CORNING

Splicing a 288-Fiber RocketRibbon™ Subunit into a Single Splice Tray in an Ultra-Density Optical Splice Enclosure

P/N 004-285-AEN
Issue 2

1. Tools and Materials Required

1.1 Materials

- Mass fusion heat-shrink splice protectors (purchased separately)(P/N HSP-40S250-1)

IMPORTANT: *Use of these specific heat-shrink protectors is critical. If a different protector is used, the splices might not all fit in the splice organizer in the splice tray.*

- Friction tape
- Masking tape
- Book of electrical numbers
- 90% or higher isopropyl alcohol
- 10.16 cm (4-in) cable ties

1.2 Tools

- Cable access tool: straight-blade utility knife, universal access tool (P/N UAT3-000), large coaxial cutter
- Ribbon splitting tool (P/N RST-000)
- Scissors/snips
- Permanent marker – black/silver

2. Cable Preparation

Step 1: Access 15 feet of the end of the cable to expose the routable subunits (RSU) per standard recommended procedure (SRP) 004-279.
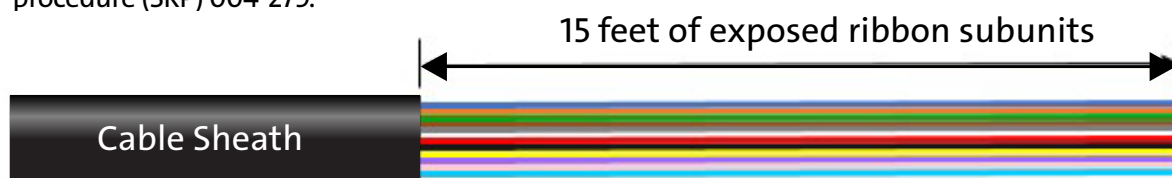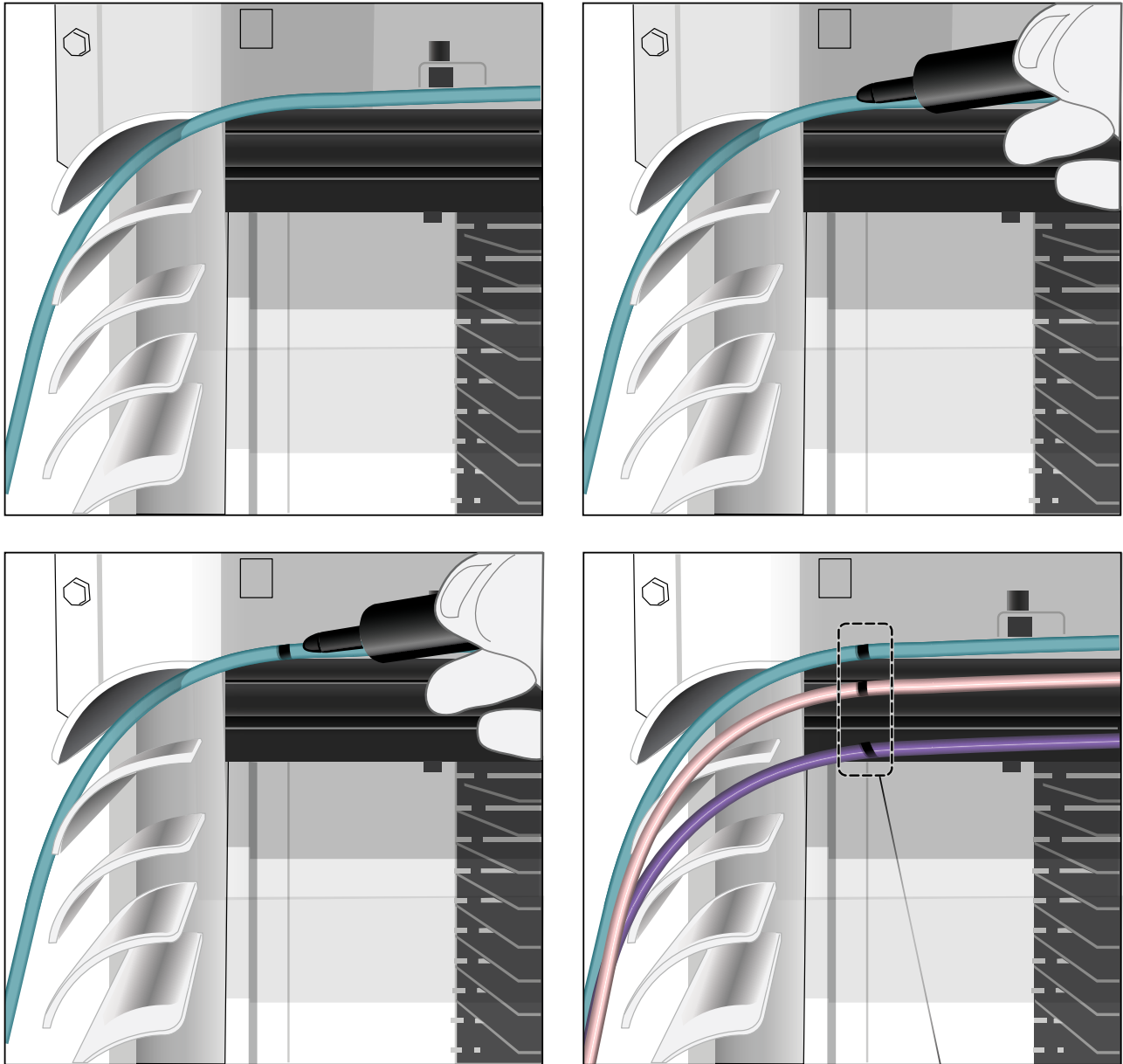

