

### related literature |

LAN-1469-AEN	Visual Installation Instructions: FuseLite® MTP® Compatible Connector SRP
003-794	Instruction, Premium EDGE™ Solution
004-071	Instruction, Sheath Removal of Armored and Non-Armored FREEDM® Riser-rated Fiber Optic Cables
004-072	Instruction, Sheath Removal of FREEDM® Ribbon Riser Cables
004-098	Instruction, Corning Cable Systems Ribbon Splitting Tool (RST-000)
005-019	Instruction, Installing a Wire Mesh Pulling Grip on Loose Tube Cable with Interlocking Armor

## 1. Carton Contents



Figure 1

### EDGE-04U Housing Installation

- 1 (12) 1/4-in Braided tubing - 12-in long
- 2 (12) 1/2-in Heat-shrink tube - 2-in long
- 3 (1) Cable ground clamp
- 4 (48) 1/4-in Braided tubing - 28-in long
- 5 (1.5) Glue-lined heat-shrink tubing 56/16 X 170MM

- 6** (1) 6-in round clear tubing
- 7** (1) Uraseal® epoxy
- 8** (48) Rectangular clear tubing - 10-in long

## EDGE-01U-SP Housing Installation

- 1** (12)  $\frac{1}{4}$ -in Braided tubing - 13-in long
- 2** (12)  $\frac{1}{2}$ -in Heat-shrink tube - 2-in long
- 3** (1) Cable ground clamp
- 4** (48)  $\frac{1}{4}$ -in Braided tubing - 18-in long
- 5** (1.5) Glue-lined heat-shrink tubing 56/16 X 170MM
- 6** (1) 6-in round clear tubing
- 7** (1) Uraseal® epoxy
- 8** (48) Rectangular clear tubing - 10-in long

## 2. Other Materials and Tools

### 2.1. Materials

- Electrical tape
- Book of Electrical Numbers or other labeling material of your choice
- d'Gel™ cable solvent cleaner
- Alcohol
- Aluminum foil

### 2.2. Tools

- Cable access tools (hook-blade, universal access tool [UAT], large coaxial cutter)
- Ribbon splitting tool (RST-000)
- Scissors /Snips
- Sharpie pen
- Heat gun

## 3. Cable Preparation

### 3.1. Cable Stripping

- Step 1:** Using a cable access tool, remove 81 in of the cable outer jacket from the end of the cable.
- Step 2:** Make a mark on the armor at 80 in and cut it off, leaving 1 in of exposed armor.
- Step 3:** Mark the inner jacket at 78 in from the end; then remove the inner jacket to the end.
- Step 4:** Now mark the central tube at the  $77 \frac{1}{2}$  in from the end of the tube. Use the coaxial tool to cut the central tube and expose the bare ribbons. At this point the cable should look like Figure 2. Refer to Corning Cable Systems Standard Recommended Procedures (SRPs) 004-071, 004-072 and 005-019 for cable access and stripping instructions.

