CORNING

# EDGE™ Splice Cassette/ EDGE™ Field-Terminated Cassette

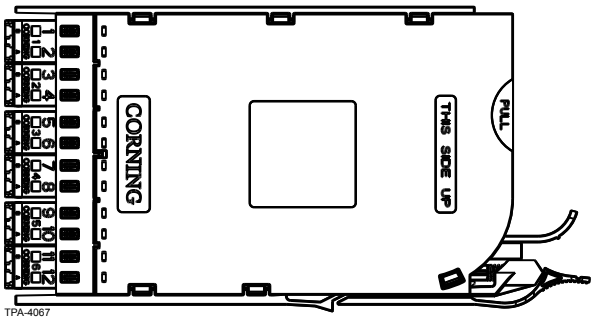
000-274, Issue 4

| related literature \| | |
|---|---|
| 003-794 | Instruction, EDGE™ Solution |
| 004-048 | Instruction, Accessing Individual Fibers in Ribbon Fiber Optic Cables with the TKT-050 Kit |
| 001-059 | Instruction, Fiber Organizer Tape Applicator (FOTA) Operator Manual |
| LAN-307-EN | Specification Sheet, Fiber Optic Splicing Tool Kits |
| LAN-1550-AEN | Visual Installation Instruction, 250 µm Fiber |

## 1. Carton Contents

a. EDGE Splice Cassette containing:
   - (12) 40 mm splice protectors (for single-fiber installation) **OR**
   - (1) 40 mm splice protector (for ribbon installation)

b. EDGE Field-Terminated Cassette




## 2. Tools and Materials

- Hook blade
- Measuring tape
- Scissors
- 4-in cable ties
- 900 µm tubing
- Electrical tape

For Ribbon Installation:

- 1/4-in braided tubing (p/n 06-710-27)(optional)
- Friction tape

For Single-fiber Installation

- Miller® three-hole stripping tool
- Ring cutting tool (p/n 3204002-01)

## 3. Preparing the Cable

**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.

**CAUTION:** Recommend the use of safety glasses (spectacles) conforming to ANSI Z87, 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.

**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.

**NOTE:** This procedure assumes that the EDGE™ solution housing is on a work surface or has been installed into the frame.

| | Fiber Inside Cassette | Jacketed Subunit | Total Outer Jacket Strip Length |
|---|---|---|---|
| For Splicing | 33 in | 33 in | 66 in |

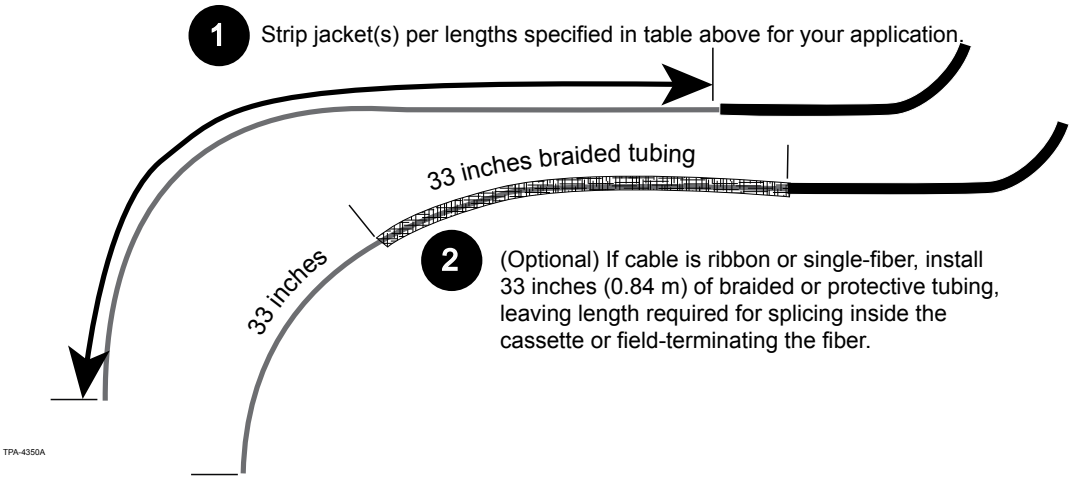



Figure 1

**Step 1:** Determine from which side the cable will enter the housing (Figure 1). Measure and mark the length specified in the table above from cable end and strip cable per instructions provided with the cable or per standard company practices. Then mark the subunit at the required length from the end of the cable. This mark denotes the point at which the fibers will enter the cassette.

