



KSDT-306

Fiber Optic Splice Closure

Installation Instruction Manual

NOTES:

- 1. Please read this instruction manual carefully before installation.**
- 2. Please pay special attention to the notes listed, especially when the operator seal the cable ports, as seal performance of the closure might be affected if operation is not appropriate.**

Table of Contents

SL. No.	Item	Page No.
1.	General Introduction	3
2.	Specification	3
3.	Structure and Components	4
4.	Direction	6
5.	Installation flow chart	6
6.	Service	20

1. General Introduction

KSDT-306 type of Fiber Optic Splice Closure (FOSC) is a member in dome series. The sealing component is made from silicon. The cables and the closure are sealed in a mechanical way with the help of compacting pressure from the plastic screws. This model is suitable for different methods of branch connection, including branching of uncut cables. It could be used for aerial, pole-mounting, wall-mounting and underground applications. This model is excellent in sealing performance, easy for installation, wide applications and is prior choice of fiber connection equipment.

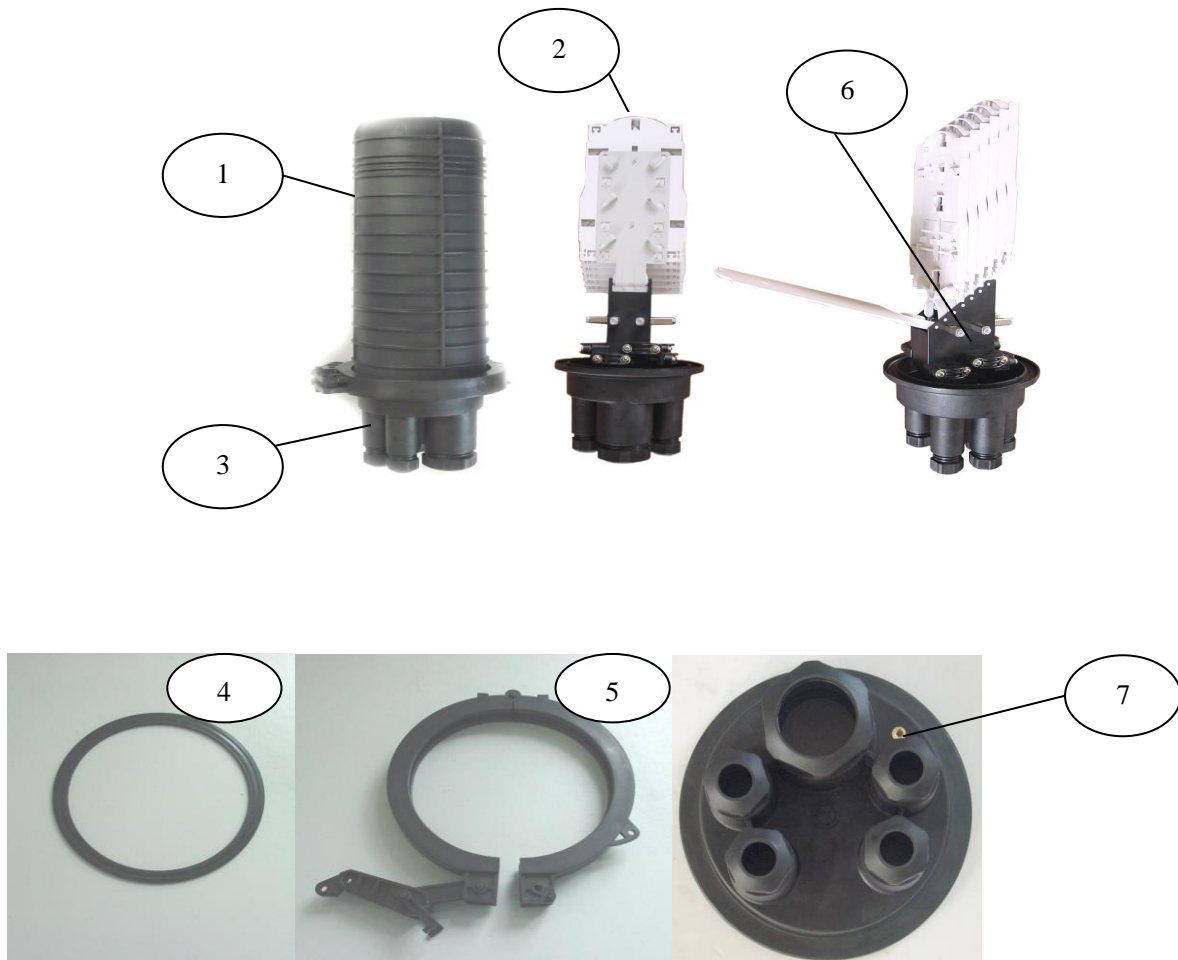
Our company is a professional company specialized in R&D of different types of FOSC. Thanks for using our products!

