

## Sheath Removal of Corning Cable Systems Ribbon Riser and Ribbon Plenum Cables

### 1. General

1.1 This procedure describes installation and handling practices for Corning Cable Systems Ribbon Riser and Ribbon Plenum fiber optic cables.

1.2 The cables illustrated in this procedure are manufactured with a central buffer tube. Multiple flexible fiberglass rods (rovings) located beneath the sheath provide tensile strength for the cables. Ribbon Riser cables are OFNR /FT-4 listed; Ribbon Plenum cables are OFNP/FT-6 listed.

1.3 This issue includes updated cable and corporate information.

### 2. Precautions

#### 2.1 General Precautions



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

The wearing of *safety gloves* to protect your hands from accidental injury when using sharp-bladed tools or working near exposed rods from the sheath is strongly recommended. Use extreme care when the tool is open and its blades are exposed. Dispose of used blades properly.

#### 2.2 Laser Precautions



**WARNING:** Laser light can damage your eyes. Laser light is invisible. 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. Never look into the end of a fiber which may have a laser coupled to it. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.

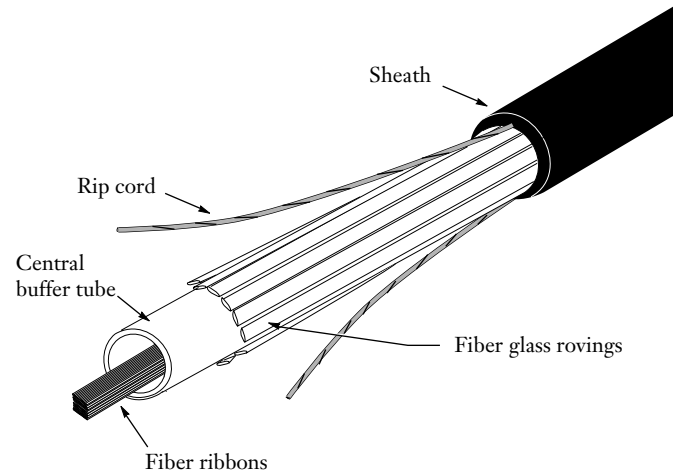


Figure 1

#### 2.3 Buffer Tube Handling Precautions



**CAUTION:** Buffer tubes are sensitive to excessive pulling, bending and crushing forces. Great care should be used when handling buffer tubes. Excessive bending will cause kinking which may damage the fibers inside.

#### 2.4 Fiber Precautions



**WARNING:** Cleaved glass fibers are very sharp and can pierce the skin easily. Do not let cut pieces of fiber stick to your clothing or drop in the work area where they can cause injury later. Use tweezers to pick up cut or broken pieces of the glass fibers and place them on a loop of tape kept for that purpose alone. Good housekeeping is very important.

#### 2.5 Filling Compound Remover



**WARNING:** Contains petroleum distillates. Harmful or fatal if swallowed. DO NOT INDUCE VOMITING. Call a physician immediately.

### 3. Tools and Materials

3.1 The following tools and materials are required for this procedure:

- Utility knife with hook-blade \* or cable sheath knife
- Scissors \*
- Filling compound remover \*
- Vinyl tape \*
- Side cutters\*
- Paper towels or clean dry cloth rags
- Tape measure \*
- Permanent marking pen \*
- Ideal® model 45-164 ( 1/4 to 9/16 in O.D.) coaxial cable stripper
- Small Phillips head screwdriver \*

\* Items available in the M67-003 Fusion Splicer Tool Kit

### 4. Sheath Removal

4.1 Determine the proper sheath removal length for the hardware being used. Mark a point at this distance from the end of the cable with a wrap of tape (Figure 2).

