

Riv-Dexteel® Bridge Deck Grating

Compared to other surfaces, Riv-Dexteel® is relatively lightweight and frequently permits bridge widening without an appreciable increase in bridge weight. It often allows resurfacing to handle heavier loads without expensive substructure work.

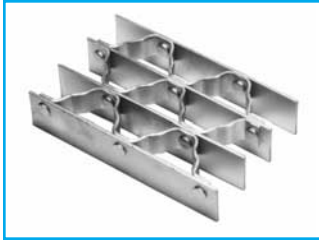
It is ideal where flooding, snow build up or icing is a potential problem since its openness permits passage of snow and water that a solid surface does not allow.

In addition to its common applications as bridge decking and curb inlet grates, it has wide applications in industrial flooring areas, plant loading areas, driveways across culverts and other heavy traffic areas.

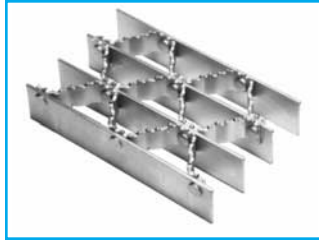
Riv-Dexteel® is available in an RL and RH design. **RL Riv-Dexteel®** has bearing bars spaced 2-1/2" to 2-11/16", depending on the bar thickness, and 3/16" x 1-1/2" reticulated bars. RL is available in both plain and serrated surfaces.

RH Riv-Dexteel® has bearing bars spaced 5-1/8" to 5-1/4" with 1/4" x 1-1/2" reticulated bars and 1/4" x 1-1/2" intermediate bars. In addition, RH has 1/2" by 3/4" tie bars for additional lateral stability. RH is also available with both plain and serrated surfaces.

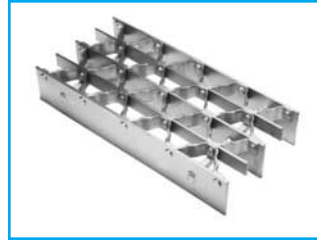
Upon request, other bearing bar depths and thicknesses are available.