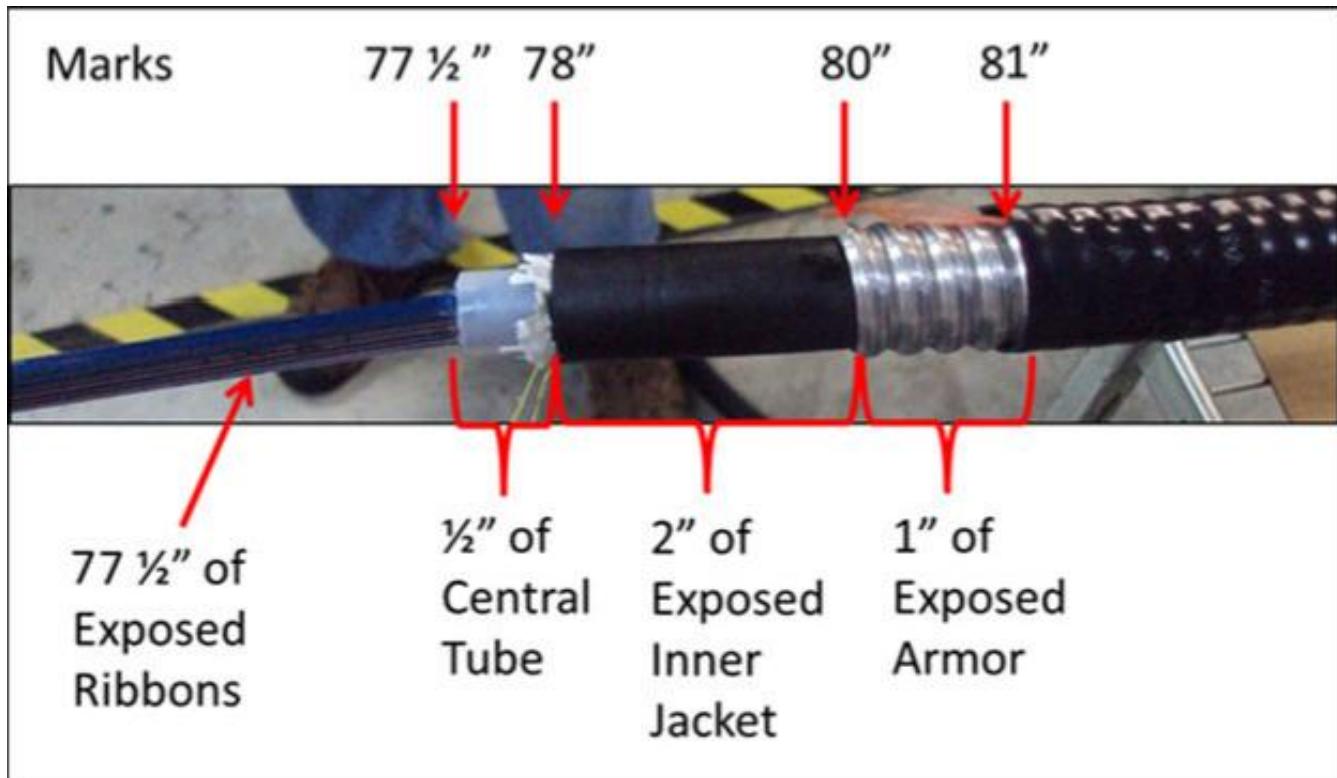


Figure 2

### 3.2. Installing Ground Clamp

**Step 1:** Push in the grounding clamp base between the jacket and the armor as shown in Figure 3.



Figure 3

**Step 2:** Install the top piece of the cable ground as shown in Figure 4.



Figure 4

**Step 3:** Secure the two pieces together with the nut as shown in Figure 5.



Figure 5

### 3.3. Fiber Cleaning

Clean the ribbons using d'Gel cable solvent cleaner and alcohol (Figure 6).



**WARNING:** Isopropyl alcohol is flammable with a flashpoint at 54°F. It can cause irritation to eyes on contact. In case of contact, flush eyes with water for at least 15 minutes. Inhalation of vapors irritates the respiratory tract. Exposure to high concentrations has a narcotic effect, producing symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.



Figure 6

### 3.4. Ribbon Splitting and Bundling

**Step 1:** Split the 24- and 36-fiber ribbons into 12-fiber ribbons (Figure 7) utilizing the Ribbon Splitting Tool (RST-000). Refer to the SRP 004-098 for directions for splitting the ribbons.

