

Wire Rope & Slings

WIRE ROPE AND SLING BASICS

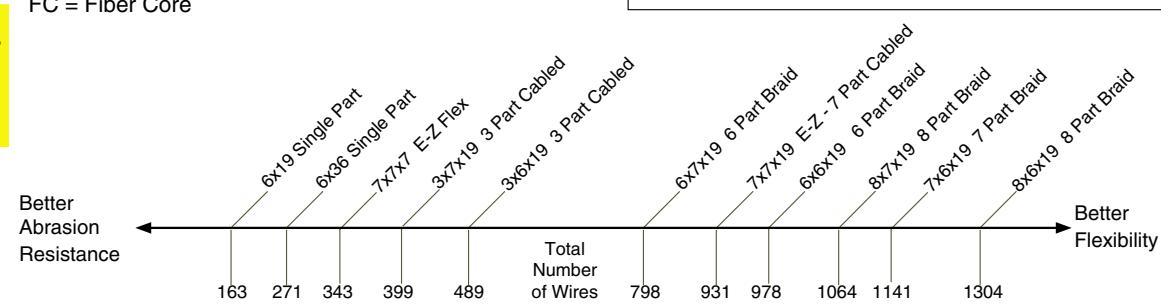
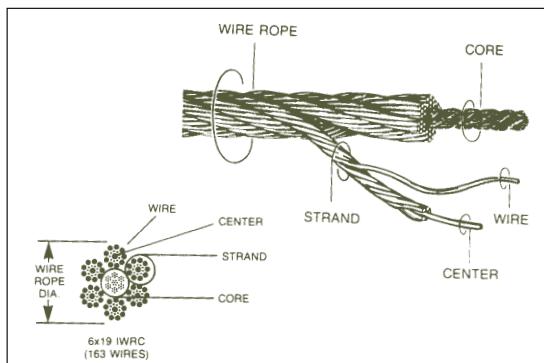
Two major and opposing characteristics of wire rope slings are flexibility and resistance to abrasion. To a great extent, these traits are a direct function of the number of wires. Fewer wires means larger diameter wires, better abrasion resistance, and reduced flexibility. More wires result in decreased wire diameter, reduced abrasion resistance, increased flexibility and kink resistance.

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

EIP = Extra Improved Plow (Steel)

FC = Fiber Core

Wire Rope Construction



WIRE ROPE SLINGS

Features, Advantages and Benefits

Promotes Safety

- *Tuff-Tag* for capacity and serial numbered identification for traceability.

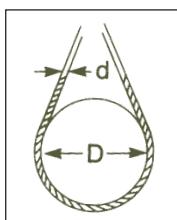
Saves Money

- Least expensive, per capacity, of all steel slings.
- Use of EIP, IWRC rope gives 15% greater capacity than IP, IWRC ropes.

Saves Time

- Countless combinations of sling terminations - hooks, chokers and thimbles are available to fit specific lift requirements.

D/d - Basket Hitch Effect



⚠ WARNING

Read Definition on page 3

Tests have shown that whenever 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.

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Environmental Considerations

- Wire core wire rope (IWRC) must not be used at temperatures above 400°F.
- Fiber core wire rope (FC) must not be used at temperatures above 180°F.
- Fiber core ropes should not be subjected to degreas-ing solvents.

Inspection Criteria for Wire Rope Slings

Remove slings from service when:

- End attachments, including hooks, are cracked, deformed or obviously worn;
- Hook throat opening is increased more than 15%;
- Hook is twisted out of plane by more than 10%.

⚠ CAUTION

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

INSPECTION CRITERIA FOR WIRE ROPE SLINGS (Cont'd)

All slings should be inspected for damage prior to each use to assure that their strength has not been compromised. The following photos illustrate some of the common damage that occurs to indicate that the sling must be taken out of service.

THE DAMAGE: 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.



Wire Rope



THE DAMAGE: 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 sling on the ground and do not drag loads over slings. Pad high wear areas.

THE DAMAGE: 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.



THE DAMAGE: Kinking, Bird Caging

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 load by pads or other means. Do not shock load slings.

THE DAMAGE: Crushing

WHAT TO LOOK FOR: A section of rope that is flattened, where the cross section is no longer round.

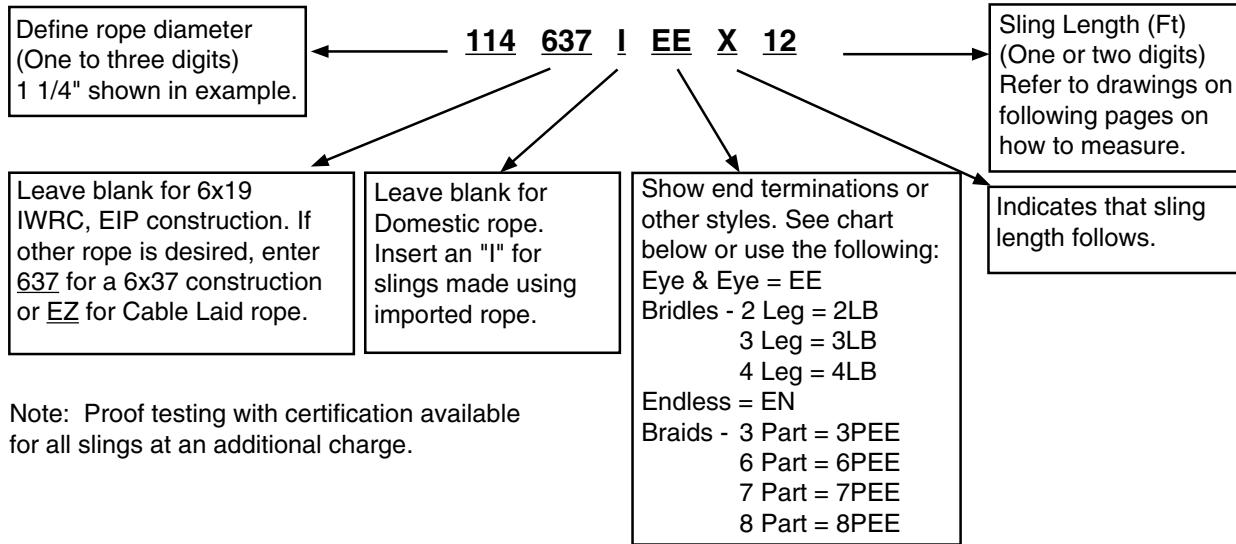
TO PREVENT: Never allow loads to be set on top of slings.



HOW TO ORDER WIRE ROPE SLINGS

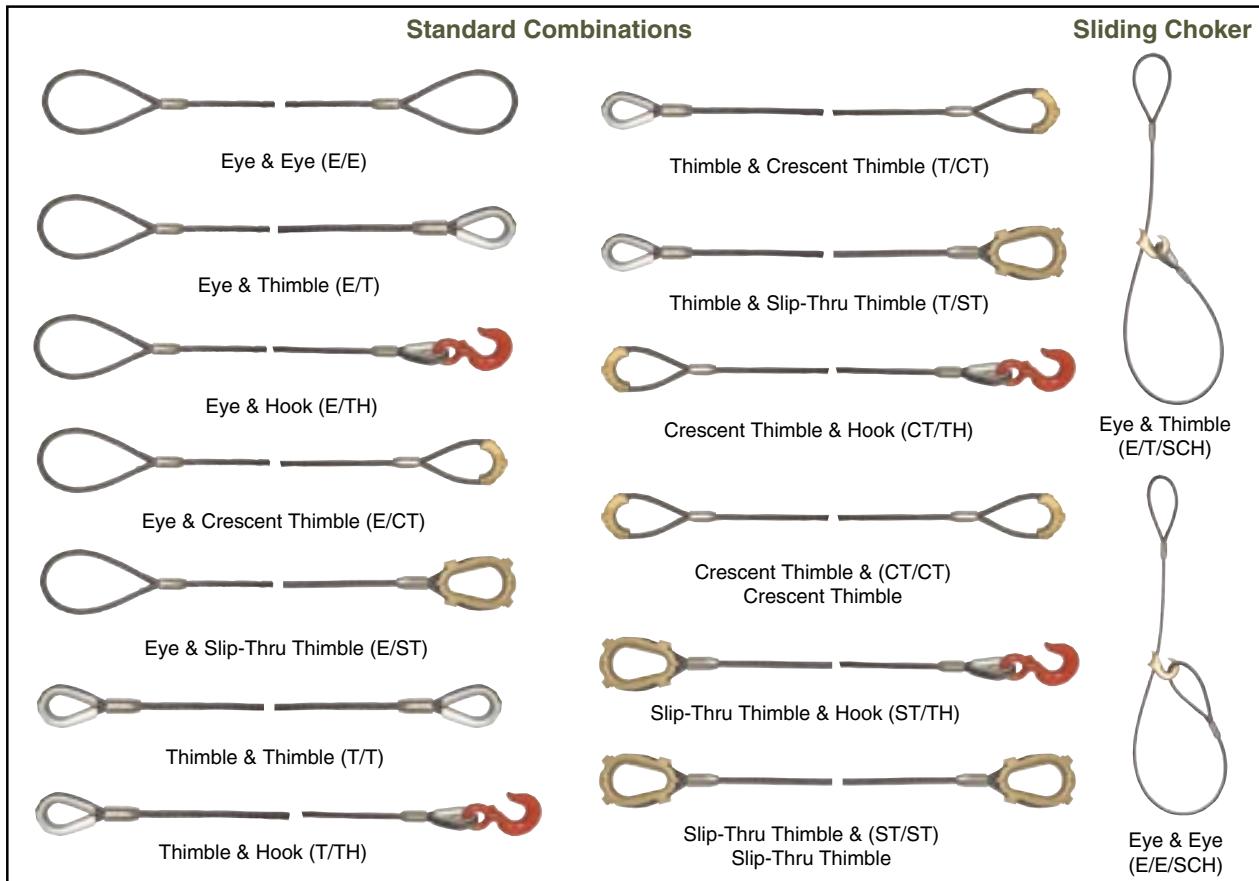
Prior to sling selection and use, review and understand the "Help" section pages 3 through 12.

