

Gel-Sealed Fiber Optic Splice Closure

1. General Information

This installation practice provides instructions for installing the FOSC 450 BS fiber optic splice closure.

The FOSC 450 BS closure is a combination cable closure and splice organizer that uses mechanical seals to environmentally seal fiber cable splice points.

Cable Types:

Loose buffer tube
Central core tube

Splice Capacity:

144 single fusion
72 mechanical splices

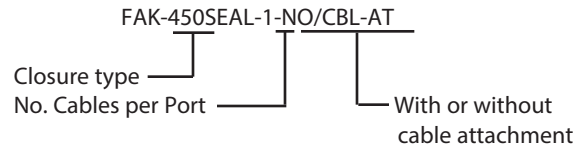
Locations:

Direct Buried
Aerial
Underground (Manhole)

2. Kit Components

Base	Gel end piece plugs (4)
Transportation tubes	Dome and clamp
Cable strain reliefs (6)	ID label cards
Splice tray	Nut driver
Spiral tubing	Slack storage basket
Allen key	Tie wraps
Gel end piece	Hose clamps (6)

Use these accessory kits to seal multiple small cables in a single port:



Optional Kits:

- FOSC 450 Small/Seal-3 Cable Kit: seals 3 cables in a single port
- FOSC 450 Small/Seal-4 Cable Kit: seals 4 cables in a single port
- FOSC 450 Single Small Cable Kit: seals one small cable in a port
- FOSC-ACC-Mult-Ext-Grnd-3: installed into port providing 3 external grounds
- FOSC-ACC-Mult-Ext-Grnd-6: installed into port providing 6 external grounds
- FOSC-ACC-450-Work Stand: work stand for installations

4. Warnings

Do not flash test splice closure to more than 5 psi. Release air pressure after flash test.

3. Cable

The FOSC 450 BS closure supports a butt splice configuration with a capacity of six cables.

Important: You must slide cables through the base before installing them in the closure.

Note: The gel seal cable range is .35" to 1" in diameter.

IMPORTANT: Small round or flat cable installations -- If cables are less than 0.35" in diameter or flat drop style, an additional step is required for cable sealing in the port. In this case the cable diameter must be build up to the minimum 0.35" diameter. In addition, if multiple small cables like these are to be installed in a single port, it is imperative that gel is applied between the cables before installing them into the gel port. See FOSC 450 Small/Seal-3 or -4 Cable Kit installation instructions or FOSC 450 Single Small Cable Kit installation instructions for further details.

5. Cable Preparation

Loose Buffer Tube Cable:

1. For loose buffer tube **ends**, remove 48" of cable sheath.
2. Cut strength member to 1-3/4".
3. For loose buffer tube **midspan** openings, remove 72" of cable sheath.
4. If shield is present, tab cable 3/4" and attach supplied bond wire.

Central Core Cable:

1. For central core tube **ends**, remove 48" of cable sheath. Leave 8" of core tube to be attached to the slack basket.
2. Cut strength members to 1-3/4".
3. For central core tube **midspan** opening, remove 72" of cable sheath. Leave 8" of core tube to be attached to the slack basket.
4. If shield is present, remove 3/4" of cable sheath and attach supplied bond wire.

Note: A multi-external ground 3 or 6 kit will be needed and will occupy one port.

6. Cable Installation

1. Remove base-to-dome clamp to enter the closure.

Note: Slide cables through the base before installing them in the closure.

2. For central core strength members, use the middle prong. For dual strength members, bend the middle prong out of the way and use the two outer prongs.
3. Insert strength member(s) into the strength member attachment bracket and tighten screw. (Figure 1)
4. Install the strength member attachment bracket into the smaller cable attachment part by pushing the metal tab into the slot. (Figure 2)
5. Slide the larger slotted cable attachment part into the smaller cable attachment part. With the supplied 1/4" nut driver, tighten the hose clamp around the sheath retention clips to grip the cable sheath, such that the retention teeth fully seat into the cable assembly. (Figure 3) Do not tighten the clamp to the point that it deforms.
6. Slide cable strain relief assembly into the appropriate metal slot of the closure until it locks in place. (Figure 4)

Note: To remove the cable strain relief assembly, tilt the assembly over the retention tabs and pull firmly.