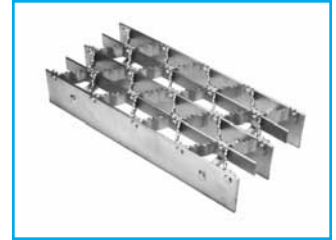
RL Plain Surface



RL Serrated

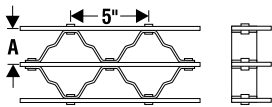


RH Plain Surface

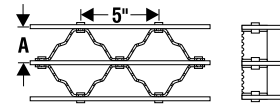


RH Serrated

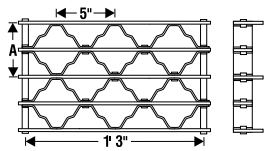
STEEL RIVETED GRATING



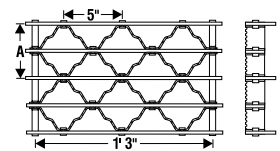
RL PLAIN SURFACE



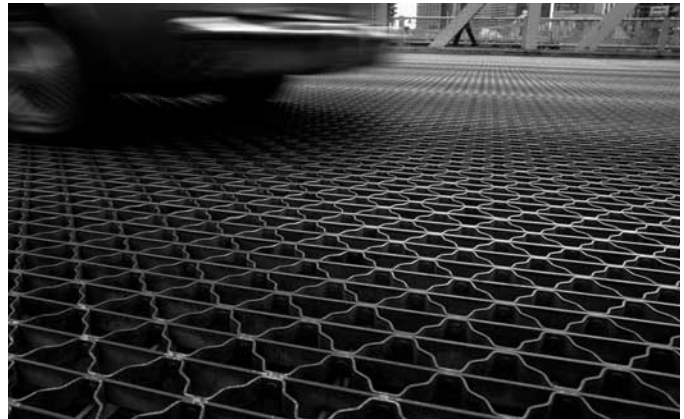
RL SERRATED SURFACE



RH PLAIN SURFACE



RH SERRATED SURFACE



BASIS FOR DESIGN

Loadings per AASHTO	H 15	HS15	H 20	HS 20
Total Weight for H or weight on first two axles for HS (lbs)	30,000	30,000	40,000	40,000
Rear Axle Load (lbs) (80% of total load)	24,000	24,000	32,000	32,000
Rear Wheel Load (lbs) (50% of rear axle load)	12,000	12,000	16,000	16,000
Impact Factor (maximum)	30%	30%	30%	30%
Rear Wheel Load with Impact (lbs)	15,600	15,600	20,800	20,800
Load Distribution per AASHTO	H 15	HS15	H 20	HS 20
Normal to Bearing Bars (1-1/4" per ton of axle load plus twice the bearing bar spacings) (inches)	15" + 2A	15" + 2A	20" + 2A	20" + 2A
Parallel to Bearing Bars (inches)	15"	15"	20"	20"
Fiber Stress (psi)	20,000			

- 1) Riv-Dexteel is designed in accordance with AASHTO Standard Specifications for Highway Bridges.
- 2) A = center to center distance between bearing bars
- 3) Klump recommends bearing bars to be placed parallel to traffic. If the engineer specifies placement perpendicular to traffic, measures should be taken to minimize the effects of out-of-place bending of bars due to vehicle acceleration and braking.
- 4) The engineer must specify hold down anchors at ends and supports as necessary.