We have developed the following wire rope sling code system to help you in ordering these products.



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

Wire Rope



Tolerances and Minimum Lengths

Refer to tables for tolerances and minimum lengths.

Wire Rope Class

Standard rope classes are shown for each type and size of sling in the charts.

Specific rope constructions are available upon request.

Wire Rope & Slings



PERMALOC WIRE ROPE SLINGS

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

Features, Advantages and Benefits

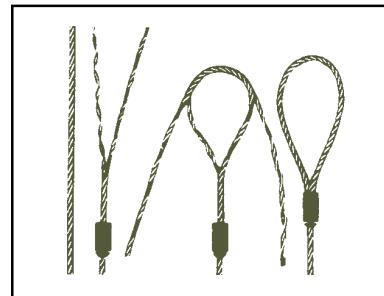
Maintains all the basic Lift-All wire rope sling features plus ...

Promotes Safety

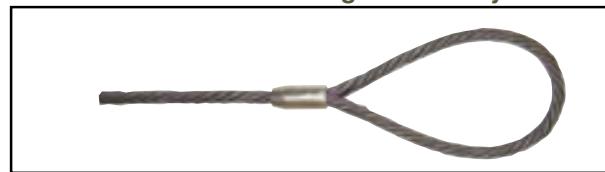
- Reserve strength - integrity of eyes not solely dependent upon steel sleeves
- IWRC resists crushing better than FC ropes

Saves Money

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



Permaloc With Single Part Body



Wire Rope

Mechanically swaged, flemish eye splice wire rope slings

IWRC (Independent Wire Rope Core) Fiber core available at reduced capacities

Wire Rope Class	Rope Dia. (in.)	EIP, IWRC			² Min. Sling Length	Standard Eye Size (in.) W x L	Thimbled Eye Size (in.) W x L	Eye Hook Cap. (tons)	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L	Sliding Choker Hook (in.)							
		1 Rated Capacity (tons)*																
		Vertical	Choker	V. Basket														
6 x 19 EIP, IWRC	1/4	.65	.48	1.3	1' 6"	2 x 4	7/8 x 1 5/8	1	2 x 4	2 1/8 x 4 1/8	3/8							
	5/16	1.0	.74	2.0	1' 9"	2 1/2 x 5	1 1/16 x 1 7/8	1	2 x 4	2 1/2 x 4 1/8	3/8							
	3/8	1.4	1.1	2.9	2' 0"	3 x 6	1 1/8 x 2 1/8	1 1/2	2 x 4	2 1/2 x 4 1/8	3/8							
	7/16	1.9	1.4	3.9	2' 3"	3 1/2 x 7	1 1/4 x 2 1/4	2	2 x 5	2 3/8 x 4 3/8	1/2							
	1/2	2.5	1.9	5.1	2' 6"	4 x 8	1 1/2 x 2 3/4	3	2 1/4 x 6	2 3/8 x 4 3/8	1/2 **							
	9/16	3.2	2.4	6.4	2' 9"	4 1/2 x 9	1 1/2 x 2 3/4	4 1/2	2 1/4 x 7	2 3/8 x 4 3/8	5/8							
	5/8	3.9	2.9	7.8	3' 0"	5 x 10	1 3/4 x 3 1/4	4 1/2	2 3/4 x 7	3 3/8 x 6 5/8	5/8 **							
	3/4	5.6	4.1	11	3' 6"	6 x 12	2 x 3 3/4	7	3 1/4 x 8 1/2	3 3/8 x 6 5/8	3/4 **							
	7/8	7.6	5.6	15	4' 0"	7 x 14	2 1/4 x 4 1/4	11	4 1/2 x 10	3 3/4 x 7 1/8	7/8							
	1	9.8	7.2	20	4' 6"	8 x 16	2 1/2 x 4 1/2	11	4 1/2 x 11 1/2	3 3/4 x 7 1/8	1							
6 x 37 EIP, IWRC	1 1/8	12	9.1	24	5' 0"	9 x 18	2 7/8 x 5 1/8	15	4 7/8 x 13	4 3/8 x 8 3/8	1 1/8							
	1 1/4	15	11	30	5' 6"	10 x 20	3 1/2 x 6 1/2	15	5 1/2 x 14 1/2	4 3/8 x 8 3/8	1 1/4							
	1 3/8	18	13	36	6' 0"	11 x 22	3 1/2 x 6 1/4	22	6 x 16	5 x 9 1/2	1 3/8							
	1 1/2	21	16	42	7' 0"	12 x 24	3 1/2 x 6 1/4	22	6 x 17 1/2	5 x 9 1/2	1 1/2 **							
	1 3/4	28	21	57	8' 0"	14 x 28	4 1/2 x 9	30	7 x 20	6 3/4 x 11 3/4	-							
	2	37	28	73	9' 0"	16 x 32	6 x 12	37	7 x 23 1/2	8 x 14 1/2	-							
	2 1/4	44	35	89	10' 0"	18 x 36	7 x 14	45	8 1/2 x 26	8 x 15 1/2	-							
	2 1/2	54	42	109	11' 0"	20 x 40	-	-	8 1/2 x 29 1/2	-	-							

Note: Larger diameter slings available. Basket ratings are based on a minimum D/d of 25. See page 60.

- 1 Ton = 2,000 lbs.
- Minimum sling length when using standard eyes.

Note: **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.

** See page 77 for reduced choker capacity when using these hook sizes.

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 Effect of Angle chart page 10.

PERMALOC BRIDLE SLINGS

Features, Advantages and Benefits

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

Promotes Safety

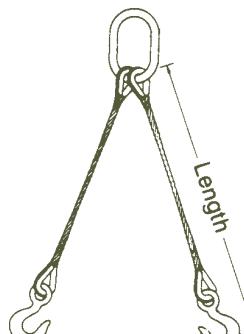
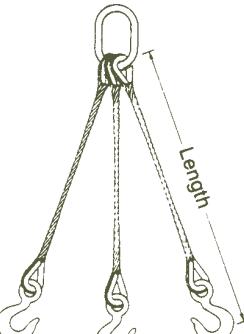
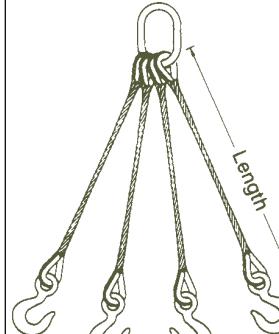
- Bridles provide better load control and balance
- Independent wire rope core resists crushing

Saves Money

- Alloy steel hooks and links assure long life
- Thimble eyes protect wire rope from wear for increased life
- Reduces load damage by using fixed points on load

Saves Time

- Easier rigging provided when hooking into fixed lifting points

Wire Rope			2-Leg Bridle			3-Leg Bridle			4-Leg Bridle						
Permaloc Bridle Slings (With Single Part Body)			 Length			 Length			 Length						
Rope Dia. (in.)	² Min. Sling Length	Eye Hook Cap. (tons)	¹ Rated Capacity (tons)*			Oblong Link Stock Dia.	¹ Rated Capacity (tons)*			Oblong Link Stock Dia.	¹ Rated Capacity (tons)*			Oblong Link Stock Dia.	
			60°	45°	30°		60°	45°	30°		60°	45°	30°		
6 x 19 EIP, IWRC	1/4	1' 3"	1	1.1	.91	.65	1/2	1.7	1.4	.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'	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
6x37 EIP, IWRC	1 1/8	4'	15	21	17	12	1 1/2	31	26	18	1 3/4	42	34	24	2 3/4
	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'	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'	37	63	52	37	2 3/4	-	-	-	-	-	-	-	-

Note: **Length Tolerances** - Single Part Wire Rope Slings - Standard length tolerance is plus or minus two rope diameters, or plus or minus 0.5% of

Other fittings and latches are available upon request.

