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1. General

This document provides recommended jacket and buffer tube removal procedures for Corning® MiniXtend® loose tube cables.

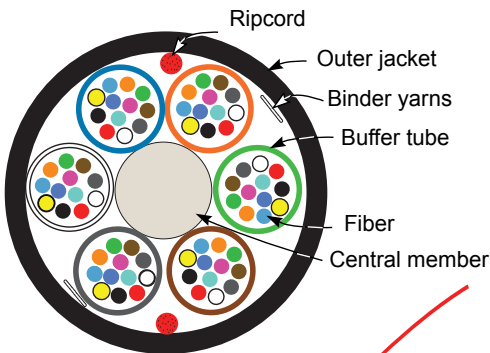
2. Precautions

2.1 Cable 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 the 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.

Nominal O.D. 0.21 in (5.4 mm)



72-fiber MiniXtend cable

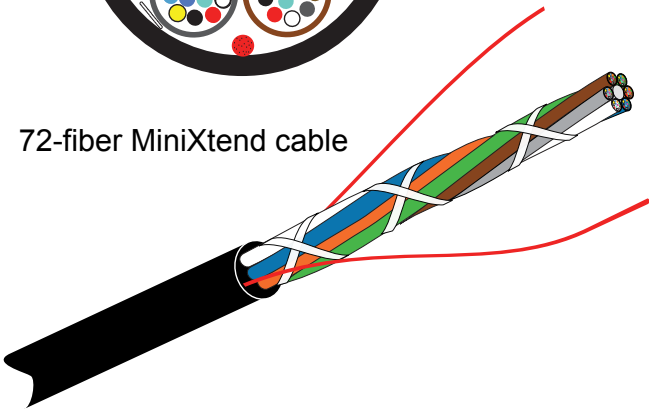


Figure 1

2.2 Laser Handling 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.

2.3 Safety Glasses



CAUTION: Corning recommends the use of safety glasses (spectacles) for eye protection from accidental injury when handling chemicals, cables, or working with fiber. Pieces of glass fiber are very sharp and have the potential to damage the eye.

2.4 Safety Gloves



CAUTION: The wearing of cut-resistant safety gloves to protect your hands from accidental injury when using sharp-bladed tools is strongly recommended. 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.

3. Tools and Materials

3.1 For Cable End Removal

The following tools and materials are required for the cable end removal sections of this procedure:

- Vinyl electrical tape (Corning P/N 100278-01)
- Rule or tape measure (P/N 100305-01)
- Ideal® tool 45-165 (black plastic housing) OR
- Ideal tool 45-164 (blue plastic housing) for 144-fiber cable
- Small screwdriver
- Small snips or electrician's scissors (P/N 100294-01)
- Fiber cleaning materials approved by your company
- Ripley FTS-005 buffer tube access tool (Corning P/N 02-046470)

3.2 For Mid-span Access

In addition to the tools and materials listed in Section 3.1, the following tools are required for mid-span access:

- Sharpie® permanent marking pen (P/N 2102003-01)
- Corning® OFAT-003 tool
- Seam ripper (P/N sio100304-01)

4. Cable End Access

4.1 Jacket Removal

Step 1: Calibrate both flat and round blades of Ideal® tool by trial and error on scrap cable or end of cable.

Step 2: Measure approximately 3 in (7.62 cm) from the end of the cable.

Step 3: Use the Ideal® Tool 45-165 (or 45-164 for 144-fiber cable) to make a ring cut by rotating the tool around the cable jacket (ensure that the tool's side blade is properly adjusted so it does not damage buffer tubes) (Figure 2).