2. Specification

External Dimension (mm)	450×φ230	Max. Capacity	144 single fibers
Weight (kg)	4.2~4.8	Sealing type	Mechanical
Cable Entrances	5 (4 Drop & 1 Express cable)	Capacity per Tray	24
Suitable cable diameter (mm)	φ8~φ17.5		
Max. number of Splice trays	6	Insulation resistance:	≥2X10 ⁴ MΩ
Environment temperature	-40 to +55° C	Voltage-resistance strength	Under the effect of 15kV _{DC} /1min, non-puncture, no arc-over
Airproof & Water proof	Airing pressure inside box 100Kpa, pointer immovability after 24 hours or no air bubble within 15 min when placed under normal temperature water.	Re-entry performance.	No change in the index of air-proof performance after three times of entry

3. Structure and Components

3.1. Pictures of fiber closure and its components



1. Splice Closure cover;
2. Fiber Splice Trays;
3. Splice Closure Base;
4. Circular Seal Gasket;
5. Plastic Hoop;
6. Splice Tray Bracket;
7. Earthing Device.

3.2. Accessories

3.2.1. Main components

Number	Name & description	Remarks
1	Splice Closure Cover	H= 350 (mm) D = 175 (mm)
2	Fiber splice tray	Fiber splice & storage.
3	Splice Closure Base	Fixing internal and external structures
4	Circular seal gasket	Waterproof and sealing
5	Plastic hoop	Fixing dome cover and base
6	Splice tray bracket	For holding splice tray
7	Earthing device	This include GW-2 inner ground wire (listed in BOM) and the extension of ground outside of the closure
8	φ52 blocker	For sealing of express cable
9	Connective blocker	
10	φ52 cable seal gasket	
11	M55 NUT Hexangular	
12	09L4 seal ring	For sealing
13	09L4 inner seal ring (dia 8-12mm)	
14	Plastic washer I & II	
15	M31 NUT Hexangular	

3.2.2. Accessories and tools

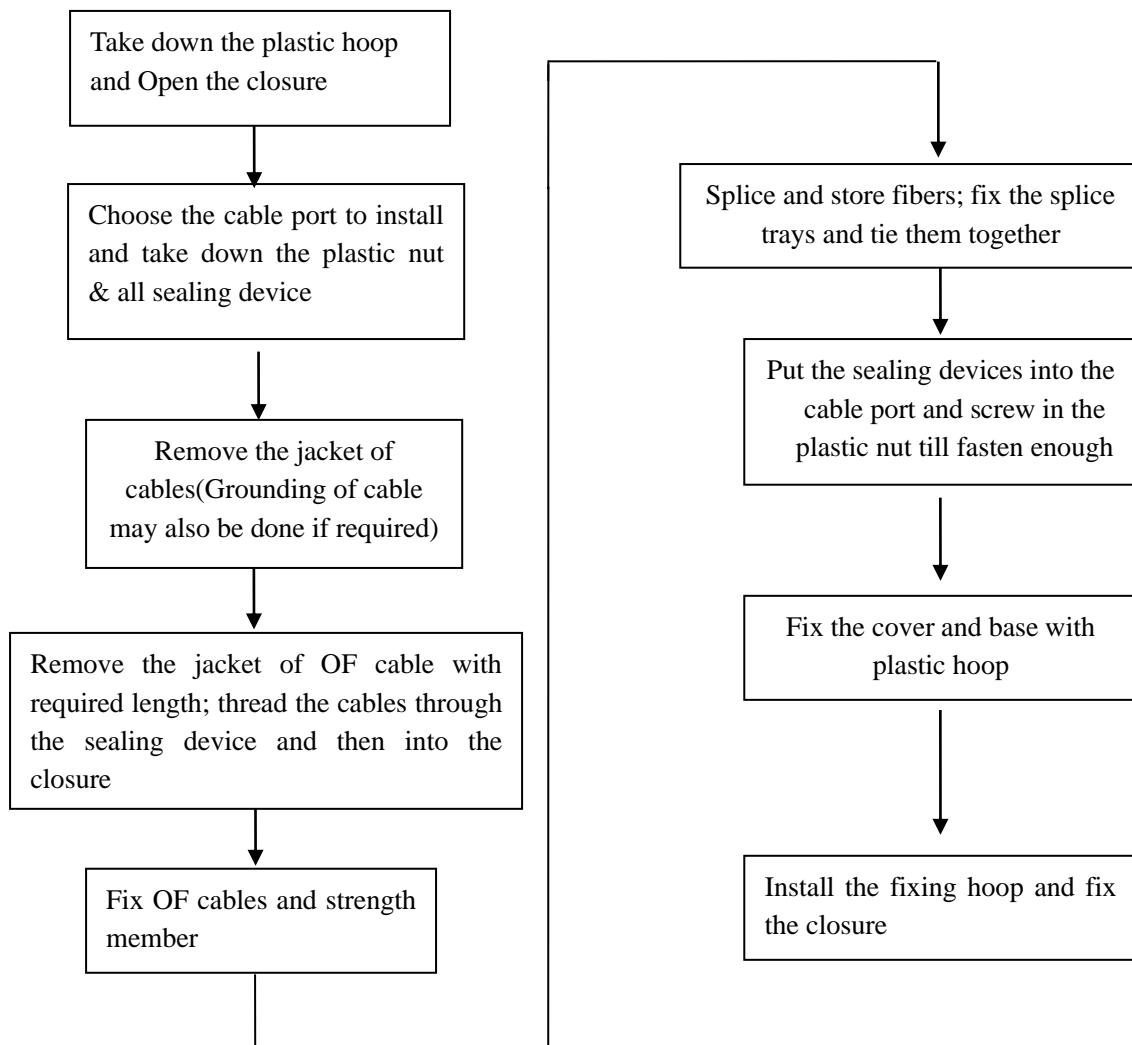
No.	Name	Application
1	Splice Protective Sleeve	Fiber splice protection
2	Nylon cable tie	Fixing fibers with protective jacket
3	Cable & Fiber Identification rings (Labeling paper)	For fiber/cable identification
4	Insulation tape (black)	Fixing fibers
5	Transport tubes	For protection of loose tube if required
6	Plastic Dummy Plug	For ports when not used
7.	Air Pressure Valve	Air pressurization of closure and check of air pressure.
8.	Spanner	Special tool

