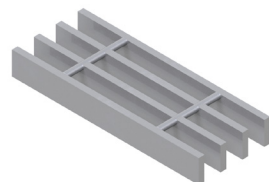


## LOAD TABLES - HD CLOSE-MESH

**Grating Type:** 15HW4  
**Design Code:** NAAMM MBG 534-19  
**Material:** ASTM A1011CS Grade 36  
**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 = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft <sup>2</sup> )	Ped. Span (inches)	Load / Deflection	Span (ft -in)																Section Properties										
				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"	S <sub>x</sub> (in <sup>3</sup> )/ft	I <sub>x</sub> (in <sup>4</sup> )/ft										
1" x ¼"	12.21	65	U	7,111	3,160	1,778	1,138	790	580	444	351	284																	0.533	
			D <sub>u</sub>	0.02	0.05	0.08	0.13	0.19	0.25	0.33	0.42	0.52	0.63																	
			C	3,556	2,370	1,778	1,422	1,185	1,016	889	790	711	646																	
			D <sub>c</sub>	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50																	
1 ½" x ¼"	14.93	77	U	11,111	4,938	2,778	1,778	1,235	907	694	549	444	367	309	263														0.833	
			D <sub>u</sub>	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50	0.60	0.70															
			C	5,556	3,704	2,778	2,222	1,852	1,587	1,389	1,235	1,111	1,010	926	855															
			D <sub>c</sub>	0.01	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48	0.56															
1 ½" x ½"	17.65	88	U	16,000	7,111	4,000	2,560	1,778	1,306	1,000	790	640	529	444	379	327	284												1.200	
			D <sub>u</sub>	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													
			C	8,000	5,333	4,000	3,200	2,667	2,286	2,000	1,778	1,600	1,455	1,333	1,231	1,143	1,067													
			D <sub>c</sub>	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													
1 ½" x ¾"	25.98	97	U	24,000	10,667	6,000	3,840	2,667	1,959	1,500	1,185	960	793	667	568	490	427	375											1.800	
			D <sub>u</sub>	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	12,000	8,000	6,000	4,800	4,000	3,429	3,000	2,667	2,400	2,182	2,000	1,846	1,714	1,600	1,500												
			D <sub>c</sub>	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"	23.09	109	U	28,444	12,642	7,111	4,551	3,160	2,322	1,778	1,405	1,138	940	790	673	580	506	444											2.133	
			D <sub>u</sub>	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	14,222	9,481	7,111	5,689	4,741	4,063	3,556	3,160	2,844	2,586	2,370	2,188	2,032	1,896	1,778												
			D <sub>c</sub>	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"	28.53	129	U	44,444	19,753	11,111	7,111	4,938	3,628	2,778	2,195	1,778	1,469	1,235	1,052	907	790	694											3.333	
			D <sub>u</sub>	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	22,222	14,815	11,111	8,889	7,407	6,349	5,556	4,938	4,444	4,040	3,704	3,419	3,175	2,963	2,778												
			D <sub>c</sub>	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"	33.97	148	U	64,000	28,444	16,000	10,240	7,111	5,224	4,000	3,160	2,560	2,116	1,778	1,515	1,306	1,138	1,000											4.800	
			D <sub>u</sub>	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	32,000	21,333	16,000	12,800	10,667	9,143	8,000	7,111	6,400	5,818	5,333	4,923	4,571	4,267	4,000												
			D <sub>c</sub>	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 ¾"	51.01	164	U	96,000	42,667	24,000	15,360	10,667	7,837	6,000	4,741	3,840	3,174	2,667	2,272	1,959	1,707	1,500											7.200	
			D <sub>u</sub>	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	48,000	32,000	24,000	19,200	16,000	13,714	12,000	10,667	9,600	8,727	8,000	7,385	6,857	6,400	6,000												
			D <sub>c</sub>	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												

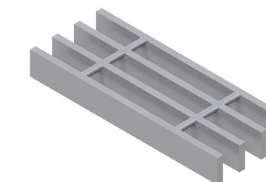
Spans and loads in red exceed a deflection of ¼" for uniform loads of 100 lbs./sq. ft. Experience has shown that ¼" deflection is the maximum deflection to give pedestrian comfort, but can be exceeded for other types of loads at the discretion of the specifying professional.

