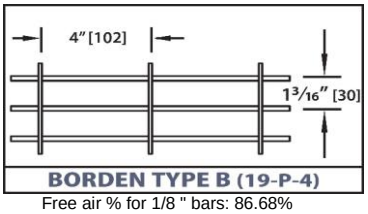
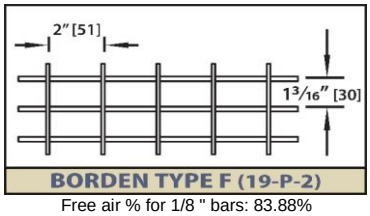
Pressure Locked Grating Steel

LOAD TABLE



BORDEN TYPE B (19-P-4)

Free air % for 1/8 " bars: 86.68%
Free air % for 3/16 " bars: 81.58%



BORDEN TYPE F (19-P-2)

Free air % for 1/8 " bars: 83.88%
Free air % for 3/16 " bars: 78.95%

Size No.	Bearing Bar Size	Weight lbs/sq.ft.	Moment of Inertia	Section Modulus		Maximum span recommended for 1/4" deflection under uniform load of 100 psf. (normal pedestrian traffic)													
						Span in Inches													
						24	30	36	42	48	54	60	66	72	78	84	96	108	
1	3/4"x1/8"	4.12	0.0444	0.1184	42	U	355	227	158	116	89	70	57						
		4.91				Du	0.1	0.16	0.22	0.3	0.4	0.5	0.62						
						C	355	284	237	203	178	158	142						
						Dc	0.08	0.12	0.18	0.24	0.32	0.4	0.5						
2	3/4"x3/16"	5.93	0.0666	0.1776	46	U	533	341	237	174	133	105	85						
		6.88				Du	0.1	0.16	0.22	0.3	0.4	0.5	0.62						
						C	533	426	355	305	266	237	213	194	178	164			
						Dc	0.08	0.12	0.18	0.24	0.32	0.4	0.5	0.6	0.72	0.84			
3	1"x1/8"	5.38	0.1053	0.2105	51	U	632	404	281	206	158	125	101	84	70	60			
		6.34				Du	0.07	0.12	0.17	0.23	0.3	0.38	0.47	0.56	0.67	0.79			
						C	632	505	421	361	316	281	253	230	211	194			
						Dc	0.06	0.09	0.13	0.18	0.24	0.3	0.37	0.45	0.54	0.63			
4	1"x3/16"	7.58	0.1579	0.3158	57	U	947	606	421	309	237	187	152	125	105	90	77	59	47
		8.54				Du	0.07	0.12	0.17	0.23	0.3	0.38	0.47	0.56	0.67	0.79	0.91	1.19	1.51
						C	947	758	632	541	474	421	379	344	316	291	271	237	211
						Dc	0.06	0.09	0.13	0.18	0.24	0.3	0.37	0.45	0.54	0.63	0.73	0.95	1.21
5	1 1/4"x1/8"	6.49	0.2056	0.3289	61	U	987	632	439	322	247	195	158	130	110	93	81	62	49
		7.45				Du	0.06	0.09	0.13	0.18	0.24	0.3	0.37	0.45	0.54	0.63	0.73	0.95	1.21
						C	987	789	658	564	493	439	395	359	329	304	282	247	219
						Dc	0.05	0.07	0.11	0.15	0.19	0.24	0.3	0.36	0.43	0.5	0.58	0.76	0.97
6	1 1/4"x3/16"	9.24	0.3084	0.4934	67	U	1480	947	658	483	370	292	237	196	164	140	121	93	73
		10.20				Du	0.06	0.09	0.13	0.18	0.24	0.3	0.37	0.45	0.54	0.63	0.73	0.95	1.21
						C	1480	1184	987	846	740	658	592	538	493	455	423	370	329
						Dc	0.05	0.07	0.11	0.15	0.19	0.24	0.3	0.36	0.43	0.5	0.58	0.76	0.97
7	1 1/2"x1/8"	7.92	0.3553	0.4737	70	U	1421	909	632	464	355	281	227	188	158	135	116	89	70
		9.19				Du	0.05	0.08	0.11	0.15	0.2	0.25	0.31	0.38	0.45	0.52	0.61	0.79	1.01
						C	1421	1137	947	812	711	632	568	517	474	437	406	355	316
						Dc	0.04	0.06	0.09	0.12	0.16	0.2	0.25	0.3	0.36	0.42	0.49	0.64	0.8
8	1 1/2"x3/16"	11.22	0.5329	0.7105	77	U	2132	1364	947	696	533	421	341	282	237	202	174	133	105
		12.49				Du	0.05	0.08	0.11	0.15	0.2	0.25	0.31	0.38	0.45	0.52	0.61	0.79	1.01
						C	2132	1705	1421	1218	1066	947	853	775	711	656	609	533	474
						Dc	0.04	0.06	0.09	0.12	0.16	0.2	0.25	0.3	0.36	0.42	0.49	0.64	0.8
9	1 3/4"x3/16"	12.87	0.8462	0.9671	87	U	2901	1857	1289	947	725	573	464	384	322	275	237	181	143
		14.15				Du	0.04	0.07	0.1	0.13	0.17	0.22	0.27	0.32	0.38	0.45	0.52	0.68	0.86
						C	2901	2321	1934	1658	1451	1289	1161	1055	967	893	829	725	645
						Dc	0.03	0.05	0.08	0.1	0.14	0.17	0.21	0.26	0.31	0.36	0.42	0.54	0.69
10	2"x3/16"	14.53	1.2632	1.2632	96	U	3789	2425	1684	1237	947	749	606	501	421	359	309	237	187
		15.81				Du	0.04	0.06	0.08	0.11	0.15	0.19	0.23	0.28	0.34	0.39	0.46	0.6	0.75
						C	3789	3032	2526	2165	1895	1684	1516	1378	1263	1166	1083	947	842
						Dc	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.31	0.36	0.48	0.6
11	2 1/4"x3/16"	16.19	1.7985	1.5987	105	U	4796	3069	2132	1566	1199	947	767	634	533	454	392	300	237
		17.46				Du	0.03	0.05	0.07	0.1	0.13	0.17	0.21	0.25	0.3	0.35	0.41	0.53	0.67
						C	4796	3837	3197	2741	2398	2132	1918	1744	1599	1476	1370	1199	1066
						Dc	0.03	0.04	0.06	0.08	0.11	0.13	0.17	0.2	0.24	0.28	0.32	0.42	0.54
12	2 1/2"x3/16"	17.84	2.4671	1.9737	113	U	5921	3789	2632	1933	1480	1170	947	783	658	561	483	370	292
		19.12				Du	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.31	0.36	0.48	0.6
						C	5921	4737	3947	3383	2961	2632	2368	2153	1974	1822	1692	1480	1316
						Dc	0.02	0.04	0.05	0.07	0.1	0.12	0.15	0.18	0.21	0.25	0.29	0.38	0.48

