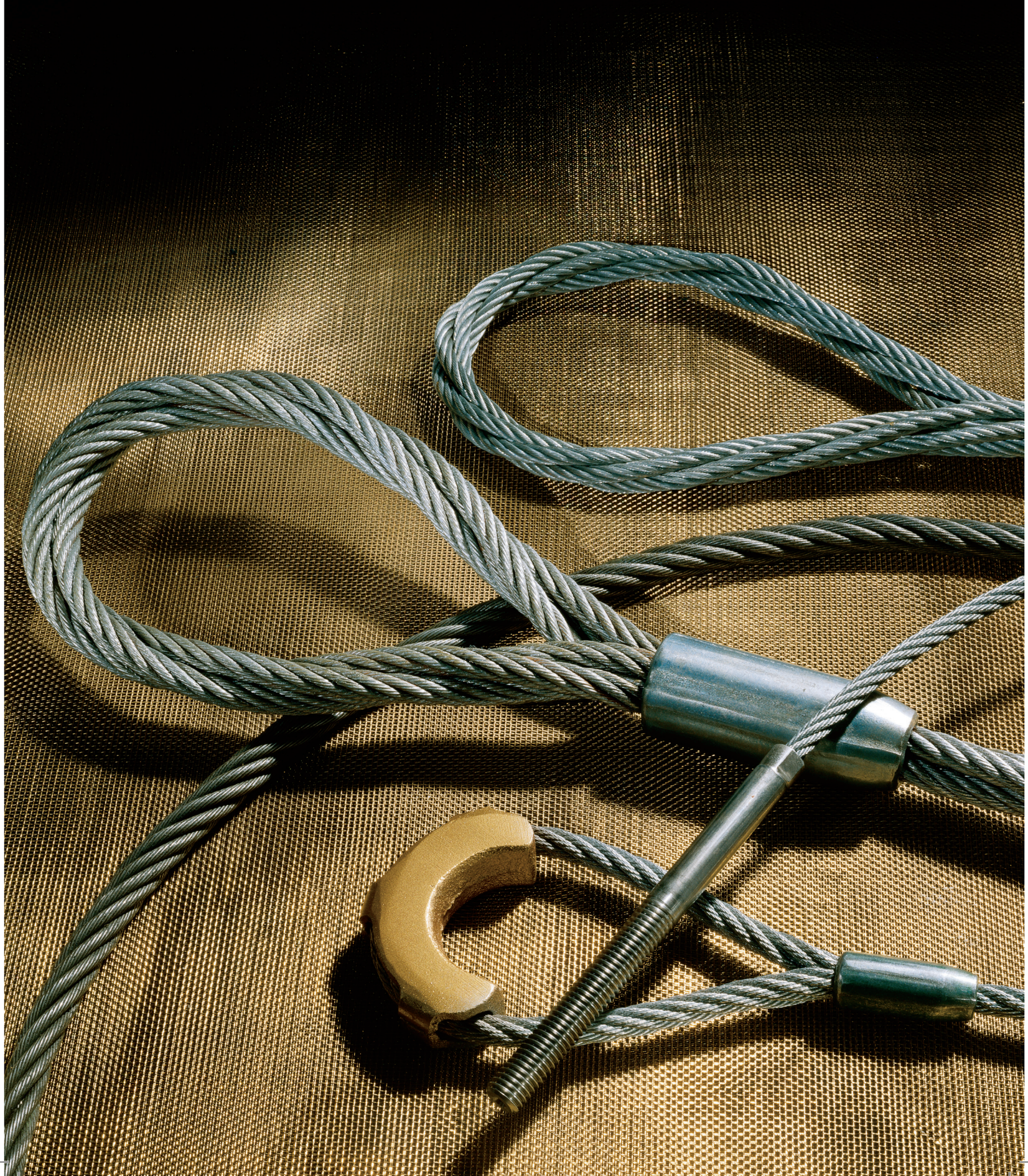
Wire Rope & Slings

LiftAll®
PRODUCTS FOR BETTER LIFTING



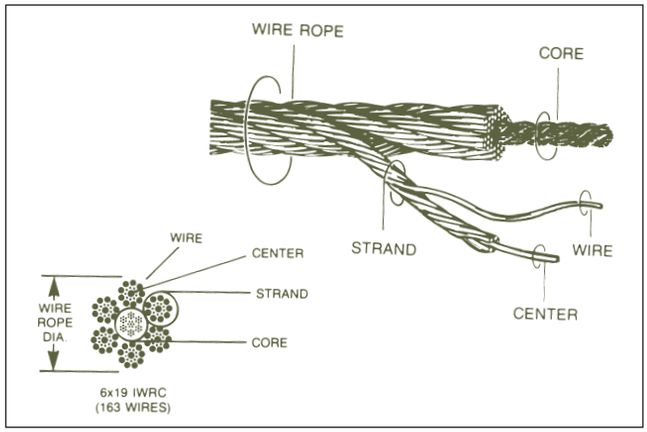
WIRE ROPE AND SLING BASICS

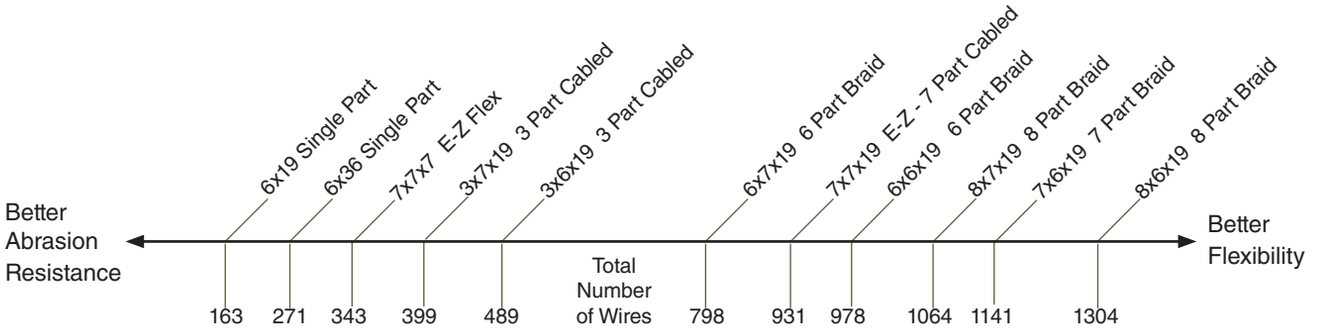
Two major and opposing characteristics of wire rope slings are flexibility and resistance to abrasion. To a great extent, these traits are a direct function of the number of wires. Fewer wires means larger diameter wires, better abrasion resistance, and reduced flexibility. More wires result in decreased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

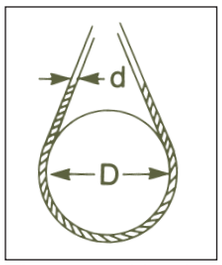
Saves Money

- 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.

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 degreasing solvents.

Effect of Anchor Shackle Pin or Crane Hook on Sling Eye

⚠ WARNING

Read Definition on page 3

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

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

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.

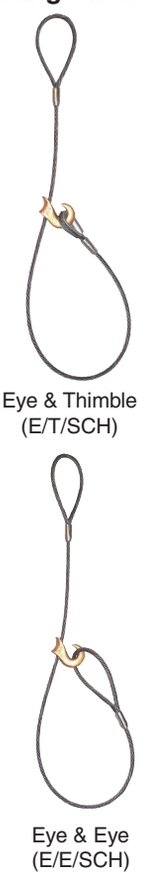
114 637 I EE X 12

- **114** — Define rope diameter (One to three digits) 1 1/4" shown in example.
- **637** — Leave blank for 6x19 IWRC, EIP construction. If other rope is desired, enter 637 for a 6x37 construction or EZ for Cable Laid rope.
- **I** — Leave blank for Domestic rope. Insert an "I" for slings made using imported rope.
- **EE** — Show end terminations or other styles. See chart below or use the following:
