

FIST-GCOG2-Dx6

Content

1 Introduction

2 General

- 2.1 Abbreviations
- 2.2 Kit contents
- 2.3 Tools
- 2.4 Accessories

3 Installation

- 3.1 Opening the FIST-GCOG2
- 3.2 Installation of the cable attachment plate holder
- 3.3 Cable entrance positions
- 3.4 Looped cable preparation
- 3.5 Drop cable preparation
- 3.6 Cable termination
- 3.7 Installation of the gel block
- 3.8 Uncut loose tube storage and loose tube preparation
- 3.9 Fiber routing and fiber storage on trays
- 3.10 Tray identification and tube holder capacity
- 3.11 Cable grounding
- 3.12 Closing the closure
- 3.13 Important steps
- 3.14 Re-arrangement

1 Introduction

The FIST-GCOG2 is the environmentally sealed enclosure for the fiber management system that provides the functions of splicing and passive components integration in the external network. The product can be tailored to almost any required configuration by adding splicing and/or passive device sub-assemblies.

The FIST-GCOG2 has provision for all cable termination and sealing requirements.

The closure is a single-ended design made of a thermoplastic material. The base and dome are sealed with a clamp and an O-ring system. For cable sealing, a wrap-around block with 6 ports is used which contains a pre-installed gel profile. One can terminate 6 cables with a diameter of minimum 9 mm and maximum 25 mm. It can be opened and closed repeatedly without the need to replace the gel. Uncut loose buffer tube storage is available between or on the UMS profiles.

Follow all local safety regulations related to optical fiber plant elements.

For cleaning FIST components the use of isopropylalcohol is recommended.

2 General

2.1 Abbreviations

Universal Mounting System	UMS
Universal Cable Termination	UCT

2.2 Kit contents



- Dome
- Base
- Cable attachment plate with UMS profiles and routing blocks
- Gel block with trigger
- Clamp
- O-ring
- 2 Cable retention devices
- 4 Plugs for unused ports
- 2 Strength member fixation devices
- Silicagel
- 2 Tray covers
- Tray wedge
- Plastic bags to store uncut loose buffer tubes
- Installation instructions
- Cross reinforcement blocks

2.3 Tools

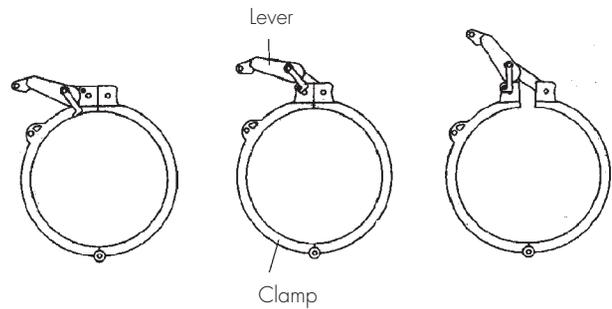
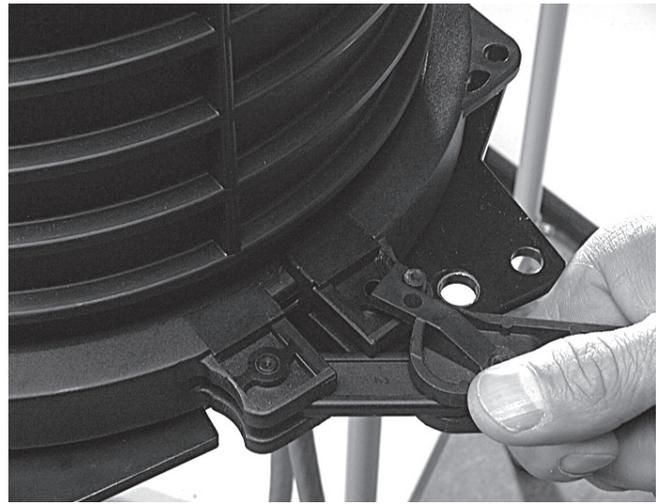
FACC-STRIPPER-02	To strip loose tubes
FIST-GCOG-CAPH	Cable attachment plate holder (table mounted)
FIST- GCOG-LBRACKET	L-bracket for attaching pole/wall mounting to table
FIST- GCOG-CCLAMP	3 screw clamps
Tie wrap fixation tool	To tighten tie wraps

2.4 Accessories

FIST-GCOG-MOBRA	Mounting bracket
FIST-GCOG-POLE-KIT	Pole mounting set
FIST-GCOG-WALL-KIT	Wall mounting set
FIST-GCOG -CA	Cable retention device
FIST- GCOG-MULTI-4	Cable entrance kit for up to 4 internal cables

3 Installation

3.1 Opening the FIST-GCOG2



3.1.1 Open and remove the clamp

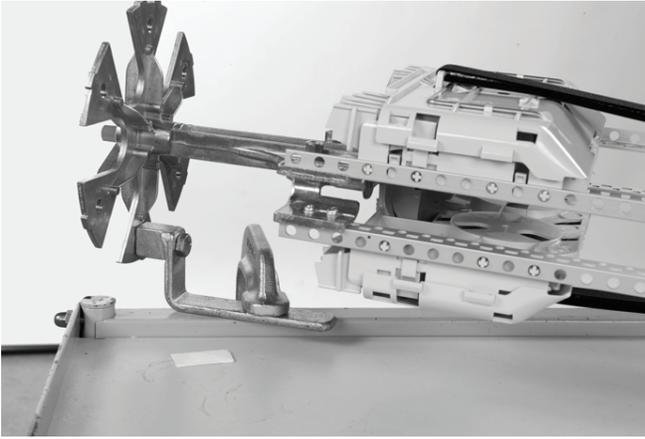
3.1.2 Remove the dome and the O-ring.

Remark: take care with the O-ring and the sealing surfaces on the base and dome (avoid damaging). Clean only with clear water or with the supplied cleaning tissue if needed.



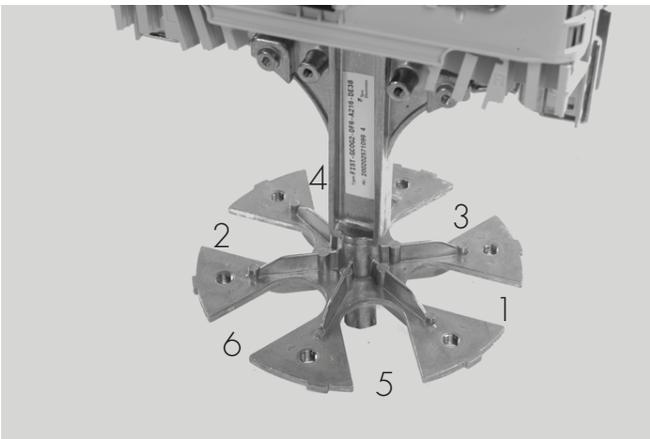
3.1.3 Loosen the securing screws of the cable attachment plate and take out the cable attachment plate with the pre-installed UMS.

3.2 Installation of the cable attachment plate holder



3.2.1 Install the cable attachment plate holder (FIST-GCOG-CAPH) to the cable attachment plate and use the clamp to mount it on a table.

3.3 Cable entrance positions



3.3.1 Install the looped (main) cable in port 1 and 2. Loops are stored in between the UMS's. In case more than X tubes: put the uncut loop at one side and fix the plastic bag with the tubes on the UMS-profiles with tie-wraps.

	FIST-GCOG2-DC	FIST-GCOG2-DD	FIST-GCOG2-DE
X	8	10	12

(X = maximum # of loose tubes [D=3.1 mm] to be stored between the UMS's)

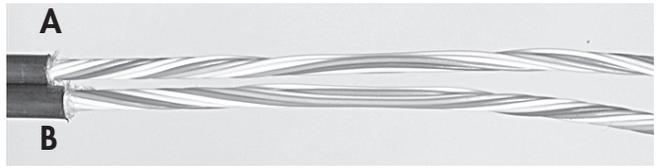
3.3.2 Drop cables can be installed in all the remaining ports.

