

CORNING

Installation Guide for Long Span ROC™ Drop Cables

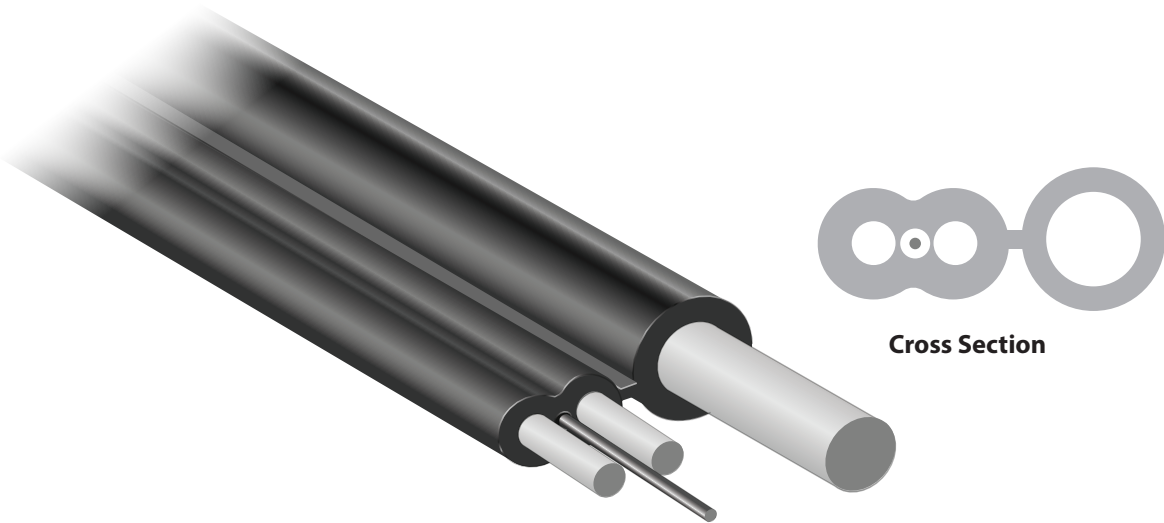
P/N 004-135-AEN, Issue 1

related literature |

[SRP 005-075-AEN](#) [Splitting Tool for ROC Drop Cables](#)

1. General

This procedure describes a general method for cable installation and accessing the optical fiber in Corning Optical Communications long span ROC drop cable. End accessing of the cable is described in this procedure.



Long Span ROC Drop Cable

TPA-7993

2. Precautions

2.1 Safety Gloves



CAUTION: The wearing of cut-resistant safety gloves to protect your hands from accidental injury when using sharp-bladed tools and armored cable is strongly recommended. Use extreme care when working with severed armor. There will be a sharp edge where armor is cut. To minimize the chance of injury from the cut armor, cover the exposed edge with a wrap of electrical tape. To minimize the chance of injury from sharp-bladed tools, always cut away from yourself and others. Dispose of used blades and armor scrap properly.

2.2 Safety Glasses



CAUTION: The wearing of safety glasses to protect the eyes from accidental injury is strongly recommended when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can easily damage the cornea of the eye.

2.3 Cable and Fiber Handling Precautions



CAUTION: Fiber optic cable is sensitive to excessive pulling, bending and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink. Doing so may cause damage that can alter the transmission characteristics of the cable. The cable may have to be replaced.

2.4 Fiber Precautions



CAUTION: The wearing of safety glasses to protect the eyes from accidental injury is strongly recommended when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can easily damage the cornea of the eye.

2.5 Laser Precautions

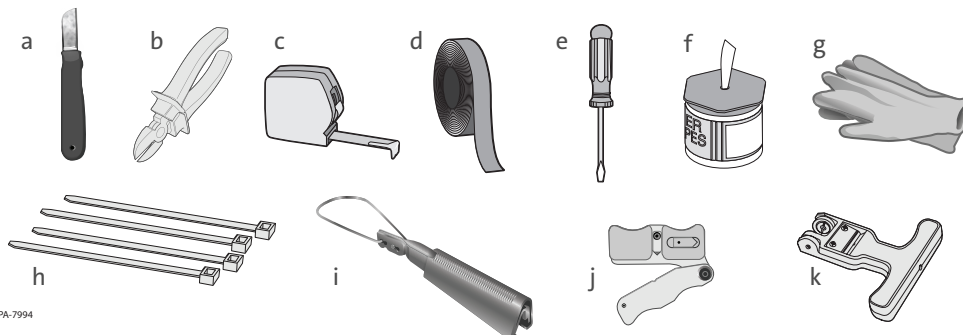


WARNING: Never look directly into the end of a fiber that may be carrying laser light. Laser light can be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.

