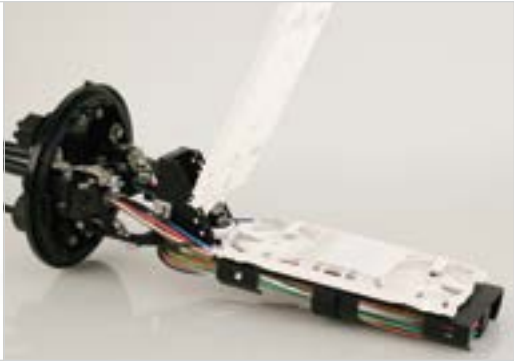
Fiber Dome Splice Closure (FDC)

Installation Guideline



Introduction

This document provides installation instructions for the Superior Essex Fiber Dome Closure (FDC) for aerial, direct-buried or below-grade Outside Plant (OSP) fiber deployment.

For Part Numbers:

- FD2-AD10F (Type A)
- FD2-BD10F (Type B)
- FD2-CD10F (Type C)
- FD2-DD10F (Type D)

Superior Essex fiber splice closures provide optimum environmental protection for splicing, management and storage of fiber for aerial, direct-buried and below-grade applications. These closure systems offer fast and easy installation, maintenance, and fiber management from central office to the customer's premises for OSP passive networks.

This Installation Guide assumes that the closure installer is experienced in fiber cable preparation, splicing and management, and other associated techniques. These closures are ideally prepared for installation at ground level, in a splicing tent, or trailer.

Recommended Installation Tools

- Cable cutters
- Sheath slitter
- Splicing scissors
- Needle-nosed pliers
- Phillips-head screwdriver
- 216C tool with ⅜"and 7⁄16" sockets

Components

Inventory the contents of this closure product using the image and its respective components table. If any parts are missing or damaged, contact Superior Essex at 1.800.551.8948.

COMPONENT CONTENTS

Number	Item	FD2-A	FD2-B	FD2-C	FD2-D	Remarks
1	Dome cover	1	1	1	1	Factory installed
2	Closure base with gasket	1	1	1	1	Factory installed
3	Locking collar	1	1	1	1	Factory installed
4	Distribution cable entry grommets	2	4	4	4	Included
5	Round drop cable (7 – 9 mm) entry grommets	2	4	4	4	Included
6	Flat drop cable entry grommets	2	4	4	4	Factory installed
7	Cable ties	8	8	16	24	Included
8	Vacuum grease tube	1	1	2	2	Included
9	Silicone sealant tube	1	1	2	2	Included
10	Hose clamps	2	4	8	8	Included
11	Strength member attachment brackets	2	4	4	4	Included
12	Extra compression nut for feeder/drop port	1	1	1	1	Included
13	Loop-thru port spacers	8	8	8	8	Included
14	Loop-thru entry grommets	6	6	6	6	2 factory installed 4 included
15	Aerial hanger kit	1	1	1	1	Included
16	Sealing tape strips	2	2	4	4	Included
17	24-fiber splice tray (FDC-TD240)	1	1	-	-	Factory installed
	36-fiber splice tray (FDC-TD360)	-	-	1	-	Factory installed
	72-fiber splice tray (FDC-TD720)	-	-	-	1	Factory installed
18	Velcro splice tray strap	1	1	1	1	Included
19	Splice sleeves	24	24	36	72	Included
20	Spiral transportation tubes	4	4	6	12	Included
21	Outside diameter ruler	1	1	1	1	Included
22	Silica gel pack	1	1	1	1	Included
23	Alcohol tissue pack	1	1	1	1	Included

Getting Started

Proper safety requirements should always be followed and local practices maintained. It is recommended that the installer wear protective eye gear and gloves during many of the installation steps to avoid the possibility of bodily injury. When working aloft or in underground conditions, please follow all OSHA requirements for safety.

Procedure

STEP 1:
Cable Allowance for Closure Installation

1.1 If the closure will be prepared at ground level, in a tent or splice trailer, allow for sufficient cable slack to move closure from its preparation area to its mounting location (i.e., grade level box, pole, aerial strand, etc.).

1.2 For cable stub-in or loop-thru applications, it is recommended that the sheath be stripped or opened 72" to 96", to allow adequate internal slack for fiber splicing and management.

