

192-432 Fiber Splice Closure

P97-20533



Installation Manual

1. Scope of Application

This Installation Manual is for the Fiber Optic Splice Closure (Hereafter abbreviated as FOSC), as a guidance for proper installation.

The scope of application is: aerial, below and above grade, wall-mounting and hand hole- mounting. The ambient temperature ranges from -40°C to +65°C.

2. Basic Structure and Configuration

2.1. Dimension and Capacity

Outside dimension (L x W x D)	17.72" x 8.66" x 6.3" (450 mm x 220mm x 160mm)
Weight	6.83-8.38 lbs (3100-3800g)
Number of inlet/outlet Ports	3 on each side for a total of 6
Diameter of Fiber Cable	Ø.28 - .906 in (7 - 23mm)
Capacity of FOSC	Loose Tube: up to 192 Fibers Ribbon: Up to 432 Fibers
24F Splice Tray P/N (Max 8)	P97-20632

2.2. Main Components

Description		Qty	Use	Comments
1	Cover	1	Protecting fiber cable splices	
2	Locking Plates	4	Used to compress cover to base	
3	Splice Tray (FOST)	8 Max	Holding protective sleeves and holding splices	24 fibers max
4	Seal Gasket	1	Seals between the cover and base	
5	Base	1	attachment point for all components	
6	Port Plug	6	Sealing empty ports	
7	Pressure Testing Valve	1	Allows pressurization of FOSC to seal test	Configuration as per requirement
8	Grounding	1	Allows grounding of fiber cables	Configuration as per requirement

2.3. Main Accessories and Special Tools

Description		Qty	Use	Comments
1	Heat Shrinkable Protective Sleeve		Protecting fiber splices	Configuration as per requirement
2	Nylon Tie		Fixing cable	Configuration as per requirement
3	Insulation Tape	1 roll	Used to enlarge dia of cable if required	
4	Seal Tape	1 roll	Used to enlarge dia of cable if required to seal in ports	
5	Hanging Hook	2	Used for aerial mounting	
6	Buffer Tube	TBD	Used to manage any buffer if required	
7	Desiccant	1	Used in FOSC to remove moisture	
8	Labels	1	Labelling of fibers	
9	Special Wrench	1	Used to tighten nut to secure enclosure sealing bolts	

3. Necessary Tools for Installation

3.1. Supplementary Materials (Provided by Installer)

Description	Usage
Scotch Tape	Labeling, temporary fixing
Ethyl Alcohol	Cleaning
Gauze	Cleaning

3.2. Special Tools (Provided by Installer)

Description	Usage
Fiber Cutter	Cutting of fiber cable
Fiber Stripper	Strip off protective coating on fiber
Combo Tools	Assembling FOSC