3. Tools and Materials:

3.1 The following tools and materials are required to complete this procedure:

- a. Sheath knife or utility knife with straight blade
- b. Diagonal cutting pliers (side cutters) or scissors
- c. Tape measure
- d. Vinyl electrical tape
- e. Small screwdriver
- f. Lint-free tissues
- g. Gloves
- h. Cable ties
- i. Deadend clamp suitable for long span ROC drop
- j. Miller MB03-7140 long span ROC splitting tool (optional)
- k. RDST-000 ROC drop access tool (optional)
 - Emery cloth (optional)



4. Cable Span Termination

- 4.1 NESC heavy loading conditions limit drop cable spans to 400 feet (122 m), and 650 feet (198 m) under NESC Medium, assuming 1% installation sag. Contact Corning Optical Communications for other applications. Slack loops may be added as required by local practices. To add slack loops, place one or more 12 inch (31 cm) diameter loops on the slack-end of the cable before routing the cable to the termination hardware. Secure the slack loops with cable ties.

- Step 1:** Use a wedge clamp to secure the cable in an aerial application (Figure 1).
- Step 2:** Route and secure the long span ROC drop cable into the selected termination hardware according to the installation procedures for that hardware.

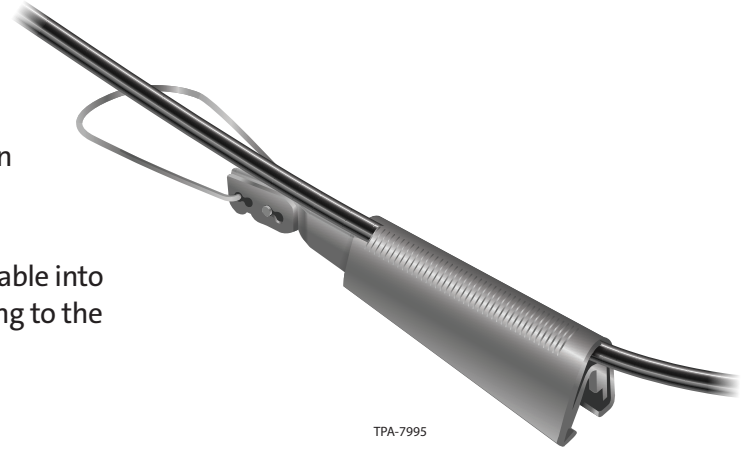


Figure 1— Wedge clamp



CAUTION: Do not place drip loops in the cable during installation. Forming a drip loop in the cable will most likely exceed the bend radius or break the cable's strength members, causing fiber damage and attenuation.

5. Cable-end Preparation

- Step 1:** Refer to the documentation for the hardware in which you are installing the cable for the recommended sheath removal lengths.
- Step 2:** Mark the cable at the appropriate distance from the cable end with a wrap of tape (Figure 2).

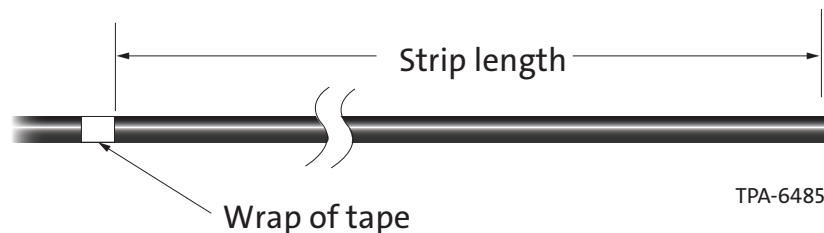
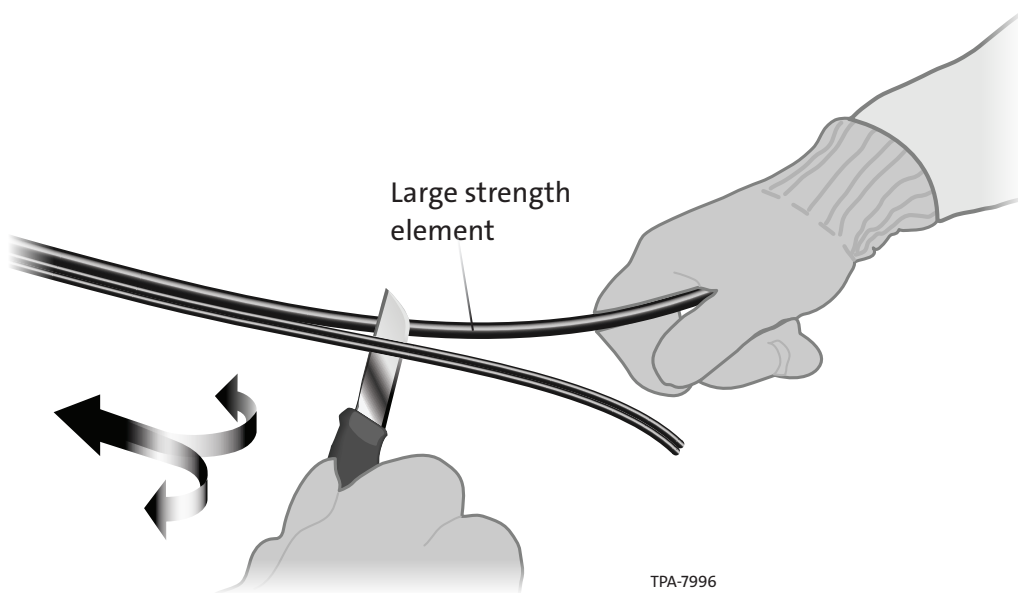


