

Bar Grating

Welded Steel Grating

(pages 14–35)

Standard Welded: AMICO®'s welded grating is used universally for walkway and mezzanine decking applications. It is ideal for most general industrial and commercial uses. Standard welded grating is generally considered to include grating with bearing bars spaced at 1-3/16" or 15/16" and is available in carbon or stainless steel.

Close-Mesh: Close-mesh grating is similar to standard grating except that the spacing of the bearing bars is closer, ranging from 7/16" to 13/16". It is suitable for applications requiring narrow spacing for aesthetic or functional reasons. It is available in carbon or stainless steel.

Railroad: Welded grating with spacings of 1-9/16" and 1-11/16" meet the requirements for AAR approved safety walkway products. This grating is designed specifically for use as railcar brake steps, running boards, walkways and platforms.

Heavy-Duty: Heavy-Duty uses thicker (1/4", 5/16", 3/8") and deeper bearing bars. Although the tables show bars as deep as 6", deeper grating can be custom fabricated on request. Heavy-Duty is used for airfields, highways, industrial floors, ramps, docks, reinforced concrete areas and specialty applications.

Press-Locked Steel and Aluminum Grating

(pages 15–21 / steel and pages 41–47 / aluminum)

Because this grating is a system of interlocking, perpendicular bars, it provides a smooth clean look ideal for architectural applications such as grilles, dividers and screens. It is used in the same structural applications as its welded steel and rectangular aluminum counterparts. Materials include carbon steel, stainless steel or aluminum. Spacings range from 7/16" to 1-3/16".

Swage-Locked Aluminum Grating

(pages 37–40)

Swage-locked aluminum grating is manufactured with either an "I" or rectangular bearing bar. These bars are permanently locked to the cross rods with a swaging process which reshapes the rods. Because of the flange width, I-bars reduce the open spaces of the grating yet I-bar swage-locked is lighter weight and less costly than a rectangular bar grating with the same bar thickness.

Duo-Grip™ Aluminum Planks

(page 48)

Duo-Grip™ planking is a one piece extruded plank with exceptional strength and stiffness-to-weight ratio due to its I-beam ribs. It is available in either unpunched, square punched or rectangular punched styles to suit lighting and ventilation considerations. The design provides continuous walking surface for additional safety.

Riveted Steel and Aluminum Grating

(pages 50–51 / steel and pages 52–53 / aluminum)

Riveted grating is especially practical for areas where rolling loads are used because of its smoother surface. It is available in both aluminum and steel.

Riv-Dexsteel®

(pages 54–55)

Riv-Dexsteel® is a high strength grating which incorporates a truss style design through the use of a reticulated riveted bar in conjunction with a straight bearing bar. It has been used for nearly 75 years as bridge decking, curb inlet grates, industrial flooring, driveways across culverts and heavy traffic areas.

Material Selection

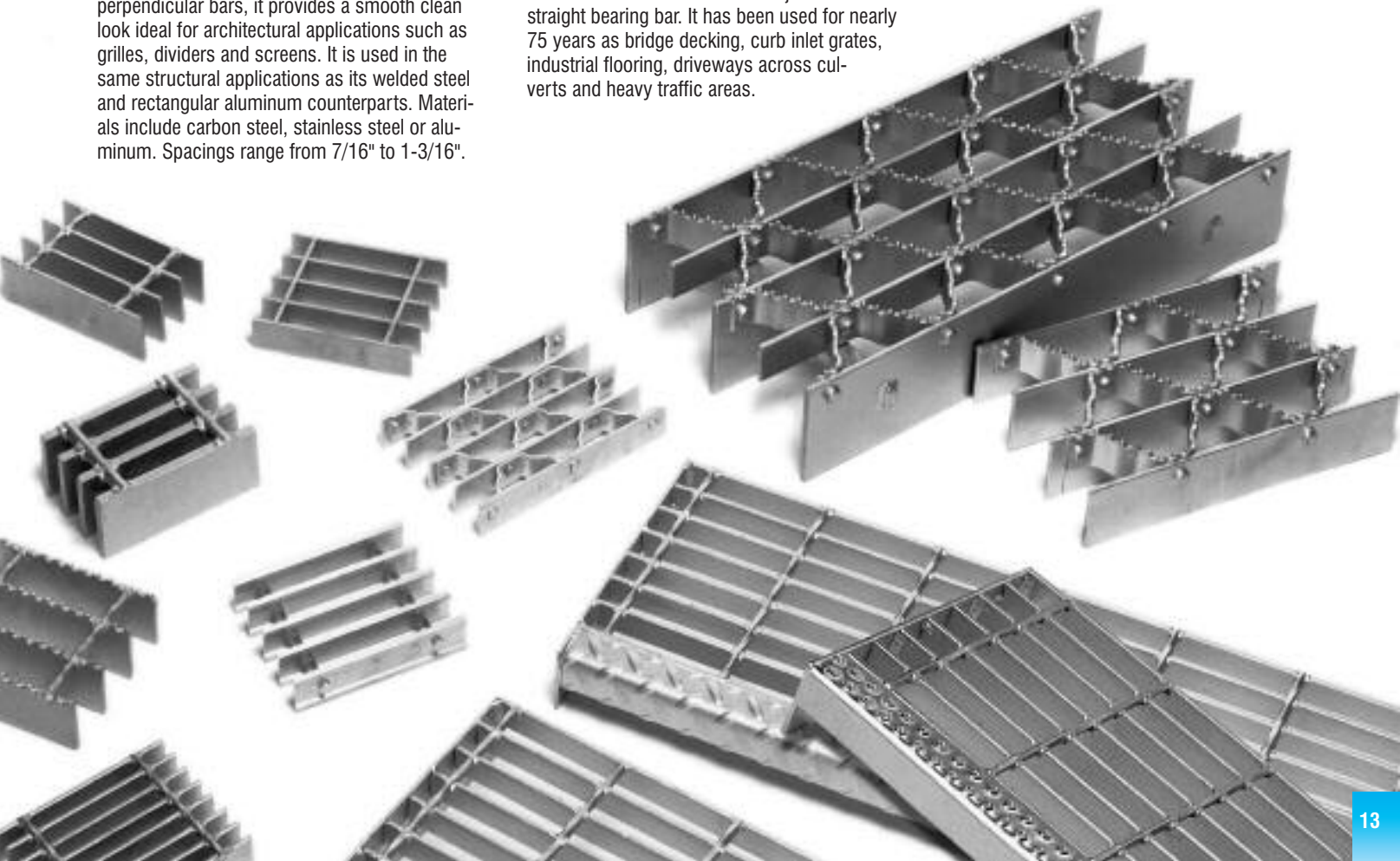
Carbon Steel: Carbon steel provides an economical, high strength grating for use in most industrial and commercial applications.

Aluminum: Lightweight, corrosion resistant and non-sparking alloys make aluminum ideal for use in chemical, petroleum, hydro and food processing plants, sewage, water and waste treatment facilities; munitions plants and other volatile areas; aboard ship; etc.

Stainless Steel: Stainless steel is ideal for use in caustic atmospheres where corrosion resistance and minimum carbide precipitation are important considerations. It is especially applicable for chemical, food and hydro processing areas.

Painted: One coat of manufacturer's standard paint, applied in accord with the manufacturer's standard practice. One shop coat of manufacturer's standard paint is designed to protect the grating and/or treads from the elements during transit. Meets NAAMM's Metal Bar Grating Manual MBG531-00. (Note: Paint is not intended as a finish coat.) Gratings and/or treads stored at the jobsite shall be covered or under roof. Required covering is not the responsibility of the grating and/or tread supplier.

Galvanizing: Grating specified to be galvanized shall have their exposed surfaces zinc-coated by the hot dip process after fabrication, with a coating of not less than 1.8 oz/ft² (550 g/m² of coated surface).



Heavy-Duty Steel Grating

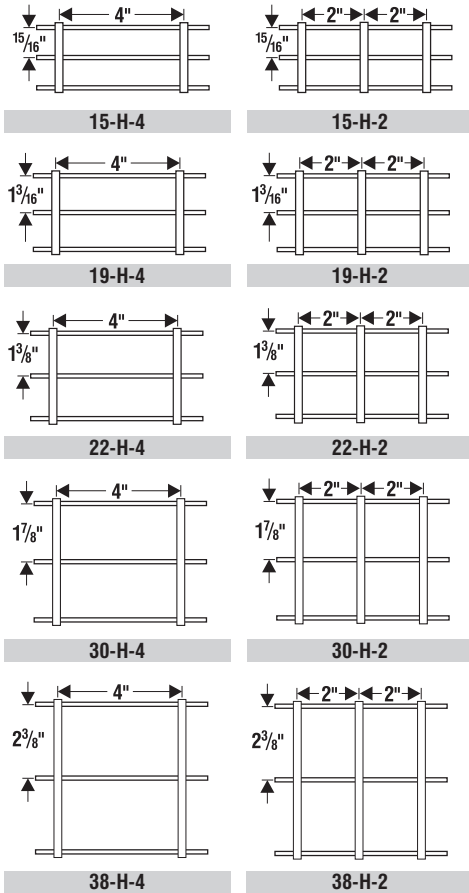
Heavy-Duty Welded Grating has the strength for heavy-duty load areas such as airfields, highways, industrial plants, truck and bus terminals, parking lots and railroad yards. Common uses are flooring, driveways, subway and tunnel ventilation grilles, curb inlet grates, ramps, docks, etc.

It is a sturdy grating to carry loads and maintain the same level over many years of use. Whenever rolling wheel loads are to be used over the grating, we recommend that the grating be load banded to add lateral strength. Serrations are available on bars up to 3/8" thick to provide additional traction for rolling loads.

Standard heavy-duty bar grating is resistance-welded for durability, strength and safety using an automated electric/hydraulic welding process. High temperatures, combined with high pressure, fuse the bearing bars and cross bars together to form a permanent joint.

Also, AMICO-Klemp® is one of the few manufacturers that has the capability of providing you with those "really big" grates. Our heavy-duty fabrication department regularly custom fabricates grating to meet specific project requirements. Virtually any bar size and depth can be made to order.

HEAVY-DUTY WELDED STEEL BAR GRATING



Steel Bar Grating Heavy-Duty

HEAVY-DUTY WELDED (H) 15/16" C/C Bearing Bars

15-W-4

15-W-2



Cross Rods 4" C/C



Cross Rods 2" C/C

NON-SERRATED & SERRATED

U = safe uniform load, psf (page 93)

C = safe concentrated load, psf (page 93)

D = deflection, inches

E = modulus of elasticity, 29,000,000 psi

F = fiber stress, 20,000 psi

Material: ASTM A-36

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval. For deflections of uniform and concentrated loads, consult AMICO-Klemp's engineering departments.

