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Ultra-Density Optical Splice Enclosure

related literature	Search www.corning.com/opcomm. Click on "Resources."
001-285	Instruction, OSE Splice Tray
004-277-AEN	Instruction, Furcation of a Central Tube Ribbon, Gel-Free, Non-Armored, 96- or 192-fiber Cable into an OSE-UD
004-278-AEN	Instruction, Furcation of a Central Tube Ribbon, Gel-Free, Non-Armored, 864-fiber Cable into an OSE-UD
004-279-AEN	Instruction, Sheath Removal and Mid-Span Access of 3456-Fiber Dielectric Gel-Free Ribbon Cable
003-1042-AEN	Instruction, Furcation of a 288-Fiber Ribbon Subunit into an Optical Splice Enclosure Splice Tray
003-1036-AEN	Instruction, Cable Entry Kit for OSE-UD

1.   General

This document describes installation of the ultra-density optical splice enclosure (OSE-UD). The procedure does not apply to previous versions of OSE-LD or OSE-HD enclosures.

2.   Carton Contents

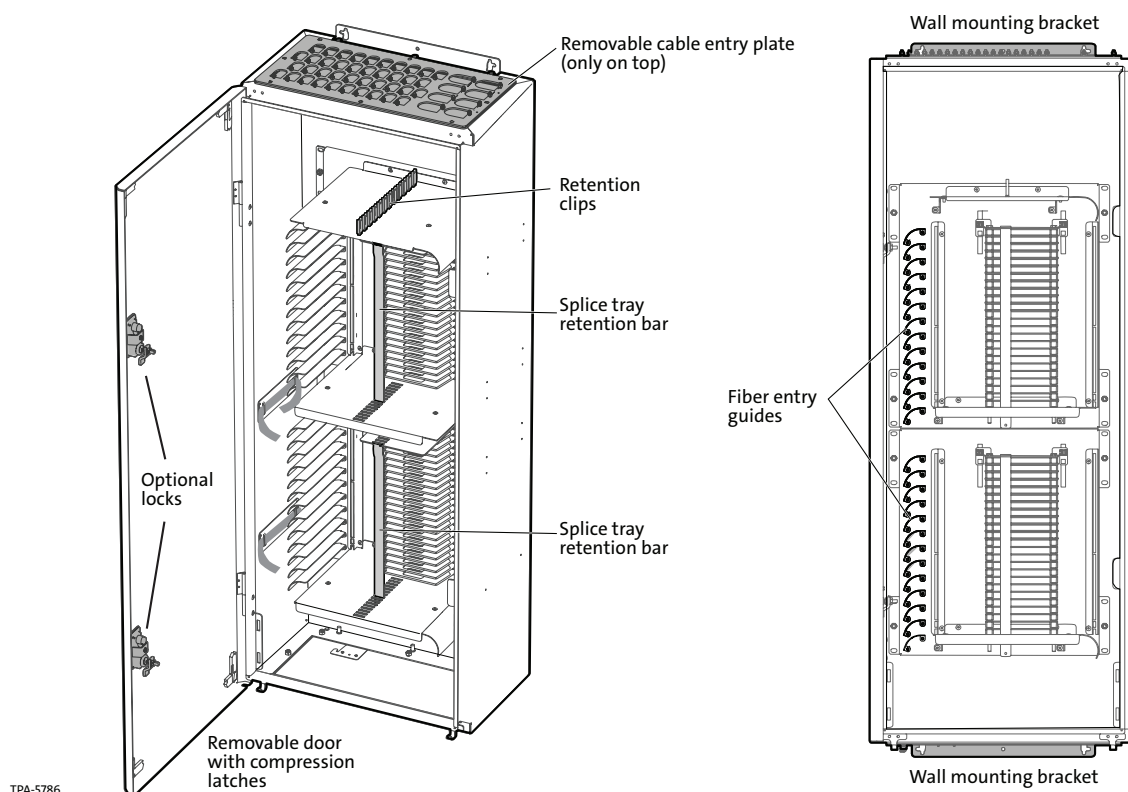- Ultra-density optical splice enclosure (OSE-UD0-00-3-L) (Figure 1)