TPA-6300

Figure 1

Step 2: Attach the cable to the cable entry plate of the optical splice enclosure (OSE) per SRP 003-1032-AEN.

3.   Subunit Preparation

Step 1:   Route each RSU to the splice tray location where it will land and mark it with a permanent marker as shown in (Figure 2).
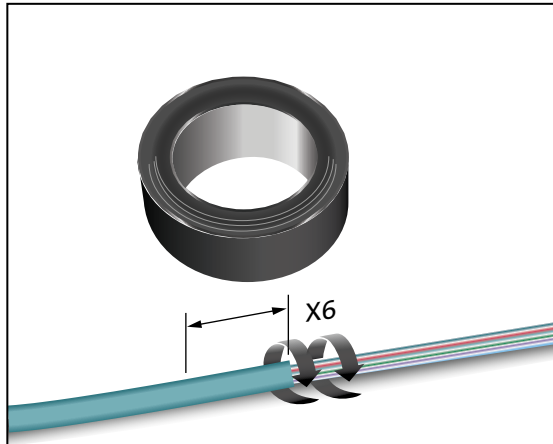

TPA-7110

Measure and mark each subunit individually

Figure 2

Step 2:   Access the subunit to the measured mark in the previous step per the instructions in SRP 004-279. Wrap the subunit with six loops of friction tape at the subunit access point (Figure 3).
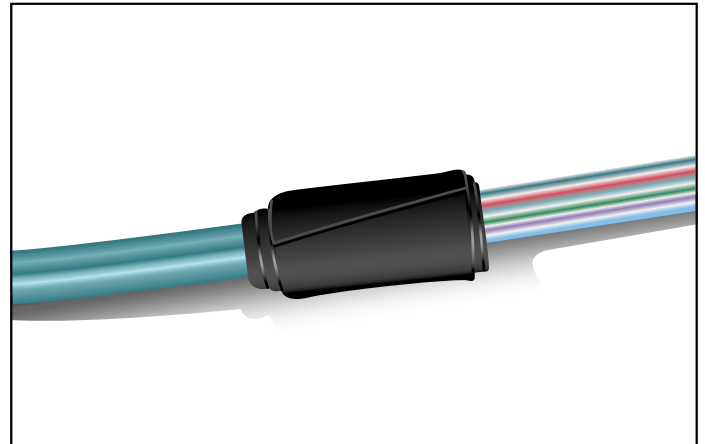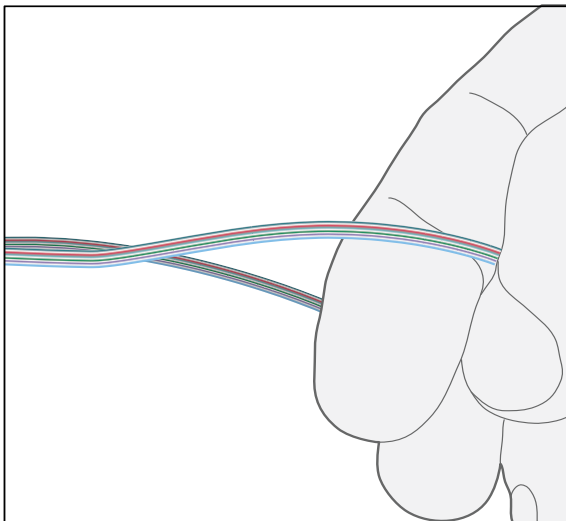

TPA-7111

Figure 3

4.   Ribbon Splitting and Grouping

4.1   Ribbon Splitting