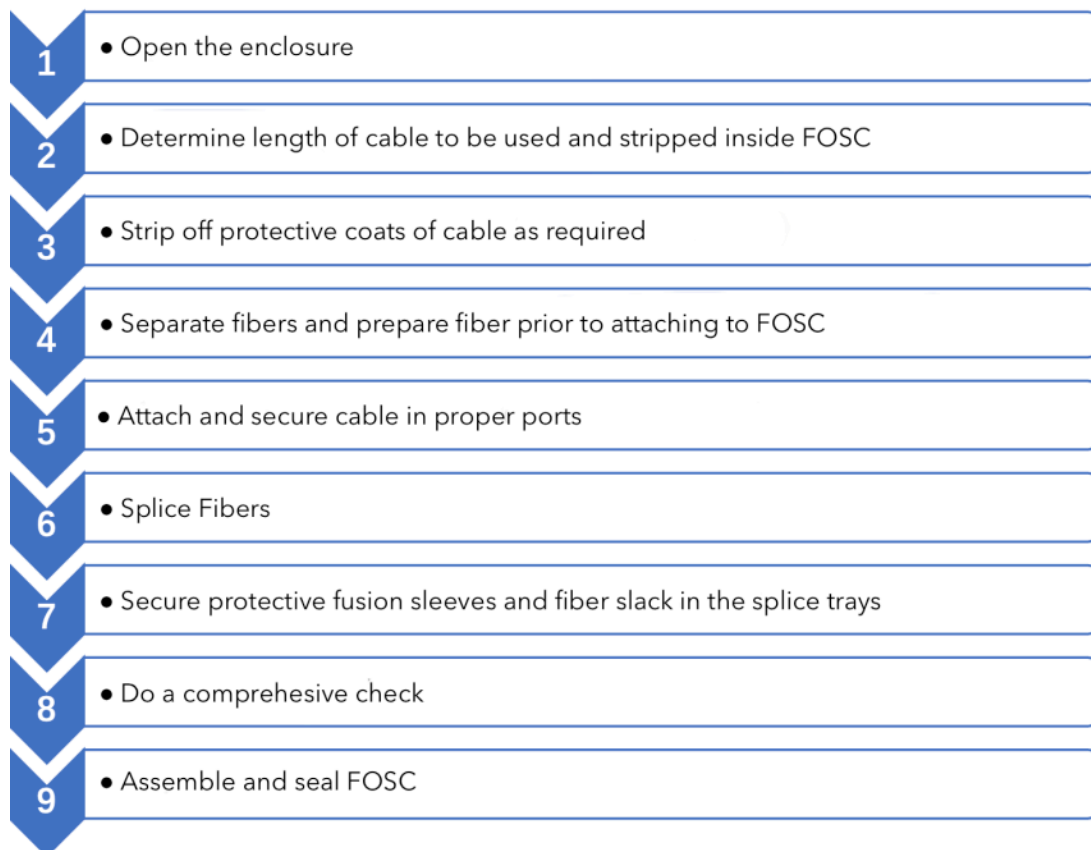
3.3. Universal Tools (Provided by Installer)

Description	Usage
Tape Measure	Measuring cable length
Cable Cutter	Cutting fiber cable
Wire Stripper	Removing excess cable jackets
Side Cutters	Cutting of reinforced core
Screwdrivers	Types as required (Phillips)
Scissors	

3.4. Splicing and Testing Instruments (Provided by Installer)

Description	Usage
Fusion Splicing Machine	Fiber Splicing
OT DR	Splice Testing
Provisional Splicing Tools	as needed
Heat Gun	Sealing heat shrinkable tubing