STEP 2:
Opening Closure

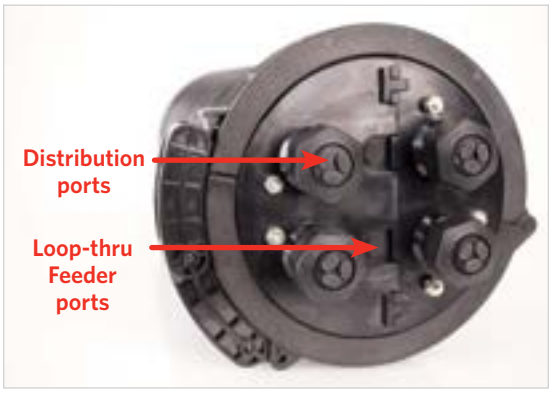
2.1 To open the dome closure, lift the locking arm on the locking collar, unhinge and seperate the halves. Store in a safe, clean location.

2.2 Remove the dome from its base and store in a safe, clean location.

2.3 Remove the main closure gasket from the base and store in a safe, clean location.

STEP 3:
Opening Ports for Feeder/ Loop-Thru Cable

3.1 It is important that the proper port be used for a given application. For stub-in or branch cables, the compression distribution port(s) should be used. For a loop-thru cable (in and out) or feeder cable, the middle loop-thru feeder port(s) should be used.



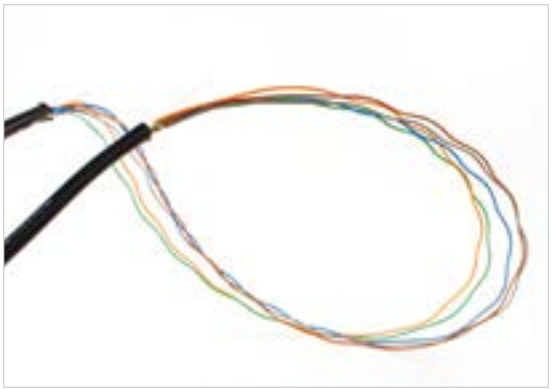
3.2 Using a 216C tool for a loop-thru installation, unscrew the bolts that secure the split base.

3.3 Slightly bend the bolt side of the base downwards to release it from the locking tabs located on the underside. Pull the two sections apart.

STEP 4:
Cable Preparation

4.1 For cable stub-in or loop-thru applications, the sheath should be stripped or opened from 72" to 96". The image illustrates a loop-thru sheath opening.

4.2 Unwrap, clean and separate the buffer tubes and strength members.



4.3 Cut the strength member(s) according to the provided ruler.

STEP 5:
Installing Cable

5.1 Identify the diameter of the cable with the provided ruler to determine which size feeder grommet is required. Grommets are labeled in mm sizes.

5.2 To ensure a proper seal, make sure the cable fits snugly in the grommet. If build up is needed, cut a 1.5" strip of silicone tape from the sheet provided and wrap the tape around the cable one time. Flatten the silicone tape with fingers for consistent thickness. Repeat if needed to achieve desired fit. Apply silicone sealant at top and bottom of cable wrap.

5.3 With the 216C tool, remove the cable retention clamps as illustrated.

5.4 Remove the solid grommets and select the appropriate sized loop-thru grommets (square outer sides) and place in center ports. Cut a slit completely through one side of the grommet with splicing scissors and place cable through the slit. Repeat for the other port on the opposite side.

NOTE: If you are using the center feeder port(s) for a single non-loop-thru installation, you should not cut the center grommet.

5.5 Spread a generous, even coat of high vacuum grease on three sides of feeder ports to ensure a water tight seal.

5.6 Install loop-thru or feeder cable and apply a generous amount of silicone sealant around the feeder grommet slit and cable sheath. Repeat for opposite cable port.

STEP 6:
Cable Attachment

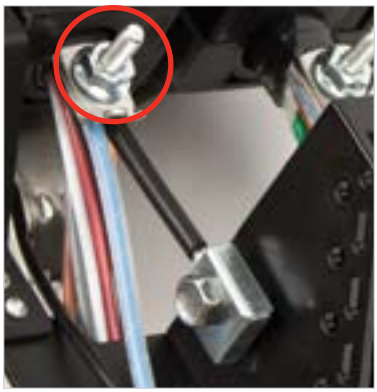
6.1 Insert the strength member(s) under the 3-sided, retainer clamp.