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	15-H-4	11.7	0.533	U	1,778	1,138	790	580	444	351	284	235	198	145	111
	15-H-2	12.4		C	1,778	1,422	1,185	1,016	889	790	711	646	593	508	444
1" x 5/16"	15-H-4	14.9	0.667	U	2,222	1,422	988	726	556	439	356	294	247	181	139
	15-H-2	16.1		C	2,222	1,778	1,481	1,270	1,111	988	889	808	741	635	556
1" x 3/8"	15-H-4	17.7	0.800	U	2,667	1,707	1,185	871	667	527	427	353	296	218	167
	15-H-2	18.8		C	2,667	2,133	1,778	1,524	1,333	1,185	1,067	970	889	762	667
1-1/4" x 1/4"	15-H-4	14.5	0.833	U	2,778	1,778	1,235	907	694	549	444	367	309	227	174
	15-H-2	15.1		C	2,778	2,222	1,852	1,587	1,389	1,235	1,111	1,010	926	794	694
1-1/4" x 5/16"	15-H-4	18.4	1.042	U	3,472	2,222	1,543	1,134	868	686	556	459	386	283	217
	15-H-2	19.6		C	3,472	2,778	2,315	1,984	1,736	1,543	1,389	1,263	1,157	992	868
1-1/4" x 3/8"	15-H-4	21.9	1.250	U	4,167	2,667	1,852	1,361	1,042	823	667	551	463	340	260
	15-H-2	22.9		C	4,167	3,333	2,778	2,381	2,083	1,852	1,667	1,515	1,389	1,190	1,042
1-1/2" x 1/4"	15-H-4	17.3	1.200	U	4,000	2,560	1,778	1,306	1,000	790	640	529	444	327	250
	15-H-2	17.9		C	4,000	3,200	2,667	2,286	2,000	1,778	1,600	1,455	1,333	1,143	1,000
1-1/2" x 5/16"	15-H-4	21.9	1.500	U	5,000	3,200	2,222	1,633	1,250	988	800	661	556	408	313
	15-H-2	23.1		C	5,000	4,000	3,333	2,857	2,500	2,222	2,000	1,818	1,667	1,429	1,250
1-1/2" x 3/8"	15-H-4	26.0	1.800	U	6,000	3,840	2,667	1,959	1,500	1,185	960	793	667	490	375
	15-H-2	27.1		C	6,000	4,800	4,000	3,429	3,000	2,667	2,400	2,182	2,000	1,714	1,500
1-3/4" x 1/4"	15-H-4	20.1	1.633	U	5,444	3,484	2,420	1,778	1,361	1,075	871	720	605	444	340
	15-H-2	20.7		C	5,444	4,356	3,630	3,111	2,722	2,420	2,178	1,980	1,815	1,556	1,361
1-3/4" x 5/16"	15-H-4	25.3	2.042	U	6,806	4,356	3,025	2,222	1,701	1,344	1,089	900	756	556	425
	15-H-2	26.8		C	6,806	5,444	4,537	3,889	3,403	3,025	2,722	2,475	2,269	1,944	1,701
1-3/4" x 3/8"	15-H-4	30.1	2.450	U	8,167	5,227	3,630	2,667	2,042	1,613	1,307	1,080	907	667	510
	15-H-2	31.3		C	8,167	6,533	5,444	4,667	4,083	3,630	3,267	2,970	2,722	2,333	2,042
2" x 1/4"	15-H-4	22.8	2.133	U	7,111	4,551	3,160	2,322	1,778	1,405	1,138	940	790	580	444
	15-H-2	23.5		C	7,111	5,689	4,741	4,063	3,556	3,160	2,844	2,586	2,370	2,032	1,778
2" x 5/16"	15-H-4	28.8	2.667	U	8,889	5,689	3,951	2,902	2,222	1,756	1,422	1,175	988	726	556
	15-H-2	29.9		C	8,889	7,111	5,926	5,079	4,444	3,951	3,556	3,232	2,963	2,540	2,222
2" x 3/8"	15-H-4	34.2	3.200	U	10,667	6,827	4,741	3,483	2,667	2,107	1,707	1,410	1,185	871	667
	15-H-2	35.4		C	10,667	8,533	7,111	6,095	5,333	4,741	4,267	3,879	3,556	3,048	2,667
2-1/4" x 1/4"	15-H-4	25.6	2.700	U	9,000	5,760	4,000	2,939	2,250	1,778	1,440	1,190	1,000	735	563
	15-H-2	26.3		C	9,000	7,200	6,000	5,143	4,500	4,000	3,600	3,273	3,000	2,571	2,250
2-1/4" x 5/16"	15-H-4	32.3	3.375	U	11,250	7,200	5,000	3,673	2,813	2,222	1,800	1,488	1,250	918	703
	15-H-2	33.4		C	11,250	9,000	7,500	6,429	5,625	5,000	4,500	4,091	3,750	3,214	2,813
2-1/4" x 3/8"	15-H-4	38.4	4.050	U	13,500	8,640	6,000	4,408	3,375	2,667	2,160	1,785	1,500	1,102	844
	15-H-2	39.6		C	13,500	10,800	9,000	7,714	6,750	6,000	5,400	4,909	4,500	3,857	3,375
2-1/2" x 1/4"	15-H-4	28.4	3.333	U	11,111	7,111	4,938	3,628	2,778	2,195	1,778	1,469	1,235	907	694
	15-H-2	29.1		C	11,111	8,889	7,407	6,349	5,556	4,938	4,444	4,040	3,704	3,175	2,778
2-1/2" x 5/16"	15-H-4	35.7	4.167	U	13,889	8,889	6,173	4,535	3,472	2,743	2,222	1,837	1,543	1,134	868
	15-H-2	36.9		C	13,889	11,111	9,259	7,937	6,944	6,173	5,556	5,051	4,630	3,968	3,472
2-1/2" x 3/8"	15-H-4	42.6	5.000	U	16,667	10,667	7,407	5,442	4,167	3,292	2,667	2,204	1,852	1,361	1,042
	15-H-2	43.7		C	16,667	13,333	11,111	9,524	8,333	7,407	6,667	6,061	5,556	4,762	4,167
2-3/4" x 1/4"	15-H-4	31.2	4.033	U	13,444	8,604	5,975	4,390	3,361	2,656	2,151	1,778	1,494	1,098	840
	15-H-2	31.8		C	13,444	10,756	8,963	7,683	6,722	5,975	5,378	4,889	4,481	3,841	3,361
2-3/4" x 5/16"	15-H-4	39.6	5.042	U	16,806	10,756	7,469	5,488	4,201	3,320	2,689	2,222	1,867	1,372	1,050
	15-H-2	41.1		C	16,806	13,444	11,204	9,603	8,403	7,469	6,722	6,111	5,602	4,802	4,201
2-3/4" x 3/8"	15-H-4	47.1	6.050	U	20,167	12,907	8,963	6,585	5,042	3,984	3,227	2,667	2,241	1,646	1,260
	15-H-2	48.7		C	20,167	16,133	13,444	11,524	10,083	8,963	8,067	7,333	6,722	5,762	5,042

Steel Bar Grating Heavy-Duty

15-H-4 & 15-H-2 (continued)

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight per sq ft	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
3" x 1/4"	15-H-4	34.4	4.800	U	16,000	10,240	7,111	5,224	4,000	3,160	2,560	2,116	1,778	1,306	1,000
	15-H-2	35.5		C	16,000	12,800	10,667	9,143	8,000	7,111	6,400	5,818	5,333	4,571	4,000
3" x 5/16"	15-H-4	43.1	6.000	U	20,000	12,800	8,889	6,531	5,000	3,951	3,200	2,645	2,222	1,633	1,250
	15-H-2	44.6		C	20,000	16,000	13,333	11,429	10,000	8,889	8,000	7,273	6,667	5,714	5,000
3" x 3/8"	15-H-4	51.3	7.200	U	24,000	15,360	10,667	7,837	6,000	4,741	3,840	3,174	2,667	1,959	1,500
	15-H-2	52.8		C	24,000	19,200	16,000	13,714	12,000	10,667	9,600	8,727	8,000	6,857	6,000
3-1/4" x 1/4"	15-H-4	37.2	5.633	U	18,778	12,018	8,346	6,132	4,694	3,709	3,004	2,483	2,086	1,533	1,174
	15-H-2	38.3		C	18,778	15,022	12,519	10,730	9,389	8,346	7,511	6,828	6,259	5,365	4,694
3-1/4" x 5/16"	15-H-4	46.5	7.042	U	23,472	15,022	10,432	7,664	5,868	4,636	3,756	3,104	2,608	1,916	1,467
	15-H-2	48.1		C	23,472	18,778	15,648	13,413	11,736	10,432	9,389	8,535	7,824	6,706	5,868
3-1/4" x 3/8"	15-H-4	55.4	8.450	U	28,167	18,027	12,519	9,197	7,042	5,564	4,507	3,725	3,130	2,299	1,760
	15-H-2	56.9		C	28,167	22,533	18,778	16,095	14,083	12,519	11,267	10,242	9,389	8,048	7,042
3-1/2" x 1/4"	15-H-4	39.9	6.533	U	21,778	13,938	9,679	7,111	5,444	4,302	3,484	2,880	2,420	1,778	1,361
	15-H-2	41.1		C	21,778	17,422	14,519	12,444	10,889	9,679	8,711	7,919	7,259	6,222	5,444
3-1/2" x 5/16"	15-H-4	49.9	8.167	U	27,222	17,422	12,099	8,889	6,806	5,377	4,356	3,600	3,025	2,222	1,701
	15-H-2	51.5		C	27,222	21,778	18,148	15,556	13,611	12,099	10,889	9,899	9,074	7,778	6,806
3-1/2" x 3/8"	15-H-4	59.5	9.800	U	32,667	20,907	14,519	10,667	8,167	6,453	5,227	4,320	3,630	2,667	2,042
	15-H-2	61.1		C	32,667	26,133	21,778	18,667	16,333	14,519	13,067	11,879	10,889	9,333	8,167
4" x 1/4"	15-H-4	45.5	8.533	U	28,444	18,204	12,642	9,288	7,111	5,619	4,551	3,761	3,160	2,322	1,778
	15-H-2	46.6		C	28,444	22,756	18,963	16,254	14,222	12,642	11,378	10,343	9,481	8,127	7,111
4" x 5/16"	15-H-4	56.9	10.667	U	35,556	22,756	15,802	11,610	8,889	7,023	5,689	4,702	3,951	2,902	2,222
	15-H-2	58.4		C	35,556	28,444	23,704	20,317	17,778	15,802	14,222	12,929	11,852	10,159	8,889
4" x 3/8"	15-H-4	67.8	12.800	U	42,667	27,307	18,963	13,932	10,667	8,428	6,827	5,642	4,741	3,483	2,667
	15-H-2	69.4		C	42,667	34,133	28,444	24,381	21,333	18,963	17,067	15,515	14,222	12,190	10,667
4-1/2" x 1/4"	15-H-4	51.1	10.800	U	36,000	23,040	16,000	11,755	9,000	7,111	5,760	4,760	4,000	2,939	2,250
	15-H-2	52.2		C	36,000	28,800	24,000	20,571	18,000	16,000	14,400	13,091	12,000	10,286	9,000
4-1/2" x 5/16"	15-H-4	63.8	13.500	U	45,000	28,800	20,000	14,694	11,250	8,889	7,200	5,950	5,000	3,673	2,813
	15-H-2	65.3		C	45,000	36,000	30,000	25,714	22,500	20,000	18,000	16,364	15,000	12,857	11,250
4-1/2" x 3/8"	15-H-4	76.1	16.200	U	54,000	34,560	24,000	17,633	13,500	10,667	8,640	7,140	6,000	4,408	3,375
	15-H-2	77.7		C	54,000	43,200	36,000	30,857	27,000	24,000	21,600	19,636	18,000	15,429	13,500
5" x 1/4"	15-H-4	56.6	13.333	U	44,444	28,444	19,753	14,512	11,111	8,779	7,111	5,877	4,938	3,628	2,778
	15-H-2	57.7		C	44,444	35,556	29,630	25,397	22,222	19,753	17,778	16,162	14,815	12,698	11,111
5" x 5/16"	15-H-4	70.7	16.667	U	55,556	35,556	24,691	18,141	13,889	10,974	8,889	7,346	6,173	4,535	3,472
	15-H-2	72.3		C	55,556	44,444	37,037	31,746	27,778	24,691	22,222	20,202	18,519	15,873	13,889
5" x 3/8"	15-H-4	84.4	20.000	U	66,667	42,667	29,630	21,769	16,667	13,169	10,667	8,815	7,407	5,442	4,167
	15-H-2	85.9		C	66,667	53,333	44,444	38,095	33,333	29,630	26,667	24,242	22,222	19,048	16,667
6" x 1/4"	15-H-4	67.7	19.200	U	64,000	40,960	28,444	20,898	16,000	12,642	10,240	8,463	7,111	5,224	4,000
	15-H-2	68.8		C	64,000	51,200	42,667	36,571	32,000	28,444	25,600	23,273	21,333	18,286	16,000
6" x 5/16"	15-H-4	84.6	24.000	U	80,000	51,200	35,556	26,122	20,000	15,802	12,800	10,579	8,889	6,531	5,000
	15-H-2	86.1		C	80,000	64,000	53,333	45,714	40,000	35,556	32,000	29,091	26,667	22,857	20,000
6" x 3/8"	15-H-4	100.9	28.800	U	96,000	61,440	42,667	31,347	24,000	18,963	15,360	12,694	10,667	7,837	6,000
	15-H-2	102.5		C	96,000	76,800	64,000	54,857	48,000	42,667	38,400	34,909	32,000	27,429	24,000