Figure 2

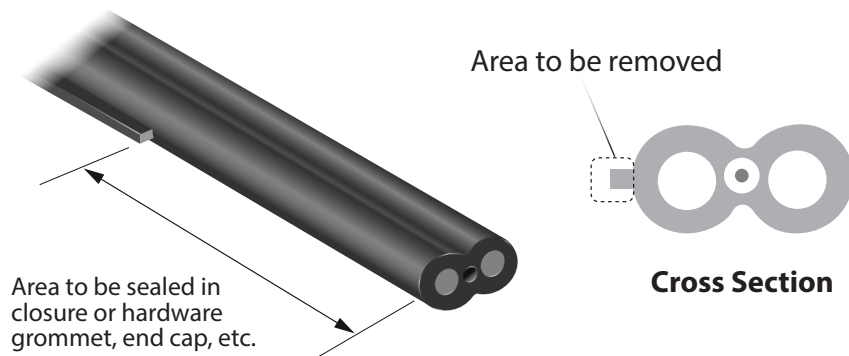
6. Separating the Self-Support Strength Element

NOTE: *Miller MB03-7140 can be used to remove the strength element from the side of the cable.*

- Step 1:** Determine the point on the cable where the separation must occur. It may be desirable to remove the large strength element before routing the cable or entering a piece of hardware.
- Step 2:** Holding the cable in one gloved hand with the strength element facing up, use a utility knife to separate the element: only light pressure is needed to cut the web. Cut with the blade tilted toward the cable to minimize left-over web material on the cable.



- Step 3:** Using the sheath knife or utility knife and/or emery cloth, remove any web remnants on the cable in the area(s) that will be sealed in any closure or hardware.



- Step 4:** Once the strength element has been separated, all other preparation steps for the optical cable will use the appropriate sections of this SRP.

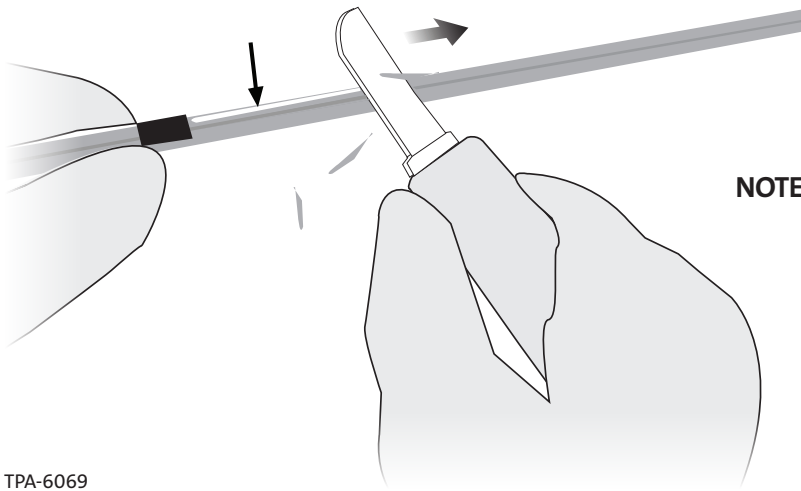
7. Sheath Removal

NOTE: RDST-0000 can be used for accessing the remainder of the cable. Refer to SRP-005-075.



WARNING: To minimize the chance of accidental injury, wear safety gloves and cut the cable away from your body during the next four steps.

Step 1: Holding the cable in one hand with the narrow width facing up, use a sheath knife or utility knife to cut the jacket away from the end of the cable to expose the dielectric strength element (Figure 3). The length of the cut should correspond to the distance marked in Step 5.2. It is acceptable to cut slightly into the strength member during this process, but avoid cutting through it.



