



Products in use: 34EESCHX25

WIRE ROPE AND SLING BASICS

General Information

Web Slings

Round Slings

Sling Protection

Wire Rope

Chain Slings

Rigging Hardware

Mesh Slings

Cargo Control

Lift-All Hoists

Hoist Rings

Plate Clamps

Lifting Devices

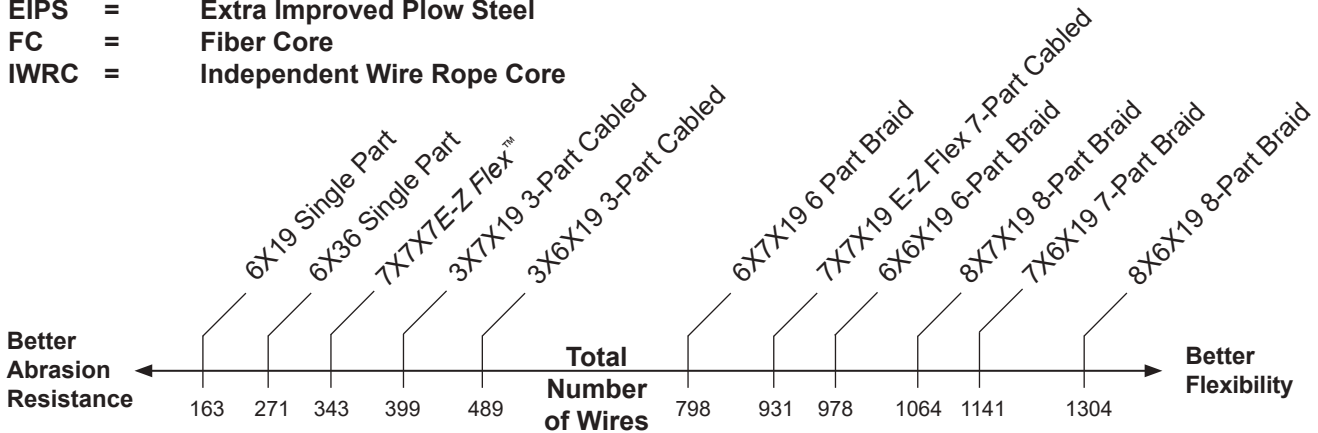
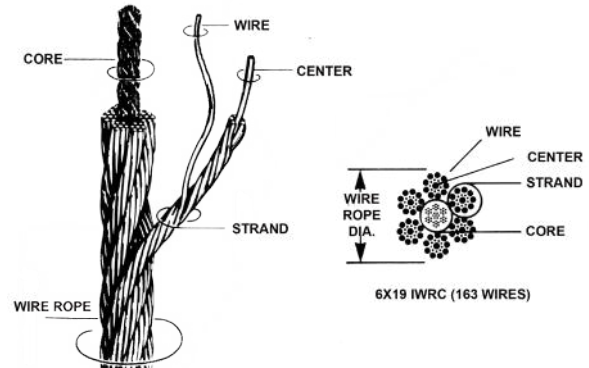
Wire rope slings are both flexible and resistant to abrasion. These characteristics are determined by the rope construction. Fewer wires result in larger diameter wires, better abrasion resistance, and reduced flexibility. More wires result in decreased wire diameter, reduced abrasion resistance, increased flexibility, and kink resistance.

Wire rope products may be proof-tested upon request. If they contain swaged terminations and will be used as a sling, they will be 100% proof tested.

The scale below shows the relative position of the sling constructions shown in this catalog as they pertain to abrasion resistance and flexibility.

- EIPS = Extra Improved Plow Steel
- FC = Fiber Core
- IWRC = Independent Wire Rope Core

Wire Rope Construction



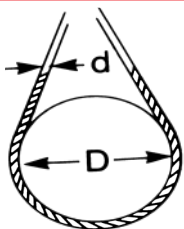
Features and Benefits

- *Tuff-Tag*™ for capacity and serial numbered identification for traceability and compliance with OSHA.
- Least expensive (per capacity), of all steel slings.
- Use of IWRC EIPS rope gives 15% greater capacity than IWRC IP (Improved Plow) ropes.
- Countless combinations of sling terminations: hooks, chokers, and thimbles are available to fit specific lift requirements.

Environmental Considerations

- Independent Wire Rope Core must not be used at temperatures above 400°F.
- Fiber Core must not be used at temperatures above 180°F.
- Fiber core ropes should not be subjected to degreasing solvents.

D/d - Basket Hitch Effect



Tests have shown that when a sling body is bent around a diameter, the strength of the sling is decreased. D/d ratio is the ratio of the diameter around which the sling is bent, divided by the body diameter of the sling.

The capacities in this catalog are based on the minimum D/d ratios that appear below each of the capacity tables. For more severe bending conditions, contact *Lift-All* for revised capacities.

Effect of Shackle Pin or Crane Hook on Sling Eye

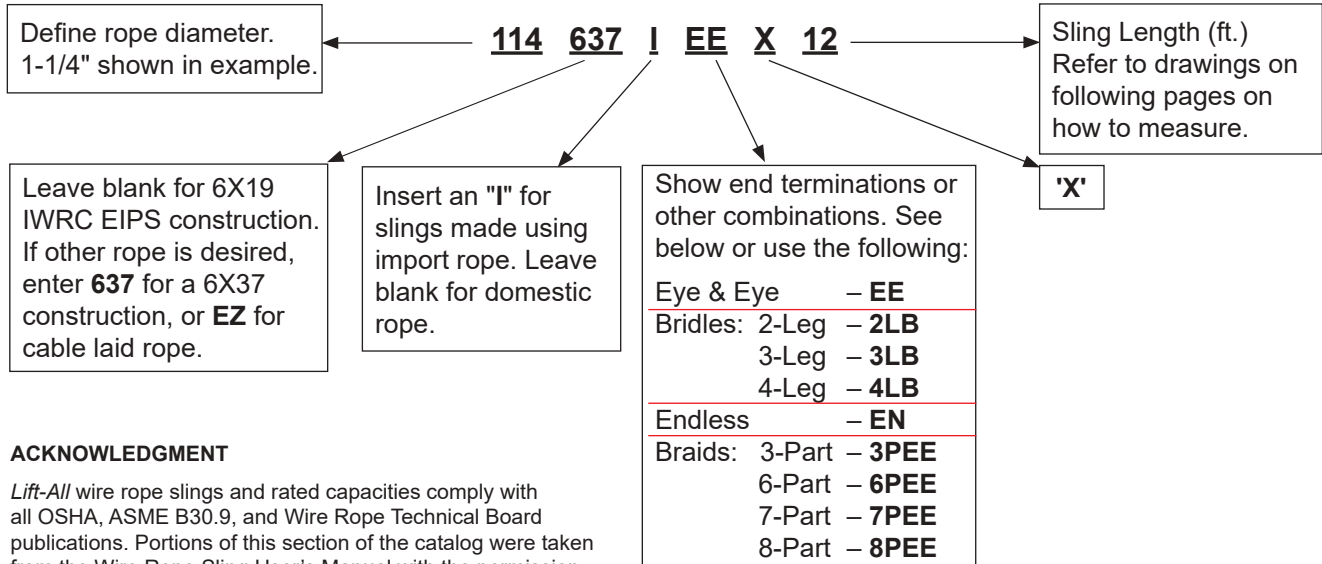


Damage to slings can occur if the wrong size pin or hook is used. The width of the hook should never exceed the natural inside width of the eye.