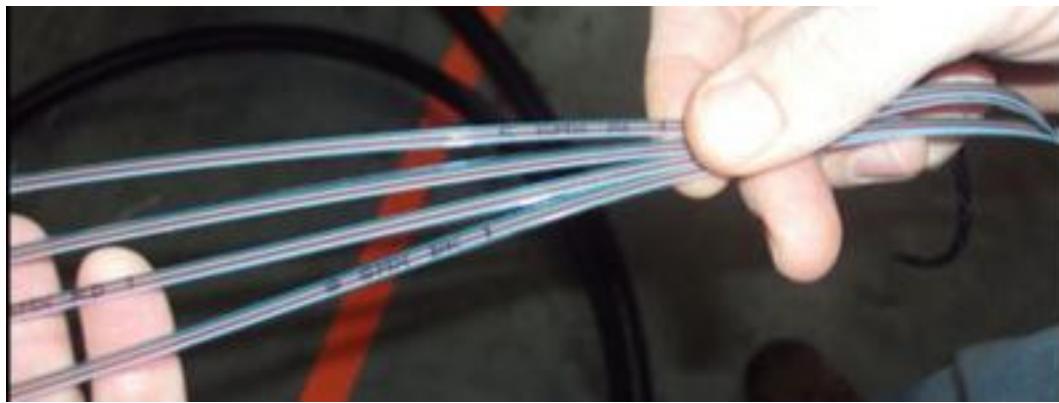


Figure 7

**Step 2:** After the all the ribbons have been divided into 12-fiber ribbons, make bundles of four ribbons each, starting in ascending order. Secure the tip of each bundle with tape (Figure 8).

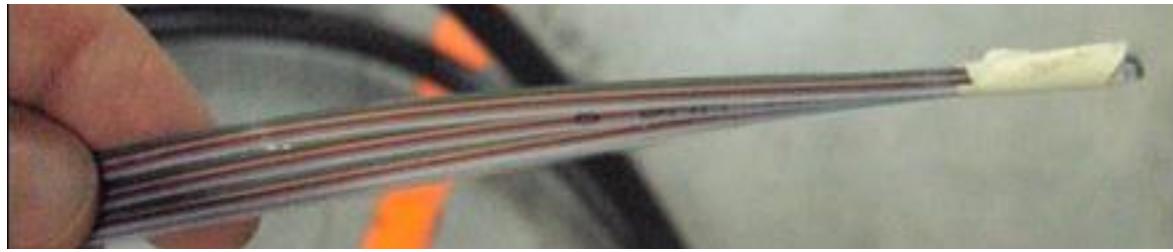


Figure 8

**Step 3:** Insert each bundle of 12-fiber ribbons into a 12-in long piece of  $\frac{1}{4}$ -in braided tubing (Figure 9).

**Step 4:** Slide the mesh back to expose about 4 in of ribbon between the central tube and the mesh.

**Step 5:** Repeat Steps 2 through 4 for all 12 bundles.

**NOTE:** If installing cable into the EDGE-01U-SP housing, use a **13-in** long piece of  $\frac{1}{4}$ -in braided tubing.



Figure 9

**Step 6:** Label each bundle with a number from 1 to 12. Make sure you follow the order of the ribbons inside the mesh. Figure 10 shows bundle number 2, containing ribbons 5, 6, 7 and 8.



Figure 10

## 4. Furcation Plug Preparation

### 4.1. Epoxy Application

**Step 1:** Insert all twelve bundles through the 6-in round clear tubing (Figure 11).



Figure 11

**Step 2:** Slide the trimmed tubing over the ribbons and seat onto the cable as shown in Figure 11 and 12. Make sure that the braided tubing has approximately 1 in of insertion depth inside the clear tubing. There should be space in the clear tubing (Figure 12) for the bare ribbons to fan-out into their respective braided tubes in a relaxed manner, so as to not induce attenuation.