4. Installation Flowchart

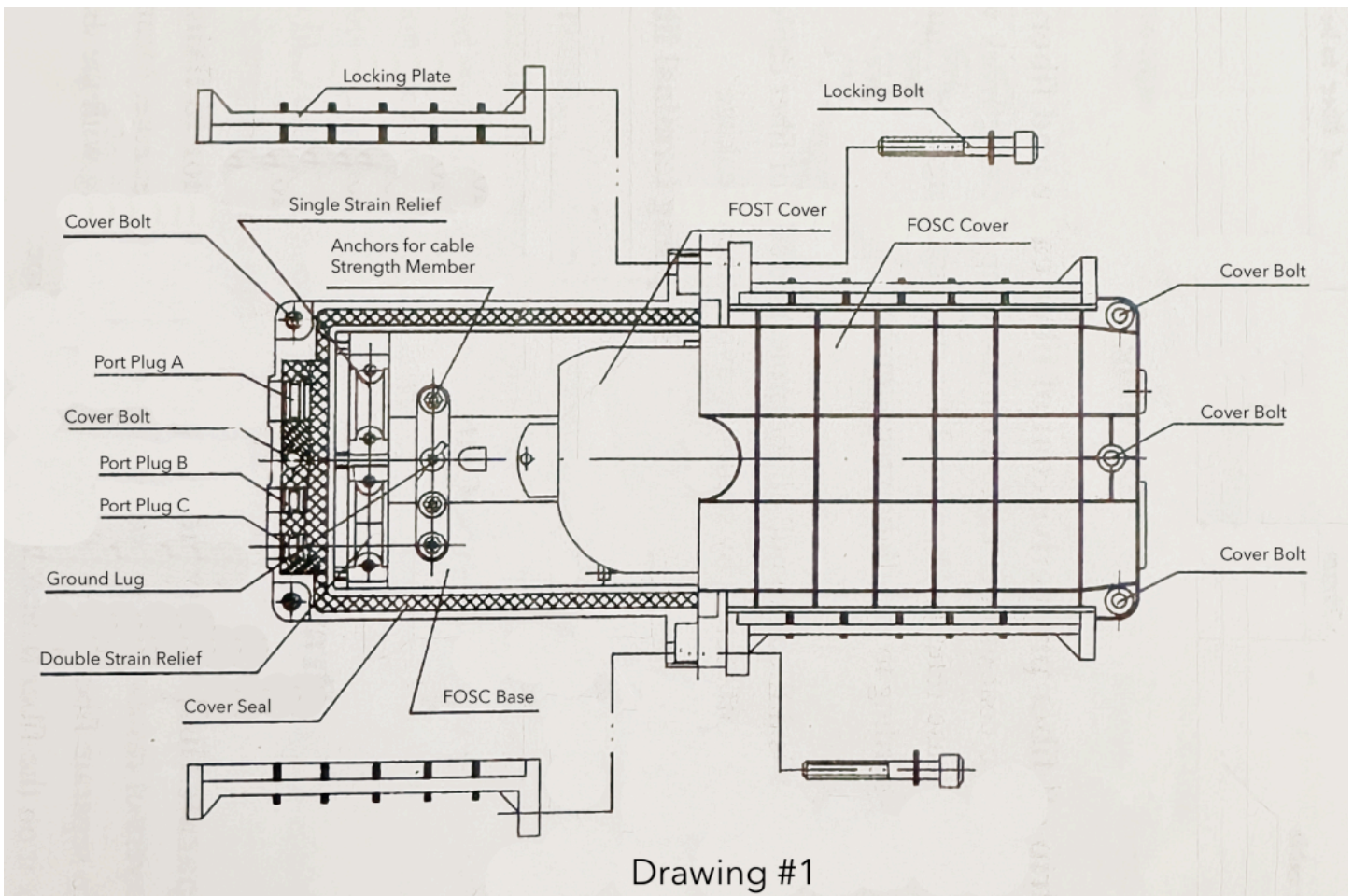


5. The Process of Installing FOSC

5.1. Step One - Open the closure

- 5.1.1. Cleaning the locale and determine where to install the FOSC and then place fiber cables required.
- 5.1.2. Check whether the main components and accessories have been well prepared inside the package.
- 5.1.3. Open the closure
 - Remove the locking bolts on each side and slide off the locking plates
 - Remove the cover bolts and proceed to remove the cover
- 5.1.4. See Drawing 1

Important: If the weather condition is not good enough, then a tent must be pitched for waterproof and dust proof working environment.