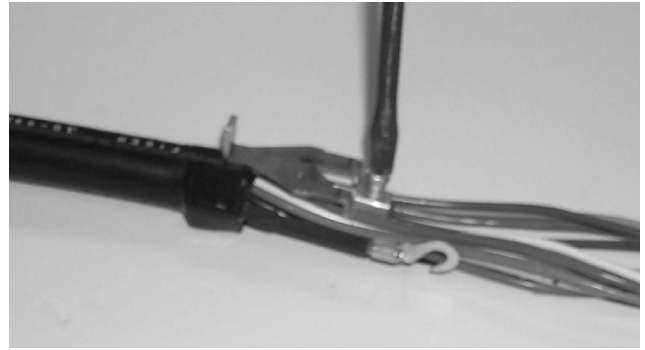


Figure 1

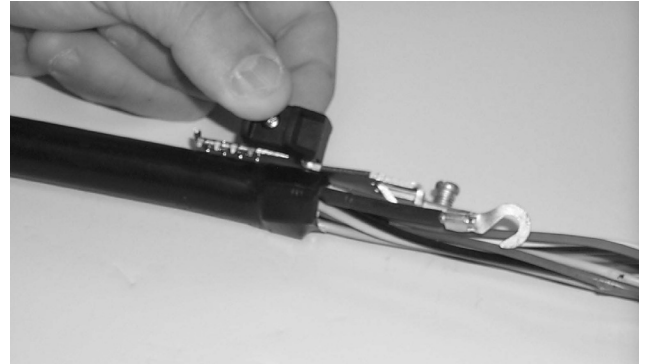


Figure 2

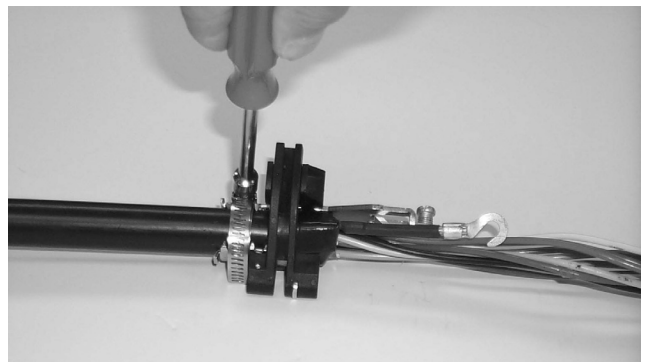


Figure 3

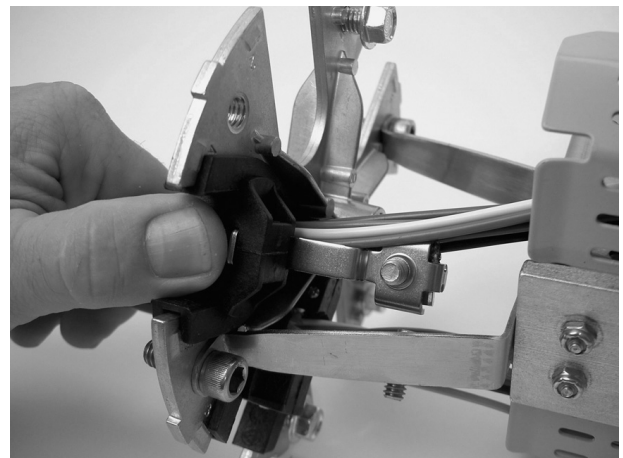


Figure 4

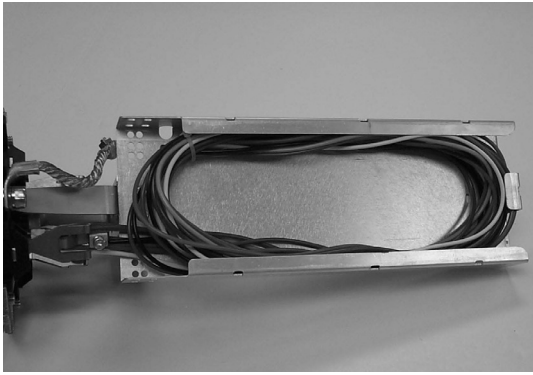


Figure 5



Figure 6

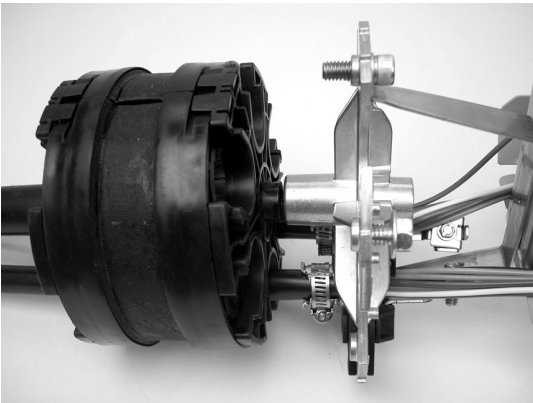


Figure 7



Figure 8

7. Fiber Organization and Splicing

Loose Buffer Tube Cable:

1. **Cable Ends** - Route buffer tubes up to the appropriate splice tray(s) and trim.
2. **Midspan** - Route and store uncut loose buffer tubes in the bottom slack basket. Buffer tubes that are to be spliced are routed up to the splice trays and trimmed. (Figure 5)
3. Splice and organize the fibers on the splice trays.
4. After splicing is complete, add Velcro strap around trays and slack basket.