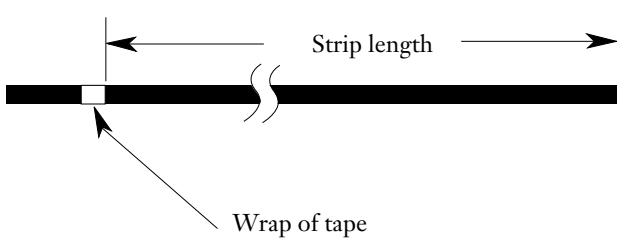


Figure 2

4.2 15 cm (6 in.) from the end of the cable, use the hook blade or cable sheath knife to ring cut the outer sheath (Figure 3). Use care to avoid cutting the rip cords or rovings beneath the sheath.

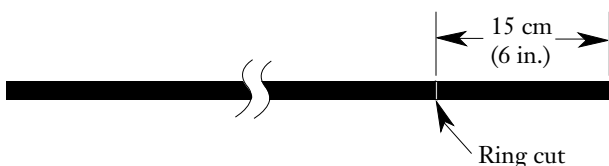


Figure 3

4.3 Position the blade of the hook blade knife at the ring cut so that it can travel down the cable between the sheath and the cable core towards the cable end.

*Hold the knife at a 45° angle to the cable to prevent the blade from slipping out of the sheath.*

Slit the 15 cm (6 in.) section of cable sheath by holding the arm which has the knife out straight and pulling the cable "through" the hook blade with your other hand (Figure 4).

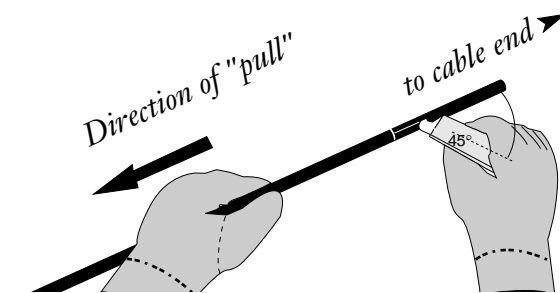


Figure 4

4.4 Remove the section of sheath to expose the rip cords and fiber glass rovings (Figure 5).

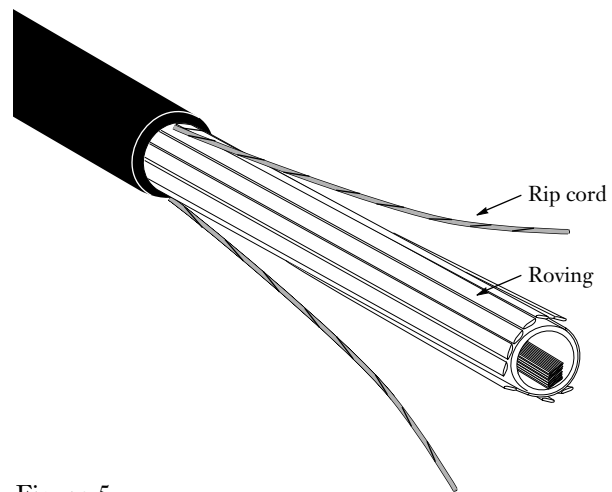


Figure 5

4.5 Wrap a rip cord around the shaft of a screwdriver, short section of scrap cable, or other object which can serve as a handle.

4.6 Pull the rip cord through the sheath to the wrap of tape (Figure 6). Cut the rip cord flush at the tape mark.

Repeat this step with the other rip cord.

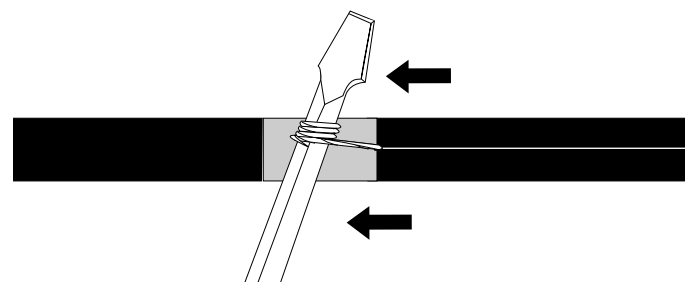


Figure 6

4.7 Pull the sheath halves out and away from the rovings and central buffer tube. *Use care not to kink the central tube – the ribbons may be damaged.*