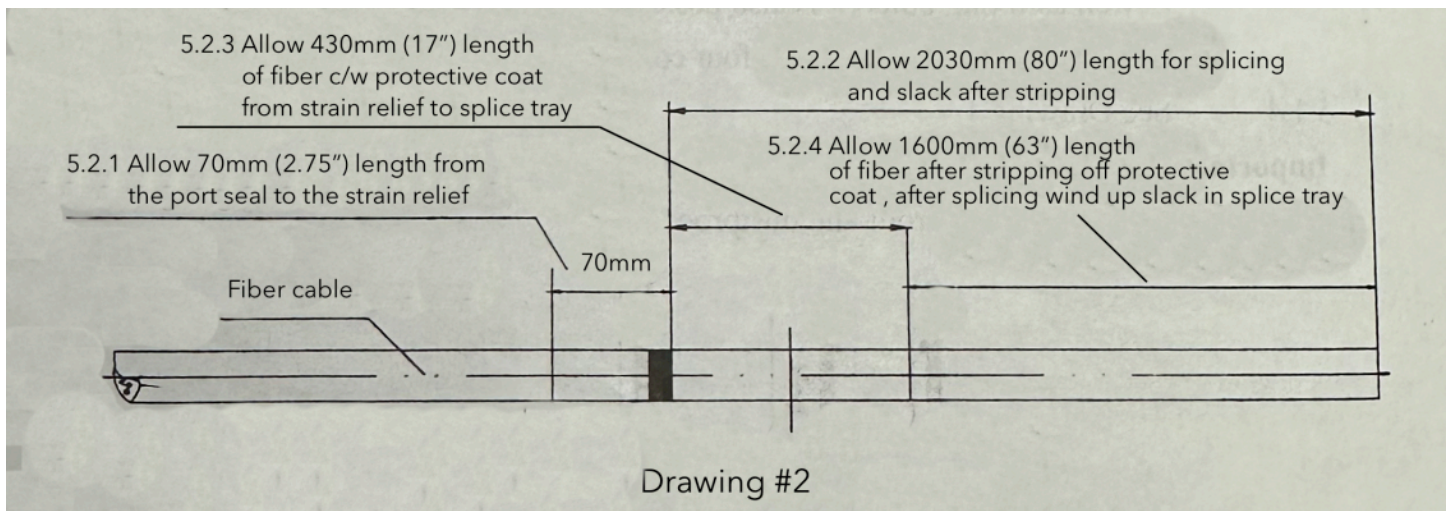


5.2. Step Two - Determine length of fiber cable to be fixed and stripped inside FOSC

- 5.2.1. Allow 70mm (2.75") length from the port seal to the strain relief
- 5.2.2. Allow 2030mm (80") length for splicing and slack after stripping
- 5.2.3. Allow 430mm (17") length of fiber c/w protective coat from strain relief to splice tray
- 5.2.4. Allow 1600mm (63") length of fiber after stripping off protective coat , after splicing wind up slack in splice tray.
- 5.2.5. See Drawing 2.

Important:

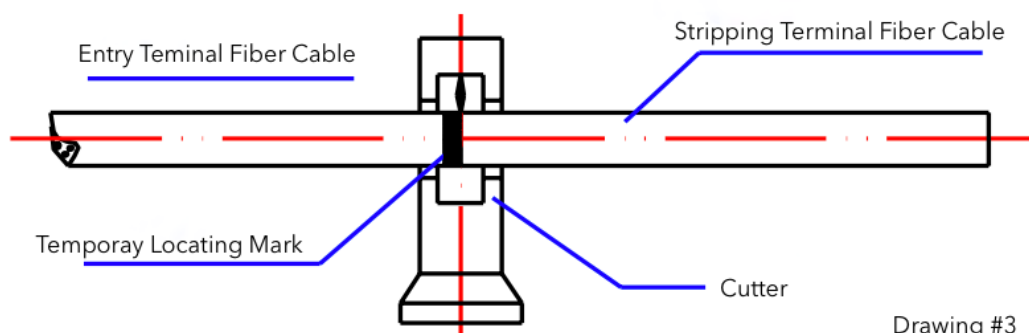
- 1. Reserve enough length of fiber cable to be spliced.
- 2. Stripping length also could be decided by customers according to installation requirement.



5.3. Step Three - Strip off jacket of fiber cable and fiber

- 5.3.1. Strip off jacket of the cable from the temporary locating mark with the cutter and the stripper, please refer to Drawing 2 for the stripping length. Stripping length can also be decided according to installation requirement.
- 5.3.2. See Drawing 3.