3.4 Looped cable preparation

	FIST-GCOG2-DC	FIST-GCOG2-DD	FIST-GCOG2-DE
Window cut Length (m)	3.50	3.70	3.90

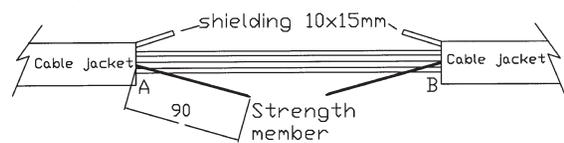
3.4.1 Prepare the needed window cut (see table).

3.4.2 S-cable: Mark the cable in the middle and at 1.75, 1.85 or 1.95 m left and right of the first mark. Remove the cable jacket between the outer marks.



3.4.3 Reversed oscillating cable: Mark the cable in the middle of the loop and remove the cable jacket left and right of the mark over a total length of 1.1 m (a little more as the distance between two reversal points on the cable). Locate the buffer tube reversal point on the cable and mark the cable at 1.75, 1.85 or 1.95 m left and right from this point. Remove the rest of the cable jacket between the outer marks. Important: make sure that the twist position of the loose tubes is identical in A and B. This must be done correctly for the ease of installation.

Put tape around shielding(not around tubes)



3.4.4 Cut the strength member at 90 mm from the cable jacket. If a shield is present, leave 15mm of the shield. In case of shielding, make sure that it is positioned on the outside of the cable (for maximum routing space of the loose tubes).

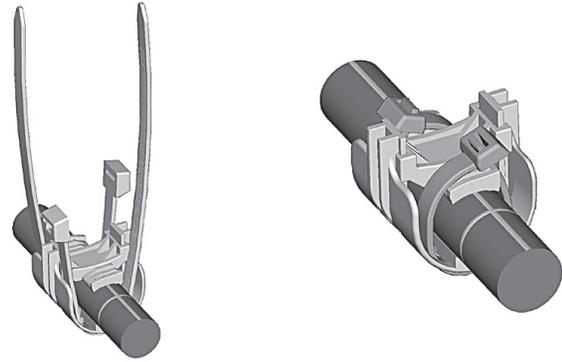
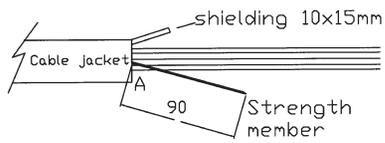
3.4.5 Clean the loose tubes and remove all the grease.

3.4.6 Identify the loose tubes with the split collet rings if necessary. There are different split collet rings depending on the diameter of the loose tube.

3.5 Drop cable preparation

3.5.1. Remove the outer jacket over a length of 2 meter.

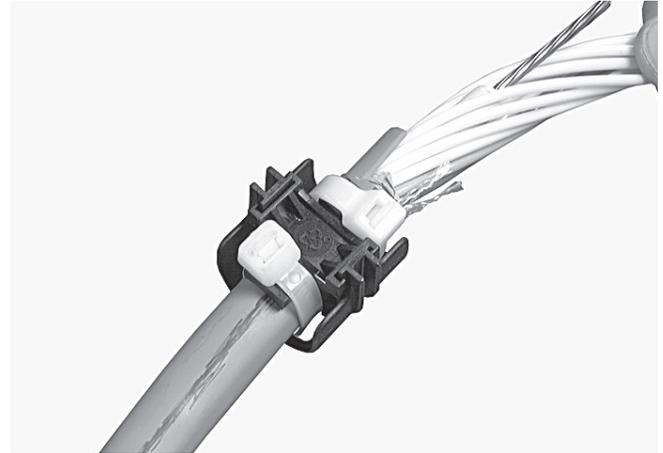
Put tape around shielding(not around tubes)



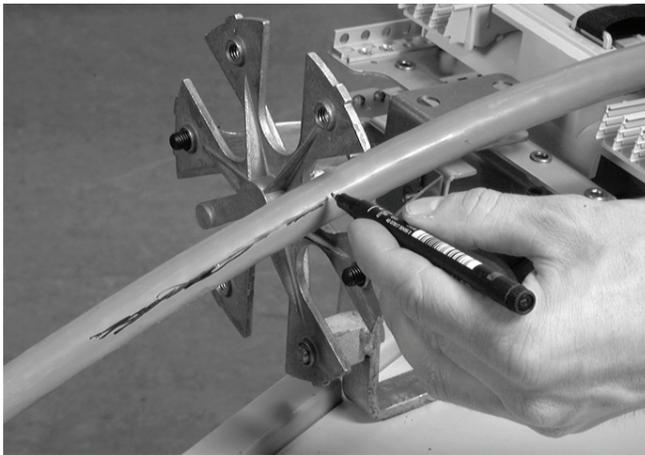
3.5.2 Cut the strength member at 90 mm from the cable jacket. If a shield is present, leave 15mm of the shield. In case of shielding, make sure that it is positioned on the outside of the cable (for maximum routing space of the loose tubes).

3.5.3 Clean the loose tubes and remove all the grease.

3.5.4 Identify the loose tubes with the split collet rings if necessary. There are different split collet rings depending on the diameter of the loose tube.



3.6 Cable termination

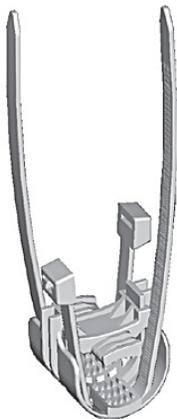


3.6.1 Guide the cable without torsion to the desired port and mark the cable. This line is used to position the cable retention device. See next steps.

3.6.3 Heat the cable jacket and position the cable retention device 5 mm behind the cable jacket end. Push the cover in the cable retention device and make sure that the teeth of the device and the cover are pressed in the cable jacket. Tighten the tie wraps (with the tie wrap tool).

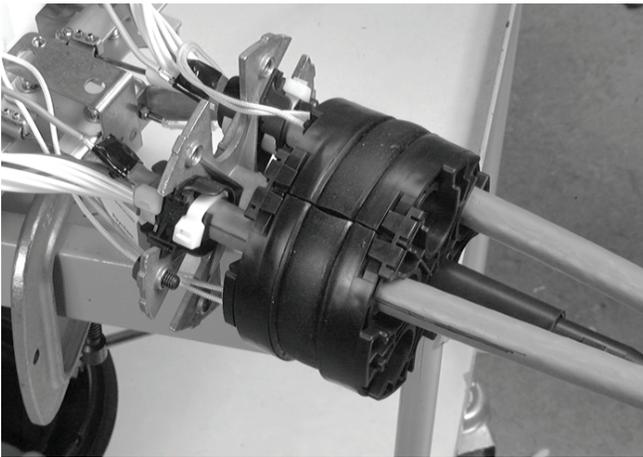
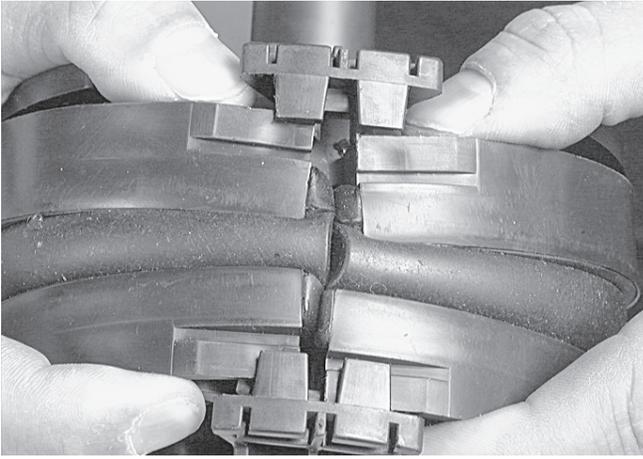