H-15 PANEL WIDTH (inches)

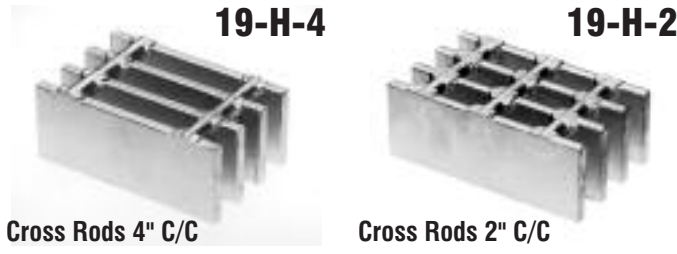
Note: H-Heavy Duty cross rods may extend 1/8" each side. Panel widths do not include these extensions.

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1/4" Bar	1 ³ / ₁₆	2 ¹ / ₈	3 ¹ / ₁₆	4	4 ¹ / ₁₆	5 ⁷ / ₈	6 ¹³ / ₁₆	7 ³ / ₄	8 ¹¹ / ₁₆	9 ⁵ / ₈	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
5/16" Bar	1 ¹ / ₄	2 ³ / ₁₆	3 ¹ / ₈	4 ¹ / ₁₆	5	5 ¹⁵ / ₁₆	6 ⁷ / ₈	7 ¹³ / ₁₆	8 ³ / ₄	9 ¹¹ / ₁₆	10 ⁵ / ₈	11 ⁹ / ₁₆	12 ¹ / ₂	13 ⁷ / ₁₆	14 ³ / ₈	15 ⁵ / ₁₆	16 ¹ / ₄	17 ³ / ₁₆	18 ¹ / ₈
3/8" Bar	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	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
No. of Bars	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1/4" Bar	19	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	29 ⁵ / ₁₆	30 ¹ / ₄	31 ³ / ₁₆	32 ¹ / ₈	33 ¹ / ₁₆	34	34 ¹⁵ / ₁₆	35 ⁷ / ₈
5/16" Bar	19 ¹ / ₁₆	20	20 ¹⁵ / ₁₆	21 ⁷ / ₈	22 ¹³ / ₁₆	23 ³ / ₄	24 ¹¹ / ₁₆	25 ⁵ / ₈	26 ⁹ / ₁₆	27 ¹ / ₂	28 ⁷ / ₁₆	29 ³ / ₈	30 ⁵ / ₁₆	31 ¹ / ₄	32 ³ / ₁₆	33 ¹ / ₈	34 ¹ / ₁₆	35	35 ¹⁵ / ₁₆
3/8" Bar	19 ¹ / ₈	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	29 ⁷ / ₁₆	30 ³ / ₈	31 ⁵ / ₁₆	32 ¹ / ₄	33 ³ / ₁₆	34 ¹ / ₈	35 ¹ / ₁₆	36

All 1/4" Bar Size Can Go Up To 39 Bars Wide
 1 x 5/16 thru 2-1/2 x 3/8 Up To 39 Bars Wide
 2-3/4 x 5/16 Thru 6 x 3/8 Up To 26 Bars Wide

Steel Bar Grating Heavy-Duty

HEAVY-DUTY WELDED (H) 1-3/16" C/C Bearing Bars



NON-SERRATED & SERRATED

U = safe uniform load, psf (page 93)
 C = safe concentrated load, psf (page 93)
 D = deflection, inches
 E = modulus of elasticity, 29,000,000 psi
 F = fiber stress, 20,000 psi

Material: ASTM A-36

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval. For deflections of uniform and concentrated loads, consult AMICO-Klemp's engineering departments.

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	19-H-4	9.5	0.421	U	1,404	898	624	458	351	277	225	186	156	115	88
	19-H-2	10.1		C	1,404	1,123	936	802	702	624	561	510	468	401	351
1" x 5/16"	19-H-4	12.1	0.526	U	1,754	1,123	780	573	439	347	281	232	195	143	110
	19-H-2	13.3		C	1,754	1,404	1,170	1,003	877	780	702	638	585	501	439
1" x 3/8"	19-H-4	14.3	0.632	U	2,105	1,347	936	687	526	416	337	278	234	172	132
	19-H-2	15.4		C	2,105	1,684	1,404	1,203	1,053	936	842	766	702	602	526
1-1/4" x 1/4"	19-H-4	11.7	0.658	U	2,193	1,404	975	716	548	433	351	290	244	179	137
	19-H-2	12.3		C	2,193	1,754	1,462	1,253	1,096	975	877	797	731	627	548
1-1/4" x 5/16"	19-H-4	14.3	0.822	U	2,741	1,754	1,218	895	685	541	439	362	305	224	171
	19-H-2	16.0		C	2,741	2,193	1,827	1,566	1,371	1,218	1,096	997	914	783	685
1-1/4" x 3/8"	19-H-4	17.6	0.987	U	3,289	2,105	1,462	1,074	822	650	526	435	365	269	206
	19-H-2	18.7		C	3,289	2,632	2,193	1,880	1,645	1,462	1,316	1,196	1,096	940	822
1-1/2" x 1/4"	19-H-4	13.9	0.947	U	3,158	2,021	1,404	1,031	789	624	505	418	351	258	197
	19-H-2	14.5		C	3,158	2,526	2,105	1,805	1,579	1,404	1,263	1,148	1,053	902	789
1-1/2" x 5/16"	19-H-4	17.8	1.184	U	3,947	2,526	1,754	1,289	987	780	632	522	439	322	247
	19-H-2	18.8		C	3,947	3,158	2,632	2,256	1,974	1,754	1,579	1,435	1,316	1,128	987
1-1/2" x 3/8"	19-H-4	20.9	1.421	U	4,737	3,032	2,105	1,547	1,184	936	758	626	526	387	296
	19-H-2	22.0		C	4,737	3,789	3,158	2,707	2,368	2,105	1,895	1,722	1,579	1,353	1,184
1-3/4" x 1/4"	19-H-4	16.1	1.289	U	4,298	2,751	1,910	1,404	1,075	849	688	568	478	351	269
	19-H-2	16.7		C	4,298	3,439	2,865	2,456	2,149	1,910	1,719	1,563	1,433	1,228	1,075
1-3/4" x 5/16"	19-H-4	20.4	1.612	U	5,373	3,439	2,388	1,754	1,343	1,061	860	710	597	439	336
	19-H-2	21.5		C	5,373	4,298	3,582	3,070	2,686	2,388	2,149	1,954	1,791	1,535	1,343
1-3/4" x 3/8"	19-H-4	24.2	1.934	U	6,447	4,126	2,865	2,105	1,612	1,274	1,032	853	716	526	403
	19-H-2	25.3		C	6,447	5,158	4,298	3,684	3,224	2,865	2,579	2,344	2,149	1,842	1,612
2" x 1/4"	19-H-4	18.3	1.684	U	5,614	3,593	2,495	1,833	1,404	1,109	898	742	624	458	351
	19-H-2	18.9		C	5,614	4,491	3,743	3,208	2,807	2,495	2,246	2,041	1,871	1,604	1,404
2" x 5/16"	19-H-4	23.1	2.105	U	7,018	4,491	3,119	2,291	1,754	1,386	1,123	928	780	573	439
	19-H-2	24.6		C	7,018	5,614	4,678	4,010	3,509	3,119	2,807	2,552	2,339	2,005	1,754
2" x 3/8"	19-H-4	27.5	2.526	U	8,421	5,389	3,743	2,750	2,105	1,663	1,347	1,114	936	687	526
	19-H-2	28.6		C	8,421	6,737	5,614	4,812	4,211	3,743	3,368	3,062	2,807	2,406	2,105
2-1/4" x 1/4"	19-H-4	20.5	2.132	U	7,105	4,547	3,158	2,320	1,776	1,404	1,137	940	789	580	444
	19-H-2	21.1		C	7,105	5,684	4,737	4,060	3,553	3,158	2,842	2,584	2,368	2,030	1,776
2-1/4" x 5/16"	19-H-4	25.9	2.664	U	8,882	5,684	3,947	2,900	2,220	1,754	1,421	1,174	987	725	555
	19-H-2	27.0		C	8,882	7,105	5,921	5,075	4,441	3,947	3,553	3,230	2,961	2,538	2,220
2-1/4" x 3/8"	19-H-4	30.8	3.197	U	10,658	6,821	4,737	3,480	2,664	2,105	1,705	1,409	1,184	870	666
	19-H-2	31.9		C	10,658	8,526	7,105	6,090	5,329	4,737	4,263	3,876	3,553	3,045	2,664
2-1/2" x 1/4"	19-H-4	22.7	2.632	U	8,772	5,614	3,899	2,864	2,193	1,733	1,404	1,160	975	716	548
	19-H-2	23.3		C	8,772	7,018	5,848	5,013	4,386	3,899	3,509	3,190	2,924	2,506	2,193
2-1/2" x 5/16"	19-H-4	28.6	3.289	U	10,965	7,018	4,873	3,580	2,741	2,166	1,754	1,450	1,218	895	685
	19-H-2	29.8		C	10,965	8,772	7,310	6,266	5,482	4,873	4,386	3,987	3,655	3,133	2,741
2-1/2" x 3/8"	19-H-4	34.1	3.947	U	13,158	8,421	5,848	4,296	3,289	2,599	2,105	1,740	1,462	1,074	822
	19-H-2	35.2		C	13,158	10,526	8,772	7,519	6,579	5,848	5,263	4,785	4,386	3,759	3,289
2-3/4" x 1/4"	19-H-4	24.9	3.184	U	10,614	6,793	4,717	3,466	2,654	2,097	1,698	1,404	1,179	866	663
	19-H-2	25.6		C	10,614	8,491	7,076	6,065	5,307	4,717	4,246	3,860	3,538	3,033	2,654
2-3/4" x 5/16"	19-H-4	31.8	3.980	U	13,268	8,491	5,897	4,332	3,317	2,621	2,123	1,754	1,474	1,083	829
	19-H-2	33.3		C	13,268	10,614	8,845	7,581	6,634	5,897	5,307	4,825	4,423	3,791	3,317
2-3/4" x 3/8"	19-H-4	37.8	4.776	U	15,921	10,189	7,076	5,199	3,980	3,145	2,547	2,105	1,769	1,300	995
	19-H-2	39.3		C	15,921	12,737	10,614	9,098	7,961	7,076	6,368	5,789	5,307	4,549	3,980