Figure 1

3.   Tools and Materials Required

- 11/32-in nut driver or socket
- Tools and hardware (not provided) appropriate for installing the enclosure on the wall
- Cable entry kits (refer to Table1 for part number information)
- Splice trays (refer to Table 2 for part number information)
- Furcation kits (refer to AE Note 160)(https://www.corning.com/catalog/coc/documents/application-engineering-notes/AEN160.pdf)

4.   Mounting on a Wall

| ⚠ | **WARNING:** The enclosure is heavy and requires two people to maneuver it. Observe all safety precautions while using. Make sure the door is locked in the closed position. Failure to do so may result in personal injury or damage to the enclosure or cables. |

IMPORTANT: *Make sure there is adequate space above the unit to route cables. Do not violate the minimum bend radius for each cable being installed.*

Overall Enclosure Dimensions			
Height	Width	Depth	Weight (empty)
58.3 in (148.1 cm)	21.2 in (53.9 cm)	12.7 in (32.3 cm)	65 lb (29.5 kg)

Step 1:   Choose a dry, vertical surface to mount the enclosure.

Step 2:   Install the top two mounting screws (not provided) appropriate for the mounting surface into the wall at the distances specified in Figure 2, and at a height according to your standard company practices. Leave a 1/8-in gap between the screw head and the wall.

Step 3:   Hang the unit on the two screws through the holes in the upper mounting bracket. Tighten the screws firmly against the bracket.

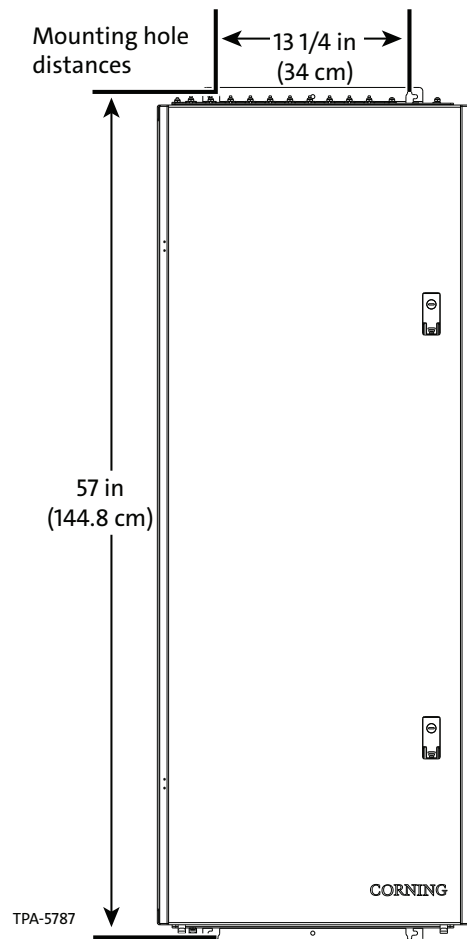**Step 4:**   Install two mounting screws in the lower bracket and tighten securely.

Mounting hole distances

13 1/4 in (34 cm)

57 in (144.8 cm)

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Figure 2

5.   Mounting into 23-in Rack or Frame

IMPORTANT: *Make sure there is adequate space above and below the unit to route cables. Do not violate the minimum bend radius for each cable being installed.*

Step 1:   Remove the mounting brackets and screws from the top and bottom of the cabinet.

Step 2:   Reattach the mounting brackets to each side of the cabinet as shown in Figure 3.

Step 3:   Insert two screws in the 23-inch frame where the top holes in the mounting bracket should be located.

Step 4:   Leave a 1/8-inch gap between the frame and the screw head to hang the unit.