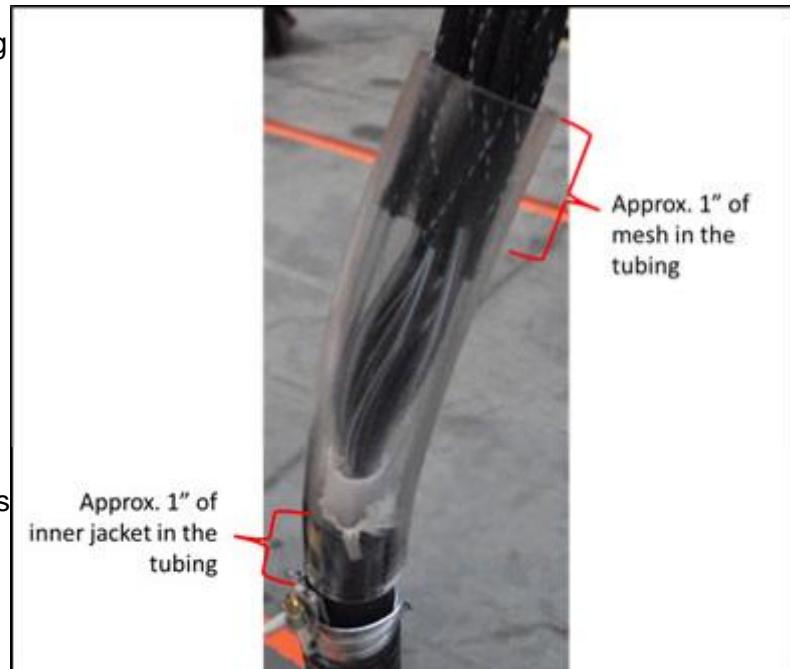


Figure 12

**Step 3:** Mix and pour in the epoxy per the instructions on the package. See Figures 13, 14 and 15.



Figure 13



Figure 14



Figure 15

## 4.2. Heat-Shrink Tubing Application

**Step 1:** After the epoxy has cured, slide the first piece of glue-lined heat-shrink tubing 56/16 X 170MM over the braided tubing (Figure 16).



Figure 16

**Step 2:** Starting from the base of the cable, use a heat gun to shrink the heat-shrink tubing as shown in (Figure 17). The heat-shrink tubing starts about 1 in back from where the armor is accessed to ensure coverage of the outer jacket, armor, inner jacket, and furcation. Make sure the base of the heat-shrink tubing is fully shrunk around the cable before working its length.



Figure 17

**Step 3:** Cut a small hole for the grounding stud (Figure 18) and continue to work the heat gun until the heat-shrink tubing recedes beyond the nut as illustrated in Figure 19. As you continue to shrink the tubing, pay special attention to the mesh. If the heat from the heat gun is left on the mesh for an extended amount of time it will begin to melt. To protect the mesh, wrap with aluminum foil; it will act as a heat sink.



Figure 18



Figure 19

**Step 4:** The first heat-shrink tube will not fully cover the epoxy-filled tube. Cut a secondary heat-shrink tube to length by measuring the exposed tubing length and adding 1.5 in to overlap the first heat-shrink tube. Leave no more than 1/4 to 1/2 in of the heat-shrink tube past the clear tube.

The finished product should look like Figure 20.



Figure 20

#### 4.3. Individual Ribbon Furcation

**Step 1:** Remove the tape from each bundle (Figure 21) and slide one (1) 1/4-in braided tubing cut to 28-in long over each individual ribbon (Figure 22).

**NOTE:** For the cable going into the EDGE-01U-SP housing, use the 1/4-in braided tubing cut to 18-in long.



Figure 21



Figure 22

**Step 2:** Slide the braided tubing until you have 1/4-in each of exposed bare ribbons between the braided tubing with 4 ribbons and the braided tubing with individual tubing (Figure 23).

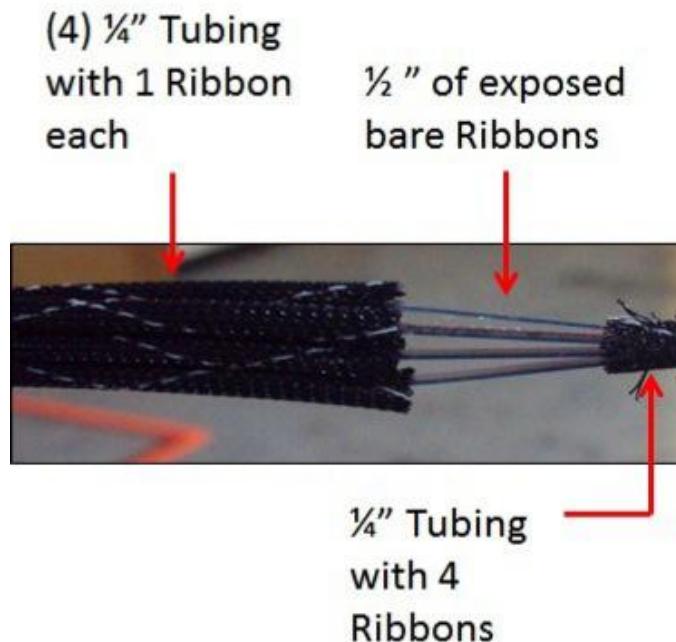


Figure 23

**Step 3:** Proceed to label each individual leg with the ribbon number. Make sure the labels are at least 9-in from the end of the tubing. Figure 24 shows ribbon 30 out of 48.