The eye dimension for each type and size of the slings are shown in the capacity tables of this catalog. If your pin or hook is large, request an oversized eye.

HOW TO ORDER WIRE ROPE SLINGS

Prior to sling selection and use, review and understand the General Information section in this catalog. We have developed the following wire rope sling code system to help you in ordering these products.



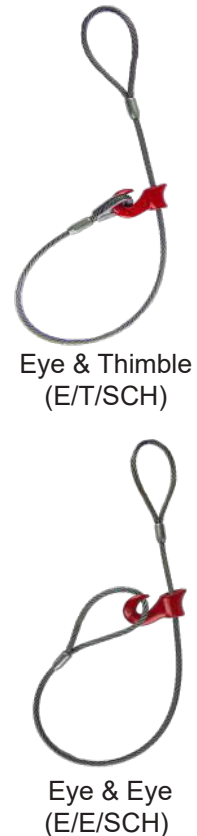
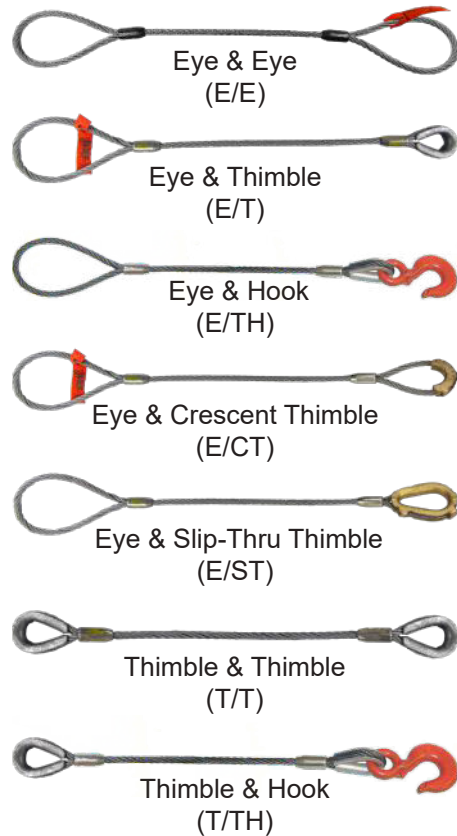
ACKNOWLEDGMENT

Lift-All wire rope slings and rated capacities comply with all OSHA, ASME B30.9, and Wire Rope Technical Board publications. Portions of this section of the catalog were taken from the Wire Rope Sling User's Manual with the permission of the Wire Rope Technical Board and the American Iron and Steel Institute.

Note: Proof-testing with certification is available for all slings at an additional charge.

Standard Combinations

Sliding Choker



Tolerances and Minimum Lengths

Refer to tables for tolerances and minimum lengths.

Stretch

Approximately 1% at rated capacity.

Wire Rope Class

Standard rope classes are shown for each type and size of sling. Specific rope constructions are available upon request.

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Mesh Slings
Cargo Control
Lift-All Hoists
Hoist Rings
Plate Clamps
Lifting Devices

WIRE ROPE SLINGS

Lift-All wire rope slings are made using the Flemish Eye splice technique to form the eyes. Unlike the return loop method that places 100% of its strength on the swaged sleeve, Lift-All wire rope slings have reserve strength should the sleeve become damaged in use.

Features and Benefits

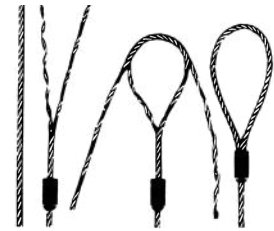
Maintains all the basic Lift-All wire rope sling features plus...

Promotes Safety

- Reserve strength: Integrity of eyes not solely dependent upon steel sleeves.
- IWRC resists crushing better than FC ropes.

Saves Money

- When specified, thimble eyes protect wire rope from wear for increased life.
- Good abrasion resistance for longer life.



Flemish Eye Splice



Tag Attachment



IWRC (Independent Wire Rope Core)

Wire Rope Class	Rope Dia. (in.)	Rated Capacities* (tons)			1 ^{Min.} Sling Length	Eye Size W X L (in.)	Thimble Eye Size W X L (in.)	Eye Hook Cap. (tons)	Crescent Thimble Eye Size W X L (in.)	Slip-Thru Thimble Eye Size W X L (in.)	Sliding Choker Hook** (in.)
		Vertical	Choker	Basket							
6X19 EIPS IWRC	1/4	0.65	0.48	1.3	1'-6"	2 X 4	0.88 X 1.63	1	2 X 4	2.13 X 4.13	3/8
	5/16	1.0	0.74	2.0	1'-9"	2.5 X 5	1.06 X 1.88	1	2 X 4	2.50 X 4.13	3/8
	3/8	1.4	1.1	2.9	2'-0"	3 X 6	1.13 X 2.13	1.5	2 X 4	2.50 X 4.13	3/8
	7/16	1.9	1.4	3.9	2'-3"	3.5 X 7	1.25 X 2.25	2	2 X 5	2.38 X 4.38	1/2
	1/2	2.5	1.9	5.1	2'-6"	4 X 8	1.5 X 2.75	3	2.25 X 6	2.38 X 4.38	1/2**
	9/16	3.2	2.4	6.4	2'-9"	4.5 X 9	1.5 X 2.75	4.5	2.25 X 7	2.38 X 4.38	5/8
	5/8	3.9	2.9	7.8	3'-0"	5 X 10	1.75 X 3.25	4.5	2.75 X 7	3.38 X 6.63	5/8**
	3/4	5.6	4.1	11	3'-6"	6 X 12	2 X 3.75	7	3.25 X 8.5	3.38 X 6.63	3/4**
	7/8	7.6	5.6	15	4'-0"	7 X 14	2.25 X 4.25	11	4.5 X 10	3.75 X 7.13	7/8
	1	9.8	7.2	20	4'-6"	8 X 16	2 X 4.5	11	4.5 X 11.5	3.75 X 7.13	1
6X37 EIPS IWRC	1-1/8	12	9.1	24	5'-0"	9 X 18	2.88 X 5.13	15	4.88 X 13	4.38 X 8.38	1-1/8
	1-1/4	15	11	30	5'-6"	10 X 20	3.5 X 6.5	15	5.5 X 14.5	4.38 X 8.38	1-1/4
	1-3/8	18	13	36	6'-0"	11 X 22	3.5 X 6.25	22	6 X 16	5 X 9.5	1-3/8
	1-1/2	21	16	42	7'-0"	12 X 24	3.5 X 6.25	22	6 X 17.5	5 X 9.5	1-1/2**
	1-3/4	28	21	57	8'-0"	14 X 28	4.5 X 9	30	7 X 20	6.75 X 11.75	-
	2	37	28	73	9'-0"	16 X 32	6 X 12	37	7 X 23.5	8 X 14.5	-
	2-1/4	44	35	89	10'-0"	18 X 36	7 X 14	45	8.5 X 26	8 X 15.5	-
	2-1/2	54	42	109	11'-0"	20 X 40	-	-	8.5 X 29.5	-	-

¹ Minimum sling length when using standard eyes. ** See sliding choker hook capacities in Hardware section when using these hooks.