**Step 2:** Strip the subunits from the mark to the end of the subunit.

**NOTE:** If additional protection for the ribbon or 900 µm subunits is desired, install 33 in (0.84 m) of braided tubing over the ribbons or 900 µm fibers beginning at the point where the jacket is strain-relieved in the cradle.

## 4. Splice Cassette Installation

| | |
|---|---|
|  | **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. |

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

**Step 1:** Bring the subunits into the splice cassette. If using loose-tube cable, it is recomended to use friction tape over the end of the buffer tube.

**Step 2:** Secure subunit with cable ties as it enters the cassette (Figure 2).

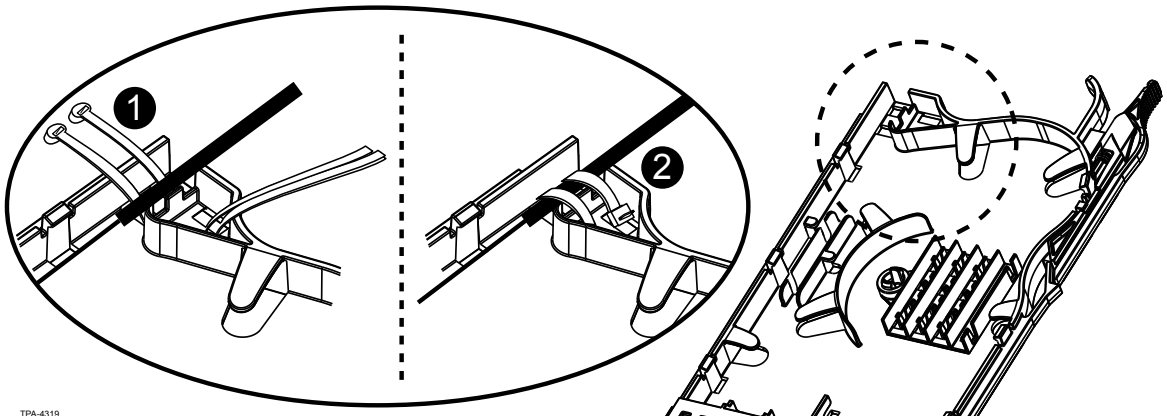



Figure 2

**Step 3:** Temporarily route two full loops of 250 µm fibers into cassette (or one loop of 900 µm fibers) as shown by the dashed line in Figure 3. Mark the splice point with a permanent marker and then cut fiber at mark in preparation for splicing. (Factory-installed pigtails are not shown for clarity.)

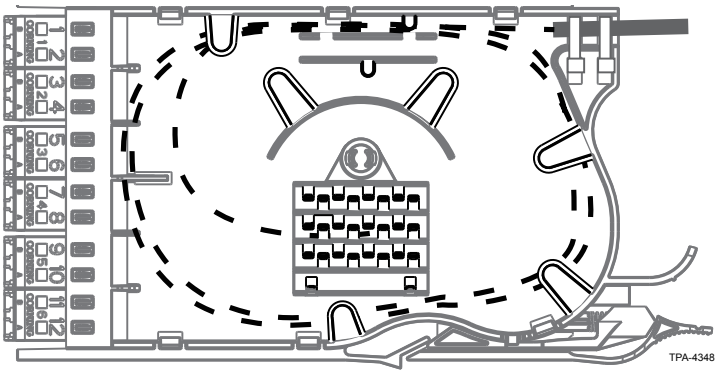


Figure 3

**Step 4:** Splice all 12 fibers per standard company practices.

**Step 5:** Once all spices are complete, route the bundle of spliced fibers as shown in Figure 4, storing fibers under the flanges to prevent them from being pinched when reinstalling the cover. It will be necessary to twist the fibers and flip them over to neatly route them inside the cassette.