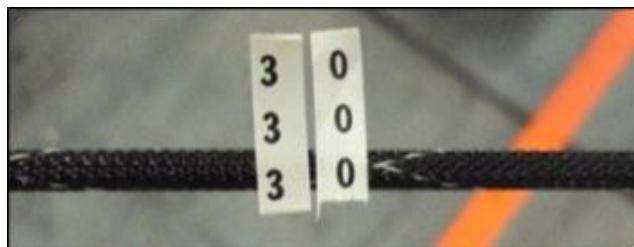


Figure 24

**Step 4:** Apply a loop of tape to the junction of the single-tube quad-ribbon and four single-tube single-ribbon (Figure 25). This will prevent the heat-shrink tube from getting stuck when sliding on top, as well as providing additional protection to the ribbons during the heat-shrinking process. The single-tube quad-ribbon side may be as supported so pinch down the tape to maintain a good contact with the single tubing.



Figure 25

**Step 5:** Slide one (1) of the 1/2-in heat-shrink tubing 2-in long over each bundle and make sure it is centered over the mesh junction. See Figures 26 and 27.



Figure 26



Figure 27

**Step 6:** Using a heat gun, start shrinking the center while proceeding your way out to the sides (Figure 28). Wrap aluminum foil around the mesh to act as a heat sink to prevent damage to the mesh. Make sure not to direct the heat straight to the mesh which could cause the mesh to melt.



Figure 28

#### 4.4. Connector Splicing

**Step 1:** Cut each ribbon to a 6-in length from the beginning of the mesh. Take (1) rectangular clear tubing cut to 10-in long (Figure 29) and slide it over the ribbon until only ½-in of the tubing is sticking out from the mesh (Figure 30). Slide the 1-in long 3/8-in heat-shrink tube down past the clear tubing so that it is covering the braided tubing (Figure 30).



Figure 29



Figure 30

**Step 2:** Remove the boot section of the base of the connector (Figure 31).



Figure 31

**Step 3:** Slide the boot and the remaining components on the ribbon. Figure 32 illustrates how the connector pieces should sit on the fiber.



Figure 32

**Step 4:** After the connectors have been spliced and assembled:

- a. Slide the clear tubing all the way into the connector boot (Figure 33).
- b. Next slide the 1-in 3/8-in diameter heat-shrink tube up past the clear tubing and onto the connector.
- c. Shrink the tube until it is attached to the clear tubing and to the back of the connector.
- d. Finally, take a 2-in length of standard black electrical tape and wrap the edge of the braided tubing without contacting the clear tubing.