Step 5:   Using two people, lift the cabinet into position on the frame and hang the cabinet on these bolts, through the upper holes in the brackets. Tighten the bolts against the brackets.

Step 6:   Install the lower mounting screws and tighten them against the mounting bracket.
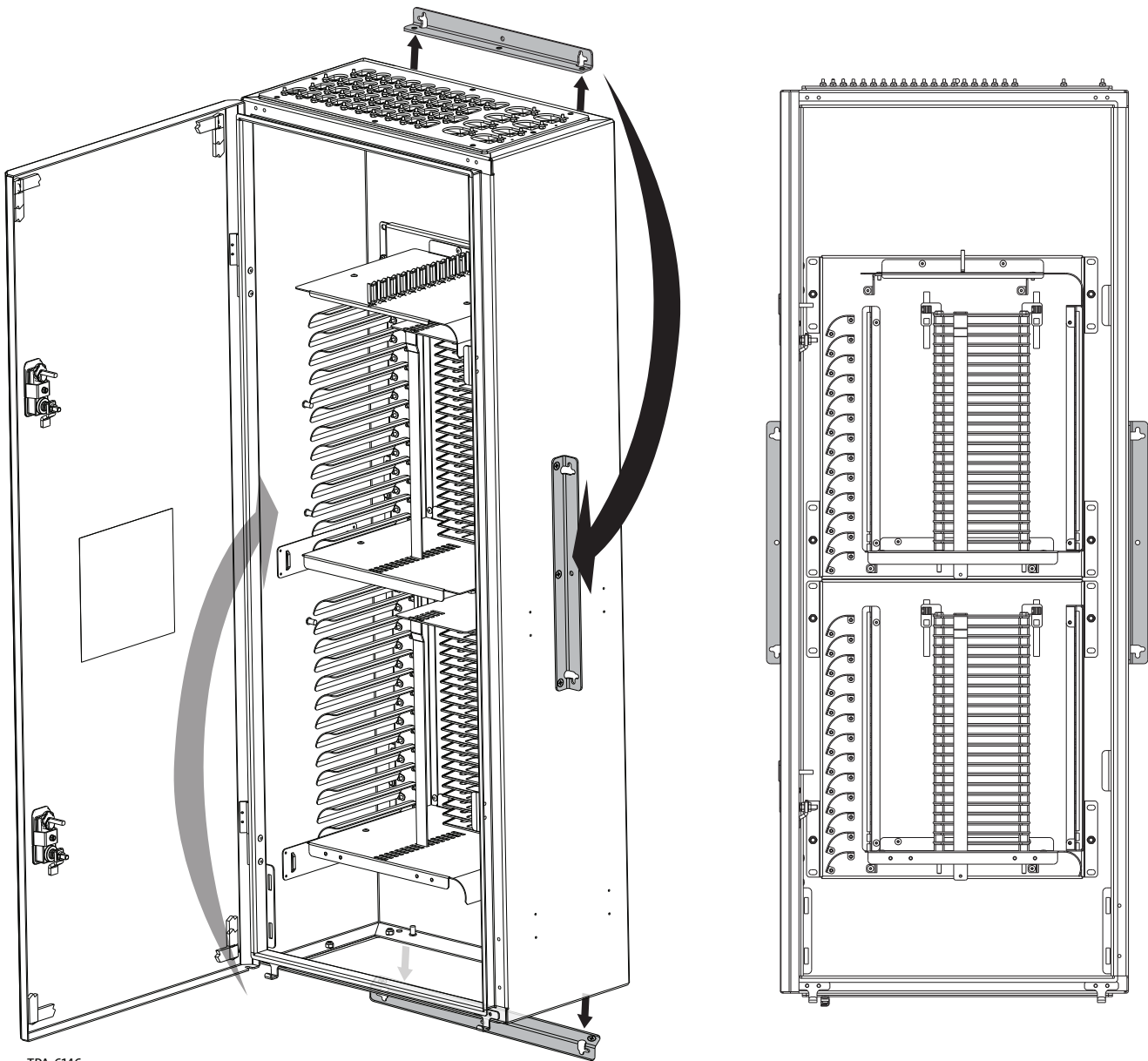
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Figure 3

