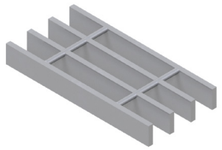
LOAD TABLES - HD

Grating Type: 19HW4
Design Code: NAAMM MBG 534-19
Material: ASTM A1011CS Grade 36
Surface: Smooth



U = Safe Uniform Load (lbs/ft²)
D_u = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
D_c = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft -in) 1' - 0"	1' - 6"	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"	Section Properties S_x (in³)/ft / I_x (in⁴)/ft
1" x ¼"	9.92	61	U	5,614	2,495	1,404	898	624	458	351	277	225	186						0.421
			D_u	0.02	0.05	0.08	0.13	0.19	0.25	0.33	0.42	0.52	0.63						
			C	2,807	1,871	1,404	1,123	936	802	702	624	561	510						0.211
			D_c	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50						
1 ¼" x ¼"	12.06	72	U	8,772	3,899	2,193	1,404	975	716	548	433	351	290	244					0.658
			D_u	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50	0.60					
			C	4,386	2,924	2,193	1,754	1,462	1,253	1,096	975	877	797	731					0.411
			D_c	0.01	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48					
1 ½" x ¼"	14.21	83	U	12,632	5,614	3,158	2,021	1,404	1,031	789	624	505	418	351	299	258			0.947
			D_u	0.01	0.03	0.06	0.09	0.12	0.17	0.22	0.28	0.34	0.42	0.50	0.58	0.68			
			C	6,316	4,211	3,158	2,526	2,105	1,805	1,579	1,404	1,263	1,148	1,053	972	902			0.711
			D_c	0.01	0.02	0.04	0.07	0.10	0.14	0.18	0.22	0.28	0.33	0.40	0.47	0.54			
1 ½" x ⅜"	20.83	92	U	18,947	8,421	4,737	3,032	2,105	1,547	1,184	936	758	626	526	448	387	337	296	1.421
			D_u	0.01	0.03	0.06	0.09	0.12	0.17	0.22	0.28	0.34	0.42	0.50	0.58	0.68	0.78	0.88	
			C	9,474	6,316	4,737	3,789	3,158	2,707	2,368	2,105	1,895	1,722	1,579	1,457	1,353	1,263	1,184	1.066
			D_c	0.01	0.02	0.04	0.07	0.10	0.14	0.18	0.22	0.28	0.33	0.40	0.47	0.54	0.62	0.71	
2" x ¼"	18.51	103	U	22,456	9,981	5,614	3,593	2,495	1,833	1,404	1,109	898	742	624	532	458	399	351	1.684
			D_u	0.01	0.02	0.04	0.06	0.09	0.13	0.17	0.21	0.26	0.31	0.37	0.44	0.51	0.58	0.66	
			C	11,228	7,485	5,614	4,491	3,743	3,208	2,807	2,495	2,246	2,041	1,871	1,727	1,604	1,497	1,404	1.684
			D_c	0.01	0.02	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	
2 ½" x ¼"	22.80	122	U	35,088	15,595	8,772	5,614	3,899	2,864	2,193	1,733	1,404	1,160	975	830	716	624	548	2.632
			D_u	0.01	0.02	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	17,544	11,696	8,772	7,018	5,848	5,013	4,386	3,899	3,509	3,190	2,924	2,699	2,506	2,339	2,193	3.289
			D_c	0.01	0.01	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	
3" x ¼"	27.10	140	U	50,526	22,456	12,632	8,084	5,614	4,125	3,158	2,495	2,021	1,670	1,404	1,196	1,031	898	789	3.789
			D_u	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.21	0.25	0.29	0.34	0.39	0.44	
			C	25,263	16,842	12,632	10,105	8,421	7,218	6,316	5,614	5,053	4,593	4,211	3,887	3,609	3,368	3,158	5.684
			D_c	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.23	0.27	0.31	0.35	
3" x ⅜"	40.70	154	U	75,789	33,684	18,947	12,126	8,421	6,187	4,737	3,743	3,032	2,505	2,105	1,794	1,547	1,347	1,184	5.684
			D_u	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.21	0.25	0.29	0.34	0.39	0.44	
			C	37,895	25,263	18,947	15,158	12,632	10,827	9,474	8,421	7,579	6,890	6,316	5,830	5,414	5,053	4,737	8.526
			D_c	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.23	0.27	0.31	0.35	