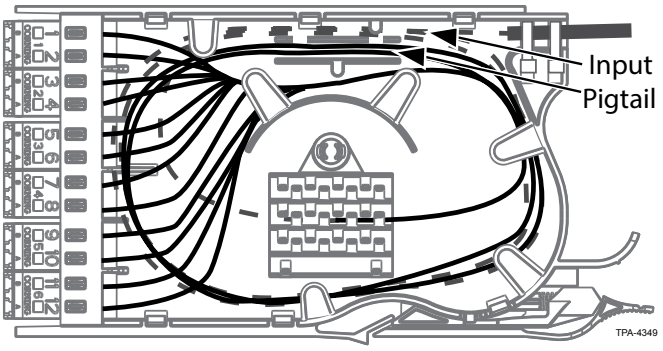



Figure 4

**Step 6:** Insert all spliced protectors into the organizer.

**NOTE:** 1) If de-ribbonizing is required for splicing (single-fiber splicing), refer to Corning Optical Communications Standard Recommended Procedure (SRP) SRP-004-048.

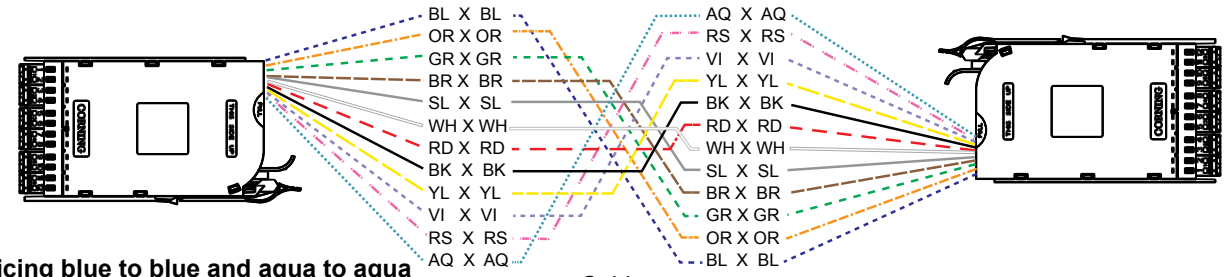
2) If ribbonizing the cable is required for splicing, refer to Corning Optical Communications Specification sheet LAN-307-EN for TKT-026-01A kit description. For Fiber Organizer Tape Applicator (FOTA) operator manual, refer to SRP-001-059.

## 5. Polarity Management (for Splice Cassette)

Polarity management is critical during the splicing process. Corning Optical Communications offers two different splice cassette wiring options: Straight Through or Universal Wiring. Figure 5 depicts the way the ribbon fibers should be spliced in order to achieve the polarity management desired.

### Straight Through Wiring

A-A Polarity
Requires No Reverse Splicing

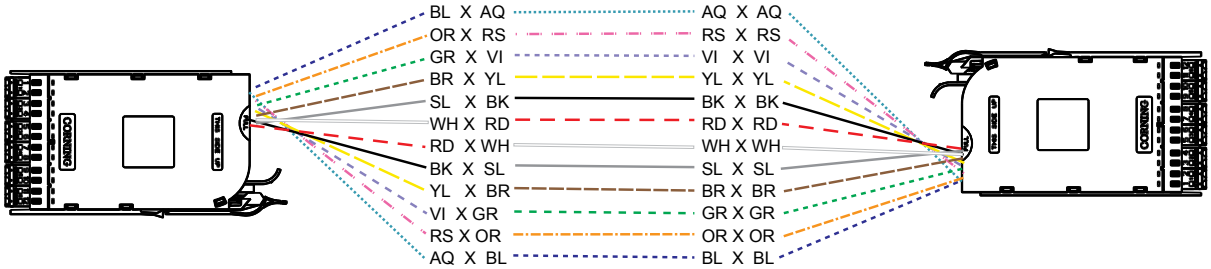



**Splicing blue to blue and aqua to aqua provides a fiber-one to fiber-one transmission.**

Cable

### Universal Wiring

A-B Polarity
Requires Reverse Splicing on One End




**Splicing aqua to blue at one end and blue to blue at the other end provides a one-to-two transmission.**

Cable

TPA-4320

Figure 5

## 6. EDGE™ Field-terminated Cassette

| | |
|---|---|
|  | **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. |

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

| | Fiber Inside Cassette | Jacketed Subunit | Total Outer Jacket Strip Length |
|---|---|---|---|
| For Field-termination | | | |
| 900 µm | 16 in | 36 in | 49 in |
| 250 µm | 16 in to 28 in | 36 in | 49 in to 61 in |

