

## Sheath Removal Procedure for Corning Cable Systems FREEDM® Fan-Out Cable

### 1. General

**1.1** This practice describes how to remove the sheath or "jacket" of a FREEDM Fan-Out cable and prepare the cable's optical fibers for termination.

**Note:** Before attempting this procedure, completely read and understand this document.

**1.2** Corning Cable Systems OFNR FREEDM® Fan-Out Cables utilize flame-retardant, 900 µm TBII® buffered fiber subunits surrounded by water-resistant, dielectric strength members and protected by a flexible, flame-retardant outer jacket (Figure 1). All-dielectric cable construction requires no grounding or bonding, and the cable is available in single-mode and multimode fiber versions. The cable's easily terminated 2.9 mm subunits enable field terminations

**1.3** OFNR FREEDM® Fan-Out Cables meet the application requirements of the National Electrical Code® (NEC® Article 770) and are OFNR and FT-4 listed. These cables are ideal for routing inside/outside buildings into riser spaces, to security, and workstations or monitoring cameras, and within telecommunications rooms and workstations.

**1.4** If this document is reissued, a summary of changes will appear in this paragraph.

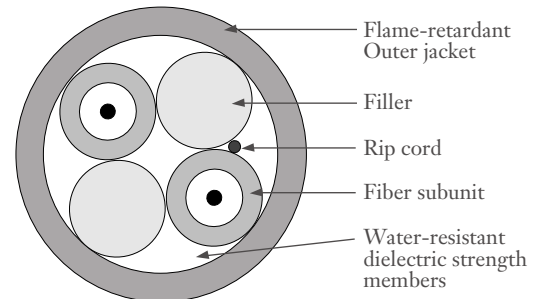


Figure 1

### 2. Precautions

#### 2.1 General Precautions



#### Safety Glasses

**WARNING:** 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.

#### 2.2 Cable Handling Precautions



**CAUTION:** Fiber optic cables are sensitive to excessive pulling, bending and crushing forces. Excessive bending will cause kinking which may damage the fibers inside – the cable may have to be replaced.

#### 2.3 Fiber Handling Precautions



**WARNING:** Cleaved glass fibers are very sharp and can easily pierce the skin. 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.

### 3. Tools and Materials

**3.1** In addition to safety glasses, the following tools from the M67-003 Fusion Splicing Tool Kit are required for this procedure:

- Tape measure ( p/n 100305-01)
- Permanent marker ( p/n 2102003-01)
- Seam ripper
- Scissors ( p/n 100294-01)
- Large Ideal stripper (Ideal catalog # 45-164)
- Stripping tool for buffers (p/n 3206001-01)
- Fiber optic stripping tool ( p/n 3205004-01)
- Phillips head screwdriver (p/n 100332-01)

## 4. Outer Jacket Removal

**4.1** Determine the jacket removal length required for the hardware or installation you are working on.

Measure and mark this length from the end of the cable's outer jacket using a tape measure and a permanent marking pen. Place an additional mark 3 to 4 inches (7.6 to 10 cm) from the end of the jacket (Figure 2).

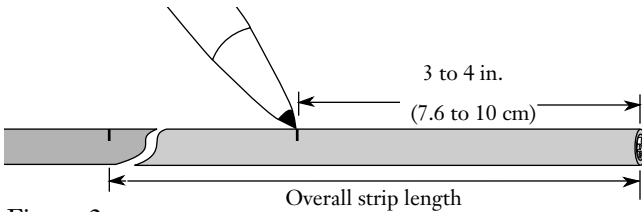


Figure 2

**4.2** Before using the large Ideal stripper, make sure that it is properly adjusted. Use a screwdriver to adjust *one* of the blades on the side of the cable stripper so that it seats against the lower jaw but does not force the jaw open (Figure 3). Leave the blades on the front and other side of the tool fully retracted so that they do not extend into the grooves of the lower jaw.