6.   Cable Preparation

Step 1:   Once the OSE-UD is mounted, bring in one row of cables at a time beginning with Row "A" as shown in Figure 4. The larger entry positions are to be used for the outside plant cables (columns 1 and 2); the small positions (columns 3-12) are to be used for inside plant cables. Figure 4 illustrates the trays and cable entry positions; they have been color-coded in this illustration to demonstrate their relationship to each other.

Outside Plant Cable (OSPC)		Use Cable Entry Ports
Number of Cables	Fiber Count	
8	864	A1 - D2
4	1728	A1 - D1
2	3456	A1 , C1
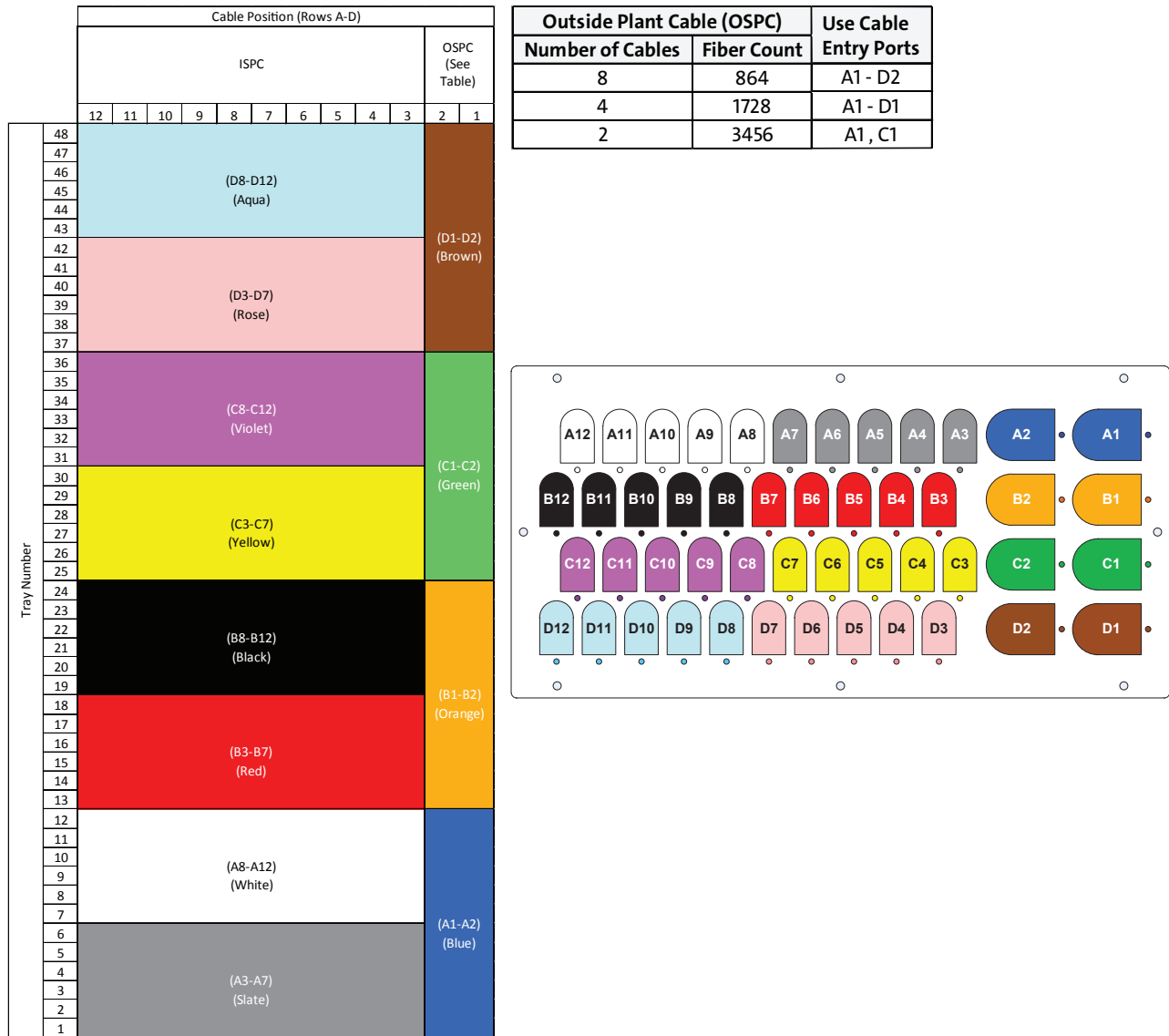
Figure 4