4. Direction

4.1. Preparation

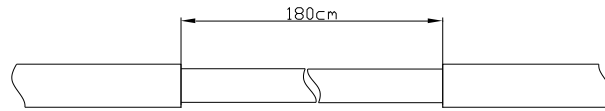
- 4.1.1. Please check the model and accessories of the closures and check the model of the fibers and the specification of the OF cables before installation.
- 4.1.2. Keep all components and accessories dry and tidy for easy installation;
- 4.1.3. Keep the working place clean and flat for easy installation;
- 4.1.4. Use standard tools of fiber optic splicing when remove the jackets of OF cables and install the closure.

5. Installation flow chart



5.1 Cable Installation

- 5.1.1. Mark the cutting point on the cable, the length of stripping being about 180cm or as per the requirement.



Picture 5-1

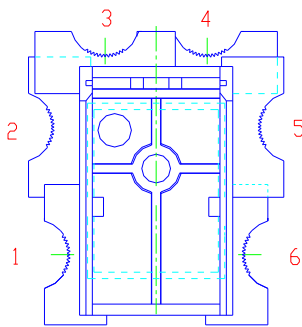
5.1.2. Remove the unnecessary cable sheath from the marked point with a sheath stripper

Note1. Be sure not to damage fibers.

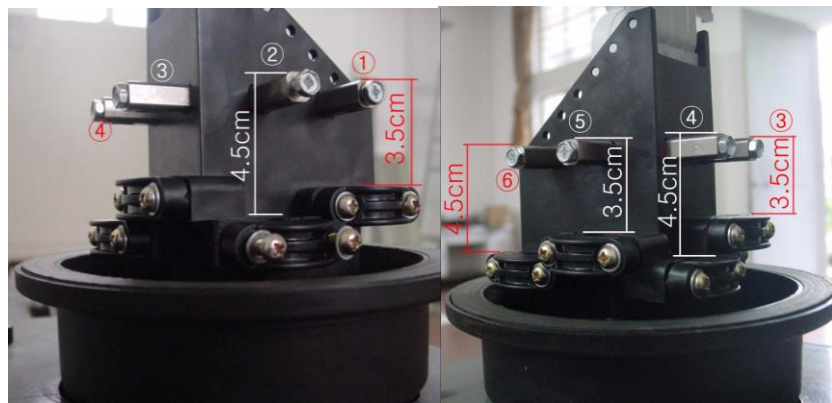
Note2. Do not use any damaged cable.

Note3. While remove the cable sheath, please do not cut, twist or damage loose tubes. Reserve enough length to ensure repair and maintenance in case of any accident.

5.1.3. Cut off the extra strength member about 3-4cm from the removing point on the sheath. Suggested length as follows: location 1 needs to remain 3.5cm of steel core; location 2: 4.5cm; location 3: 3.5cm; location 4: 4.5cm; location 5: 3.5cm; location 6: 4.5cm; (location 3 & 4 are for uncut cables) (Please refer to picture 5-2 & 5-3 below)



Picture 5-2

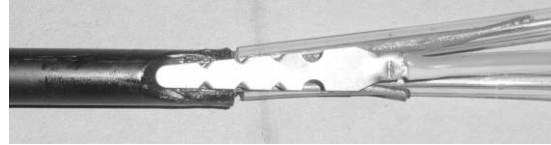
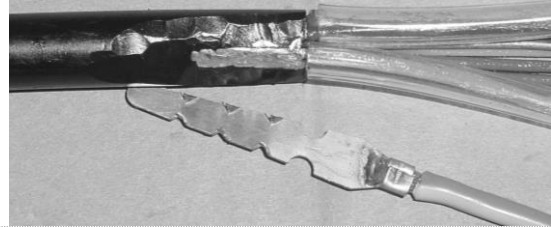


Picture 5-3

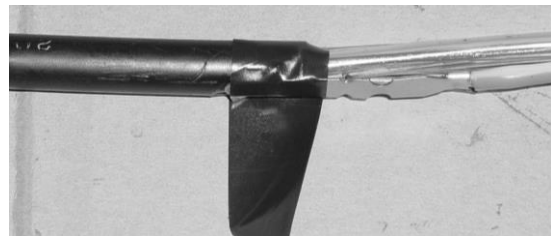
5.1.4. Installation of grounding wire for armor cable



