

Riveted Grating Load Table

R-18-7 / R-18-3.5 LOAD TABLE

BEARING BAR SIZE		UNSUPPORTED SPAN												WEIGHT PER SQ. FT. (LBS.)								
		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	STEEL 18-7	STEEL 12-7	ALUM 18-7	ALUM 12-7					
1 x 1/8	U	788	504	350	257	197	156	126	LOADS AND DEFLECTIONS ARE THEORETICAL VALUES BASED ON 18,000 PSI STEEL OR 12,000 PSI ALUMINUM UNIT STRESS. FOR PEDESTRIAN COMFORT, DEFLECTIONS IN EXCESS OF 1/4" ARE NOT RECOMMENDED. <i>U = SAFE UNIFORM LOAD, LBS. PER SQ. FT.</i> <i>C = SAFE CONCENTRATED MID-SPAN LOAD, LBS. PER FT. OF GRATING WIDTH</i> <i>D = DEFLECTION IN INCHES</i>	7.6	10.6	2.7	3.9									
	D	.072	.112	.162	.220	.289	.365	.451														
	C	788	631	526	450	394	350	315														
	D	.058	.090	.130	.176	.230	.292	.360														
1 x 3/16	U	1184	757	526	386	295	233	189						156	9.4	12.8	3.3	4.5				
	D	.072	.112	.162	.220	.289	.365	.451						.545								
	C	1184	947	788	676	592	526	473						430								
	D	.058	.090	.130	.176	.230	.292	.360						.436								
1-1/4 x 1/8	U	1232	788	548	402	308	243	197						163					8.7	12.1	3.1	4.4
	D	.058	.090	.130	.176	.230	.292	.360						.435								
	C	1232	986	822	704	616	548	493						448								
	D	.046	.072	.104	.141	.184	.233	.288						.348								
1-1/4 x 3/16	U	1851	1185	823	604	463	365	296	244	11.0	15.0	3.8	5.3									
	D	.058	.090	.130	.176	.230	.292	.360	.435													
	C	1851	1481	1235	1058	925	823	740	673													
	D	.046	.072	.104	.141	.184	.233	.288	.348													
1-1/2 x 1/8	U	1775	1136	788	579	443	350	284	234					9.9	13.6	3.4	5.0					
	D	.048	.075	.108	.147	.192	.243	.300	.363													
	C	1775	1421	1184	1014	887	788	710	646													
	D	.038	.060	.086	.118	.154	.194	.240	.291													
1-1/2 x 3/16	U	2668	1707	1185	871	667	526	426	353									12.5	17.1	4.4	6.1	
	D	.048	.075	.108	.147	.192	.243	.300	.363													
	C	2668	2134	1779	1524	1334	1185	1067	970													
	D	.038	.060	.086	.118	.154	.194	.240	.291													
1-3/4 x 3/16	U	3631	2324	1614	1185	908	717	580	480	14.2	19.4	4.9	6.8									
	D	.041	.064	.093	.126	.165	.208	.257	.312													
	C	3651	2904	2420	2075	1815	1614	1452	1320													
	D	.033	.051	.074	.101	.132	.167	.206	.249													
2 x 3/16	U	4743	3036	2107	1549	1185	937	759	626					16.8	22.9	5.8	8.1					
	D	.036	.056	.081	.110	.144	.182	.225	.272													
	C	4743	3795	3162	2710	2371	2107	1897	1725													
	D	.029	.045	.065	.088	.115	.146	.180	.218													
2-1/4 x 3/16	U	6004	3842	2691	1959	1500	1185	960	793									18.3	25.0	6.4	8.9	
	D	.032	.050	.072	.098	.128	.162	.200	.242													
	C	6004	4802	4002	3430	3001	2668	2401	2182													
	D	.026	.040	.058	.078	.102	.130	.160	.194													
2-1/2 x 3/16	U	7411	4743	3293	2419	1852	1463	1185	979	19.8	27.2	6.9	9.6									
	D	.029	.045	.065	.088	.115	.146	.180	.218													
	C	7411	5929	4941	4235	3705	3293	2964	2695													
	D	.023	.036	.052	.070	.102	.117	.144	.174													

TO DEVELOP THE WEIGHT PER SQ. FT. FOR GRATINGS WITH RIVETS AT 3-1/2" O.C. ADD THE FOLLOWING FACTORS TO THE VALUES ABOVE:

FOR STEEL GRATINGS: 0.4 # PER SQ. FT.
FOR ALUMINUM GRATINGS: 0.2 # PER SQ. FT.

CONVERSION TABLE

The loads shown above are for Riveted Steel Gratings type R-18-7 and R-18-3.5. To determine the load carrying capacities and deflections for alternative bar spacings, multiply the values given by the following conversion factors:

RIVETED STEEL GRATING TYPES R-12-7 AND R-12-3.5

LOADS 1.40
DEFLECTION VALUES AS STATED

EXAMPLE: R-12-3.5 1-1/2" x 3/16"

5'-0" UNSUPPORTED SPAN
UNIF. LOAD = 596 LBS. DEFLECTION = .300

RIVETED ALUMINUM GRATING TYPES R-18-7 AND R-18-3.5

LOADS .66
DEFLECTION 2.00

EXAMPLE: R-18-7 1" x 3/16" ALUMINUM

3'-6" UNSUPPORTED SPAN
CONC. LOAD = 446 LBS. DEFLECTION = .352

RIVETED ALUMINUM GRATING TYPES R-12-7 AND R-12-3.5

LOADS .93
DEFLECTION 2.00

EXAMPLE: R-12-7 2" x 3/16" ALUMINUM

4'-6" UNSUPPORTED SPAN
UNIF. LOAD = 871 LBS. DEFLECTION = .364

