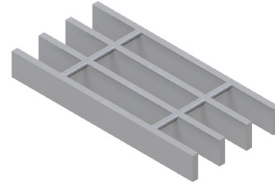


# LOAD TABLES | STANDARD DUTY, IMPERIAL

## LOAD TABLES - SD

Grating Type: **19W4**  
 Design Code: **NAAMM MBG 534-19**  
 Material: **ASTM A1011CS Type B**  
 Surface: **Smooth**



U = Safe Uniform Load (lbs/ft<sup>2</sup>)  
 D<sub>u</sub> = Deflection Due to Safe Uniform Load (in)  
 C = Safe Concentrated Load (lbs/ft of grating width)  
 D<sub>c</sub> = Deflection Due to Safe Concentrated Load (in)  
 Allowable Extreme Fiber Stress = 18 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft <sup>2</sup> )	Ped. Span (inches)	Load / Deflection	Span (ft -in)													Section Properties			
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"	7' - 0"	7' - 6"	8' - 0"	S <sub>x</sub> (in <sup>3</sup> /ft)	I <sub>x</sub> (in <sup>4</sup> /ft)		
1" x 1/8"	5.00	51	U	632	404	281	206	158	125										0.211	0.105
			D <sub>u</sub>	0.07	0.12	0.17	0.23	0.30	0.38											
			C	632	505	421	361	316	281											
			D <sub>c</sub>	0.06	0.09	0.13	0.18	0.24	0.30											
1" x 3/16"	7.15	57	U	947	606	421	309	237	187	152									0.316	0.158
			D <sub>u</sub>	0.07	0.12	0.17	0.23	0.30	0.38	0.47										
			C	947	758	632	541	474	421	379										
			D <sub>c</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37										
1 1/4" x 1/8"	6.08	61	U	987	632	439	322	247	195	158	130								0.329	0.206
			D <sub>u</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37	0.45									
			C	987	789	658	564	493	439	395	359									
			D <sub>c</sub>	0.05	0.07	0.11	0.15	0.19	0.24	0.30	0.36									
1 1/4" x 3/16"	8.76	67	U	1,480	947	658	483	370	292	237	196	164							0.493	0.308
			D <sub>u</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37	0.45	0.54								
			C	1,480	1,184	987	846	740	658	592	538	493								
			D <sub>c</sub>	0.05	0.07	0.11	0.15	0.19	0.24	0.30	0.36	0.43								
1 1/2" x 1/8"	7.15	70	U	1,421	909	632	464	355	281	227	188	158							0.474	0.355
			D <sub>u</sub>	0.05	0.08	0.11	0.15	0.20	0.25	0.31	0.38	0.45								
			C	1,421	1,137	947	812	711	632	568	517	474								
			D <sub>c</sub>	0.04	0.06	0.09	0.12	0.16	0.20	0.25	0.30	0.36								
1 1/2" x 3/16"	10.37	77	U	2,132	1,364	947	696	533	421	341	282	237	202						0.711	0.533
			D <sub>u</sub>	0.05	0.08	0.11	0.15	0.20	0.25	0.31	0.38	0.45	0.52							
			C	2,132	1,705	1,421	1,218	1,066	947	853	775	711	656							
			D <sub>c</sub>	0.04	0.06	0.09	0.12	0.16	0.20	0.25	0.30	0.36	0.42							
1 3/4" x 1/8"	12.17	87	U	2,901	1,857	1,289	947	725	573	464	384	322	275	237	206				0.967	0.846
			D <sub>u</sub>	0.04	0.07	0.10	0.13	0.17	0.22	0.27	0.32	0.38	0.45	0.52	0.60					
			C	2,901	2,321	1,934	1,658	1,451	1,289	1,161	1,055	967	893	829	774					
			D <sub>c</sub>	0.03	0.05	0.08	0.10	0.14	0.17	0.21	0.26	0.31	0.36	0.42	0.48					
2" x 1/8"	13.78	96	U	3,789	2,425	1,684	1,237	947	749	606	501	421	359	309	269	237			1.263	1.263
			D <sub>u</sub>	0.04	0.06	0.08	0.11	0.15	0.19	0.23	0.28	0.34	0.39	0.46	0.52	0.60				
			C	3,789	3,032	2,526	2,165	1,895	1,684	1,516	1,378	1,263	1,166	1,083	1,011	947				
			D <sub>c</sub>	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.31	0.36	0.42	0.48				
2 1/2" x 1/8"	17.00	113	U	5,921	3,789	2,632	1,933	1,480	1,170	947	783	658	561	483	421	370			1.974	2.467
			D <sub>u</sub>	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.31	0.36	0.42	0.48				
			C	5,921	4,737	3,947	3,383	2,961	2,632	2,368	2,153	1,974	1,822	1,692	1,579	1,480				
			D <sub>c</sub>	0.02	0.04	0.05	0.07	0.10	0.12	0.15	0.18	0.21	0.25	0.29	0.34	0.38				