3.6.4 Slide the base over the cables and position the cable retention devices in the cable attachment plate.

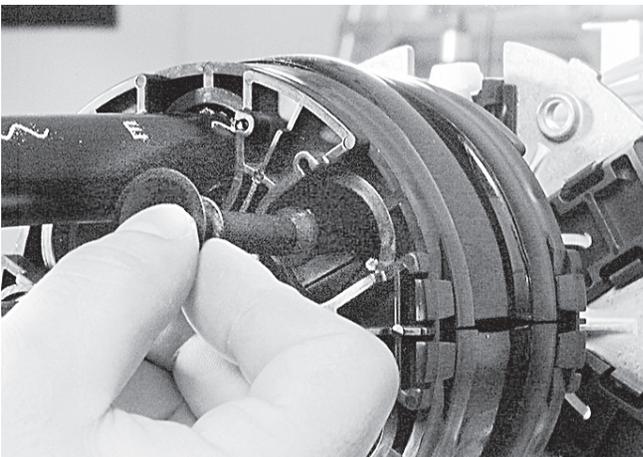


3.6.2 Install the tie wraps in the cable retention device as shown on the drawing.

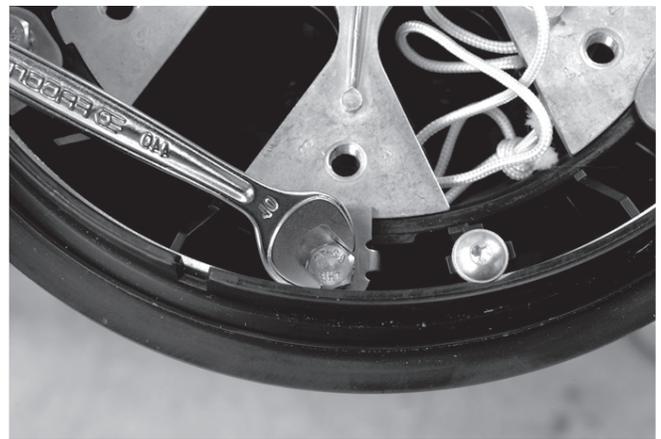
3.7 Installation of the gel block



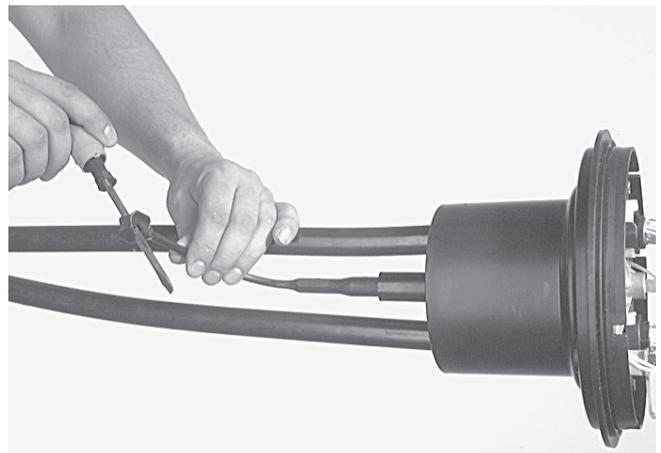
3.7.1 Remove the protection of the gel block and open the gel block. Position the open gel block in between the cables. Leave ± 2 cm between the gel block and the cable attachment plate.



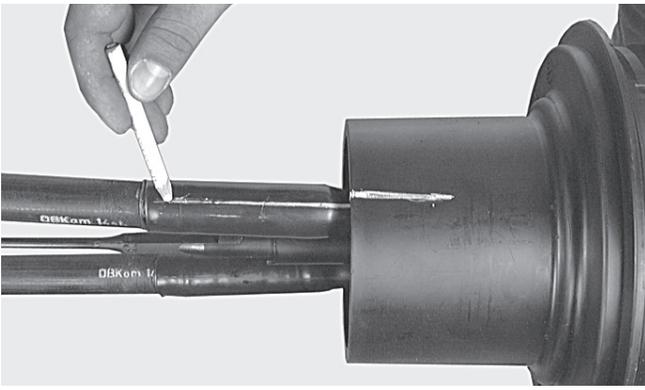
3.7.2 Before closing the gel block make sure it is clean. Insert the plugs in the unused ports.
Remark: When installing the plugs make sure not to bend the crowns in the gel block.



3.7.3 Slide and position the base over the gel block and tighten the securing screws of the cable attachment plate.

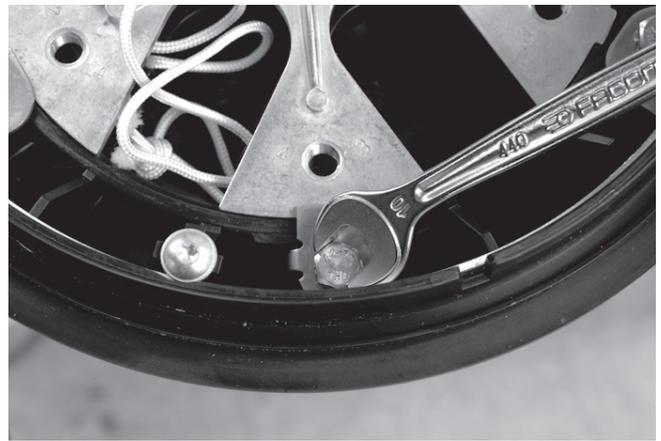


3.7.4 Tighten the trigger until it butts. When necessary, use wrench (n° 12) to tighten the trigger.

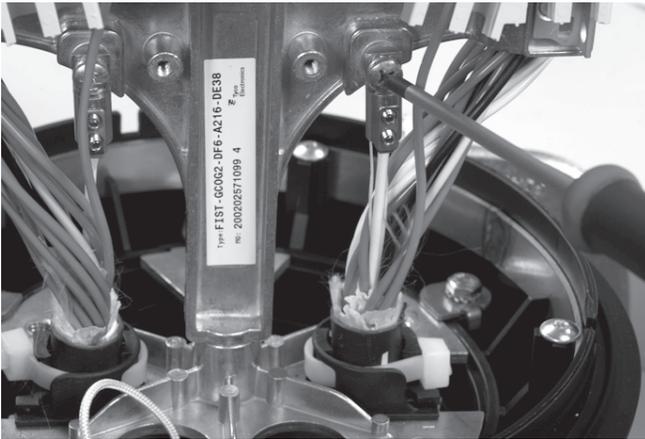


3.7.5 Mark base and cable (see picture).

Note: these lines on base and cable must always match when the closure is moved.

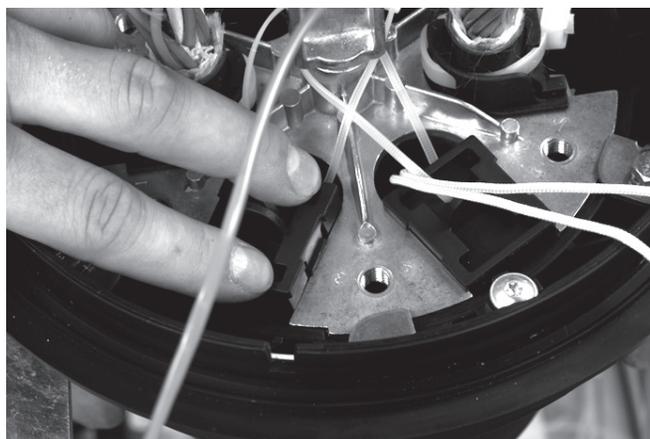
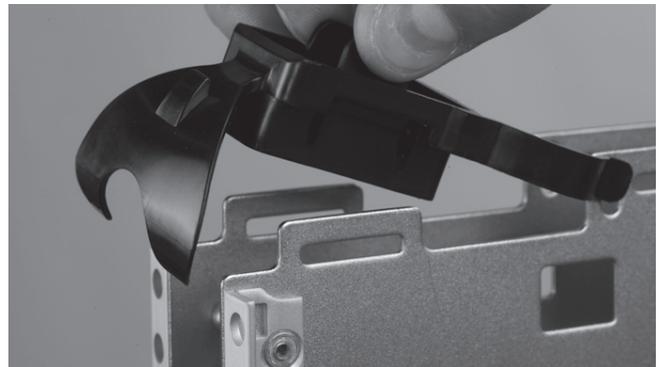


3.7.8 Remove the cable attachment plate holder and place the base in the pole/wall mounting bracket for ease of working. Tighten all the securing screws of the cable attachment plate.