Steel Bar Grating Heavy-Duty

19-H-4 & 19-H-2 (continued)

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight per sq ft	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
3" x 1/4"	19-H-4	27.8	3.789	U	12,632	8,084	5,614	4,125	3,158	2,495	2,021	1,670	1,404	1,031	789
	19-H-2	28.7		C	12,632	10,105	8,421	7,218	6,316	5,614	5,053	4,593	4,211	3,609	3,158
3" x 5/16"	19-H-4	34.5	4.737	U	15,789	10,105	7,018	5,156	3,947	3,119	2,526	2,088	1,754	1,289	987
	19-H-2	36.1		C	15,789	12,632	10,526	9,023	7,895	7,018	6,316	5,742	5,263	4,511	3,947
3" x 3/8"	19-H-4	41.1	5.684	U	18,947	12,126	8,421	6,187	4,737	3,743	3,032	2,505	2,105	1,547	1,184
	19-H-2	42.6		C	18,947	15,158	12,632	10,827	9,474	8,421	7,579	6,890	6,316	5,414	4,737
3-1/4" x 1/4"	19-H-4	29.8	4.447	U	14,825	9,488	6,589	4,841	3,706	2,928	2,372	1,960	1,647	1,210	927
	19-H-2	30.9		C	14,825	11,860	9,883	8,471	7,412	6,589	5,930	5,391	4,942	4,236	3,706
3-1/4" x 5/16"	19-H-4	37.3	5.559	U	18,531	11,860	8,236	6,051	4,633	3,660	2,965	2,450	2,059	1,513	1,158
	19-H-2	38.8		C	18,531	14,825	12,354	10,589	9,265	8,236	7,412	6,738	6,177	5,294	4,633
3-1/4" x 3/8"	19-H-4	44.4	6.671	U	22,237	14,232	9,883	7,261	5,559	4,392	3,558	2,940	2,471	1,815	1,390
	19-H-2	45.9		C	22,237	17,789	14,825	12,707	11,118	9,883	8,895	8,086	7,412	6,353	5,559
3-1/2" x 1/4"	19-H-4	31.9	5.158	U	17,193	11,004	7,641	5,614	4,298	3,396	2,751	2,273	1,910	1,404	1,075
	19-H-2	33.1		C	17,193	13,754	11,462	9,825	8,596	7,641	6,877	6,252	5,731	4,912	4,298
3-1/2" x 5/16"	19-H-4	40.0	6.447	U	21,491	13,754	9,552	7,018	5,373	4,245	3,439	2,842	2,388	1,754	1,343
	19-H-2	41.6		C	21,491	17,193	14,327	12,281	10,746	9,552	8,596	7,815	7,164	6,140	5,373
3-1/2" x 3/8"	19-H-4	47.6	7.737	U	25,789	16,505	11,462	8,421	6,447	5,094	4,126	3,410	2,865	2,105	1,612
	19-H-2	49.2		C	25,789	20,632	17,193	14,737	12,895	11,462	10,316	9,378	8,596	7,368	6,447
4" x 1/4"	19-H-4	36.4	6.737	U	22,456	14,372	9,981	7,333	5,614	4,436	3,593	2,969	2,495	1,833	1,404
	19-H-2	37.5		C	22,456	17,965	14,971	12,832	11,228	9,981	8,982	8,166	7,485	6,416	5,614
4" x 5/16"	19-H-4	45.3	8.421	U	28,070	17,965	12,476	9,166	7,018	5,545	4,491	3,712	3,119	2,291	1,754
	19-H-2	47.1		C	28,070	22,456	18,713	16,040	14,035	12,476	11,228	10,207	9,357	8,020	7,018
4" x 3/8"	19-H-4	54.2	10.105	U	33,684	21,558	14,971	10,999	8,421	6,654	5,389	4,454	3,743	2,750	2,105
	19-H-2	55.8		C	33,684	26,947	22,456	19,248	16,842	14,971	13,474	12,249	11,228	9,624	8,421
4-1/2" x 1/4"	19-H-4	40.8	8.526	U	28,421	18,189	12,632	9,280	7,105	5,614	4,547	3,758	3,158	2,320	1,776
	19-H-2	41.9		C	28,421	22,737	18,947	16,241	14,211	12,632	11,368	10,335	9,474	8,120	7,105
4-1/2" x 5/16"	19-H-4	51.0	10.658	U	35,526	22,737	15,789	11,600	8,882	7,018	5,684	4,698	3,947	2,900	2,220
	19-H-2	52.6		C	35,526	28,421	23,684	20,301	17,763	15,789	14,211	12,919	11,842	10,150	8,882
4-1/2" x 3/8"	19-H-4	60.8	12.789	U	42,632	27,284	18,947	13,921	10,658	8,421	6,821	5,637	4,737	3,480	2,664
	19-H-2	62.4		C	42,632	34,105	28,421	24,361	21,316	18,947	17,053	15,502	14,211	12,180	10,658
5" x 1/4"	19-H-4	45.2	10.526	U	35,088	22,456	15,595	11,457	8,772	6,931	5,614	4,640	3,899	2,864	2,193
	19-H-2	46.3		C	35,088	28,070	23,392	20,050	17,544	15,595	14,035	12,759	11,696	10,025	8,772
5" x 5/16"	19-H-4	56.5	13.158	U	43,860	28,070	19,493	14,322	10,965	8,664	7,018	5,800	4,873	3,580	2,741
	19-H-2	58.1		C	43,860	35,088	29,240	25,063	21,930	19,493	17,544	15,949	14,620	12,531	10,965
5" x 3/8"	19-H-4	67.4	15.789	U	52,632	33,684	23,392	17,186	13,158	10,396	8,421	6,960	5,848	4,296	3,289
	19-H-2	68.9		C	52,632	42,105	35,088	30,075	26,316	23,392	21,053	19,139	17,544	15,038	13,158
6" x 1/4"	19-H-4	54.0	15.158	U	50,526	32,337	22,456	16,498	12,632	9,981	8,084	6,681	5,614	4,125	3,158
	19-H-2	55.2		C	50,526	40,421	33,684	28,872	25,263	22,456	20,211	18,373	16,842	14,436	12,632
6" x 5/16"	19-H-4	67.5	18.947	U	63,158	40,421	28,070	20,623	15,789	12,476	10,105	8,351	7,018	5,156	3,947
	19-H-2	69.1		C	63,158	50,526	42,105	36,090	31,579	28,070	25,263	22,967	21,053	18,045	15,789
6" x 3/8"	19-H-4	80.9	22.737	U	75,789	48,505	33,684	24,748	18,947	14,971	12,126	10,022	8,421	6,187	4,737
	19-H-2	82.1		C	75,789	60,632	50,526	43,308	37,895	33,684	30,316	27,560	25,263	21,654	18,947

H-19 PANEL WIDTH (inches)

Note: H-Heavy Duty cross rods may extend 1/8" each side. Panel widths do not include these extensions.

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1/4" Bar	17 ¹ / 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	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 ³ / ₁₆
5/16" Bar	1 ¹ / ₂	2 ¹¹ / ₁₆	3 ⁷ / ₈	5 ¹ / ₁₆	6 ¹ / ₄	7 ⁷ / ₁₆	8 ⁵ / ₈	9 ¹³ / ₁₆	11	12 ³ / ₁₆	13 ³ / ₈	14 ⁹ / ₁₆	15 ³ / ₄	16 ¹⁵ / ₁₆	18 ¹ / ₈	19 ⁵ / ₁₆	20 ¹ / ₂	21 ¹¹ / ₁₆	22 ⁷ / ₈
3/8" Bar	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	13 ⁷ / ₁₆	14 ⁵ / ₈	15 ³ / ₁₆	17	18 ³ / ₁₆	19 ³ / ₈	20 ⁹ / ₁₆	21 ³ / ₄	22 ¹⁵ / ₁₆
No. of Bars	21	22	23	24	25	26	27	28	29	30	31								
1/4" Bar	24	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								
5/16" Bar	24 ¹ / ₁₆	25 ¹ / ₄	26 ⁷ / ₁₆	27 ⁵ / ₈	28 ¹³ / ₁₆	30	31 ³ / ₁₆	32 ³ / ₈	33 ⁹ / ₁₆	34 ³ / ₄	35 ¹⁵ / ₁₆								
3/8" Bar	24 ¹ / ₈	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								

All 1/4" Bar Size - up to 31 Bars Wide
 1 x 5/16 thru 2-1/2 x 3/8 - up to 31 Bars Wide
 2-3/4 x 5/16 thru 6 x 3/8 - up to 26 Bars Wide

Steel Bar Grating Heavy-Duty

HEAVY-DUTY WELDED (H) 1-3/8" C/C Bearing Bars

22-H-4



Cross Rods 4" C/C

22-H-2



Cross Rods 2" C/C

NON-SERRATED & SERRATED

U = safe uniform load, psf (page 93)

C = safe concentrated load, psf (page 93)

D = deflection, inches

E = modulus of elasticity, 29,000,000 psi

F = fiber stress, 20,000 psi

Material: ASTM A-36

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort.

These can be exceeded for other types of loads with engineer's approval. For deflections of uniform and concentrated loads, consult AMICO-Klemp's engineering departments.

