

Appendix E

Slings

Types

This appendix covers the types of slings made from alloy steel chain, wire rope, metal mesh, synthetic fiber rope (conventional, three-strand construction), synthetic web (nylon, polyester, and polypropylene), and synthetic round slings.

Definitions

"Angle of loading" is the inclination of a leg or branch of a sling measured from the horizontal or vertical plane, provided that an angle of loading of 5 degrees or less from the vertical may be considered a vertical angle of loading.

"Basket hitch" is a sling configuration in which the sling is passed under the load and has both ends, end attachments, eyes, or handles on the hook or a single master link.

"Braided wire rope" is a wire rope formed by plaiting component wire ropes.

"Bridle wire rope sling" is a sling composed of multiple wire rope legs with the top ends gathered in a fitting that goes over the lifting hook.

"Cable-laid endless sling-mechanical joint" is a wire rope sling made endless by joining the ends of a single length of cable-laid rope with one or two more metallic fittings.

"Cable-laid grommet-hand tucked" is an endless wire rope sling made from one length of rope wrapped six times around a core formed by hand tucking the ends of the rope inside the six wraps.

"Cable-laid rope" is a wire rope composed of six wire ropes wrapped around a fiber or wire rope core.

"Cable-laid rope sling-mechanical joint" is a wire rope sling made from a cable-laid rope with eyes fabricated by pressing or swaging one or more metal sleeves over the rope function.

"Choker hitch" is a sling configuration with one end of the sling passing under the load and through an end attachment, handle, or eye on the other end of the sling.

"Coating" is an elastomer or other suitable material applied to a sling, or to a sling component, to impart desirable properties.

"Cross rod" is a wire used to join spirals of metal mesh to form a complete fabric.

"Fabric (metal mesh)" is the flexible portion of a metal mesh sling consisting of a series of transverse coils and cross rods.

"Female handle (choker)" is a handle with a handle eye and a slot sized to permit passage of a male handle, thereby allowing the use of a metal mesh sling in a choker hitch.

"Handle" is a terminal fitting to which metal mesh fabric is attached.

"Handle eye" is an opening in a handle of a metal mesh sling, shaped to accept a hook, shackle, or other lifting device.

"Hitch" is a sling configuration in which the sling is fastened to an object or load, either directly to it or around it.

"Link" is a single ring of a chain.

"Male handle (triangle)" is a handle with a handle eye.

"Master coupling link" is an alloy steel, welded coupling link used as an intermediate link to join alloy steel chain to master links.

"Master link" or "gathering ring" is a forged or welded steel link used to support all members (legs) of an alloy steel chain sling or wire rope sling.

"Mechanical coup link" is a nonwelded, mechanically closed, steel link used to attach master links, hooks, etc., to alloy steel chain.

"Proof load" is the load applied when performing a proof test.

"Proof test" is a nondestructive tension test performed by the sling manufacturer, or an equivalent entity, to verify construction and workmanship of a sling.

"Rated capacity" or "working load limit" is the maximum working load permitted.

"Reach" is the effective length of an alloy steel chain sling measured from the top bearing surface of the upper terminal component to the bottom bearing surface of the lower terminal component.

"Selvage edge" is the finished edge of synthetic webbing designed to prevent unraveling.

"Sling" is an assembly that connects the load to the material handling equipment.

"Sling manufacturer" is a person or organization that assembles sling components into their final form for sale to testers.

"Spiral" is a single transverse coil that is the basic element that metal mesh is fabricated from.

"Strand laid endless sling-mechanical joint" is a wire rope sling made endless from one length of rope with the ends joined by one or more metallic fittings.

"Strand laid grommet-hand tucked" is an endless wire rope sling made from one length of strand wrapped six times around a core, formed by hand-tucking the ends of the strand inside the six wraps.

"Strand laid rope" is a wire rope made with strands (usually six or eight) wrapped around a fiber core, wire strand core, or independent wire rope core (IWRC).

"Vertical hitch" is a method of supporting a load by a single, vertical part or leg of the sling.

Safe Practices

Whenever any sling is used, observe the following practices:

- (1) Do not use damaged or defective slings.
- (2) Do not shorten slings with knots, bolts, or other makeshift devices, or kink sling legs.
- (3) Do not load slings in excess of their rated capacities.
- (4) Balance the loads of slings used in a basket hitch to prevent slippage.
- (5) Securely attach slings to their loads.
- (6) Pad or protect slings from the sharp edges of their loads.
- (7) Keep suspended loads clear of all obstructions.
- (8) Keep all employees clear of loads about to be lifted and of suspended loads.
- (9) Do not place hands or fingers between the sling and its load while the sling is being tightened around the load.
- (10) Prohibit shock loading.
- (11) Do not pull a sling from under a load when the load is resting on the sling.
- (12) Do not drag slings on the floor or over an abrasive surface.

Table E-1.—Correction table to compensate for chain link wear

Original nominal chain stock diameter (inches)	Reduce safe working load by following % when diameter at worn section is as follows (inches)		Remove from service when diameter is (inches)
	5%	10%	
1/4 = 0.250	0.244	0.237	0.233
3/8 = 0.375	0.366	0.356	0.335
1/2 = 0.500	0.487	0.474	0.448
5/8 = 0.625	0.609	0.593	0.559
3/4 = 0.750	0.731	0.711	0.671
7/8 = 0.875	0.853	0.830	0.783
1 = 1.000	0.975	0.949	0.895
1 1/8 = 1.125	1.100	1.070	1.010
1 1/4 = 1.250	1.220	1.190	1.120
1 3/8 = 1.375	1.340	1.310	1.230
1 1/2 = 1.500	1.460	1.430	1.340
1 5/8 = 1.625	1.590	1.540	1.450
1 3/4 = 1.750	1.710	1.660	1.570
1 7/8 = 1.875	1.830	1.780	1.680
2 = 2.000	1.950	1.900	1.790

Table E-2.—Safe working load (working load limit) for alloy steel chain slings (pounds)

Chain size, inches	Single breach sling—90-degree leading	Double sling			Triple and quadruple sling		
		<u>Vertical angle¹</u>			<u>Vertical angle¹</u>		
		30 degree	45 degree	60 degree	30 degree	45 degree	60 degree
		<u>Horizontal angle²</u>			<u>Horizontal angle²</u>		
		60 degree	45 degree	30 degree	60 degree	45 degree	30 degree
1/4	3,250	5,560	4,550	3,250	8,400	6,800	4,900
3/8	6,600	11,400	9,300	6,600	17,000	14,000	9,900
1/2	11,250	19,500	15,900	11,250	29,000	24,000	17,000
5/8	16,500	28,500	23,300	16,500	43,000	35,000	24,500
3/4	23,000	39,800	32,500	23,000	59,500	48,500	34,500
7/8	28,750	49,800	40,600	28,750	74,500	61,000	43,000
1	38,750	67,100	54,800	38,750	101,000	82,000	58,000
1-1/8	44,500	77,000	63,000	44,500	115,500	94,500	66,500
1-1/4	57,500	99,500	81,000	57,500	149,000	121,500	86,000
1-3/8	67,000	116,000	94,000	67,000	174,000	141,000	100,500
1-1/2	80,000	138,000	112,900	80,000	207,000	169,000	119,500
1-3/4	100,000	172,000	140,000	100,000	258,000	210,000	150,000

¹ Rating of multileg slings adjusted for angle of loading, measured as the included angle between the inclined leg and the vertical.