Note: Larger diameter slings available. Basket ratings are based on a minimum D/d of 25.

Length Tolerances (Single Part Wire Rope Slings): Standard length tolerance is plus or minus two rope diameters, **OR** plus or minus 0.5% of the sling length, whichever is greater.

*** WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

BRIDLE SLINGS

Features and Benefits

Maintains all the basic *Lift-All* wire rope sling features plus...

- Bridles provide better load control and balance.
- Independent wire rope core resists crushing.
- Alloy steel hardware assures long life.
- Reduces load damage by using fixed points on load.
- Thimble eyes protect wire rope from wear for increased life.
- Easier rigging provided when hooking into fixed lifting points.
- Bridle Wire Rope Slings are also available in *E-Z Flex™*. Contact *Lift-All* for capacities and ordering details.

Import hooks with latches are standard on import rope bridles. Domestic hooks with optional latches are standard on domestic rope bridles. Other fittings and latches are available upon request.

Bridle Slings (With Single Part Body)				2-Leg Bridle				3-Leg Bridle				4-Leg Bridle								
																Rope Dia. (in.)	Min. Sling Length	Eye Hook Cap. (tons)	Rated Capacity* (tons)	
			60°	45°	30°				60°	45°	30°				60°	45°	30°			
6X19 EIPS IWRC	1/4	1'-3"	1	1.1	0.91	0.65	1/2	1.7	1.4	0.97	1/2	2.2	1.8	1.3	1/2					
	5/16	1'-6"	1	1.7	1.4	1.0	1/2	2.6	2.1	1.5	1/2	3.5	2.8	2.0	3/4					
	3/8	1'-8"	1-1/2	2.5	2.0	1.4	1/2	3.7	3.0	2.2	3/4	5.0	4.1	2.9	3/4					
	7/16	1'-10"	2	3.4	2.7	1.9	3/4	5.0	4.1	2.9	3/4	6.7	5.5	3.9	1					
	1/2	2'-0"	3	4.4	3.6	2.5	3/4	6.6	5.4	3.8	1	8.8	7.1	5.1	1					
	9/16	2'-2"	4-1/2	5.5	4.5	3.2	3/4	8.3	6.8	4.8	1	11	9.0	6.4	1-1/4					
	5/8	2'-4"	4-1/2	6.8	5.5	3.9	1	10	8.3	5.9	1-1/4	14	11	7.8	1-1/2					
	3/4	2'-9"	7	9.7	7.9	5.6	1-1/4	15	12	8.4	1-1/2	19	16	11	1-3/4					
	7/8	3'-3"	11	13	11	7.6	1-1/4	20	16	11	1-1/2	26	21	15	2					
1	3'-6"	11	17	14	9.8	1-1/2	26	21	15	1-3/4	34	28	20	2-1/4						
1-1/8	4'-0"	15	21	17	12	1-1/2	31	26	18	1-3/4	42	34	24	2-3/4						
6X37 EIPS IWRC	1-1/4	4'-6"	15	26	21	15	1-3/4	38	31	22	2	51	42	30	2-3/4					
	1-3/8	5'-0"	22	31	25	18	1-3/4	46	38	27	2-1/4	-	-	-	-					
	1-1/2	5'-6"	22	37	30	21	2	55	45	32	2-1/4	-	-	-	-					
	1-3/4	6'-6"	30	49	40	28	2-1/4	-	-	-	-	-	-	-	-					
	2	8'-0"	37	63	52	37	2-3/4	-	-	-	-	-	-	-	-					

¹Minimum length based on thimble eye and eye.

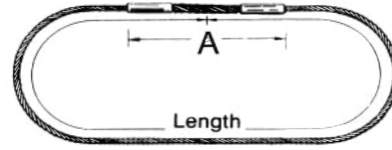
Length Tolerances (Single Part Wire Rope Slings): Standard length tolerance is plus or minus two rope diameters, **OR** plus or minus 0.5% of the sling length, whichever is greater. The legs of bridle slings, or matched slings are normally held to within one rope diameter.

*** WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

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ENDLESS WIRE ROPE SLINGS

Made from one 6X19 or 6X37 EIPS IWRC wire rope, mechanically joined with steel sleeves. *Lift-All* Endless Wire Rope Slings achieve higher capacities at a lower cost.



Order length by circumference

Features and Benefits

Maintains all the basic *Lift-All* wire rope sling features plus...

Promotes Safety

- Load stability and balance can be achieved by spreading sling legs in a basket or choker hitch.

Saves Money

- Wear points can be shifted to extend sling life.
- The most versatile style of sling - fewer slings to inventory.

Saves Time

- More flexible than eye slings of comparable strength.
- Ideal for turning loads.

Lift-All Endless Wire Rope Slings are also available in *E-Z Flex™*. Contact *Lift-All* for capacities and ordering details.

WARNING Do not lift with hook in splice area as sling damage may occur.

Endless – Mechanical Splice

Rope Dia. (in.)	Rated Capacity* (tons)			Min. Sling Length (ft.)	Splice Length A (in.)
	Vertical	Choker	Basket		
1/4	1.0	0.71	2.0	3	8
5/16	1.6	1.1	3.1	3	8
3/8	2.3	1.6	4.5	3	8
7/16	3.1	2.1	6.1	6	10
1/2	3.9	2.8	7.9	6	10
9/16	5.0	3.5	10	6	10
5/8	6.1	4.3	12	6	10
3/4	8.8	6.2	18	8	16
7/8	12	8.3	24	8	18
1	15	11	31	8	20

Three sleeves used on 3/4" diameter and larger. Vertical and basket ratings are based on a minimum D/d of 5.

HIDDEN TUCK HAND SPLICED SLINGS

Features and Benefits

Maintains all the basic *Lift-All* wire rope sling features plus...



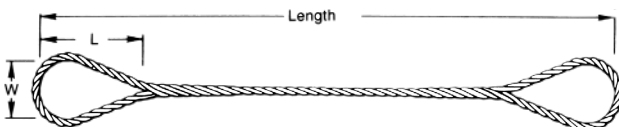
Promotes Safety

- Hidden tuck buries wire ends to avoid snags and injuries.

Saves Time

- No steel sleeves to catch under load.

Note: Contact Customer Service for pricing and availability.