Central Core Cable:

1. **Cable ends** - Route central core tubes to the bottom slack basket. Use transportation tubes to route the fibers up to the splice trays.
2. **Midspan** - Route central core tubes to the bottom slack basket and store the uncut fibers. Use transportation tubes to route the fibers up to the splice trays.
3. Splice and organize the fibers on the splice trays.
4. After splicing is complete, add Velcro strap around trays and slack basket.

8. Closure Installation

1. Squeeze gel end piece at the seam to open. (Figure 6)
2. Position the gel end piece against the spacer on the metal frame. Position the cables in the gel block and close the gel block (Figure 7).
3. Insert a yellow port plug into each unused port. (Figure 8)
4. Slide base up and over the gel end piece and up to the metal frame. White mark on the base should be at the top of the closure. (Figure 9)
5. Metal frame tabs should fit into the slots of the base.
6. Place dome onto the base and install the clamp. (Figure 10)
7. Pull the tail of the gel end piece toward the cables so that it butts up against the back of the base.

8. Turn the tail of the gel end piece clockwise by hand until it reaches the physical stop. This will seal the cables and plugs. (Figure 11)
9. Place a large tie wrap around all the cables near the end of the gel end piece tail.

Note: If gel end piece collects dirt, it can be cleaned with water.

9. Test Seal

1. Flash test closure to 5 psi. Thoroughly soap seals to check for seal integrity.
2. After flash test is complete, bleed all pressure from the closure through the valve.

10. Re-entry

Remove the clamp from the base/dome to access the closure.

11. Adding Cables

1. Turn the tail of the gel end piece counter clockwise to loosen the seal between the gel end piece and the base.
2. Remove the dome-to-base clamp, then remove the dome.
3. Remove base and slide back over the cables.
4. New cable must go through the base before it can be terminated in the closure.
5. Refer to Section 5 for cable installation.

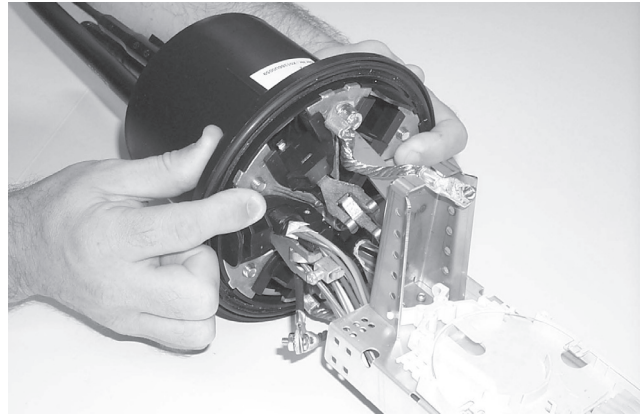


Figure 9



Figure 10

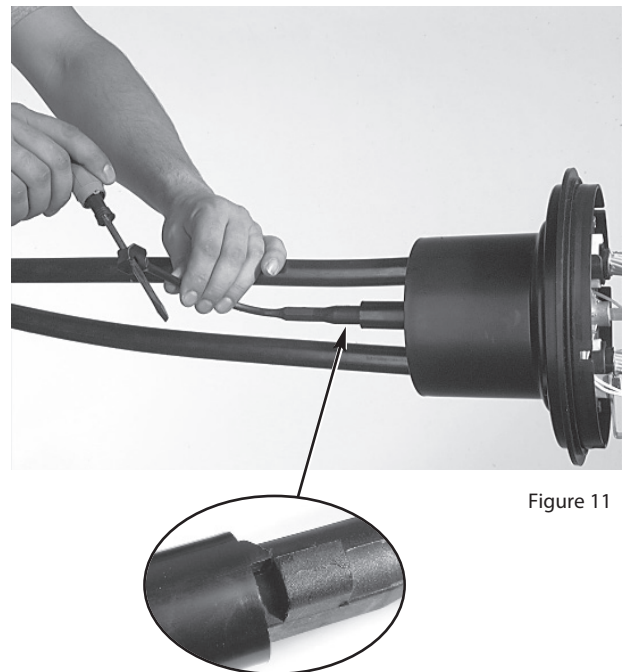


Figure 11

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