

WIRE ROPE SLINGS

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1. GENERAL

1.01 Wire rope slings are used primarily to attach objects to winch lines. This section describes the type of sling available, safety precautions to be observed, and recommended inspections to be made to insure safe operation and serviceability.

1.02 This section is reissued to delete the looped eye sling, to more clearly define sling length, and to change safe working capacities. Since this is a general revision, arrows normally used to indicate changes are omitted.

1.03 Section 649-310-011, Wire Rope General will be considered a supplement to this section.

2. SAFETY PRECAUTIONS

2.01 Insure that the rated load capacity of the wire rope sling and associated apparatus will not be exceeded.

2.02 Before the start of work operations, inspect the sling as outlined in Part 5 of this section. Any wire rope slings with defective eyes or damaged rope sections will be discarded.

2.03 It is not desirable to make slings from discarded sections of winch lines; defective or worn rope may inadvertently be used for the sling.

2.04 Leather gloves will be worn when handling wire rope to prevent cuts and puncture wounds from broken wires.

2.05 Be certain the sling or slings are properly attached to the load so there is no possibility of shifting or loosing the load.

2.06 Do not attempt to make slings with any type of clamp fastener.

3. DESCRIPTION AND ORDERING INFORMATION

3.01 Wire rope slings are available in one foot increments from 3 to 6 feet in length. They are fabricated from 7/16 inch diameter E wire rope with an independent wire rope core (IWRC). The 8-inch by 4-inch eye at each end is a rolled type (Flemish Eye) and is secured near the crotch with one swaged steel fitting. (See Fig. 1.)

NOTICE

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Bell System except under written agreement

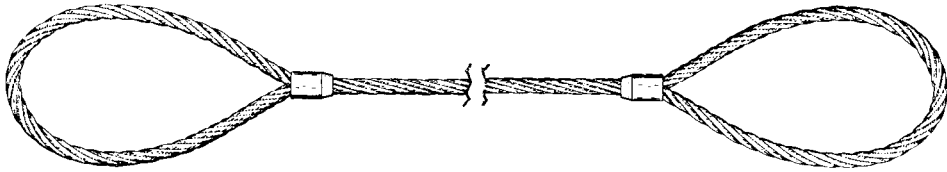


Fig. 1—Wire Rope Sling

3.02 These slings may be ordered as follows:

- (Quantity) Sling, Rope, Wire B (length as 4 Ft)

4. TYPES AND CAPACITIES OF SLING ATTACHMENTS

4.01 The primary use of wire rope slings is to attach the winch line to poles. A sling 4 feet in length, including the eyes, is a convenient length for this type of work. When lifting or lowering poles not set in the ground, the sling may be placed around the pole and attached by running one eye through the other and then attaching the free eye to the winch line. This type of attachment is known as a choker hitch. Extreme abrasion and bending of the wire rope occurs with this type of hitch. Care should be used to inspect the wire rope for wear and broken wires. (See Fig. 2.)

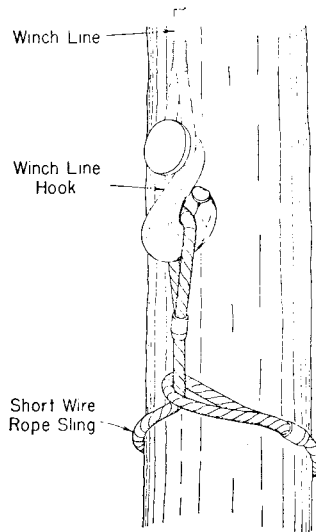
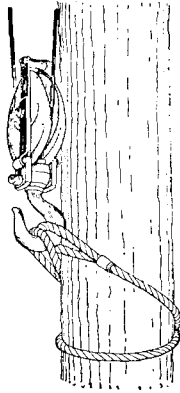


Fig. 2—Choker Hitch

4.02 For heavier loads, such as pulling poles or using a snatch block, a longer sling may be used and attached to the pole as shown in Fig. 3. This attachment can also be used on small poles to keep the winch hook close to the pole. A sling attached in this manner will develop the strength of a bridle sling. (See 4.03.)



**Fig. 3—Rigging a Sling for Use With Heavier Loads
or for Use With a Snatch Block**

4.03 For other work, such as attaching the winch line to large cable terminals or load coil cases the sling should be attached to the object to be lifted as best suits each case. Some types of attachments are considerably stronger than others and consideration should be given to the illustration in Fig. 4 when planning the attachment.

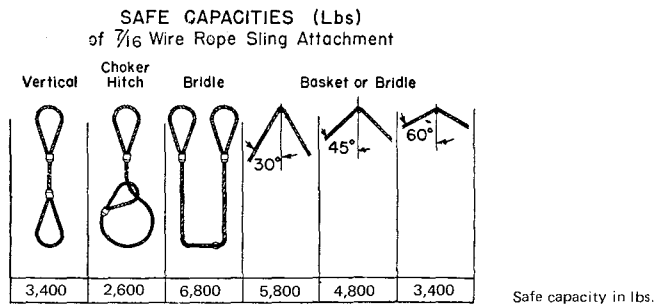


Fig. 4—Safe Capacities of 7/16 Inch Wire Rope Sling Attachment

The sling attachment capacities given are the maximum recommended working loads.

5. INSPECTIONS

5.01 Wire rope slings are subjected to high loads and damage in normal construction work. Constant observation and inspections are required to insure safe usage.

5.02 The primary causes for removal of slings from service are wear, broken wires, corrosion and rust, kinks, loose swaged fittings, and heat damage.

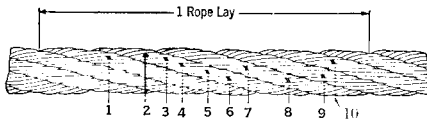
5.03 Any wire rope sling where the thickness of the outer wires has been reduced to two-thirds or less of the original thickness by wear, or pitting shall be removed from service. (See Fig. 5.)



Worn rope, usually indicated by flat spots on the outer wires as shown. This does not apply to type H rope which is designed with flats on the outer wires.

Fig. 5—Wire Rope Wear

5.04 The sling will be considered unsafe and removed from service if there is more than ten broken wires in any one lay or more than five broken wires in one strand in any one rope lay. (A rope lay is defined as the length of rope in which one strand makes one complete revolution of spiral of the rope.) (See Fig. 6.)



Rope is unsafe for further use if there are five broken wires in one strand (2, 3, 4, 5, 6) or a total of 10 broken wires in all strands in any one rope lay: (1 through 10, inclusive.)

Fig. 6—Inspection of Wire Rope for Broken Wires

5.05 Any portion of the sling that has been kinked, crushed, or exposed to heat should be inspected thoroughly for internal damage. It is difficult to determine the extent of this type of damage. If there is any question about the safety and further serviceability of the sling, remove it from service.

5.06 Slings that have been exposed to temperatures in excess of 400°F shall be removed from service.

5.07 Daily Inspection—(Craftsperson):

- (1) The daily inspection should be made prior to the start of work operations.
- (2) Inspect the sling for wear, broken wires, loose swag fittings, kinks pitting, crushed spots, or heat damage.
- (3) Inspect thoroughly any portion, for evidence of internal damage, that has been kinked or crushed.
- (4) Particular attention should be given to the rope and eye near the swag fitting for broken wires.
- (5) All wire rope should be observed during work operations for damage that might occur while in use.