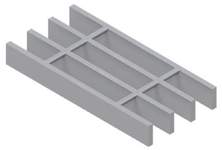
Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

19HW4 (in)

# of Bars	2	3	4	5	6	7	8	9	10	11
¼" Bars	1-7/16	2-5/8	3-13/16	5	6-3/16	7-3/8	8-9/16	9-3/4	10-15/16	12-1/8
⅜" Bars	1-9/16	2-3/4	3-15/16	5-1/8	6-5/16	7-1/2	8-11/16	9-7/8	11-1/16	12-1/4
# of Bars	12	13	14	15	16	17	18	19	20	21
¼" Bars	13-5/16	14-1/2	15-11/16	16-7/8	18-1/16	19-1/4	20-7/16	21-5/8	22-13/16	24
⅜" Bars	13-7/16	14-5/8	15-13/16	17	18-3/16	19-3/8	20-9/16	21-3/4	22-15/16	24-1/8
# of Bars	22	23	24	25	26	27	28	29	30	31
¼" Bars	25-3/16	26-3/8	27-9/16	28-3/4	29-15/16	31-1/8	32-5/16	33-1/2	34-11/16	35-7/8
⅜" Bars	25-5/16	26-1/2	27-11/16	28-7/8	30-1/16	31-1/4	32-7/16	33-5/8	34-13/16	36

LOAD TABLES - HD

Grating Type: 19HW4
Design Code: NAAMM MBG 534-19
Material: ASTM A1011CS Grade 36
Surface: Smooth



U = Safe Uniform Load (lbs/ft²)
D_u = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
D_c = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft -in) 1' - 0"	1' - 6"	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"	Section Properties S_x (in³)/ft / I_x (in⁴)/ft
3 ½" x ¼"	31.39	157	U	68,772	30,565	17,193	11,004	7,641	5,614	4,298	3,396	2,751	2,273	1,910	1,628	1,404	1,223	1,075	5.158
			D_u	0.01	0.01	0.02	0.04	0.05	0.07	0.09	0.12	0.15	0.18	0.21	0.25	0.29	0.33	0.38	
			C	34,386	22,924	17,193	13,754	11,462	9,825	8,596	7,641	6,877	6,252	5,731	5,290	4,912	4,585	4,298	9.026
			D_c	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.10	0.12	0.14	0.17	0.20	0.23	0.27	0.30	
3 ½" x ⅜"	47.14	173	U	103,158	45,848	25,789	16,505	11,462	8,421	6,447	5,094	4,126	3,410	2,865	2,442	2,105	1,834	1,612	7.737
			D_u	0.01	0.01	0.02	0.04	0.05	0.07	0.09	0.12	0.15	0.18	0.21	0.25	0.29	0.33	0.38	
			C	51,579	34,386	25,789	20,632	17,193	14,737	12,895	11,462	10,316	9,378	8,596	7,935	7,368	6,877	6,447	13.539
			D_c	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.10	0.12	0.14	0.17	0.20	0.23	0.27	0.30	
4" x¼"	35.69	173	U	89,825	39,922	22,456	14,372	9,981	7,333	5,614	4,436	3,593	2,969	2,495	2,126	1,833	1,597	1,404	6.737
			D_u	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.19	0.22	0.25	0.29	0.33	
			C	44,912	29,942	22,456	17,965	14,971	12,832	11,228	9,981	8,982	8,166	7,485	6,910	6,416	5,988	5,614	13.474
			D_c	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.10	0.13	0.15	0.17	0.20	0.23	0.26	
4" x ⅜"	53.58	192	U	134,737	59,883	33,684	21,558	14,971	10,999	8,421	6,654	5,389	4,454	3,743	3,189	2,750	2,395	2,105	10.105
			D_u	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.19	0.22	0.25	0.29	0.33	
			C	67,368	44,912	33,684	26,947	22,456	19,248	16,842	14,971	13,474	12,249	11,228	10,364	9,624	8,982	8,421	20.211
			D_c	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.10	0.13	0.15	0.17	0.20	0.23	0.26	
5" x ⅜"	66.47	227	U	210,526	93,567	52,632	33,684	23,392	17,186	13,158	10,396	8,421	6,960	5,848	4,983	4,296	3,743	3,289	15.789
			D_u	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.10	0.13	0.15	0.17	0.20	0.23	0.26	
			C	105,263	70,175	52,632	42,105	35,088	30,075	26,316	23,392	21,053	19,139	17,544	16,194	15,038	14,035	13,158	39.474
			D_c	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.19	0.21	
6" x ⅜"	79.35	260	U	303,158	134,737	75,789	48,505	33,684	24,748	18,947	14,971	12,126	10,022	8,421	7,175	6,187	5,389	4,737	22.737
			D_u	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.15	0.17	0.19	0.22	
			C	151,579	101,053	75,789	60,632	50,526	43,308	37,895	33,684	30,316	27,560	25,263	23,320	21,654	20,211	18,947	68.211
			D_c	0.00	0.01	0.01	0.02	0.02	0.03	0.04	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	

