COMMSCOPE®

FOSC-450A

INSTALLATION INSTRUCTION

TC-772-IP
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www.commscope.com

Fiber optic splice closure

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1 Introduction

The FOSC-450 is an environmentally sealed enclosure for the fiber management system that provides the function of splicing in the external network.
The closure is a single ended design made of a thermoplastic material. The base and dome are sealed with a clamp and pre installed O-ring system. For cable sealing, a wrap-around block with 4 ports is used that contains a pre-installed gel profile. It can be opened and closed repeatedly without the need to replace the gel.
The maximum single fiber splice capacity of the FOSC 450 A closure is 96 stored on four trays (24 splices per tray).

2 General

2.1 Kit content

- Dome
- Base with O-ring system
- Cable attachment plate with tower, cable strain relief and trays pre-installed (optional)
- Gel block with trigger
- Clamp
- 2 plugs for unused ports
- Silica gel
- Hook and loop fastener
- Tray wedge
- Hose clamps, felt tape
- Installation instruction

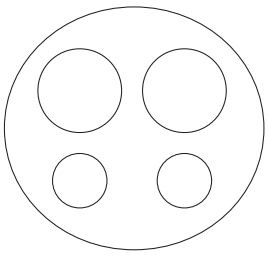
2.2 Tools

- FACC-TUBE-STRIPPER-02 to strip loose tube
- ¼1/4" Nut driver
- 10 mm Nut driver

2.3 Accessories

- FOSC-A-Trays
- FOSC-A-Shield-Con-Kit Shield continuity wire
- FOSC-450A-MULTI-4/7
- FOSC-450A-3-DROP-KIT

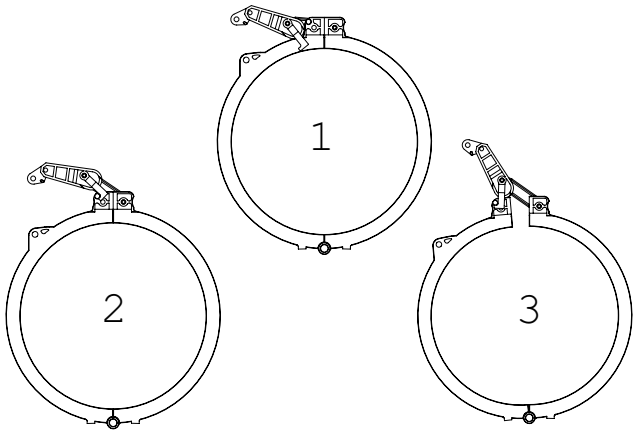
2.4 Port capacity



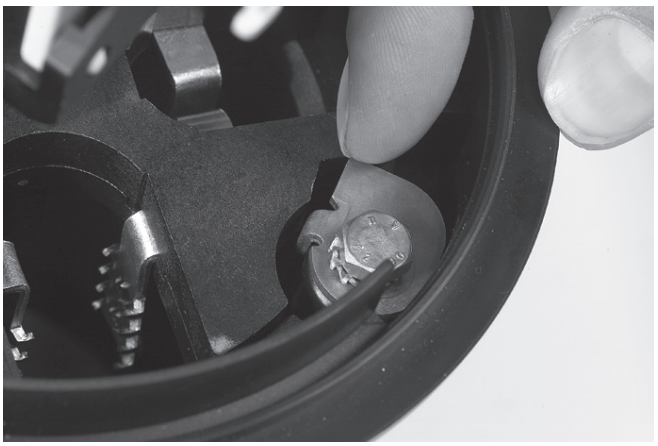
4-way gel block
Lower small ports 2 ports 8 - 22 mm
Upper large ports 2 ports 10 - 28 mm

If both the upper large ports are filled with the maximum cable diameter (28 mm), the maximum cable diameter in the lower small ports becomes 20 mm.

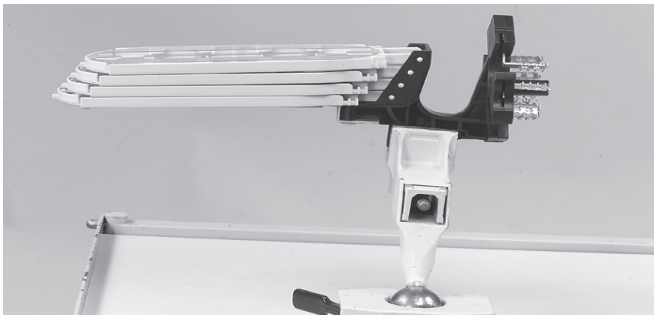
3 Closure preparation



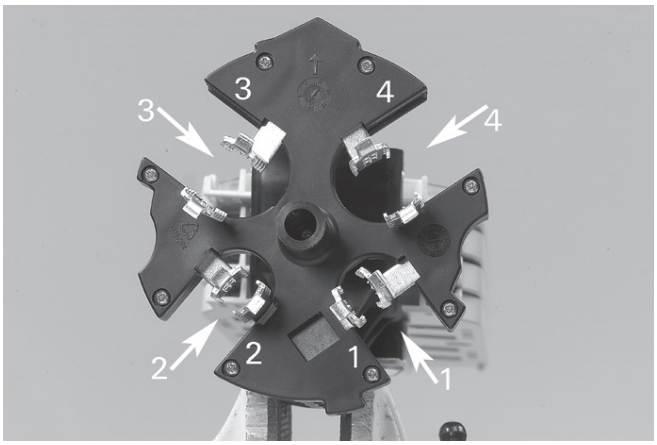
3.1 Remove the dome to base clamp. Remove the dome and O-ring.



3.2 Loosen and turn the two metal latches that secure the frame. Take out the frame.
Note: if a gel seal is already installed loosen the gel seal by turning the tail of the seal counter-clockwise until the seal is loose.



3.3 Secure the frame in the working position.

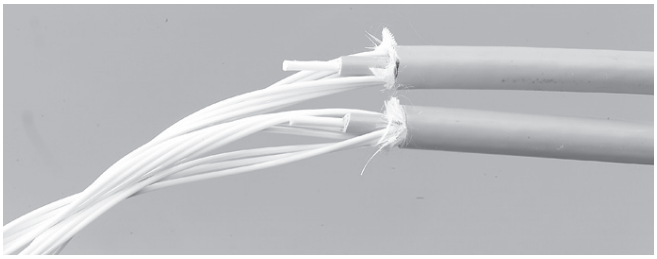


3.4 Cable entrance positions
Main cables are installed in the two lowest and smaller ports (1,2). The drop cables will be placed in the two larger top positions (3,4).

4 Cable installation

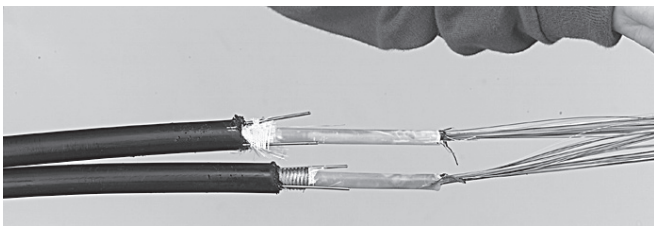
4.1 Looped cable preparation

Loose buffer tube cable



4.1.1 Make a window cut of 2.2 m. Cut the strength member at a distance of 40 mm from the jacket.

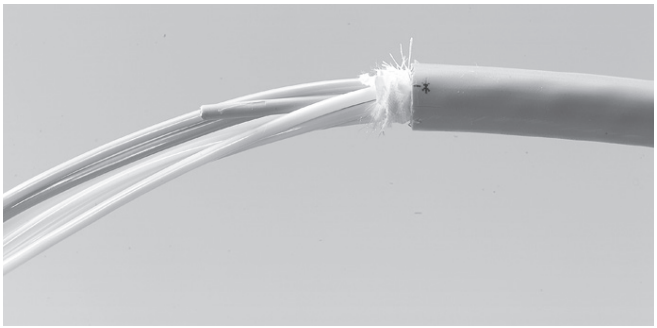
Central core cable



4.1.2 Make a window cut of 3 m, cut the strength member at a distance of 40 mm from the jacket. Remove the central tube at 150 mm from the jacket.
Note: if the central tube is too stiff to route directly to the basket, strip it back at 25 mm from the jacket and use a spiral tube to route/protect the fibers to the basket.