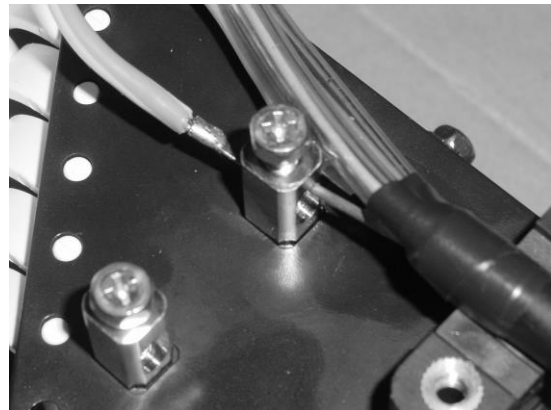
1. Press one end of the grounding wire of armor cable(tooth-like) tightly with the metal part of the cable;



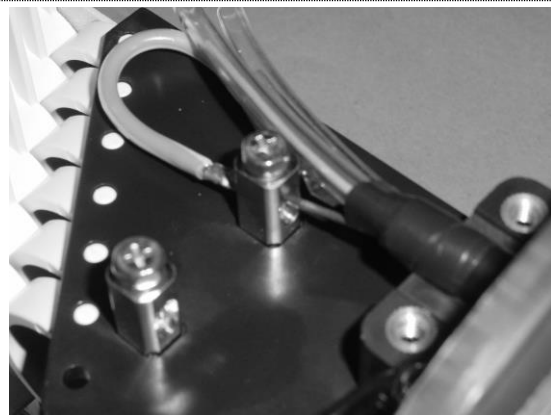
2. Wrap around the contact part (the grounding wire & the metal part of cable) with black insulation tape to fix the grounding wire firmly;



3. Loosen the nut at the top of the fixing bolt, thread one end of the grounding wire & the strength member of cable through the hole of the fixing bolt together;



4. Tighten the nut to ensure the strength member of cable and the grounding wire are fastened firmly to the closure.



5.2.1 Installation of fiber closure

5.2.1.1 Check the closure and all the accessories;

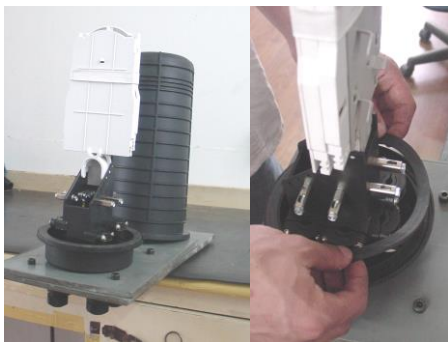
5.2.1.2 Fix the closure to the fixing bracket (Picture 5-4)



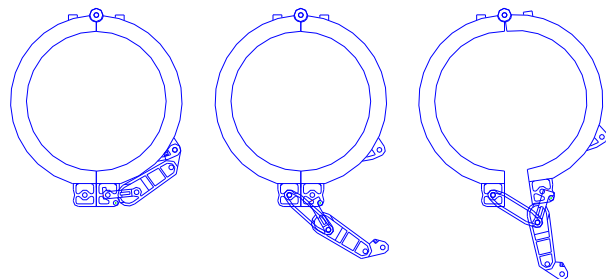
Picture 5-4

5.2.1.3 Open the closure

Unlade the locked device on the plastic hoop, open the plastic hoop to separate the cover and base, and take out the sealing gasket. (Picture 5-5)



Picture 5-5



Picture 5-6

Note. Please be careful when separating the cover and base so as not to damage the closure because of the excellent sealing performance (closure sealed too tight).

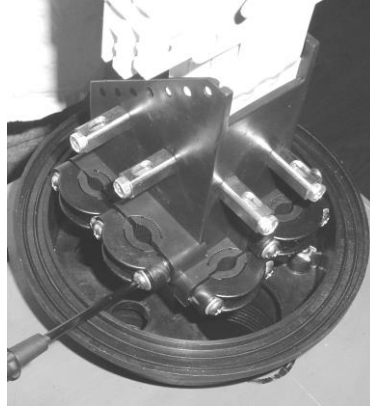
5.2.4 Thread the cables into the closure.

Loosen all hexangular nut installed at the bottom of the base and take out the sealing device



Picture 5-7

Take down all cable pressed buttons around the bracket.