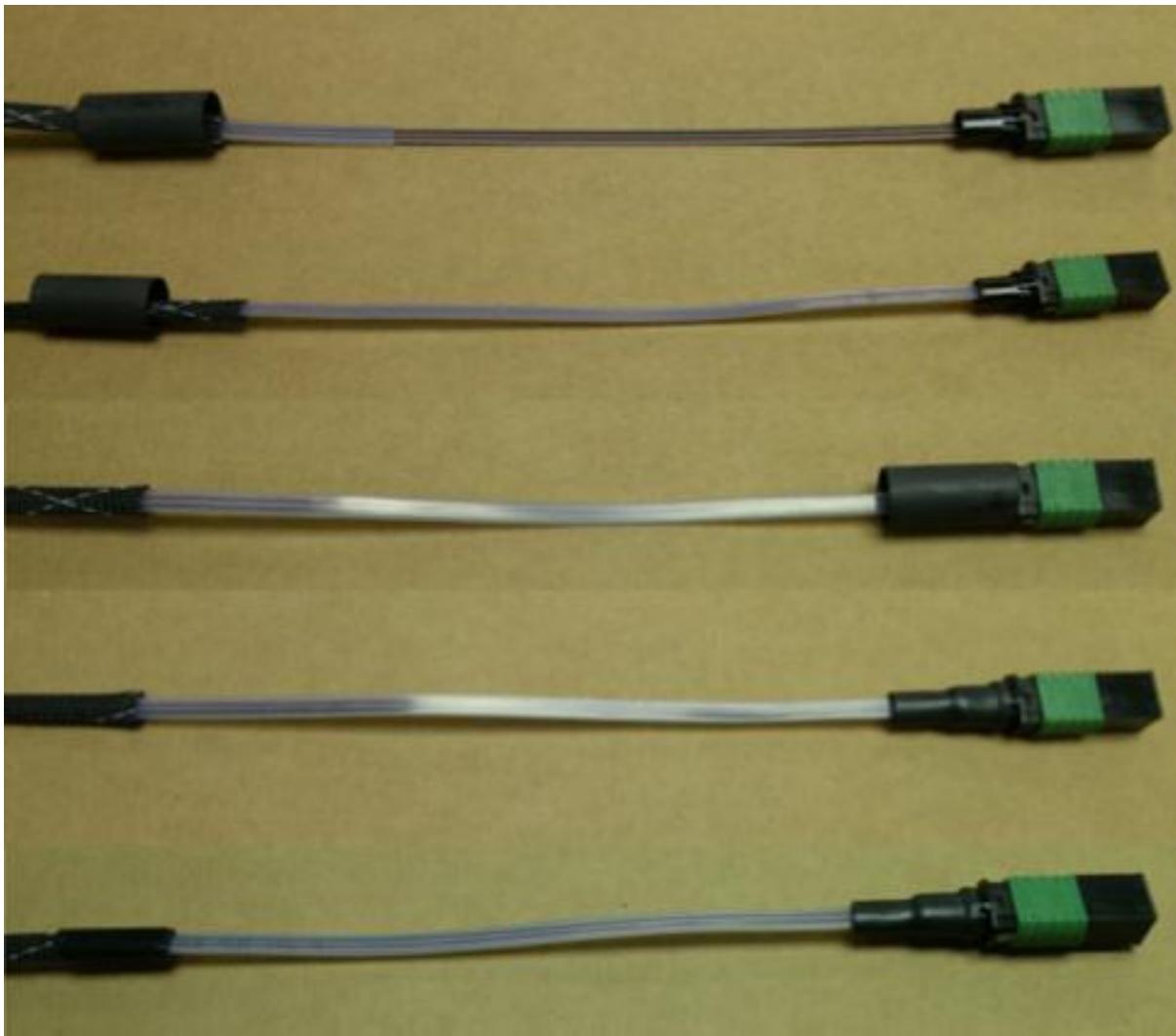


Figure 33

The bottom connector in Figure 33 represents the final product. Figure 34 is a close-up image of the end of the braid and the heat-shrink tube portion of the connector.

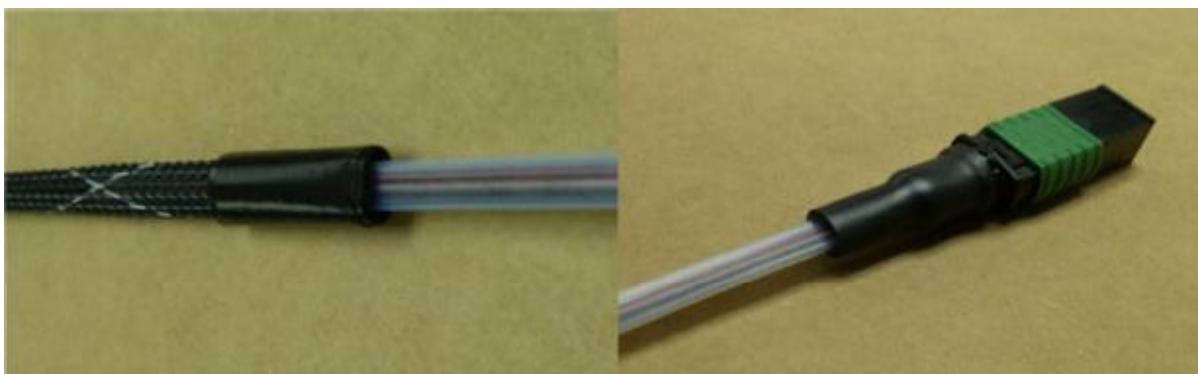


Figure 34

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