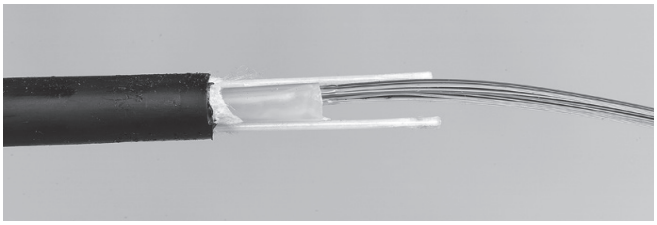
4.2 Drop cable preparation

Loose buffer tube cable



4.2.1 Remove the jacket over a length of 1.2 m , cut the strength member at a distance of 40 mm from the jacket.

Central core cable



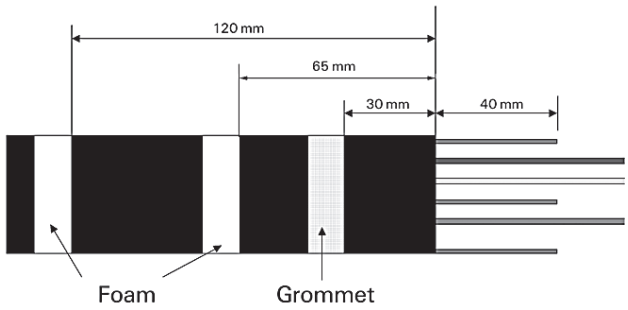
4.2.2 Remove the jacket over a length of 1.5 m, cut the strength members at a distance of 40 mm from the jacket. Remove the central tube at 25 mm from the jacket.

Modular cable (multi-out)

Basket is necessary for this application

4.2.3 Remove the jacket over a length of 1.5 m, cut the strength member at a distance of 40 mm from the jacket.

Multi-out with the 4/7 kit



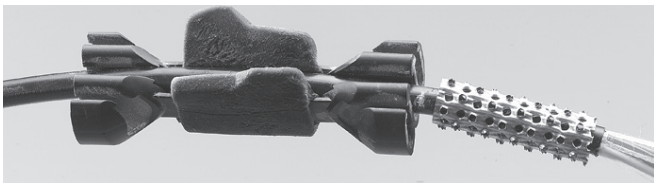
Capacity

	2 cables (no grommet)	3 cables (grommet)	4 cables (grommet)
ø each cable	9-11 mm	> 7-9 mm	4-7 mm

In case of 1 up to 3 cables less in diameter than 7 mm, build up to 4 cables with a rod and use a grommet.

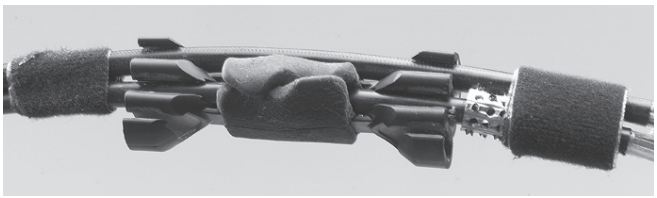
Multi-out with the port splitter kit

Capacity: maximum 3 cables
Cable range: from 3 – 6 mm



4.2.4 Mark the drop cable(s) 40 mm from the jacket. Align the metal plate with the jacket and wrap it around the cable.

4.2.14 Insert the cable with the metal plate into the middle position of the port splitter. Line up the end of the port splitter with the mark on the cable.



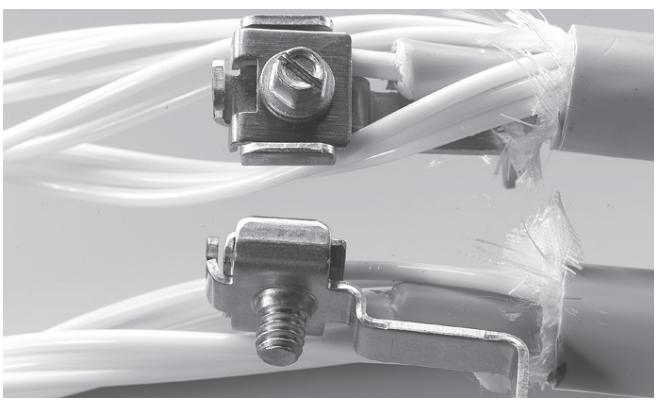
4.2.5 Flip the gel wings together and press to seal around the middle cable.

4.2. 6 If required, insert other cable(s) on either side of the port splitter. Keep gel wings in closed position during insertion of cable(s).
Note: make sure gel wings are closed together after cable insertion.

4.2.7 Bundle the cables with vinyl tape on both sides of the port splitter. Note: in case of central core (uni-tube) cable, remove the core at 150 mm leaving from the jacket.

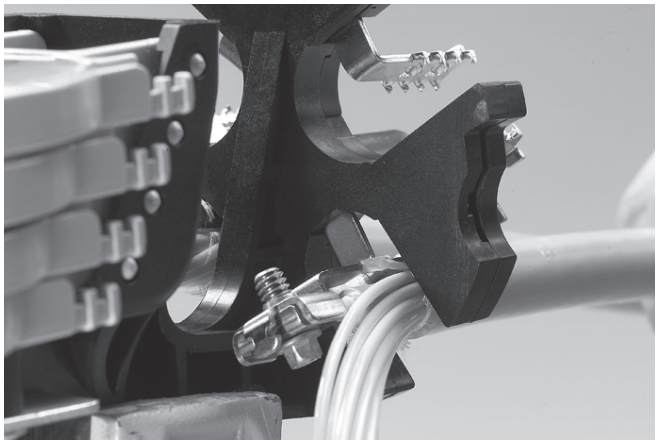
4.3 Cable and strength member termination

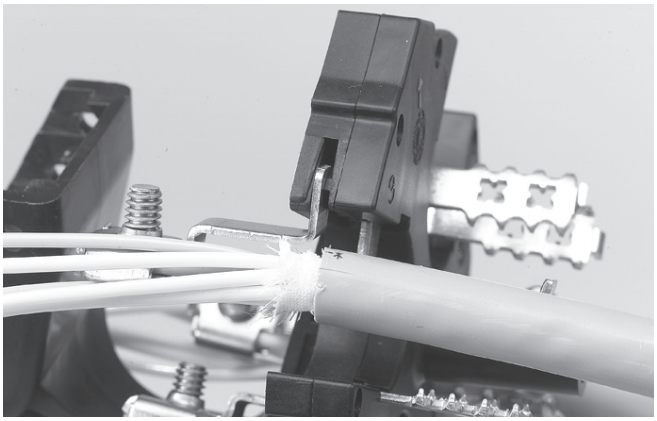
Loose tube and central core



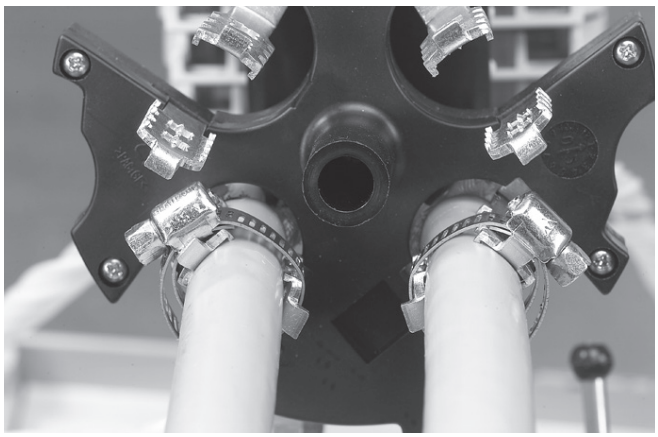
4.3.1 Secure the strength member into the strength member attachment.

4.3.2 Insert the cable assembly through the FOSC 450 closure base and position it into the designated port.



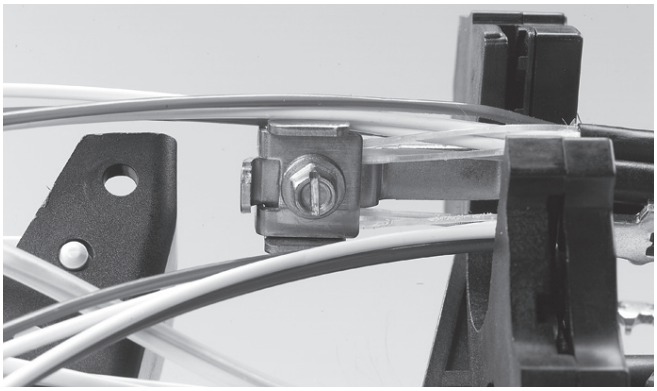


4.3.3 Insert strength member bracket into the slot in the frame. Top picture shows main cable ports (1,2). Bottom picture shows the drop cable ports (3,4).



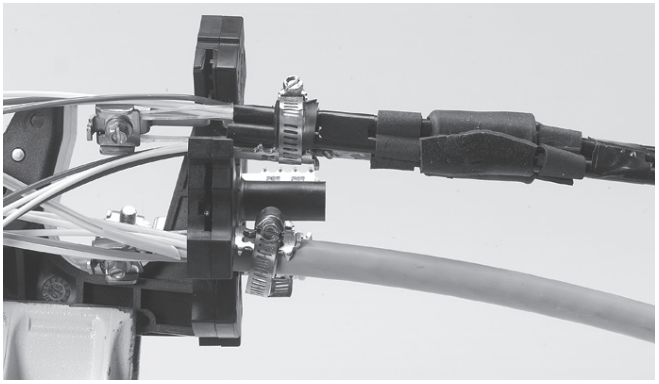
4.3.4 Place the cable(s) between the cable retention brackets. Secure the cable(s) with the supplied hose clamp(s)
Note: the head of the hose clamp has to be positioned on top of the cable retention bracket. Otherwise it might interfere with the base when assembled.