Hidden Tuck Hand Spliced Slings

Rope Dia. (in.)	Rated Capacity* (tons)			Min. Sling Length	Eye Size W X L (in.)
	Vertical	Choker	Basket		
1/4	0.54	0.42	1.1	2'-0"	3 X 6
5/16	0.83	0.66	1.7	2'-3"	3 X 6
3/8	1.2	0.94	2.4	2'-6"	3 X 6
7/16	1.6	1.3	3.2	2'-9"	3.5 X 7
1/2	2.0	1.6	4.0	3'-0"	4 X 8
9/16	2.5	2.1	5.0	3'-6"	4.5 X 9
5/8	3.1	2.6	6.2	4'-0"	5 X 10
3/4	4.3	3.7	8.6	4'-6"	6 X 12
7/8	5.7	5.0	11	5'-6"	7 X 14
1	7.4	6.4	15	6'-0"	8 X 16

Basket ratings are based on a minimum D/d of 15.

WARNING Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

E-Z FLEX™ CABLE LAID SLINGS

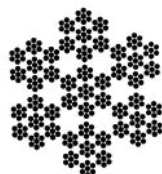
E-Z Flex slings are made from a machine laid rope that consists of seven individual, galvanized ropes.

Features and Benefits

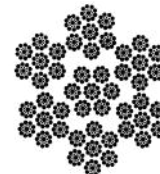
Maintains all the basic Lift-All wire rope sling features plus...

Saves Money

- Superior flexibility - resists damage from kinking.
- Galvanized coating for corrosion resistance and longer life.



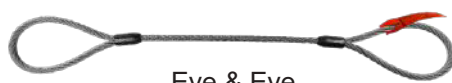
7X7X7



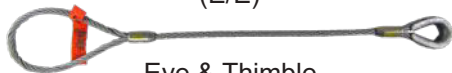
7X7X19



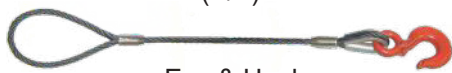
Standard Combinations



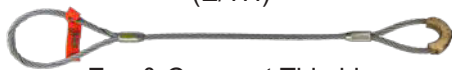
Eye & Eye
(E/E)



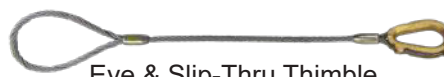
Eye & Thimble
(E/T)



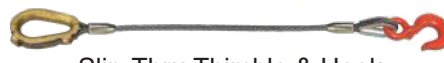
Eye & Hook
(E/TH)



Eye & Crescent Thimble
(E/CT)



Eye & Slip-Thru Thimble
(E/ST)



Slip-Thru Thimble & Hook
(ST/TH)



Slip-Thru Thimble & Slip-Thru Thimble
(ST/ST)



Thimble & Thimble
(T/T)

E-Z FLEX™ CABLE LAID SLINGS											
Rope Dia. (in.)	Rated Capacity* (tons)			**Min. Sling Length	Eye Size W X L (in.)	Thimbled Eye Size W X L (in.)	Eye Hook Cap. (tons)	Crescent Thimble Eye Size W X L (in.)	Slip Thru Thimble Eye Size W X L (in.)	Sliding Choker Hook (in.)	
	Vertical	Choker	Basket								
7X7X7	1/4	0.50	0.34	1.0	2 X 4	0.88 X 1.63	1	2 X 4	2.13 X 4.13	3/8	
	3/8	1.1	0.74	2.2	3 X 6	1.13 X 2.125	1.5	2 X 4	2.13 X 4.13	3/8	
	1/2	1.9	1.3	3.7	2'-6"	4 X 8	1.5 X 2.75	2	2.25 X 6	2.38 X 4.38	1/2
	5/8	2.8	1.9	5.5	3'-0"	5 X 10	1.75 X 3.25	3	2.75 X 7	3.38 X 6.63	5/8
61X7X7	3/4	4.1	2.8	8.1	3'-6"	6 X 12	2 X 3.75	4.5	3.25 X 8.5	3.38 X 6.63	3/4
	7/8	5.4	3.7	11	4'-0"	7 X 14	2.25 X 4.25	7	4.5 X 10	3.75 X 7.13	7/8
	1	6.9	4.7	14	4'-6"	8 X 16	2.5 X 4.5	7	4.5 X 11.5	3.75 X 7.13	1
	1-1/8	8.3	5.8	17	5'-0"	9 X 18	2.88 X 5.13	11	4.88 X 13	4.38 X 8.38	1-1/8
	1-1/4	9.9	7.0	20	5'-6"	10 X 20	3.5 X 6.5	11	5.5 X 14.5	4.38 X 8.38	1-1/4
	1-1/2	13	9.1	26	7'-0"	12 X 24	3.5 X 6.25	15	6 X 17.5	5 X 9.5	1-1/2

**Minimum sling length when using standard eyes.
Basket ratings are based on a minimum D/d of 10.

Other fittings are available upon request.

Hooks with latches are standard on import assemblies; optional on domestic.

WARNING Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

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MULTI-PART CABLED SLINGS

Features and Benefits

Maintains all the basic *Lift-All* wire rope sling features plus...



Saves Money

- Good abrasion resistance on 3-Part Cabled Sling increases useful life of sling.
- Resists damage from kinking.

Saves Time

- Flexible and easy to handle.
- Small sleeve over component rope won't get in the way.

3-Part Cabled

Constructed by hand cabling one rope to form a 3-part body with 2-part eyes.



3X7X19



3X6X19

3-Part Cabled									
Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity* (tons)			Min. Sling Length	Eye Size W X L (in.)			
		Vertical	Choker	Basket		Standard Eye	Crescent Thimble	Slip-Thru Thimble	
7X19 GAC	3/16	3/8	1.2	0.82	2.4	2'-0"	3 X 6	2 X 4	2.13 X 4.13
	1/4	1/2	1.9	1.3	3.9	2'-6"	4 X 8	2.25 X 4	2.38 X 4.38
	5/16	5/8	3.0	2.1	6.0	3'-0"	5 X 10	2.75 X 5	3.38 X 6.63
	3/8	3/4	4.3	2.9	8.6	3'-6"	6 X 12	3.25 X 6	3.38 X 6.63
6X19 EIPS IWRC	7/16	7/8	5.8	4.0	12	4'-0"	7 X 14	4.5 X 9	3.75 X 7.13
	1/2	1	7.6	5.2	15	4'-6"	8 X 16	4.5 X 9	3.75 X 7.13
	9/16	1-1/8	9.6	6.6	19	5'-0"	9 X 18	4.88 X 10	4.38 X 8.38
	5/8	1-1/4	12	8.0	23	5'-6"	10 X 20	5.5 X 11	4.38 X 8.38
	3/4	1-1/2	17	11	34	7'-0"	11 X 22	6 X 12	5 X 9.5

Basket ratings based on a minimum D/d of 10 (using sling body dia.). See first page of Wire Rope section.

7-Part Cabled

Constructed by hand cabling one rope to form a 7-part body with 4-part eyes.