| Cable Size	Cable Kit	Field Furcation Kit
96- to 192-fiber cable	OSE-CBL-L2	HFC-FURC-KIT-C
864-fiber cable	OSE-CBL-L3	HFC-FURC-KIT-A
1728-fiber cable	OSE-CBL-L3	HFC-FURC-KIT-E (1 each)
3456-fiber cable	OSE-CBL-L3	HFC-FURC-KIT-E (2 each)

Table1: Cable Entry and Field Furcation Kit Part Numbers

Step 2:   Ensure that the appropriate cable entry and field furcation kits are available for the number and sizes of cables being installed. Refer to Table1 for the applicable part numbers for each kit.

Step 3: Dress the cables above the enclosure per standard company practices, ensuring there is sufficient cable slack to bring the cable access point to the work location.

Step 4: Once satisfied with the dressing of the incoming cables (including slack), mark the location where the cable enters the OSE. This mark will be used to determine the location of the furcation plug for central tube ribbon cables and the end of the cable jacket for extreme-density cables.

Step 5: After all the cables are marked, pull the cables down through the entry positions, bringing the marked location to a work surface.

Step 6: Slide the heat-shrink tube from the cable entry kit onto the cable up past the mark made in Step 4.

7. Install Furcation Kits

Step 1: Begin the furcation process based on the appropriate instruction for the fiber count of the cable.

- Refer to SRP 004-277-AEN for furcation kit installation onto central tube ribbon cables with fewer than or equal to 216 fibers
- Refer to SRP 004-278-AEN for furcation kit installation on central tube ribbon 864-fiber cable
- Refer to SRP 004-279 and 003-1042-AEN for furcation kit installation onto 288-fiber subunit of 1728- and 3456-fiber extreme-density cables.

Step 2: The cables in the first row of the OSE will be spliced in the trays in slots 1-12 shown in Figure 5; the second row spliced in slots 13-24, etc.

Step 3: Divide ribbons into groups of 2, 4, or 6 as needed to feed corresponding splice tray.
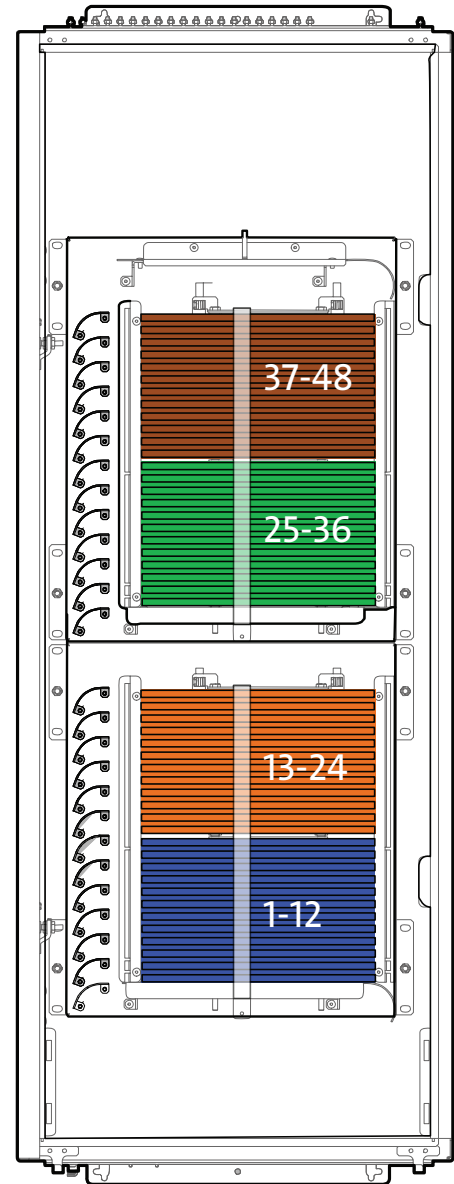
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Figure 5