Modular cable (multi-out)
Multi-out with the 4/7 kit



4.3.5 Secure the strength member(s) into the strength member attachment.

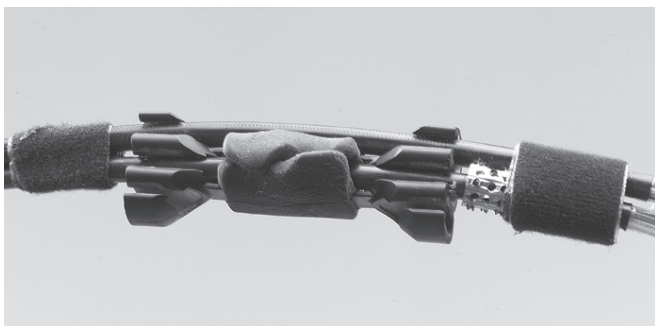
4.3.6 Insert the drop cable assembly through the FOSC 450 closure base and position it into the designated port.



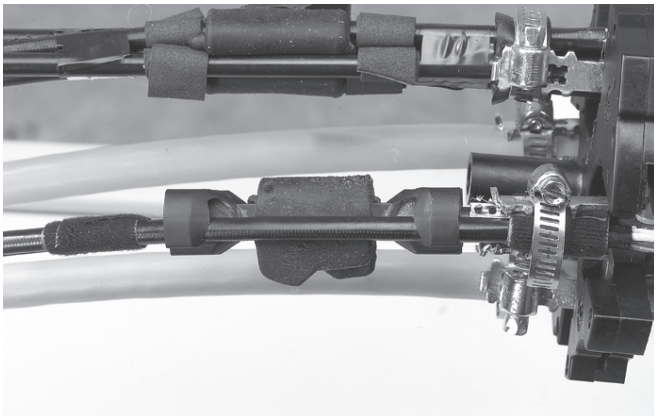
4.3.7 Position the teeth of the cable retention brackets onto the grommet.

4.3.8 Install the hose clamp around the cable retention brackets.
Note: the head of the hose clamp has to be positioned on top of the cable retention bracket. Otherwise it might interfere with the base when assembled.

Multi-out with the port splitter kit



4.3.9 Attach the strength member bracket to the cables. Wrap two complete layers of felt wrap around the cable(s) at the jacket end.



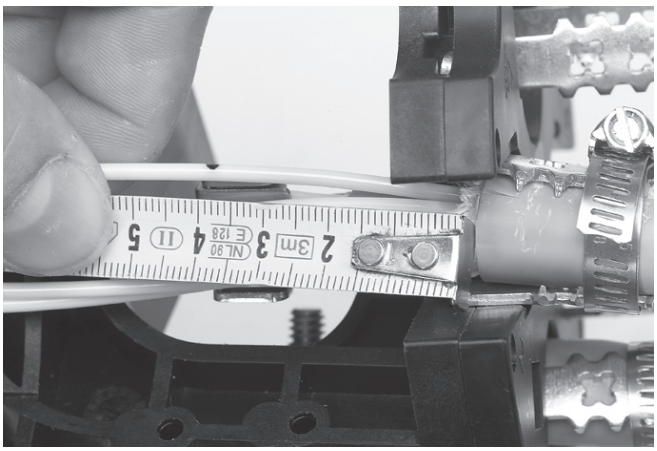
4.3.10 Insert the drop cable assembly through the FOSC 450 closure base and position it into the designated port.

4.3.11 Position the teeth of the cable retention brackets onto the felt wrap and secure with the hose clamp.
Note: the head of the hose clamp has to be positioned on top of the cable retention bracket. Otherwise it might interfere with the base when assembled.

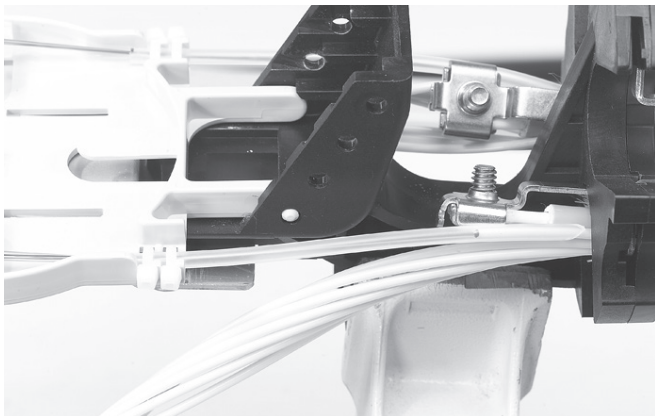
4.4 Tube routing

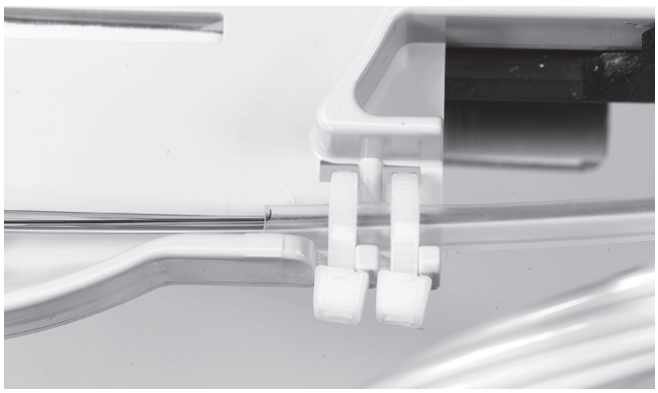
Note: begin splicing on the bottom tray (closest to the metal slack basket), other empty trays can be removed until needed.

Loose Buffer Tube (loop or single drop)

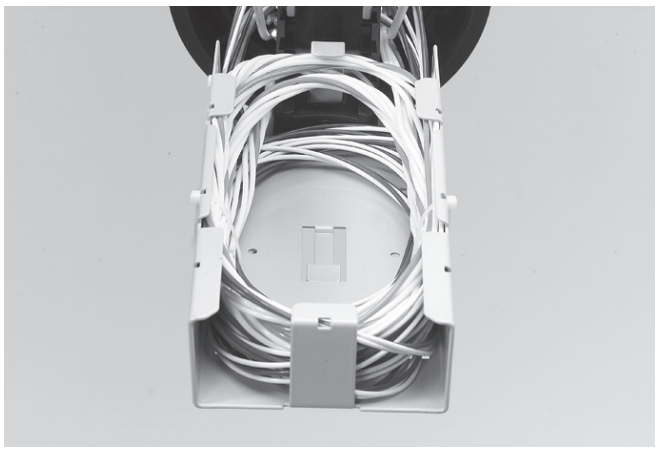


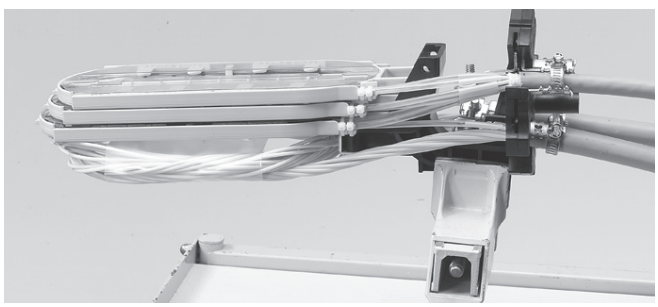
4.4.1 In case of a loop, select the appropriate loose tube and cut in the middle. Strip the loose tube at 40 mm from the jacket.





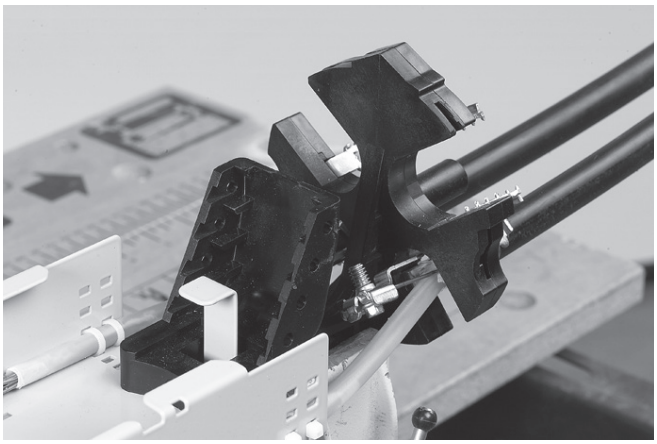
4.4.2 Slide the appropriate transportation tube over the loose tube and route to the tray. Mark at 15 mm from the tray edge. Remove the tube excess from the mark and secure to the tray with tie-wraps.