  - Eye & Eye = EE
  - Bridles - 2 Leg = 2LB, 3 Leg = 3LB, 4 Leg = 4LB
  - Endless = EN
  - Braids - 3 Part = 3PEE, 6 Part = 6PEE, 7 Part = 7PEE, 8 Part = 8PEE
- **X** — Indicates that sling length follows.
- **12** — Sling Length (Ft) (One or two digits) Refer to drawings on following pages on how to measure.

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

Standard Combinations

Sliding Choker



Tolerances and Minimum Lengths

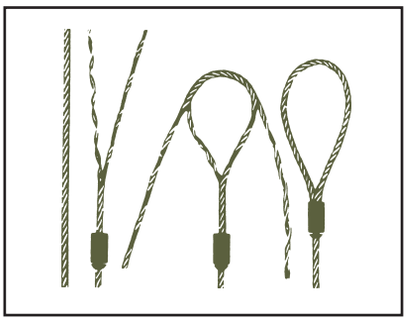
Refer to tables for tolerances and minimum lengths.

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.

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 ...

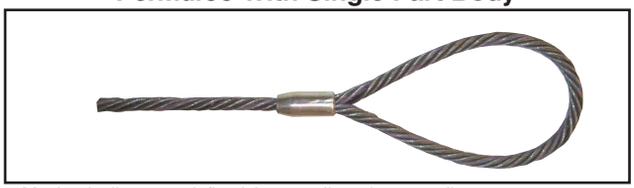
Promotes Safety

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

Saves Money

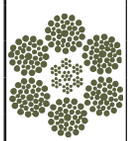
- When specified, thimble eyes protect wire rope from wear for increased life
- Good abrasion resistance for longer life

***Permaloc* With Single Part Body**



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 [1] Rated Capacity (tons)* Vertical	Choker	V. Basket	[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.)
	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
		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
	6 x 37 EIP, IWRC	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 74.

1. 1 Ton = 2,000 lbs.
2. 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 91 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 12.