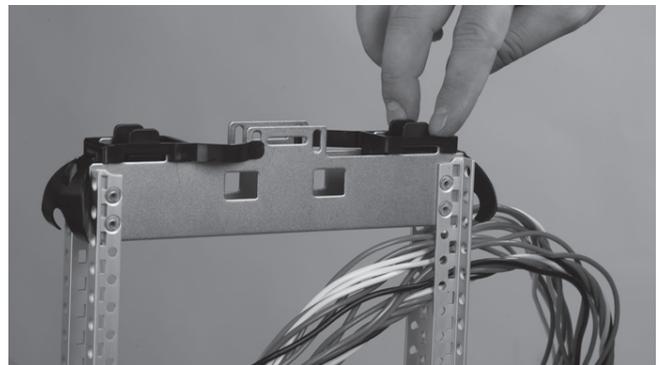
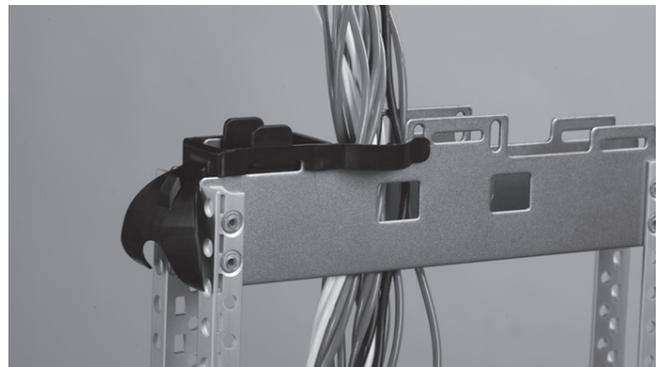


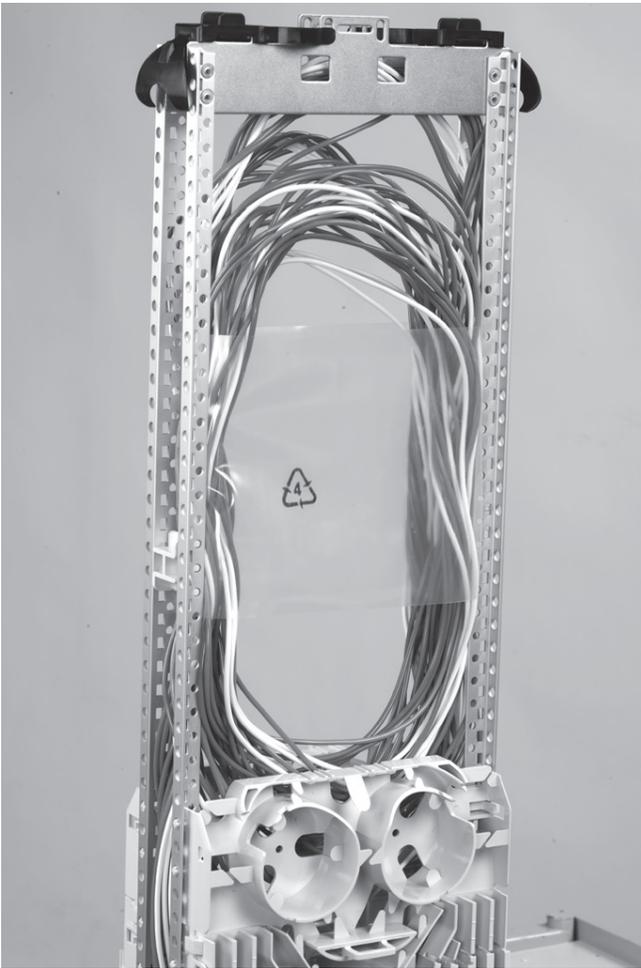
3.7.6 Mount the UCT (strength member fixation) on the strength member (if needed cut the strength member to length). Fix the eyelet on the closure bracket.

3.8 Uncut loose tube storage and loose tube preparation

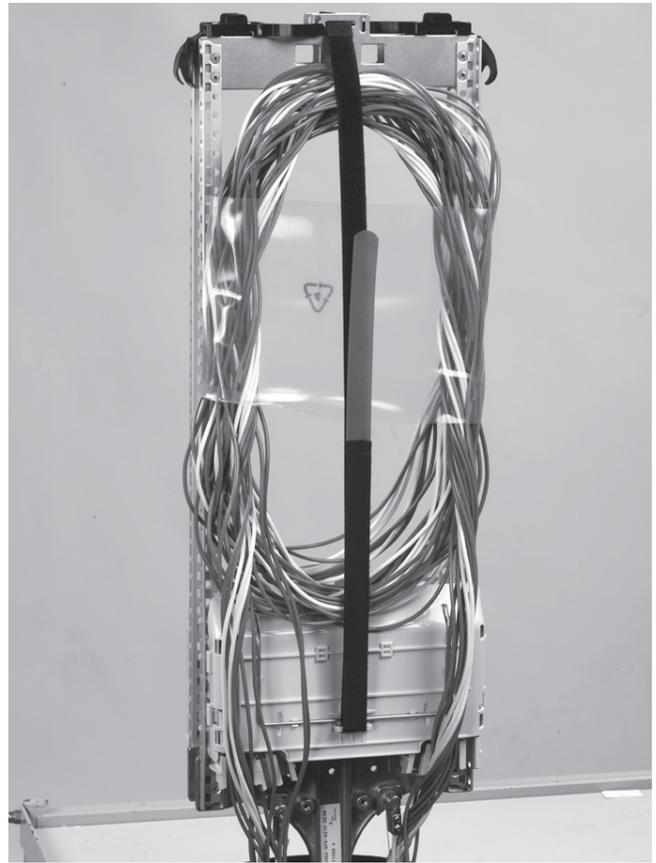


3.7.7 Install the cross reinforcement blocks into the unused ports.



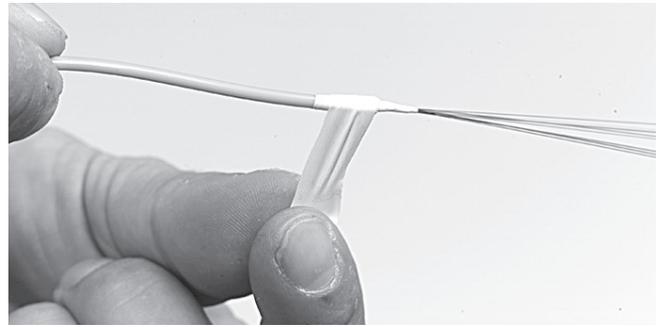
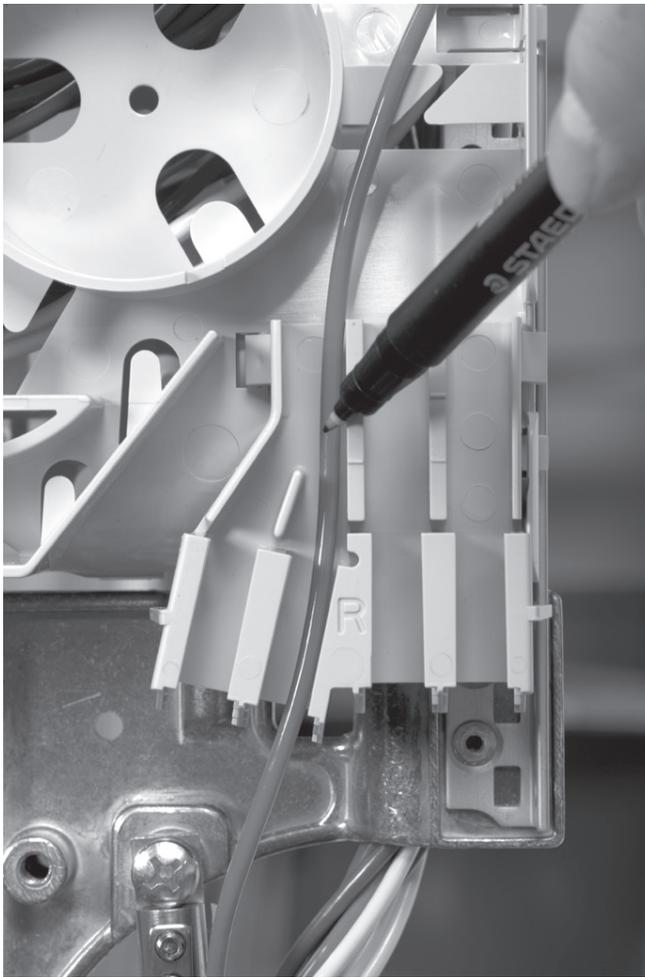