7X7X19



7X6X19

7-Part Cabled									
Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity* (tons)			Min. Sling Length	Eye Size W X L (in.)			
		Vertical	Choker	Basket		Standard Eye	Crescent Thimble	Slip-Thru Thimble	
7X19 GAC	1/8	3/8	1.3	0.91	2.6	2'-0"	3 X 6	2 X 4	2.13 X 4.13
	3/16	9/16	2.8	1.9	5.6	2'-6"	4 X 8	2.25 X 6	2.38 X 4.38
	1/4	3/4	4.7	3.2	9.3	3'-0"	5 X 10	2.75 X 7	3.38 X 6.63
	5/16	15/16	6.5	4.5	13	3'-6"	6 X 12	3.25 X 8.50	3.75 X 7.13
	3/8	1-1/8	9.6	6.6	19	4'-0"	7.5 X 15	4.50 X 10	3.75 X 7.13
6X19	7/16	1-5/16	14	9.3	27	4'-6"	9 X 18	4.88 X 13	4.38 X 8.38
	1/2	1-1/2	18	12	35	5'-0"	10 X 20	5.50 X 14.50	4.38 X 8.38

Basket ratings based on a minimum D/d of 10 (using sling body dia.). See first page of Wire Rope section.

* **WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

MULTI-PART BRAIDED SLINGS

Features and Benefits

Maintains all the basic *Lift-All* wire rope sling features plus...



Promotes Safety

- Wide bearing surface provides better load control and balance.
- Resists rotation, improving load control.

Saves Money

- 8-Part Round Braid is the most kink-resistant wire rope sling available.
- Reduces load damage.

Saves Time

- Flexible - easy to rig.

6-Part Flat Braid

Constructed by braiding one rope to form a 6-part flat body with web seized eyes.



6X7X19



6X6X19

6-Part Flat Braid										
Component Rope Dia. (in.)	Sling Body Width (in.)	Sling Body Thck. (in.)	Rated Capacity* (tons)			Min. Sling Length	Eye Size W X L (in.)			
			Vertical	Choker	Basket		Standard Eye	Crescent Thimble	Slip-Thru Thimble	
7X19 GAC	1/8	9/16	3/8	0.84	0.74	1.7	2'-0"	3 X 6	2 X 4	2.13 X 4.13
	3/16	13/16	1/2	1.8	1.5	3.5	3'-0"	4 X 8	2.25 X 7.0	2.38 X 4.38
	1/4	1-1/8	11/16	2.9	2.6	5.9	3'-6"	5 X 10	3.25 X 8.5	3.38 X 6.63
	5/16	1-3/8	7/8	4.1	3.6	8.2	4'-6"	6 X 12	4.5 X 11.5	3.38 X 6.63
	3/8	1-11/16	1	6.0	5.3	12	5'-0"	7 X 14	4.88 X 13	3.75 X 7.13
6X19 EIPS IWRC	7/16	2	1-3/16	8.6	7.5	17	6'-0"	8 X 16	6.0 X 16	3.75 X 7.13
	1/2	2-1/4	1-5/16	11	9.8	22	6'-6"	9 X 18	6.0 X 17.5	4.38 X 8.38
	9/16	2-1/2	1-1/2	14	12	28	7'-0"	10 X 20	7.0 X 20	4.38 X 8.38
	5/8	2-13/16	1-11/16	17	15	35	8'-0"	11 X 22	7.0 X 23.5	5.0 X 9.50
	3/4	3-3/8	2	25	22	49	9'-0"	12 X 24	8.5 X 26	6.75 X 11.75

Basket ratings based on a minimum D/d of 10 (using sling body dia.). See first page of Wire Rope section.

8-Part Round Braid

Constructed by braiding one rope to form an 8-part round body with 4-part web seized eyes.



8X7X19

8X6X19

8-Part Round Braid										
Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity* (tons)			Min. Sling Length	Eye Size W X L (in.)				
		Vertical	Choker	Basket		Standard Eye	Crescent Thimble	Slip-Thru Thimble		
7X19 GAC	1/8	9/16	1.1	1.0	2.2	2'-0"	3 X 6	2 X 4	2.13 X 4.13	
	3/16	13/16	2.4	2.1	4.7	3'-0"	4 X 8	2.25 X 6	2.38 X 4.38	
	1/4	1-1/8	3.9	3.4	7.8	3'-6"	5 X 10	3.25 X 8	3.38 X 6.63	
	5/16	1-3/8	5.5	4.8	11	4'-6"	6 X 12	4.50 X 10	3.75 X 7.13	
	3/8	1-1/16	8.1	7.1	16	5'-0"	7 X 14	4.63 X 12	3.75 X 7.13	
6X37 EIPS IWRC	7/16*	2	11	10	23	6'-0"	8 X 16	5.50 X 14	4.38 X 8.38	
	1/2	2-1/4	15	13	30	6'-6"	9 X 18	6.0 X 16	5.00 X 9.50	
	9/16	2-1/2	19	16	38	7'-0"	10 X 20	6.50 X 18	5.00 X 9.50	
	5/8	2-13/16	23	20	46	8'-0"	11 X 22	7.0 X 20	6.75 X 11.75	
	3/4	3-3/8	33	29	66	9'-0"	12 X 24	8.0 X 24	8.00 X 14.50	

* 6X19 construction

Basket ratings based on a minimum D/d of 10 (using sling body dia.). See first page of Wire Rope section.

WARNING Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

General Information
Web Slings
Round Slings
Sling Protection
Wire Rope
Chain Slings
Rigging Hardware
Mesh Slings
Cargo Control
Lift-All Hoists
Hoist Rings
Plate Clamps
Lifting Devices

General Information
Web Slings
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Plate Clamps
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BLACK WIRE ROPE SLINGS

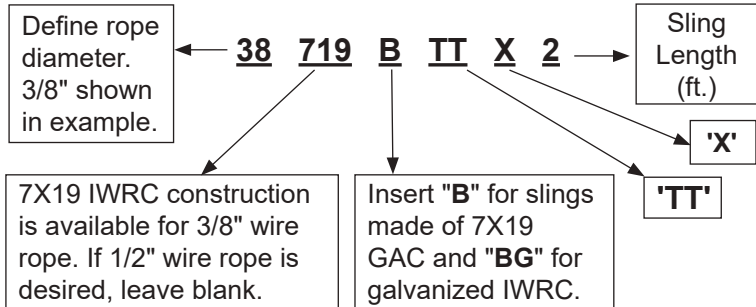
An ideal solution for the entertainment industry.



Features and Benefits

- Standard sling length available from 18" to 50'.
- Designed for entertainment stage rigging.
- Heat resistant for your most demanding suspension applications.
- Black color conceals sling in the ceiling better than silver wire rope.
- A grey capacity tag with black lettering aids in the camouflage of the sling.
- Heavy duty thimble / thimble configuration protects rope eyes from wear for increased life.
- Available in 3/8" 7X19 black import GAC and 1/2" 6X19 black import galvanized IWRC.

HOW TO ORDER



Wire Dia. (in.)	Rated Capacity* (lbs.)		
	Vertical	Basket @ 90°	
7X19 GAC	3/8	2,600	5,200
6X19 IWRC	1/2	5,000	10,200

* **WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to the Effect of Angle chart in the General Information section of this catalog.

HOIST LINES AND STEEL BUTTONS

Hoist Line Cables

Lift-All hoist lines are made using 6X19 IWRC wire core rope for better resistance to abrasion and crushing. Available with carbon hooks for large throat openings or alloy hooks for longer life.

