BORDEN GRATINGS

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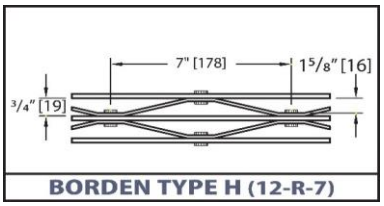
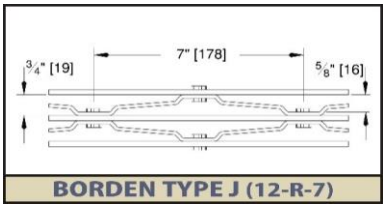
Riveted Grating Aluminum

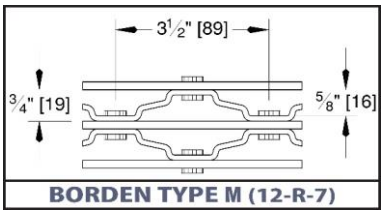
LOAD TABLE



BORDEN TYPE H (12-R-7)



BORDEN TYPE J (12-R-7)



BORDEN TYPE M (12-R-7)

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"	2.97	0.0602	0.1607	34	U	321	206	143	105	80	63	51						
						Du	0.19	0.3	0.43	0.59	0.77	0.97	1.2						
						C	321	257	214	184	161	143	129						
						Dc	0.15	0.24	0.35	0.47	0.61	0.78	0.96						
2	3/4"x3/16"	3.44	0.0844	0.2250	37	U	450	288	200	147	113	89	72						
						Du	0.19	0.3	0.43	0.59	0.77	0.97	1.2						
						C	450	360	300	257	225	200	180						
						Dc	0.15	0.24	0.35	0.47	0.61	0.78	0.96						
3	1"x1/8"	3.46	0.1428	0.2856	43	U	571	366	254	187	143	113	91	76	63	54			
						Du	0.14	0.23	0.32	0.44	0.58	0.73	0.9	1.09	1.3	1.52			
						C	571	457	381	326	286	254	229	208	190	176			
						Dc	0.12	0.18	0.26	0.35	0.46	0.58	0.72	0.87	1.04	1.22			
4	1"x3/16"	4.13	0.2000	0.4000	46	U	800	512	356	261	200	158	128	106	89	76	65	50	40
						Du	0.14	0.23	0.32	0.44	0.58	0.73	0.9	1.09	1.3	1.52	1.76	2.3	2.92
						C	800	640	533	457	400	356	320	291	267	246	229	200	178
						Dc	0.12	0.18	0.26	0.35	0.46	0.58	0.72	0.87	1.04	1.22	1.41	1.84	2.33
5	1 1/4"x1/8"	3.95	0.2789	0.4463	50	U	893	571	397	291	223	176	143	118	99	85	73	56	44
						Du	0.12	0.18	0.26	0.35	0.46	0.58	0.72	0.87	1.04	1.22	1.41	1.84	2.33
						C	893	714	595	510	446	397	357	325	298	275	255	223	198
						Dc	0.09	0.14	0.21	0.28	0.37	0.47	0.58	0.7	0.83	0.97	1.13	1.47	1.87
6	1 1/4"x3/16"	4.82	0.3906	0.6250	55	U	1250	800	556	408	313	247	200	165	139	118	102	78	62
						Du	0.12	0.18	0.26	0.35	0.46	0.58	0.72	0.87	1.04	1.22	1.41	1.84	2.33
						C	1250	1000	833	714	625	556	500	455	417	385	357	313	278
						Dc	0.09	0.14	0.21	0.28	0.37	0.47	0.58	0.7	0.83	0.97	1.13	1.47	1.87
7	1 1/2"x1/8"	4.45	0.4820	0.6427	58	U	1285	823	571	420	321	254	206	170	143	122	105	80	63
						Du	0.1	0.15	0.22	0.29	0.38	0.49	0.6	0.73	0.86	1.01	1.18	1.54	1.94
						C	1285	1028	857	734	643	571	514	467	428	395	367	321	286
						Dc	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94	1.23	1.56
8	1 1/2"x3/16"	5.51	0.6750	0.9000	63	U	1800	1152	800	588	450	356	288	238	200	170	147	113	89
						Du	0.1	0.15	0.22	0.29	0.38	0.49	0.6	0.73	0.86	1.01	1.18	1.54	1.94
						C	1800	1440	1200	1029	900	800	720	655	600	554	514	450	400
						Dc	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94	1.23	1.56
9	1 3/4"x3/16"	6.19	1.0719	1.2250	70	U	2450	1568	1089	800	613	484	392	324	272	232	200	153	121
						Du	0.08	0.13	0.19	0.25	0.33	0.42	0.51	0.62	0.74	0.87	1.01	1.32	1.67
						C	2450	1960	1633	1400	1225	1089	980	891	817	754	700	613	544
						Dc	0.07	0.1	0.15	0.2	0.26	0.33	0.41	0.5	0.59	0.7	0.81	1.05	1.33
10	2"x3/16"	7.55	1.6000	1.6000	78	U	3200	2048	1422	1045	800	632	512	423	356	303	261	200	158
						Du	0.07	0.11	0.16	0.22	0.29	0.36	0.45	0.54	0.65	0.76	0.88	1.15	1.46
						C	3200	2560	2133	1829	1600	1422	1280	1164	1067	985	914	800	711
						Dc	0.06	0.09	0.13	0.18	0.23	0.29	0.36	0.44	0.52	0.61	0.71	0.92	1.17
11	2 1/4"x3/16"	8.24	2.2781	2.0250	85	U	4050	2592	1800	1322	1013	800	648	536	450	383	331	253	200
						Du	0.06	0.1	0.14	0.2	0.26	0.32	0.4	0.48	0.58	0.68	0.78	1.02	1.3
						C	4050	3240	2700	2314	2025	1800	1620	1473	1350	1246	1157	1013	900
						Dc	0.05	0.08	0.12	0.16	0.2	0.26	0.32	0.39	0.46	0.54	0.63	0.82	1.04
12	2 1/2"x3/16"	8.93	3.1250	2.5000	92	U	5000	3200	2222	1633	1250	988	800	661	556	473	408	313	247
						Du	0.06	0.09	0.13	0.18	0.23	0.29	0.36	0.44	0.52	0.61	0.71	0.92	1.17
						C	5000	4000	3333	2857	2500	2222	2000	1818	1667	1538	1429	1250	1111
						Dc	0.05	0.07	0.1	0.14	0.18	0.23	0.29	0.35	0.41	0.49	0.56	0.74	0.93