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	22-H-4	8.3	0.364	U	1,212	776	539	396	303	239	194	160	135	99	76
	22-H-2	9.0		C	1,212	970	808	693	606	539	485	441	404	346	303
1" x 5/16"	22-H-4	10.7	0.455	U	1,515	970	673	495	379	299	242	200	168	124	95
	22-H-2	11.8		C	1,515	1,212	1,010	866	758	673	606	551	505	433	379
1" x 3/8"	22-H-4	12.6	0.545	U	1,818	1,164	808	594	455	359	291	240	202	148	114
	22-H-2	13.7		C	1,818	1,455	1,212	1,039	909	808	727	661	606	519	455
1-1/4" x 1/4"	22-H-4	10.2	0.568	U	1,894	1,212	842	618	473	374	303	250	210	155	118
	22-H-2	10.9		C	1,894	1,515	1,263	1,082	947	842	758	689	631	541	473
1-1/4" x 5/16"	22-H-4	13.1	0.710	U	2,367	1,515	1,052	773	592	468	379	313	263	193	148
	22-H-2	14.2		C	2,367	1,894	1,578	1,353	1,184	1,052	947	861	789	676	592
1-1/4" x 3/8"	22-H-4	15.4	0.852	U	2,841	1,818	1,263	928	710	561	455	376	316	232	178
	22-H-2	16.5		C	2,841	2,273	1,894	1,623	1,420	1,263	1,136	1,033	947	812	710
1-1/2" x 1/4"	22-H-4	12.1	0.818	U	2,727	1,745	1,212	891	682	539	436	361	303	223	170
	22-H-2	12.8		C	2,727	2,182	1,818	1,558	1,364	1,212	1,091	992	909	779	682
1-1/2" x 5/16"	22-H-4	15.4	1.023	U	3,409	2,182	1,515	1,113	852	673	545	451	379	278	213
	22-H-2	16.8		C	3,409	2,727	2,273	1,948	1,705	1,515	1,364	1,240	1,136	974	852
1-1/2" x 3/8"	22-H-4	18.3	1.227	U	4,091	2,618	1,818	1,336	1,023	808	655	541	455	334	256
	22-H-2	19.4		C	4,091	3,273	2,727	2,338	2,045	1,818	1,636	1,488	1,364	1,169	1,023
1-3/4" x 1/4"	22-H-4	14.0	1.114	U	3,712	2,376	1,650	1,212	928	733	594	491	412	303	232
	22-H-2	14.7		C	3,712	2,970	2,475	2,121	1,856	1,650	1,485	1,350	1,237	1,061	928
1-3/4" x 5/16"	22-H-4	17.8	1.392	U	4,640	2,970	2,062	1,515	1,160	917	742	614	516	379	290
	22-H-2	19.0		C	4,640	3,712	3,093	2,652	2,320	2,062	1,856	1,687	1,547	1,326	1,160
1-3/4" x 3/8"	22-H-4	21.4	1.670	U	5,568	3,564	2,475	1,818	1,392	1,100	891	736	619	455	348
	22-H-2	22.3		C	5,568	4,455	3,712	3,182	2,784	2,475	2,227	2,025	1,856	1,591	1,392
2" x 1/4"	22-H-4	16.0	1.455	U	4,848	3,103	2,155	1,583	1,212	958	776	641	539	396	303
	22-H-2	16.6		C	4,848	3,879	3,232	2,771	2,424	2,155	1,939	1,763	1,616	1,385	1,212
2" x 5/16"	22-H-4	20.2	1.818	U	6,061	3,879	2,694	1,979	1,515	1,197	970	801	673	495	379
	22-H-2	21.3		C	6,061	4,848	4,040	3,463	3,030	2,694	2,424	2,204	2,020	1,732	1,515
2" x 3/8"	22-H-4	24.0	2.182	U	7,273	4,655	3,232	2,375	1,818	1,437	1,164	962	808	594	455
	22-H-2	25.1		C	7,273	5,818	4,848	4,156	3,636	3,232	2,909	2,645	2,424	2,078	1,818
2-1/4" x 1/4"	22-H-4	17.9	1.841	U	6,136	3,927	2,727	2,004	1,534	1,212	982	811	682	501	384
	22-H-2	18.5		C	6,136	4,909	4,091	3,506	3,068	2,727	2,455	2,231	2,045	1,753	1,534
2-1/4" x 5/16"	22-H-4	22.6	2.301	U	7,670	4,909	3,409	2,505	1,918	1,515	1,227	1,014	852	626	479
	22-H-2	23.7		C	7,670	6,136	5,114	4,383	3,835	3,409	3,068	2,789	2,557	2,192	1,918
2-1/4" x 3/8"	22-H-4	26.9	2.761	U	9,205	5,891	4,091	3,006	2,301	1,818	1,473	1,217	1,023	751	575
	22-H-2	28.0		C	9,205	7,364	6,136	5,260	4,602	4,091	3,682	3,347	3,068	2,630	2,301
2-1/2" x 1/4"	22-H-4	19.8	2.273	U	7,576	4,848	3,367	2,474	1,894	1,496	1,212	1,002	842	618	473
	22-H-2	20.4		C	7,576	6,061	5,051	4,329	3,788	3,367	3,030	2,755	2,525	2,165	1,894
2-1/2" x 5/16"	22-H-4	25.0	2.841	U	9,470	6,061	4,209	3,092	2,367	1,871	1,515	1,252	1,052	773	592
	22-H-2	26.1		C	9,470	7,576	6,313	5,411	4,735	4,209	3,788	3,444	3,157	2,706	2,367
2-1/2" x 3/8"	22-H-4	29.7	3.409	U	11,364	7,273	5,051	3,711	2,841	2,245	1,818	1,503	1,263	928	710
	22-H-2	30.8		C	11,364	9,091	7,576	6,494	5,682	5,051	4,545	4,132	3,788	3,247	2,841
2-3/4" x 1/4"	22-H-4	21.7	2.750	U	9,167	5,867	4,074	2,993	2,292	1,811	1,467	1,212	1,019	748	573
	22-H-2	22.3		C	9,167	7,333	6,111	5,238	4,583	4,074	3,667	3,333	3,056	2,619	2,292
2-3/4" x 5/16"	22-H-4	27.8	3.438	U	11,458	7,333	5,093	3,741	2,865	2,263	1,833	1,515	1,273	935	716
	22-H-2	29.3		C	11,458	9,167	7,639	6,548	5,729	5,093	4,583	4,167	3,819	3,274	2,865
2-3/4" x 3/8"	22-H-4	33.0	4.125	U	13,750	8,800	6,111	4,490	3,438	2,716	2,200	1,818	1,528	1,122	859
	22-H-2	34.5		C	13,750	11,000	9,167	7,857	6,875	6,111	5,500	5,000	4,583	3,929	3,438

Steel Bar Grating Heavy-Duty

22-H-4 & 22-H-2 (continued)

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight per sq ft	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
3" x 1/4"	22-H-4	24.1	3.273	U	10,909	6,982	4,848	3,562	2,727	2,155	1,745	1,443	1,212	891	682
	22-H-2	25.2		C	10,909	8,727	7,273	6,234	5,455	4,848	4,364	3,967	3,636	3,117	2,727
3" x 5/16"	22-H-4	30.2	4.091	U	13,636	8,727	6,061	4,453	3,409	2,694	2,182	1,803	1,515	1,113	852
	22-H-2	31.7		C	13,636	10,909	9,091	7,792	6,818	6,061	5,455	4,959	4,545	3,896	3,409
3" x 3/8"	22-H-4	35.8	4.909	U	16,364	10,473	7,273	5,343	4,091	3,232	2,618	2,164	1,818	1,336	1,023
	22-H-2	37.4		C	16,364	13,091	10,909	9,351	8,182	7,273	6,545	5,950	5,455	4,675	4,091
3-1/4" x 1/4"	22-H-4	26.0	3.841	U	12,803	8,194	5,690	4,181	3,201	2,529	2,048	1,693	1,423	1,045	800
	22-H-2	27.1		C	12,803	10,242	8,535	7,316	6,402	5,690	5,121	4,656	4,268	3,658	3,201
3-1/4" x 5/16"	22-H-4	32.6	4.801	U	16,004	10,242	7,113	5,226	4,001	3,161	2,561	2,116	1,778	1,306	1,000
	22-H-2	34.1		C	16,004	12,803	10,669	9,145	8,002	7,113	6,402	5,820	5,335	4,573	4,001
3-1/4" x 3/8"	22-H-4	38.7	5.761	U	19,205	12,291	8,535	6,271	4,801	3,793	3,073	2,539	2,134	1,568	1,200
	22-H-2	40.2		C	19,205	15,364	12,803	10,974	9,602	8,535	7,682	6,983	6,402	5,487	4,801
3-1/2" x 1/4"	22-H-4	27.9	4.455	U	14,848	9,503	6,599	4,848	3,712	2,933	2,376	1,963	1,650	1,212	928
	22-H-2	29.0		C	14,848	11,879	9,899	8,485	7,424	6,599	5,939	5,399	4,949	4,242	3,712
3-1/2" x 5/16"	22-H-4	34.9	5.568	U	18,561	11,879	8,249	6,061	4,640	3,666	2,970	2,454	2,062	1,515	1,160
	22-H-2	36.5		C	18,561	14,848	12,374	10,606	9,280	8,249	7,424	6,749	6,187	5,303	4,640
3-1/2" x 3/8"	22-H-4	41.6	6.682	U	22,273	14,255	9,899	7,273	5,568	4,400	3,564	2,945	2,475	1,818	1,392
	22-H-2	43.1		C	22,273	17,818	14,848	12,727	11,136	9,899	8,909	8,099	7,424	6,364	5,568
4" x 1/4"	22-H-4	31.7	5.818	U	19,394	12,412	8,620	6,333	4,848	3,831	3,103	2,564	2,155	1,583	1,212
	22-H-2	32.9		C	19,394	15,515	12,929	11,082	9,697	8,620	7,758	7,052	6,465	5,541	4,848
4" x 5/16"	22-H-4	39.7	7.273	U	24,242	15,515	10,774	7,916	6,061	4,789	3,879	3,206	2,694	1,979	1,515
	22-H-2	41.2		C	24,242	19,394	16,162	13,853	12,121	10,774	9,697	8,815	8,081	6,926	6,061
4" x 3/8"	22-H-4	47.3	8.727	U	29,091	18,618	12,929	9,499	7,273	5,746	4,655	3,847	3,232	2,375	1,818
	22-H-2	48.8		C	29,091	23,273	19,394	16,623	14,545	12,929	11,636	10,579	9,697	8,312	7,273
4-1/2" x 1/4"	22-H-4	35.6	7.364	U	24,545	15,709	10,909	8,015	6,136	4,848	3,927	3,246	2,727	2,004	1,534
	22-H-2	36.7		C	24,545	19,636	16,364	14,026	12,273	10,909	9,818	8,926	8,182	7,013	6,136
4-1/2" x 5/16"	22-H-4	44.5	9.205	U	30,682	19,636	13,636	10,019	7,670	6,061	4,909	4,057	3,409	2,505	1,918
	22-H-2	46.0		C	30,682	24,545	20,455	17,532	15,341	13,636	12,273	11,157	10,227	8,766	7,670
4-1/2" x 3/8"	22-H-4	53.0	11.045	U	36,818	23,564	16,364	12,022	9,205	7,273	5,891	4,869	4,091	3,006	2,301
	22-H-2	54.5		C	36,818	29,455	24,545	21,039	18,409	16,364	14,727	13,388	12,273	10,519	9,205
5" x 1/4"	22-H-4	39.4	9.091	U	30,303	19,394	13,468	9,895	7,576	5,986	4,848	4,007	3,367	2,474	1,894
	22-H-2	40.5		C	30,303	24,242	20,202	17,316	15,152	13,468	12,121	11,019	10,101	8,658	7,576
5" x 5/16"	22-H-4	49.3	11.364	U	37,879	24,242	16,835	12,369	9,470	7,482	6,061	5,009	4,209	3,092	2,367
	22-H-2	50.8		C	37,879	30,303	25,253	21,645	18,939	16,835	15,152	13,774	12,626	10,823	9,470
5" x 3/8"	22-H-4	58.7	13.636	U	45,455	29,091	20,202	14,842	11,364	8,979	7,273	6,011	5,051	3,711	2,841
	22-H-2	60.2		C	45,455	36,364	30,303	25,974	22,727	20,202	18,182	16,529	15,152	12,987	11,364
6" x 1/4"	22-H-4	47.0	13.091	U	43,636	27,927	19,394	14,249	10,909	8,620	6,982	5,770	4,848	3,562	2,727
	22-H-2	48.2		C	43,636	34,909	29,091	24,935	21,818	19,394	17,455	15,868	14,545	12,468	10,909
6" x 5/16"	22-H-4	58.8	16.364	U	54,545	34,909	24,242	17,811	13,636	10,774	8,727	7,213	6,061	4,453	3,409
	22-H-2	60.3		C	54,545	43,636	36,364	31,169	27,273	24,242	21,818	19,835	18,182	15,584	13,636
6" x 3/8"	22-H-4	70.1	19.636	U	65,455	41,891	29,091	21,373	16,364	12,929	10,473	8,655	7,273	5,343	4,091
	22-H-2	71.8		C	65,455	52,364	43,636	37,403	32,727	29,091	26,182	23,802	21,818	18,701	16,364

H-22 PANEL WIDTH (inches)

Note: H-Heavy Duty cross rods may extend 1/8" each side. Panel widths do not include these extensions.