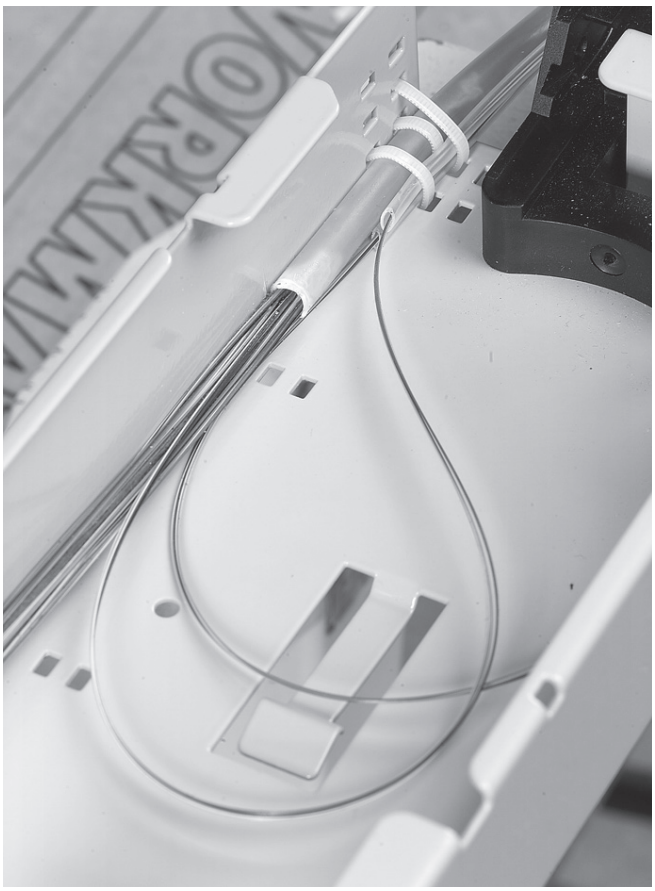
4.4.3 The uncut loops can be stored in the basket if available or in a plastic bag. Secure the loops with tie-wraps.
Note: in case of modular cables(multi-out): Store the uncut loops on top of the loose tubes that are passing thru the basket. See section 8 for loop capacity in the basket.

Central tube (loop)

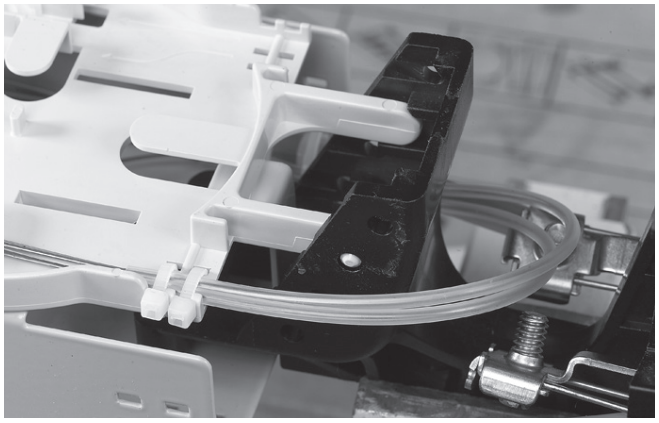


4.4.4 Route the central tube directly to the basket and secure with tie-wraps.

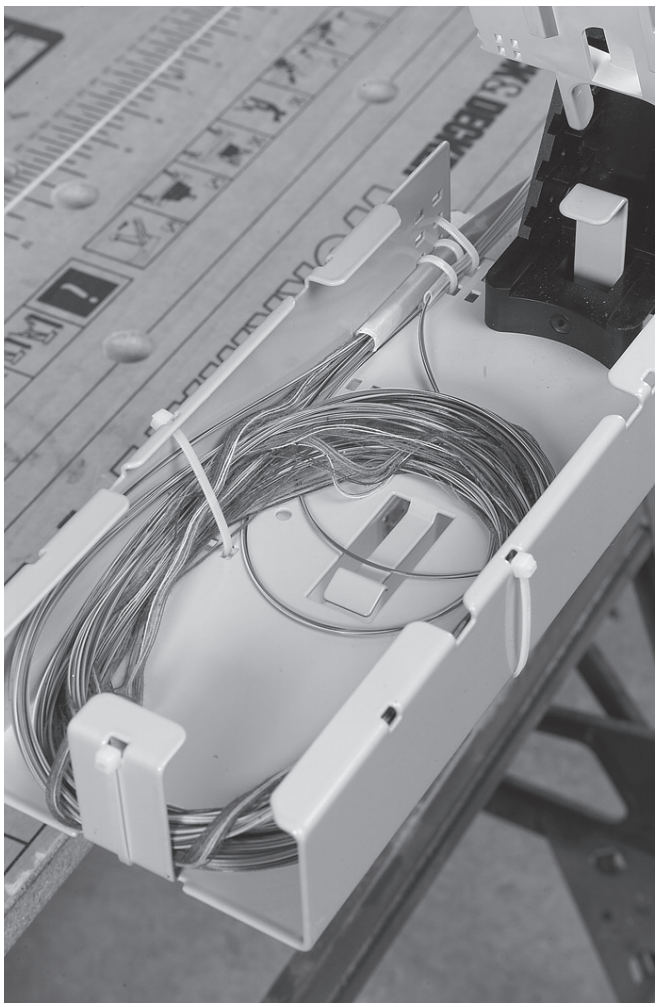
4.4.5 In case the tube is too stiff to route directly:
- cut the central tube back to 25mm;
- install spiral tubes over the tube and route to the basket;
- wrap some foam around the spiral tube underneath the tiwraps and secure to the basket.



4.4.6 Cut the appropriate fibers and route them through a transportation tube to the tray.

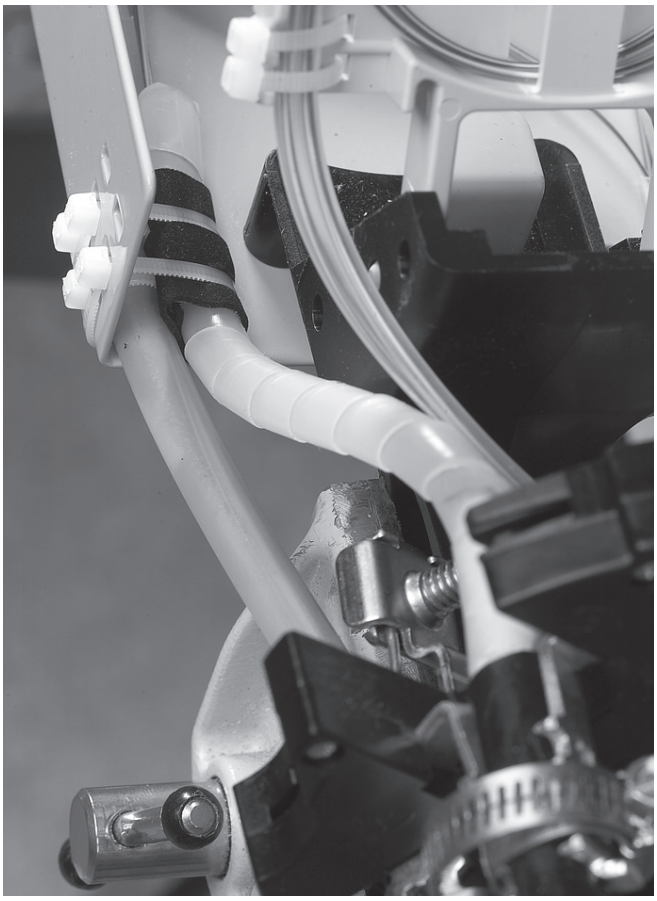


4.4.7 Secure the transportation tube to the tray with tie-wraps.
Note: if necessary mark and remove the tube excess. The tube is 15 mm onto the tray and has to make a smooth bend around the tray tower.



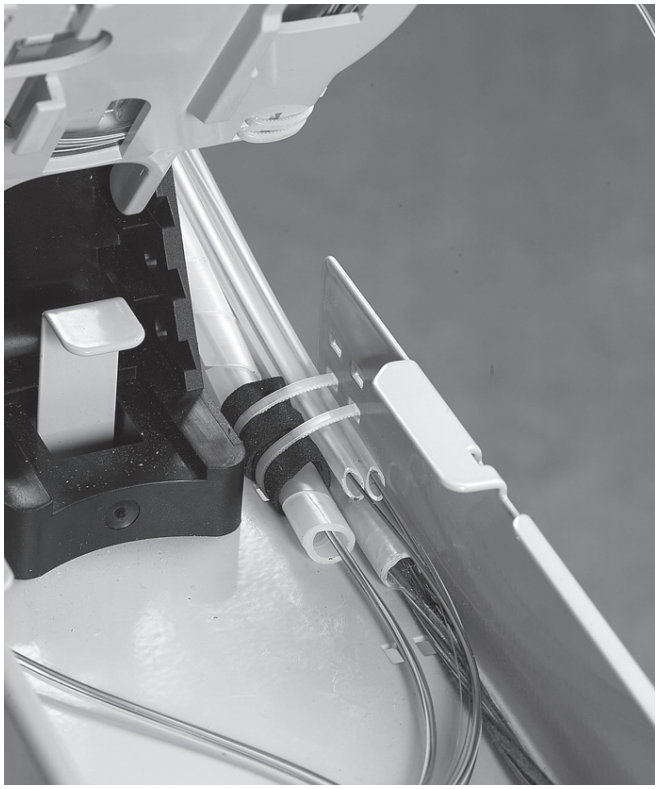
4.4.8 Store the uncut bare fibers into the basket and keep in place with tie-wraps.
Note: do not tighten the tie-wraps onto the fibers.