NOTE: If the strength member has an outer jacket, remove 1" of its jacket prior to inserting the strength member under the retainer clamp.

6.2 Tightly fasten the retainer clamp bolt using a 216C tool.

STEP 7:
Bonding/ Grounding

7.1 If required, install a locally-approved shield bond connector (not provided) on each cable per local practice.



7.2 Remove the face gasket and apply a generous, even coat of silicone sealant to the center half sealing gasket.

7.3 Reinstall the face plate gasket.

7.4 Apply an even bead of silicone sealant across the entire center half of the sealing gasket.

7.5 Assemble the base tightly, using a 216C tool. Reattach cable clamps. Reinstall the main closure gasket.

7.6 Secure the cable clamp(s) with a 216C tool. Additional spacers are provided to ensure a tight fit depending on cable diameters (see "COMPONENTS" list, item No. 7).

7.7 If required, using a locally-approved #6 bonding strap (not provided), connect the shield bond connector terminal to one of two bonding terminals located at the base of closure.

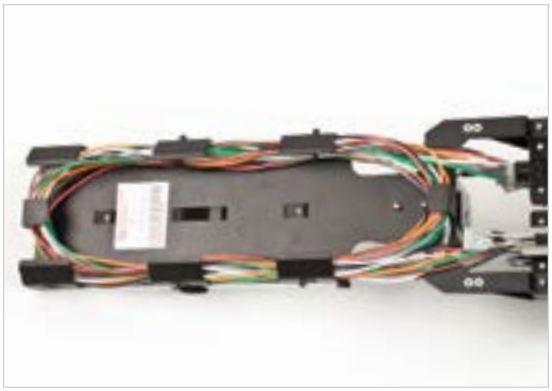
STEP 8:
Cable Routing and Storage

8.1 Separate any drop cable(s) and buffer tube(s) to be spliced away from the express buffer tubes, as these cables/ tubes are to be routed to the splice trays in subsequent steps.

8.2 Carefully bundle, wrap and store the express buffer tubes, using the bent edges of the metal splice tray back plate to retain the cable. A circular or "Figure 8" wrap can be used, taking care that radius bend limits are not exceeded and the tubes are not kinked.

8.3 Use cable ties to secure the express bundle. The slots on the six bent tabs of the back plate are for this purpose.

IMPORTANT: Do not over-cinch cable ties. Leave some gap so buffer tubes move somewhat freely.



STEP 9:
Routing to the Splice Tray

9.1 Route the drop cable and fiber buffer tubes to the appropriate splice tray. Spiral transportation tubes are included to provide additional protection for loose tube fiber, as they are routed to the trays.

NOTE: The spiral transportation tubes (provided) are recommended for Central Tube fiber but are not required for other types of fiber. Local practice should take precedence.

9.2 Allowing sufficient tube slack for tray hinge movement, the tubes should be routed and secured to the tray using cable ties.

IMPORTANT: Do not over-cinch cable ties.

STEP 10:
Installing Distribution and Drop Cable

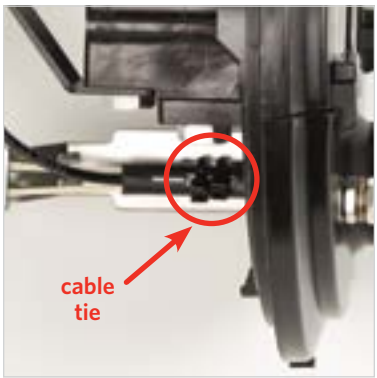
10.1 Attach cable retention clamps into slots on the base for use in securing distribution and drop cables. Slide into place and insert screw. Tighten included screw to secure bracket to base.

10.2 Remove compression port nut for the selected cable, flat or round drop application as the installation requires.

CAUTION: Wear gloves when removing and reinstalling cable port nuts due to exposed metal ground lugs.

10.3 When installing drops, insert two (2) cable ties (provided) through the slot of the cable attachment clamp. Leave in an open position.

10.4 Lay drop into the cable ties and insert the strength member(s) under the 3-sided retainer clamp. Snuggly fasten the cable ties around the cable sheath using needle-nosed pliers. Tightly fasten the strength member clamp bolt, using a 216C tool. Route fiber to splice tray for splicing.