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

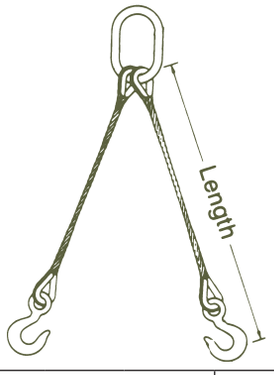
- Alloy steel hooks and links assure long life
- Thimble eyes protect wire rope from wear for increased life
- Reduces load damage by using fixed points on load

Saves Time

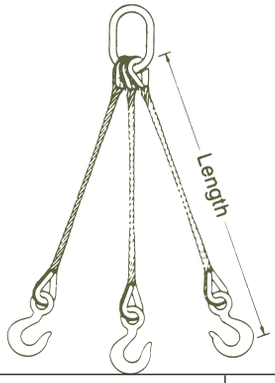
- Easier rigging provided when hooking into fixed lifting points

Permaloc **Bridle Slings (With Single Part Body)**

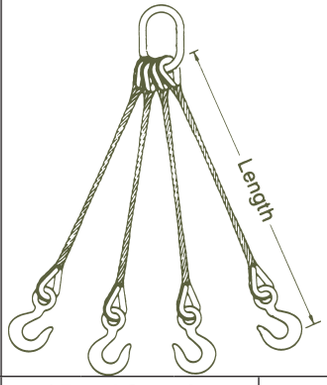
2-Leg Bridle



3-Leg Bridle



4-Leg Bridle



	Rope Dia. (in.)	[2] Min. Sling Length	Eye Hook Cap. (tons)	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.
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
	1 1/8	4'	15	21	17	12	1 1/2	31	26	18	1 3/4	42	34	24	2 3/4
6x37 EIP, 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'	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 the sling length, whichever is greater. The legs of bridle slings, or matched slings are normally held to within one rope diameter.

Other fittings and latches are available upon request.

1. 1 Ton = 2,000 lbs.
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°. Refer to Effect of Angle chart page 12.

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

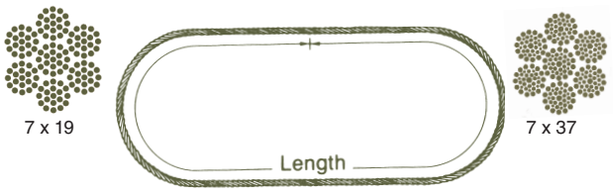
- Wear points can be shifted to extend sling life
- The most versatile style of sling - fewer slings to inventory

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.



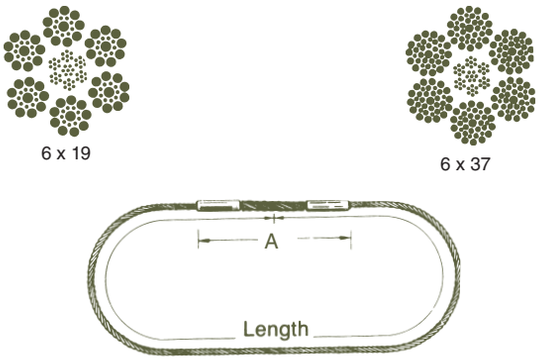
Order length by circumference.

Rope Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	Minimum Sling Length	Splice Length (in.)
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 74.

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.



Order length by circumference.

Rope Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	Minimum Sling Length	Splice Length A (in.)
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 74.

⚠ 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 12.

E-Z FLEX CABLE LAID SLINGS

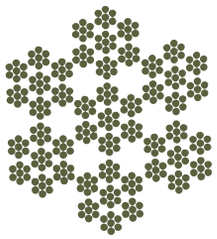
E-Z Flex slings are made from a machine laid rope that consists of seven individual, galvanized ropes.

Features, Advantages and Benefits

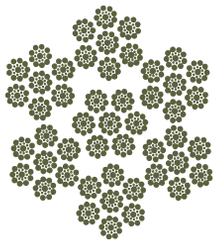
Maintains all the basic *Lift-All* wire rope sling features plus ...

Saves Money

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

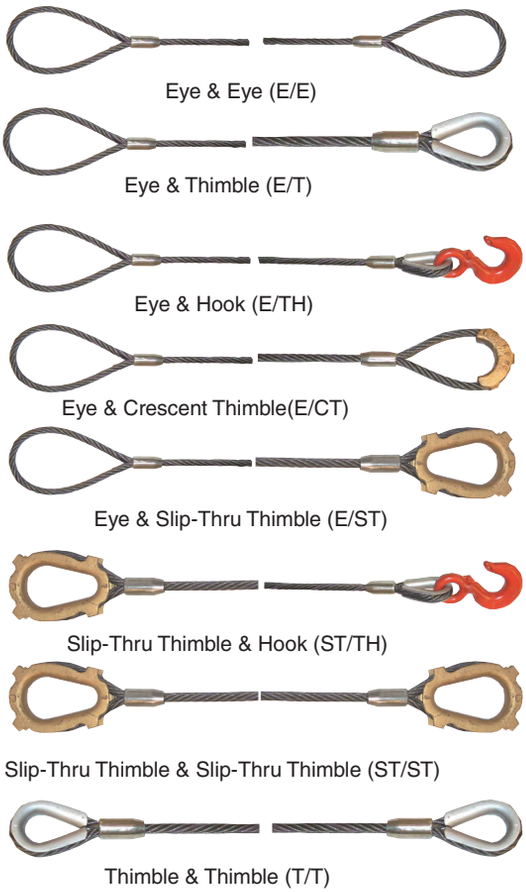


7 x 7 x 7



7 x 7 x 19

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)

	Rope Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	** 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.)
7 x 7 x 7	1/4	.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
	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
	1/2	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
	5/8	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	3/4	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
	7/8	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
	1	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
	1 1/8	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
	1 1/4	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
	1 1/2	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 74.
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 12.