3.8.1 Remove the plastic parts at the top and the sides of the UMS profiles. Make some loops with the uncut loose tubes and put these in the plastic bag (be careful not to damage the loose tubes!). Two sizes of bags are available. Use the correct size according to the volume of the loose tubes. If needed use two bags. Slide the bag between the UMS as shown. Close the UMS.



3.8.2 In case more than X tubes have to be stored on the empty UMS side.

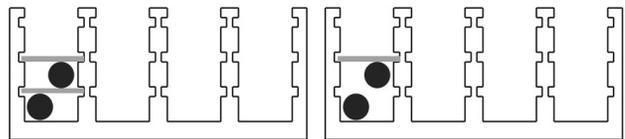
Remark: Loose tubes routed up to the tube holder should be routed in such a way that one still has complete access to the stored tubes between the UMS profiles. This is needed for later routing of loose tubes from the loops to the tube holders, without creating crossings and without creating disturbances on the loose tubes already routed up to the tube holders.



3.8.4 Clean and degrease the fibers and wind some PTFE tape around the transition from tube to fibers for protection.

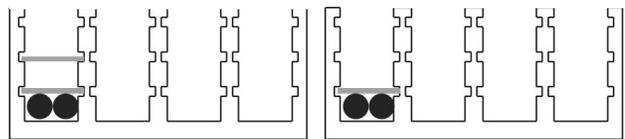
3.8.5 In case of S-cable: cut the loose tube(s) (with fibers to be spliced) in the middle of the loop. Separate the cut loose tube(s) from the others. Match the loose tube(s) on the tubeholder and mark both sides. Strip the loose tube(s) between the marks. Clean and degrease the fibers.

Separate the fibers up to the tube holder and route to single circuit or single element tray(s).



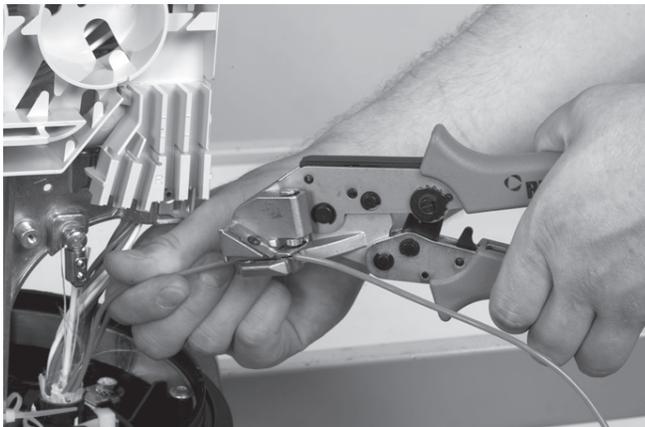
1 Position the tube on the lowest tubeholder retainer. Slide a tubeholder retainer until it snaps above the tube.

2 Remove the lowest tubeholder retainer. Use a tweezer if necessary.



3 Slide this tubeholder retainer in the lowest possible groove, above the (two or more) tubes.

4 Remove the top tubeholder.



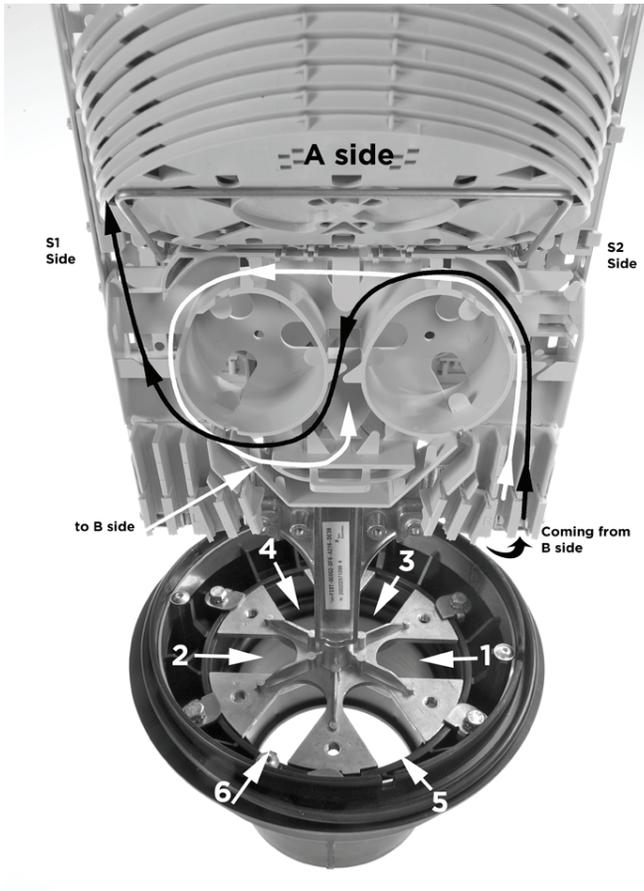
3.8.3 **In case of reversed oscillating cable:** separate the loose tube(s). Match the loose tube(s) on the tubeholder and mark both sides between the two marks. Shave between the two marks with the appropriate tooling.

3.8.6 Different loops can be put together beneath the same tube holder retainer. Position one or more loose tubes in the tubeholder and slide the tube holder retainer with the snap forward in the lowest possible grooves of the tubeholder above the loose tube(s). The tube holder retainer must snap.

3.8.7 If the fibers are 'twist free' one can route the fibers separately to single circuit trays or single element trays. Separate all the fiber loops first up to the tubeholder.

If the fibers are not 'twist free' select first the fiber(s) which have to be spliced and cut these fibers in the middle of the loop. Remove these from the bundle up to the tubeholder. These fibers can be routed to single circuit trays, the other uncut fibers will be routed to a single element tray (never in dark fiber storage, see fiber routing).

3.9 Fiber routing and fiber storage on trays



3.9.1 Fibers can be routed between As1, As2, Bs1 and Bs2. In case fibers have to be routed from side A to side B, use the window. Select the cable termination in such a way that a minimum of fibers will cross and have to be routed through the window. Therefore the selection of ports according to the cable lay-out is important.