Picture 5-8

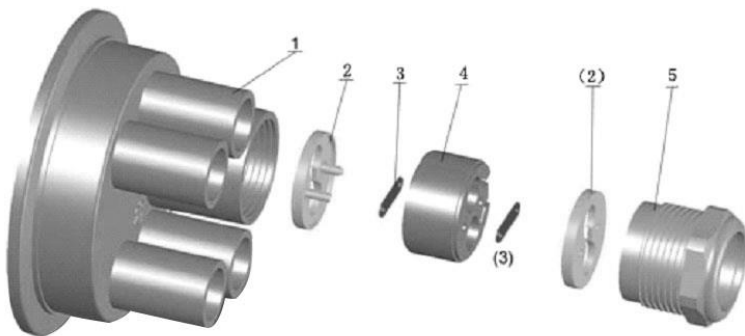
Components used



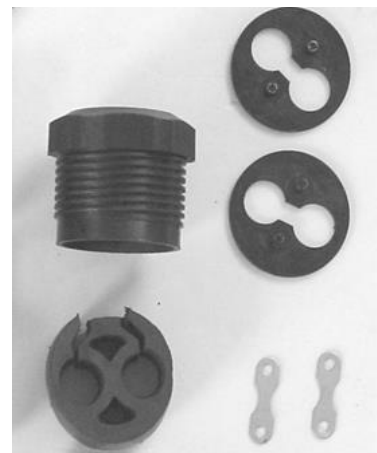
Picture 5-9

5.2.4.1 The inlet of uncut cables

5.2.4.1.1 Pictures of the components used for the big cable port



Picture 5-10



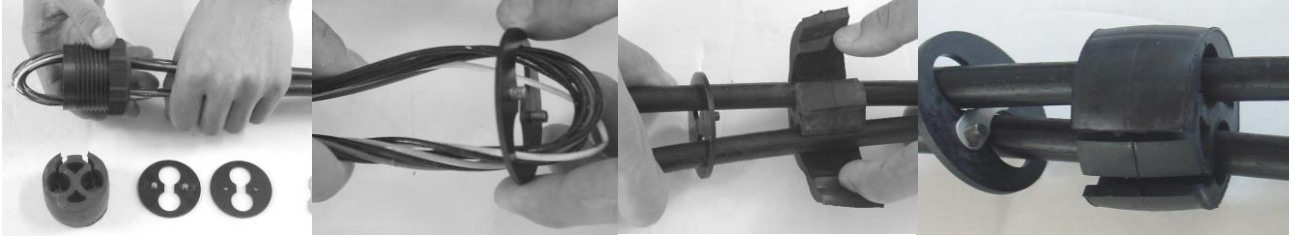
Picture 5-11

5.2.4.1.2 List of components for the big cable port

Number	Name	Material	Application
1	Splice Closure Base	MPP	Fixing internal and external structures
2	φ52 blocker	Stainless steel	Used for sealing of uncut cable. (<i>Cable diameter > φ12</i>)
3	Connective blocker	Stainless steel	
4	φ52 cable seal gasket	Silicon	
5	M55 NUT Hexangular	MPP	

5.2.4.1.3 Installation Steps of the big cable port

- i. Screw down the plastic nut of the big cable port; thread the peeled cables through the M55 NUT Hexangular, $\phi 52$ blocker, $\phi 52$ cable seal gasket, $\phi 52$ blocker subsequently. (Picture 5-12 as below)



Picture 5-12

- ii. Thread cable through the big cable port into the closure (Picture 5-13)
- iii. Loosen the nut at the top of fixing bolt and thread the strength member through the retained hole of the fixing bolt and tighten the nut.
- iv. Fix the cable with two sets of cable pressed button onto the bracket;
- v. Entwine the spare uncut loose tubes on the metal tray bracket (basket) and fix them with nylon ties (Picture 5-15)



Picture 5-13



Picture 5-14



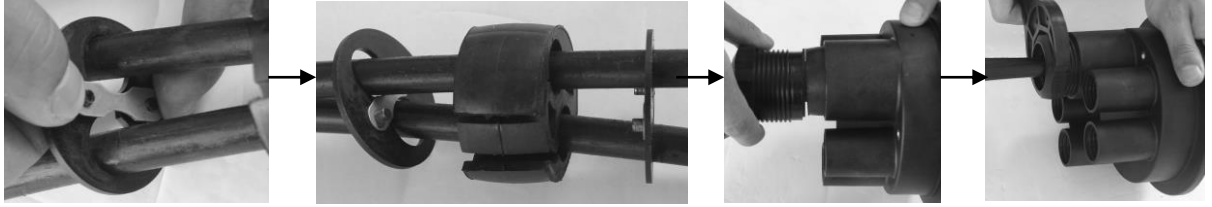
Picture 5-15

Note: Pay attention to cables during operation.

- vi. Cable sealing

Connect the two Connective blocker with the two $\phi 52$ blocker (thread the two protruded poles of the $\phi 52$ blocker through the two holes of the Connective blocker) and then press the $\phi 52$ blocker and the $\phi 52$ cable

seal gasket into the big cable port, and tighten the M55 NUT Hexangular with a spanner *till it's fasten enough so that the seal gasket and the cables are sealed perfectly together.*



Picture5-16

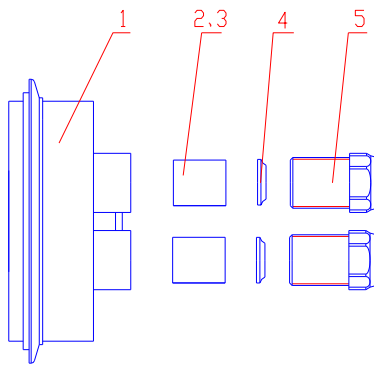
Note: Make sure to tighten the hexangular bolts in a sequence as following picture due to the limitation of space (Picture5-17)