Split the first 2-4 inches of the 24-fiber ribbons into 12-fiber ribbons. Place your finger in between the two 12-fiber ribbons you want to split with one ribbon on top and one ribbon on the bottom of your finger (Figure 4). Drag your finger between the ribbons towards the access point of the cable furthering the split between the ribbons. Alternate the ribbons on your finger about every foot to help avoid matrix peel off. Use SRP 004-279 if using a ribbon splitting tool (RST-000).
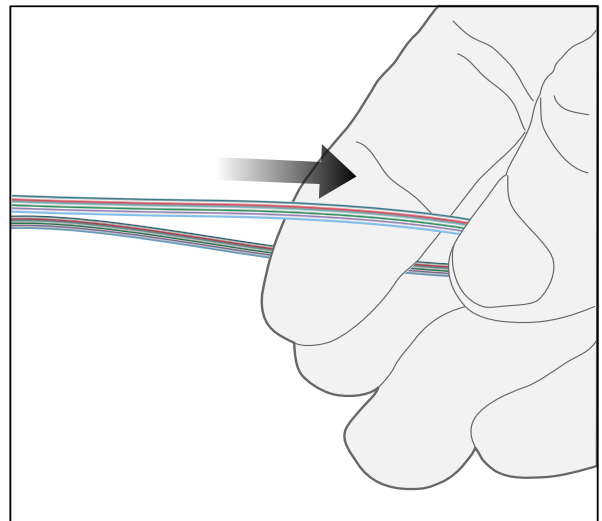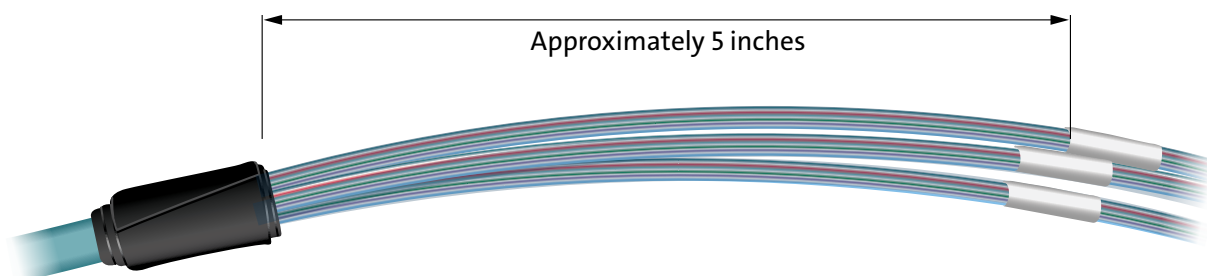

TPA-7112

Figure 4

Approximately 5 inches

TPA-7113

Figure 5

4.2 Ribbon Grouping

Step 1: Group the ribbons into stacks of eight (8) making sure to arrange the ribbons in sequential order (1→8, 9→16, 17→24).

