

POLY-PLUS ROPE
DESCRIPTION AND USE

1. GENERAL

- 1.01 This section covers the description and use of 3/8 inch diameter poly-plus rope.
- 1.02 When this section is reissued, the reason for reissue will be in this paragraph.
- 1.03 The 3/8 inch diameter rope is the only diameter rope approved at this time. It is approved only for use as a replacement extension ladder rope to be used on the D and E extension ladder. This rope is to be used on all sizes of D and E extension ladders when the existing Manila rope is deemed unsafe and in need of replacement.
- 1.04 B ladder pulley kits will be received with 3/8 inch poly-plus rope.

2. DESCRIPTION

- 2.01 The poly-plus rope is three stranded, light weight, mildew and organic rot resistant rope consisting of 3 synthetic fibers. The outside fibers are part polyester for abrasion resistance and part polyethylene. The core is polypropylene for economy and lighter weight.
- 2.02 Poly-plus rope should render service life of 20 times that of manila.
- 2.03 The 3/8 inch diameter rope has a greenish tracer in one of the outer strands.

3. SAFETY PRECAUTIONS

- 3.01 Inspect the entire length of rope for surface imperfections. Never use a rope that is in doubtful condition.
- 3.02 3/8 inch poly-plus rope has a tensile strength of 3,200 lbs. The working load is 320 lbs.
- 3.03 Poly-plus rope has an excellent resistance to chemicals and acids. Care should be taken to not expose the rope to chemicals.
- 3.04 The polyester fiber on the rope improves the sunlight or UV protection on the rope. However, as with all rope, protection from sunlight should be provided whenever possible.

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- 3.05 The dielectric value of dry poly-plus rope is half that of dry manila but dielectrically there is little difference in wet poly-plus or Manila rope. The precautions required when using Manila rope should be exercised with plastic rope when working on joint-use pole lines.

4. SPLICING POLY-PLUS ROPE

- 4.01 No mid-rope splice will be allowed when used on extension ladders. The only splice allowed is the eye splice on the attaching end of the rope.
- 4.02 Allow 25% more length of the splice when splicing synthetic rope than when splicing natural fiber ropes.
- 4.03 The recommended method of making an eye splice in plastic rope is to use 3 full tucks and 2 split tucks. The split tucks are made by cutting away one-half of each strand after the 3 full tucks have been made and continuing the 2 tucks with each of the half strands. This method is illustrated in Fig. 1.

5. INSPECTION

- 5.01 Each employee shall be responsible for determining that rope in their possession is in good condition.
- 5.02 If upon inspecting a rope, a condition is found that raises any doubt as to its being safe to use, exchange the rope for one in good condition in accordance with local routine.
- 5.03 To inspect the internal condition of the rope it is necessary to separate the strands of rope at three foot intervals, and at any other location that appears or feels suspicious. Check for:
- (a) Mud, Sand, and Dust: Dragging rope through mud, sand, or dust will cause fine particles of grit to work between the fibers and grind them into a fine powder.
 - (b) Chemicals: Plastic rope is resistant to most chemicals; however, some acids and oils can have an injurious effect on the fibers.
 - (c) Broken, Cut, or Compressed Fibers: Contact with sharp tools or other edges or being run over by vehicles and other equipment can damage fibers.

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- (d) Burned or melted fibers (caused by a hot substance, chemical action, or friction).

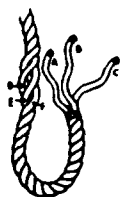
6. STORING POLY-PLUS ROPE

- 6.01 Do not store plastic rope near radiators, stoves, steampipes, or in any place where the rope may be subjected to excessive heat.
- 6.02 Even though poly-plus rope is reasonably impervious to moisture, it should not be stored wet.
- 6.03 Do not store poly-plus rope outdoors where it is exposed to weather.

THE EYE SPLICE

The Eye Splice is also called the Side Splice because it is used to form an eye or loop in the end of a rope by splicing the end back into its own side. This splice is made like the Short Splice except that only one rope is used.

STEP 1 - Start by seizing the working end of the rope. Unlay 3 strands (A, B & C) to the seizing and whip the end of each strand. Then twist the rope slightly to open up Strands D, E, and F of the standing part of the rope.



STEP 2 - Make the first tuck. The middle strand is always tucked first, so Strand B is tucked under Strand E, the middle strand of the standing part of the rope.



STEP 3 - Make the second tuck. Left Strand A of the working end is tucked under Strand D, passing over Strand E.



STEP 4 - Make the third tuck. In order to make Strand F easy to get at, the rope should be turned over. Strand C now appears on the left side.



STEP 5 - Strand C is then passed to the right of and tucked under Strand F. This completes the first round of tucks.



STEP 6 - Reverse the rope again for easier handling and begin the second round of tucks. Strand B is passed over Strand D and tucked under the next strand to the left. Continue with Strands A & C, tucking over one strand and then under one to the left. To complete the splice, tuck each strand once more.



STEP 7 - Remove the temporary seizing and cut off the strand ends, leaving at least 1/2" on each end. Roll the splice back and forth under your foot to even up and smooth out the strands. The completed Splice is shown in Figure 18.



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