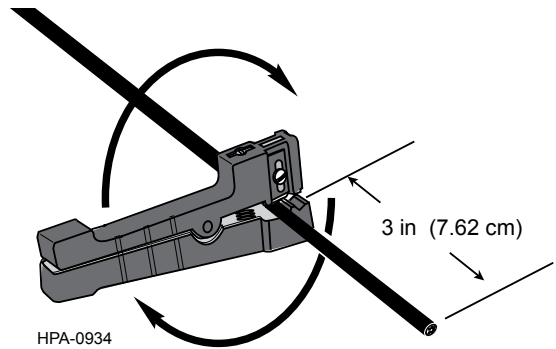
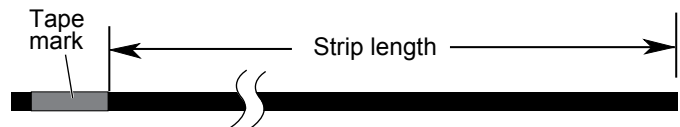


Figure 2

Step 4: Based on the closure/hardware documentation being used, measure and use a wrap of vinyl tape to mark the required jacket removal length (Figure 3).



Step 5: Use the Ideal tool to make a second ring cut on the cable end side of the tape mark (Figure 3).

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Not to scale

Figure 3

Step 6: Using the rounded blade on the end of the Ideal tool, make a longitudinal cut from the first ring cut to the end of the cable (Figure 4).

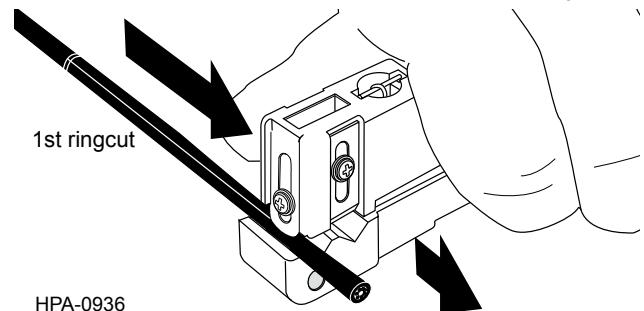


Figure 4

Step 7: With your fingers, remove the split pieces of outer jacket at the end of the cable to expose the ripcords and cable binder yarns (Figure 5).

Step 8: Using care, find the two ripcords. The ripcords run longitudinally down the cable and are located 180 degrees apart.

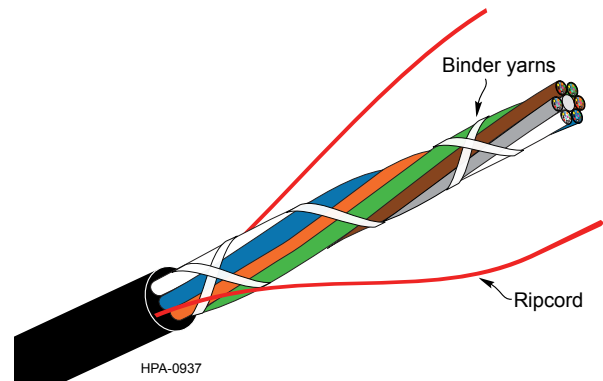


Figure 5



CAUTION: Do not pull the binder yarns. Pulling on the yarns, which are stranded around the cable core, may damage the buffer tubes and fibers.

Step 9: Wrap the end of one of the exposed ripcords of around the shaft of a small screw driver and pull it through the outer jacket until it passes through the second ring cut at the tape wrap (Figure 6).

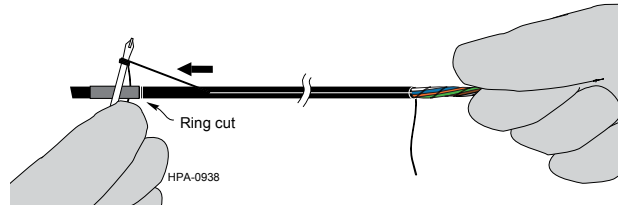


Figure 6

Step 10: Using caution when cutting close to the cable core, use scissors to trim off the rip cords flush at the tape wrap.

Step 11: Remove the outer jacket to expose the buffer tubes, binder yarns, and the central member (Figure 7).



Figure 7

Step 12: Unravel the yarns down to the tape wrap and snip off the yarns (use great care when cutting close to the buffer tubes due to the small buffer tube size) (Figure 8).