Table compiled as per ANSI/NAAMM MBG 534-14

F - 12,000 psi

E - 10,000,000 psi

Alloys 6061 T6 and 6063 T6

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	14
3/16" Bars	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
1/8" Bars	1	1 7/8	2 3/4	3 5/8	4 1/2	5 3/8	6 1/4	7 1/8	8	8 7/8	9 3/4	10 5/8	11 1/2
# Bars	15	16	17	18	19	20	21	22	23	24	25	26	27
3/16" Bars	13 5/16	14 1/4	15 3/16	16 1/8	17 1/16	18	18 15/16	19 7/8	20 13/16	21 3/4	22 11/16	23 5/8	24 9/16
1/8" Bars	12 3/8	13 1/4	14 1/8	15	15 7/8	16 3/4	17 5/8	18 1/2	19 3/8	20 1/4	21 1/8	22	22 7/8
# Bars	28	29	30	31	32	33	34	35	36	37	38	39	40
3/16" Bars	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	36 3/4
1/8" Bars	23 3/4	24 5/8	25 1/2	26 3/8	27 1/4	28 1/8	29	29 7/8	30 3/4	31 5/8	32 1/2	33 3/8	34 1/4
# Bars	41	42											
3/16" Bars	37 11/16	38 5/8											
1/8" Bars	35 1/8	36											

Revised May 2019