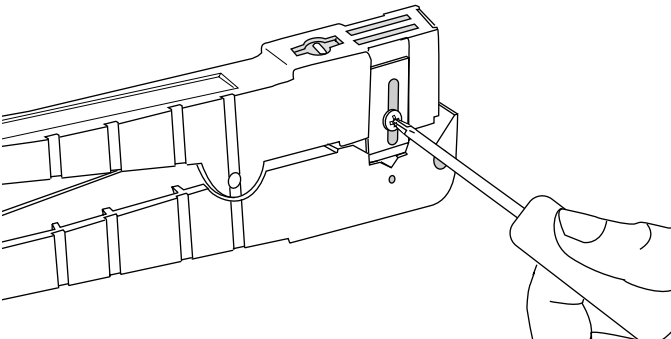


Figure 3

**4.3** To score the outer jacket at the 3 to 4 inch mark:

- Open the tool by squeezing its handles together and place the stripper's blade on the sheath at the strip length mark.
- Hold the cable steady with one hand to prevent it from twisting.
- Use your other hand to rotate the tool around the cable sheath one complete turn to score it (Figure 4). Remove the tool from the cable.

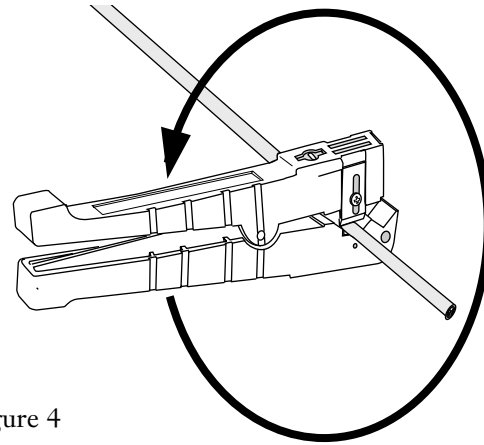


Figure 4

- Carefully flex the cable sheath to break it at the score point (Figure 5). Slide the severed section of sheath off the sub-units.

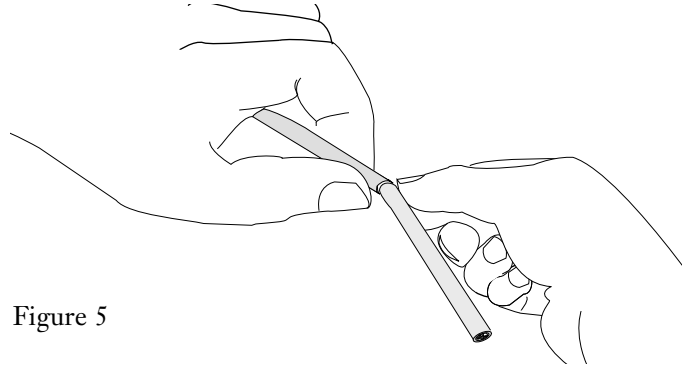


Figure 5

- Pull the 3 to 4 inch section of jacket off the cable (Figure 6).

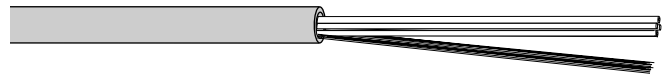


Figure 6

- Use a seam ripper to make a starter notch in the end of the outer jacket (Figure 7). Use care to avoid damaging the cable sub-units.

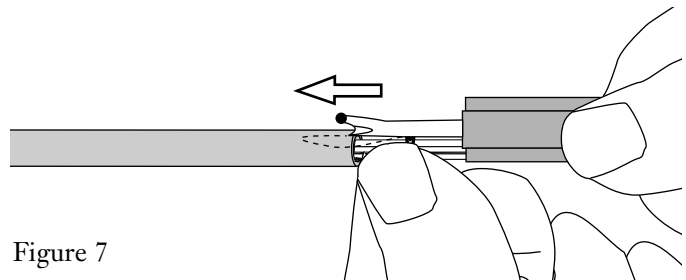


Figure 7

- Separate the rip cord from the other cable components and position it in the notch in the jacket.

**4.7** Wrap the rip cord around the shaft of a screwdriver which will serve as a handle. Pull the rip cord through the sheath back to the marked strip length (Figure 8).