² Rating of multileg slings adjusted for angle of loading, between the inclined leg and the horizontal plane of the load.

* Other grades of proof-tested steel chains include Proof Coil, BBB Coil, and Hi-Test Chain. These grades are not recommended for overhead lifting and, therefore, are not covered by these standards.

Table E-3.—Safe working load for single leg slings 6 x 19 and 6 x 37 classification improved plow steel grade rope with fiber core (FC)

Rope		Safe working load, tons (2,000 lb)								
Diameter (inches)	Constr	Vertical			Choker			Vertical basket ¹		
		HT	MS	S	HT	MS	S	HT	MS	S
1/4	6 x 19	0.49	0.51	0.55	0.37	0.38	0.41	0.99	1.0	1.1
5/16	6 x 19	0.76	0.79	0.85	0.57	0.59	0.64	1.5	1.6	1.7
3/8	6 x 19	1.1	1.1	1.2	0.80	0.85	0.91	2.1	2.2	2.4
7/16	6 x 19	1.4	1.5	1.6	1.1	1.1	1.2	2.9	3.0	3.3
1/2	6 x 19	1.8	2.0	2.1	1.4	1.5	1.6	3.7	3.9	4.3
9/16	6 x 19	2.3	2.5	2.7	1.7	1.9	2.0	4.6	5.0	5.4
5/8	6 x 19	2.8	3.1	3.3	2.1	2.3	2.5	5.6	6.3	6.7
3/4	6 x 19	3.9	4.4	4.8	2.9	3.3	3.6	7.8	8.5	9.5
7/8	6 x 19	5.1	5.9	6.4	3.9	4.5	4.8	10.0	12.0	13.0
1	6 x 19	6.7	7.7	8.4	5.0	5.8	6.3	13.0	15.0	17.0
1-1/8	6 x 19	8.4	9.5	10.0	6.3	7.1	7.9	17.0	19.0	21.0
1-1/4	6 x 37	9.8	11.0	12.0	7.4	8.3	9.2	20.0	22.0	25.0
1-3/8	6 x 37	12.0	13.0	15.0	8.9	10.0	11.0	24.0	27.0	30.0
1-1/2	6 x 37	14.0	16.0	17.0	10.0	12.0	13.0	28.0	32.0	35.0
1-5/8	6 x 37	16.0	18.0	21.0	12.0	14.0	15.0	33.0	37.0	41.0
1-3/4	6 x 37	19.0	21.0	24.0	14.0	16.0	18.0	38.0	43.0	48.0
2	6 x 37	25.0	28.0	31.0	18.0	21.0	23.0	49.0	55.0	62.0

HT = Hand-tucked splice and hidden-tuck splice. For hidden-tuck splice (IWRC), use values in HT columns.

MS = Mechanical splice.

S = Swaged or zinc poured socket.

¹These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S slings is 20 or greater, where d = diameter of curvature around the body of the slip is bent, and d = diameter of rope.

Table E-4.—Safe working load for single leg slings 6 x 19 and 6 x 37 classification improved plow steel grade rope with independent wire rope core (IWRC)

Rope		Safe working load, tons (2,000 lb)								
Diameter (inches)	Constr	Vertical			Choker			Vertical basket ¹		
		HT	MS	S	HT	MS	S	HT	MS	S
1/4	6 x 19	0.53	0.56	0.59	0.40	0.42	0.44	1.0	1.1	1.2
5/16	6 x 19	0.81	0.87	0.92	0.61	0.65	0.69	1.6	1.7	1.8
3/8	6 x 19	1.1	1.2	1.3	0.86	0.93	0.98	2.3	2.5	2.6
7/16	6 x 19	1.5	1.7	1.8	1.2	1.3	1.3	3.1	3.4	3.5
1/2	6 x 19	2.0	2.2	2.3	1.5	1.6	1.7	3.9	4.4	4.6
9/16	6 x 19	2.5	2.7	2.9	1.8	2.1	2.2	4.9	5.5	5.8
5/8	6 x 19	3.0	3.4	3.6	2.2	2.5	2.7	6.0	6.8	7.2
3/4	6 x 19	4.2	4.9	5.1	3.1	3.6	3.8	8.4	9.7	10.0
7/8	6 x 19	5.5	6.6	6.9	4.1	4.9	5.2	11.0	13.0	14.0
1	6 x 19	7.2	8.5	9.0	5.4	6.4	6.7	14.0	17.0	18.0
1-1/8	6 x 19	9.0	10.0	11.0	6.8	7.8	8.5	18.0	21.0	23.0
1-1/4	6 x 37	10.0	12.0	13.0	7.9	9.2	9.9	21.0	24.0	26.0
1-3/8	6 x 37	13.0	15.0	16.0	9.6	11.0	12.0	25.0	29.0	32.0
1-1/2	6 x 37	15.0	17.0	19.0	11.0	13.0	14.0	30.0	35.0	38.0
1-5/8	6 x 37	18.0	20.0	22.0	13.0	15.0	17.0	35.0	41.0	44.0
1-3/4	6 x 37	20.0	24.0	26.0	15.0	18.0	19.0	41.0	47.0	51.0
2	6 x 37	26.0	30.0	33.0	20.0	23.0	25.0	53.0	61.0	66.0

HT = Hand-tucked splice and hidden-tuck splice. For hidden-tuck splice (IWRC), use values in HT columns.

MS = Mechanical splice.

S = Swaged or zinc poured socket.

¹These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S slings is 20 or greater, where D = diameter of curvature around the body of the slip is bent, and d = diameter of rope.