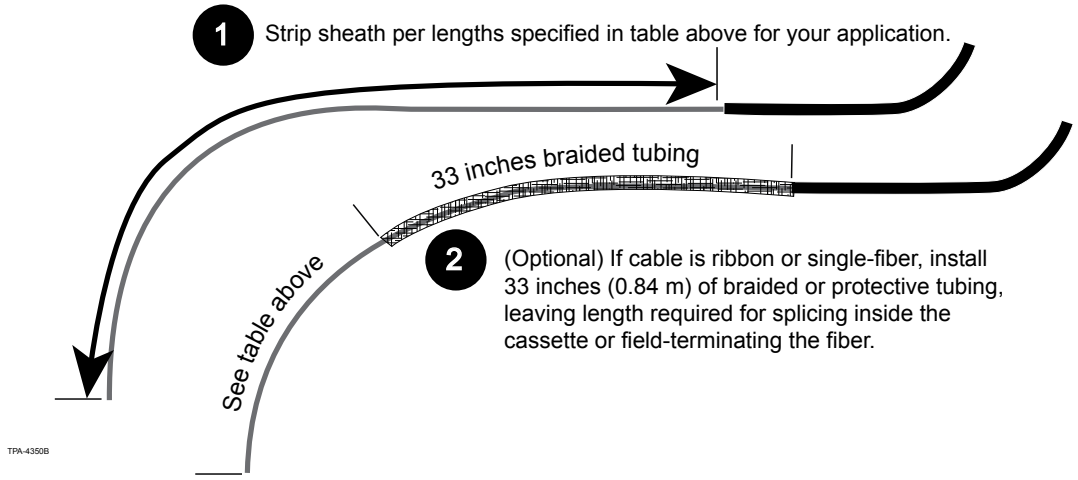


Figure 6

**Step 1:** Prepare the cable as described in Section 3 and as shown in Figure 6 for your application.

**Step 2:** Bring the subunits into the empty cassette. If using loose-tube cable, it is recomended to use friction tape over the end of the buffer tube.

**Step 3:** Secure subunit with cable ties as it enters the cassette (Figure 2).

**Step 4:** Connectorize the fibers per the instructions provided with the connectors. Refer to Corning Visual Instruction LAN-1550-AEN if installing UniCam® connectors onto 250 µm fiber.

**NOTE:**

- For pre-terminated harness installation, use the EMOD-CP12-xx product instead.
- For easier fiber routing during field termination within the EDGE™ field-terminated cassette, Corning strongly advises that connector boots NOT be used.
- Additionally, connector clips/triggers should NOT be used within the EDGE field-terminated cassette.
- When using 250 µm fiber, use a short section of 900 µm tubing instead of a connector boot immediately behind the connector. Refer to Corning Visual Instruction LAN-1550-AEN for details.
- It is recommended to use electrical tape to hold fibers properly in place while routing.

**Step 5:** Clean the connector end faces per the instructions provided with the connectors.

**Step 6:** Beginning with adapter 12, mate six connectors into adapters 7 through 12 and route the fibers as shown in Figure 7.

**Step 7:** Then mate the last six connectors into adapters 1 through 6 and route the fibers as shown.

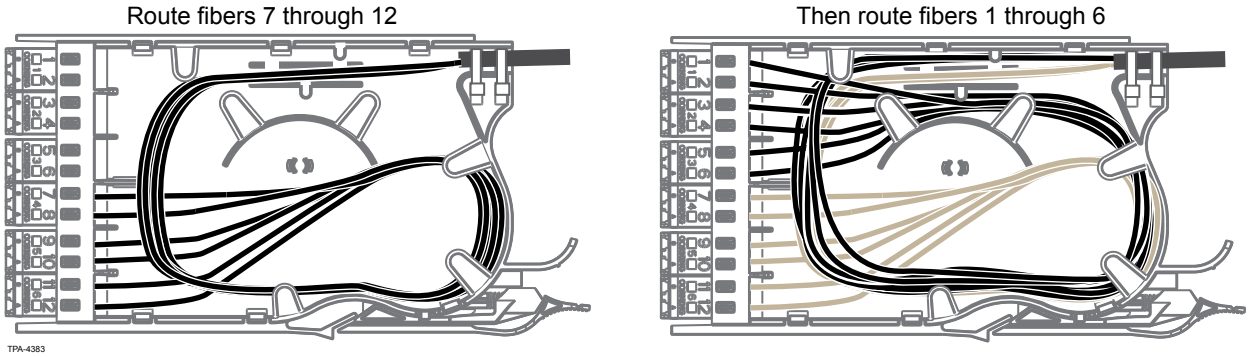


Figure 7

## 7. Installing Cassettes

**Step 1:** Starting in the lower right corner of the housing as viewed from the rear (Figure 8), install the first cassette.

