BORDEN GRATINGS

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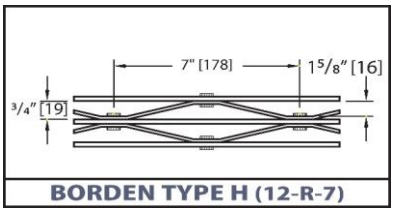
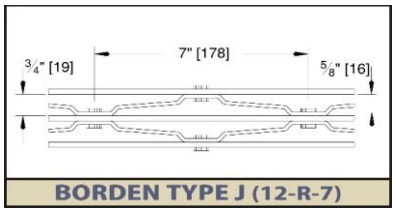
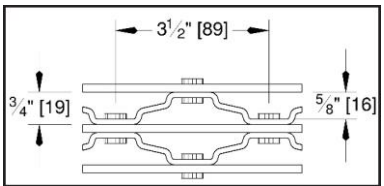
Riveted Grating
Steel
LOAD TABLE



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"	8.87	0.0602	0.1607	45	U	482	308	214	157	120	95	77					
						Du	0.1	0.16	0.22	0.3	0.4	0.5	0.62					
						C	482	386	321	275	241	214	193					
						Dc	0.08	0.12	0.18	0.24	0.32	0.4	0.5					
2	3/4"x3/16"	10.23	0.0844	0.2250	49	U	675	432	300	220	169	133	108					
						Du	0.1	0.16	0.22	0.3	0.4	0.5	0.62					
						C	675	540	450	386	338	300	270	245	225	208		
						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"	10.33	0.1428	0.2856	56	U	857	548	381	280	214	169	137	113	95	81		
						Du	0.07	0.12	0.17	0.23	0.3	0.38	0.47	0.56	0.67	0.79		
						C	857	686	571	490	428	381	343	312	286	264		
						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"	12.27	0.2000	0.4000	60	U	1200	768	533	392	300	237	192	159	133	114	98	75	59
						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	1200	960	800	686	600	533	480	436	400	369	343	300	267
						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"	11.79	0.2789	0.4463	66	U	1339	857	595	437	335	264	214	177	149	127	109	84	66
						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	1339	1071	893	765	669	595	536	487	446	412	383	335	298
						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"	14.31	0.3906	0.6250	71	U	1875	1200	833	612	469	370	300	248	208	178	153	117	93
						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	1875	1500	1250	1071	938	833	750	682	625	577	536	469	417
						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"	13.25	0.4820	0.6427	75	U	1928	1234	857	630	482	381	308	255	214	183	157	120	95
						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	1928	1542	1285	1102	964	857	771	701	643	593	551	482	428
						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"	16.35	0.6750	0.9000	82	U	2700	1728	1200	882	675	533	432	357	300	256	220	169	133
						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	2700	2160	1800	1543	1350	1200	1080	982	900	831	771	675	600
						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"	18.39	1.0719	1.2250	92	U	3675	2352	1633	1200	919	726	588	486	408	348	300	230	181
						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	3675	2940	2450	2100	1838	1633	1470	1336	1225	1131	1050	919	817
						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"	22.43	1.6000	1.6000	102	U	4800	3072	2133	1567	1200	948	768	635	533	454	392	300	237
						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	4800	3840	3200	2743	2400	2133	1920	1745	1600	1477	1371	1200	1067
						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"	24.48	2.2781	2.0250	111	U	6075	3888	2700	1984	1519	1200	972	803	675	575	496	380	300
						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	6075	4860	4050	3471	3038	2700	2430	2209	2025	1869	1736	1519	1350
						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"	26.52	3.1250	2.5000	120	U	7500	4800	3333	2449	1875	1481	1200	992	833	710	612	469	370
						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	7500	6000	5000	4286	3750	3333	3000	2727	2500	2308	2143	1875	1667
						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 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 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
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
# Bars	14	15	16	17	18	19	20	21	22	23	24	25
3/16" Bars	12 3/8	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
1/8" Bars	11 1/2	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
# Bars	26	27	28	29	30	31	32	33	34	35	36	37
3/16" Bars	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
1/8" Bars	22	22 7/8	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
# Bars	38	39	40	41	42							
3/16" Bars	34 7/8	35 13/16	36 3/4	37 11/16	38 5/8							
1/8" Bars	32 1/2	33 3/8	34 1/4	35 1/8	36							

Revised May 2019