Step 2: Maintain the orientation and order of the ribbon stack (i.e., all blue fibers or all aqua fibers on top of the ribbon bundle, not a mix of blue and aqua fibers on top) and apply tape along the length of the ribbons. Place the first piece of tape approximately 5 inches away from the RSU access point to aid in routing the 24-fiber ribbons that have been split down to 12-fiber ribbons as shown in Figure 5.

5. Cable Installation in Splice Trays

Step 1: Secure the RSU to the OSE splice tray with the ribbons vertically oriented (i.e., blue fiber facing up) using small cable ties at the center of the friction tape on the subunit as shown in the Figure 6. Take care not to overtighten the cable onto the RSU. Only tighten it enough so the RSU does not move freely.

NOTE: *When adding additional furcated cable subunits to the tray, the small cable tie will have to share the opening with the previous cable subunit's cable tie to fit all the cable subunits onto the same side of the splice tray.*
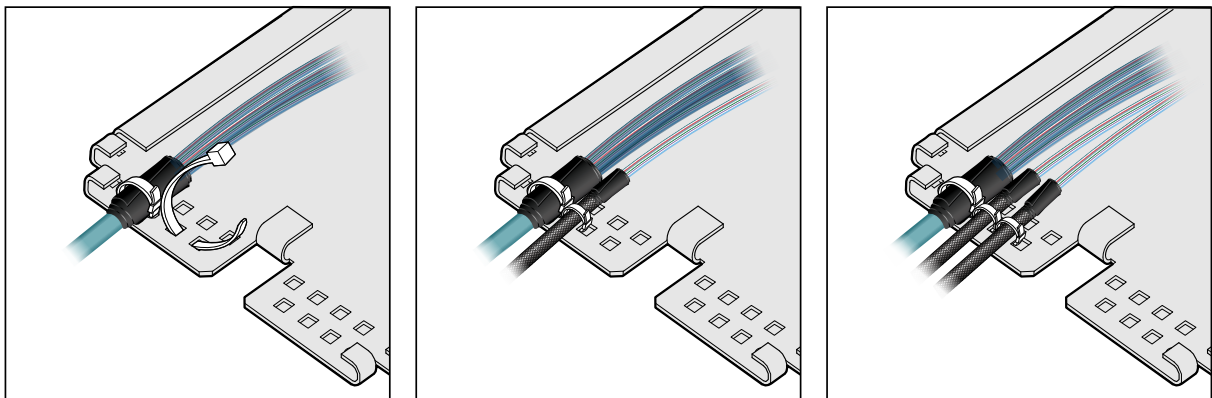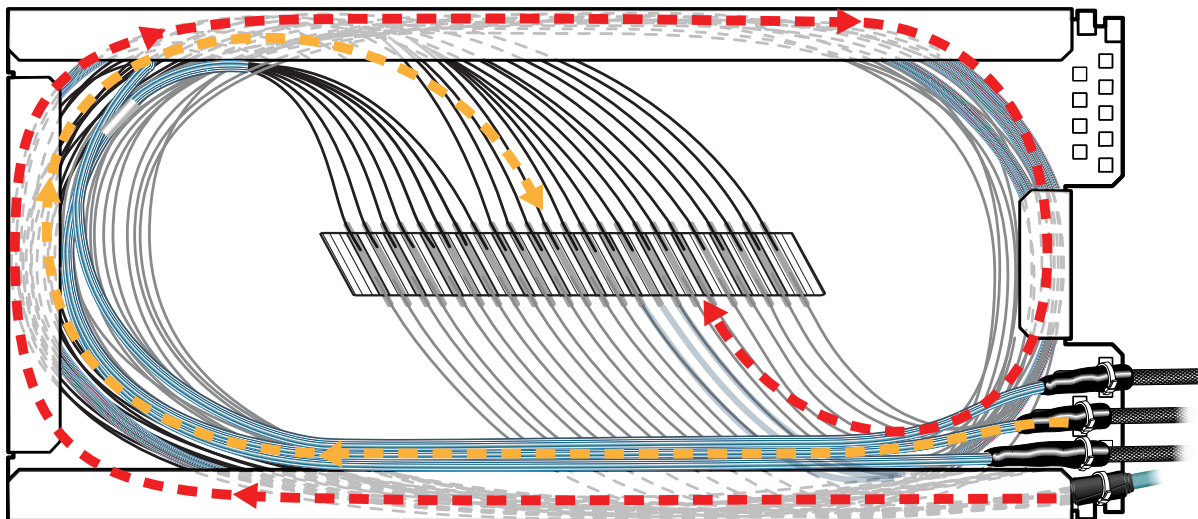