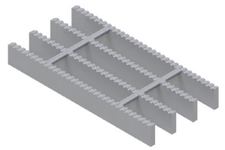
Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

19HW4 (in)

# of Bars	2	3	4	5	6	7	8	9	10	11
¼" Bars	1-7/16	2-5/8	3-13/16	5	6-3/16	7-3/8	8-9/16	9-3/4	10-15/16	12-1/8
⅜" Bars	1-9/16	2-3/4	3-15/16	5-1/8	6-5/16	7-1/2	8-11/16	9-7/8	11-1/16	12-1/4
# of Bars	12	13	14	15	16	17	18	19	20	21
¼" Bars	13-5/16	14-1/2	15-11/16	16-7/8	18-1/16	19-1/4	20-7/16	21-5/8	22-13/16	24
⅜" Bars	13-7/16	14-5/8	15-13/16	17	18-3/16	19-3/8	20-9/16	21-3/4	22-15/16	24-1/8
# of Bars	22	23	24	25	26	27	28	29	30	31
¼" Bars	25-3/16	26-3/8	27-9/16	28-3/4	29-15/16	31-1/8	32-5/16	33-1/2	34-11/16	35-7/8
⅜" Bars	25-5/16	26-1/2	27-11/16	28-7/8	30-1/16	31-1/4	32-7/16	33-5/8	34-13/16	36

LOAD TABLES - HD

Grating Type: 19HW4
Design Code: NAAMM MBG 534-19
Material: ASTM A1011CS Grade 36
Surface: Serrated