Central core Tube (single drop)

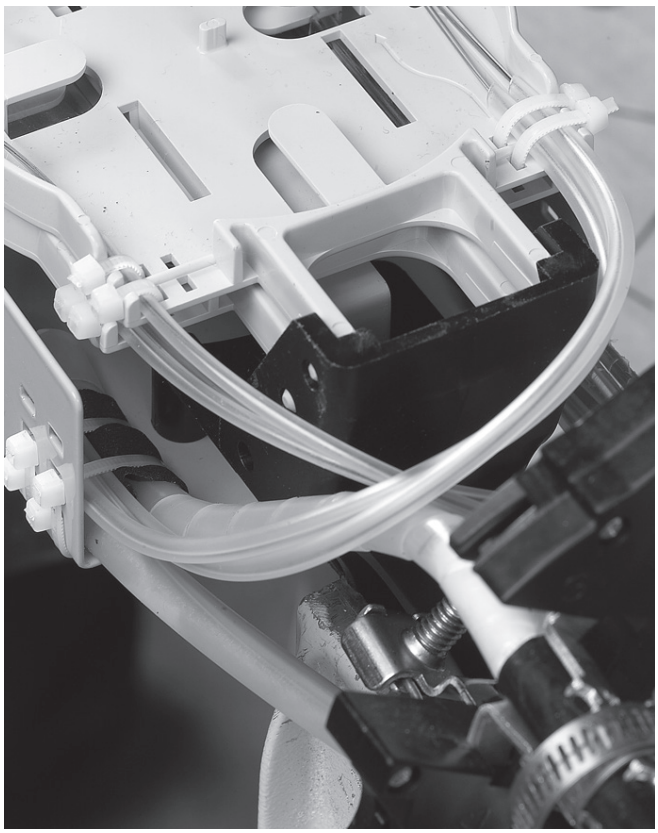


4.4.9 Slide the appropriate transportation tube/spiral tube over the central core (uni-tube) and route it to the basket.

4.4.10 Secure the tube/spiral to the basket with tie-wraps.
Note: when spiral is used, put some foam on the spiral underneath the tie-wraps.



4.4.11 Route the fibers to the appropriate trays through transportation tubes.



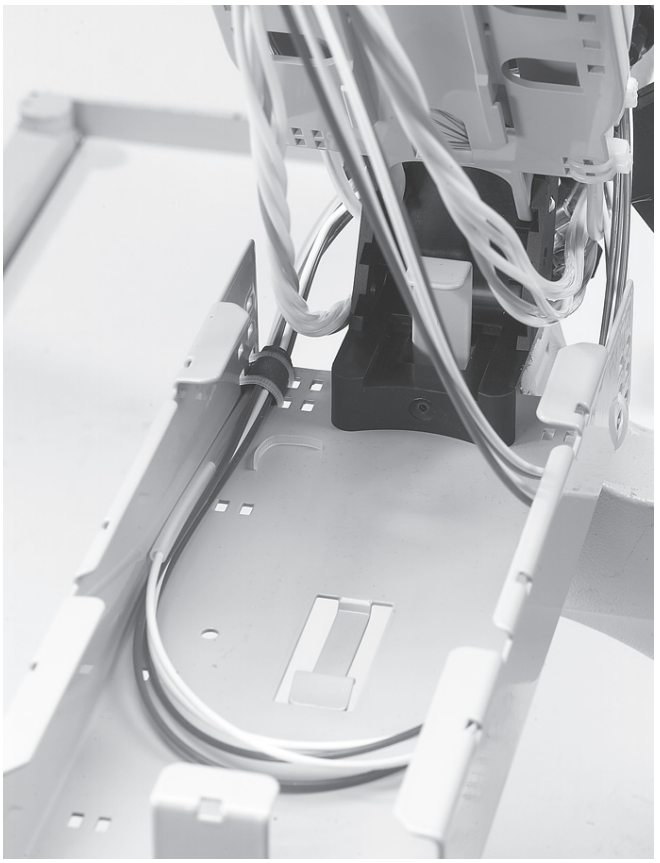
4.4.12 Secure the transportation tubes to the tray with tie-wraps.
Note: if necessary mark and remove the tube excess. The tube is 15 mm onto the tray and has to make a smooth bend around the tray tower.

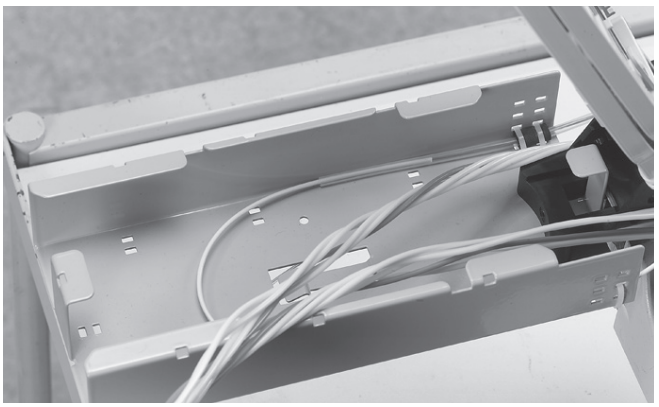
Modular cable (multi-out)
Loose buffer tube

4.4.13 Strip the loose tube at 450 mm from the jacket.

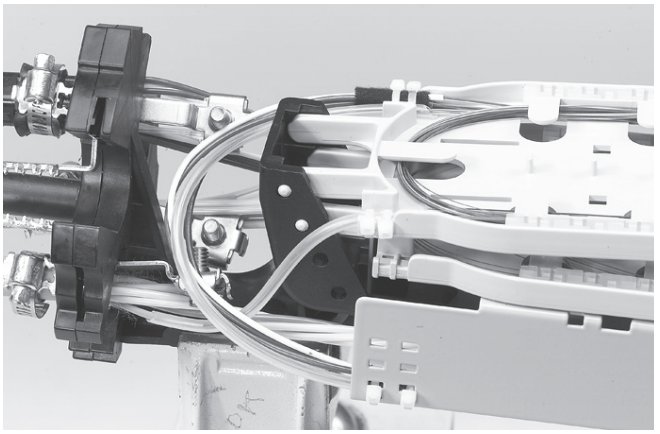
4.4.14 Select the appropriate size of transportation tube and cut to 300 mm long.

4.4.15 Secure one end of the tube to the tray and route the transportation tube to the basket.
Note: make sure the tube makes a smooth bend around the tray tower.



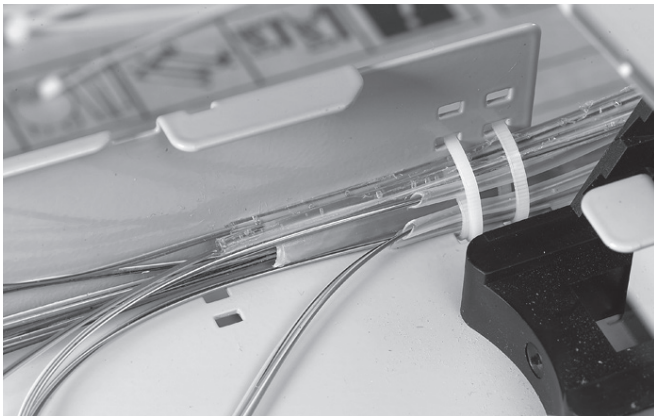


4.4.16 Secure the transportation tube and loose tubes to the basket with tie-wraps.
Note: wrap some foam around the loose tubes underneath the tie-wraps.

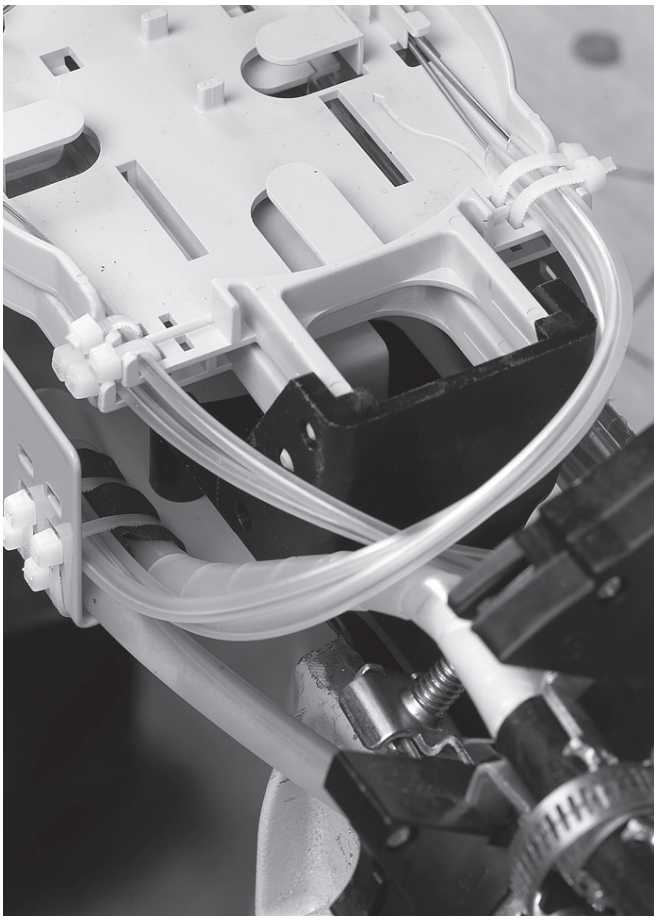


4.4.17 In case the loose buffer tubes are not kink sensitive, they can be routed onto the tray following the above shown path. Wrap tape around the tube(s) before securing to the tray.