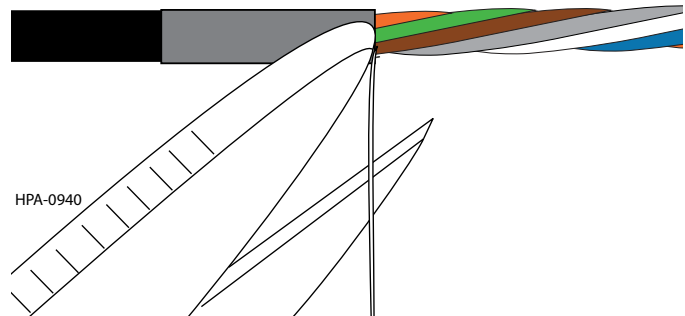


Figure 8

Step 13: Unwind and separate the buffer tubes from the central member. Cut the central member to the appropriate length for strain-relief in the hardware (Figure 9).

Step 14: For cable strain-relief hardware which clamps onto the jacket, place three layers of vinyl tape over the area where clamps make contact with the jacket (Figure 9).

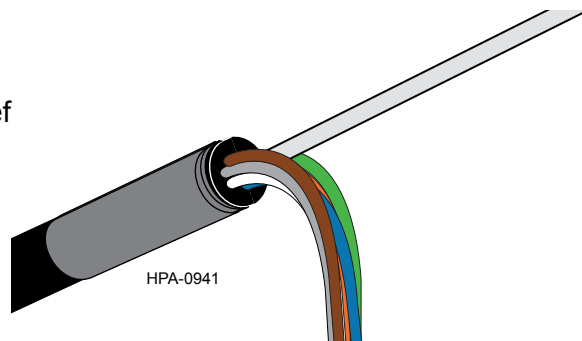


Figure 9

Step 15: Load the cable in the respective hardware/closure.

4.2 Buffer Tube Removal

NOTE: If you are unfamiliar with using the Ripley FTS-005 tool to score buffer tubes, Corning recommends practicing Section 4.2 on a small length of scrap tubing to develop the correct technique.

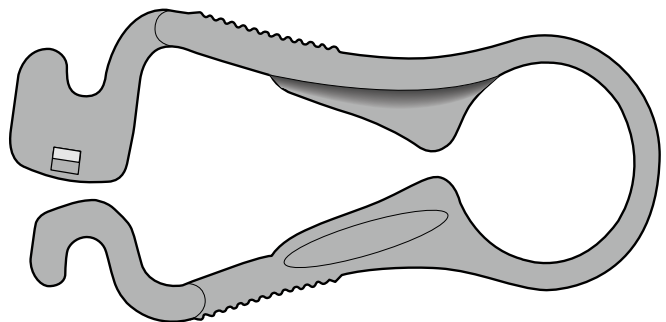
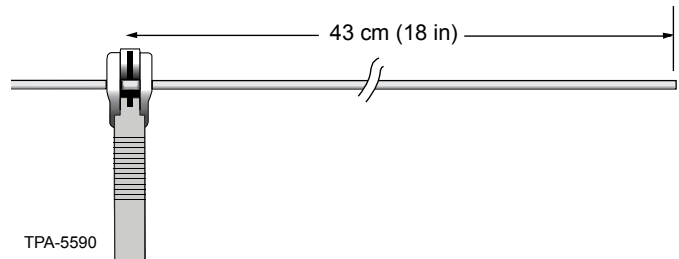


Figure 10

Step 1: Insert the buffer tube into the 1.0 mm opening of the Ripley FTS-005 tool (Figure 10) approximately 18 in (45 cm) from the end of the tube as shown in Figure 11.



Step 2: Rotate the FTS-005 tool one revolution (360 degrees), then remove tool.

Figure 11



CAUTION: Do NOT use the tool to slide the tube from the fibers. This process can damage and break the fibers.

Step 3: Snap the buffer tube at the score mark by hand and carefully slide the severed section of buffer tube off the fibers (Figure 12).

Step 4: Repeat Steps 1 through 3 to expose the appropriate length of fiber for the splice tray.

Step 5: Clean the fibers with tissue and prepare them for splicing.