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

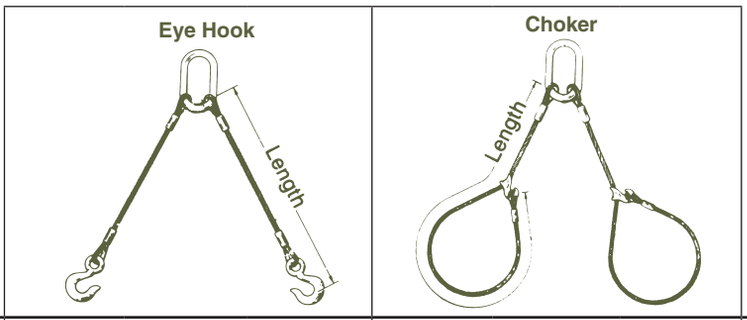
Saves Time

- 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.

E-Z FLEX Two Leg Bridles



	Rope Dia. (in.)	Rated Capacity (tons)* 60°	45°	30°	Rated Capacity (tons)* 60°	45°	30°	** Min. Sling Length	Oblong Link Stock Dia. (in.)	Eye Hook Cap. (tons)	Sliding Choker Hook (in.)
7 x 7 x 7	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
7 x 7 x 19	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° Refer to Effect of Angle chart page 10.

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

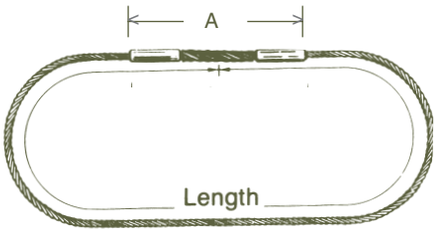
- Wear points can be shifted to extend sling life
- Smaller rope diameter per capacity increases flexibility

Saves Time

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

⚠ WARNING Read Definition on page 3

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



Order length by circumference.

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

E-Z FLEX Endless Slings

	Rope Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	Min. Sling Length	Splice Length A (in.)
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 74.

* **⚠ 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 12.

HIDDEN TUCK HAND SPLICED SLINGS

Features, Advantages and Benefits

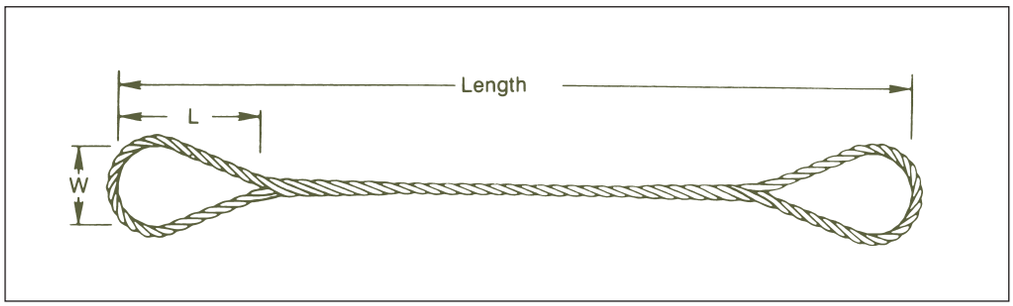
Maintains all the basic *Lift-All* wire rope sling features plus ...

Promotes Safety

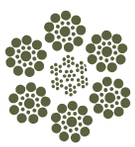
- Hidden Tuck buries wire ends to avoid snags and injuries

Saves Time

- No steel sleeves to catch under load



Fiber Core



	Rope Dia. (in.)	EIP, FC Rated Capacity (tons)* Vertical	Choker	Vertical Basket	Min. Sling Length	Standard Eye Size (in.) W x L
6 x 19 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 74.

⚠ 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 12.

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

Saves Time

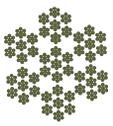
- Flexible, easy to handle by rigger
- Small sleeve over component rope won't get in the way

	Component Rope (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	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
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 74.

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)* Vertical	Choker	Vertical Basket	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
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
6 x 19	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 74.

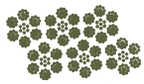
* **⚠ WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to Effect of Angle chart page 12.

MULTI - PART BRAIDED SLINGS

Six Part Flat Braid

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

6 x 7 x 19



6 x 6 x 19

6 Part Flat Braid

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)* Vertical	Choker	Vertical Basket	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
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

Basket ratings are based on a minimum D/d of 25 (using component rope). See page 74.