8. Attach Cable Entry Bracket

Step 1: After installation of the furcation kit, slide the heat-shrink tube from the cable entry kit down over the furcation body for central tube ribbon cables and to the end of the cable jacket for extreme-density cables. Slide the cable entry bracket into the tube, as shown in Figure 6.

Step 2: Shrink the tube over the furcation body or end of cable jacket and cable entry bracket.

Figure 6

Step 3: Pull the cable entry bracket back up through the foam covering the cable entry position (Figure 5).

Step 4: Loosen the locking nut on top of the cable entry plate in that cable entry position. Slip the slot at the top of the cable entry bracket under the loosened nut, then tighten the nut.
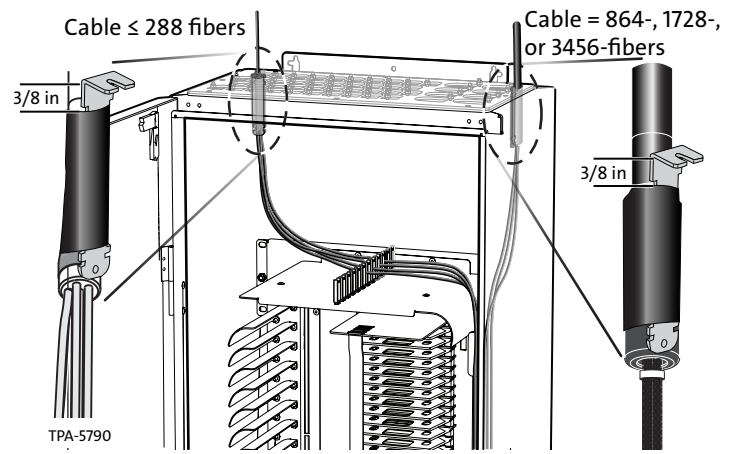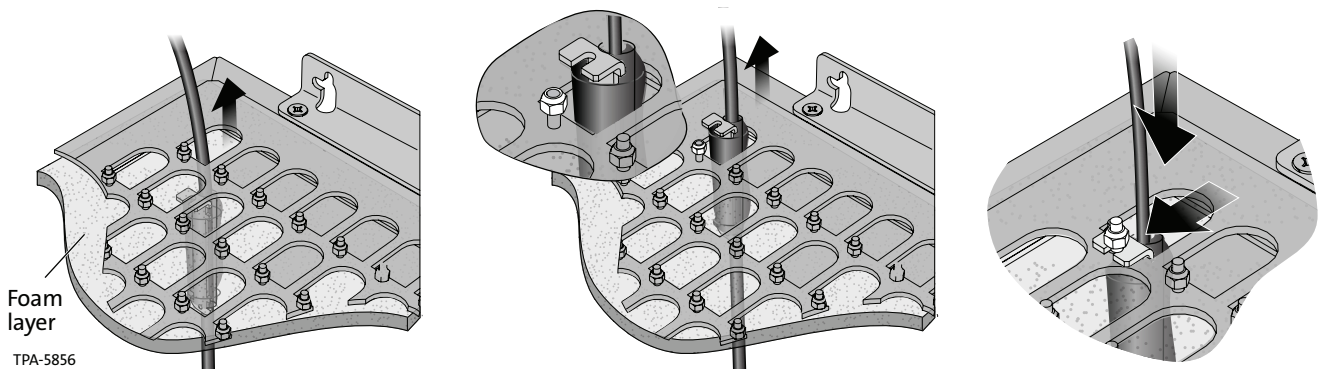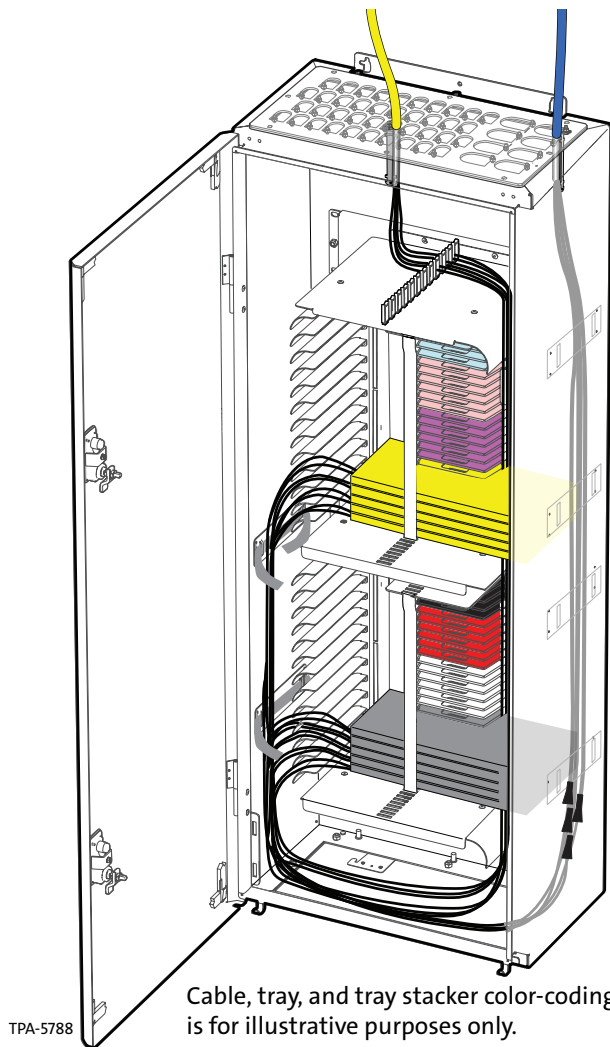

Figure 7

9. Cable Splicing and Routing

Multi-Fiber Splice Capacity				
Splice Tray Information			OSE-UD	
Tray Options	Splice Slots	12f Ribbon Capacity	Splice Tray Capacity	12f Ribbon Capacity
OSE-ST-3-TQ (RBN)	12	144	48	6912

Table 3: Multi-Fiber Splice Capacity

Step 1: Determine the tray location where the fiber will be spliced (Figure 8). Refer to Figure 5 to correlate the cable entry row with the tray location. Alternatively, refer to Figure 4 to correlate the cable entry position with the tray location.

Step 2: Route the mesh legs through the retention clips on top of the splice chamber, around the inside perimeter of the enclosure, and over the fiber entry guides on the left wall (Figure 8) to the appropriate splice tray location.

Step 3: Bring splice tray and fiber to the splicing location.

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Cable, tray, and tray stacker color-coding is for illustrative purposes only.

Figure 8

Step 4: To make splicing easier make sure to order the ribbon stacks in the following order for the RocketRibbon™ and inside plant (ISP) cables.