U = Safe Uniform Load (lbs/ft²)
D_u = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
D_c = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft -in) 1' - 0"	1' - 6"	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"	Section Properties S_x (in³)/ft / I_x (in⁴)/ft
1" x ¼"	9.92	49	U	3,158	1,404	789	505	351	258	197	156								0.237
			D_u	0.03	0.06	0.11	0.17	0.25	0.34	0.44	0.56								
			C	1,579	1,053	789	632	526	451	395	351								0.089
			D_c	0.02	0.05	0.09	0.14	0.20	0.27	0.35	0.45								
1 ¼" x ¼"	12.06	61	U	5,614	2,495	1,404	898	624	458	351	277	225	186						0.421
			D_u	0.02	0.05	0.08	0.13	0.19	0.25	0.33	0.42	0.52	0.63						
			C	2,807	1,871	1,404	1,123	936	802	702	624	561	510						0.211
			D_c	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50						
1 ½" x ¼"	14.21	72	U	8,772	3,899	2,193	1,404	975	716	548	433	351	290	244					0.658
			D_u	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50	0.60					
			C	4,386	2,924	2,193	1,754	1,462	1,253	1,096	975	877	797	731					0.411
			D_c	0.01	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48					
1 ½" x ⅜"	20.83	80	U	13,158	5,848	3,289	2,105	1,462	1,074	822	650	526	435	365	311	269			0.987
			D_u	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50	0.60	0.70	0.81			
			C	6,579	4,386	3,289	2,632	2,193	1,880	1,645	1,462	1,316	1,196	1,096	1,012	940			0.617
			D_c	0.01	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48	0.56	0.65			
2" x ¼"	18.51	93	U	17,193	7,641	4,298	2,751	1,910	1,404	1,075	849	688	568	478	407	351	306	269	1.289
			D_u	0.01	0.03	0.05	0.07	0.11	0.14	0.19	0.24	0.30	0.36	0.43	0.50	0.58	0.67	0.76	
			C	8,596	5,731	4,298	3,439	2,865	2,456	2,149	1,910	1,719	1,563	1,433	1,323	1,228	1,146	1,075	1.128
			D_c	0.01	0.02	0.04	0.06	0.09	0.12	0.15	0.19	0.24	0.29	0.34	0.40	0.46	0.53	0.61	
2 ½" x ¼"	22.80	113	U	28,421	12,632	7,105	4,547	3,158	2,320	1,776	1,404	1,137	940	789	673	580	505	444	2.132
			D_u	0.01	0.02	0.04	0.06	0.08	0.11	0.15	0.19	0.23	0.28	0.33	0.39	0.45	0.52	0.59	
			C	14,211	9,474	7,105	5,684	4,737	4,060	3,553	3,158	2,842	2,584	2,368	2,186	2,030	1,895	1,776	2.398
			D_c	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.15	0.18	0.22	0.26	0.31	0.36	0.41	0.47	
3" x ¼"	27.10	131	U	42,456	18,869	10,614	6,793	4,717	3,466	2,654	2,097	1,698	1,404	1,179	1,005	866	755	663	3.184
			D_u	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.32	0.37	0.42	0.48	
			C	21,228	14,152	10,614	8,491	7,076	6,065	5,307	4,717	4,246	3,860	3,538	3,266	3,033	2,830	2,654	4.378
			D_c	0.01	0.01	0.02	0.04	0.05	0.07	0.10	0.12	0.15	0.18	0.22	0.25	0.29	0.34	0.39	
3" x ⅜"	40.16	145	U	63,684	28,304	15,921	10,189	7,076	5,199	3,980	3,145	2,547	2,105	1,769	1,507	1,300	1,132	995	4.776
			D_u	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.15	0.19	0.23	0.27	0.32	0.37	0.42	0.48	
			C	31,842	21,228	15,921	12,737	10,614	9,098	7,961	7,076	6,368	5,789	5,307	4,899	4,549	4,246	3,980	6.567
			D_c	0.01	0.01	0.02	0.04	0.05	0.07	0.10	0.12	0.15	0.18	0.22	0.25	0.29	0.34	0.39	

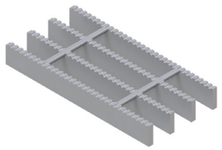
Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

19HW4 (in)

# of Bars	2	3	4	5	6	7	8	9	10	11
¼" Bars	1-7/16	2-5/8	3-13/16	5	6-3/16	7-3/8	8-9/16	9-3/4	10-15/16	12-1/8
⅜" Bars	1-9/16	2-3/4	3-15/16	5-1/8	6-5/16	7-1/2	8-11/16	9-7/8	11-1/16	12-1/4
# of Bars	12	13	14	15	16	17	18	19	20	21
¼" Bars	13-5/16	14-1/2	15-11/16	16-7/8	18-1/16	19-1/4	20-7/16	21-5/8	22-13/16	24
⅜" Bars	13-7/16	14-5/8	15-13/16	17	18-3/16	19-3/8	20-9/16	21-3/4	22-15/16	24-1/8
# of Bars	22	23	24	25	26	27	28	29	30	31
¼" Bars	25-3/16	26-3/8	27-9/16	28-3/4	29-15/16	31-1/8	32-5/16	33-1/2	34-11/16	35-7/8
⅜" Bars	25-5/16	26-1/2	27-11/16	28-7/8	30-1/16	31-1/4	32-7/16	33-5/8	34-13/16	36

LOAD TABLES - HD

Grating Type: 19HW4
Design Code: NAAMM MBG 534-19
Material: ASTM A1011CS Grade 36
Surface: Serrated