Riv-Dexsteel® Bridge Deck Grating

Type RL	Bearing Bar Size	Reticuline Bar Size	Weight (psf)	Section Modulus (in ³)		Simple Span (inches)		Continuous Span (3 or more supports) (inches)		"A" Bearing Bar Spacing (inches)
				per unit of grating width	per ft. of grating width	H-15	H-20	H-15	H-20	
RL-103	2 1/2" x 3/16"	1 1/2" x 3/16"	15.3	0.1953	0.938	15.5	17.5	18.7	21.1	2 1/2
RL-104	2 1/2" x 1/4"	1 1/2" x 3/16"	17.4	0.2604	1.220	18.0	19.8	21.7	23.9	2 9/16
RL-105	2 1/2" x 5/16"	1 1/2" x 3/16"	19.5	0.3255	1.488	20.4	22.0	24.6	26.6	2 5/8
RL-106	2 1/2" x 3/8"	1 1/2" x 3/16"	21.4	0.3906	1.744	22.7	24.2	27.3	29.1	2 11/16
RL-113	2 3/4" x 3/16"	1 1/2" x 3/16"	16.1	0.2363	1.134	17.2	19.1	20.7	23.0	2 1/2
RL-114	2 3/4" x 1/4"	1 1/2" x 3/16"	18.4	0.3151	1.476	20.2	21.9	24.3	26.4	2 9/16
RL-115	2 3/4" x 5/16"	1 1/2" x 3/16"	20.7	0.3939	1.801	23.1	24.6	27.8	29.6	2 5/8
RL-116	2 3/4" x 3/8"	1 1/2" x 3/16"	22.8	0.4727	2.110	25.9	27.2	31.2	32.7	2 11/16
RL-123	3" x 3/16"	1 1/2" x 3/16"	16.8	0.2813	1.350	19.0	20.8	22.9	25.1	2 1/2
RL-124	3" x 1/4"	1 1/2" x 3/16"	19.4	0.3750	1.756	22.6	24.1	27.2	29.1	2 9/16
RL-125	3" x 5/16"	1 1/2" x 3/16"	21.9	0.4688	2.143	26.0	27.3	31.4	32.9	2 5/8
RL-126	3" x 3/8"	1 1/2" x 3/16"	24.3	0.5625	2.512	29.4	30.4	35.4	36.7	2 11/16
RL-134	3 1/4" x 1/4"	1 1/2" x 3/16"	20.4	0.4401	2.061	25.2	26.6	30.4	32.0	2 9/16
RL-135	3 1/4" x 5/16"	1 1/2" x 3/16"	23.1	0.5501	2.515	29.3	30.4	35.3	36.6	2 5/8
RL-136	3 1/4" x 3/8"	1 1/2" x 3/16"	25.7	0.6602	2.948	33.2	34.0	40.0	40.9	2 11/16
RL-144	3 1/2" x 1/4"	2" x 3/16"	23.6	0.5104	2.390	28.1	29.2	33.8	35.2	2 9/16
RL-145	3 1/2" x 5/16"	2" x 3/16"	26.5	0.6380	2.917	32.7	33.6	39.4	40.5	2 5/8
RL-146	3 1/2" x 3/8"	2" x 3/16"	29.2	0.7656	3.419	37.3	37.8	44.9	45.5	2 11/16
RL-154	3 3/4" x 1/4"	2" x 3/16"	24.6	0.5859	2.744	31.1	32.1	37.5	38.7	2 9/16
RL-155	3 3/4" x 5/16"	2" x 3/16"	27.7	0.7324	3.348	36.5	37.1	43.9	44.7	2 5/8
RL-156	3 3/4" x 3/8"	2" x 3/16"	30.6	0.8789	3.924	41.7	41.9	50.2	50.5	2 11/16
RL-164	4" x 1/4"	2" x 3/16"	25.6	0.6667	3.122	34.4	35.1	41.4	42.3	2 9/16
RL-165	4" x 5/16"	2" x 3/16"	28.9	0.8333	3.810	40.5	40.8	48.8	49.2	2 5/8
RL-166	4" x 3/8"	2" x 3/16"	32.0	1.0000	4.465	46.4	46.3	55.9	55.8	2 11/16
RL-184	4 1/2" x 1/4"	2" x 3/16"	27.6	0.8438	3.951	41.5	41.8	50.0	50.4	2 9/16
RL-185	4 1/2" x 5/16"	2" x 3/16"	31.3	1.0547	4.821	49.2	49.0	59.3	59.1	2 5/8
RL-186	4 1/2" x 3/8"	2" x 3/16"	34.9	1.2656	5.651	56.7	56.0	68.3	67.4	2 11/16
RL-204	5" x 1/4"	2" x 3/16"	29.6	1.0417	4.878	49.5	49.3	59.6	59.4	2 9/16
RL-205	5" x 5/16"	2" x 3/16"	33.7	1.3021	5.952	59.0	58.2	71.1	70.1	2 5/8
RL-206	5" x 3/8"	2" x 3/16"	37.7	1.5625	6.977	68.2	66.7	82.2	80.4	2 11/16
RH										
RH-144	3 1/2" x 1/4"	2" x 3/16"	18.3	0.5104	1.195	20.4	21.6	24.6	26.0	5 1/8
RH-145	3 1/2" x 5/16"	2" x 3/16"	19.8	0.6380	1.476	23.5	24.4	28.3	29.4	5 3/16
RH-146	3 1/2" x 3/8"	2" x 3/16"	21.3	0.7656	1.750	26.6	27.1	32.0	32.7	5 1/4
RH-154	3 3/4" x 1/4"	2" x 3/16"	18.8	0.5859	1.372	22.3	23.3	26.9	28.1	5 1/8
RH-155	3 3/4" x 5/16"	2" x 3/16"	20.4	0.7324	1.694	25.9	26.5	31.2	31.9	5 3/16
RH-156	3 3/4" x 3/8"	2" x 3/16"	22.0	0.8789	2.009	29.4	29.6	35.4	35.7	5 1/4
RH-164	4" x 1/4"	2" x 3/16"	19.3	0.6667	1.561	24.3	25.1	29.3	30.3	5 1/8
RH-165	4" x 5/16"	2" x 3/16"	21.0	0.8333	1.928	28.4	28.8	34.2	34.7	5 3/16
RH-166	4" x 3/8"	2" x 3/16"	22.7	1.0000	2.286	32.4	32.3	39.0	39.0	5 1/4
RH-184	4 1/2" x 1/4"	2" x 3/16"	20.3	0.8438	1.976	28.8	29.2	34.7	35.1	5 1/8
RH-185	4 1/2" x 5/16"	2" x 3/16"	22.2	1.0547	2.440	34.0	33.8	40.9	40.7	5 3/16
RH-186	4 1/2" x 3/8"	2" x 3/16"	24.2	1.2656	2.893	39.0	38.3	47.0	46.1	5 1/4
RH-204	5" x 1/4"	2" x 3/16"	21.3	1.0417	2.439	33.8	33.6	40.7	40.5	5 1/8
RH-205	5" x 5/16"	2" x 3/16"	23.5	1.3021	3.012	40.2	39.3	48.4	47.4	5 3/16
RH-206	5" x 3/8"	2" x 3/16"	25.6	1.5625	3.571	46.4	44.9	55.9	54.1	5 1/4

Note: AMICO-Klemp® recommends bearing bars to be placed parallel to traffic.