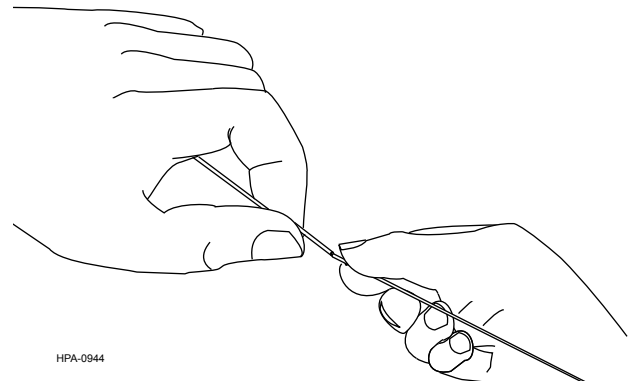
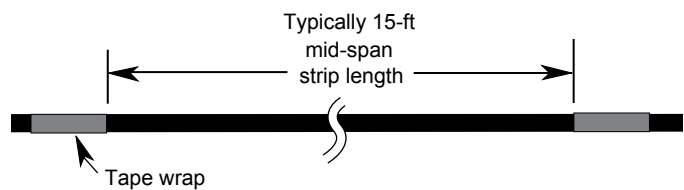


Figure 12

5. Mid-Span Access

5.1 Mid-span Jacket Removal

Step 1: Identify the location to access the jacket for mid-span cable entry and mark each end with a wrap of tape (Figure 13).

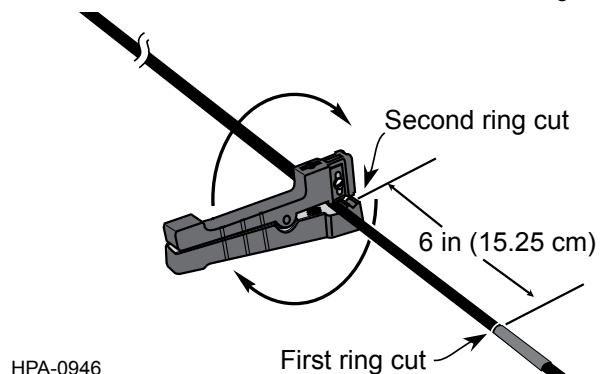


Not to scale

Figure 13

Step 2: Use the Ideal® tool to make the first ring cut at one of the tape marks.

Step 3: Measure 6 in (15.25 cm) from the first ring cut (on the same side of the tape) and make a second ring cut at that point (Figure 14).



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Figure 14

Step 4: Use the end of the Ideal® tool with a rounded blade installed and make a longitudinal cut between the first and second ring cuts made in Step 3 (Figure 15).

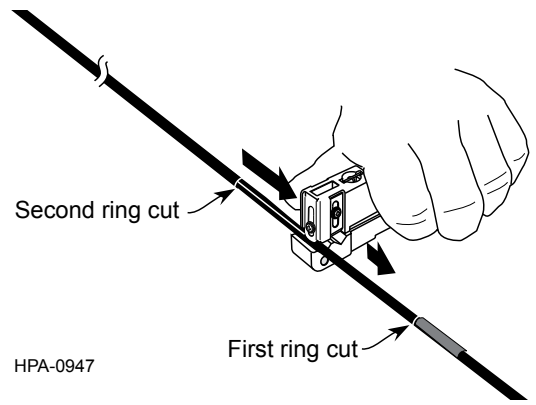


Figure 15

Step 5: With your fingers, remove the 6 in (15.25 cm) section of outer jacket to access the ripcords and yarns (Figure 16).

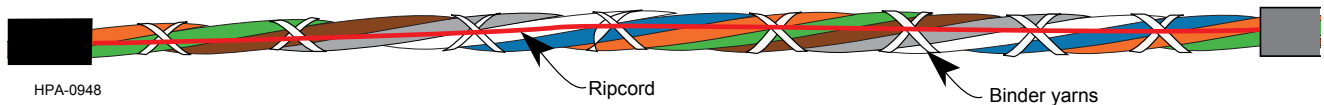


Figure 16

Step 6: Use the Ideal tool to make a third ring cut inboard of the tape wrap on the other end of the strip length.

Step 7: Using care, find the two red ripcords. The ripcords run longitudinally down the cable and are located 180 degrees apart. Using snips, cut the ripcords at the first ring cut to maximize the length of the ripcord for jacket removal.