U = Safe Uniform Load (lbs/ft²)
D_u = Deflection Due to Safe Uniform Load (in)
C = Safe Concentrated Load (lbs/ft of grating width)
D_c = Deflection Due to Safe Concentrated Load (in)
Allowable Extreme Fiber Stress = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft -in) 1' - 0"	1' - 6"	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"	Section Properties S_x (in³)/ft / I_x (in⁴)/ft
3 ½" x ¼"	31.39	148	U	59,298	26,355	14,825	9,488	6,589	4,841	3,706	2,928	2,372	1,960	1,647	1,404	1,210	1,054	927	4.447
			D_u	0.01	0.01	0.03	0.04	0.06	0.08	0.10	0.13	0.16	0.19	0.23	0.27	0.31	0.36	0.41	
			C	29,649	19,766	14,825	11,860	9,883	8,471	7,412	6,589	5,930	5,391	4,942	4,561	4,236	3,953	3,706	7.227
			D_c	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.22	0.25	0.29	0.33	
3 ½" x ⅜"	47.14	164	U	88,947	39,532	22,237	14,232	9,883	7,261	5,559	4,392	3,558	2,940	2,471	2,105	1,815	1,581	1,390	6.671
			D_u	0.01	0.01	0.03	0.04	0.06	0.08	0.10	0.13	0.16	0.19	0.23	0.27	0.31	0.36	0.41	
			C	44,474	29,649	22,237	17,789	14,825	12,707	11,118	9,883	8,895	8,086	7,412	6,842	6,353	5,930	5,559	10.840
			D_c	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.22	0.25	0.29	0.33	
4" x¼"	35.69	165	U	78,947	35,088	19,737	12,632	8,772	6,445	4,934	3,899	3,158	2,610	2,193	1,869	1,611	1,404	1,234	5.921
			D_u	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.23	0.27	0.31	0.35	
			C	39,474	26,316	19,737	15,789	13,158	11,278	9,868	8,772	7,895	7,177	6,579	6,073	5,639	5,263	4,934	11.102
			D_c	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	
4" x ⅜"	53.58	183	U	118,421	52,632	29,605	18,947	13,158	9,667	7,401	5,848	4,737	3,915	3,289	2,803	2,417	2,105	1,850	8.882
			D_u	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.23	0.27	0.31	0.35	
			C	59,211	39,474	29,605	23,684	19,737	16,917	14,803	13,158	11,842	10,766	9,868	9,109	8,459	7,895	7,401	16.653
			D_c	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	
5" x ⅜"	66.47	218	U	190,000	84,444	47,500	30,400	21,111	15,510	11,875	9,383	7,600	6,281	5,278	4,497	3,878	3,378	2,969	14.250
			D_u	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.16	0.18	0.21	0.25	0.28	
			C	95,000	63,333	47,500	38,000	31,667	27,143	23,750	21,111	19,000	17,273	15,833	14,615	13,571	12,667	11,875	33.844
			D_c	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.07	0.09	0.11	0.13	0.15	0.17	0.20	0.22	
6" x ⅜"	79.35	252	U	278,421	123,743	69,605	44,547	30,936	22,728	17,401	13,749	11,137	9,204	7,734	6,590	5,682	4,950	4,350	20.882
			D_u	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.07	0.09	0.11	0.13	0.15	0.18	0.20	0.23	
			C	139,211	92,807	69,605	55,684	46,404	39,774	34,803	30,936	27,842	25,311	23,202	21,417	19,887	18,561	17,401	60.035
			D_c	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.14	0.16	0.18	

Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" 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.

19HW4 (in)

# of Bars	2	3	4	5	6	7	8	9	10	11
¼" Bars	1-7/16	2-5/8	3-13/16	5	6-3/16	7-3/8	8-9/16	9-3/4	10-15/16	12-1/8
⅜" Bars	1-9/16	2-3/4	3-15/16	5-1/8	6-5/16	7-1/2	8-11/16	9-7/8	11-1/16	12-1/4
# of Bars	12	13	14	15	16	17	18	19	20	21
¼" Bars	13-5/16	14-1/2	15-11/16	16-7/8	18-1/16	19-1/4	20-7/16	21-5/8	22-13/16	24
⅜" Bars	13-7/16	14-5/8	15-13/16	17	18-3/16	19-3/8	20-9/16	21-3/4	22-15/16	24-1/8
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¼" Bars	25-3/16	26-3/8	27-9/16	28-3/4	29-15/16	31-1/8	32-5/16	33-1/2	34-11/16	35-7/8
⅜" Bars	25-5/16	26-1/2	27-11/16	28-7/8	30-1/16	31-1/4	32-7/16	33-5/8	34-13/16	36