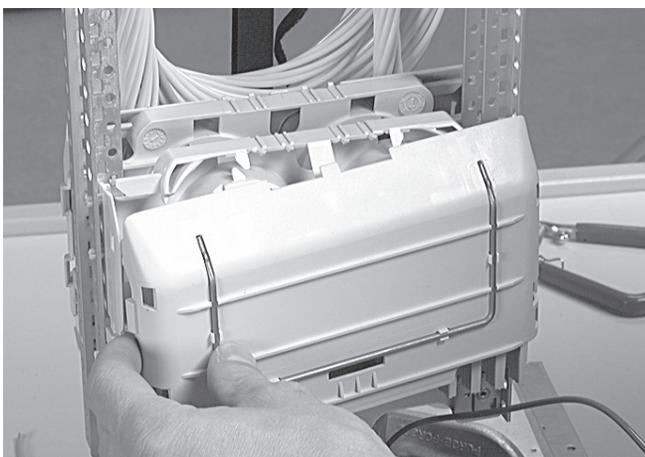
Ports 1, 5 for cables to As2

Ports 2, 6 for cables to As1

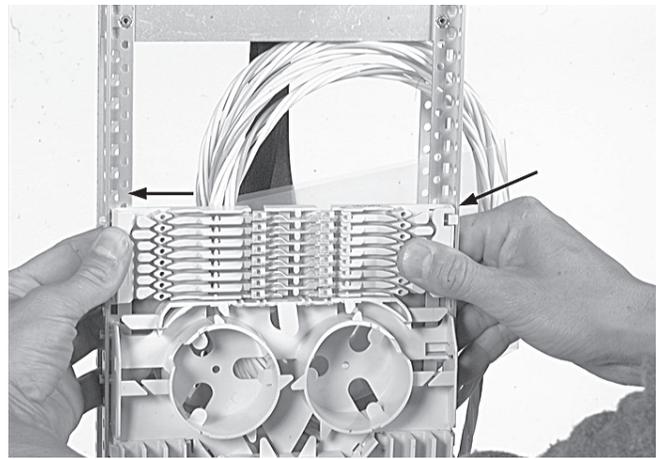
Ports 1, 3 for cables to Bs2

Ports 2, 4 for cables to Bs1

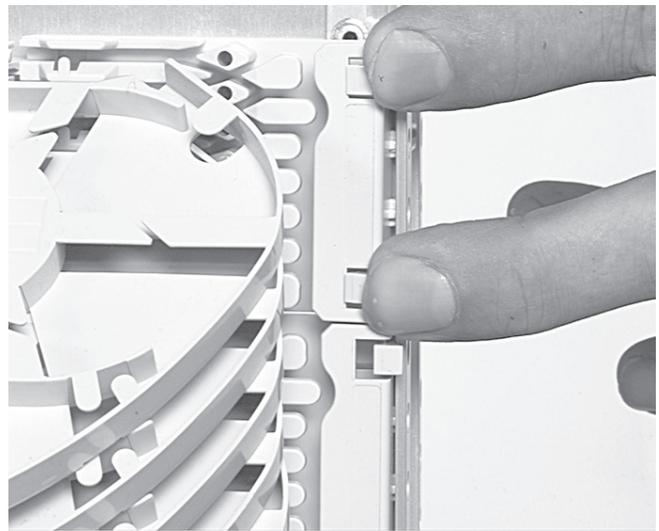
Verify the position of two cables if they are placed on the same side, because the total number of loose tubes can never exceed the capacity of the tube holder.



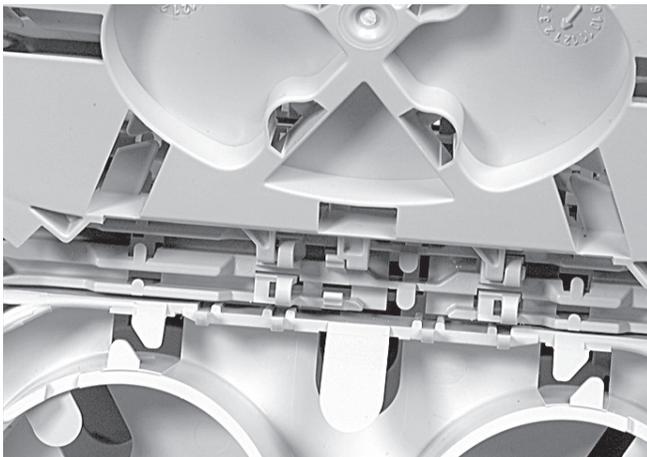
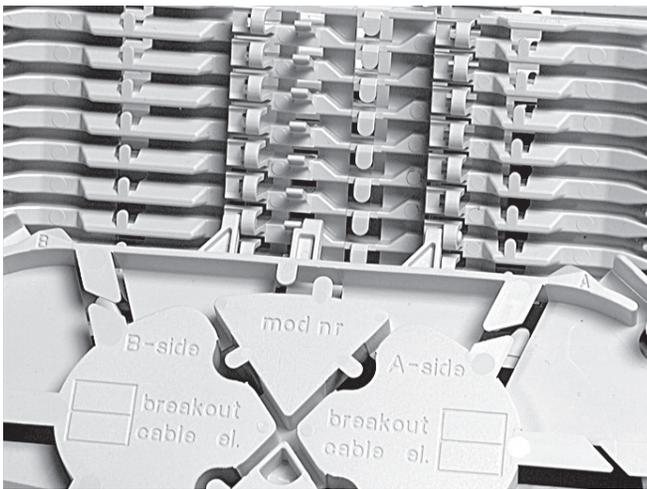
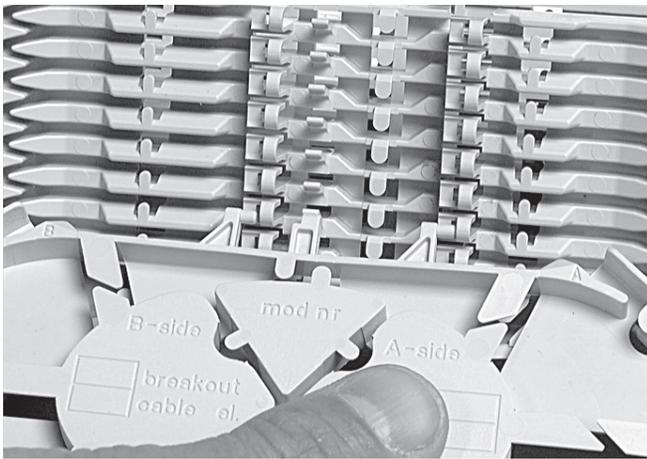
3.9.2 Remove the hook and loop fastener and routing block cap. To remove the routing block cap lift the two snaps at one side of the routing block cap.



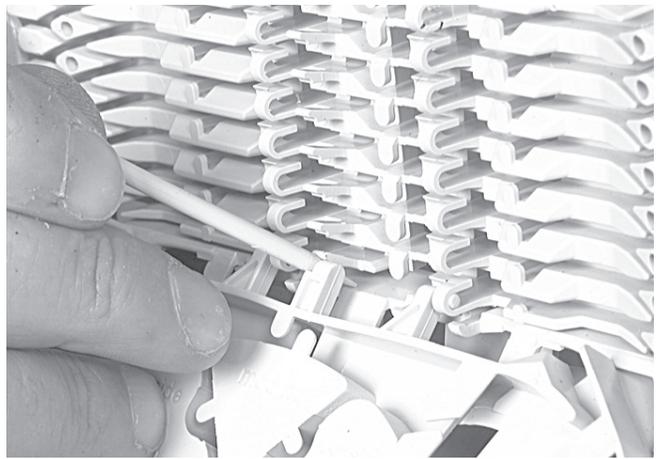
3.9.3 Fix the wraparound groove plate on the UMS by putting the plate with the long protrusions in the S1 UMS-profile and sliding the plate in the S2 UMS-profile until it snaps. (Do not leave gaps between groove plates).