**Note:** *The fiber glass roving length provided in the next step is adequate to anchor the cable in most hardware installations. Verify that this is the case in your installation by checking the instructions provided by the hardware manufacturer.*

4.7 Use side cutters to cut the rovings about 13 cm (5 in.) from the tape wrap (see Figure 7).

4.8 Trim off the two sections of sheath at the tape mark with side cutters or scissors (Figure 7).

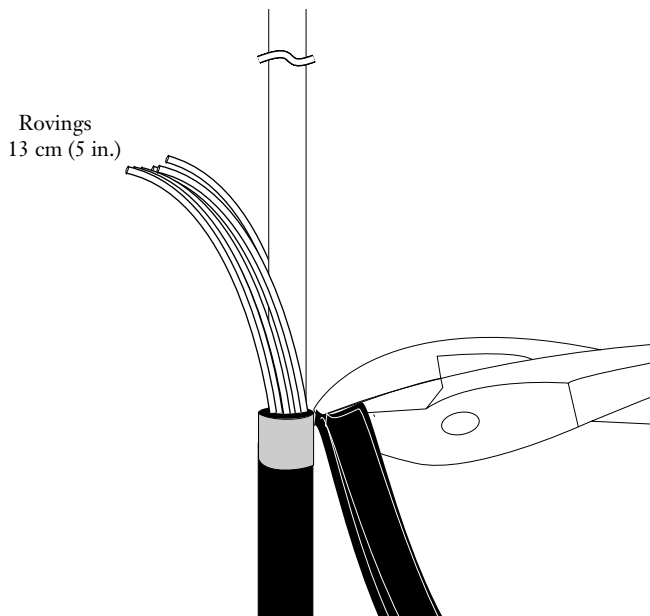


Figure 7

## 5. Accessing the Ribbons

5.1 This section describes how to use an Ideal model 45-164 (1/4 to 9/16 in O.D.) coaxial cable stripper to score the cable's central buffer tube. Scoring the circumference of the tube will enable you to make a clean break in the tube with minimal risk to the ribbons inside.

5.2 Before using the stripper, make sure that it is properly adjusted. Use a small Phillips head screwdriver to adjust *one* of the blades on the side of the buffer tube cutter so that it seats against the lower jaw but does not force the jaw open (Figure 8).

*Leave the blades on the front and other side of the tool fully retracted.*

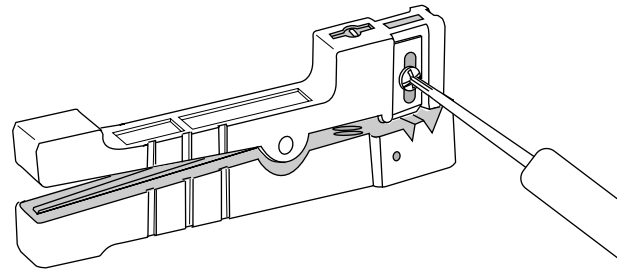


Figure 8

**Note:** *Use the last 5 to 7.5 cm (2 to 3 in.) at the free end of the buffer tube to determine the sharpness of the stripper's blade and how many turns of the tool will be required to score the tube. To minimize damage to the ribbons inside the tube, always use the tool to score the tube, **not** ring cut it.*

5.3 To score the central buffer tube:

- Open the tool by squeezing its handles together and place the stripper's blade on the tube 60 cm (24 in.) from the end of the tube.
- Hold the tube with one hand to prevent it from twisting.
- Make enough turns with the cutter to deeply score the tube (Figure 9). Two turns may be adequate with a sharp blade.