Eight Part Round Braid

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

8 x 7 x 19

8 x 6 x 19

8 Part Round Braid

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

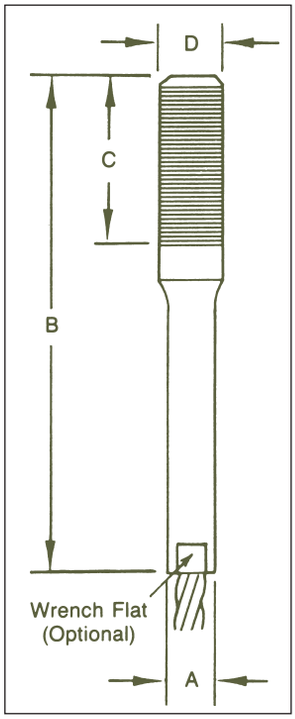
	Component Rope Dia. (in.)	Sling Body Dia. (in.)	Rated Capacity (tons)* Vertical	Choker	Vertical Basket	Min. Sling Length	Standard Eye (in.) W x L	Crescent Thimble Eye Size (in.) W x L	Slip Thru Thimble Eye Size (in.) W x L
7 x 19 GAC	1/8	9/16	1.1	1.0	2.2	2' 0"	3 x 6	2 x 4	2 1/8 x 4 1/8
	3/16	13/16	2.4	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 3/4x 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 74.

⚠ 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 12.

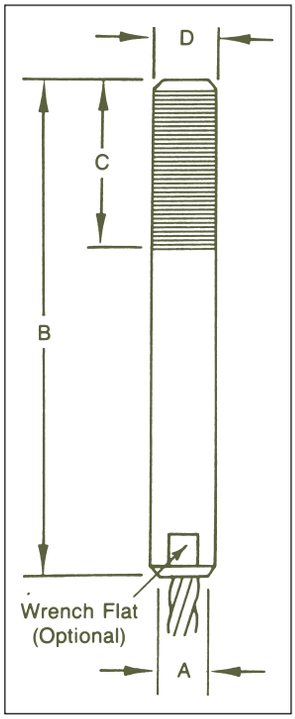
SWAGED THREADED STUDS

- 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		
TTS-10	5/16	5.3	5/8	5 23/32	1 3/4	5/8	11	18
TTS-12	3/8	7.6	3/4	6 3/4	2	3/4	10	16
TTS-14	7/16	10.2	7/8	7 21/32	2 1/4	7/8	9	14
TTS-16	1/2	13.3	1	8 9/16	2 1/2	1	8	14
TTS-18	9/16	16.8	1 1/8	9 5/8	2 3/4	1 1/8	7	12
TTS-20	5/8	20.6	1 1/4	10 21/32	3 1/8	1 1/4	7	12
TTS-24	3/4	29.4	1 1/2	12 11/16	3 3/4	1 1/2	6	12
TTS-28	7/8	39.5	1 3/4	14 5/8	4 3/8	1 3/4	5	12
TTS-32	1	51.7	2	16 21/32	5	2	4 1/2	12
TTS-36	1 1/8	65.0	2 1/4	18 5/8	5 5/8	2 1/4	4 1/2	12
TTS-40	1 1/4	79.9	2 1/2	20 21/32	6 1/4	2 1/2	4	12
TTS-44	1 3/8	96.0	2 3/4	22 17/32	6 7/8	2 3/4	4	12
TTS-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.

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

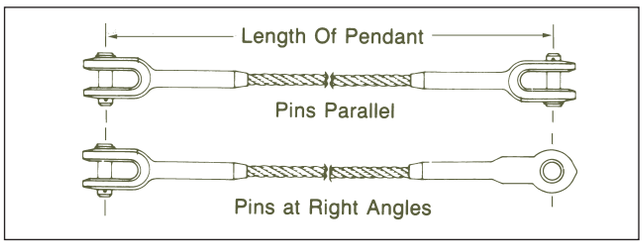
Saves Money

- Custom engineered assemblies are available for specific rigging needs

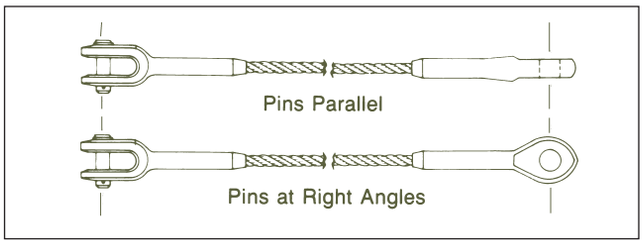
Rope Diameter (in.)	Minimum Pendant Length	* Vertical Capacity (tons)
1/4	11"	.68
5/16	1' 3"	1.1
3/8	1' 3"	1.5
7/16	1' 8"	2.0
1/2	1' 8"	2.7
9/16	2' 0"	3.4
5/8	2' 0"	4.1
3/4	2' 5"	5.9
7/8	2' 10"	8.0
1	3' 2"	10
1 1/8	3' 7"	13
1 1/4	4' 0"	16

* 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.

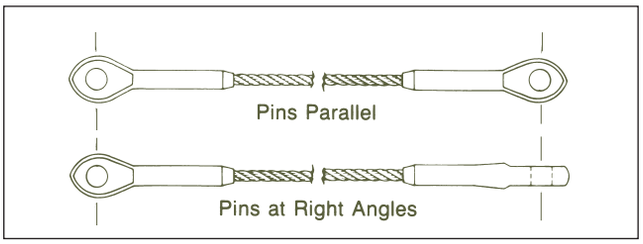
Open Swaged Sockets



Open and Closed Swaged Sockets



Closed Swaged Sockets



Swage Socket Dimensions (Forged Steel)

Rope Dia (.in.)	Open Socket R (in.)	O (in.)	D (in.)	Weight (lbs.)	Closed Socket 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

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

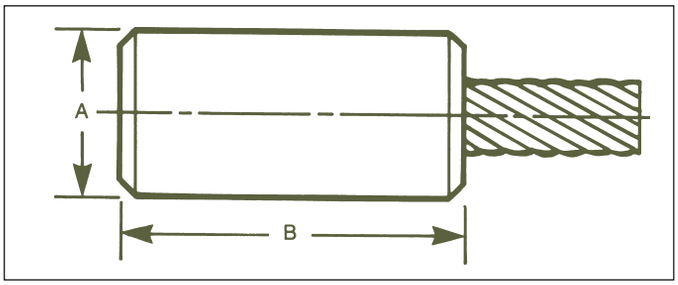
Winch and Hoist Line Cables

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.