1. 1 Ton = 2,000 lbs.

2. Minimum length based on thimbed eye and eye hook.

*

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 Effect of Angle chart page 10.

GROMMETS AND ENDLESS SLINGS

Features, Advantages 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

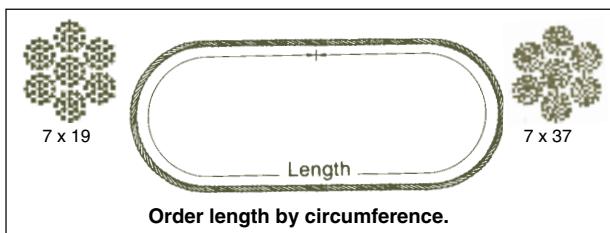
- Wear points can be shifted to extend sling life
- The most versatile style of sling - fewer slings to inventory

Saves Time

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

Grommets - Strand Laid, Hand Tucked

Made from one strand of EIP, 19 or 37 wire, hand laid and spliced to form a seven strand rope with no noticeable splice area. No sleeves to snag or get in the way.

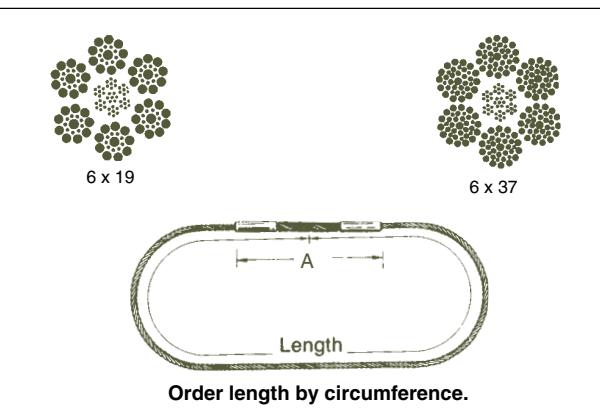


Rope Dia. (in.)	Rated Capacity (tons)*			Minimum Sling Length	Splice Length (in.)
	Vertical	Choker	Vertical Basket		
3/8	2.1	1.5	4.2	3' 0"	2 7/16
7/16	2.8	2.0	5.7	3' 6"	2 7/8
1/2	3.7	2.6	7.3	4' 0"	3 1/4
9/16	4.6	3.2	9.3	4' 6"	3 11/16
5/8	5.7	4.0	11	5' 0"	4 1/16
3/4	8.2	5.7	16	6' 0"	4 7/8
7/8	11	7.7	22	7' 0"	5 11/16
1	14	10	29	8' 0"	6 1/2

Vertical and Basket ratings are based on a minimum D/d of 5. See page 60.

Endless - Mechanical Splice

Made from one 6 x 19 or 6 x 37 EIP, IWRC wire rope, mechanically joined with steel sleeves. Achieves higher capacities at a lower cost.



Wire Rope

Rope Dia. (in.)	Rated Capacity (tons)*			Minimum Sling Length	Splice Length A (in.)
	Vertical	Choker	Vertical Basket		
1/4	1.0	.71	2.0	3' 0"	8
5/16	1.6	1.1	3.1	3' 0"	8
3/8	2.3	1.6	4.5	3' 0"	8
7/16	3.1	2.1	6.1	6' 0"	10
1/2	3.9	2.8	7.9	6' 0"	10
9/16	5.0	3.5	10	6' 0"	10
5/8	6.1	4.3	12	6' 0"	10
3/4	8.8	6.2	18	8' 0"	16
7/8	12	8.3	24	8' 0"	18
1	15	11	31	8' 0"	20

Note: 3 sleeves used on 3/4" and larger.

Vertical and Basket ratings are based on a minimum D/d of 5.
See page 61.

WARNING

Read Definition on page 3.

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

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 Effect of Angle chart page 10.

E-Z FLEX CABLE LAID SLINGS

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

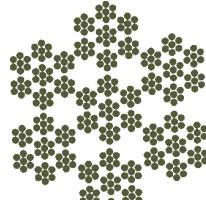
Features, Advantages and Benefits

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

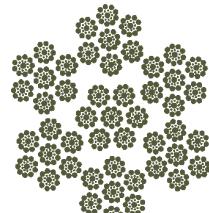
Saves Money

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

Wire Rope



7 x 7 x 7



7 x 7 x 19

Standard Combinations



Rope Dia. (in.)	Rated Capacity (tons)*			** Min. Sling Length	Standard Eye Size (in.) W x L	Thimbled Eye Size (in.) W x L	Eye Hook Cap. (tons)	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L	Sliding Choker Hook (in.)
	Vertical	Choker	Vertical Basket							
7 x 7 x 7	.50	.34	1.0	1' 6"	2 x 4	7/8 x 1 5/8	1	2 x 4	2 1/8 x 4 1/8	3/8
	1.1	.74	2.2	2' 0"	3 x 6	1 1/8 x 2 1/8	1 1/2	2 x 4	2 1/8 x 4 1/8	3/8
	1.9	1.3	3.7	2' 6"	4 x 8	1 1/2 x 2 3/4	2	2 1/4 x 6	2 3/8 x 4 3/8	1/2
	2.8	1.9	5.5	3' 0"	5 x 10	1 3/4 x 3 1/4	3	2 3/4 x 7	3 3/8 x 6 5/8	5/8
7 x 7 x 19	4.1	2.8	8.1	3' 6"	6 x 12	2 x 3 3/4	4 1/2	3 1/4 x 8 1/2	3 3/8 x 6 5/8	3/4
	5.4	3.7	11	4' 0"	7 x 14	2 1/4 x 4 1/4	7	4 1/2 x 10	3 3/4 x 7 1/8	7/8
	6.9	4.7	14	4' 6"	8 x 16	2 1/2 x 4 1/2	7	4 1/2 x 11 1/2	3 3/4 x 7 1/8	1
	8.3	5.8	17	5' 0"	9 x 18	2 7/8 x 5 1/8	11	4 7/8 x 13	4 3/8 x 8 3/8	1 1/8
	9.9	7.0	20	5' 6"	10 x 20	3 1/2 x 6 1/2	11	5 1/2 x 14 1/2	4 3/8 x 8 3/8	1 1/4
	13	9.1	26	7' 0"	12 x 24	3 1/2 x 6 1/4	15	6 x 17 1/2	5 x 9 1/2	1 1/2

** Minimum sling length when using standard eyes.
Basket ratings are based on a minimum D/d of 10. See page 60.
Other fittings are available upon request.

* **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 Effect of Angle chart page 10.

E-Z FLEX TWO LEG BRIDLE SLINGS

Features, Advantages and Benefits

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

Promotes Safety

- Bridles provide better load control and balance

Saves Money

- Excellent flexibility - resists damage from kinking
- Galvanized coating for corrosion resistant longer life
- Alloy steel fittings assure long life

Saves Time

- Easier rigging provided when hooking into fixed lifting points
- Sliding choker hook speeds rigging of bundled materials

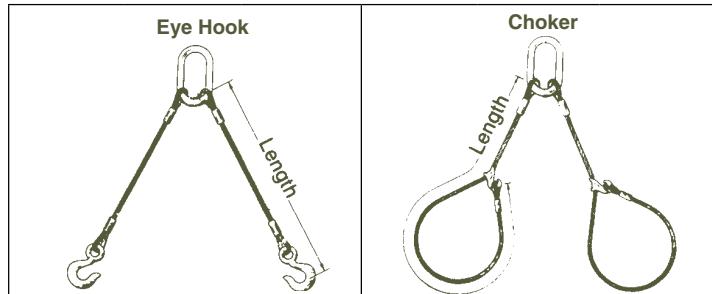
▲ WARNING

Read Definition on page 3.