5.2.4.2 Inlets of 4 small cable ports (For cut cables)

5.2.4.2.1 Pictures of components used for the small cable ports (Picture5-18 & Picture5-19)



Picture5-17



Picture5-18

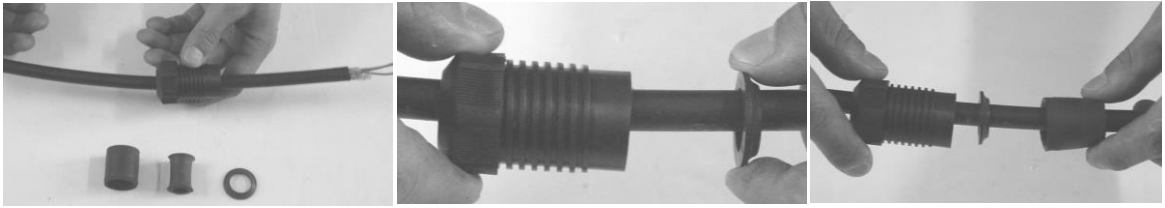


Picture5-19

5.2.4.2.2 List of components for small cable ports

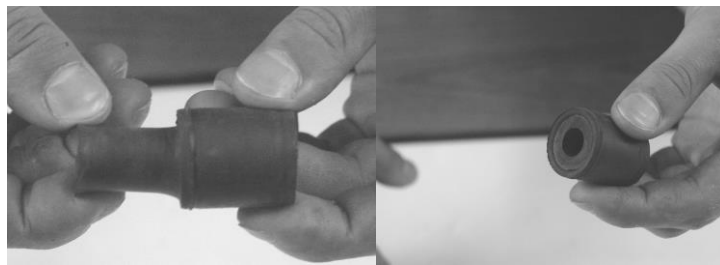
Number	Name	Material	Application	
1	Splice Closure Base	MPP	Fixing internal and external structures	
2	09L4 seal ring	Silicon	Used for seal of cable	
3	09L4 inner seal ring (dia 8-12mm)	Silicon		Using when cable diameter $\phi 12$
4	Plastic washer-I	ABS		
5	Plastic washer-II	ABS		Using when cable diameter $\phi 10$
	M31 NUT Hexangular	MPP		

5.2.4.2.3 Installation steps of small cable ports



Picture5-20

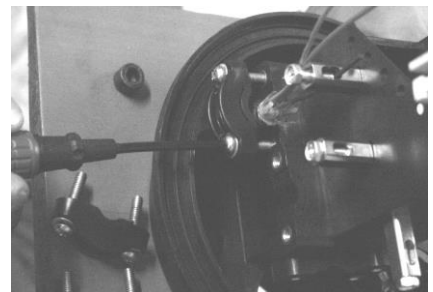
- i. Thread the stripped cable through M31 NUT Hexangular, plastic washer and cable seal ring in sequence.



Picture 5-21

Note. When the diameter of cable is smaller than $\phi 10$, please use plastic washer-II and the inner seal ring as well so that seal performance could be guaranteed. (Picture 5-21)

- ii. Thread the fiber cable through the small cable ports into the closure.
- iii. Loosen the nut at the top of the cable strength member fixing bolt, thread the strength member through the preset hole and fasten the nut;



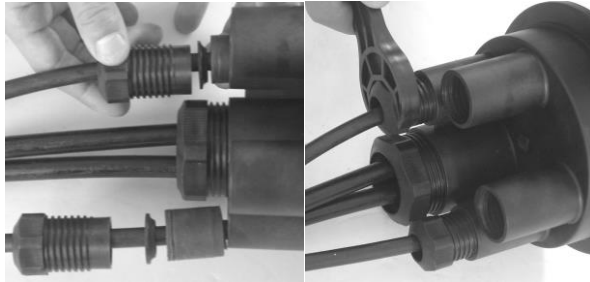
Picture 5-22

- iv. Fix the cables to the bracket with the cable press button;
- v. The cable armor may be grounded if required and extended to external ground.

Note. Please pay attention to fibers during the operation.

vi. Sealing of cables

Press the cable seal ring (inner seal ring as well if required), plastic washer to corresponding cable ports and screw in the M31 NUT Hexangular *till it's fasten enough so that the seal gasket and the cables could be sealed perfectly together.* (Picture 5-23)



Picture 5-23

5.2.7. Fiber distribution, protection and fixation:

Distribute the fibers as required;

Remove the loose tubes of cables (do not damage fibers), and protect fibers with transport tube.

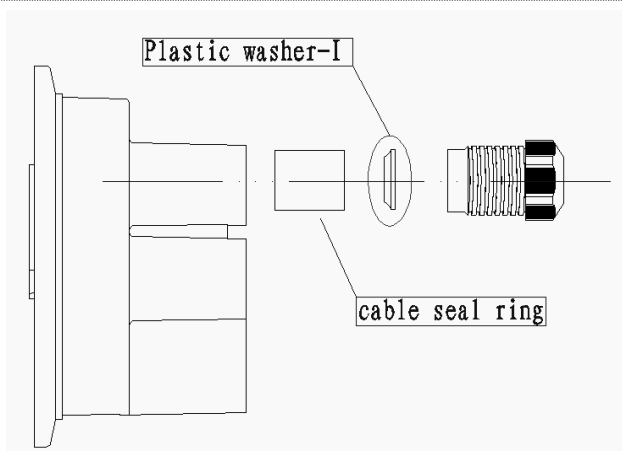
Fix the protected fibers at the entrance on the splice tray with nylon ties.

Clean the surface of fibers with alcohol to remove the grease on the fibers.

