

# Riveted Grating

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

BEARING BAR SIZE	UNSUPPORTED SPAN												STEEL 18-7	STEEL 12-7	
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"			
1 X 1/8	U	788	504	350	257	197	156	126					7.6	10.6	
	D	0.072	0.112	0.162	0.220	0.289	0.365	0.451							
	C	788	631	526	450	394	350	315							
	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360							
1 X 3/16	U	1184	757	526	386	295	233	189	156	FOR THE WEIGHT PER SQ. FT. FOR GRATINGS WITH RIVETS AT 3-1/2" O.C. ADD THE FOLLOWING FACTORS:				9.4	12.8
	D	0.072	0.112	0.162	0.220	0.289	0.365	0.451	0.545						
	C	1184	947	788	676	592	526	473	430						
	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436						
1-1/4 X 1/8	U	1232	788	548	402	308	243	197	163	FOR STEEL GRATING 0.4 # PER SQ. FT.				8.7	12.1
	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.435						
	C	1232	986	822	704	616	548	493	448	FOR ALUMINUM GRATING 0.2 # PER SQ. FT.					
	D	0.046	0.072	0.104	0.141	0.184	0.233	0.288	0.348						
1-1/4 X 3/16	U	1851	1185	823	604	463	365	296	244	205	174	150	11	15	
	D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.435	0.516	0.607	0.704			
	C	1851	14481	1235	1058	925	823	740	673	617	570	466			
	D	0.046	0.072	0.104	0.141	0.184	0.233	0.288	0.348	0.415	0.486	0.562			
1-1/2 X 1/8	U	1775	1136	788	579	443	350	284	234	197	167	144	9.9	13.6	
	D	0.048	0.075	0.108	0.147	0.192	0.243	0.300	0.363	0.432	0.506	0.587			
	C	1775	1421	1184	1014	887	788	710	646	592	546	507			
	D	0.038	0.060	0.086	0.118	0.154	0.194	0.240	0.291	0.346	0.405	0.470			
1-1/2 X 3/16	U	2668	1707	1185	871	667	526	426	353	296	253	217	166	12.5	17.1
	D	0.048	0.075	0.108	0.147	0.192	0.243	0.300	0.363	0.432	0.506	0.587	0.765		
	C	2668	2134	1779	1524	1334	1185	1067	970	888	821	762	667		
	D	0.038	0.060	0.086	0.118	0.154	0.194	0.240	0.291	0.346	0.405	0.470	0.614		
1-3/4 X 3/16	U	3631	2324	1614	1185	908	717	580	480	403	343	296	226	14.2	19.4
	D	0.041	0.064	0.093	0.126	0.165	0.208	0.257	0.312	0.370	0.435	0.505	0.657		
	C	3651	2904	2420	2075	1815	1614	1452	1320	1210	1117	1037	908		
	D	0.033	0.051	0.074	0.101	0.132	0.167	0.206	0.249	0.296	0.348	0.403	0.527		
2 X 3/16	U	4743	3036	2107	1549	1185	937	759	626	526	448	387	296	16.8	22.9
	D	0.036	0.056	0.081	0.110	0.144	0.182	0.225	0.272	0.324	0.380	0.441	0.576		
	C	4743	3795	3162	2710	2371	2107	1897	1725	1581	1459	1354	1185		
	D	0.029	0.045	0.065	0.088	0.115	0.146	0.180	0.218	0.259	0.304	0.353	0.461		
2-1/4 X 3/16	U	6004	3842	2691	1959	1500	1185	960	793	667	568	489	374	18.3	25
	D	0.032	0.050	0.072	0.098	0.128	0.162	0.200	0.242	0.288	0.338	0.392	0.512		
	C	6004	4802	4002	3430	3001	2668	2401	2182	2001	1846	1715	1500		
	D	0.026	0.040	0.058	0.078	0.102	0.130	0.160	0.194	0.230	0.270	0.314	0.410		
2-1/2 X 3/16	U	7411	4743	3293	2419	1852	1463	1185	979	823	701	604	463	19.8	27.2
	D	0.029	0.045	0.065	0.088	0.115	0.146	0.180	0.218	0.259	0.304	0.353	0.461		
	C	7411	5929	4941	4235	3705	3293	2964	2695	2470	2280	2117	1852		
	D	0.023	0.036	0.052	0.070	0.092	0.117	0.144	0.174	0.207	0.243	0.282	0.369		

Loads and deflections are theoretical values based on 18,000 psi aluminum unit stress. For pedestrian comfort, deflections in excess of 1/4" are not recommended.

U= safe uniform load, lbs.Per sq.Ft. Of grating width C= safe concentrated mid-span load, lbs. Per ft. of grating width  
D= deflections

### CONVERSION TABLE

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

RIVETED STEEL GRATING TYPES		RIVETED ALUMINUM GRATING TYPES		RIVETED ALUMINUM GRATING TYPES	
R-12-7 AND R-12-3.5		R-18-7 AND R-18-3.5		R-12-7 AND R-12-3.5	
LOADS	1.4	LOADS	0.66	LOADS	0.93
DEFLECTION	VALUES AS STATED	DEFLECTION	2	DEFLECTION	2
EXAMPLE: R-12-3.5 1-1/2" x 3/16"		EXAMPLE: R-18-7 1" x 3/16" ALUMINUM		EXAMPLE: R-12-7 2"x 3/16" ALUMINUM	
5'-0" UNSUPPORTED SPAN		3'-6" UNSUPPORTED SPAN		4'-6" UNSUPPORTED SPAN	
UNIF. LOAD = 596 LBS.	DEFLECTION = .300	CONC. LOAD = 446 LBS.	DEFLECTION = .352	UNIF. LOAD = 871 LBS.	DEFLECTION = .364