TPA-7114

Figure 6

NOTE: *The images in Figure 6 display a splicing application where the blue fiber of the RSU is spliced to the aqua fiber of the inside plant cables. This is not necessarily indicative of your splicing application. Check your system design to confirm whether the fibers should be spliced blue-fiber-to-blue-fiber or blue-fiber-to-aqua-fiber.*

Step 2: Secure the transport tubing from the furcated 96-fiber and/or 192-fiber cables to the splice tray using small cable ties following the instructions in SRP 001-285. Measure each individual ribbon to the correct length for splicing to ensure proper routing of the ribbons in the splice tray. Figure 7 shows the path the ribbon should take when routed into the splice tray after splicing. The white arrows indicate the routing for the ribbon subunit and the yellow arrows represent the routing for the inside plant cable.
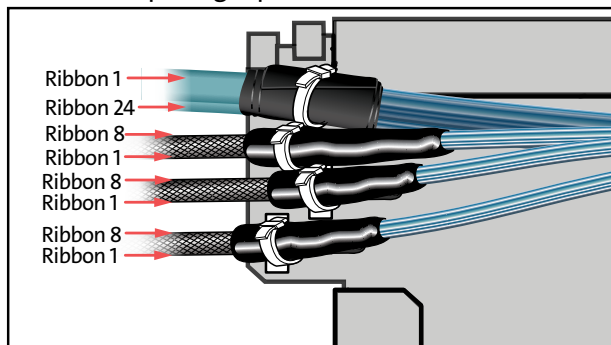
TPA-7115

Figure 7

NOTE: *Examples of the ribbon order when splicing a single RSU to three 96-fiber cables are shown in Figure 8.*