Bundle 1 from RocketRibbon™
1
2
3
4
5
6

Bundle 2 from RocketRibbon™
7
8
9
10
11
12

Bundle 2 from ISP cable
12
11
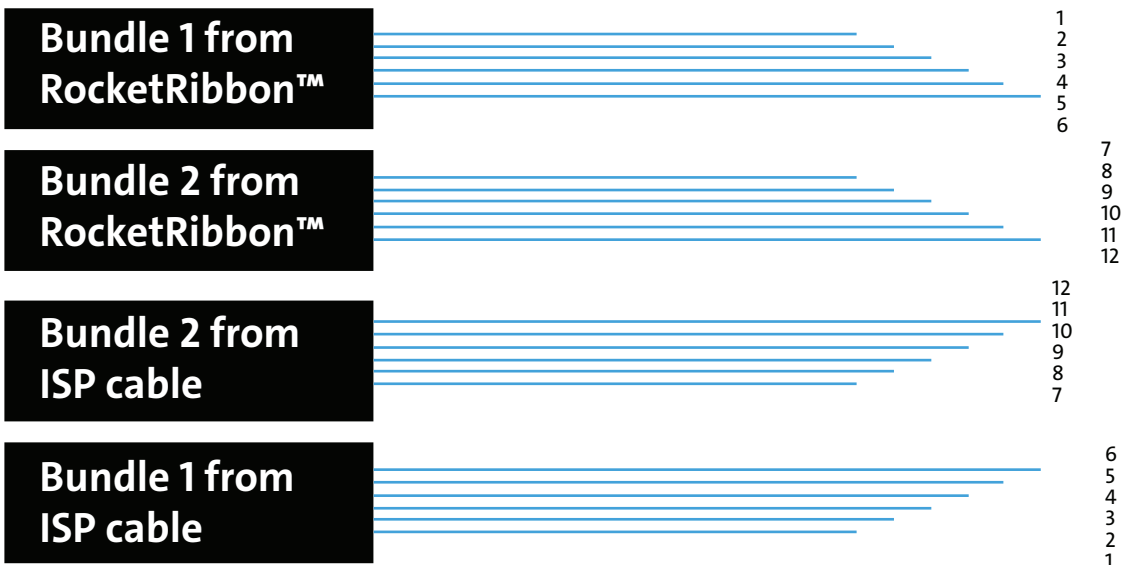10
9
8
7

Bundle 1 from ISP cable
6
5
4
3
2
1

Figure 9

Step 5: Once splicing is complete, load the splice trays into the stacker, from bottom to top. Orient the cover on the splice tray so that the tabs face the back of the OSE-UD and enter the vertical slots on either side of the tray stacker.

Step 6: Once all splice trays are installed into the stacker, slide the security bar into the slot closest to the splice trays to secure the trays in the stacker (Figure 10).

Step 7: Reroute fiber around the perimeter of the enclosure and secure to the side walls with the provided fiber retention straps.
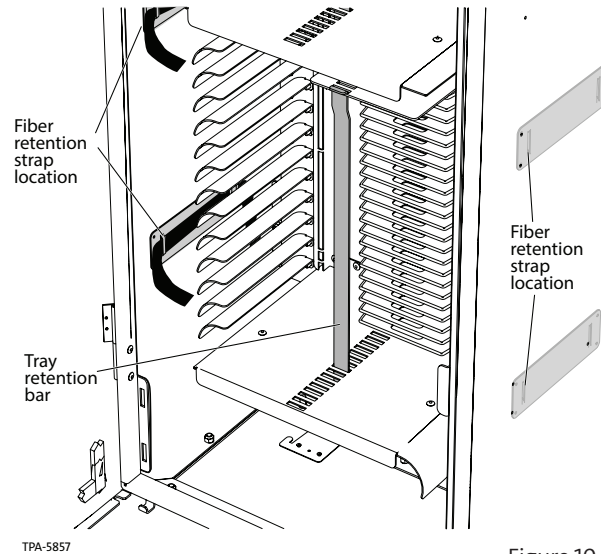

Fiber retention strap location

Fiber retention strap location

Tray retention bar

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Figure 10