Modular cable (multi-out)
Central core tube



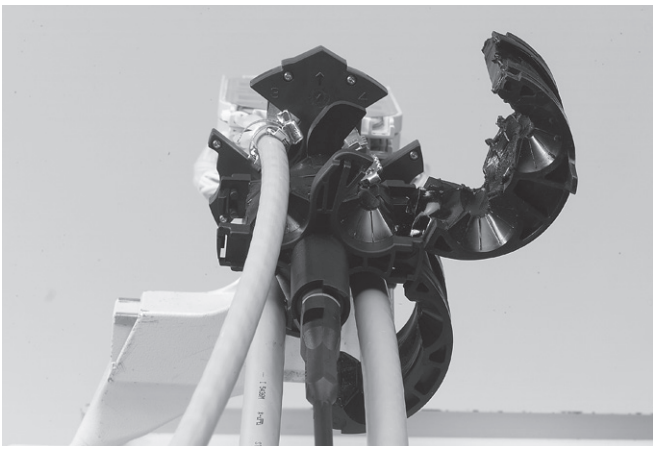
4.4.18 Secure the central core (150 mm long) to the basket with tie-wraps.
Note: if present, remove the looped fibers out of the basket.



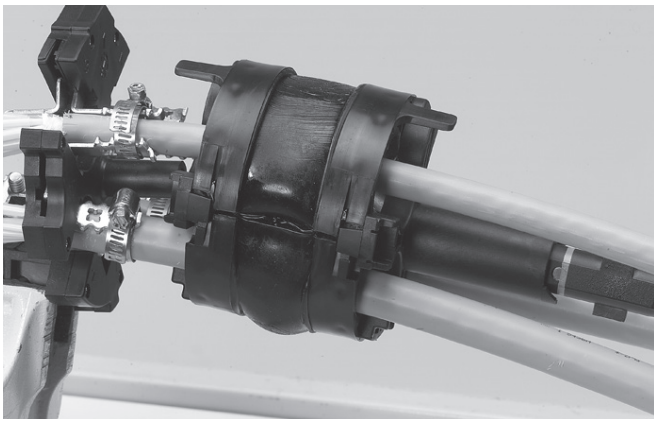
4.4.19 Route the fibers through the transportation tubes to the appropriate tray(s).
Note: make sure the tubes make smooth bends around the tray tower.

5 Installation of the gel block

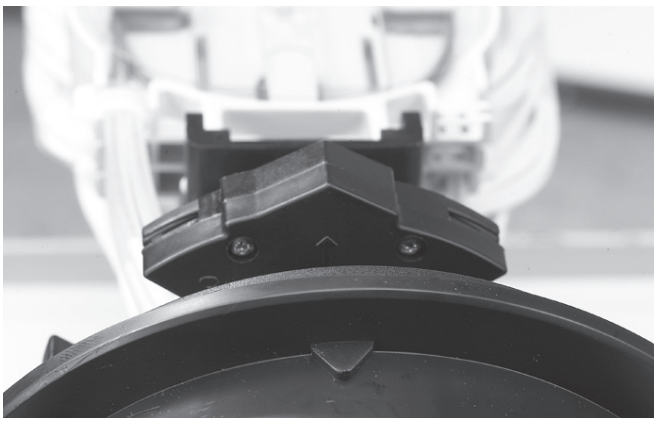
5.1 Make sure the gel seal is not already compressed. Turn the "tail" of the gel seal counter clockwise to ensure that the seal is in the un-compressed position. Squeeze the gel seal to unlatch and open each half one at a time.



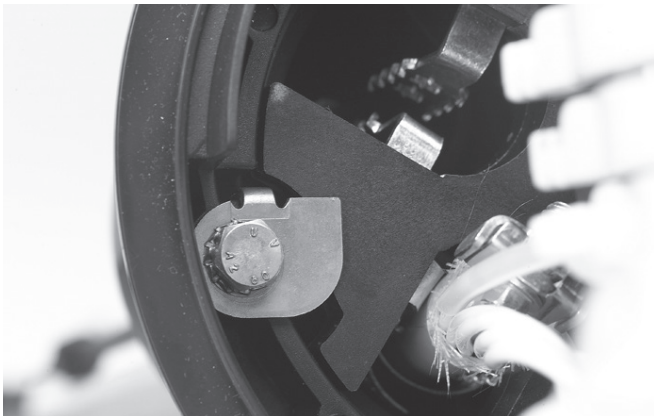
5.2 Position the gel block with the hinge facing the right. Small ports onto main cables, larger ports onto drop cables.



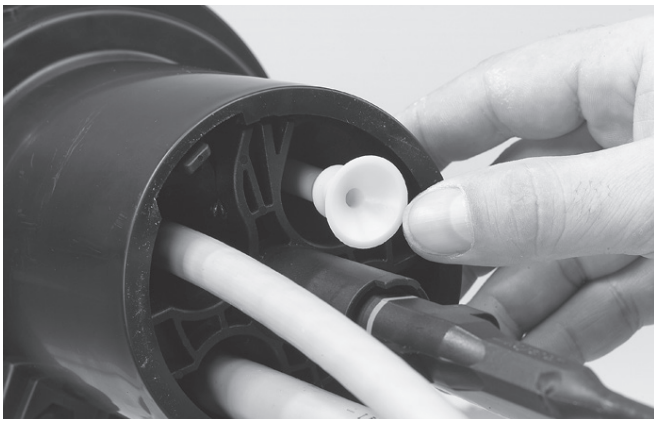
5.3 Install the gel seal around the cables. Snap both halves of the gel seal together.



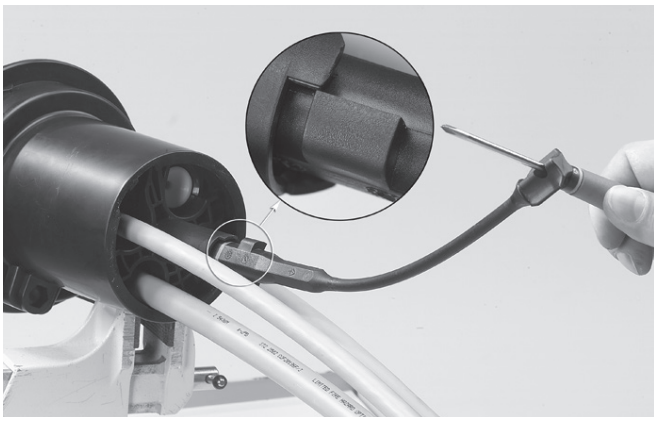
5.4 Slide the base up and over the gel seal. The arrow on the base has to be aligned with the arrow-looking slot of the frame.



5.5 Secure the frame to the base with the two metal latches.



5.6 Insert one port plug in each unused port



5.7 Turn the "tail" clock–wise until it dead ends at the positive stop. A screwdriver can be installed through the hole in the "tail" to tighten the seal.

5.8 Place a large tie-wrap around all the cables near the end of the "tail".

6 Fiber routing on the trays

6.1 Splicing

For heat shrinkable splice protectors:

- slide the heat-shrinkable splice protector over one fiber;
- fuse the fibers according to local recommendations and procedures;
- after the fusion splice is made, install the heat shrinkable splice protection (e.g. smouv) with appropriate heating source;
- allow the splice protection to cool down to ambient temperature.

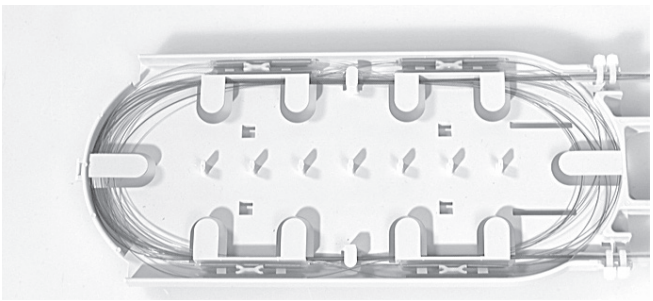
For ANT splice protectors:

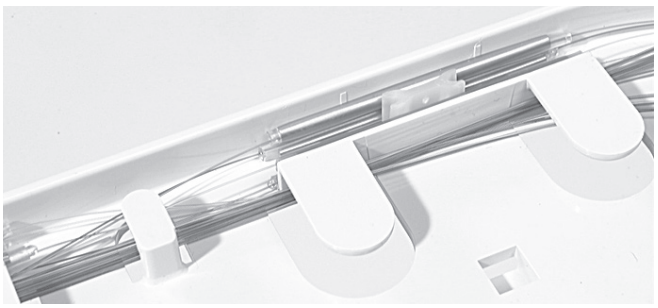
- fuse the fibers according to local recommendations and procedures;
- after the fusion splice is made, install the ANT splice protector with appropriate tool.