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

Wire Rope

E-Z FLEX Two Leg Bridles



	Rope Dia. (in.)	Rated Capacity (tons)*			Rated Capacity (tons)*			** Min. Sling Length	Oblong Link Stock Dia. (in.)	Eye Hook Cap. (tons)	Sliding Choker Hook (in.)
		60°	45°	30°	60°	45°	30°				
7x7x7	1/4	.87	.71	.50	.60	.49	.34	1' 3"	1/2	1	3/8
	3/8	1.9	1.5	1.1	1.3	1.0	.74	1' 8"	1/2	1 1/2	3/8
	1/2	3.2	2.6	1.9	2.2	1.8	1.3	2' 0"	3/4	2	1/2
	5/8	4.8	3.9	2.8	3.3	2.7	1.9	2' 4"	1	3	5/8
7x7x19	3/4	7.0	5.8	4.1	4.8	3.9	2.8	2' 9"	1	4 1/2	3/4
	7/8	9.4	7.6	5.4	6.4	5.2	3.7	3' 3"	1	7	7/8
	1	12	9.7	6.9	8.2	6.7	4.7	3' 6"	1 1/4	7	1
	1 1/8	14	12	8.3	10	8.2	5.8	4' 0"	1 1/2	11	1 1/8
	1 1/4	17	14	9.9	12	9.8	7.0	4' 6"	1 1/2	11	1 1/4
	1 1/2	22	18	13	15	13	9.1	5' 6"	2	15	1 1/2

** Minimum length based on thimbled eye and eye hook.

*

▲ 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°.

E-Z FLEX ENDLESS SLINGS

Features, Advantages and Benefits

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

Promotes Safety

- Load stability and balance achieved by spreading sling legs in basket and choker hitches

Saves Money

- Wear points can be shifted to extend sling life
- Smaller rope diameter per capacity increases flexibility

Saves Time

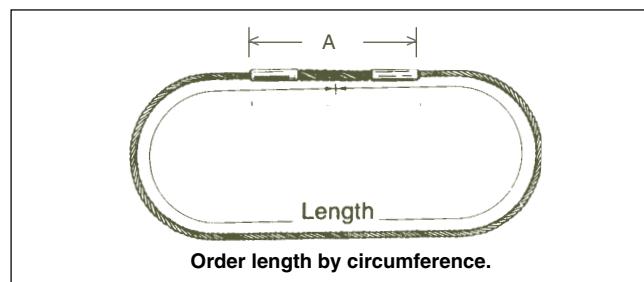
- Ideal for turning loads
- More flexible than eye slings of comparable strength

Wire Rope

WARNING

Read Definition on page 3

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



Note: 3 sleeves used on 3/4" and larger.

E-Z FLEX Endless Slings

	Rope Dia. (in.)	Rated Capacity (tons)*			Min. Sling Length	Splice Length A (in.)
		Vertical	Choker	Vertical Basket		
7 x 7 x 7	1/4	.83	.54	1.7	2' 3"	10
	3/8	1.8	1.2	3.6	3' 0"	10
	1/2	3.0	2.0	6.1	4' 0"	12
	5/8	4.6	3.0	9.1	5' 0"	12
7 x 7 x 19	3/4	6.7	4.3	13	6' 0"	18
	7/8	8.9	5.8	18	7' 0"	18
	1	11	7.3	23	8' 0"	20

Vertical and Basket ratings are based on a minimum D/d of 5. See page 60.

*

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 Effect of Angle chart page 10.

HIDDEN TUCK HAND SPLICED SLINGS

Features, Advantages and Benefits

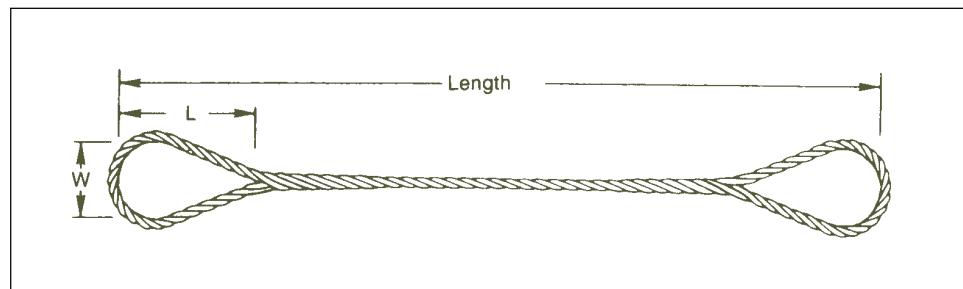
Maintains all the basic *Lift-All* wire rope sling features plus ...

Promotes Safety

- Hidden Tuck buries wire ends to avoid snags and injuries

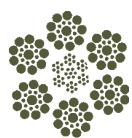
Saves Time

- No steel sleeves to catch under load



Wire Rope

Fiber Core



Rope Dia. (in.)	EIP, FC			Min. Sling Length	Standard Eye Size (in.) W x L		
	Rated Capacity (tons)*						
	Vertical	Choker	Vertical Basket				
6x19 EIP, FC	1/4	.54	.42	1.1	2' 0" 3 x 6		
	5/16	.83	.66	1.7	2' 3" 3 x 6		
	3/8	1.2	.94	2.4	2' 6" 3 x 6		
	7/16	1.6	1.3	3.2	2' 9" 3 1/2 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 1/2 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. See page 60.

*

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 Effect of Angle chart page 10.

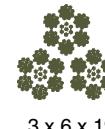
MULTI - PART CABLED SLINGS

Three Part Cabled

Constructed by hand cabling one rope to form a three part body with two part eyes.



3 x 7 x 19



3 x 6 x 19

3 Part Cabled

Features, Advantages and Benefits

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

Saves Money

- Good abrasion resistance increases useful life of sling
- Resists damage from kinking

Wire Rope

Saves Time

- Flexible, easy to handle by rigger
- Small sleeve over component rope won't get in the way

	Component Rope (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)*			Min. Sling Length	Standard Eye (in.) W x L	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L
			Vertical	Choker	Vertical Basket				
7 x 19 GAC	3/16	3/8	1.2	.82	2.4	2' 0"	3 x 6	2 x 4	2 1/8 x 4 1/8
	1/4	1/2	1.9	1.3	3.9	2' 6"	4 x 8	2 1/4 x 4	2 3/8 x 4 3/8
	5/16	5/8	3.0	2.1	6.0	3' 0"	5 x 10	2 3/4 x 5	3 3/8 x 6 5/8
	3/8	3/4	4.3	2.9	8.6	3' 6"	6 x 12	3 1/4 x 6	3 3/8 x 6 5/8
6 x 19 EIP, IWRC	7/16	7/8	5.8	4.0	12	4' 0"	7 x 14	4 1/2 x 9	3 3/4 x 7 1/8
	1/2	1	7.6	5.2	15	4' 6"	8 x 16	4 1/2 x 9	3 3/4 x 7 1/8
	9/16	1 1/8	9.6	6.6	19	5' 0"	9 x 18	4 7/8 x 10	4 3/8 x 8 3/8
	5/8	1 1/4	12	8.0	23	5' 6"	10 x 20	5 1/2 x 11	4 3/8 x 8 3/8
	3/4	1 1/2	17	11	34	7' 0"	11 x 22	6 x 12	5 x 9 1/2

Basket ratings are based on a minimum D/d of 10 (using sling body dia.). See page 60.

Seven Part Cabled

Constructed by hand cabling one rope to form a seven part body with four part eyes.



7 x 7 x 19



7 x 6 x 19

7 Part Cabled

Features, Advantages and Benefits

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

Saves Money

- Resists damage from kinking

Saves Time

- Superior flexibility makes sling easy to rig and use
- Small sleeve over component rope won't get in the way

	Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)*			Min. Sling Length	Standard Eye (in.) W x L	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L
			Vertical	Choker	Vertical Basket				
7 x 19 GAC	1/8	3/8	1.3	.91	2.6	2' 0"	3 x 6	2 x 4	2 1/8 x 4 1/8
	3/16	9/16	2.8	1.9	5.6	2' 6"	4 x 8	2 1/4 x 6	2 3/8 x 4 3/8
	1/4	3/4	4.7	3.2	9.3	3' 0"	5 x 10	2 3/4 x 7	3 3/8 x 6 5/8
	5/16	15/16	6.5	4.5	13	3' 6"	6 x 12	3 1/4 x 8 1/2	3 3/4 x 7 1/8
	3/8	1 1/8	9.6	6.6	19	4' 0"	7 1/2 x 15	4 1/2 x 10	3 3/4 x 7 1/8
	7/16	1 5/16	14	9.3	27	4' 6"	9 x 18	4 7/8 x 13	4 3/8 x 8 3/8
	1/2	1 1/2	18	12	35	5' 0"	10 x 20	5 1/2 x 14 1/2	4 3/8 x 8 3/8

Basket ratings are based on a minimum D/d of 10 (using sling body dia.). See page 60.