Swaged Steel Buttons

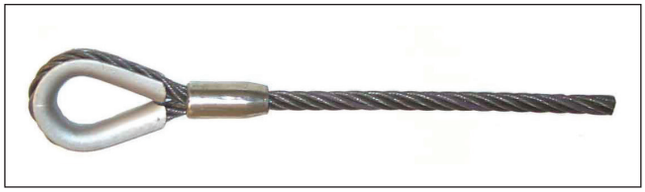
Swaged steel buttons are designed for use as end stops on drum winding equipment such as hoists and winches.



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.



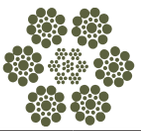
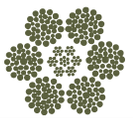
Running lengths of cable with thimbled eye ends available

WIRE ROPE

Wire Rope

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

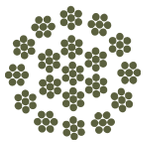
6 x 19 and 6 x 37 Class Wire Rope

	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 Six Strand Ropes Having 27 to 49 Wires Per Strand More Flexible	 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)
 19 x 7	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".

CABLE & COMPONENTS

Galvanized and Stainless Steel Cable

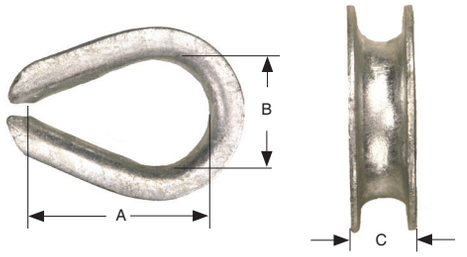
7 x 7	Cable Diameter (in.)	Wt./Reel (lbs.)	Standard Length (ft./Reel)	Nominal Break Strength (lbs.)	
				Galvanized Cable (GAC)	Stainless Steel Cable (SSAC) Type 304
	1/16	5	500	480	480
	3/32	9	500	920	920
	1/8	15	500	1,700	1,760

7 x 19					
	3/32	9	500	1,000	920
	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

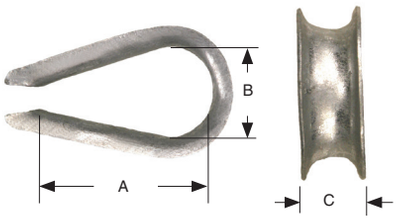
Galvanized Cable Coated with Clear Vinyl

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	7/16	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	5 1/8	2 7/8	1 13/16	400
1 1/4	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

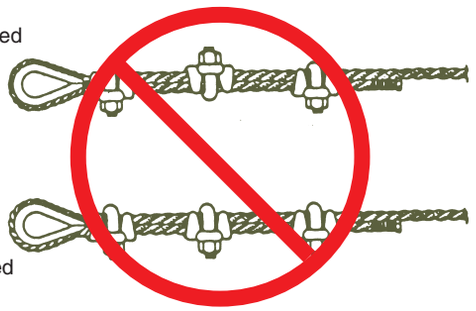
CABLE & COMPONENTS

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.

Right Way - For Maximum Rope Strength

Wrong Way - Clips Staggered



Wrong Way - Clips Reversed

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.

⚠ 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.

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

Malleable Wire Rope Clips

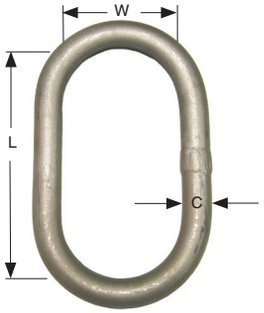
Rope Dia. (in.)	Minimum Number of Clips	Rope Turn-back (in.)	Torque (ft./ lbs.)	Quantity Per Bag	Weight Per Bag (lbs.)
1/8	3	5	3	200	10
3/16	3	6	5	150	12
1/4	3	7	15	100	12
5/16	3	8	15	100	15
3/8	3	10	30	50	11

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

SLING ATTACHMENTS, HOOKS, ETC.