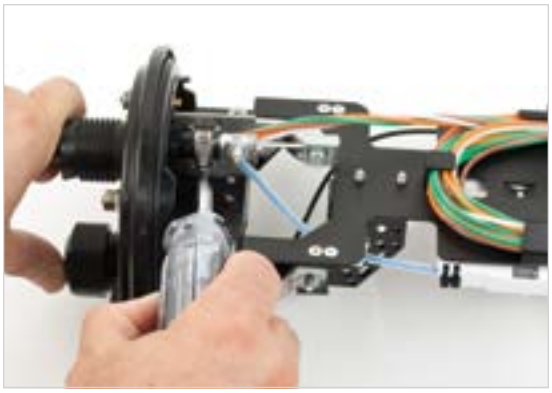


10.5 Measure distribution cable diameter with provided ruler as noted in STEP 5.1, and choose the correct grommet as instructed in the loop-thru procedure. If installing a drop, use the correct round or flat drop grommet as appropriate. It is important to slide the port nut on cable or drop before placing it in the grommet. Insert distribution and/or drop cables through grommets and place into port. For drop ports, only cut open one drop port opening per drop being installed. Leave any unused drop ports intact.

NOTE: Before inserting cable, you should apply a generous amount of vacuum grease on the cable sheath.

10.6 Lay the cable into the hose clamps and insert the strength member(s) under the 3-sided retainer clamp. Tightly fasten the hose clamps around the cable sheath using a Phillips head screw driver. Tightly fasten the strength member clamp bolt, using a 216C tool. If required, bond cable as illustrated in STEP 7 and route to splice tray for splicing.

NOTE: If the strength member has an outer jacket, remove 1"
of its jacket prior to inserting the strength member under the retainer clamp.



STEP 11:
Closing Splice Closure

11.1 Reinstall the main closure gasket and apply a generous, even coat of high vacuum grease to ensure a water tight seal.

11.2 Position the protrusion of the base into the assembly slot of the dome.

11.3 Lay the closure down into a horizontal position.

11.4 Position the locking collar to align with the loop-thru ports.

11.5 Squeeze the two collar halves together.

11.6 Engage the curved locking arm to the collar hook.

11.7 With the pivot arm leaning away from the collar hook, firmly push the latch towards the collar.

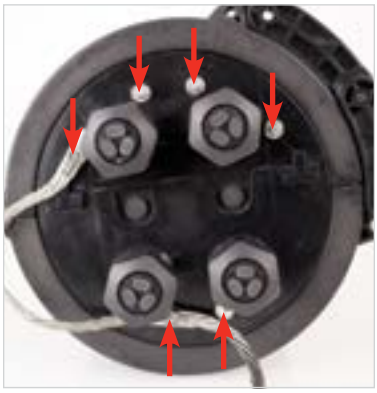
11.8 For a locked position, ensure the curved locking arm meets the collar.

STEP 12:
Grounding Splice Closure

12.1 Connect or "daisy-chain" a locally-approved #6 ground braid cable (not provided) to external ground terminals on the bottom of the closure base and connect to the external pole line or earth ground, per local practice.

12.2 Tightly fasten ground terminal nut with a 216C tool or torque wrench.

NOTE: Torque should not exceed 55 inch-pounds.



STEP 13:
Flash Test Air Valve

13.1 A Flash Test Valve has been provided on the dome closure to ensure a water-proof seal.

13.2 Remove valve cap and inflate closure with a maximum of 10 psi. Apply liquid detergent soap to all seams and cable entries. Local practices will take precedence.

13.3 If there is no presence of air bubbles (leaks), release pressure from closure and replace cap.

STEP 14:
Hanger Brackets

14.1 Using two (2) hanger arms and two (2) 7/16 bolts (provided), fasten the hanger arms to the dome at the threaded tab location(s) as indicated.

14.2 The hanger bracket is adjustable by removing the lower Phillips head screw and sliding the bar to the desired length. The unit can now be installed to an aerial messenger strand or to an underground bracket depending on the application used.

Product Installation Complete

Pole Mount Kit Installation Procedure (2 options)

Note: If using the device, you will need to install the bracket to the closure base before installing the cable.