*

WARNING

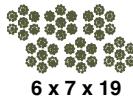
Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to Effect of Angle chart page 10.

Wire Rope & Slings



Six Part Flat Braid

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



6 Part Flat Braid



6 x 6 x 19

Features, Advantages 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

- Resists damage from kinking
- Reduces load damage by gripping load better

Saves Time

- Flexible - easy to rig

Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)*			Min. Sling Length	Standard Eye (in.) W x L	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L	
		Vertical	Choker	Vertical Basket					
7 x 19 GAC	1/8	9/16 x 3/8	.84	.74	1.7	2' 0"	3 x 6	2 x 4	2 1/8 x 4 1/8
	3/16	13/16 x 1/2	1.8	1.5	3.5	3' 0"	4 x 8	2 1/4 x 7	2 3/8 x 4 3/8
	1/4	1 1/8 x 11/16	2.9	2.6	5.9	3' 6"	5 x 10	3 1/4 x 8 1/2	3 3/8 x 6 5/8
	5/16	1 3/8 x 7/8	4.1	3.6	8.2	4' 6"	6 x 12	4 1/2 x 11 1/2	3 3/8 x 6 5/8
	3/8	1 11/16 x 1	6.0	5.3	12	5' 0"	7 x 14	4 7/8 x 13	3 3/4 x 7 1/8
6 x 19	7/16	2 x 1 3/16	8.6	7.5	17	6' 0"	8 x 16	6 x 16	3 3/4 x 7 1/8
	1/2	2 1/4 x 1 5/16	11	9.8	22	6' 6"	9 x 18	6 x 17 1/2	4 3/8 x 8 3/8
	9/16	2 1/2 x 1 1/2	14	12	28	7' 0"	10 x 20	7 x 20	4 3/8 x 8 3/8
	5/8	2 13/16 x 1 11/16	17	15	35	8' 0"	11 x 22	7 x 23 1/2	5 x 9 1/2
	3/4	3 3/8 x 2	25	22	49	9' 0"	12 x 24	8 1/2 x 26	6 3/4 x 11 3/4

Wire Rope

Basket ratings are based on a minimum D/d of 25 (using component rope). See page 60.

Eight Part Round Braid

Constructed by braiding one rope to form an eight part round body with four part web seized eyes.



8 Part Round Braid



8 x 6 x 19

Features, Advantages And Benefits

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

Promotes Safety

- Resists rotation, for improved load control

Saves Money

- The most kink resistant sling available
- Greater flexibility for reduced load damage

Saves Time

- The most flexible sling available - easy to rig

Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)*			Min. Sling Length	Standard Eye (in.) W x L	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L	
		Vertical	Choker	Vertical Basket					
7 x 19 GAC	1/8	9/16	1.1	1.0	2.2	2' 0"	3 x 6	2 x 4	2 1/8 x 4 1/8
	3/16	13/16	2.4	2.1	4.7	3' 0"	4 x 8	2 1/4 x 6	2 3/8 x 4 3/8
	1/4	1 1/8	3.9	3.4	7.8	3' 6"	5 x 10	3 1/4 x 8	3 3/8 x 6 5/8
	5/16	1 3/8	5.5	4.8	11	4' 6"	6 x 12	4 1/2 x 10	3 3/4 x 7 1/8
	3/8	1 11/16	8.1	7.1	16	5' 0"	7 x 14	4 5/8 x 12	3 3/4 x 7 1/8
6 x 19 EIP, IWRC	7/16	2	11	10	23	6' 0"	8 x 16	5 1/2 x 14	4 3/8 x 8 3/8
	1/2	2 1/4	15	13	30	6' 6"	9 x 18	6 x 16	5 x 9 1/2
	9/16	2 1/2	19	16	38	7' 0"	10 x 20	6 1/2 x 18	5 x 9 1/2
	5/8	2 13/16	23	20	46	8' 0"	11 x 22	7 x 20	6 3/4 x 11 3/4
	3/4	3 3/8	33	29	66	9' 0"	12 x 24	8 x 24	8 x 14 1/2

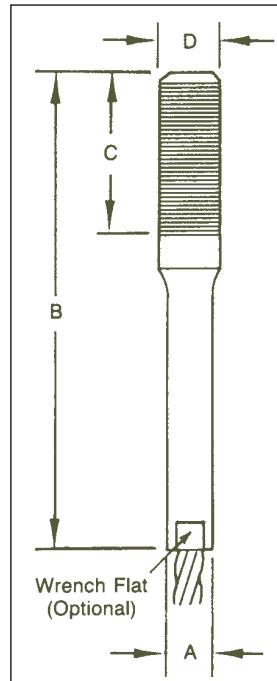
Basket ratings are based on a minimum D/d of 25 (using component rope). See page 60.



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 Effect of Angle chart page 10.

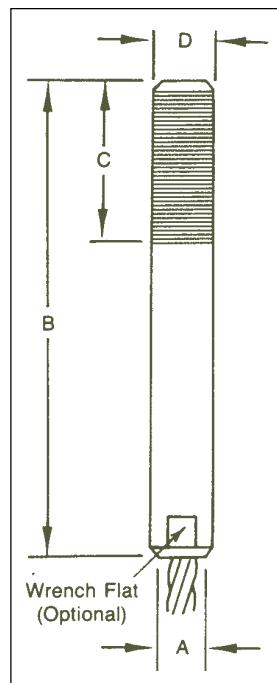
SWAGED THREADED STUDS

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



Straight Threaded Studs

Part No.	Rope Dia (in.)	Nominal Breaking Strength (tons)*	Dimensions (in.)				N.C. Thread #	N.F. Thread #
			A After Swage	B Approx.	C	D		
STS-8	1/4	3.4	7/16	4 1/16	1 1/2	1/2	13	20
STS-10	5/16	5.3	9/16	5 1/4	1 7/8	5/8	11	18
STS-12	3/8	7.6	5/8	6 1/4	2 1/4	3/4	10	16
STS-14	7/16	10.2	3/4	7 5/16	2 5/8	7/8	9	14
STS-16	1/2	13.3	7/8	8 1/4	3	1	8	14
STS-18	9/16	16.8	1	9 1/4	3 3/8	1 1/8	7	12
STS-20	5/8	20.6	1 1/8	10 1/8	3 3/4	1 1/4	7	12
STS-24	3/4	29.4	1 1/4	12 13/16	4 1/2	1 1/2	6	12
STS-28	7/8	39.5	1 1/2	14 9/16	5 1/4	1 3/4	5	12
STS-32	1	51.7	1 3/4	16 1/4	6	2	4 1/2	12
STS-36	1 1/8	65.0	2	18 1/4	6 3/4	2 1/4	4 1/2	12
STS-40	1 1/4	79.9	2 1/4	20 1/4	7 1/2	2 1/2	4	12



Turned Threaded Studs

Part No.	Rope Dia (in.)	Nominal Breaking Strength (tons)*	Dimensions (in.)				N.C. Thread #	N.F. Thread #
			A After Swage	B Approx.	C	D		
TTT-10	5/16	5.3	5/8	5 23/32	1 3/4	5/8	11	18
TTT-12	3/8	7.6	3/4	6 3/4	2	3/4	10	16
TTT-14	7/16	10.2	7/8	7 21/32	2 1/4	7/8	9	14
TTT-16	1/2	13.3	1	8 9/16	2 1/2	1	8	14
TTT-18	9/16	16.8	1 1/8	9 5/8	2 3/4	1 1/8	7	12
TTT-20	5/8	20.6	1 1/4	10 21/32	3 1/8	1 1/4	7	12
TTT-24	3/4	29.4	1 1/2	12 11/16	3 3/4	1 1/2	6	12
TTT-28	7/8	39.5	1 3/4	14 5/8	4 3/8	1 3/4	5	12
TTT-32	1	51.7	2	16 21/32	5	2	4 1/2	12
TTT-36	1 1/8	65.0	2 1/4	18 5/8	5 5/8	2 1/4	4 1/2	12
TTT-40	1 1/4	79.9	2 1/2	20 21/32	6 1/4	2 1/2	4	12
TTT-44	1 3/8	96.0	2 3/4	22 17/32	6 7/8	2 3/4	4	12
TTT-48	1 1/2	114	3	24 1/2	7 1/2	3	4	12

* Nominal Breaking Strength based on 6 x 19 or 6 x 37 IWRC, EIP wire rope, with assembly used as a straight tension member.