Alloy Oblong Master Links

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



Rated Capacity*		Dimensions (in.)			Weight Each (lbs.)
Tons	Lbs.	C	L	W	
3.05	6,100	1/2	5	2 1/2	.9
6.6	13,200	3/4	6	3	2.5
11.2	22,400	1	8	4	5.8
16.2	32,400	1 1/4	8 3/4	4 3/8	9.2
24.5	49,000	1 1/2	10 1/2	5 1/4	16
36.7	73,400	1 3/4	12	6	25
44.4	88,800	2	14	7	37
62.6	125,200	2 1/4	16	8	54
93.9	187,800	2 3/4	16	9	85

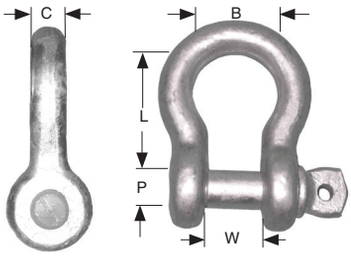
Sliding Choker Hooks

- 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

Screw Pin Anchor Shackles

- Carbon Shackle, Alloy Pin
- Heat treated and tempered
- Hot dip galvanized



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

Spec: RR-C-271F
Type 4A, Grade A, Class 2

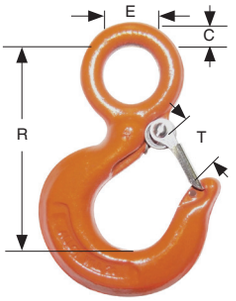
Shackle Size Dim. C (in.)	Rated Capacity* (tons)		Dimensions (in.)				Weight per 100 Pieces (lbs.)
	CM	Others	B	L	P	W	
3/16	1/2	1/3	5/8	7/8	1/4	3/8	6
1/4	3/4	1/2	13/16	1 1/8	5/16	15/32	12
5/16	1	3/4	7/8	1 1/4	3/8	17/32	20
3/8	1 1/2	1	1 1/16	1 7/16	7/16	21/32	30
7/16	2	1 1/2	1 1/4	1 11/16	1/2	23/32	50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

SLING ATTACHMENTS, HOOKS, ETC.

Rigging Eye Hooks

- Drop forged alloy steel
- Lightweight hooks for heavy duty lifting



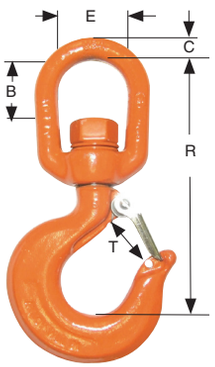
	Rated Capacity		Dimension (in.)				Weight Each (lbs.)
	Tons	Lbs.	C	E	R	T	
Alloy	1	2,000	3/8	3/4	3 1/8	15/16	.63
	1 1/2	3,000	7/16	7/8	3 21/32	31/32	.85
	2	4,000	1/2	1 1/8	4 3/32	1 1/16	1.4
	3	6,000	5/8	1 1/4	4 21/32	1 3/16	1.9
	4 1/2	9,000	3/4	1 9/16	5 25/32	1 1/2	3.7
	7	14,000	15/16	2	7 5/16	1 25/32	7.3
	11	22,000	1 1/8	2 7/16	9 1/32	2 3/8	15
	15	30,000	1 1/4	2 27/32	10 7/32	2 1/2	22
	22	44,000	1 9/16	3 1/2	12 13/16	3 5/16	38
Carbon	20	40,000	1 3/4	3 1/2	14 1/16	4	60
	30	60,000	2 3/16	4 15/16	20 1/8	4 3/4	148
	40	80,000	2 17/32	5	23 23/32	5 3/4	227

Carbon hooks available.

Stainless steel latch available.

Swivel Rigging Eye Hooks

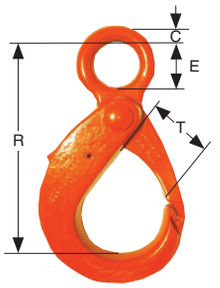
- Hook swivels beneath eye
- Drop forged alloy steel



Rated Capacity		Dimensions (in.)					Weight Each (lbs.)
Tons	Lbs.	B	C	E	R	T	
1	2,000	1 1/8	3/8	1 1/4	4 5/8	15/16	1.1
1 1/2	3,000	1 3/8	1/2	1 1/2	5 7/16	31/32	1.6
2	4,000	1 21/32	5/8	1 3/4	6 1/4	1 1/16	2.5
3	6,000	1 21/32	11/16	1 3/4	6 1/2	1 5/32	3.2
5	10,000	1 25/32	3/4	2	7 17/32	1 13/32	5.4
7	14,000	2 3/8	1	2 3/4	9 21/32	1 11/16	10.6

Latchlok Eye Hooks

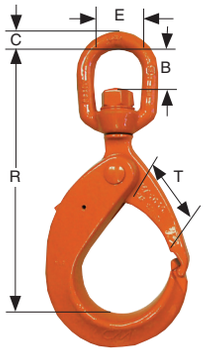
- Heavy duty latch with lock prevents accidental opening
- Drop forged alloy steel



Rated Capacity		Dimensions (in.)				Weight Each (lbs.)
Tons	Lbs.	C	E	R	T	
1.7	3,400	7/16	1 3/32	5 3/8	1 5/8	2.1
3.5	7,000	19/32	1 3/8	6 21/32	1 9/32	3.9
6.0	12,000	25/32	1 9/16	8 25/32	2 29/32	8.8
9.0	18,000	1 1/32	2	10 11/32	3 3/16	14

Swivel Latchlok Hooks With Bushings

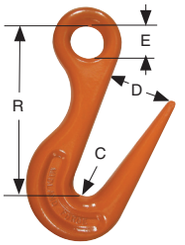
- Hook swivels beneath the eye
- Heavy duty latch with lock prevents accidental opening
- Drop forged alloy steel