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1/4" Bar	1 ⁵ / ₈	3	4 ³ / ₈	5 ³ / ₄	7 ¹ / ₈	8 ¹ / ₂	9 ⁷ / ₈	11 ¹ / ₄	12 ⁵ / ₈	14	15 ³ / ₈	16 ³ / ₄	18 ¹ / ₈	19 ¹ / ₂	20 ⁷ / ₈	22 ¹ / ₄	23 ⁵ / ₈	25	26 ³ / ₈
5/16" Bar	1 ¹¹ / ₁₆	3 ¹ / ₁₆	4 ⁷ / ₁₆	5 ¹³ / ₁₆	7 ³ / ₁₆	8 ⁹ / ₁₆	9 ¹⁵ / ₁₆	11 ⁵ / ₁₆	12 ¹¹ / ₁₆	14 ¹ / ₁₆	15 ⁷ / ₁₆	16 ¹³ / ₁₆	18 ³ / ₁₆	19 ⁹ / ₁₆	20 ¹⁵ / ₁₆	22 ³ / ₁₆	23 ¹¹ / ₁₆	25 ¹ / ₁₆	26 ⁷ / ₁₆
3/8" Bar	1 ³ / ₄	3 ¹ / ₈	4 ¹ / ₂	5 ⁷ / ₈	7 ¹ / ₄	8 ⁵ / ₈	10	11 ³ / ₈	12 ³ / ₄	14 ¹ / ₈	15 ¹ / ₂	16 ⁷ / ₈	18 ¹ / ₄	19 ⁵ / ₈	21	22 ³ / ₈	23 ³ / ₄	25 ¹ / ₈	26 ¹ / ₂
No. of Bars	21	22	23	24	25	26	27												
1/4" Bar	27 ³ / ₄	29 ¹ / ₈	30 ¹ / ₂	31 ⁷ / ₈	33 ¹ / ₄	34 ⁵ / ₈	36												
5/16" Bar	27 ¹³ / ₁₆	29 ³ / ₁₆	30 ⁹ / ₁₆	31 ¹⁵ / ₁₆	33 ⁵ / ₁₆	34 ¹¹ / ₁₆	36 ⁷ / ₁₆												
3/8" Bar	27 ⁷ / ₈	29 ¹ / ₄	30 ⁵ / ₈	32	33 ³ / ₈	34 ³ / ₄	36 ¹ / ₈												

All 1/4" Bar Size - up to 27 Bars Wide
 1 x 5/16 thru 2-1/2 x 3/8 - up to 27 Bars Wide
 2-3/4 x 5/16 thru 6 x 3/8 - up to 18 Bars Wide

Steel Bar Grating Heavy-Duty

HEAVY-DUTY WELDED (W) 1-7/8" C/C Bearing Bars



Cross Rods 4" C/C



Cross Rods 2" C/C

NON-SERRATED & SERRATED

U = safe uniform load, psf (page 93)
 C = safe concentrated load, psf (page 93)
 D = deflection, inches
 E = modulus of elasticity, 29,000,000 psi
 F = fiber stress, 20,000 psi

Material: ASTM A-36

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval. For deflections of uniform and concentrated loads, consult AMICO-Klemp's engineering departments.

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	30-H-4	6.3	0.267	U	889	569	395	290	222	176	142	118	99	73	56
	30-H-2	7.0		C	889	711	593	508	444	395	356	323	296	254	222
1" x 5/16"	30-H-4	8.2	0.333	U	1,111	711	494	363	278	219	178	147	123	91	69
	30-H-2	9.4		C	1,111	889	741	635	556	494	444	404	370	317	278
1" x 3/8"	30-H-4	9.6	0.400	U	1,333	853	593	435	333	263	213	176	148	109	83
	30-H-2	10.8		C	1,333	1,067	889	762	667	593	533	485	444	381	333
1-1/4" x 1/4"	30-H-4	7.8	0.417	U	1,389	889	617	454	347	274	222	184	154	113	87
	30-H-2	8.4		C	1,389	1,111	926	794	694	617	556	505	463	397	347
1-1/4" x 5/16"	30-H-4	10.0	0.521	U	1,736	1,111	772	567	434	343	278	230	193	142	109
	30-H-2	11.1		C	1,736	1,389	1,157	992	868	772	694	631	579	496	434
1-1/4" x 3/8"	30-H-4	11.8	0.625	U	2,083	1,333	926	680	521	412	333	275	231	170	130
	30-H-2	12.9		C	2,083	1,667	1,389	1,190	1,042	926	833	758	694	595	521
1-1/2" x 1/4"	30-H-4	9.2	0.600	U	2,000	1,280	889	653	500	395	320	264	222	163	125
	30-H-2	9.8		C	2,000	1,600	1,333	1,143	1,000	889	800	727	667	571	500
1-1/2" x 5/16"	30-H-4	11.8	0.750	U	2,500	1,600	1,111	816	625	494	400	331	278	204	156
	30-H-2	12.9		C	2,500	2,000	1,667	1,429	1,250	1,111	1,000	909	833	714	625
1-1/2" x 3/8"	30-H-4	13.9	0.900	U	3,000	1,920	1,333	980	750	593	480	397	333	245	188
	30-H-2	15.0		C	3,000	2,400	2,000	1,714	1,500	1,333	1,200	1,091	1,000	857	750
1-3/4" x 1/4"	30-H-4	10.6	0.817	U	2,722	1,742	1,210	889	681	538	436	360	302	222	170
	30-H-2	11.3		C	2,722	2,178	1,815	1,556	1,361	1,210	1,089	990	907	778	681
1-3/4" x 5/16"	30-H-4	13.6	1.021	U	3,403	2,178	1,512	1,111	851	672	544	450	378	278	213
	30-H-2	14.7		C	3,403	2,722	2,269	1,944	1,701	1,512	1,361	1,237	1,134	972	851
1-3/4" x 3/8"	30-H-4	16.0	1.225	U	4,083	2,613	1,815	1,333	1,021	807	653	540	454	333	255
	30-H-2	17.1		C	4,083	3,267	2,722	2,333	2,042	1,815	1,633	1,485	1,361	1,167	1,021
2" x 1/4"	30-H-4	12.0	1.067	U	3,556	2,276	1,580	1,161	889	702	569	470	395	290	222
	30-H-2	12.7		C	3,556	2,844	2,370	2,032	1,778	1,580	1,422	1,293	1,185	1,016	889
2" x 5/16"	30-H-4	15.3	1.333	U	4,444	2,844	1,975	1,451	1,111	878	711	588	494	363	278
	30-H-2	16.5		C	4,444	3,556	2,963	2,540	2,222	1,975	1,778	1,616	1,481	1,270	1,111
2" x 3/8"	30-H-4	18.1	1.600	U	5,333	3,413	2,370	1,741	1,333	1,053	853	705	593	435	333
	30-H-2	19.3		C	5,333	4,267	3,556	3,048	2,667	2,370	2,133	1,939	1,778	1,524	1,333
2-1/4" x 1/4"	30-H-4	13.6	1.350	U	4,500	2,880	2,000	1,469	1,125	889	720	595	500	367	281
	30-H-2	14.1		C	4,500	3,600	3,000	2,571	2,250	2,000	1,800	1,636	1,500	1,286	1,125
2-1/4" x 5/16"	30-H-4	17.1	1.688	U	5,625	3,600	2,500	1,837	1,406	1,111	900	744	625	459	352
	30-H-2	18.2		C	5,625	4,500	3,750	3,214	2,813	2,500	2,250	2,045	1,875	1,607	1,406
2-1/4" x 3/8"	30-H-4	20.3	2.025	U	6,750	4,320	3,000	2,204	1,688	1,333	1,080	893	750	551	422
	30-H-2	21.4		C	6,750	5,400	4,500	3,857	3,375	3,000	2,700	2,455	2,250	1,929	1,688
2-1/2" x 1/4"	30-H-4	14.9	1.667	U	5,556	3,556	2,469	1,814	1,389	1,097	889	735	617	454	347
	30-H-2	15.3		C	5,556	4,444	3,704	3,175	2,778	2,469	2,222	2,020	1,852	1,587	1,389
2-1/2" x 5/16"	30-H-4	18.9	2.083	U	6,944	4,444	3,086	2,268	1,736	1,372	1,111	918	772	567	434
	30-H-2	20.0		C	6,944	5,556	4,630	3,968	3,472	3,086	2,778	2,525	2,315	1,984	1,736
2-1/2" x 3/8"	30-H-4	22.3	2.500	U	8,333	5,333	3,704	2,721	2,083	1,646	1,333	1,102	926	680	521
	30-H-2	23.5		C	8,333	6,667	5,556	4,762	4,167	3,704	3,333	3,030	2,778	2,381	2,083
2-3/4" x 1/4"	30-H-4	16.3	2.017	U	6,722	4,302	2,988	2,195	1,681	1,328	1,076	889	747	549	420
	30-H-2	17.0		C	6,722	5,378	4,481	3,841	3,361	2,988	2,689	2,444	2,241	1,921	1,681
2-3/4" x 5/16"	30-H-4	21.0	2.521	U	8,403	5,378	3,735	2,744	2,101	1,660	1,344	1,111	934	686	525
	30-H-2	22.6		C	8,403	6,722	5,602	4,802	4,201	3,735	3,361	3,056	2,801	2,401	2,101
2-3/4" x 3/8"	30-H-4	24.9	3.025	U	10,083	6,453	4,481	3,293	2,521	1,992	1,613	1,333	1,120	823	630
	30-H-2	26.4		C	10,083	8,067	6,722	5,762	5,042	4,481	4,033	3,667	3,361	2,881	2,521

Steel Bar Grating Heavy-Duty

30-H-4 & 30-H-2 (continued)