Wire Rope & Slings



SWAGED SOCKET ASSEMBLIES

Features, Advantages and Benefits

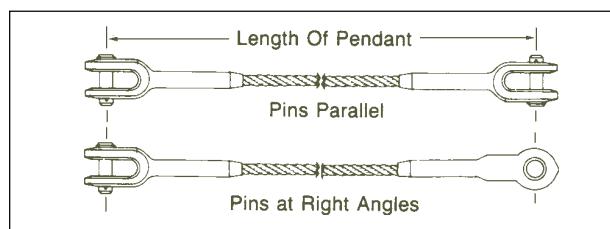
Promotes Safety

- Achieves 100% of nominal rope breaking strength
- All assemblies are proof tested before shipment to customer

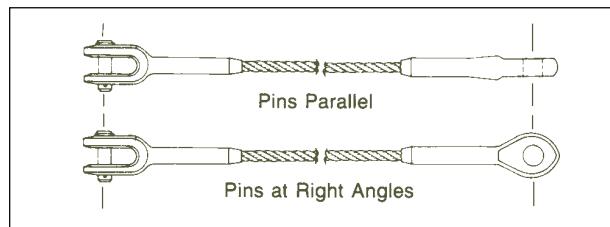
Saves Money

- Custom engineered assemblies are available for specific rigging needs

Open Swaged Sockets



Open and 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 5/32	11/16	11/16	.52	3/4	1/2	.38
5/16	1 11/32	13/16	13/16	1.12	7/8	11/16	.77
3/8	1 11/32	13/16	13/16	1.25	7/8	11/16	.72
7/16	1 1/2	1	1	2.08	1 1/16	7/8	1.42
1/2	1 1/2	1	1	2.08	1 1/16	7/8	1.35
9/16	1 5/8	1 1/4	1 3/16	4.48	1 1/4	1 1/8	2.92
5/8	1 5/8	1 1/4	1 3/16	4.75	1 1/4	1 1/8	2.85
3/4	2	1 1/2	1 3/8	7.97	1 7/16	1 5/16	4.90
7/8	2 3/8	1 3/4	1 5/8	11.30	1 11/16	1 1/2	6.63
1	2 3/4	2	2	17.80	2 1/16	1 3/4	10.30
1 1/8	3 1/8	2 1/4	2 1/4	27.50	2 5/16	2	14.50
1 1/4	3 1/2	2 1/2	2 1/2	35.75	2 9/16	2 1/4	20.75

Rope Diameter (in.)	Minimum Pendant Length	Vertical Capacity (tons)
1/4	11"	.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 6 x 19 or 6 x 37 IWRC, EIP rope when pendants are used for slings. When used as Boom Suspension System or other applications, contact Lift-All for ratings.

Wire Rope

WINCH LINES, HOIST LINES AND BUTTONS

Winch and Hoist Line Cables

Lift-All winch and hoist lines are made using 6 x 19 Wire Core ropes for better resistance to abrasion and crushing. Available with carbon hooks for large throat openings or alloy hooks for longer life.

Features, Advantages and Benefits

Promotes Safety

- Permaloc flemish eye splice for high strength efficiency
- Quality factory assembly avoids faulty termination

Saves Money

- Economical standard assemblies
- Heavy duty thimble in eye extends useful life

Saves Time

- No assembly time - ready to install
- Stainless steel latch keeps hook in proper place

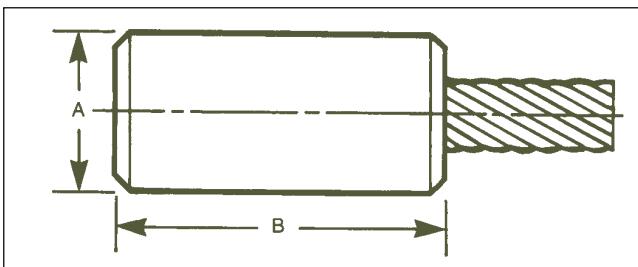
Wire Rope



Winch and Hoist Line Cables

Swaged Steel Buttons

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



After Swage Dimensions

Rope Diameter (approx. in.)	A	B
1/4	5/8	1 1/8
5/16	3/4	1 1/2
3/8	7/8	1 3/4
7/16	1	2
1/2	1 1/8	2 3/8
9/16	1 1/4	2 5/8
5/8	1 3/8	2 7/8
3/4	1 1/2	3 1/2
7/8	1 3/4	4 1/8
1	2	4 3/4
1 1/8	2 1/4	5 1/4
1 1/4	2 1/2	5 7/8
1 3/8	2 3/4	6 1/2
1 1/2	3	7 1/8

Non-Standard Buttons available.



Running lengths of cable with thimbled eye ends available

6 x 19 Class-Bright (Uncoated)

Diameter (in.)	Breaking 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.

Wire Rope & Slings

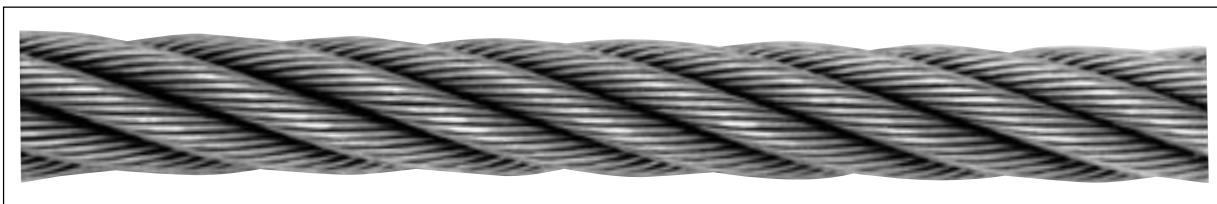


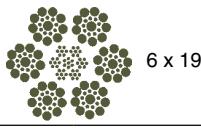
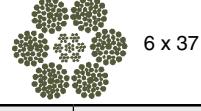
WIRE ROPE

Wire Rope

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

6 x 19 and 6 x 37 Class Wire Rope



Wire Core		
Extra Improved Plow Steel (EIP) Higher Capacities		
6 x 19 Class		
Six Strand Ropes Having 9 to 26 Wires Per Strand Better Abrasion Resistance		 6 x 19
6 x 37 Class		 6 x 37
Rope Diameter (in.)	Approx. Weight per Foot (lbs.)	Nominal Breaking Strength (tons)
1/4	.12	3.40
5/16	.18	5.27
3/8	.26	7.55
7/16	.35	10.2
1/2	.46	13.3
9/16	.59	16.8
5/8	.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

Note: Specialty ropes are available upon request.

Rotation Resistant Wire Rope

Rope Dia. (in.)	Approx. Weight per Foot (lbs.)	Nominal Breaking Strength (tons)
3/8	.25	6.15
7/16	.35	8.33
1/2	.45	10.8
9/16	.58	13.6
5/8	.71	16.8
3/4	1.02	24.0
7/8	1.39	32.5
1	1.82	42.2
1 1/8	2.3	53.1

The Nominal Breaking Strength of a wire rope should be considered the straight line pull with both rope ends fixed to prevent rotation, which will ACTUALLY BREAK a new, UNUSED, rope. The Nominal Breaking Strength of a 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 that 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.

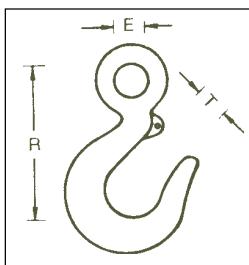
The above is based on the 'Wire Rope Safety Bulletin' published by the "WIRE ROPE TECHNICAL BOARD".

Wire Rope

SLING ATTACHMENTS, HOOKS, ETC.

Alloy Steel Eye Hooks

- Light weight hooks for heavy duty lifting



Wire Rope

EIP IWRC Rope Dia. (in.)	Rated Capacity* (tons)	Dimension (in.)			Weight Each (lbs.)
		E	R	T	
1/4-5/16	1	3/4	3 1/8	1	7/8 .63
3/8	1 1/2	7/8	3 21/32	1 1/16	15/16 .85
7/16	2	1 1/8	4 3/32	1 1/8	1 1.4
1/2	3	1 1/4	4 11/16	1 1/4	1 1/8 1.9
9/16-5/8	4 1/2	1 9/16	5 25/32	1 1/2	1 3/8 3.7
3/4	7	2	7 5/16	1 31/32	1 11/16 7.3
7/8-1	11	2 7/8	9 1/16	2 1/4	2 1/16 15
1 1/8-1 1/4	15	2 13/16	10 1/32	2 15/16	2 1/4 22
1 3/8-1 1/2	22	3 1/2	12 15/32	3 11/32	3 38
1 3/4	30	3 1/2	14 1/16	4	3 5/8 60
2	37	4 1/2	18 3/16	4 1/4	3 3/4 105
2 1/4	45	4 15/16	20 1/8	4 3/4	4 1/4 148
2 1/2	60	5 11/16	23 23/32	5 3/4	5 1/8 228

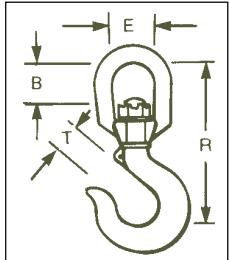
Carbon hooks available.