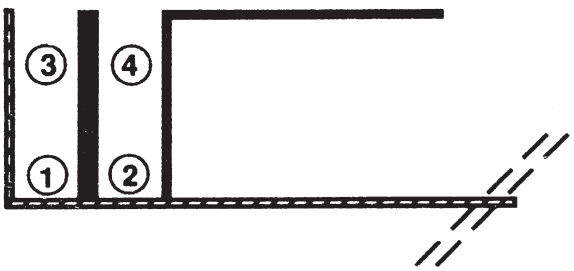
6.2 Storage

After each splice is made, the splice should be stored in the splice holder. Do not deform the splice during insertion. The fiber slack should be coiled into the tray. Follow the routing as shown.

6.3 If a tray for up to 16 heat shrinkable fusion splice protectors is used



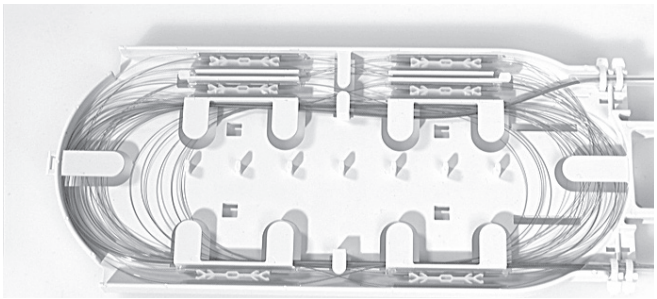


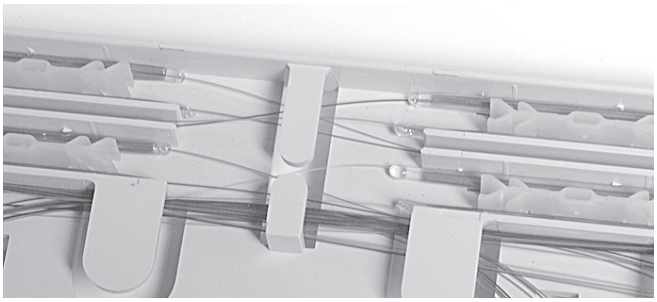


- the tray organizer has 6 locations to store splice protectors. Each location can hold maximum 4 fusion splice protectors of type smouv-1120-02 (length 45 mm, installed outer diameter is 2,4 mm) or equivalent.
- After each splice is made, the splice should be stored as indicated on the drawing. First protector in position 1, the second in position 2. Continue for other fibers. Fiber nr 5 will be in position 1 of next location.

- the tray organizer has 6 locations to store splice protectors. Each location can hold maximum 4 fusion splice protectors of type smouv-1120-02 (length 45 mm, installed outer diameter is 2,4 mm) or equivalent.
- After each splice is made, the splice should be stored as indicated on the drawing. First protector in position 1, the second in position 2. Continue for other fibers. Fiber nr 5 will be in position 1 of next location.
- If splice protectors are stored on the side with the 4 locations, the fibers from the locations on the outside are first guided through the passage between the locations and then coiled into the tray.

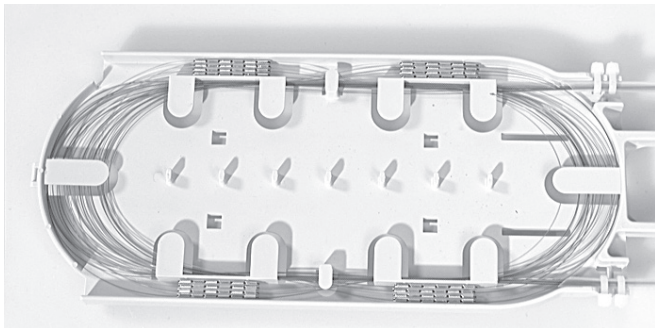
6.4 If a tray for up to 24 heat-shrinkable fusion splice protectors is used (FOSC-A-TRAY-S24)

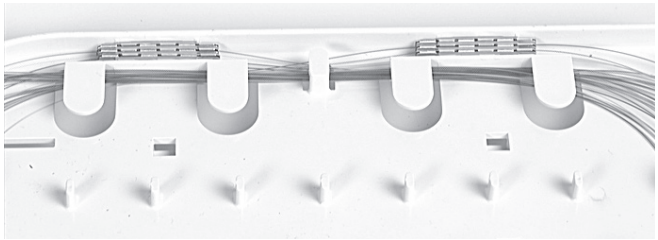




- the tray organizer has 6 locations to store splice protectors. Each location can hold maximum 4 fusion splice protectors of type smouv-1120-02 (length 45 mm, installed outer diameter is 2,4 mm) or equivalent.
- After each splice is made, the splice should be stored as indicated on the drawing. First protector in position 1, the second in position 2. Continue for other fibers. Fiber nr. 5 will be in position 1 of next location.
- If splice protectors are stored on the side with the 4 locations, the fibers from the locations on the outside are first guided through the passage between the locations and then coiled into the tray.

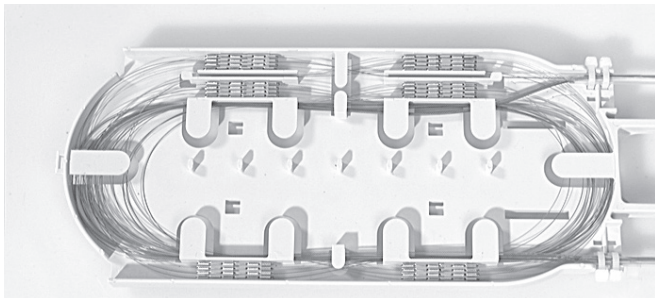
6.5 If a tray for up to 16 ant splice protectors is used (FOSC-A-TRAY-A16)

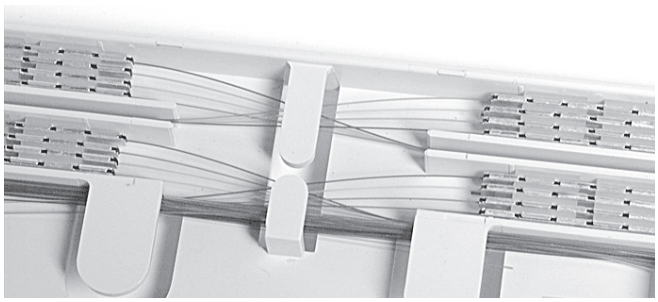




- he tray organizer has 4 locations to store protectors. Each location can hold maximum 4 fusion splice protectors of type ANT.
- Coil the excess length of fiber each time you have positioned the splice protector.

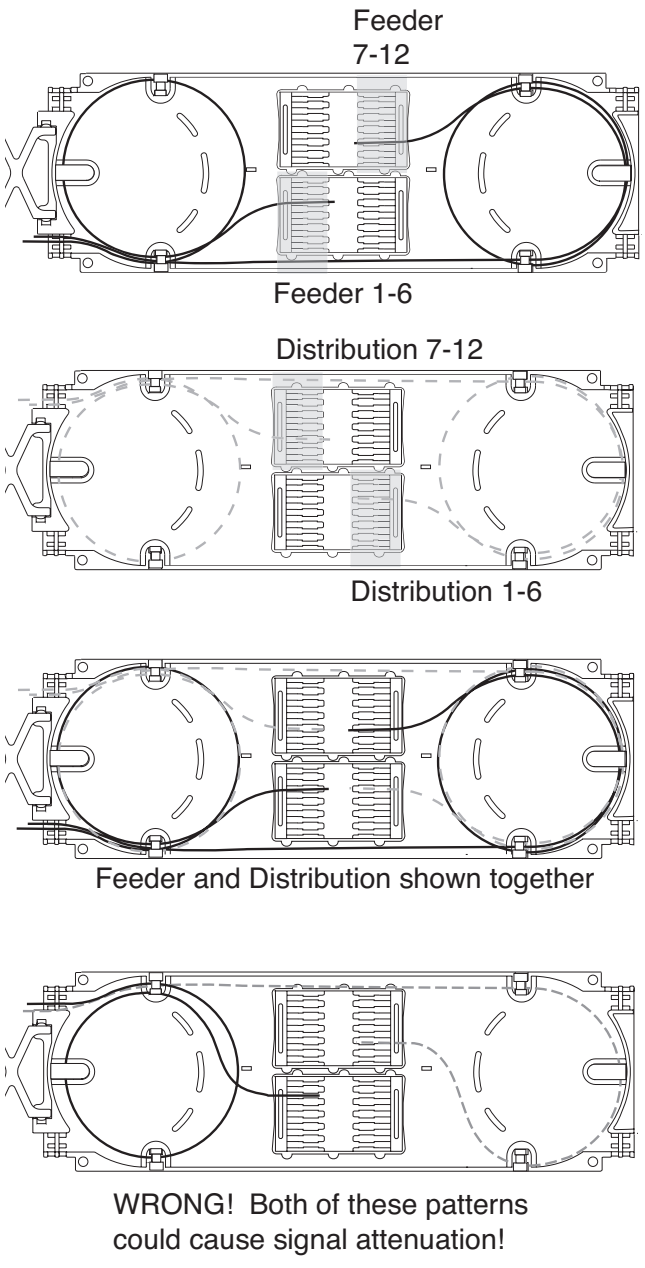
6.6 If a tray for up to 24 ant splice protectors is used (FOSC-A-TRAY-A24)