### 15HW4 (in)

# of Bars	2	3	4	5	6	7	8	9	10	11
¼" Bars	1-¾/16	2-½/8	3-¼/16	4	4-15/16	5-7/8	6-13/16	7-¾	8-11/16	9-5/8
⅜" Bars	1-5/16	2-¼	3-3/16	4-½	5-1/16	6	6-15/16	7-7/8	8-13/16	9-¾
# of Bars	12	13	14	15	16	17	18	19	20	21
¼" Bars	10-9/16	11-½	12-7/16	13-3/8	14-5/16	15-¼	16-3/16	17-½	18-1/16	19
⅜" Bars	10-11/16	11-5/8	12-9/16	13-½	14-7/16	15-3/8	16-5/16	17-¼	18-3/16	19-½
# of Bars	22	23	24	25	26	27	28	29	30	31
¼" Bars	19-15/16	20-7/8	21-13/16	22-¾	23-11/16	24-5/8	25-9/16	26-½	27-7/16	28-¾
⅜" Bars	20-1/16	21	21-15/16	22-7/8	23-13/16	24-¾	25-11/16	26-5/8	27-9/16	28-½

## LOAD TABLES - HD CLOSE-MESH

**Grating Type:** 15HW4  
**Design Code:** NAAMM MBG 534-19  
**Material:** ASTM A1011CS Grade 36  
**Surface:** Smooth



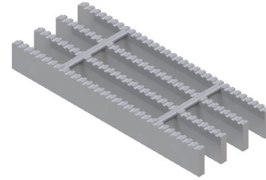
U = Safe Uniform Load (lbs/ft<sup>2</sup>)  
 D<sub>u</sub> = Deflection Due to Safe Uniform Load (in)  
 C = Safe Concentrated Load (lbs/ft of grating width)  
 D<sub>c</sub> = Deflection Due to Safe Concentrated Load (in)  
 Allowable Extreme Fiber Stress = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft <sup>2</sup> )	Ped. Span (inches)	Load / Deflection	Span (ft -in)																Section Properties									
				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"	S <sub>x</sub> (in <sup>3</sup> )/ft	I <sub>x</sub> (in <sup>4</sup> )/ft									
3 ½" x ¼"	39.41	166	U	87,111	38,716	21,778	13,938	9,679	7,111	5,444	4,302	3,484	2,880	2,420	2,062	1,778	1,549	1,361										6.533	
			D <sub>u</sub>	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	43,556	29,037	21,778	17,422	14,519	12,444	10,889	9,679	8,711	7,919	7,259	6,701	6,222	5,807	5,444											
			D <sub>c</sub>	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 ½"	59.17	184	U	130,667	58,074	32,667	20,907	14,519	10,667	8,167	6,453	5,227	4,320	3,630	3,093	2,667	2,323	2,042										9.800	
			D <sub>u</sub>	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	65,333	43,556	32,667	26,133	21,778	18,667	16,333	14,519	13,067	11,879	10,889	10,051	9,333	8,711	8,167											
			D <sub>c</sub>	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" x ¼"	44.85	184	U	113,778	50,568	28,444	18,204	12,642	9,288	7,111	5,619	4,551	3,761	3,160	2,693	2,322	2,023	1,778										8.533	
			D <sub>u</sub>	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	56,889	37,926	28,444	22,756	18,963	16,254	14,222	12,642	11,378	10,343	9,481	8,752	8,127	7,585	7,111											
			D <sub>c</sub>	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 ½"	67.33	203	U	170,667	75,852	42,667	27,307	18,963	13,932	10,667	8,428	6,827	5,642	4,741	4,039	3,483	3,034	2,667										12.800	
			D <sub>u</sub>	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			</								

# LOAD TABLES | HEAVY DUTY, IMPERIAL

## LOAD TABLES - HD CLOSE-MESH

Grating Type: **15HW4**  
 Design Code: **NAAMM MBG 534-19**  
 Material: **ASTM A1011CS Grade 36**  
 Surface: **Serrated**