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight per sq ft	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
3" x 1/4"	30-H-4	18.2	2.400	U	8,000	5,120	3,556	2,612	2,000	1,580	1,280	1,058	889	653	500
	30-H-2	19.3		C	8,000	6,400	5,333	4,571	4,000	3,556	3,200	2,909	2,667	2,286	2,000
3" x 5/16"	30-H-4	22.8	3.000	U	10,000	6,400	4,444	3,265	2,500	1,975	1,600	1,322	1,111	816	625
	30-H-2	24.4		C	10,000	8,000	6,667	5,714	5,000	4,444	4,000	3,636	3,333	2,857	2,500
3" x 3/8"	30-H-4	27.0	3.600	U	12,000	7,680	5,333	3,918	3,000	2,370	1,920	1,587	1,333	980	750
	30-H-2	28.6		C	12,000	9,600	8,000	6,857	6,000	5,333	4,800	4,364	4,000	3,429	3,000
3-1/4" x 1/4"	30-H-4	19.6	2.817	U	9,389	6,009	4,173	3,066	2,347	1,855	1,502	1,242	1,043	766	587
	30-H-2	20.7		C	9,389	7,511	6,259	5,365	4,694	4,173	3,756	3,414	3,130	2,683	2,347
3-1/4" x 5/16"	30-H-4	24.6	3.521	U	11,736	7,511	5,216	3,832	2,934	2,318	1,878	1,552	1,304	958	734
	30-H-2	26.1		C	11,736	9,389	7,824	6,706	5,868	5,216	4,694	4,268	3,912	3,353	2,934
3-1/4" x 3/8"	30-H-4	29.2	4.225	U	14,083	9,013	6,259	4,599	3,521	2,782	2,253	1,862	1,565	1,150	880
	30-H-2	30.7		C	14,083	11,267	9,389	8,048	7,042	6,259	5,633	5,121	4,694	4,024	3,521
3-1/2" x 1/4"	30-H-4	21.0	3.267	U	10,889	6,969	4,840	3,556	2,722	2,151	1,742	1,440	1,210	889	681
	30-H-2	22.2		C	10,889	8,711	7,259	6,222	5,444	4,840	4,356	3,960	3,630	3,111	2,722
3-1/2" x 5/16"	30-H-4	26.4	4.083	U	13,611	8,711	6,049	4,444	3,403	2,689	2,178	1,800	1,512	1,111	851
	30-H-2	27.9		C	13,611	10,889	9,074	7,778	6,806	6,049	5,444	4,949	4,537	3,889	3,403
3-1/2" x 3/8"	30-H-4	31.3	4.900	U	16,333	10,453	7,259	5,333	4,083	3,226	2,613	2,160	1,815	1,333	1,021
	30-H-2	32.8		C	16,333	13,067	10,889	9,333	8,167	7,259	6,533	5,939	5,444	4,667	4,083
4" x 1/4"	30-H-4	23.9	4.267	U	14,222	9,102	6,321	4,644	3,556	2,809	2,276	1,881	1,580	1,161	889
	30-H-2	29.0		C	14,222	11,378	9,481	8,127	7,111	6,321	5,689	5,172	4,741	4,063	3,556
4" x 5/16"	30-H-4	29.9	5.333	U	17,778	11,378	7,901	5,805	4,444	3,512	2,844	2,351	1,975	1,451	1,111
	30-H-2	31.5		C	17,778	14,222	11,852	10,159	8,889	7,901	7,111	6,465	5,926	5,079	4,444
4" x 3/8"	30-H-4	35.5	6.400	U	21,333	13,653	9,481	6,966	5,333	4,214	3,413	2,821	2,370	1,741	1,333
	30-H-2	37.1		C	21,333	17,067	14,222	12,190	10,667	9,481	8,533	7,758	7,111	6,095	5,333
4-1/2" x 1/4"	30-H-4	36.7	5.400	U	18,000	11,520	8,000	5,878	4,500	3,556	2,880	2,380	2,000	1,469	1,125
	30-H-2	27.9		C	18,000	14,400	12,000	10,286	9,000	8,000	7,200	6,545	6,000	5,143	4,500
4-1/2" x 5/16"	30-H-4	33.5	6.750	U	22,500	14,400	10,000	7,347	5,625	4,444	3,600	2,975	2,500	1,837	1,406
	30-H-2	35.0		C	22,500	18,000	15,000	12,857	11,250	10,000	9,000	8,182	7,500	6,429	5,625
4-1/2" x 3/8"	30-H-4	39.9	8.100	U	27,000	17,280	12,000	8,816	6,750	5,333	4,320	3,570	3,000	2,204	1,688
	30-H-2	41.3		C	27,000	21,600	18,000	15,429	13,500	12,000	10,800	9,818	9,000	7,714	6,750
5" x 1/4"	30-H-4	29.7	6.667	U	22,222	14,222	9,877	7,256	5,556	4,390	3,556	2,938	2,469	1,814	1,389
	30-H-2	30.7		C	22,222	17,778	14,815	12,698	11,111	9,877	8,889	8,081	7,407	6,349	5,556
5" x 5/16"	30-H-4	37.0	8.333	U	27,778	17,778	12,346	9,070	6,944	5,487	4,444	3,673	3,086	2,268	1,736
	30-H-2	38.6		C	27,778	22,222	18,519	15,873	13,889	12,346	11,111	10,101	9,259	7,937	6,944
5" x 3/8"	30-H-4	44.0	10.000	U	33,333	21,333	14,815	10,884	8,333	6,584	5,333	4,408	3,704	2,721	2,083
	30-H-2	45.6		C	33,333	26,667	22,222	19,048	16,667	14,815	13,333	12,121	11,111	9,524	8,333
6" x 1/4"	30-H-4	35.3	9.600	U	32,000	20,480	14,222	10,449	8,000	6,321	5,120	4,231	3,556	2,612	2,000
	30-H-2	36.4		C	32,000	25,600	21,333	18,286	16,000	14,222	12,800	11,636	10,667	9,143	8,000
6" x 5/16"	30-H-4	44.1	12.000	U	40,000	25,600	17,778	13,061	10,000	7,901	6,400	5,289	4,444	3,265	2,500
	30-H-2	45.7		C	40,000	32,000	26,667	22,857	20,000	17,778	16,000	14,545	13,333	11,429	10,000
6" x 3/8"	30-H-4	52.5	14.400	U	48,000	30,720	21,333	15,673	12,000	9,481	7,680	6,347	5,333	3,918	3,000
	30-H-2	54.0		C	48,000	38,400	32,000	27,429	24,000	21,333	19,200	17,455	16,000	13,714	12,000

H-30 PANEL WIDTH (inches)

Note: H-Heavy Duty cross rods may extend 1/8" each side. Panel widths do not include these extensions.

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1/4" Bar	2 1/8	4	5 7/8	7 3/4	9 5/8	11 1/2	13 3/8	15 1/4	17 1/8	19	20 7/8	22 3/4	24 5/8	26 1/2	28 3/8	30 1/4	32 1/8	34	35 7/8
5/16" Bar	2 3/16	4 1/16	5 15/16	7 13/16	9 11/16	11 9/16	13 7/16	15 5/16	17 3/16	19 1/16	20 15/16	22 13/16	24 11/16	26 9/16	28 7/16	30 5/16	32 3/16	34 1/16	35 15/16
3/8" Bar	2 1/4	4 1/8	6	7 7/8	9 3/4	11 5/8	13 1/2	15 3/8	17 1/4	19 1/8	21	22 7/8	24 3/4	26 5/8	28 1/2	30 3/8	32 1/4	34 1/8	36

Steel Bar Grating Heavy-Duty

HEAVY-DUTY WELDED (H) 2-3/8" C/C Bearing Bars



38-H-4

Cross Rods 4" C/C



38-H-2

Cross Rods 2" C/C

NON-SERRATED & SERRATED

U = safe uniform load, psf (page 93)
 C = safe concentrated load, psf (page 93)
 D = deflection, inches
 E = modulus of elasticity, 29,000,000 psi
 F = fiber stress, 20,000 psi

Material: ASTM A-36

Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

General: Loads and deflections are theoretical and based on static loading.

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval. For deflections of uniform and concentrated loads, consult AMICO-Klemp's engineering departments.