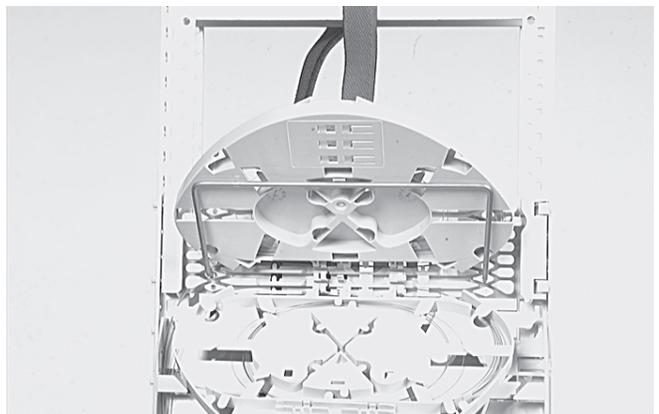
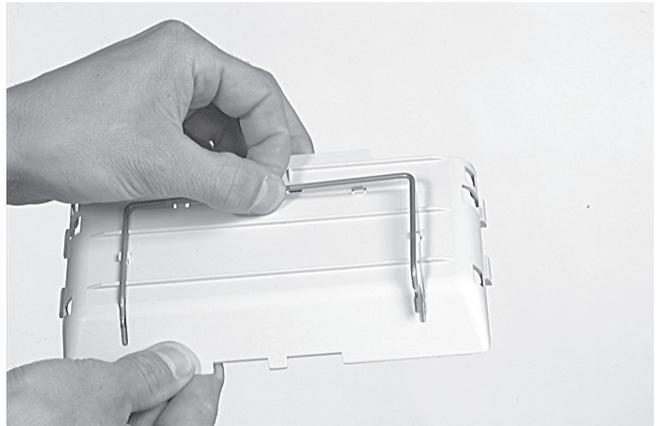
3.9.4 To remove push the two snapfits at S2 UMS-profile and slide the wraparound plate towards the S1 UMS-profile.



3.9.5 Place a tray in the wraparound groove plate: do this by pushing the lip on the groove plate slightly up with the tray and move the tray laterally into the hinge cavities. Start from the FAS block side and preferably mount trays as you fiber up. In case of SC trays do not leave spaces. In case of SE trays always leave one hinge facility open (between that FAS block and tray or tray and tray).

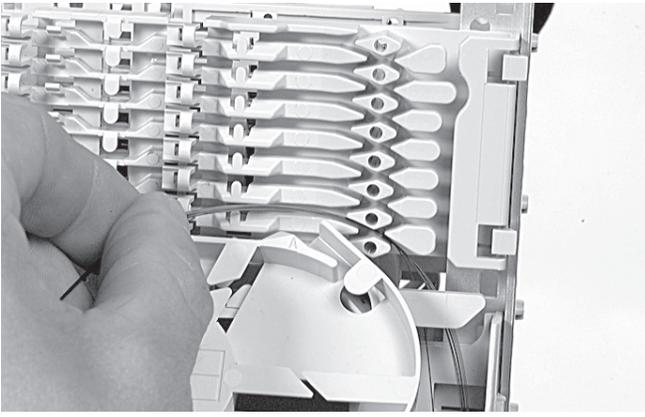


3.9.6 To remove the tray put the fiber guiding pin between the lip on the wraparound groove plate and the tray, and move laterally towards S1.

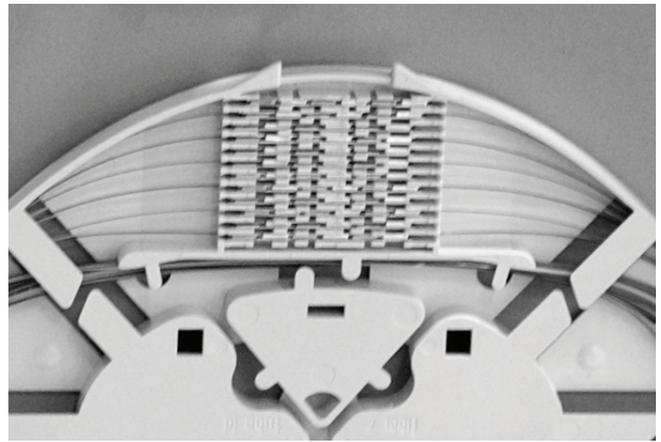


3.9.7 Identify the tray to be worked on and make it accessible. If the routing block and trays are in vertical position, you will have to support the trays above the selected one using the tray wedge which fits in the holes of the wraparound groove plate. Position the wedge carefully such that the groove is still accessible for the fibers and be careful not to push the wedge against fibers.

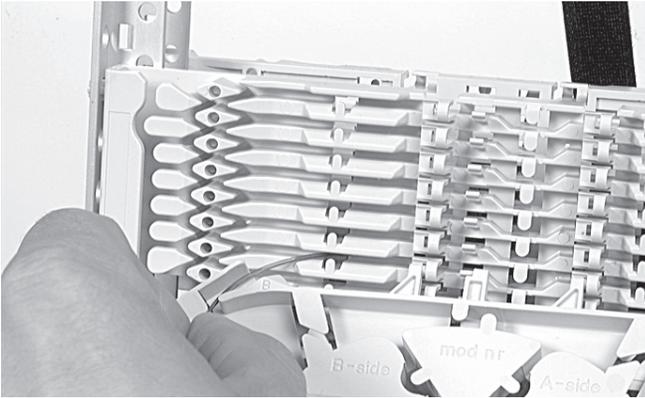
To remove the wedge, use two hands to pull on both ends (near the groove plate) at the same time.



3.9.8 Route the fiber in the correct groove of the wraparound groove plate to the entrance of the identified tray. Fiber must be routed in the groove behind the hinge of the tray!



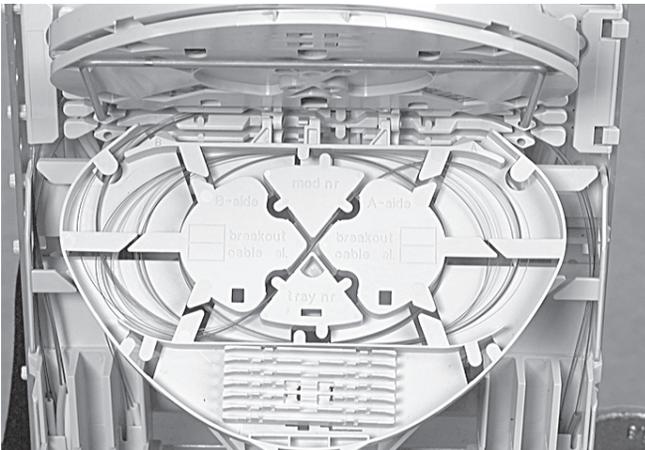
3.9.12 ANT in SE tray.



3.9.9 Pull gently on the fibers in the tray and make sure that the fibers are well contained in the routing block and wraparound groove plate.



3.9.13 RECORDsplice/ANT in SC tray.



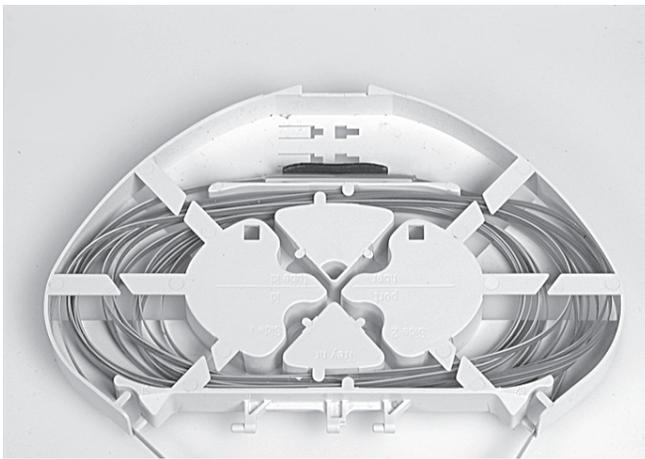
3.9.10 Store the fibers temporarily on a tray (the picture shows the case of a loopback).