Step 8: Wrap the end of one of the exposed ripcords around the shaft of a small screwdriver and pull it through the outer jacket until it passes through the third ring cut at the tape wrap (Figure 17).

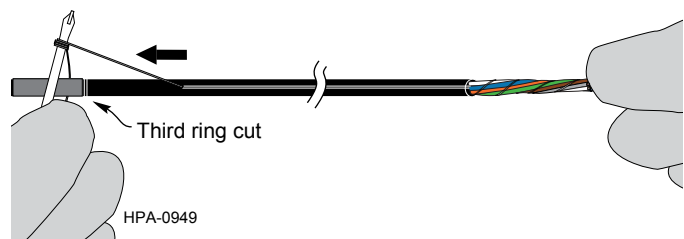


Figure 17

Step 9: Remove the outer jacket to expose the cable core.

Step 10: Using the seam ripper, cut the binder yarns every few inches (Figure 18). Remove the yarns from around the buffer tubes and carefully trim the yarns flush at the tape wraps.

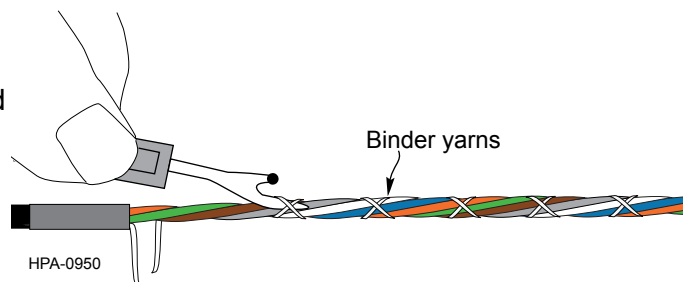


Figure 18

Step 11: Separate the buffer tubes from the central member. Cut the central member at each end of the mid-span (near the tape marks) to the appropriate length for strain-relief. If you will be installing cable strain-relief hardware that clamps into the jacket, place three layers of vinyl tape over the area where the clamps will make contact with the jacket. (Figure 19).

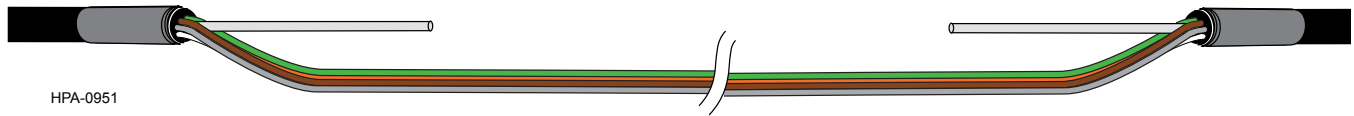


Figure 19

Step 12: Load the cable in the respective hardware/closure using care not to damage the buffer tubes.

5.2 Mid-span Buffer Tube Access

Step 1: To mid-span a buffer tube, separate and ensure there is adequate working room for the process.

Step 2: Use a permanent marking pen to mark the tube(s) with both start and end points to indicate the length of buffer tube to be opened (Figure 20). The length of opening is dependent on the installation, tray requirements, and the available fiber needed for splicing and routing.

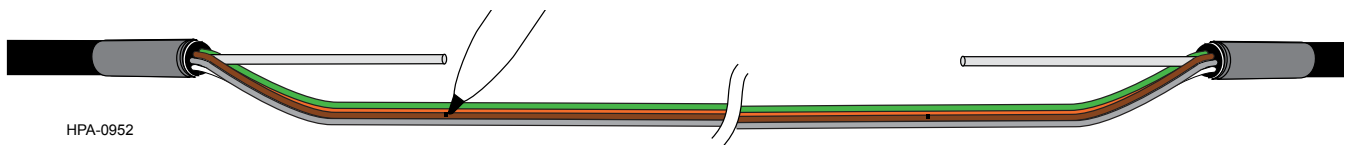


Figure 20

Step 3: To use the OFAT-003 tool from Corning to access a buffer tube:

- a. Unlatch the locking lever and open the tool. Note where the leading edge of the blade will make contact with a buffer tube placed in the metal holder (Figure 21).