Table E-5.—Safe working load for single leg slings, cable-laid rope—mechanical splice
 7 x 7 x 7 and 7 x 7 x 19 constructions galvanized aircraft grade rope 7 x 6 x 19
 IWRC construction improved plow steel grade rope

Rope		Safe working load, tons (2,000 lb)		
Diameter (inches)	Constr	Vertical	Center	Vertical basket ¹
1/4	7 x 7 x 7	0.50	0.38	1.0
3/8	7 x 7 x 7	1.1	0.81	2.2
1/2	7 x 7 x 7	1.8	1.4	3.7
5/8	7 x 7 x 7	2.8	2.1	5.5
3/4	7 x 7 x 7	3.8	2.9	7.6
5/8	7 x 7 x 19	2.9	2.2	5.8
3/4	7 x 7 x 19	4.1	3.0	8.1
7/8	7 x 7 x 19	5.4	4.0	11.0
1	7 x 7 x 19	6.9	5.1	14.0
1-1/8	7 x 7 x 19	8.2	6.2	16.0
1-1/4	7 x 7 x 19	9.9	7.4	20.0
3/4	7 x 6 x 19 IWRC	3.8	2.8	7.6
7/8	7 x 6 x 19 IWRC	5.0	3.8	10.0
1	7 x 6 x 19 IWRC	6.4	4.8	13.0
1-1/8	7 x 6 x 19 IWRC	7.7	5.8	15.0
1-1/4	7 x 6 x 19 IWRC	9.2	6.9	18.0
1-5/16	7 x 6 x 19 IWRC	10.0	7.5	20.0
1-3/8	7 x 6 x 19 IWRC	11.0	8.2	22.0
1-1/2	7 x 6 x 19 IWRC	13.0	9.6	26.0

¹ These values only apply when the D/d ratio is 10 or greater, where D = diameter of curvature around which the body of the sling is bent, and d = diameter of rope.

Table E-6.—Safe working load for single leg slings 8-part and 6-part braided rope
6 x 7 and 7 x 19 construction improved plow steel grade rope
7 x 7 construction galvanized aircraft grade rope

Component ropes		Safe working load, tons (2,000 lb)					
Diameter (inches)	Constr	Vertical		Choker		Basket vertical to 30 degree ¹	
		8-part	6-part	8-part	6-part	8-part	6-part
3/32	6 x 7	0.42	0.32	0.32	0.24	0.74	0.55
1/8	6 x 7	0.75	0.57	0.57	0.42	1.3	0.98
3/16	6 x 7	1.7	1.3	1.3	0.94	2.9	2.2
3/32	7 x 7	0.51	0.39	0.38	0.29	0.89	0.67
1/8	7 x 7	0.95	0.71	0.71	0.53	1.6	1.2
3/16	7 x 7	2.1	1.5	1.5	1.2	3.6	2.7
3/16	6 x 19	1.7	1.3	1.3	0.98	3.0	2.2
1/4	6 x 19	3.1	2.3	2.3	1.7	5.3	4.0
5/16	6 x 19	4.8	3.6	3.6	2.7	8.3	6.2
3/8	6 x 19	6.8	5.1	5.1	3.8	12.0	8.9
7/16	6 x 19	9.3	6.9	6.9	5.2	16.0	12.0
1/2	6 x 19	12.0	9.0	9.0	6.7	21.0	15.0
9/16	6 x 19	15.0	11.0	11.0	8.5	26.0	20.0
5/8	6 x 19	19.0	14.0	14.0	10.0	32.0	24.0
3/4	6 x 19	27.0	20.0	20.0	15.0	46.0	35.0
7/8	6 x 19	36.0	27.0	27.0	20.0	62.0	47.0
1	6 x 19	47.0	35.0	35.0	26.0	81.0	61.0

¹These values only apply when the D/d ratio is 20 or greater, where D = diameter of curvature around which the body of the sling is bent, and d = diameter of component rope.

Table E-7.—Safe working load for 2-leg and 3-leg bridle slings
6 x 19 and 6 x 37 classification
improved plow steel grade rope with fiber core (FC)

Rope		Safe working load, tons (2,000 lb)											
		2-leg bridle slings						3-leg bridle slings					
Diameter (inches)	Constr	Vertical 30 degrees Horizontal 60 degrees		45-degree angle		45-degree angle		Vertical 30 degrees Horizontal 60 degrees		45-degree angle		45-degree angle	
		HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.85	0.88	0.70	0.72	0.49	0.51	1.3	1.3	1.0	1.1	0.74	0.7
5/16	6 x 19	1.3	1.4	1.1	1.1	0.76	0.79	2.0	2.0	1.6	1.7	1.1	1.2
3/8	6 x 19	1.8	1.9	1.5	1.6	1.1	1.1	2.8	2.9	2.3	2.4	1.6	1.7
7/16	6 x 19	2.5	2.6	2.0	2.2	1.4	1.5	3.7	4.0	3.0	3.2	2.1	2.3
1/2	6 x 19	3.2	3.4	2.6	2.8	1.8	2.0	4.8	5.1	3.9	4.2	2.8	3.0
9/16	6 x 19	4.0	4.3	3.2	3.5	2.3	2.5	6.0	6.5	4.9	5.3	3.4	3.7
5/8	6 x 19	4.8	5.3	4.0	4.4	2.8	3.1	7.3	8.0	5.9	6.5	4.2	4.6
3/4	6 x 19	6.8	7.6	5.5	6.2	3.9	4.4	10.0	11.0	8.3	9.3	5.8	6.6
7/8	6 x 19	8.9	10.0	7.3	8.4	5.1	5.9	13.0	15.0	11.0	13.0	7.7	8.9
1	6 x 19	11.0	13.0	9.4	11.0	6.7	7.7	17.0	20.0	14.0	16.0	10.0	11.0
1-1/8	6 x 19	14.0	16.0	12.0	13.0	8.4	9.5	22.0	24.0	18.0	20.0	13.0	14.0
1-1/4	6 x 37	17.0	19.0	14.0	16.0	9.8	11.0	25.0	29.0	21.0	23.0	15.0	17.0
1-3/8	6 x 37	20.0	23.0	17.0	19.0	12.0	13.0	31.0	35.0	25.0	28.0	18.0	20.0
1-1/2	6 x 37	24.0	27.0	20.0	22.0	14.0	16.0	36.0	41.0	30.0	33.0	21.0	24.0
1-5/8	6 x 37	28.0	32.0	23.0	26.0	16.0	18.0	43.0	48.0	35.0	39.0	25.0	28.0
1-3/4	6 x 37	33.0	37.0	27.0	30.0	19.0	21.0	49.0	56.0	40.0	45.0	28.0	32.0
2	6 x 37	43.0	48.0	35.0	39.0	25.0	28.0	64.0	72.0	52.0	59.0	37.0	41.0

HT = Hand-tucked splice.