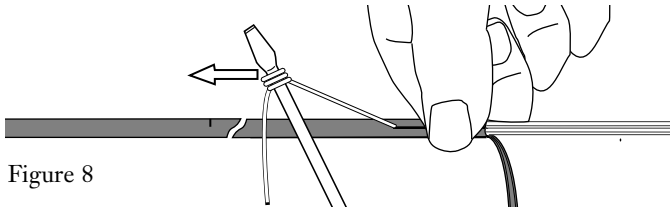


Figure 8

**4.8** Peel the split jacket back to the strip length mark (Figure 9).

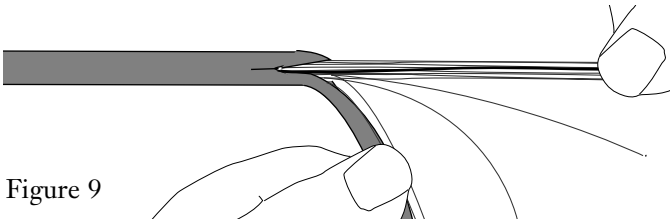


Figure 9

**4.9** Use scissors to:

- Trim off the split length of outer jacket
- Cut the aramid yarn strength members to the length required for strain relief in your installation.
- Trim the rip cord and filler elements flush with the end of the outer jacket (Figure 10).

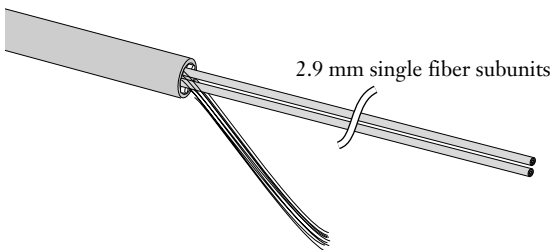


Figure 10

## 5. Accessing the Subunits

**5.1** Measure and mark the required strip length on the jackets of the two 2.9 mm subunits (Figure 11).

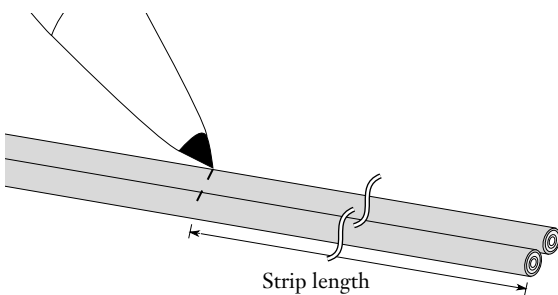


Figure 11

**5.2** Use the 2.0 mm opening on the buffer stripping tool to cut the first subunit jacket at the strip point. Slide the jacket off of the fiber (Figure 12).

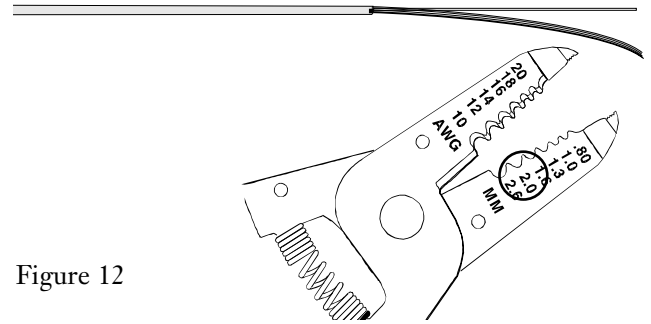


Figure 12

**5.3** Use scissors to cut the aramid yarn strength members to the length required for strain relief in your installation.

**5.4** Measure and mark the required strip length on the 900  $\mu\text{m}$  TBII® buffered fiber. Use the fiber optic stripping tool to remove the coating- for longer lengths, strip a maximum of 2 inches (50.8 mm) at a time (Figure 13).

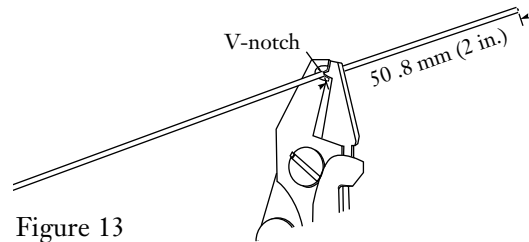


Figure 13

**5.5** Repeat steps 5.2 through 5.4 on the other subunit.

The fibers are now ready for termination.