Table compiled as per ANSI/NAAMM MBG 534-14

F - 18,000 psi

E - 29,000,000 psi

U - Safe Uniform Load (lbs./sq.ft.)

C - Safe Conc. load (lbs./ft. width)

D - Deflection in inches

All loads and deflections are based on gross sections and nominal sizes of bearing bars. The values listed are for design selection only and are not intended to be "absolute".

Actual load capacity will be affected slightly by variations which can be expected due to material and manufacturing tolerances.

1/4" is considered the maximum deflection which is consistent with pedestrian comfort, but may be exceeded for other application at the discretion of the Engineer.

When serrated gratings are specified, increase the depth of the grating selected from the table by 1/4" to allow for the serrations.

PANEL WIDTHS (inches)											
# Bars	2	3	4	5	6	7	8	9	10	11	12	13
3/16" Bars	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
1/8" Bars	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
# Bars	14	15	16	17	18	19	20	21	22	23	24	25
3/16" Bars	15 5/8	16 13/16	18	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
1/8" Bars	15 9/16	16 3/4	17 15/16	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
# Bars	26	27	28	29	30	31	32	33	34			
3/16" Bars	29 7/8	31 1/16	32 1/4	33 7/16	34 5/8	35 13/16	37	38 3/16	39 3/8			
1/8" Bars	29 13/16	31	32 3/16	33 3/8	34 9/16	35 3/4	36 15/16	38 1/8	39 5/16			

Revised April 2019