Spans and loads in red exceed a deflection of 1/4" for uniform loads of 100 lbs./sq. ft. Experience has shown that 1/4" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

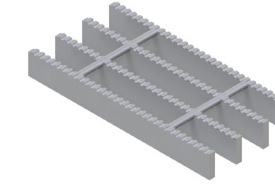
### 19W4 (in)

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

Deduct 1/16" for 1/8" bearing bars

## LOAD TABLES - SD

Grating Type: **19W4**  
 Design Code: **NAAMM MBG 534-19**  
 Material: **ASTM A1011CS Type B**  
 Surface: **Serrated**



U = Safe Uniform Load (lbs/ft<sup>2</sup>)  
 D<sub>u</sub> = Deflection Due to Safe Uniform Load (in)  
 C = Safe Concentrated Load (lbs/ft of grating width)  
 D<sub>c</sub> = Deflection Due to Safe Concentrated Load (in)  
 Allowable Extreme Fiber Stress = 18 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft <sup>2</sup> )	Ped. Span (inches)	Load / Deflection	Span (ft -in)													Section Properties			
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"	7' - 0"	7' - 6"	8' - 0"	S <sub>x</sub> (in <sup>3</sup> /ft)	I <sub>x</sub> (in <sup>4</sup> /ft)		
1" x 1/8"	5.00	42	U	355	227	158	116											0.118	0.044	
			D <sub>u</sub>	0.10	0.16	0.22	0.30													
			C	355	284	237	203													
			D <sub>c</sub>	0.08	0.12	0.18	0.24													
1" x 3/16"	7.15	46	U	533	341	237	174	133										0.178	0.067	
			D <sub>u</sub>	0.10	0.16	0.22	0.30	0.40												
			C	533	426	355	305	266												
			D <sub>c</sub>	0.08	0.12	0.18	0.24	0.32												
1 1/4" x 1/8"	6.08	51	U	632	404	281	206	158	125									0.211	0.105	
			D <sub>u</sub>	0.07	0.12	0.17	0.23	0.30	0.38											
			C	632	505	421	361	316	281											
			D <sub>c</sub>	0.06	0.09	0.13	0.18	0.24	0.30											
1 1/4" x 3/16"	8.76	57	U	947	606	421	309	237	187	152								0.316	0.158	
			D <sub>u</sub>	0.07	0.12	0.17	0.23	0.30	0.38	0.47										
			C	947	758	632	541	474	421	379										
			D <sub>c</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37										
1 1/2" x 1/8"	7.15	61	U	987	632	439	322	247	195	158	130							0.329	0.206	
			D <sub>u</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37	0.45									
			C	987	789	658	564	493	439	395	359									
			D <sub>c</sub>	0.05	0.07	0.11	0.15	0.19	0.24	0.30	0.36									
1 1/2" x 3/16"	10.37	67	U	1,480	947	658	483	370	292	237	196	164						0.493	0.308	
			D <sub>u</sub>	0.06	0.09	0.13	0.18	0.24	0.30	0.37	0.45	0.54								
			C	1,480	1,184	987	846	740	658	592	538	493								
			D <sub>c</sub>	0.05	0.07	0.11	0.15	0.19	0.24	0.30	0.36	0.43								
1 3/4" x 1/8"	11.98	77	U	2,132	1,364	947	696	533	421	341	282	237	202					0.711	0.533	
			D <sub>u</sub>	0.05	0.08	0.11	0.15	0.20	0.25	0.31	0.38	0.45	0.52							
			C	2,132	1,705	1,421	1,218	1,066	947	853	775	711	656							
			D <sub>c</sub>	0.04	0.06	0.09	0.12	0.16	0.20	0.25	0.30	0.36	0.42							
2" x 1/8"	13.78	87	U	2,901	1,857	1,289	947	725	573	464	384	322	275	237	206			0.967	0.846	
			D <sub>u</sub>	0.04	0.07	0.10	0.13	0.17	0.22	0.27	0.32	0.38	0.45	0.52	0.60					
			C	2,901	2,321	1,934	1,658	1,451	1,289	1,161	1,055	967	893	829	774					
			D <sub>c</sub>	0.03	0.05	0.08	0.10	0.14	0.17	0.21	0.26	0.31	0.36	0.42	0.48					
2 1/2" x 1/8"	17.00	105	U	4,796	3,069	2,132	1,566	1,199	947	767	634	533	454	392	341	300		1.599	1.799	
			D <sub>u</sub>	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.41	0.47	0.53				
			C	4,796	3,837	3,197	2,741	2,398	2,132	1,918	1,744	1,599	1,476	1,370	1,279	1,199				
			D <sub>c</sub>	0.03	0.04	0.06	0.08	0.11	0.13	0.17	0.20	0.24	0.28	0.32	0.37	0.42				

Spans and loads in red exceed a deflection of 1/4" for uniform loads of 100 lbs./sq. ft. Experience has shown that 1/4" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

### 19W4 (in)

# of Bars	2	3
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