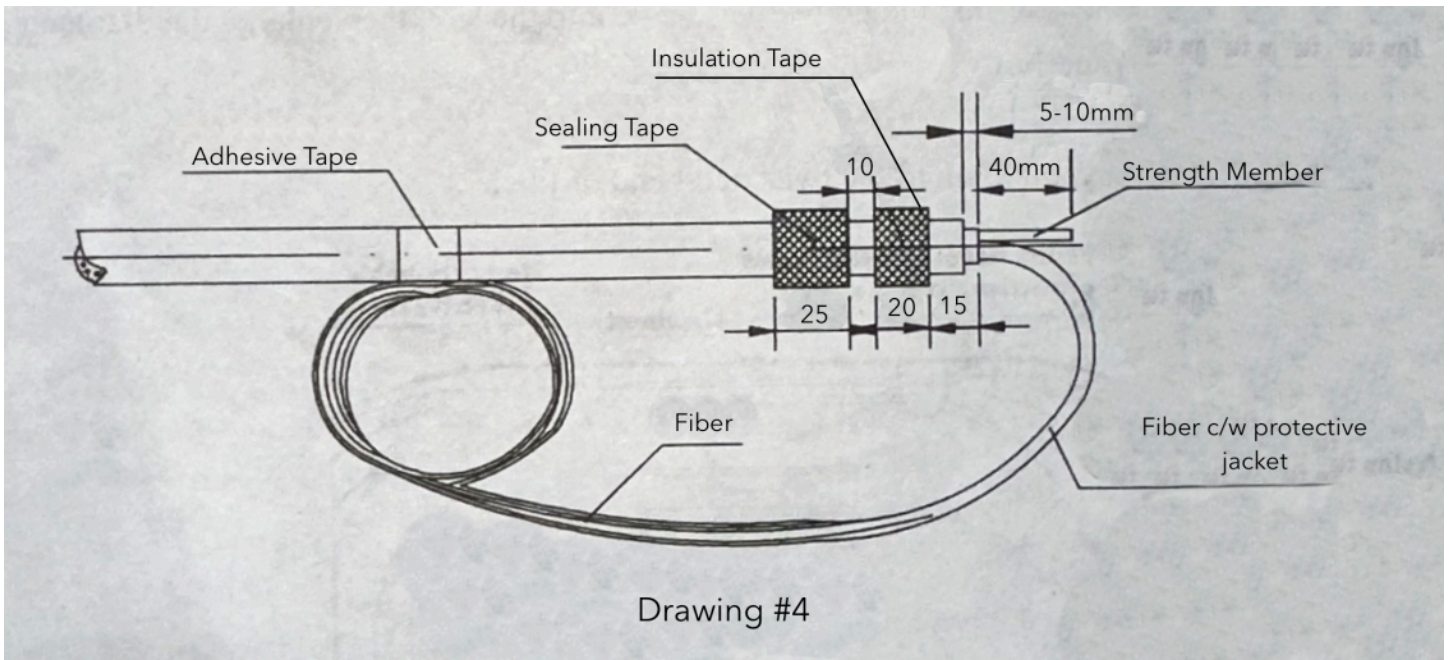
Important: If it is difficult to pull all the jacket material off the cable at one time, strip it off section by section to avoid fiber breakage.



5.4. Step Four - Separate fiber cores and prepare work prior to fixing fiber cable.

- 5.4.1. Wind 2 layers of insulation tape on jacket of fiber core for protection. Meanwhile, get rid of the stuffing to separate fiber core and clean them. Form a loop with a diameter of 100mm or so and fix it on the fiber temporarily by adhesive tape
- 5.4.2. This FOSC is provided with six inlet/outlet ports. Number of fiber cables is determined by the customers according to their actual requirements and the corresponding number of port plugs should be taken out. The max number of fiber cables to be installed is six.
- 5.4.3. This FOSC is suitable for the following diameters of fiber cables respectively:
 - Port A: suitable for fiber cable with max. external diameter of 23mm (.906")
 - Port B: suitable for fiber cable with max. external diameter of 20mm (.787")
 - Port C: suitable for fiber cable with max. external diameter of 16mm (.63")
- 5.4.4. The corresponding inlet/outlet ports are to be selected according to fiber cables actually installed. When the diameter of the fiber cable is smaller than that of the inlet/outlet port, then the sealing tape should be used to enlarge the external diameter of the cable.
- 5.4.5. See Drawing 4.

Important: Before the sealing tape is used for enlarging the fiber cable, use an abrasive cloth and ethyl alcohol to clean the cable.



5.5. Fix reinforced core, and fiber cable.

- 5.5.1. Insert fiber cable into the heat shrinkable tubing, and then insert the cable into entry/exit tube at the bottom of FOSC.
- 5.5.2. Secure the cable to the strain relief bracket and if need to the the ground lug.
- 5.5.3. Push up the heat-shrink tubing on the cable up to the bottom of the FOSC.

- 5.5.4. Please refer to Drawing 5 for use of branching clip to seal two cables.
- 5.5.5. Heat shrink sleeve with heat gun until complete seal is achieved on entry/exit tube and fiber cable.
- 5.5.6. See Drawing 5

Important:

- Check to make sure strain relief bracket and ground lug screws are tightened.
- While heating, heat-shrink tubing should shrink evenly, and there should be no bubbles, pores and other defects inside the tube.

5.6. Step Six - Splice fibers

- 5.6.1. Follow user manual of fusion splicing machine to splice fiber.

Important: Pay attention to the twist and bend of the fiber

5.7. Step Seven - Install fusion splice protection sleeves and route fibers.

- 5.7.1. When having completed splicing the fibers, the first fiber ring should be routed to the top of FOST, the remaining fiber should be routed forming a ring with diameter not less than 80mm. then put it into FOST (Fiber Optic Splice Tray) together with fusion splice protective sleeve. (Firstly press in the splice protection sleeve into the slot, then enlarge the diameter of fiber ring properly and route in tray.)