U = Safe Uniform Load (lbs/ft²)  
 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 = 20 ksi

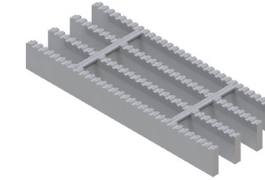
Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft-in)															Section Properties S <sub>x</sub> (in³)/ft I <sub>x</sub> (in⁴)/ft			
				1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"				
1" x 1/4"	12.21	52	U	4,000	1,778	1,000	640	444	327	250	198									0.300		
			D <sub>u</sub>	0.03	0.06	0.11	0.17	0.25	0.34	0.44	0.56											
			C	2,000	1,333	1,000	800	667	571	500	444											
			D <sub>c</sub>	0.02	0.05	0.09	0.14	0.20	0.27	0.35	0.45											
1 1/2" x 1/4"	14.93	65	U	7,111	3,160	1,778	1,138	790	580	444	351	284	235							0.533		
			D <sub>u</sub>	0.02	0.05	0.08	0.13	0.19	0.25	0.33	0.42	0.52	0.63									
			C	3,556	2,370	1,778	1,422	1,185	1,016	889	790	711	646									
			D <sub>c</sub>	0.01	0.03	0.05	0.08	0.12	0.15	0.20	0.26	0.34	0.41	0.50								
1 1/2" x 3/8"	17.65	77	U	11,111	4,938	2,778	1,778	1,235	907	694	549	444	367	309	263					0.833		
			D <sub>u</sub>	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.34	0.41	0.50	0.60	0.70	0.85						
			C	5,556	3,704	2,778	2,222	1,852	1,587	1,389	1,235	1,111	1,010	926	855							
			D <sub>c</sub>	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	0.74					
1 1/2" x 1/2"	25.98	85	U	16,667	7,407	4,167	2,667	1,852	1,361	1,042	823	667	551	463	394	340	296				1.250	
			D <sub>u</sub>	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	0.93					
			C	8,333	5,556	4,167	3,333	2,778	2,381	2,083	1,852	1,667	1,515	1,389	1,282	1,190	1,111					
			D <sub>c</sub>	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	0.74					
2" x 1/4"	23.09	99	U	21,778	9,679	5,444	3,484	2,420	1,778	1,361	1,075	871	720	605	515	444	387	340			1.633	
			D <sub>u</sub>	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	10,889	7,259	5,444	4,356	3,630	3,111	2,722	2,420	2,178	1,980	1,815	1,675	1,556	1,452	1,361				
			D <sub>c</sub>	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 1/2" x 1/4"	28.53	119	U	36,000	16,000	9,000	5,760	4,000	2,939	2,250	1,778	1,440	1,190	1,000	852	735	640	563			2.700	
			D <sub>u</sub>	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	18,000	12,000	9,000	7,200	6,000	5,143	4,500	4,000	3,600	3,273	3,000	2,769	2,571	2,400	2,250				
			D <sub>c</sub>	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 1/4"	33.97	139	U	53,778	23,901	13,444	8,604	5,975	4,390	3,361	2,656	2,151	1,778	1,494	1,273	1,098	956	840			4.033	
			D <sub>u</sub>	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	26,889	17,926	13,444	10,756	8,963	7,683	6,722	5,975	5,378	4,889	4,481	4,137	3,841	3,585	3,361				
			D <sub>c</sub>	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 3/8"	50.46	154	U	80,667	35,852	20,167	12,907	8,963	6,585	5,042	3,984	3,227	2,667	2,241	1,909	1,646	1,434	1,260			6.050	
			D <sub>u</sub>	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	40,333	26,889	20,167	16,133	13,444	11,524	10,083	8,963	8,067	7,333	6,722	6,205	5,762	5,378	5,042				
			D <sub>c</sub>	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 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.