MS = Mechanical splice.

Table E-8.—Safe working load for 2-leg and 3-leg bridle slings
6 x 19 and 6 x 37 classification improved plow steel grade rope
with independent wire rope core (IWRC)

Rope		Safe working load, tons (2,000 lb)											
		2-leg bridle slings						3-leg bridle slings					
Diameter (inches)	Constr	Vertical 30 degrees Horizontal 60 degrees		45-degree angle		45-degree angle		Vertical 30 degrees Horizontal 60 degrees		45-degree angle		45-degree angle	
		HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.92	0.97	0.75	0.79	0.53	0.56	1.4	1.4	1.1	1.2	0.79	0.84
5/16	6 x 19	1.4	1.5	1.1	1.2	0.81	0.87	2.1	2.3	1.7	1.8	1.2	1.3
3/8	6 x 19	2.0	2.1	1.6	1.8	1.1	1.2	3.0	3.2	2.4	2.6	1.7	1.9
7/16	6 x 19	2.7	2.9	2.2	2.4	1.5	1.7	4.0	4.4	3.3	3.6	2.3	2.5
1/2	6 x 19	3.4	3.8	2.8	3.1	2.0	2.2	5.1	5.7	4.2	4.6	3.0	3.3
9/16	6 x 19	4.3	4.8	3.5	3.9	2.5	2.7	6.4	7.1	5.2	5.8	3.7	4.1
5/8	6 x 19	5.2	5.9	4.2	4.8	3.0	3.4	7.8	8.8	6.4	7.2	4.5	5.1
3/4	6 x 19	7.3	8.4	5.9	6.9	4.2	4.9	11.0	13.0	8.9	10.0	6.3	7.3
7/8	6 x 19	9.6	11.0	7.8	9.3	5.5	6.6	14.0	17.0	12.0	14.0	8.3	9.9
1	6 x 19	12.0	15.0	10.0	12.0	7.2	8.5	19.0	22.0	15.0	18.0	11.0	13.0
1-1/8	6 x 19	16.0	18.0	13.0	15.0	9.0	10.0	23.0	27.0	19.0	22.0	13.0	16.0
1-1/4	6 x 37	18.0	21.0	15.0	17.0	10.0	12.0	27.0	32.0	22.0	26.0	16.0	18.0
1-3/8	6 x 37	22.0	25.0	18.0	21.0	13.0	15.0	33.0	38.0	27.0	31.0	19.0	22.0
1-1/2	6 x 37	26.0	30.0	21.0	25.0	15.0	17.0	39.0	45.0	32.0	37.0	23.0	26.0
1-5/8	6 x 37	31.0	35.0	25.0	29.0	18.0	20.0	46.0	53.0	38.0	43.0	27.0	31.0
1-3/4	6 x 37	35.0	41.0	29.0	33.0	20.0	24.0	53.0	61.0	43.0	50.0	31.0	35.0
2	6 x 37	46.0	53.0	37.0	43.0	26.0	30.0	68.0	79.0	56.0	65.0	40.0	46.0

HT = Hand-tucked splice.
MS = Mechanical splice.

Table E-9.—Safe working load for 2-leg and 3-leg bridle slings, cable-laid rope—mechanical splice only
 7 x 7 x 7 and 7 x 7 x 19 constructions galvanized aircraft grade rope
 7 x 6 x 19 independent wire rope core (IWRC) construction improved plow steel grade rope

Rope		Safe working load, tons (2,000 lb)					
		2-leg bridle slings			3-leg bridle slings		
Diameter (inches)	Constr	Vertical 30 degrees Horizontal 60 degrees	45-degree angle	Vertical 60 degrees Horizontal 30 degrees	Vertical 30 degrees Horizontal 60 degrees	45-degree angle	Vertical 60 degrees Horizontal 30 degrees
1/4	7 x 7 x 7	0.87	0.71	0.50	1.3	1.1	0.75
3/8	7 x 7 x 7	1.9	1.5	1.1	2.8	2.3	1.6
1/2	7 x 7 x 7	3.2	2.6	1.8	4.8	3.9	2.8
5/8	7 x 7 x 7	4.8	3.9	2.8	7.2	5.9	4.2
3/4	7 x 7 x 7	6.6	5.4	3.8	9.9	8.1	5.7
5/8	7 x 7 x 19	5.0	4.1	2.9	7.5	6.1	4.3
3/4	7 x 7 x 19	7.0	5.7	4.1	10.0	8.6	6.1
7/8	7 x 7 x 19	9.3	7.6	5.4	14.0	11.0	8.1
1	7 x 7 x 19	12.0	9.7	6.9	18.0	14.0	10.0
1-1/8	7 x 7 x 19	14.0	12.0	8.2	21.0	17.0	12.0
1-1/4	7 x 7 x 19	17.0	14.0	9.9	26.0	21.0	15.0
3/4	7 x 6 x 19 IWRC	6.6	5.4	3.8	9.9	8.0	5.7
7/8	7 x 6 x 19 IWRC	8.7	7.1	5.0	13.0	11.0	7.5
1	7 x 6 x 19 IWRC	11.0	9.0	6.4	17.0	13.0	9.6
1-1/8	7 x 6 x 19 IWRC	13.0	11.0	7.7	20.0	16.0	11.0
1-1/4	7 x 6 x 19 IWRC	16.0	13.0	9.2	24.0	20.0	14.0
1-5/16	7 x 6 x 19 IWRC	17.0	14.0	10.0	26.0	21.0	15.0
1-3/8	7 x 6 x 19 IWRC	19.0	15.0	11.0	28.0	23.0	16.0
1-1/2	7 x 6 x 19 IWRC	22.0	18.0	13.0	33.0	27.0	19.0

Table E-10.—Safe working load for 2-leg and 3-leg bridle slings, 8-part and 6-part braided rope
6 x 7 and 6 x 19 construction improved plow steel grade rope
7 x 7 construction galvanized aircraft grade rope