Features and Benefits

Promotes Safety

- Flemish Eye splice for high strength efficiency.
- Meets OSHA 1910.184 and ASME B30.9.

Saves Money

- Heavy-duty thimble in eye extends useful life.
- Economical custom assemblies.

Saves Time

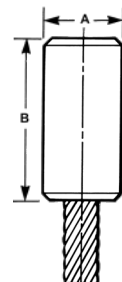
- No assembly time - ready to install.
- Running lengths of cable with thimble eye ends available.
- Stainless steel latch keeps hook in proper place.



6X19 Class - Bright (Uncoated)	
Rope Dia. (in.)	Break Strength IWRC
3/8	14,000 lbs.
7/16	19,000 lbs.
1/2	25,000 lbs.
9/16	32,000 lbs.
5/8	39,000 lbs.

Swaged Steel Buttons

Swaged steel buttons are designed for use as end stops on drum winding equipment such as hoists and winches.

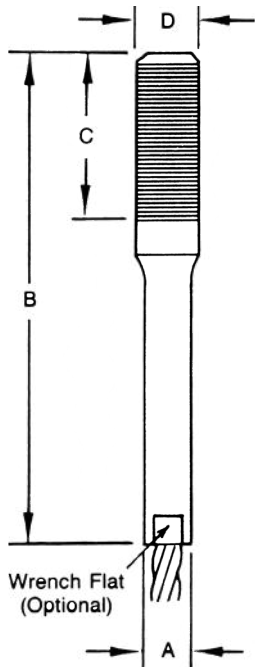


Non-standard buttons are available.

After Swage Dimensions		
Rope Dia. (in.)	A (approx.)	B (approx.)
1/4	0.63	1.13
5/16	0.75	1.50
3/8	0.88	1.75
7/16	1.00	2.00
1/2	1.13	2.38
9/16	1.25	2.63
5/8	1.38	2.88
3/4	1.50	3.50
7/8	1.75	4.13
1	2.00	4.75
1-1/8	2.25	5.25
1-1/4	2.50	5.88
1-3/8	2.75	6.50
1-1/2	3.00	7.13

SWAGED THREADED STUDS

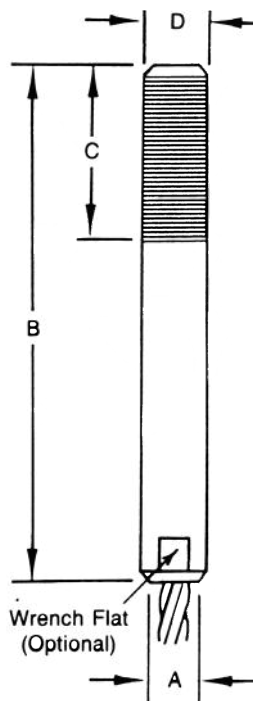
- Choice of studs made of specially selected carbon steel or stainless steel.
- Custom OEM engineering available.



Straight Threaded Studs								
Part Number	Rope Dia. (in.)	Nominal Breaking Strength* (tons)	Dimensions (in.)				UNC** Thread	UNF Thread
			After Swage A	Approx. B	C	D		
STS-8	1/4	3.4	0.44	4.06	1.50	0.50	13	20
STS-10	5/16	5.3	0.56	5.25	1.88	0.63	11	18
STS-12	3/8	7.6	0.63	6.25	2.25	0.75	10	16
STS-14	7/16	10.2	0.75	7.31	2.63	0.88	9	14
STS-16	1/2	13.3	0.88	8.25	3.00	1.00	8	14
STS-18	9/16	16.8	1.00	9.25	3.38	1.13	7	12
STS-20	5/8	20.6	1.13	10.13	3.75	1.25	7	12
STS-24	3/4	29.4	1.25	12.81	4.50	1.50	6	12
STS-28	7/8	39.5	1.50	14.56	5.25	1.75	5	12
STS-32	1	51.7	1.75	16.25	6.00	2.00	4.5	12
STS-36	1-1/8	65.0	2.00	18.25	6.75	2.25	4.5	12
STS-40	1-1/4	79.9	2.25	20.25	7.50	2.50	4	12

* Nominal breaking strength based on 6X19 or 6X37 IWRC EIPS wire rope, with assembly used as a straight tension member.

** N.C. - Coarse threads are standard.



Turned Threaded Studs								
Part Number	Rope Dia. (in.)	Nominal Breaking Strength* (tons)	Dimensions (in.)				UNC** Thread	UNF Thread
			After Swage A	Approx. B	C	D		
TTS-10	5/16	5.3	0.63	5.72	1.75	0.63	11	18
TTS-12	3/8	7.6	0.75	6.75	2.00	0.75	10	16
TTS-14	7/16	10.2	0.88	7.66	2.25	0.88	9	14
TTS-16	1/2	13.3	1.00	8.56	2.50	1.00	8	14
TTS-18	9/16	16.8	1.13	9.63	2.75	1.13	7	12
TTS-20	5/8	20.6	1.25	10.66	3.13	1.25	7	12
TTS-24	3/4	29.4	1.50	12.69	3.75	1.50	6	12
TTS-28	7/8	39.5	1.75	14.63	4.38	1.75	5	12
TTS-32	1	51.7	2.00	16.66	5.00	2.00	4.5	12
TTS-36	1-1/8	65.0	2.25	18.63	5.63	2.25	4.5	12
TTS-40	1-1/4	79.9	2.50	20.66	6.25	2.50	4	12
TTS-44	1-3/8	96.0	2.75	22.53	6.88	2.75	4	12
TTS-48	1-1/2	114	3.00	24.50	7.50	3.00	4	12

* Nominal breaking strength based on 6X19 or 6X37 IWRC EIPS wire rope, with assembly used as a straight tension member.

** N.C. - Coarse threads are standard.

General Information

Web Slings

Round Slings

Slings Protection

Wire Rope

Chain Slings

Rigging Hardware

Mesh Slings

Cargo Control

Lift-All Hoists

Hoist Rings

Plate Clamps

Lifting Devices

SWAGED SOCKET ASSEMBLIES


Features and Benefits

Promotes Safety

- Achieves 100% of nominal rope breaking strength. When any wire rope assembly is being used as a sling, it shall then contain "sling" in the product description. This designation becomes additionally important whenever it contains swaged end hardware as it must then be 100% proof tested. In accordance with ASME B30.9, sling assemblies must also be tagged with necessary ID information.

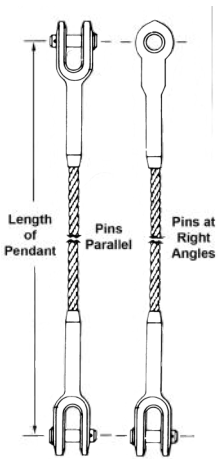
Saves Money

- Custom engineered assemblies are available for specific rigging needs.

