

Table 16.—To find Safe-working Load of Shackles and Rings.

Diameter.	Shackle.		Ring.	Diameter.	Shackle.		Ring.
	Iron.	Pin.			Iron.	Pin.	
In. $\frac{3}{8}$	C. 2.43	C. 1.4	C. 3.55	In. $1\frac{1}{2}$	C. 155.30	C. 89.87	C. 227.2
$\frac{1}{2}$	5.75	3.33	8.41	$1\frac{9}{16}$	175.54	101.59	256.83
$\frac{5}{8}$	8.19	4.74	11.79	$1\frac{11}{16}$	197.45	114.26	288.87
$\frac{7}{8}$	11.23	6.0	16.43	$1\frac{13}{16}$	221.1	127.95	323.47
$1\frac{1}{16}$	14.95	8.65	21.88	$1\frac{3}{4}$	246.58	142.7	360.76
$\frac{1}{4}$	19.41	11.23	28.40	$1\frac{7}{8}$	273.96	158.55	400.82
$\frac{3}{8}$	24.68	14.28	36.11	$1\frac{15}{8}$	303.32	175.54	443.77
$\frac{1}{2}$	30.82	17.84	45.1	$1\frac{17}{8}$	334.65	193.67	489.62
$\frac{5}{8}$	37.92	21.94	55.47	2	368.11	213.03	538.56
1	46.01	26.63	67.32	$2\frac{1}{8}$	441.53	255.52	645.98
$1\frac{1}{16}$	55.17	31.93	80.72	$2\frac{1}{4}$	524.12	303.32	766.82
$1\frac{1}{8}$	65.52	37.92	95.86	$2\frac{3}{8}$	616.42	356.73	901.85
$1\frac{3}{16}$	77.07	44.6	112.76	$2\frac{1}{2}$	718.96	416.08	1,051.9
$1\frac{1}{4}$	89.86	52.01	131.47	$2\frac{5}{8}$	832.1	481.66	1,217.7
$1\frac{5}{16}$	104.04	60.21	152.21	$2\frac{3}{4}$	956.94	553.8	1,400.1
$1\frac{3}{8}$	119.64	69.23	175.03	$2\frac{7}{8}$	1,092.2	632.05	1,597.8
$1\frac{7}{16}$	136.66	79.09	199.94	3	1,242.4	718.98	1,817.7

S.W.L. of shackle = $\frac{C}{8W}$. W = Width of gap in inches.

S.W.L. of ring = $\frac{C}{8D_1}$. D₁ = Mean diameter of ring in inches.

NOTE.—S.W.L. of shackle is obtained from iron or pin constant, whichever is least.
 Example.—Shackle: Iron, $1\frac{1}{4}$ in.; pin, $1\frac{1}{8}$ in.; gap, $2\frac{1}{2}$ in.

C for iron = 65.52; C for pin = 60.21 ∴ S.W.L. = $\frac{60.21}{20}$ = 3.01 tons.

Example.—Ring: Iron, 1 in.; inside diameter = 4 in. ∴ Mean diameter = 5 in.

S.W.L. = $\frac{67.32}{40}$ = 1.683 tons.

For S.W.L. of bow shackles, see Table 17.