**Step 2:** Continue installing cassettes across the first row, then move to the next row, beginning again in the right corner. Strain-relieve cable sheath with cable tie as shown.

**Step 3:** Repeat Step 2 until all cassettes have been installed.

**Step 4:** If not already done, loosely install a hook-and-loop strap through the lance in the baseplate to organize and secure the fiber subunits as a single uniform bundle. Make sure to leave enough slack to allow the tray to be pulled out without stressing or exceeding the minimum bend radius of the cable.

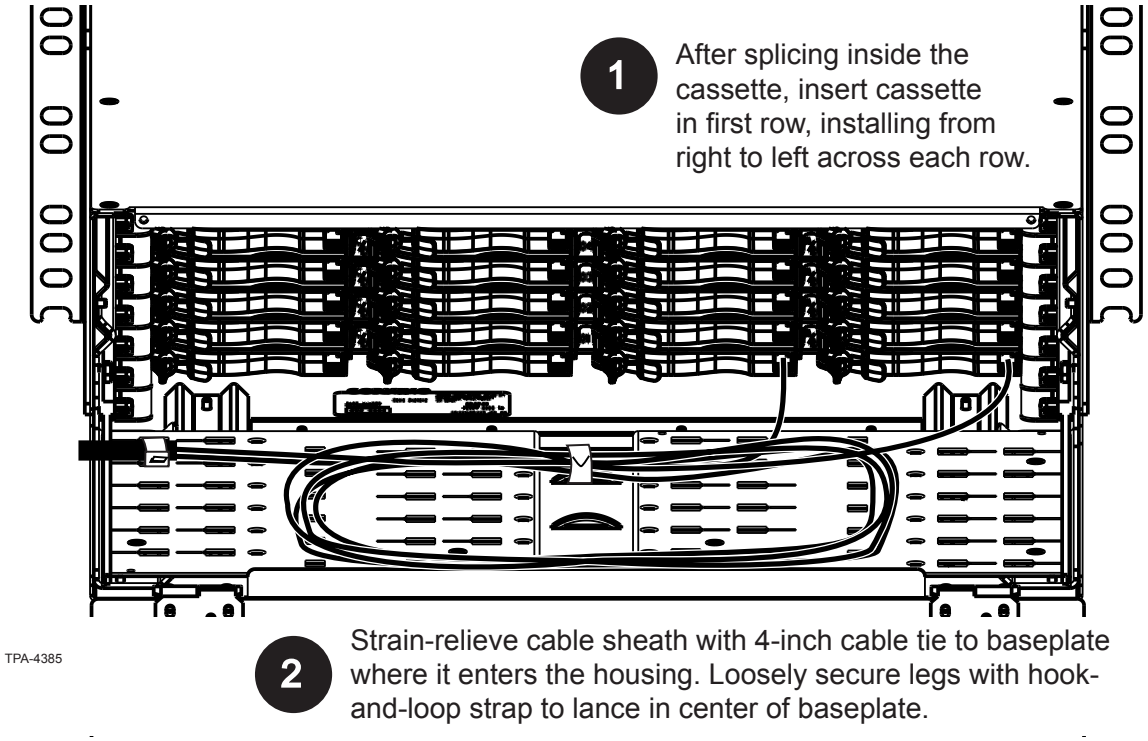


Figure 8

## 8. Secure the Housing

**Step 1:** Close the rear door and ensure the latches are engaged.

**Step 2:** From the front of the housing, open the door and pull the housing trays out to ensure adequate fiber slack has been provided to allow the trays to move easily without pulling the cable subunits.

**Step 3:** Close the front door and ensure it is securely latched.

**Step 4:** If not already installed in frame, mount the housing into the frame per the instructions provided with the housing.

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