Splicing aqua fiber to blue fiber

Ribbon 1
Ribbon 24
Ribbon 8
Ribbon 1
Ribbon 8
Ribbon 1
Ribbon 8
Ribbon 1

Splicing blue fiber to blue fiber

Ribbon 1
Ribbon 24
Ribbon 8
Ribbon 1
Ribbon 8
Ribbon 1
Ribbon 8
Ribbon 1

TPA-7116
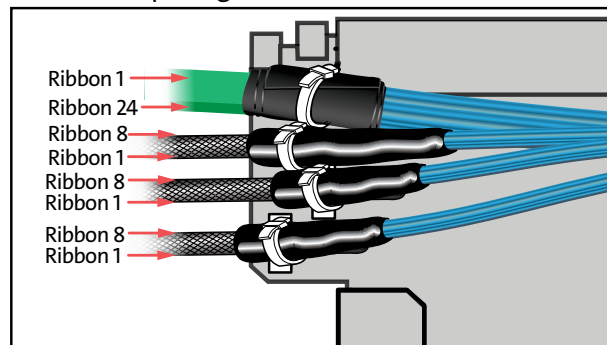
Figure 8

5.1   Subunit Orientation Diagrams

Subunit/Ribbon Orientation #1
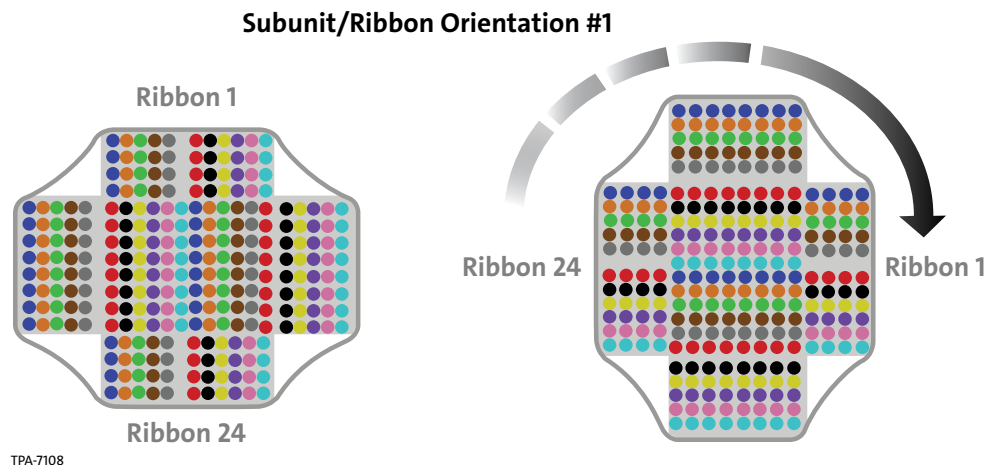
Subunit turned to get the blue fiber on top inside of the tray.

Subunit/Ribbon Orientation #2
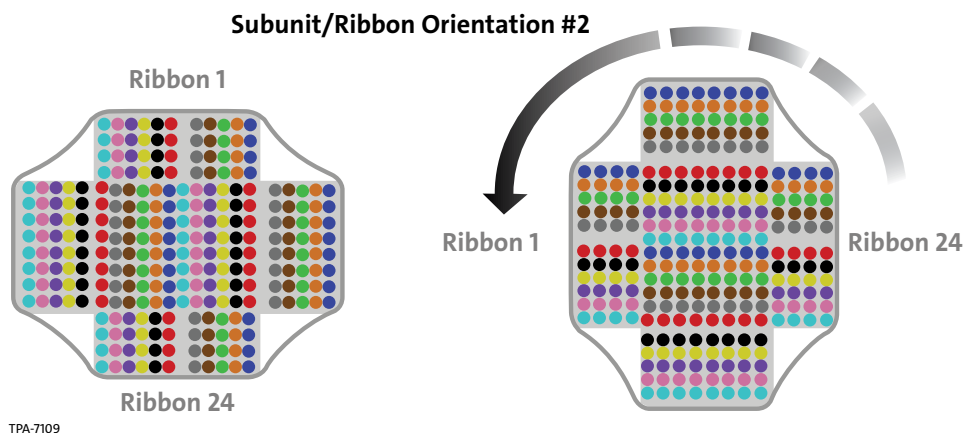
NOTE: *When splicing cables with routable subunits, the end of the subunit that you are working with is important as it relates to the organization of the ribbons within that subunit and must be checked prior to splicing. Depending on the orientation of the subunit **(orientation #1 or orientation #2 in the images above)**, the ribbons from the routable subunit may have to be re-organized inside of the tray. Notice that the side of the ribbon stack that ribbon 1 is on is different depending on the orientation of the subunit once it is turned on its side so the ribbons are vertical for optimal routing inside of the tray. Re-organize the ribbons as needed inside of the tray to get the ribbons into the correct order for your system's specific design and polarity management.*