Stainless steel latch available.



Swivel Eye Hooks

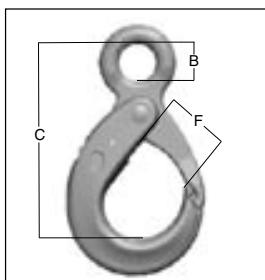
- Hook swivels beneath eye
- Built-in distortion detectors
- Drop forged alloy steel



EIP IWRC Rope Dia. (in.)	Rated Capacity* (tons)	Dimensions (in.)				Weight Each (lbs.)
		E	R	B	T	
1/4-5/16	1	1 1/4	4 5/8	1 3/32	1	1.3
3/8	1 1/2	1 1/2	5 7/16	1 3/8	1 3/32	1.8
7/16	2	1 3/4	6 1/4	1 21/32	1 1/8	2.8
1/2	3	1 3/4	6 1/2	1 21/32	1 1/4	3.3
9/16-5/8	5	2	7 17/32	1 25/32	1 17/32	7.2
3/4	7	2 3/4	9 19/32	2 3/8	1 31/32	13.6

Lodelok Eye Hooks

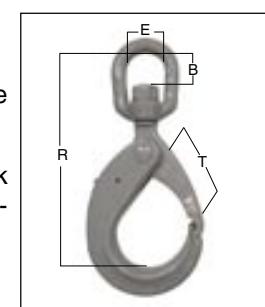
- Heavy duty latch with lock prevents accidental opening
- Drop forged alloy steel



Hook Size	EIP IWRC Rope Dia. (in.)	Rated Capacity* (tons)	Dimensions (in.)			Weight Each (lbs.)
			B	C	F	
9/32	1 4/3-8	1.7	1 3/32	5 3/8	1 5/8	2.5
3/8	7/16-9/16	3.5	1 3/8	6 21/32	2 1/4	4.6
1/2	5/8-3/4	6.0	1 9/16	8 25/32	2 29/32	10
5/8	7/8	9.0	2	10 3/8	3 3/16	16

Swivel Lodelok Hooks With Bushings

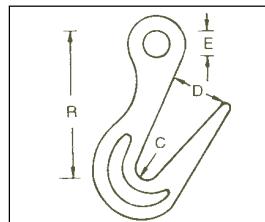
- Hook swivels beneath the eye
- Heavy duty latch with lock prevents accidental opening
- Drop forged alloy steel



EIP IWRC Rope Dia. (in.)	Rated Capacity* (tons)	Dimensions (in.)				Weight Each (lbs.)
		E	R	B	T	
1/4-3/8	1.7	1 1/2	7 5/32	1 5/16	1 5/8	3.5
7/16-5/8	3.5	1 3/4	8 23/32	1 5/8	2 1/4	4.8
1/2-7/8	6.0	2	11 5/32	1 3/4	2 29/32	10.6
1	9.0	2 3/4	13 13/32	2 3/8	3 3/16	17.0

Sorting Hooks

- Drop forged alloy steel, for maximum strength and toughness.



Working load limit at tip - 2 ton.
Working load limit at bottom - 7 1/2 ton.

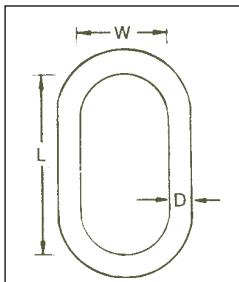
Dimensions (in.)				Weight (lbs.)
E	R	C	D	
1 7/16	7 11/16	5/8	2 5/8	6.8

* **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 Effect of Angle chart page 10.

SLING ATTACHMENTS, HOOKS, ETC.

Alloy Oblong Master Links

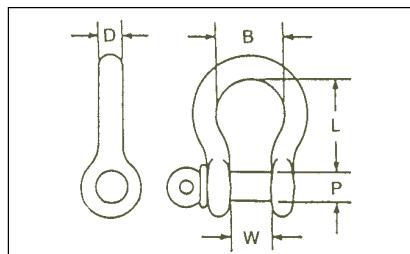
- Drop forged through 1", formed and welded in larger sizes.



Rated Capacity* (tons)	Dimensions (in.)			Weight Each (lbs.)
	D	W	L	
3.05	1/2	2 1/2	5	.9
6.6	3/4	3	6	2.5
11.2	1	4	8	5.8
16.2	1 1/4	4 3/8	8 3/4	9.2
24.5	1 1/2	5 1/4	10 1/2	16
36.7	1 3/4	6	12	25
44.4	2	7	14	37
62.6	2 1/4	8	16	54
93.9	2 3/4	9	16	85

Screw Pin Anchor Shackles

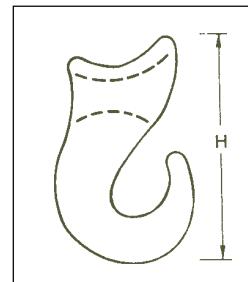
- Carbon Shackle
- Alloy pin
- Heat treated and tempered



Sliding Choker Hooks

- Speeds rigging time of bundled loads.
- Reduces sling wear when used with thimbles.

When using on multi-part slings, contact Lift-All for additional information.



Hook No. (Rope Dia.)	Rated Capacity* (tons)	Dimension (in.)	Weight (lbs.)
		H	
3/8	1.3	4 1/4	1.3
1/2	1.7	4 13/16	1.8
5/8	2.5	5 15/16	4
3/4	4.0	6 7/16	4.5
7/8 - 1	7.5	8 1/8	10
1 1/8 - 1 1/4	11.5	11 5/8	26
1 3/8 - 1 1/2	15	14 1/2	50

Wire Rope

Note: This chart shows standard capacities and dimensions, but may vary depending on source of supply. Specify required capacity if critical.

Shackle Size Dim. D (in.)	Rated Capacity* (tons)		Dimensions (in.)				Weight per 100 Pieces (lbs.)
	CM	Others	P	W	L	B	
3/16	1/2	1/3	1/4	3/8	7/8	5/8	6
1/4	3/4	1/2	5/16	15/32	1 1/8	13/16	12
5/16	1	3/4	3/8	17/32	1 1/4	7/8	20
3/8	1 1/2	1	7/16	21/32	1 7/16	1 1/16	30
7/16	2	1 1/2	1/2	23/32	1 11/16	1 1/4	50
1/2	3	2	5/8	13/16	1 15/16	1 7/16	75
5/8	4 1/2	3 1/4	3/4	1 1/16	2 13/32	1 3/4	130
3/4	6 1/2	4 3/4	7/8	1 1/4	2 27/32	2	225
7/8	8 1/2	6 1/2	1	1 7/16	3 5/16	2 5/16	350
1	10	8 1/2	1 1/8	1 11/16	3 3/4	2 9/16	500
1 1/8	12	9 1/2	1 1/4	1 13/16	4 1/4	2 15/16	700
1 1/4	14	12	1 3/8	2 1/32	4 11/16	3 1/4	950
1 3/8	17	13 1/2	1 1/2	2 1/4	5 1/4	3 1/2	1250
1 1/2	20	17	1 5/8	2 3/8	5 3/4	3 3/4	1720
1 5/8	24	24	1 3/4	2 5/8	6 1/4	4 3/8	2350
1 3/4	30	25	2	2 7/8	7	5	2770
2	35	35	2 1/4	3 1/4	7 3/4	5 3/4	3900

* **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 Effect of Angle chart page 10.