Rated Capacity		Dimensions (in.)					Weight Each (lbs.)
Tons	Lbs.	B	C	E	R	T	
1.7	3,400	1 11/32	5/8	1 1/2	7 5/32	1 5/8	3.5
3.5	7,000	1 5/8	3/4	1 3/4	8 23/32	2 1/4	4.8
6.0	12,000	1 3/4	15/16	2	11 3/16	2 29/32	10.6
9.0	18,000	2 3/8	1	2 3/4	13 13/32	3 3/16	17.0

Sorting Hooks

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



Dimensions (in.)				Weight (lbs.)
C (Rad.)	D	E	R	
5/8	2 13/16	1 7/16	7 11/32	6.8

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

⚠ 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 12. Rated Capacity Design Factor 5:1.

INSPECTION CRITERIA FOR WIRE ROPE SLINGS

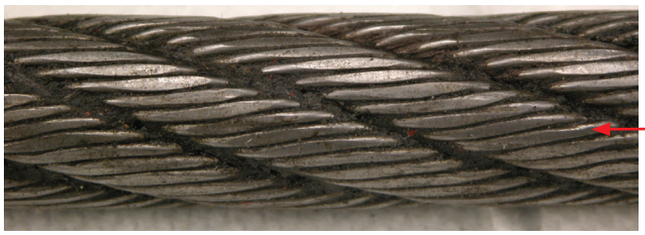
⚠ CAUTION
Do not inspect a sling by passing bare hands over the wire rope.

Remove slings from service when:
- Capacity information is missing or illegible;
- 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%.

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.



THE DAMAGE: **Wear**

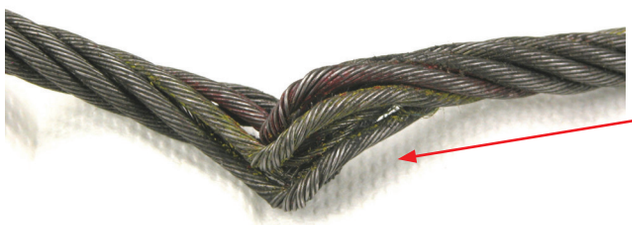
WHAT TO LOOK FOR: Flat areas on the individual wires. When wires have lost one third or more of their original diameter, the sling must be taken out of service.

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.

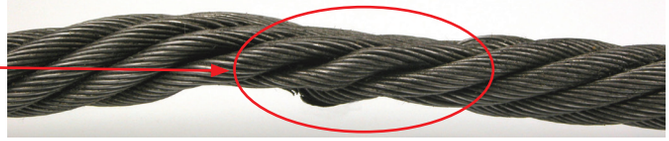
TO PREVENT: Hang slings for storage away from moisture. Do not use wire core slings above 400° F or fiber core slings above 180° F.



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.

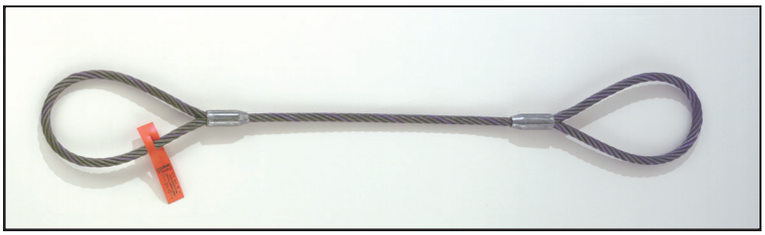
TO PREVENT: Never allow loads to be set on top of slings.

Note: OSHA now requires wire rope slings to have "permanently affixed and legible identification markings"

For inspection frequency, refer to page 7.

SLING WEIGHTS (Approx.)

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

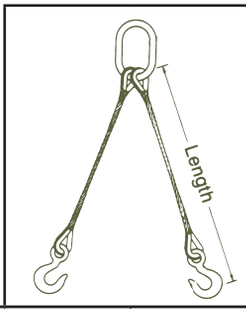
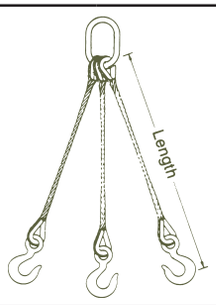
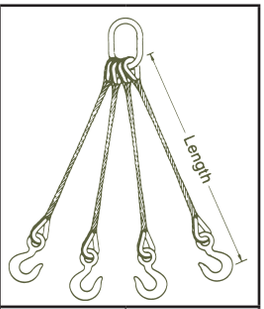


Rope Dia. (in.)	*Zero Base Weight (lbs.)	Per Foot Weight (lbs.)	Thimbled Eye Wt. Ea. (lbs.)	Alloy Eye Hook Wt. Ea. (lbs.)	Crescent Thimble Wt. Ea. (lbs.)	Slip Thru Thimble Wt. Ea. (lbs.)	Sliding Choker Hook Wt. Ea. (lbs.)
1/4	.31	.12	.08	.63	.50	1.3	1.3
5/16	.47	.18	.14	.63	.50	1.3	1.3
3/8	.73	.26	.22	.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.

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				

* 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.