NOTE: Some applications may require different lengths of fiber to be exposed. In these cases, adjust the length of jacket to be stripped accordingly.

Figure 3

TPA-6069

Step 2: Rotate the cable and repeat this process on the opposite narrow side.

Step 3: Rotate the cable so that a flat side is facing up. Use a sheath knife or utility knife to cut the jacket away from the end of the cable (about 1 inch) to expose the dielectric strength elements from the top (Figure 4).

Step 4: Rotate the cable over and repeat this process on the other flat side of the cable. The strength elements are now exposed from all sides at the end of the cable (Figure 5).

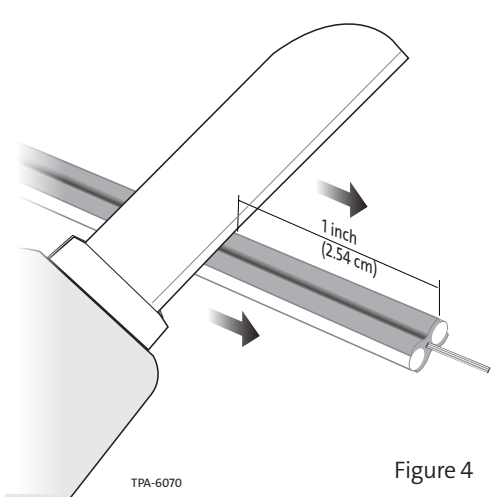


Figure 4

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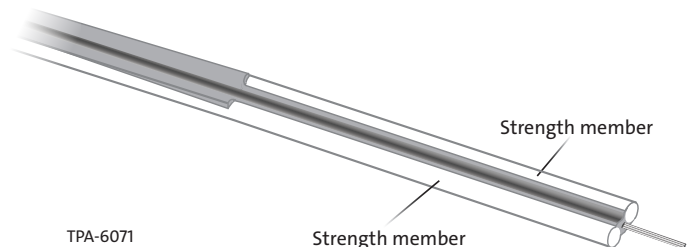


Figure 5

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Step 5: Pull the strength members out of the cable along the cable length (Figure 6).

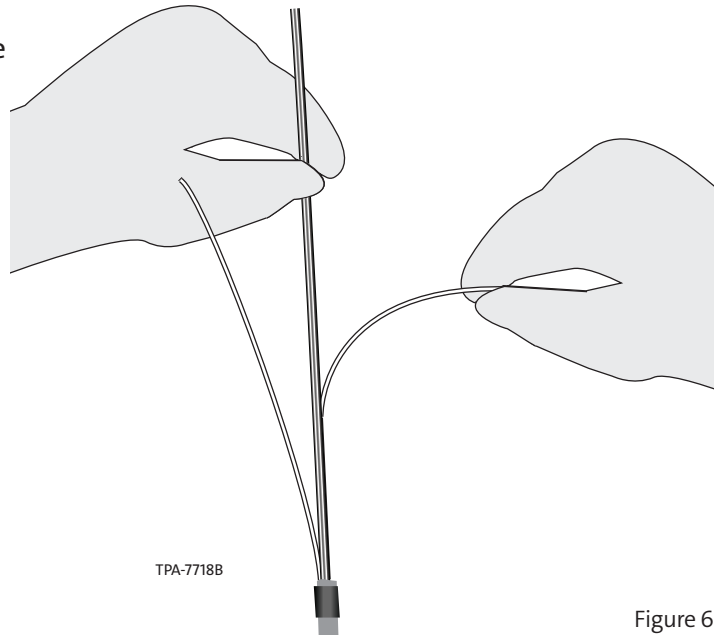


Figure 6

Step 6: Using the diagonal cutters, clip the dielectric strength members to the desired length (Figure 7). Leaving 6 inches of strength members is an adequate amount since the strength members can always be cut shorter later if required.

The cable end should now have the desired length of sheath with fiber still enclosed extending beyond the strength members.

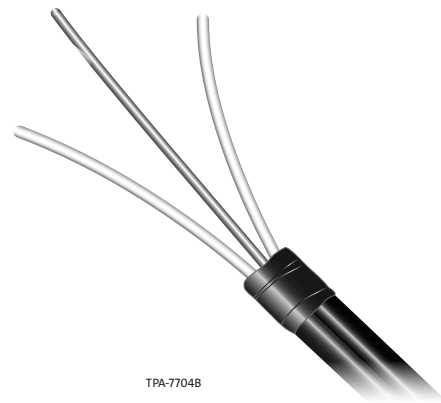


Figure 7

8. Cable End Accessing of the fiber

Step 1: Using a pair of scissors or side cutters, cut the cable end square. Then snip the cable end in the grooves where the strength members were previously located (Figure 8).