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	38-H-4	5.2	0.211	U	702	449	312	229	175	139	112	93	78	57	44
	38-H-2	5.9		C	702	561	468	401	351	312	281	255	234	201	175
1" x 5/16"	38-H-4	6.8	0.263	U	877	561	390	286	219	173	140	116	97	72	55
	38-H-2	7.9		C	877	702	585	501	439	390	351	319	292	251	219
1" x 3/8"	38-H-4	7.9	0.316	U	1,053	674	468	344	263	208	168	139	117	86	66
	38-H-2	9.1		C	1,053	842	702	602	526	468	421	383	351	301	263
1-1/4" x 1/4"	38-H-4	8.3	0.329	U	1,096	702	487	358	274	217	175	145	122	90	69
	38-H-2	7.0		C	1,096	877	731	627	548	487	439	399	365	313	274
1-1/4" x 5/16"	38-H-4	8.2	0.411	U	1,371	877	609	448	343	271	219	181	152	112	86
	38-H-2	9.4		C	1,371	1,096	914	783	685	609	548	498	457	392	343
1-1/4" x 3/8"	38-H-4	9.6	0.493	U	1,645	1,053	731	537	411	325	263	217	183	134	103
	38-H-2	10.8		C	1,645	1,316	1,096	940	822	731	658	598	548	470	411
1-1/2" x 1/4"	38-H-4	7.5	0.474	U	1,579	1,011	702	516	395	312	253	209	175	129	99
	38-H-2	8.1		C	1,579	1,263	1,053	902	789	702	632	574	526	451	395
1-1/2" x 5/16"	38-H-4	9.6	0.592	U	1,974	1,263	877	644	493	390	316	261	219	161	123
	38-H-2	10.8		C	1,974	1,579	1,316	1,128	987	877	789	718	658	564	493
1-1/2" x 3/8"	38-H-4	11.3	0.711	U	2,368	1,516	1,053	773	592	468	379	313	263	193	148
	38-H-2	12.5		C	2,368	1,895	1,579	1,353	1,184	1,053	947	861	789	677	592
1-3/4" x 1/4"	38-H-4	8.6	0.645	U	2,149	1,375	955	702	537	425	344	284	239	175	134
	38-H-2	9.3		C	2,149	1,719	1,433	1,228	1,075	955	860	781	716	614	537
1-3/4" x 5/16"	38-H-4	11.1	0.806	U	2,686	1,719	1,194	877	672	531	430	355	298	219	168
	38-H-2	12.2		C	2,686	2,149	1,791	1,535	1,343	1,194	1,075	977	895	768	672
1-3/4" x 3/8"	38-H-4	13.0	0.967	U	3,224	2,063	1,433	1,053	806	637	516	426	358	263	201
	38-H-2	14.2		C	3,224	2,579	2,149	1,842	1,612	1,433	1,289	1,172	1,075	921	806
2" x 1/4"	38-H-4	9.8	0.842	U	2,807	1,796	1,248	917	702	554	449	371	312	229	175
	38-H-2	10.4		C	2,807	2,246	1,871	1,604	1,404	1,248	1,123	1,021	936	802	702
2" x 5/16"	38-H-4	12.5	1.053	U	3,509	2,246	1,559	1,146	877	693	561	464	390	286	219
	38-H-2	13.6		C	3,509	2,807	2,339	2,005	1,754	1,559	1,404	1,276	1,170	1,003	877
2" x 3/8"	38-H-4	14.7	1.263	U	4,211	2,695	1,871	1,375	1,053	832	674	557	468	344	263
	38-H-2	15.9		C	4,211	3,368	2,807	2,406	2,105	1,871	1,684	1,531	1,404	1,203	1,053
2-1/4" x 1/4"	38-H-4	10.9	1.066	U	3,553	2,274	1,579	1,160	888	702	568	470	395	290	222
	38-H-2	11.5		C	3,553	2,842	2,368	2,030	1,776	1,579	1,421	1,292	1,184	1,015	888
2-1/4" x 5/16"	38-H-4	13.9	1.332	U	4,441	2,842	1,974	1,450	1,110	877	711	587	493	363	278
	38-H-2	15.0		C	4,441	3,553	2,961	2,538	2,220	1,974	1,776	1,615	1,480	1,269	1,110
2-1/4" x 3/8"	38-H-4	16.4	1.599	U	5,329	3,411	2,368	1,740	1,332	1,053	853	705	592	435	333
	38-H-2	17.6		C	5,329	4,263	3,553	3,045	2,664	2,368	2,132	1,938	1,776	1,523	1,332
2-1/2" x 1/4"	38-H-4	12.0	1.316	U	4,386	2,807	1,949	1,432	1,096	866	702	580	487	358	274
	38-H-2	12.7		C	4,386	3,509	2,924	2,506	2,193	1,949	1,754	1,595	1,462	1,253	1,096
2-1/2" x 5/16"	38-H-4	15.3	1.645	U	5,482	3,509	2,437	1,790	1,371	1,083	877	725	609	448	343
	38-H-2	16.5		C	5,482	4,386	3,655	3,133	2,741	2,437	2,193	1,994	1,827	1,566	1,371
2-1/2" x 3/8"	38-H-4	18.1	1.974	U	6,579	4,211	2,924	2,148	1,645	1,300	1,053	870	731	537	411
	38-H-2	19.3		C	6,579	5,263	4,386	3,759	3,289	2,924	2,632	2,392	2,193	1,880	1,645
2-3/4" x 1/4"	38-H-4	13.2	1.592	U	5,307	3,396	2,359	1,733	1,327	1,048	849	702	590	433	332
	38-H-2	13.8		C	5,307	4,246	3,538	3,033	2,654	2,359	2,123	1,930	1,769	1,516	1,327
2-3/4" x 5/16"	38-H-4	17.2	1.990	U	6,634	4,246	2,948	2,166	1,658	1,310	1,061	877	737	542	415
	38-H-2	18.7		C	6,634	5,307	4,423	3,791	3,317	2,948	2,654	2,412	2,211	1,895	1,658
2-3/4" x 3/8"	38-H-4	20.2	2.388	U	7,961	5,095	3,538	2,599	1,990	1,572	1,274	1,053	885	650	498
	38-H-2	21.8		C	7,961	6,368	5,307	4,549	3,980	3,538	3,184	2,895	2,654	2,274	1,990

Steel Bar Grating Heavy-Duty

38-H-4 & 38-H-2 (continued)

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight per sq ft	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)											
				24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
3" x 1/4"	38-H-4	14.9	1.895	U	6,316	4,042	2,807	2,062	1,579	1,248	1,011	835	702	516	395
	38-H-2	15.9		C	6,316	5,053	4,211	3,609	3,158	2,807	2,526	2,297	2,105	1,805	1,579
3" x 5/16"	38-H-4	18.6	2.368	U	7,895	5,053	3,509	2,578	1,974	1,559	1,263	1,044	877	644	493
	38-H-2	20.1		C	7,895	6,316	5,263	4,511	3,947	3,509	3,158	2,871	2,632	2,256	1,974
3" x 3/8"	38-H-4	21.9	2.842	U	9,474	6,063	4,211	3,093	2,368	1,871	1,516	1,253	1,053	773	592
	38-H-2	23.5		C	9,474	7,579	6,316	5,414	4,737	4,211	3,789	3,445	3,158	2,707	2,368
3-1/4" x 1/4"	38-H-4	15.9	2.224	U	7,412	4,744	3,294	2,420	1,853	1,464	1,186	980	824	605	463
	38-H-2	17.1		C	7,412	5,930	4,942	4,236	3,706	3,294	2,965	2,695	2,471	2,118	1,853
3-1/4" x 5/16"	38-H-4	20.0	2.780	U	9,265	5,930	4,118	3,025	2,316	1,830	1,482	1,225	1,029	756	579
	38-H-2	21.5		C	9,265	7,412	6,177	5,294	4,633	4,118	3,706	3,369	3,088	2,647	2,316
3-1/4" x 3/8"	38-H-4	23.6	3.336	U	11,118	7,116	4,942	3,631	2,780	2,196	1,779	1,470	1,235	908	695
	38-H-2	25.2		C	11,118	8,895	7,412	6,353	5,559	4,942	4,447	4,043	3,706	3,177	2,780
3-1/2" x 1/4"	38-H-4	17.1	2.579	U	8,596	5,502	3,821	2,807	2,149	1,698	1,375	1,137	955	702	537
	38-H-2	18.2		C	8,596	6,877	5,731	4,912	4,298	3,821	3,439	3,126	2,865	2,456	2,149
3-1/2" x 5/16"	38-H-4	21.4	3.224	U	10,746	6,877	4,776	3,509	2,686	2,123	1,719	1,421	1,194	877	672
	38-H-2	22.9		C	10,746	8,596	7,164	6,140	5,373	4,776	4,298	3,907	3,582	3,070	2,686
3-1/2" x 3/8"	38-H-4	25.3	3.868	U	12,895	8,253	5,731	4,211	3,224	2,547	2,063	1,705	1,433	1,053	806
	38-H-2	26.9		C	12,895	10,316	8,596	7,368	6,447	5,731	5,158	4,689	4,298	3,684	3,224
4" x 1/4"	38-H-4	19.3	3.368	U	11,228	7,186	4,990	3,666	2,807	2,218	1,796	1,485	1,248	917	702
	38-H-2	20.5		C	11,228	8,982	7,485	6,416	5,614	4,990	4,491	4,083	3,743	3,208	2,807
4" x 5/16"	38-H-4	24.2	4.211	U	14,035	8,982	6,238	4,583	3,509	2,772	2,246	1,856	1,559	1,146	877
	38-H-2	25.8		C	14,035	11,228	9,357	8,020	7,018	6,238	5,614	5,104	4,678	4,010	3,509
4" x 3/8"	38-H-4	28.	5.053	U	16,842	10,779	7,485	5,499	4,211	3,327	2,695	2,227	1,871	1,375	1,053
	38-H-2	30.3		C	16,842	13,474	11,228	9,624	8,421	7,485	6,737	6,124	5,614	4,812	4,211
4-1/2" x 1/4"	38-H-4	21.6	4.263	U	14,211	9,095	6,316	4,640	3,553	2,807	2,274	1,879	1,579	1,160	888
	38-H-2	22.7		C	14,211	11,368	9,474	8,120	7,105	6,316	5,684	5,167	4,737	4,060	3,553
4-1/2" x 5/16"	38-H-4	27.1	5.329	U	17,763	11,368	7,895	5,800	4,441	3,509	2,842	2,349	1,974	1,450	1,110
	38-H-2	28.6		C	17,763	14,211	11,842	10,150	8,882	7,895	7,105	6,459	5,921	5,075	4,441
4-1/2" x 3/8"	38-H-4	32.1	6.395	U	21,316	13,642	9,474	6,960	5,329	4,211	3,411	2,819	2,368	1,740	1,332
	38-H-2	33.7		C	21,316	17,053	14,211	12,180	10,658	9,474	8,526	7,751	7,105	6,090	5,329
5" x 1/4"	38-H-4	23.9	5.263	U	17,544	11,228	7,797	5,729	4,386	3,465	2,807	2,320	1,949	1,432	1,096
	38-H-2	25.0		C	17,544	14,035	11,696	10,025	8,772	7,797	7,018	6,380	5,848	5,013	4,386
5" x 5/16"	38-H-4	29.9	6.579	U	21,930	14,035	9,747	7,161	5,482	4,332	3,509	2,900	2,437	1,790	1,371
	38-H-2	31.5		C	21,930	17,544	14,620	12,531	10,965	9,747	8,772	7,974	7,310	6,266	5,482
5" x 3/8"	38-H-4	35.5	7.895	U	26,316	16,842	11,696	8,593	6,579	5,198	4,211	3,480	2,924	2,148	1,645
	38-H-2	37.1		C	26,316	21,053	17,544	15,038	13,158	11,696	10,526	9,569	8,772	7,519	6,579
6" x 1/4"	38-H-4	28.4	7.579	U	25,263	16,168	11,228	8,249	6,316	4,990	4,042	3,341	2,807	2,062	1,579
	38-H-2	29.8		C	25,263	20,211	16,842	14,436	12,632	11,228	10,105	9,187	8,421	7,218	6,316
6" x 5/16"	38-H-4	35.6	9.474	U	31,579	20,211	14,035	10,311	7,895	6,238	5,053	4,176	3,509	2,578	1,974
	38-H-2	37.1		C	31,579	25,263	21,053	18,045	15,789	14,035	12,632	11,483	10,526	9,023	7,895
6" x 3/8"	38-H-4	42.3	11.368	U	37,895	24,253	16,842	12,374	9,474	7,485	6,063	5,011	4,211	3,093	2,368
	38-H-2	43.9		C	37,895	30,316	25,263	21,654	18,947	16,842	15,158	13,780	12,632	10,827	9,474

H-38 PANEL WIDTH (inches)

Note: H-Heavy Duty cross rods may extend 1/8" each side. Panel widths do not include these extensions.

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1/4" Bar	2 ⁵ / ₈	5	7 ³ / ₈	9 ³ / ₄	12 ¹ / ₈	14 ¹ / ₂	16 ⁷ / ₈	19 ¹ / ₄	21 ⁵ / ₈	24	26 ³ / ₈	28 ³ / ₄	31 ¹ / ₈	33 ¹ / ₂	35 ⁷ / ₈
5/16" Bar	2 ¹¹ / ₁₆	5 ¹ / ₁₆	7 ⁷ / ₁₆	9 ¹³ / ₁₆	12 ³ / ₁₆	14 ⁹ / ₁₆	16 ¹⁵ / ₁₆	19 ⁵ / ₁₆	21 ¹¹ / ₁₆	24 ¹ / ₁₆	26 ⁷ / ₁₆	28 ¹³ / ₁₆	31 ³ / ₁₆	33 ⁹ / ₁₆	35 ¹⁵ / ₁₆
3/8" Bar	2 ³ / ₄	5 ¹ / ₈	7 ¹ / ₂	9 ⁷ / ₈	12 ¹ / ₄	14 ⁵ / ₈	17	19 ³ / ₈	21 ³ / ₄	24 ¹ / ₈	26 ¹ / ₂	28 ⁷ / ₈	31 ¹ / ₄	33 ⁵ / ₈	36