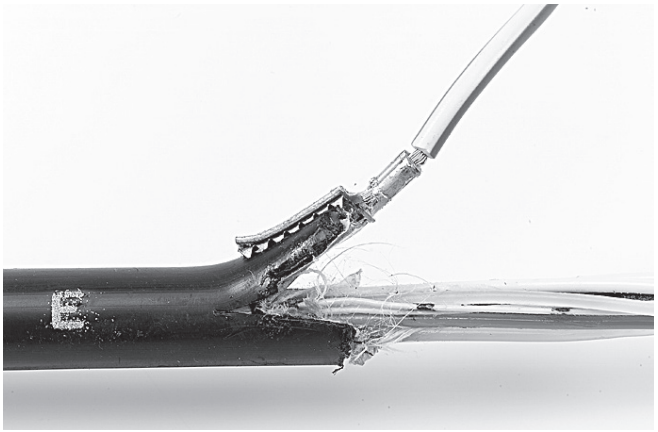


- the tray organizer has 6 locations to store splice protectors. Each location can hold maximum 4 fusion splice protectors of type ANT.
- After each splice is made, the splice should be stored in the splice holder.
- If splice protectors are positioned on the side with the 4 locations, the fibers from the locations on the outside are first routed through the passage between the locations and then coiled into the tray.

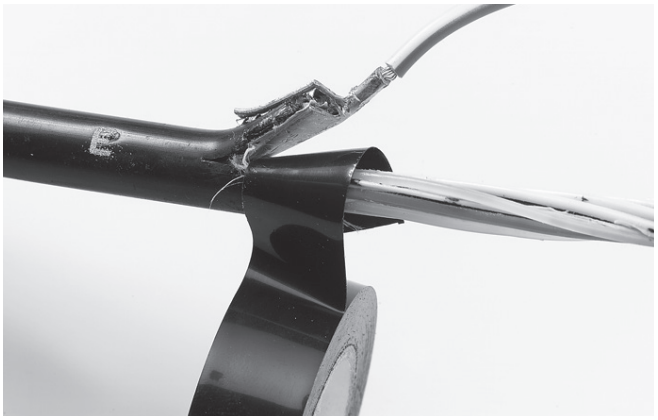
6.7 Routing in the FOSC-ACC-A-TRAY

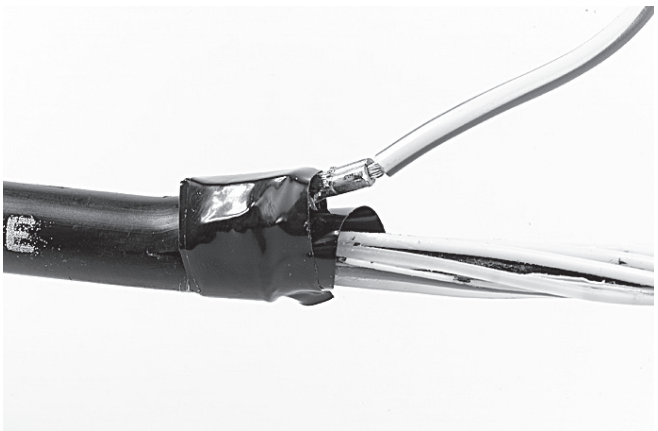


7 Shield continuity



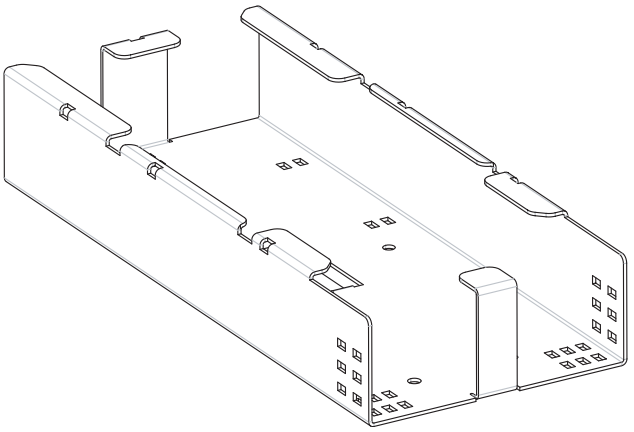
7.1 Install the grounding wire as shown on the picture.



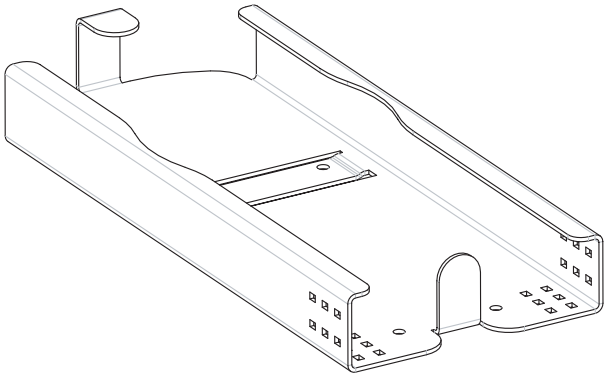


7.2 Protect with tape.

8 Capacity of baskets



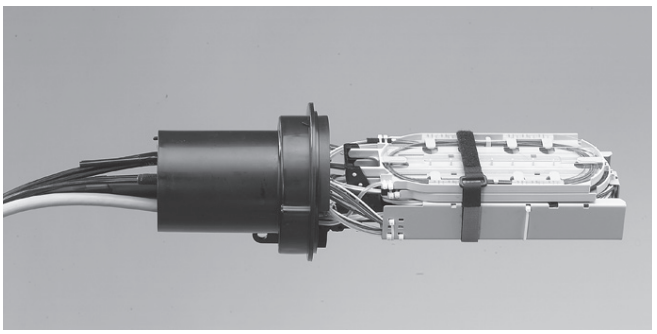
7 loose tubes of 2.8 mm



4 loose tubes of 2.8 mm

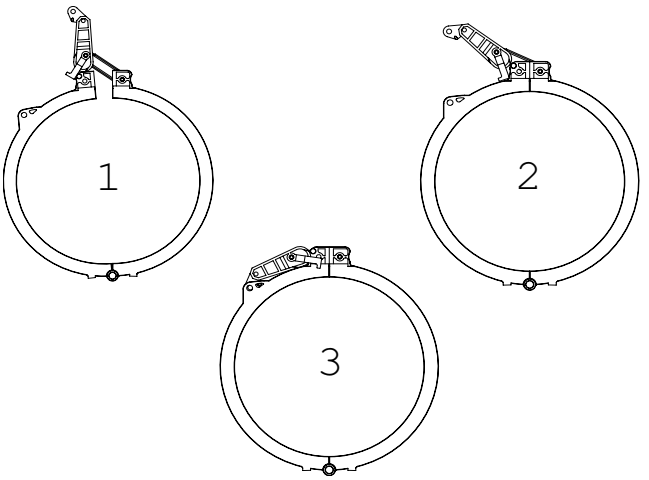
9 Closing the closure

Note: place all unused cable termination hardware in the bag and store in closure for future cable terminations.

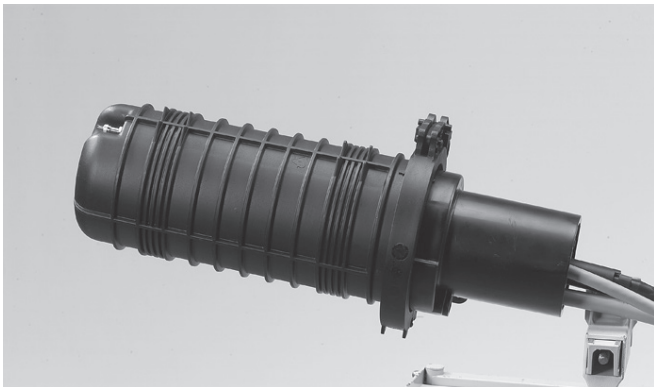


9.1 Install the hook and loop fastener and "O" ring. Place the silicagel bag (remove the packaging).
Note: make sure sealing areas are clean.

9.2 Install the dome onto the base, align the arrow on the dome with the arrow on the base. The dome should sit flush on the base.



9.3 Install clamp around dome/base interface. Use the feet of the clamp handle to close the gap in the clamp.



9.4 A security lock or tie-wrap may be inserted through the round holes in the handle and clamp to lock the closure.

10 Important steps

- Slide the base over the cables.
- Avoid crossing of fibers and loose tubes.
- Multi-out is always through the basket.
- Replace the silicagel after each re-entry.

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