CABLE & COMPONENTS

Wire Rope



Galvanized and Stainless Steel Cable

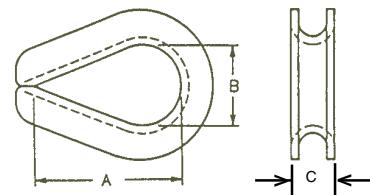
7 x 7	Cable Diameter (in.)	Wt./Reel (lbs.)	Standard Length (ft./Reel)	Nominal Break Strength (lbs.)	
				Galvanized Cable (GAC)	Stainless Steel Cable (SSAC) Type 304
	1/16	5	500	480	480
	3/32	9	500	920	920
	1/8	15	500	1,700	1,760

7 x 19	3/32	9	500	1,000	920
				Galvanized Cable (GAC)	Stainless Steel Cable (SSAC) Type 304
	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

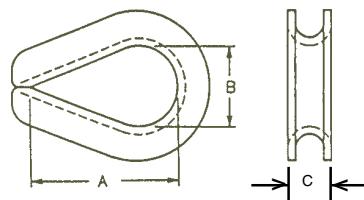
Galvanized Cable Coated with Clear Vinyl

Galvanized Cable Construction	Cable Diameter (in.)	Coated To: (in.)	Wt./Reel (lbs.)	Standard Length (ft.)/Reel	Nominal Break Strength (lbs.)
7 x 7	1/16	3/32	7	500	480
	3/32	3/16	7	250	920
	1/8	3/16	10	250	1,700
7 x 19	1/8	3/16	10	250	2,000
	3/16	1/4	19	200	4,200
	1/4	5/16	28	200	7,000

Heavy Duty Wire Rope Thimbles



Standard Wire Rope Thimbles



Rope Dia. (in.)	Dimensions (in.)			Quantity Per Bag	Weight Per Bag (lbs.)
	A	B	C		
1/8	1 5/16	11/16	1/4	100	4
3/16	1 5/16	11/16	5/16	100	4
1/4	1 5/16	11/16	3/8	100	4
5/16	1 1/2	13/16	7/16	80	3
3/8	1 5/8	15/16	1/2	80	4

Rope Dia. (in.)	Dimensions (in.)			Weight Per 100 Pieces (lbs.)	
	A	B	C		
1/4	1 5/8	7/8	15/16	8	
5/16	1 7/8	1 1/16	17/32	14	
3/8	2 1/8	1 1/8	21/32	22	
7/16	2 5/16	1 1/4	3/4	36	
1/2	2 3/4	1 1/2	15/16	51	
5/8	3 1/4	1 3/4	1 1/32	75	
3/4	3 3/4	2	1 1/4	147	
7/8	4 1/4	2 1/4	1 7/16	185	
1	4 1/2	2 1/2	1 11/16	300	
1 1/8 - 1 1/4	5 1/8	2 7/8	1 13/16	400	
1 1/4 - 1 3/8	6 1/2	3 1/2	2 3/16	817	
1 3/8 - 1 1/2	6 1/4	3 1/2	2 9/16	1,175	
1 5/8	8	4	2 23/32	1,700	
1 3/4	9	4 1/2	2 27/32	1.775	
1 7/8 - 2	12	6	3 3/32	2,500	
2 1/4	14	7	3 5/8	3,950	

Wire Rope & Slings



CABLE & COMPONENTS

Wire Rope Clips

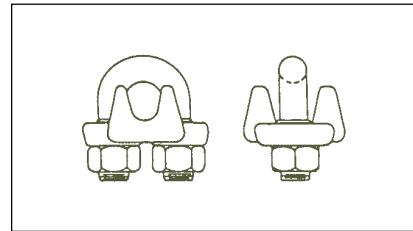
The following instructions, supplied by the Wire Rope Technical Board, will result in an approximate 80% efficiency rating when the clips are applied as instructed, on GAC, SSAC, RRL or RLL, 6 x 19 class or 6 x 37 class, fiber core or IWRC, non-Seale type construction wire rope. If applied to vinyl coated ropes, vinyl must first be stripped from clip connection area.

How to Apply Clips

1. Turn back the specified amount of rope from the thimble. Apply the first clip 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 near to the loop as possible. Turn on nuts firmly but do not tighten.
3. Space additional clips, if required, equally between the first two. Tighten on nuts - take up rope slack - tighten all nuts evenly on all clips to recommended torque.
4. NOTICE! Apply the initial load and retighten nuts to the recommended torque. Rope will stretch and be reduced in diameter when loads are applied. Inspect periodically and retighten to recommended torque.

Drop Forged Wire Rope Clips

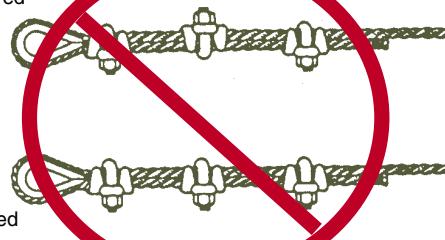
Rope Dia. (in.)	Minimum Number of Clips	Rope Turn-back (in.)	Torque (ft./lbs.)	Weight Per 100 Pieces (lbs.)
1/8	2	3 1/4	4 1/2	6
3/16	2	3 3/4	7 1/2	10
1/4	2	4 3/4	15	18
5/16	2	5 1/4	30	30
3/8	2	6 1/2	45	47
7/16	2	7	65	76
1/2	3	11 1/2	65	80
9/16	3	12	95	104
5/8	3	12	95	106
3/4	4	18	130	150
7/8	4	19	225	212
1	5	26	225	250
1 1/8	6	34	225	280
1 1/4	7	44	360	415
1 3/8	7	44	360	460
1 1/2	8	54	360	530



Right Way - For Maximum Rope Strength



Wrong Way - Clips Staggered



Wrong Way - Clips Reversed

Wire Rope

WARNING

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

Malleable Wire Rope Clips

Rope Dia. (in.)	Minimum 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

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

SLING WEIGHTS (Approx.)



To estimate sling weights, multiply length x
 Per Foot Weight and add Zero Base Weight
 plus any additional fittings' weights.



Wire Rope

 Rope Dia. (in.)	 *Zero Base Weight (lbs.)	 Per Foot Weight (lbs.)	 Thimbled Eye Wt. Ea. (lbs.)	 Alloy Eye Hook Wt. Ea. (lbs.)	 Crescent Thimble Wt. Ea. (lbs.)	 Slip Thru Thimble Wt. Ea. (lbs.)	 Sliding Choker Hook Wt. Ea. (lbs.)
1/4	.31	.12	.08	.63	.50	1.3	1.3
5/16	.47	.18	.14	.63	.50	1.3	1.3
3/8	.73	.26	.22	.85	.50	1.3	1.3
7/16	1.3	.35	.36	1.4	.50	1.5	1.9
1/2	1.7	.46	.51	1.9	.75	1.5	1.9
9/16	3.1	.59	.51	3.7	.75	1.5	1.9
5/8	3.5	.72	.75	3.7	1.2	3.4	4.0
3/4	5.7	1.0	1.5	7.3	2.0	3.4	4.5
7/8	8.9	1.4	1.9	15	3.3	5.6	10
1	13	1.9	3.0	15	3.8	5.6	10
1 1/8	18	2.3	4.0	22	5.0	8.6	26
1 1/4	25	2.9	8.2	22	6.8	8.6	26
1 3/8	32	3.5	12	38	8.0	10	50
1 1/2	41	4.2	12	38	8.0	10	50
1 3/4	65	5.7	18	60	17	18	
2	99	7.4	25	105	22	53	
2 1/4	169	9.4	40	148	39	70	
2 1/2	278	12	-	-	39	126	

* Zero Base Weight accounts for the additional rope and sleeves required to form two standard eyes.

Wire Rope & Slings



SLING WEIGHTS (Approx.)

To estimate sling weights, multiply length x
Per Foot Weight and add Zero Base Weight.

2-Leg Bridle

3-Leg Bridle

4-Leg Bridle

 Rope Dia. (in.)	*Zero Base Weight (lbs.)	Per Foot Weight (2 Legs)	 *Zero Base Weight (lbs.)	Per Foot Weight (lbs.) (3 Legs)	 *Zero Base Weight (lbs.)	Per Foot Weight (lbs.) (4 Legs)
1/4	2.8	.23	2.8	.35	4.7	.46
5/16	3.2	.36	5.7	.54	6.9	.72
3/8	5.8	.52	7.5	.78	12	1.0
7/16	8.1	.70	14	1.0	17	1.4
1/2	10	.92	17	1.4	26	1.8
9/16	20	1.2	27	1.8	39	2.4
5/8	21	1.4	34	2.2	42	2.9
3/4	38	2.1	60	3.1	85	4.2
7/8	58	2.8	89	4.3	121	5.7
1	76	3.7	114	5.6	171	7.4
1 1/8	108	4.7	163	7.0	250	9.4
1 1/4	131	5.8	210	8.7	296	12
1 3/8	197	7.0	320	11		
1 1/2	230	8.3	350	13		
1 3/4	380	11				
2	550	15				

Wire Rope

* Zero Base Weight includes Oblong Link, Thimbled Eyes and Sling Hooks

Acknowledgement

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.