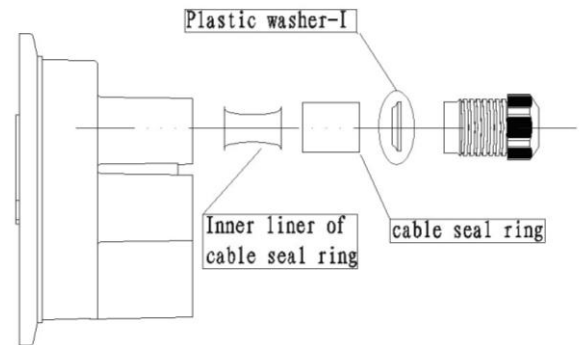
Sealing of the cable entry ports

Important:

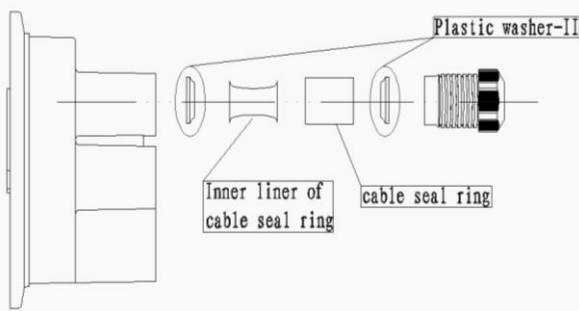
1. Take care while seal the cable entry ports.
2. Please note the direction of the liners when plugged into the cable port.



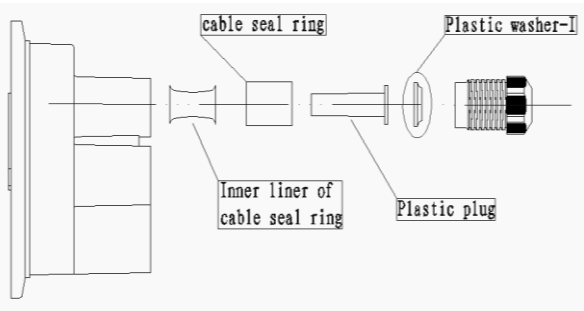
When installing the cables
Cable diameter: $\phi 12 \sim \phi 17.5$



When installing the cables
Cable diameter: $\phi 10 \sim \phi 12$



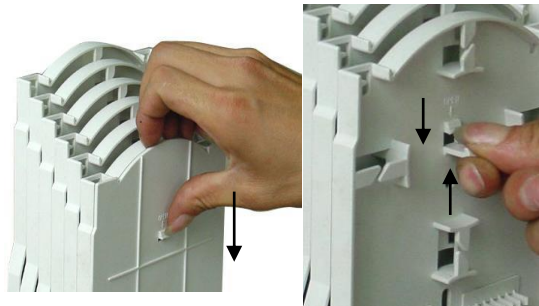
When installing the cables
Cable diameter: $\phi 8 \sim \phi 10$



When without cables

5.2.5 Splice fibers and store spare fibers

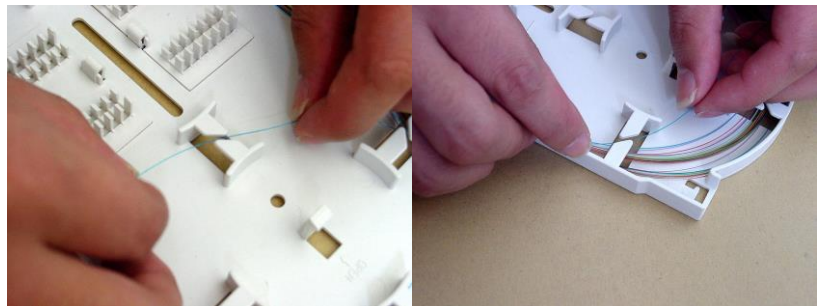
5.2.6. Splice fibers



Picture 5-24

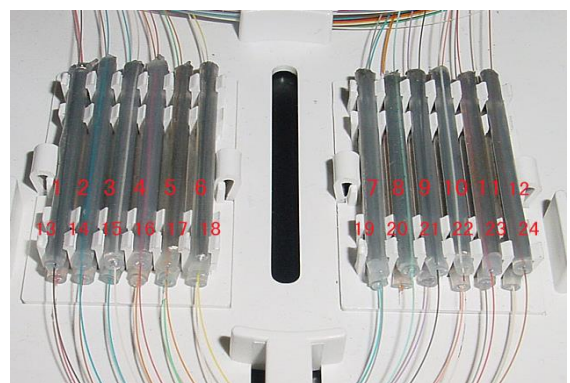
- i. Leave enough length of peeled fibers for splice and coil, the length being about 180cm. Thread the peeled fibers with PVC transparent tube (a certain length), all 24F fibers from side 1 are spliced with fibers from side 2 first, protect the spliced fibers with protective sleeves.
- ii. When the spliced fibers are let in, fix the fibers at the entrance of the splice tray by nylon tie;

hold the heat shrink protective sleeves with one hand, coil the 24 fibers from side 1 altogether on the splice tray in the clockwise direction with