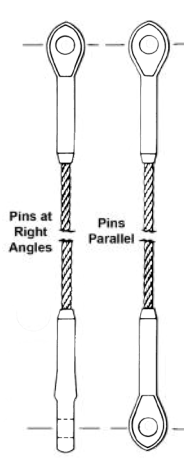
 Rope Dia. (in.)	Min. Pendant Length	Vertical Capacity* (tons)
1/4	11"	0.68
5/16	1'-3"	1.1
3/8	1'-3"	1.5
7/16	1'-8"	2.0
1/2	1'-8"	2.7
9/16	2'-0"	3.4
5/8	2'-0"	4.1
3/4	2'-5"	5.9
7/8	2'-10"	8.0
1	3'-2"	10
1-1/8	3'-7"	13
1-1/4	4'-0"	16

* Values given apply to 6X19 or 6X37 IWRC EIPS rope when pendants are used for slings. If used as boom suspension system or other applications. Contact *Lift-All* for ratings.

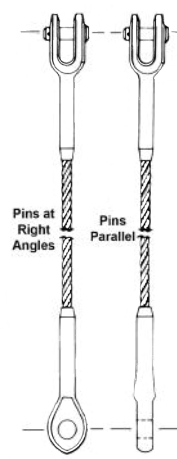
Open Swaged Sockets




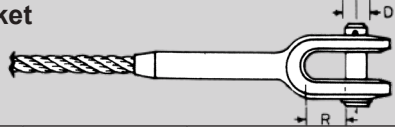

Closed Swaged Sockets



Open & Closed Swaged Sockets

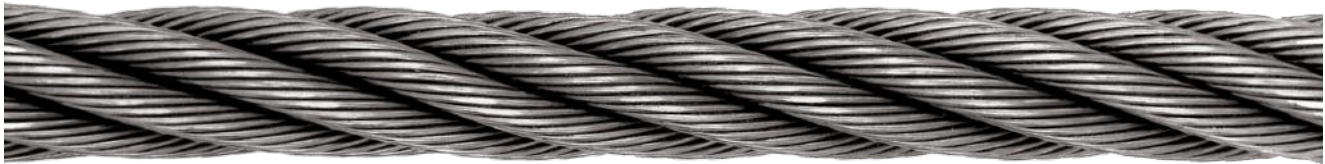


Swage Socket Dimensions – Forged Steel

 Rope Dia. (in.)	Open Socket 				Closed Socket 		
	R (in.)	O (in.)	D (in.)	Weight (lbs.)	W (in.)	K (in.)	Weight (lbs.)
1/4	1.16	0.69	0.69	0.52	0.75	0.50	0.38
5/16	1.34	0.82	0.82	1.12	0.88	0.69	0.77
3/8	1.34	0.82	0.82	1.25	0.88	0.69	0.72
7/16	1.50	1.00	1.00	2.08	1.06	0.88	1.42
1/2	1.50	1.00	1.00	2.08	1.06	0.88	1.35
9/16	1.63	1.25	1.19	4.48	1.25	1.13	2.92
5/8	1.63	1.25	1.19	4.75	1.25	1.13	2.85
3/4	2.00	1.50	1.38	7.97	1.44	1.31	4.90
7/8	2.38	1.75	1.63	11.30	1.69	1.50	6.63
1	2.75	2.00	2.00	17.80	2.06	1.75	10.30
1-1/8	3.13	2.25	2.25	27.50	2.31	2.00	14.50
1-1/4	3.50	2.50	2.50	35.75	2.56	2.25	20.75

WIRE ROPE

6X19 and 6X37 Class Wire Rope



These high quality wire ropes are available in cut lengths or by the reels.

Wire Core	
Extra Improved Plow Steel (EIPS) Higher Capacities	
6X19 Class	6X19
Six strand ropes having 9 to 26 wires per strand have better abrasion resistance.	
6X37 Class	6X37
Six strand ropes having 27 to 49 wires per strand are more flexible.	

Rotation Resistant Wire Rope			
19X7	Rope Dia. (in.)	Approx. Weight per Foot (lbs.)	Nominal Breaking Strength (tons)
	3/8	0.25	6.15
	7/16	0.35	8.33
	1/2	0.45	10.8
	9/16	0.58	13.6
	5/8	0.71	16.8
	3/4	1.02	24.0
	7/8	1.39	32.5
	1	1.82	42.2
	1-1/8	2.30	53.1

Rope Dia. (in.)	Approx. Weight per Foot (lbs.)	Nominal Breaking Strength (tons)
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.2
1/2	0.46	13.3
9/16	0.59	16.8
5/8	0.72	20.6
3/4	1.04	29.4
7/8	1.42	39.8
1	1.85	51.7
1-1/8	2.34	65.0
1-1/4	2.89	79.9
1-3/8	3.50	96.0
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.50	174
2	7.39	198

The nominal breaking strength of wire rope should be considered the straight line pull, which will ACTUALLY BREAK a new, UNUSED, rope (with both rope ends fixed to prevent rotation). The nominal breaking strength of the rope should NEVER BE USED AS ITS WORKING LOAD.

To determine the working load of a wire rope, the MINIMUM or NOMINAL breaking strength MUST BE REDUCED by a DESIGN FACTOR. The design factor will vary depending upon the type of machine and installation, and the work permitted. YOU must determine the applicable design factor for your use.

For example, a design factor of "5" means the minimum or nominal breaking strength of the wire rope must be DIVIDED BY FIVE to determine the maximum load that can be applied to the rope system.

Design factors have been established by OSHA, by ANSI, by ASME, and similar government and industrial organizations.

No wire rope should ever be installed or used without full knowledge and consideration of the design factor for the application.

The above is based on the "Wire Rope Safety Bulletin" published by the "WIRE ROPE TECHNICAL BOARD."

Note: Specialty ropes are available upon request.

CABLE & COMPONENTS

General Information

Web Slings

Round Slings

Sling Protection

Wire Rope

Chain Slings

Rigging Hardware

Mesh Slings

Cargo Control

Lift-All Hoists

Hoist Rings

Plate Clamps

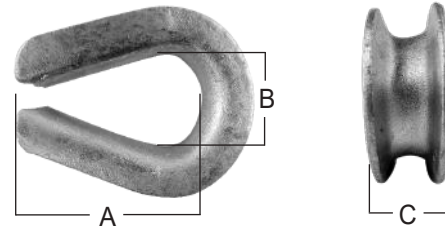
Lifting Devices

Galvanized & Stainless Steel Aircraft Cable

	Cable Dia. (in.)	Wgt. per Reel (lbs.)	Standard Length (ft./Reel)	Nominal Break Strength (lbs.)	
				Galvanized Cable (GAC)	Stainless Steel Cable (SSAC) Type 304
	1/16	5	500	480	430
	3/32	9	500	920	820
	1/8	15	500	1,700	1,500
	5/32	16	250	2,600	-
	3/16	26	250	3,700	-
	1/4	28	250	6,100	-
	3/32	9	500	1,000	920
	1/8	15	500	2,000	1,760
	5/32	12	250	2,800	2,400
	3/16	17	250	4,200	3,700
	1/4	25	250	7,000	6,400
	5/16	38	200	9,800	9,000
	3/8	52	200	14,400	12,000