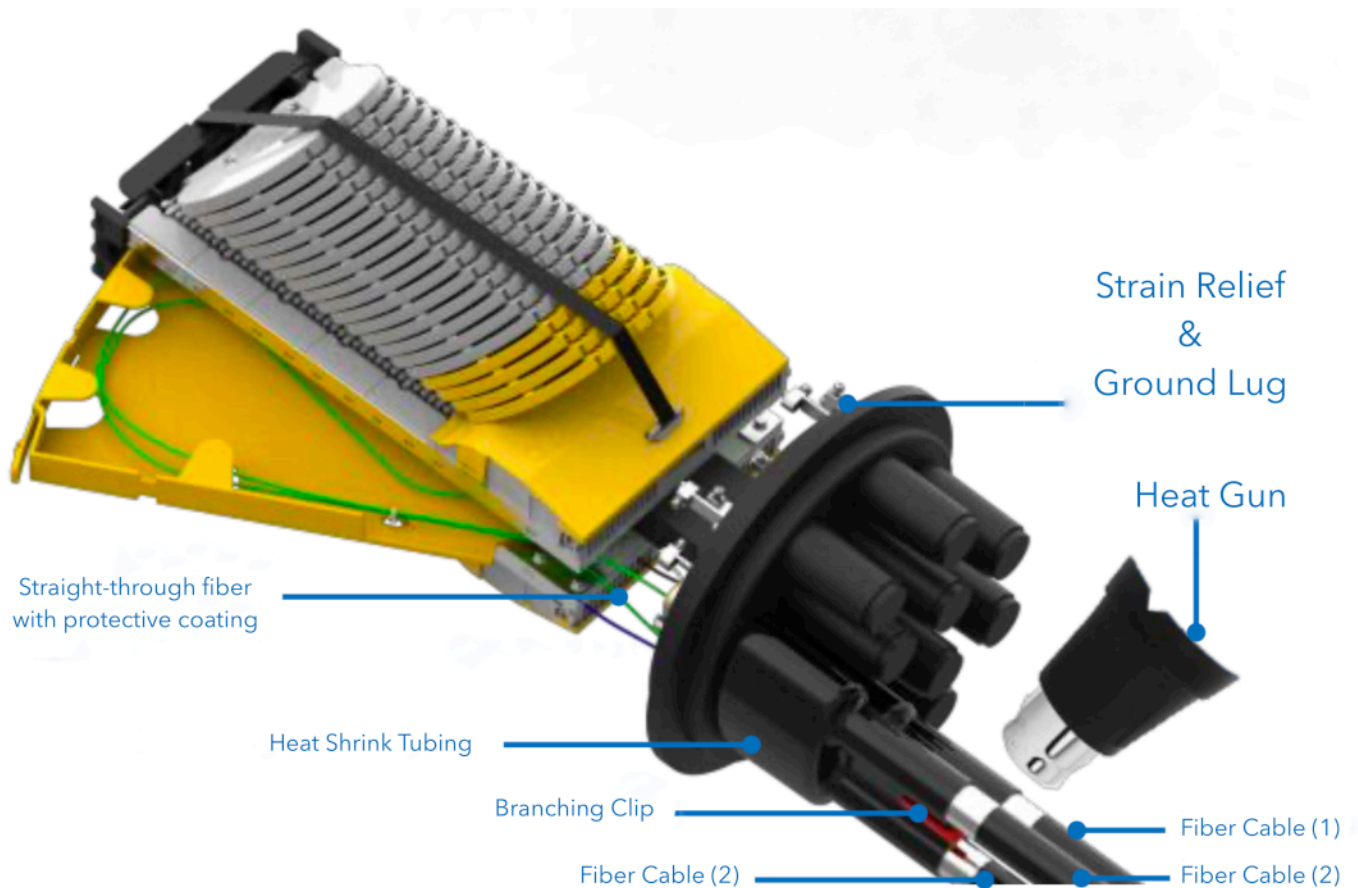
- 5.7.2. See Drawing 6

Important: Pay attention to the twist and bend of fiber.