Component rope		Safe working load, tons (2,000 lb)											
		2-leg bridle slings						3-leg bridle slings					
Diameter (inches)	Constr	Vertical 30 degrees Horizontal 60 degrees		45-degree angle		Vertical 60 degrees Horizontal 30 degrees		Vertical 30 degrees Horizontal 60 degrees		45-degree angle		Vertical 60 degrees Horizontal 30 degrees	
		8-part	6-part	8-part	6-part	8-part	6-part	8-part	6-part	8-part	6-part	8-part	6-part
3/32	6 x 7	0.74	0.55	0.60	0.45	0.42	0.32	1.1	0.83	0.90	0.68	0.64	0.48
1/8	6 x 7	1.3	0.98	1.1	0.80	0.76	0.57	2.0	1.5	1.6	1.2	1.1	0.85
3/16	6 x 7	2.9	2.2	2.4	1.8	1.7	1.3	4.4	3.3	3.6	2.7	2.5	1.9
3/32	7 x 7	0.89	0.67	0.72	0.55	0.51	0.39	1.3	1.0	1.1	0.82	0.77	0.58
1/8	7 x 7	1.6	1.2	1.3	1.0	0.95	0.71	2.5	1.8	2.0	1.5	1.4	1.1
3/16	7 x 7	3.6	2.7	2.9	2.2	2.1	1.5	5.4	4.0	4.4	3.3	3.1	2.3
3/16	6 x 19	3.0	2.2	2.4	1.8	1.7	1.3	4.5	3.4	3.7	2.8	2.6	1.9
1/4	6 x 19	5.3	4.0	4.3	3.2	3.1	2.3	8.0	6.0	6.5	4.9	4.6	3.4
5/16	6 x 19	8.3	6.2	6.7	5.0	4.8	3.6	12.0	9.3	10.0	7.6	7.1	5.4
3/8	6 x 19	12.0	8.9	9.7	7.2	6.8	5.1	18.0	13.0	14.0	11.0	10.0	7.7
7/16	6 x 19	16.0	12.0	13.0	9.8	9.3	6.0	24.0	18.0	20.0	15.0	14.0	10.0
1/2	6 x 19	21.0	15.0	17.0	13.0	12.0	9.0	31.0	23.0	25.0	19.0	18.0	13.0
9/16	6 x 19	26.0	20.0	21.0	16.0	15.0	11.0	39.0	29.0	32.0	24.0	23.0	17.0
5/8	6 x 19	32.0	24.0	26.0	20.0	19.0	14.0	48.0	36.0	40.0	30.0	28.0	21.0
3/4	6 x 19	46.0	35.0	38.0	28.0	27.0	20.0	69.0	52.0	56.0	42.0	40.0	30.0
7/8	6 x 19	62.0	47.0	51.0	38.0	36.0	27.0	94.0	70.0	76.0	57.0	54.0	40.0
1	6 x 19	81.0	61.0	66.0	50.0	47.0	35.0	122.0	91.0	99.0	74.0	70.0	53.0

Table E-11.—Safe working load for strand laid grommet–hand tucked improved plow steel grade rope

Rope body		Safe working load, tons (2,000 lb)		
Diameter (inches)	Constr	Vertical	Choker	Vertical basket ¹
1/4	7 x 19	0.85	0.64	1.7
5/16	7 x 19	1.3	1.0	2.6
3/8	7 x 19	1.9	1.4	3.8
7/16	7 x 19	2.6	1.9	5.2
1/2	7 x 19	3.3	2.5	6.7
9/16	7 x 19	4.2	3.1	8.4
5/8	7 x 19	5.2	3.9	10.0
3/4	7 x 19	7.4	5.6	15.0
7/8	7 x 19	10.0	7.5	20.0
1	7 x 19	13.0	9.7	26.0
1-1/8	7 x 19	16.0	12.0	32.0
1-1/4	7 x 37	18.0	14.0	37.0
1-3/8	7 x 37	22.0	16.0	44.0
1-1/2	7 x 37	26.0	19.0	52.0

¹ These values only apply when the D/d ratio is 5 or greater, where D = diameter of curvature around which rope is bent, and d = diameter of rope body.

Table E-12.—Safe working load for cable-laid grommet–hand tucked 7 x 6 x 7 and 7 x 6 x 19 constructions improved plow steel grade rope
7 x 7 x 7 construction galvanized aircraft grade rope

Cable body		Safe working load, tons (2,000 lb)		
Diameter (inches)	Constr	Vertical	Choker	Vertical basket ¹
3/8	7 x 6 x 7	1.3	0.95	2.5
9/16	7 x 6 x 7	2.8	2.1	5.6
5/8	7 x 6 x 7	3.8	2.8	7.6
3/8	7 x 7 x 7	1.6	1.2	3.2
9/16	7 x 7 x 7	3.5	2.6	6.9
5/8	7 x 7 x 7	4.5	3.4	9.0
5/8	7 x 6 x 19	3.9	3.0	7.9
3/4	7 x 6 x 19	5.1	3.8	10.0
15/16	7 x 6 x 19	7.9	5.9	16.0
1-1/8	7 x 6 x 19	11.0	8.4	22.0
1-5/16	7 x 6 x 19	15.0	11.0	30.0
1-1/2	7 x 6 x 19	19.0	14.0	39.0
1-11/16	7 x 6 x 19	24.0	18.0	49.0
1-7/8	7 x 6 x 19	30.0	22.0	60.0
2-1/4	7 x 6 x 19	42.0	31.0	84.0
2-5/8	7 x 6 x 19	56.0	42.0	112.0

¹ These values only apply when the D/d ratio is 5 or greater, where D = diameter of curvature around which rope is bent, and d = diameter of rope body.

Table E-13.—Safe working load for strand-laid endless slings—
mechanical joint improved plow steel grade rope

Rope body		Safe working load, tons (2,000 lb)		
Diameter (inches)	Center	Vertical	Choker	Vertical basket ¹
1/4	6 x 19 IWRC	0.92	0.69	1.8
3/8	6 x 19 IWRC	2.0	1.5	4.1
1/2	6 x 19 IWRC	3.6	2.7	7.2
5/8	6 x 19 IWRC	5.6	4.2	11.0
3/4	6 x 19 IWRC	8.0	6.0	16.0
7/8	6 x 19 IWRC	11.0	8.1	21.0
1	6 x 19 IWRC	14.0	10.0	28.0
1-1/8	6 x 19 IWRC	18.0	13.0	35.0
1-1/4	6 x 37 IWRC	21.0	15.0	41.0
1-3/8	6 x 37 IWRC	25.0	19.0	50.0
1-1/2	6 x 37 IWRC	29.0	22.0	59.0

¹ These values only apply when the D/d ratio is 5 or greater, where D = diameter of curvature around which rope is bent, and d = diameter of rope body.