Serrated Bars: Normally we serrate the reticuline bar and raise it slightly above the top surface of the bearing bars. We can also serrate the bearing bars. When bearing bars are serrated, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

PANEL WIDTH (inches)

Riv-Dexsteel	Bar Thickness	Bar Spacing "A"	Number of Bearing Bars																		
			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Type RL	3/16"	2-1/2"	2 ¹⁵ / ₁₆	5 ⁷ / ₁₆	7 ¹⁵ / ₁₆	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	15 ⁷ / ₁₆	17 ¹⁵ / ₁₆	20 ⁷ / ₁₆	22 ¹⁵ / ₁₆	25 ⁷ / ₁₆	27 ¹⁵ / ₁₆	30 ⁷ / ₁₆	32 ¹⁵ / ₁₆	35 ⁷ / ₁₆	37 ¹⁵ / ₁₆	40 ⁷ / ₁₆	42 ¹⁵ / ₁₆	45 ⁷ / ₁₆	47 ¹⁵ / ₁₆
	1/4"	2-9/16"	3 ¹ / ₁₆	5 ⁵ / ₈	8 ³ / ₁₆	10 ³ / ₄	13 ⁵ / ₁₆	15 ⁷ / ₈	18 ³ / ₁₆	21	23 ⁹ / ₁₆	26 ¹ / ₈	28 ¹¹ / ₁₆	31 ¹ / ₄	33 ¹³ / ₁₆	36 ³ / ₈	38 ¹⁵ / ₁₆	41 ¹ / ₂	44 ¹ / ₁₆	46 ⁵ / ₈	49 ³ / ₁₆
	5/16"	2-5/8"	3 ³ / ₁₆	5 ¹³ / ₁₆	8 ⁷ / ₁₆	11 ¹ / ₁₆	13 ¹¹ / ₁₆	16 ⁵ / ₁₆	18 ¹⁵ / ₁₆	21 ⁹ / ₁₆	24 ³ / ₁₆	26 ¹³ / ₁₆	29 ⁷ / ₁₆	32 ¹ / ₁₆	34 ¹¹ / ₁₆	37 ⁵ / ₁₆	39 ¹⁵ / ₁₆	42 ⁹ / ₁₆	45 ³ / ₁₆	47 ¹³ / ₁₆	50 ⁷ / ₁₆
Type RH	3/8"	2-11/16"	3 ⁵ / ₁₆	6	8 ¹¹ / ₁₆	11 ³ / ₈	14 ¹ / ₁₆	16 ³ / ₄	19 ⁷ / ₁₆	22 ¹ / ₈	24 ¹³ / ₁₆	27 ¹ / ₂	30 ⁵ / ₁₆	32 ⁹ / ₈	35 ³ / ₁₆	38 ¹ / ₄	40 ¹⁵ / ₁₆	43 ⁵ / ₈	46 ³ / ₁₆	49	51 ¹¹ / ₁₆
	1/4"	5-1/8"	5 ⁵ / ₈	10 ³ / ₄	15 ⁷ / ₈	21	26 ¹ / ₈	31 ¹ / ₄	36 ³ / ₈	41 ¹ / ₂	46 ⁵ / ₈	51 ³ / ₄	56 ⁷ / ₈								
	5/16"	5-3/16"	5 ³ / ₄	10 ¹⁵ / ₁₆	16 ¹ / ₈	21 ⁵ / ₁₆	26 ¹ / ₂	31 ¹¹ / ₁₆	36 ⁷ / ₈	42 ¹ / ₁₆	47 ¹ / ₄	52 ⁷ / ₁₆	57 ⁵ / ₈								
	3/8"	5-1/4"	5 ⁷ / ₈	11 ¹ / ₈	16 ³ / ₈	21 ⁵ / ₈	26 ⁷ / ₈	32 ¹ / ₈	37 ³ / ₈	42 ⁵ / ₈	47 ⁷ / ₈	53 ¹ / ₈	58 ³ / ₈								

Note: Dimension includes 1/4" (1/8" each side) for rivet heads. Rivet heads vary with bearing bar thickness.