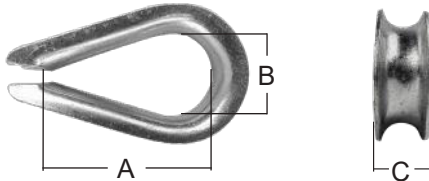
Heavy Duty Thimbles



Galvanized Cable Coated with Clear Vinyl (VGAC)

Cable Construction	Cable Dia. (in.)	Coated to (in.)	Wgt. per Reel (lbs.)	Standard Length (ft./Reel)	Nominal Break Strength (lbs.)
7X7	1/16	3/32	7	500	480
	3/32	3/16	7	250	920
	1/8	3/16	10	250	1,700
7X19	1/8	3/16	10	250	2,000
	3/16	1/4	19	200	4,200
	1/4	5/16	28	200	7,000

Standard Thimbles



Rope Dia. (in.)	Dimensions (in.)			Quantity Per Bag	Weight Per Bag (lbs.)
	A	B	C		
1/8	1.31	0.69	0.25	100	4
3/16	1.31	0.69	0.31	100	4
1/4	1.31	0.69	0.38	100	4
5/16	1.50	0.82	0.44	80	3
3/8	1.63	0.94	0.50	80	4

Rope Dia. (in.)	Dimensions (in.)			Weight Each (lbs.)
	A	B	C	
1/4	1.63	0.88	0.44	0.08
5/16	1.88	1.06	0.53	0.14
3/8	2.13	1.13	0.66	0.22
7/16	2.32	1.25	0.75	0.36
1/2	2.75	1.50	0.94	0.51
9/16	2.75	1.50	1.00	0.35
5/8	3.25	1.75	1.03	0.75
3/4	3.75	2.00	1.25	1.47
7/8	4.25	2.25	1.44	1.85
1	4.50	2.50	1.69	3.00
1-1/8	5.13	2.88	1.81	4.00
1-1/4	6.50	3.50	2.19	8.17
1-3/8 & 1-1/2	6.25	3.50	2.56	11.75
1-5/8	8.00	4.00	2.72	17.00
1-3/4	9.00	4.50	2.84	17.75
1-7/8 & 2	12.0	6.00	3.09	25.00
2-1/4	14.0	7.00	3.63	39.50

CABLE & COMPONENTS

Wire Rope Clips

The following instructions, supplied by the Wire Rope Technical Board, will result in an approximate 80% efficiency rating when the clips are applied, as instructed, on GAC, Stainless Steel Aircraft Cable (SSAC), Regular Right Lay (RRL) or Regular Left Lay (RLL); 6X19 class or 6X37 class; fiber core or IWRC non-Seale type construction wire rope. If applying to vinyl-coated ropes, strip the vinyl from the connection area first.

How to Apply Clips

1. Turn back the specified amount of rope from the thimble. Apply the first clip, fastening it one clip width from the dead-end of the wire rope (U-bolt over dead-end; live end rests in clip saddle). Tighten nuts evenly to recommended torque.
2. Apply the next clip as close to the loop as possible. Turn nuts firmly but do not tighten.
3. If required, place additional clips equally between the first two. Tighten nuts; take up rope slack; tighten all nuts evenly on all clips to recommended torque.
4. **NOTICE!** Apply the initial load and re-tighten nuts to the recommended torque. Wire rope will stretch, and diameter is reduced when a load is applied. Inspect periodically and re-tighten to recommended torque.



Right Way: For Maximum Rope Strength



Wrong Way: Clips Staggered



Wrong Way: Clips Reversed

Drop Forged Wire Rope Clips



Rope Dia. (in.)	Min. Number of Clips	Rope Turn-back (in.)	Torque (ft.-lbs.)	Weight Each (lbs.)
1/8	2	3.25	4.5	0.06
3/16	2	3.75	7.5	0.10
1/4	2	4.75	15	0.18
5/16	2	5.25	30	0.30
3/8	2	6.50	45	0.47
7/16	2	7.00	65	0.76
1/2	3	11.5	65	0.80
9/16	3	12.0	95	1.04
5/8	3	12.0	95	1.06
3/4	4	18.0	130	1.50
7/8	4	19.0	225	2.12
1	5	26.0	225	2.50
1-1/8	6	34.0	225	2.80
1-1/4	7	44.0	360	4.15
1-3/8	7	44.0	360	4.60
1-1/2	8	54.0	360	5.30

*** WARNING**

Failure to make a termination in accordance with aforementioned instructions, or failure to periodically check and re-tighten to the recommended torque, may result in death or serious injury.

Malleable Wire Rope Clips*



Rope Dia. (in.)	Min. Number of Clips	Rope Turn-back (in.)	Torque (ft.-lbs.)	Quantity Per Bag	Weight Per Bag (lbs.)
1/8	3	5	3	200	10
3/16	3	6	5	150	12
1/4	3	7	15	100	12
5/16	3	8	15	100	15
3/8	3	10	30	50	11

* Malleable clips are not to be used for overhead lifting. Use in light-duty, non-critical applications only.

- General Information
- Web Slings
- Round Slings
- Slings Protection
- Wire Rope
- Chain Slings
- Rigging Hardware
- Mesh Slings
- Cargo Control
- Lift-All Hoists
- Hoist Rings
- Plate Clamps
- Lifting Devices

INSPECTION CRITERIA FOR WIRE ROPE SLINGS

Remove slings from service when:

- Capacity information is missing or illegible.
- End attachments (including hooks) are cracked, deformed, or obviously worn.

CAUTION

Do not inspect a sling by passing bare hands over the wire rope.

- Wear on any area of the hook exceeding 10% (or as recommended by the manufacturer)
- Hooks showing any bend or twist from the plane of the unbent hook.

OSHA 1910.184 requires wire rope slings to have "permanently affixed and legible identification markings."

Broken Wires

WHAT TO LOOK FOR

The individual wires that make up the strands in a wire rope can break for various reasons including fatigue and overload. Wire rope slings must be taken out of service when you find 10 or more broken wires in one rope lay, or 5 or more broken wires in one strand of one rope lay.



TO PREVENT

Avoid pulling rope across edges or protrusions.

Wear

WHAT TO LOOK FOR

Flat areas on the individual wires. When wires have lost one third or more of their original diameter, the sling must be taken out of service.



TO PREVENT

Do not drag the sling on the ground or drag loads over slings. Protect high wear areas with sling protection.

SUGGESTED LIFT-ALL PRODUCT: Wear Pad
See the Sling Protection section in this catalog for more sling protection options.

Wire Rope

Corrosion / Heat Damage

WHAT TO LOOK FOR

Absence of lubrication and discoloration of rope.



TO PREVENT

Hang slings for storage away from moisture. Do not use wire core slings above 400°F or fiber core slings above 180°F.

Kinking / Birdcaging

WHAT TO LOOK FOR

Bent strands of wire or strands standing out from their regular position in the body of the sling.



TO PREVENT

Protect rope from sharp edges of the load. Do not shock load slings.

Crushing

WHAT TO LOOK FOR

A section of rope that is flattened, where the cross section is no longer round.

TO PREVENT

Never allow loads to be set on top of slings.



Scan and learn more about wire rope sling inspection criteria.