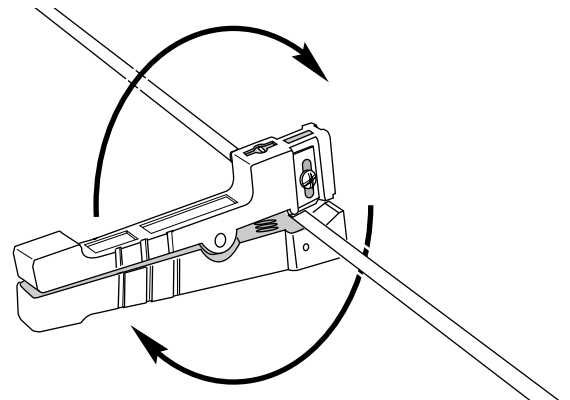


Figure 9

- d) Remove the cutter from the tube.
- e) Snap the tube at the scored area (Figure 10). Pull off the severed section of tube. **USE CARE TO AVOID DAMAGING THE FIBERS.**

*If the tube bends rather than snaps at the score point, apply more turns of the tool. If this has no effect, replace the blade.*

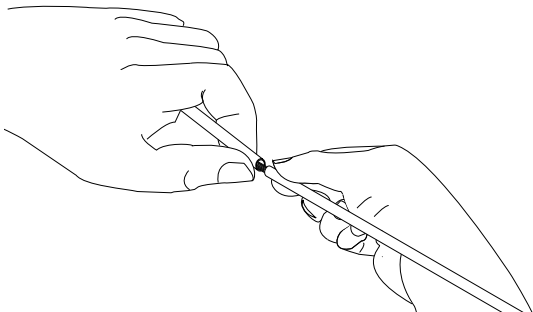


Figure 10

- f) Repeat steps a-e in 60 cm (24 in.) increments until you have removed the required length of buffer tube.

**5.4** Use a tissue soaked in filling compound remover to wipe the filling compound from each of the ribbons (Figure 11). Use a dry tissue for final cleaning.



**CAUTION:** *When filling compound remover or other solvents are used to clean the ribbons, wipe away excess solvent with a clean, dry tissue or cloth. NEVER ALLOW OPTICAL FIBERS TO SOAK IN SOLVENTS FOR EXTENDED PERIODS OF TIME— DAMAGE TO THE FIBER COATING CAN OCCUR.*

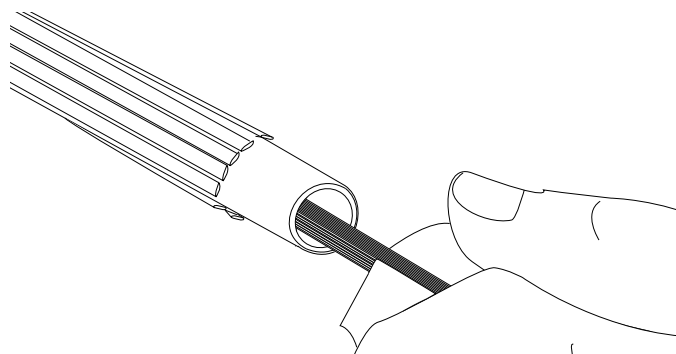


Figure 11

**5.5** Route and secure the Ribbon Riser or Ribbon Plenum cable to the hardware being installed. Secure the ribbons within the hardware in accordance with the hardware manufacturer's instructions.

**5.6** If access to individual fibers in a ribbon is required, refer to SRP-004-076, *Accessing Individual Fibers in Corning Cable Systems Optical Fiber Ribbons Using the TKT-060 Kit* (Figure 12).

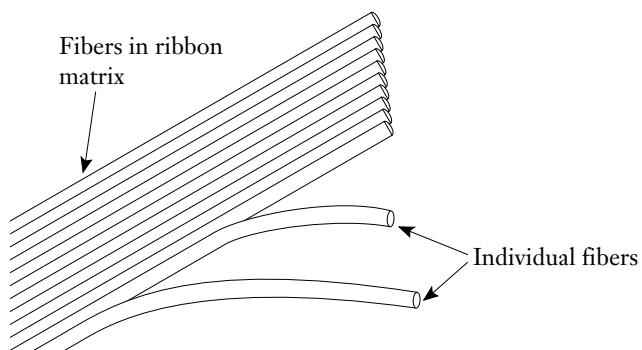


Figure 12

*Special Note:  
Fiber Optic  
Training  
Programs*



*Corning Cable Systems offers comprehensive, integrated training programs. Courses are structured for: Telephony, CATV, LAN, Intelligent Transportation Systems and Power Utilities.*

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