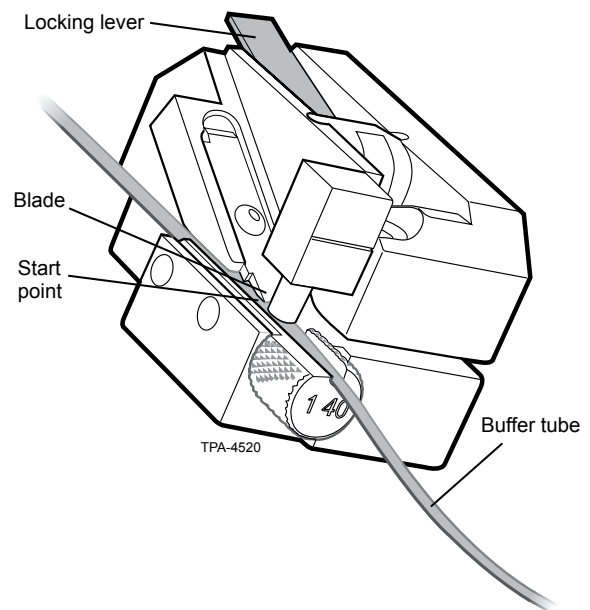


Figure 21

- b. Place the required buffer tube in the holder's slot, lining up the buffer tube's starting point mark with the blade contact point (Figure 22).

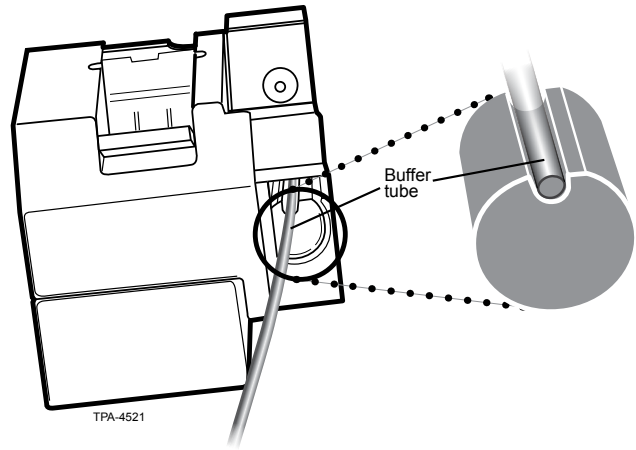


Figure 22

- c. Squeeze the tool manually with your hands and maintain pressure. Slide the tool backward slightly to ensure the buffer tube is correctly inside the groove. Rotate the locking lever to lock the tool.
- d. Pull the tool as shown in Figure 23 to shave off the top of the tube and gain access to the fibers (refer to the marks on the buffer tube as required).

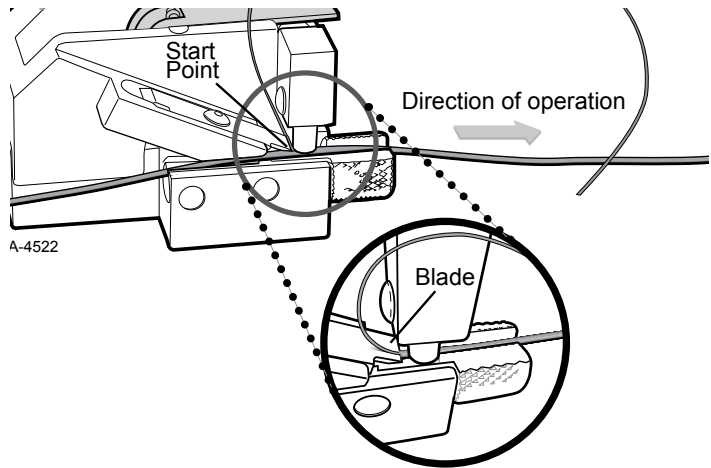


Figure 23

- Step 4:** Unlock the tool by rotating the locking lever. Remove the buffer tube from the holder slot. Carefully trim the buffer tube shavings from the now-accessed tube.
- Step 5:** Retrieve the required fibers for splicing (Figure 24).
- Step 6:** Clean the fibers and prepare the fibers for splicing according to your splice plan.



Figure 24