Table E-14.—Safe working load for cable-laid endless slings—mechanical joint
7 x 7 x 7 and 7 x 7 x 19 constructions galvanized aircraft grade rope
7 x 6 x 29 IWRC construction improved plow steel grade rope

Cable body		Safe working load, tons (2,000 lb)		
Diameter (inches)	Constr	Vertical	Choker	Vertical basket ¹
1/4	7 x 7 x 7	0.83	0.62	1.6
1/8	7 x 7 x 7	1.8	1.3	3.5
1/2	7 x 7 x 7	3.0	2.3	6.1
5/8	7 x 7 x 7	4.5	3.4	9.1
3/4	7 x 7 x 7	6.3	4.7	12.0
5/8	7 x 7 x 19	4.7	3.5	9.5
3/4	7 x 7 x 19	6.7	5.0	13.0
7/8	7 x 7 x 19	8.9	6.6	18.0
1	7 x 7 x 19	11.0	8.5	22.0
1-1/8	7 x 7 x 19	14.0	10.0	28.0
1-1/4	7 x 7 x 19	17.0	12.0	33.0
3/4	7 x 6 x 19 IWRC	6.2	4.7	12.0
7/8	7 x 6 x 19 IWRC	8.3	6.2	16.0
1	7 x 6 x 19 IWRC	10.0	7.9	21.0
1-1/8	7 x 6 x 19 IWRC	13.0	9.7	26.0
1-1/4	7 x 6 x 19 IWRC	16.0	12.0	31.0
1-3/8	7 x 6 x 19 IWRC	18.0	14.0	37.0
1-1/2	7 x 6 x 19 IWRC	22.0	16.0	43.0

¹ These values only apply when the D/d ratio is 5 or greater, where D = diameter of curvature around which rope is bent, and d = diameter of rope body.

Table E-15.—Safe working loads for nylon rope slings

Rope diameter nominal (inches)	Nominal weight per 100 feet (pounds)	Minimum breaking strength (pounds)	Safe working load in pounds (safety factor = 9)											
			Eye and eye sling						Endless sling					
			Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal				Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal			
					90°	60°	45°	30°			90°	60°	45°	30°
			Angle of rope to vertical				Angle of rope to vertical							
			0°	30°	45°	60°	0°	30°	45°	60°				
1/2	6.5	6,080	635	320	1,270	1,100	900	635	1,140	570	2,290	1,980	1,620	1,140
9/16	8.3	7,600	790	395	1,580	1,370	1,120	790	1,420 1,850 2,540	710	2,840	2,460	2,010	1,420
5/8	10.5	9,880	1,030	515	2,060	1,780	1,460	1,030		925	3,710	3,210	2,620	1,850
3/4	14.5	13,490	1,410	705	2,820	2,440	1,990	1,410		1,270	5,080	4,400	3,590	2,540
13/16	17.0	16,150	1,680	840	3,360	2,910	2,380	1,680	3,020	1,510	6,050	5,240	4,280	3,020
7/8	20.0	19,000	1,980	990	3,960	3,430	2,800	1,980	3,560	1,780	7,130	6,170	5,040	3,560
1	26.0	23,750	2,480	1,240	4,960	4,300	3,510	2,480	4,460	2,230	8,930	7,730	6,310	4,460
1-1/16	29.0	27,360	2,850	1,430	5,700	4,940	4,030	2,850	5,130	2,570	10,300	8,890	7,260	5,130
1-1/8	34.0	31,350	3,270	1,640	6,540	5,660	4,620	3,270	5,890	2,940	11,800	10,200	8,330	5,890
1-1/4	40.0	35,625	3,710	1,860	7,420	6,430	5,250	3,710	6,680	3,340	13,400	11,600	9,450	6,680
1-5/16	45.0	40,850	4,260	2,130	8,520	7,380	6,020	4,260	7,670	3,830	15,300	13,300	10,800	7,670
1-1/2	55.0	50,350	5,250	2,630	10,500	9,090	7,420	5,250	9,450	4,730	18,900	16,400	13,400	9,450
1-5/8	68.0	61,750	6,440	3,220	12,900	11,200	9,110	6,440	11,600	5,800	23,200	20,100	16,400	11,600
1-3/4	83.0	74,100	7,720	3,860	15,400	13,400	10,900	7,720	13,900	6,950	27,800	24,100	19,700	13,900
2	95.0	87,400	9,110	4,560	18,200	15,800	12,900	9,110	16,400	8,200	32,800	28,400	23,200	16,400
2-1/8	109.0	100,700	10,500	5,250	21,000	18,200	14,800	10,500	18,900	9,450	37,800	32,700	26,700	18,900
2-1/4	129.0	118,570	12,400	6,200	24,800	21,500	17,500	12,400	22,300	11,200	44,600	38,700	31,600	22,300
2-1/2	149.0	133,000	13,900	6,950	27,800	24,100	19,700	13,900	25,000	12,500	50,000	43,300	35,400	25,000
2-5/8	168.0	153,900	16,000	8,000	32,000	27,700	22,600	16,000	28,800	14,400	57,600	49,900	40,700	28,800