5.8. Step Eight - Review and Check Installation

To ensure the technical requirements, the following instructions must be followed:

- 5.8.1. Fibers with protective coat are fixed with nylon tie at the entrance of FOST
- 5.8.2. Straight-through and reserved fibers with protective coat should be routed to the fiber slack tray.



Drawing 5

relief bracket and ground lug screws are

5.8.3. Check to make sure strain relief bracket and ground lug screws are tightened.

5.8.4. Check whether gasket on base is installed neatly and smoothly in groove.

5.8.5. Check heat shrink tubing has been shrunk enough to provide proper seal.

Important: If any problems are found, they should be solved right away.

5.9. Step Nine - Assemble FOSC housing and fix FOSC

5.9.1. Put desiccant into FOSC.

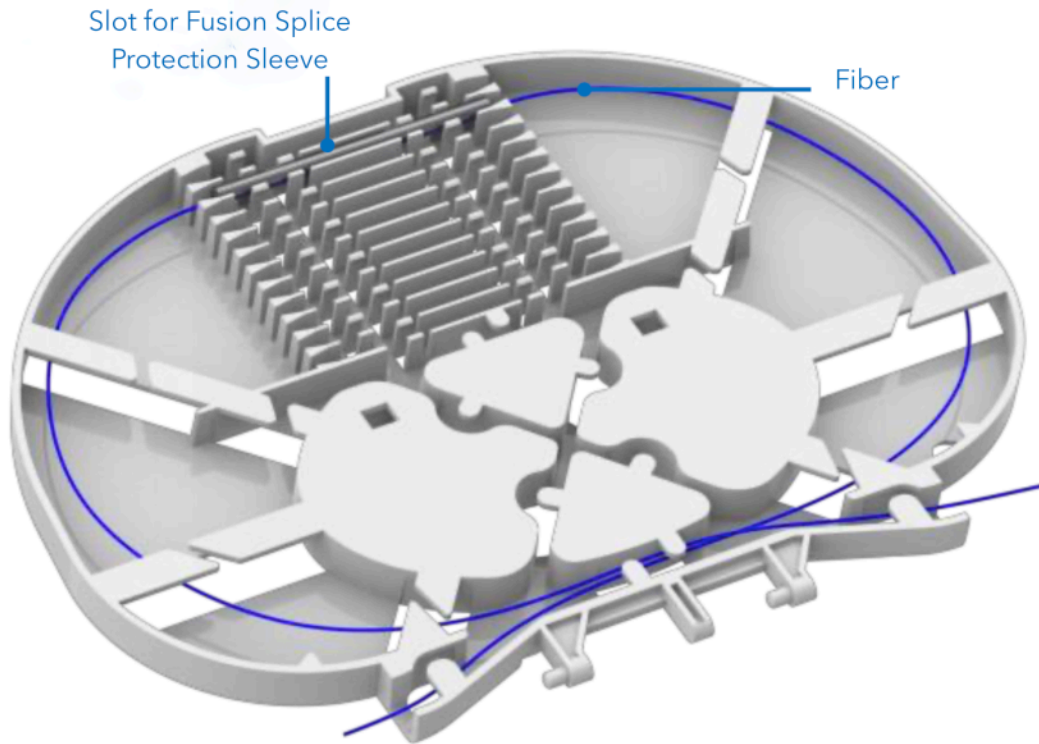
5.9.2. Install FOSC cover on base.