Picture 5-25

- the other hand until the fibers have only one circle length or so remain, stop coiling and hold these remain 24 fibers (Please refer to picture 5-25);
- iii. Hold the 24F spliced fibers from side 2, hold the heat shrink protective sleeves with one hand or the operator could change to hold the sleeves with the other hand as in step 2 he has already hold the sleeves with one hand, coil all the 24F on the splice tray in the anticlockwise direction, leave length about a circle;
 - iv. The operator has already hold the 24 sleeves with one hand, take one sleeve and implant it inside the fibers holder, then sleeve 2, implant the sleeves from 1-12; which are the ground interlayer (Please refer to picture 5-26), the holder in line 3 & 6 are higher than line 4&5, so



Picture 5-26

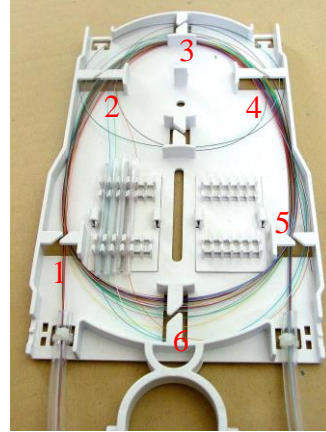
line 4&5 are used to implant the ground interlayer of sleeves and line 3& 6 are used to implant the second interlayer .

5.2.7. S tore spare fibers

ii. The fibers should be coiled in the big circle marked with 1,2,3,4,5,6 as below, the big circle being about 370mm;

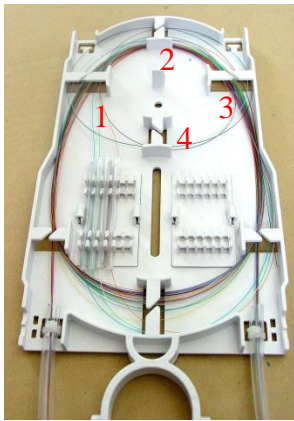
This circle is the main route for the coil of fibers;

The route is 1-2-3-4-5-6 (Please refer to picture 5-27)



Picture 5-27

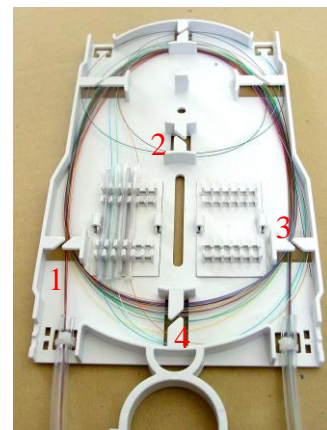
iii. When the fibers are coiled a certain circles, with some



Picture 5-28

length of fibers remained, implant the spliced fibers with protective sleeves inside the fiber holder (the slack); If the remaining (surplus) fibers are not enough for a big circle, then coil the remaining (surplus) fibers round the small circle. The small circle is marked with 1,2,3,4, the length of the small circle being about 270mm; the route of the coiled fibers is 1-2-3-4 (Please refer to picture 5-28);

iv. If the length of the remaining fibers are longer than the one coiled around the small circle but shorter than the big circle (between 270mm and 370mm), then coil the remaining fibers around the relatively circle, which is marked with 1,2,3,4; the route of the fibers coiled around this circle is 1-2-3-4 (Please refer to picture 5-29). This circle is not recommended as it might cause the fibers broken because of the protective sleeve.

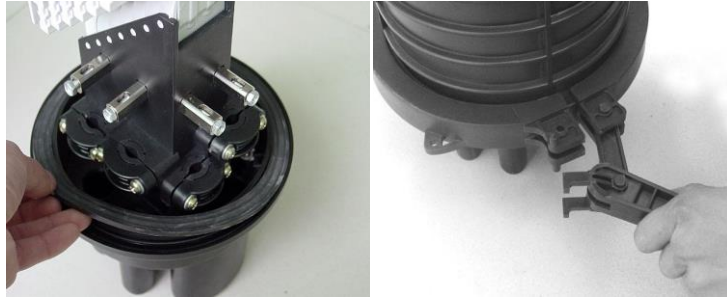


Picture 5-29

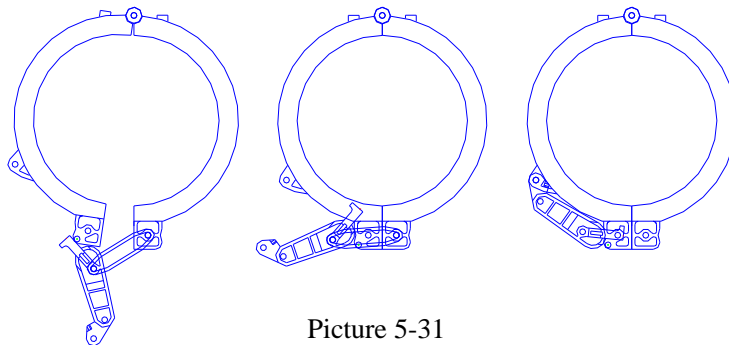
Repeat the above steps till installation finished. Each tray is 24 single fibers.

5.2.9. Assemble the closure

After installation of cables, place the sealing gasket into the base, cover the dome to the base and fasten them with a plastic hoop.



Picture 5-30



Picture 5-31

5.2.9. Sealing test

It is recommended to test the splice closure after assembly is done by giving pressure (but it depends upon the user), and protect optic cables with earthing wire (Pressure testing valve and cable earthing protection is an optional according to user's requirement & option).

6. Service

Should you have any questions or suggestions, please do not hesitate to contact us. We will provide you with the best service in time.



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