Table E-16.—Safe working load for polyester rope slings

Rope diameter nominal (inches)	Nominal weight per 100 feet (pounds)	Minimum breaking strength (pounds)	Safe working load in pounds (safety factor = 9)											
			Eye and eye sling						Endless sling					
			Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal				Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal			
					90°	60°	45°	30°			90°	60°	45°	30°
					Angle of rope to vertical						Angle of rope to vertical			
					0°	30°	45°	60°			0°	30°	45°	60°
1/2	8.0	6,080	635	320	1,270	1,100	900	635	1,140	570	2,290	1,980	1,620	1,140
9/16	10.2	7,600	790	395	1,580	1,370	120	790	1,420	710	2,840	2,460	2,010	1,420
5/8	13.0	9,500	990	495	1,980	1,710	1,400	990	1,780	890	3,570	3,090	2,520	1,780
3/4	17.5	11,875	1,240	620	2,480	2,150	1,750	1,240	2,230	1,120	4,470	3,870	3,160	2,230
13/16	21.0	14,725	1,540	770	3,080	2,670	2,180	1,540	2,770	1,390	5,540	4,800	3,920	2,770
7/8	25.0	17,100	1,780	890	3,560	3,080	2,520	1,780	3,200	1,600	6,410	5,550	4,530	3,200
1	30.5	20,900	2,180	1,090	4,360	3,780	3,080	2,180	3,920	2,960	7,850	6,800	5,550	3,920
1-1/16	34.5	24,225	2,530	1,270	5,060	4,380	3,580	2,530	4,550	2,280	9,110	7,990	6,440	4,550
1-1/8	40.0	28,025	2,920	1,460	5,840	5,060	4,130	2,920	5,260	2,630	10,500	9,100	7,440	5,260
1-1/4	46.3	31,540	3,290	1,650	6,580	5,700	4,650	3,290	5,920	2,960	11,800	10,300	8,380	5,920
1-5/16	52.5	35,625	3,710	1,860	7,420	6,430	5,250	3,710	6,680	3,340	13,400	11,600	9,450	6,680
1-1/2	66.8	44,460	4,630	2,320	9,260	8,020	6,550	4,630	8,330	4,170	16,700	14,400	11,800	8,330
1-5/8	82.0	54,150	5,640	2,820	11,300	9,770	7,980	5,640	10,200	5,080	20,300	17,600	14,400	10,200
1-3/4	98.0	64,410	6,710	3,360	13,400	11,600	9,490	6,710	12,100	6,040	24,200	20,900	17,100	12,100
2	118.0	76,000	7,920	3,960	15,800	13,700	11,200	7,920	14,300	7,130	28,500	24,700	20,200	14,300
2-1/8	135.0	87,400	9,110	4,460	18,200	15,800	12,900	9,110	16,400	8,200	32,800	28,400	23,200	16,400
2-1/4	157.0	101,650	10,600	5,300	21,200	18,400	15,000	10,600	19,100	9,540	38,200	33,100	27,000	19,100
2-1/2	181.0	115,900	12,100	6,050	24,200	21,000	17,100	12,100	21,800	10,900	43,600	37,700	30,800	21,800
2-5/8	205.0	130,150	13,600	6,800	27,200	23,600	19,200	13,600	24,500	12,200	49,000	42,400	34,600	24,500

Table E-17.—Safe working load for polypropylene rope slings

Rope diameter nominal (inches)	Nominal weight per 100 feet (pounds)	Minimum breaking strength (pounds)	Safe working load in pounds (safety factor = 6)												
			Eye and eye sling						Endless sling						
			Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal				Vertical hitch	Choker hitch	Basket hitch: angle of rope to horizontal				
					90°	60°	45°	30°			90°	60°	45°	30°	
					Angle of rope to vertical						Angle of rope to vertical				
					0°	30°	45°	60°			0°	30°	45°	60°	
1/2	4.7	3,990	645	325	1,290	1,120	910	645	1,160	580	2,320	2,010	1,640	1,160	
9/16	6.1	4,845	780	390	1,560	1,350	1,100	780	1,400	700	2,810	2,430	1,990	1,400	
5/8	7.5	5,890	950	475	1,900	1,650	1,340	950	1,710	855	3,420	2,960	2,420	1,710	
3/4	10.7	8,075	1,300	650	2,600	2,250	1,840	1,300	2,340	1,170	4,680	4,050	3,310	2,340	
13/16	12.7	9,450	1,520	760	3,040	2,630	2,150	1,520	2,740	1,370	5,470	4,740	3,870	2,740	
7/8	15.0	10,925	1,760	880	3,520	3,050	2,490	1,760	3,170	1,580	6,340	5,490	4,480	3,170	
1	18.0	13,300	2,140	1,070	4,280	3,700	3,030	2,140	3,850	1,930	7,700	6,670	5,450	3,860	
1-1/16	20.4	15,200	2,450	1,230	4,900	4,240	3,460	2,450	4,410	2,210	8,820	7,640	6,240	4,410	
1-1/8	23.7	17,385	2,800	1,400	5,600	4,850	3,960	2,800	5,040	2,520	10,100	8,730	7,130	5,040	
1-1/4	27.0	19,950	3,210	1,610	6,420	5,560	4,540	3,210	5,780	2,890	11,600	10,000	8,170	5,780	
1-5/16	30.5	22,325	3,600	1,800	7,200	6,240	5,090	3,600	6,480	3,240	13,000	11,200	9,170	6,480	
1-1/2	38.5	28,215	4,540	2,270	9,080	7,860	6,420	4,540	8,170	4,090	16,300	14,200	11,600	8,170	
1-5/8	47.5	34,200	5,510	2,760	11,000	13,200	9,540	7,790	5,510	9,920	4,960	19,800	17,200	14,000	9,920
1-3/4	57.0	40,850	6,580	3,290	15,900	11,400	9,300	6,580	11,800	5,920	23,700	20,500	16,800	11,800	
2	69.0	49,400	7,960	3,980	18,700	13,800	11,300	7,960	14,300	7,160	28,700	24,800	20,300	14,300	
2-1/3	80.0	57,950	9,330	4,670		16,200	13,200	9,330	16,800	8,400	33,600	29,100	23,800	16,800	
2-1/4	92.0	65,550	10,600	5,300	21,200	18,400	15,000	10,600	19,100	9,540	38,200	33,100	27,000	19,100	
2-1/2	107.0	76,000	12,200	6,100	24,400	21,100	17,300	12,200	22,000	11,000	43,900	38,000	31,100	22,000	
2-5/8	120.0	85,500	13,800	6,900	27,600	23,900	19,600	13,800	24,800	12,400	49,700	43,000	35,100	24,800	

Table E-18.—Safe working load for synthetic web slings—1,000 pounds per inch of width—single ply

Sling body width (inches)	Triangle—choker slings, type I; triangle—triangle slings, type II; eye and eye with flat eye slings, type III; eye and eye with twisted eye slings, type IV						Endless slings, type V						Return eye slings, type VI					
	Vertical	Choker	Vertical basket	30 ° basket	45 ° basket	60 ° basket	Vertical	Choker	Vertical basket	30 ° basket	45 ° basket	60 ° basket	Vertical	Choker	Vertical basket	30 ° basket	45 ° basket	60 ° basket
1	1,000	750	2,000	1,700	1,400	1,000	1,600	1,300	3,200	2,800	2,300	1,600	800	650	1,600	1,400	1,150	800
2	2,000	1,500	4,000	3,500	2,800	2,000	3,200	2,600	6,400	5,500	4,500	3,200	1,600	1,300	3,200	2,800	2,300	1,600
3	3,000	2,200	6,000	5,200	4,200	3,000	4,800	3,800	9,600	8,300	6,800	4,800	2,400	1,950	4,800	4,150	3,400	2,400
4	4,000	3,000	8,000	6,900	5,700	4,000	6,400	5,100	12,800	11,100	9,000	6,400	3,200	2,600	6,400	5,500	4,500	3,200
5	5,000	3,700	10,000	8,700	7,100	5,000	8,000	6,400	16,000	13,900	11,300	8,000	4,000	3,250	8,000	6,900	5,650	4,000
6	6,000	4,500	12,000	10,400	8,500	6,000	9,600	7,700	19,200	16,600	13,600	9,600	4,800	3,800	9,600	8,300	6,800	4,800

Notes: 1. All angles shown are measured from the vertical.
2. Capacities for intermediate widths not shown may be obtained by interpolation.