5.9.3. Install plastic hoop between FOSC cover and base, tighten hoop locking system, lock hoop by installing bolt.

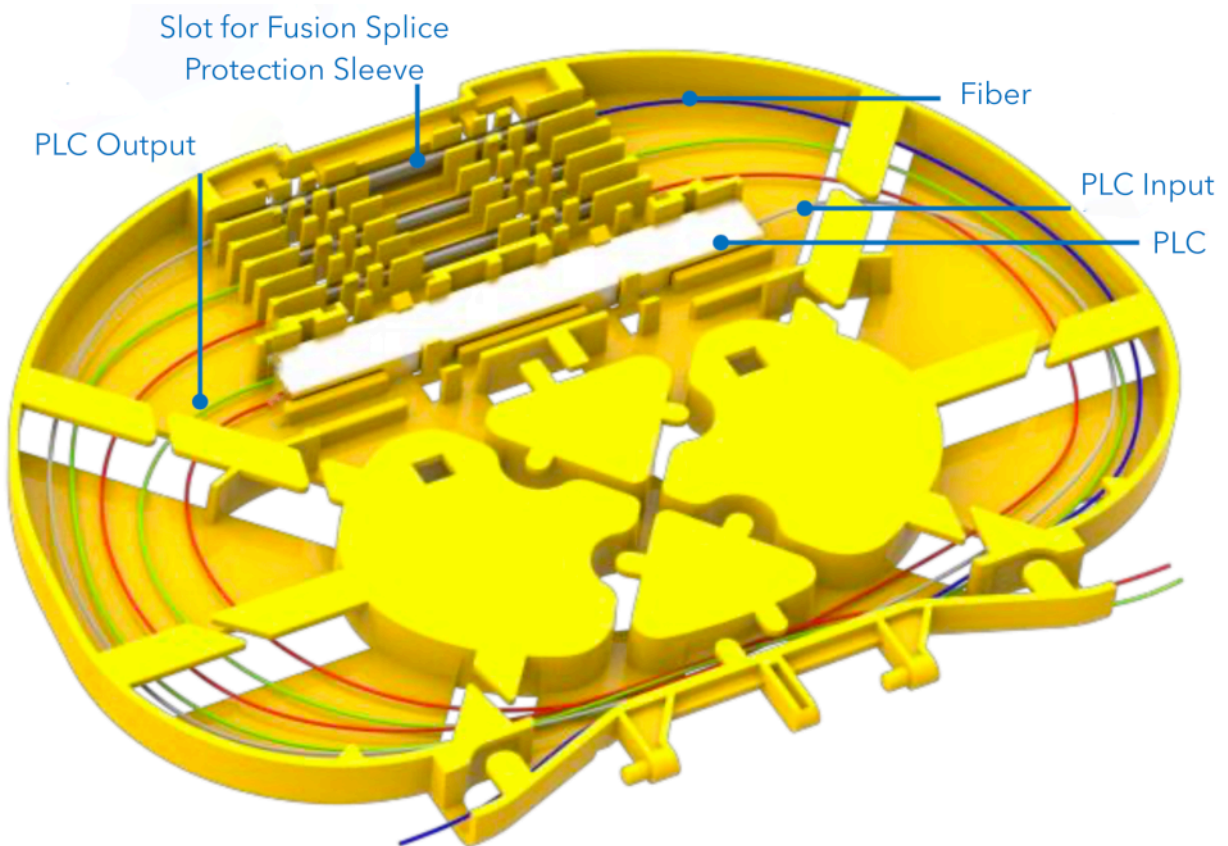
5.9.4. FOSC installation

- Overhead application: Fasten the steel wire with a metal clip. Please refer to Drawing 7
- Pole application: fix metal hoop and transom to the pole. Please refer to Drawing 8
- Wall mounting application: fix the bracket on the wall with bolt. (metal hoop is not required.) Drawing 9
- Underground application: metal hoop is not required.

Important:



- Pay attention while installing plastic hoop to make sure it clamps properly..



- The specification of **Drawing 6** bolt for the wall bracket is M8.

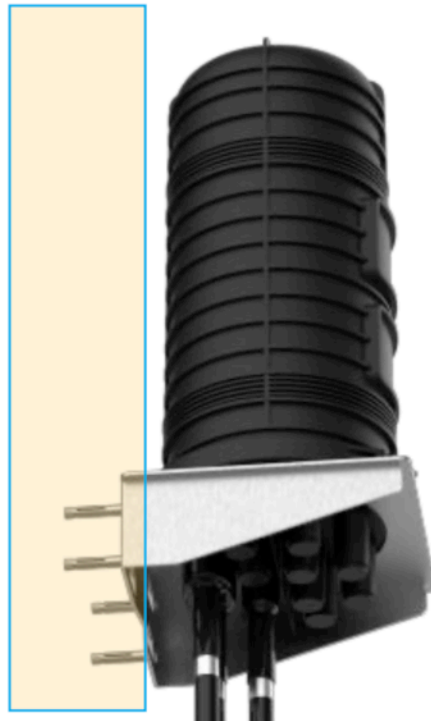
Place Holder for Drawing 8 & 9



Drawing 7



Drawing 8



Drawing 9