3.9.14 Ribbon 4/8 tray.

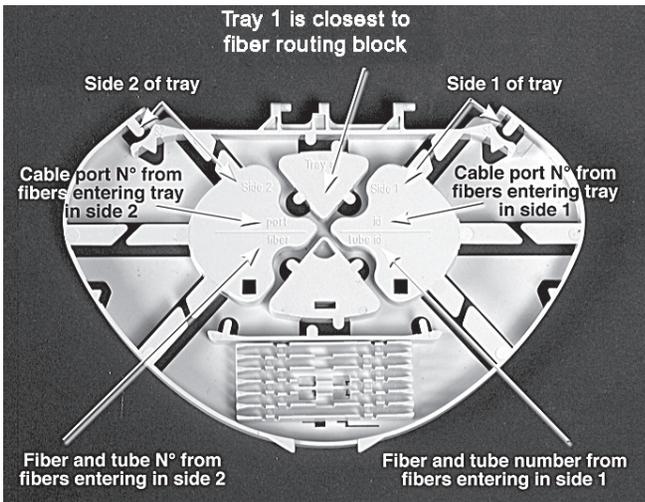
3.9.11 Storing dark fibers can be done in different ways:

- 1) Organise dark fibers into the different trays, following instructions as described.
- 2) Organise dark fibers together into the first available tray (i.e. with a max. of 24 cut or 12 loops primary coated fibers in one SE-tray).



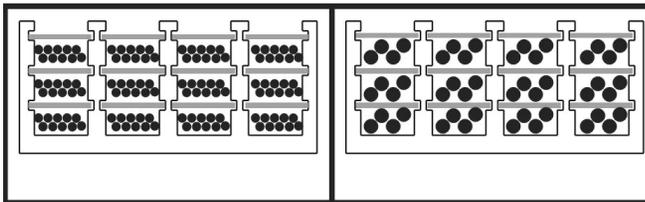
3.9.15 Ribbon 12 tray.

3.10 Tray identification and tube capacity



3.10.1 One can use a permanent marker pen to write on the tray.

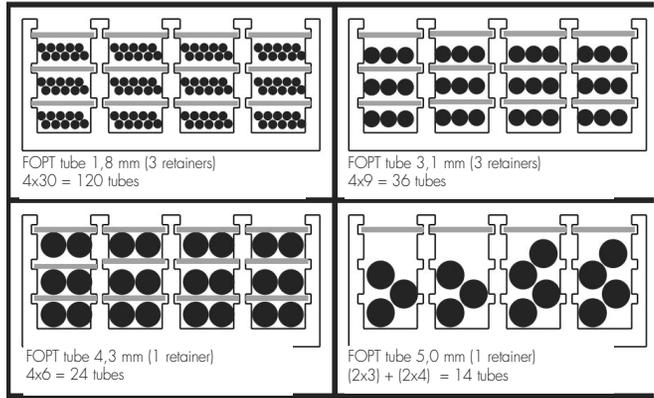
Overview loose tubes



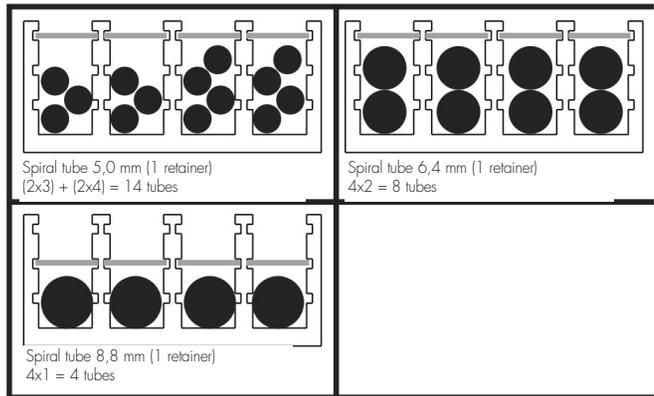
Loose tube 1,5 mm (3 retainers)
4x30 = 120 tubes

Loose tube 2,3 mm (3 retainers)
4x12 = 48 tubes

Overview loose tubes

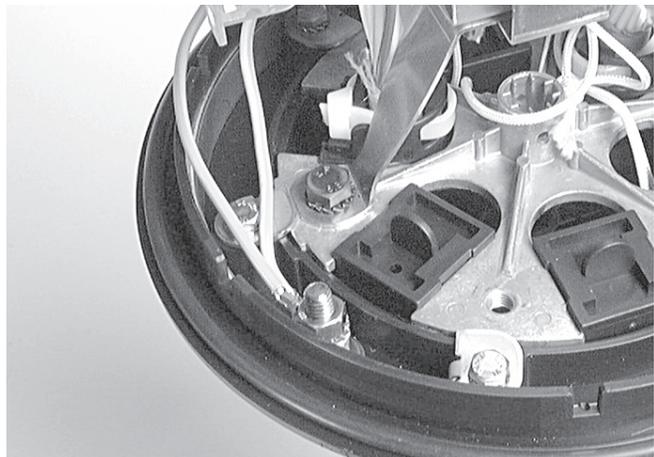


Overview spiral tubes



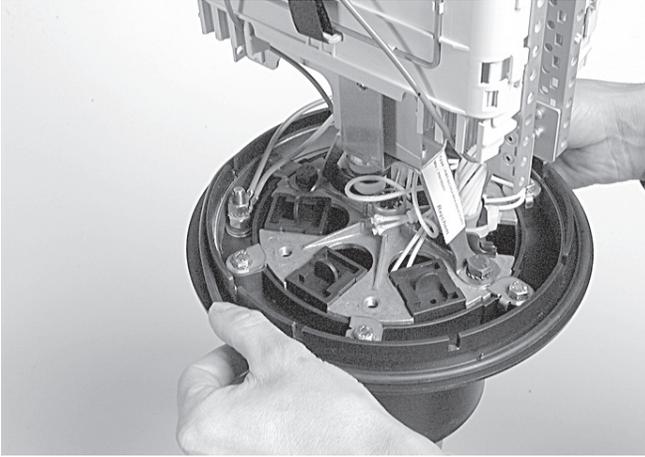
3.10.2 Tube holder capacity
Number x outer diameter loose tube (mm)

3.11 Cable grounding

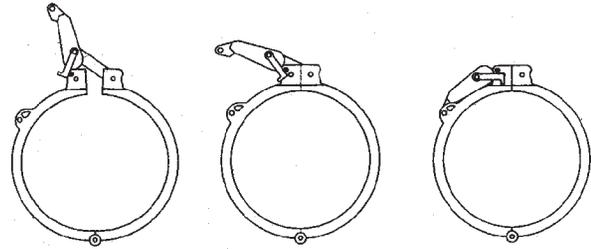


3.11.1 In case of grounding, mount the grounding wire on the grounding bolt.

3.12 Closing the closure



3.12.1 Place the O-ring back on a clean base ! Remove the silica-gel from the bag and place it in the closure.



3.12.3 Install the dome and close it with the clamp.



3.12.2 Make sure the two foam blocks are on top of the UMS profiles.
Note: the foam blocks have a functional purpose.

3.13 Important steps during installations

- Make sure that the grooves on the wraparound groove plates are clean.
- Clean the fibers.
- Loose tubes routed up to the tube holder should be routed in such a way that one still has complete access to the stored tubes between the UMS profiles. This is needed for later routing of loose tubes from the loops to the tube holders without creating crossings and without creating disturbances on the loose tubes already routed up to the tube holders.
- Use correct lengths in the tubeholder.
- Make sure not to loose ID.
- Be secure when preparing window cuts on loose tube cables for storing uncut fibers.
- Avoid in all cases crossings of fibers and loose tubes.
- Replace the silica gel after each re-entry.
- Do not mount the closures with the base pointing up.

3.14 Re-arrangement

- Avoid to pull fibers in between groove plates.
- Avoid fiber movement between the tubeholder and first containment lips on the routing block.
- Take special care re-arranging fibers from side A to B or reverse.
- If accidentally active fibers are removed from the containment devices, reposition them carefully.

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