Table E-19.—Safe working load for synthetic web slings—1,200 pounds per inch of width—single ply

Sling body width (inches)	Triangle—choker slings, type I; triangle—triangle slings, type II; eye and eye with flat eye slings, type III; eye and eye with twisted eye slings, type IV						Endless slings, type V						Return eye slings, type VI					
	Vertical	Choker	Vertical basket	30° basket	45° basket	60° basket	Vertical	Choker	Vertical basket	30° basket	45° basket	60° basket	Vertical	Choker	Vertical basket	30° basket	45° basket	60° basket
1	1,200	900	2,400	2,100	1,700	1,200	1,900	15,300	3,800	3,300	2,700	1,900	950	750	1,900	1,650	1,350	950
2	2,400	1,800	4,800	4,200	3,400	2,400	3,800	3,000	7,600	6,600	5,400	3,800	1,900	1,500	3,800	23,830	2,700	1,900
3	3,600	2,700	7,200	6,200	5,100	3,600	5,800	4,600	11,600	10,000	8,200	5,800	2,850	2,250	5,700	4,950	4,050	2,850
4	4,800	3,600	9,600	8,300	6,800	4,800	7,700	6,200	15,400	13,300	10,900	7,700	3,800	3,000	7,600	6,600	5,400	3,800
5	7,000	4,500	12,000	10,400	8,500	6,000	9,600	7,700	19,200	16,600	13,600	9,600	4,750	3,750	9,500	8,250	6,750	4,750
6	7,200	5,400	14,400	12,500	10,200	7,200	11,500	9,200	23,200	19,900	16,300	11,500	5,800	4,600	11,600	10,000	8,200	5,800

- Notes: 1. All angles shown are measured from the vertical.
2. Capacities for intermediate widths not shown may be obtained by interpolation.

Table E-20.—Safe working load for synthetic web slings—1,600 pounds per inch of width—single ply

Sling body width (inches)	Triangle—choker slings, type I; triangle—triangle slings, type II; eye and eye with flat eye slings, type III; eye and eye with twisted eye slings, type IV						Endless slings, type V						Return eye slings, type VI					
	Verti-cal	Choker	Vertical basket	30° basket	45° basket	60° basket	Vertical	Choker	Vertical basket	30° basket	45° basket	60° basket	Vertical	Choker	Vertical basket	30° basket	45° basket	60° basket
1	1,600	1,200	3,200	2,800	2,300	1,600	2,600	2,100	5,200	4,500	3,700	2,00	1,50	1,050	2,600	2,250	1,850	1,300
2	3,200	2,400	6,400	5,500	4,500	3,200	5,100	4,100	10,200	8,800	7,200	5,100	2,600	2,100	5,200	4,500	3,700	2,00
3	4,800	3,600	9,600	8,300	6,800	4,00	7,700	6,200	15,400	13,300	10,900	7,700	3,900	3,150	7,800	6,750	5,500	3,900
4	6,400	4,800	12,800	11,100	9,000	6,400	10,100	8,200	20,400	17,00	14,400	10,200	5,100	4,100	10,200	8,800	7,200	5,100
5	8,000	6,000	16,000	13,800	11,300	8,000	12,800	10,200	25,600	22,200	18,100	12,800	6,400	5,150	12,800	11,050	9,050	6,400
6	9,600	7,200	19,200	16,600	13,600	9,600	15,400	12,300	30,800	26,700	21,800	15,400	7,700	6,200	15,400	13,300	10,900	7,700

- Notes: 1. All angles shown are measured from the vertical.
2. Capacities for intermediate widths not shown may be obtained by interpolation.

Table E-21.—Single leg polyester roundslings—endless and eye and eye type
(safe working load in pounds)

Size (see note)	Vertical	Choker	Vertical basket	60° basket	45° basket	30° basket
1	2,600	2,100	5,200	4,500	3,700	2,600
2	5,300	4,200	10,600	9,200	7,500	5,300
3	6,400	6,700	16,800	14,500	11,900	8,400
4	10,600	8,500	21,200	18,400	15,000	10,600
5	13,200	10,600	26,400	22,900	18,700	13,200
6	16,800	13,400	33,600	29,100	23,800	16,800
7	21,200	17,000	42,400	36,700	30,000	21,200
8	25,000	20,000	50,000	43,300	35,400	25,000
9	31,000	24,800	62,000	53,700	43,800	31,000
10	40,000	32,000	80,000	69,300	56,600	40,000
11	53,000	42,400	106,000	91,800	74,900	53,000
12	66,000	52,800	132,000	114,300	93,300	66,000
13	90,000	72,000	180,000	155,900	127,300	90,000

Note: Roundslings are identified by the vertical rated load shown on the tag. The size numbers in this column have been adopted by the Web Sling and Tiedown Association to describe certain polyester round slings. They are included for reference only.

Table E-22.—Safe working loads for forged alloy steel shackles

Safe working loads for shackles (forged alloy steel)		
Material diameter (inches)	Inside width at pin (inches)	Safe working load, tons (2,000 lb)
3/16 = 0.187	3/8 = 0.375	0.33
1/4 = 0.250	15/32 = 0.468	0.50
5/16 = 0.312	17/32 = 0.531	0.75
3/8 = 0.375	21/32 = 0.656	1.00
7/16 = 0.437	23/32 = 0.718	1.50
1/2 = 0.500	13/16 = 0.812	2.00
5/8 = 0.625	1-1/16 = 1.062	3.25
3/4 = 0.750	1-1/4 = 1.250	4.75
7/8 = 0.875	1-7/16 = 1.437	6.50
1 = 1.000	1-11/16 = 1.687	8.50
1-1/8 = 1.125	1-13/16 = 1.812	9.50
1-1/4 = 1.250	2-1/32 = 2.031	12.0
1-3/8 = 1.375	2-1/4 = 2.250	13.5
1-1/2 = 1.500	2-3/8 = 2.375	17.0
1-3/4 = 1.750	2-7/8 = 2.875	25.0
2 = 2.000	3-1/4 = 3.250	35.0
2-1/2 = 2.500	4-1/8 = 4.125	50.0
3 = 3.000	5 = 5.000	75.0
3-1/2 = 3.500	5-3/4 = 5.750	100
4 = 4.000	6-1/2 = 6.500	130