The length should be enough (approximately 1-1.5 inches) to allow you to grab each half, pull and separate the sheath into two halves as seen in Figure 8.

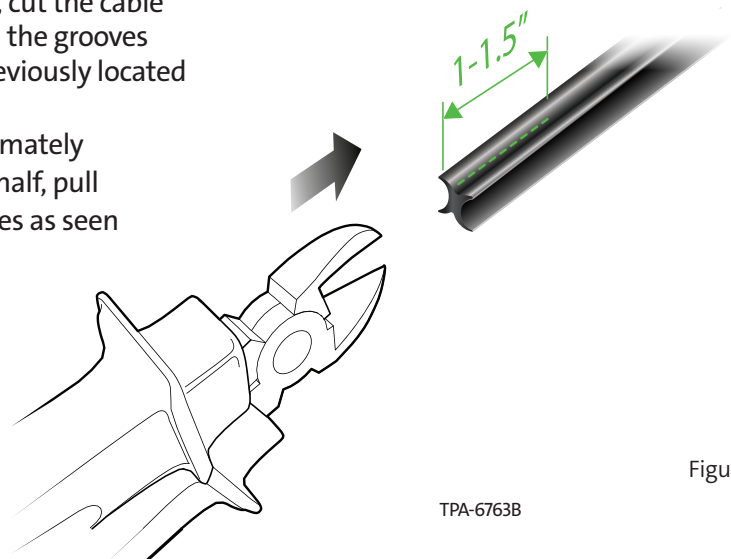


Figure 8

Step 2: After the snip is complete, grab each half of the cable sheath securely and pull to separate sheath along the length of cable (Figure 9). It is best to pull each half at a slight angle relative to the cable direction as opposed to bending each half over approximately 90 degrees to the cable and then pulling.

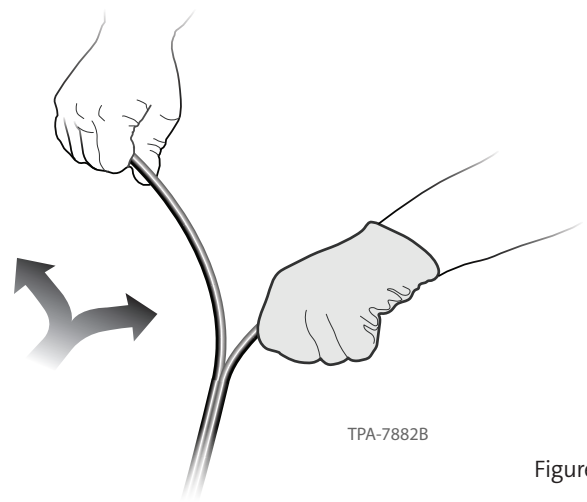


Figure 9

Step 3: Once the sheath has been separated along the entire length, look for the fiber. It may still be attached to one half of the sheath, or it may have separated as the sheath was split. If the fiber is still attached to the sheath, look for it at the cable end, separate the fiber from the sheath and gently pull the fiber along the length to where it leaves the cable at the end near the cut strength members (Figure 10).



Figure 10

Step 4: Cut off the split sheath and discard.

Step 5: The fiber is now exposed and both the cable and fiber are ready to be placed into the required hardware for the specific application (Figure 11).

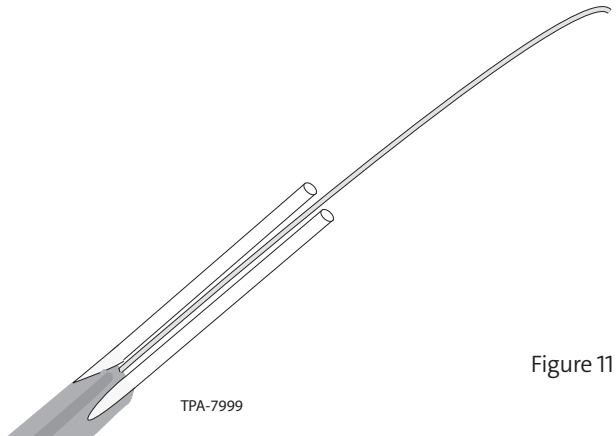


Figure 11

9. Hardware Placement

Step 1: Route and secure the ROC Drop cable into the selected termination hardware, following all hardware instructions. BE EXTREMELY CAREFUL NOT TO DAMAGE THE EXPOSED FIBER DURING THIS STEP.

Step 2: Terminate or splice the individual fibers according to the appropriate procedures.