15HW4 (in)										
# of Bars	2	3	4	5	6	7	8	9	10	11
1/4" Bars	1-3/16	2-1/8	3-1/16	4	4-15/16	5-7/8	6-13/16	7-3/4	8-11/16	9-5/8
3/8" Bars	1-5/16	2-1/4	3-3/16	4-1/8	5-1/16	6	6-15/16	7-7/8	8-13/16	9-3/4
# of Bars	12	13	14	15	16	17	18	19	20	21
1/4" Bars	10-9/16	11-1/2	12-7/16	13-3/8	14-5/16	15-1/4	16-3/16	17-1/8	18-1/16	19
3/8" Bars	10-11/16	11-5/8	12-9/16	13-1/2	14-7/16	15-3/8	16-5/16	17-1/4	18-3/16	19-1/8
# of Bars	22	23	24	25	26	27	28	29	30	31
1/4" Bars	19-15/16	20-7/8	21-13/16	22-3/4	23-11/16	24-5/8	25-9/16	26-1/2	27-7/16	28-3/8
3/8" Bars	20-1/16	21	21-15/16	22-7/8	23-13/16	24-3/4	25-11/16	26-5/8	27-9/16	28-1/2

## LOAD TABLES - HD CLOSE-MESH

Grating Type: **15HW4**  
 Design Code: **NAAMM MBG 534-19**  
 Material: **ASTM A1011CS Grade 36**  
 Surface: **Serrated**



U = Safe Uniform Load (lbs/ft²)  
 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 = 20 ksi

Bearing Bar Size (inches)	Approx. Weight (lbs/ft²)	Ped. Span (inches)	Load / Deflection	Span (ft-in)															Section Properties S <sub>x</sub> (in³)/ft I <sub>x</sub> (in⁴)/ft			
				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"				
3 1/2" x 1/4"	39.41	157	U	75,111	33,383	18,778	12,018	8,346	6,132	4,694	3,709	3,004	2,483	2,086	1,778	1,533	1,335	1,174			5.633	
			D <sub>u</sub>	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	37,556	25,037	18,778	15,022	12,519	10,730	9,389	8,346	7,511	6,828	6,259	5,778	5,365	5,007	4,694				
			D <sub>c</sub>	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 1/2" x 3/8"	59.17	174	U	112,667	50,074	28,167	18,027	12,519	9,197	7,042	5,564	4,507	3,725	3,130	2,667	2,299	2,003	1,760			8.450	
			D <sub>u</sub>	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	56,333	37,556	28,167	22,533	18,778	16,095	14,083	12,519	11,267	10,242	9,389	8,667	8,048	7,511	7,042				
			D <sub>c</sub>	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" x 1/4"	44.85	175	U	100,000	44,444	25,000	16,000	11,111	8,163	6,250	4,938	4,000	3,306	2,778	2,367	2,041	1,778	1,563			7.500	
			D <sub>u</sub>	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	50,000	33,333	25,000	20,000	16,667	14,286	12,500	11,111	10,000	9,091	8,333	7,692	7,143	6,667	6,250				
			D <sub>c</sub>	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 3/8"	67.33	194	U	150,000	66,667	37,500	24,000	16,667	12,245	9,375	7,407	6,000	4,959	4,167	3,550	3,061	2,667	2,344			11.250	
			D <sub>u</sub>	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	75,000	50,000	37,500	30,000	25,000	21,429	18,750	16,667	15,000	13,636	12,500	11,538	10,714	10,000	9,375				
			D <sub>c</sub>	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 3/8"	83.65	231	U	240,667	106,963	60,167	38,507	26,741	19,646	15,042	11,885	9,627	7,956	6,685	5,696	4,912	4,279	3,760			18.050	
			D <sub>u</sub>	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	120,333	80,222	60,167	48,133	40,111	34,381	30,083	26,741	24,067	21,879	20,056	18,513	17,190	16,044	15,042				
			D <sub>c</sub>	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.09	0.11	0.13	0.15	0.17	0.20	0.22				
6" x 3/8"	99.97	267	U	352,667	156,741	88,167	56,427	39,185	28,789	22,042	17,416	14,107	11,658	9,796	8,347	7,197	6,270	5,510			26.450	
			D <sub>u</sub>	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	176,333	117,556	88,167	70,533	58,778	50,381	44,083	39,185	35,267	32,061	29,389	27,128	25,190	23,511	22,042				
			D <sub>c</sub>	0.																		