Prysmian Group

INSTALLATION INSTRUCTION

Universal Fibre Solution Installation Guide
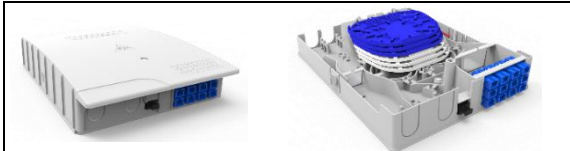
UFS	Tools Required

Tools:	**Pozi Drive Screwdrivers No 1 No.2**	**Cable and Fibre Preparation Tools**

Component Parts

1. Mounting the UFS
   ➢ How to wall mount the UFS

2. Fibre routing
   ➢ How to route fibres
   ➢ Different routes for specific cables

3. Closing the UFS

BT specifications

Please note that this installation guide is in line and according to BT specifications.

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Group

**INSTALLATION INSTRUCTION**

Product overview & usage

The Universal Fibre Solution has been designed and developed to accommodate a multitude of applications.
The box can be used for ethernet and fibre to Premise applications.
The box is supplied with an 12f MPO fan out to 12 SC/UPC connectors.
The box has multiple entry positions for input cables on the bottom and top face of the box. On the top face of the box there is a selection of drop ports to support drop cables or tubes. The box has space for up to four 5mm gas block connectors. The box is supplied with three white splice trays for splicing cables and three blue trays that can used for splicing splitter legs.
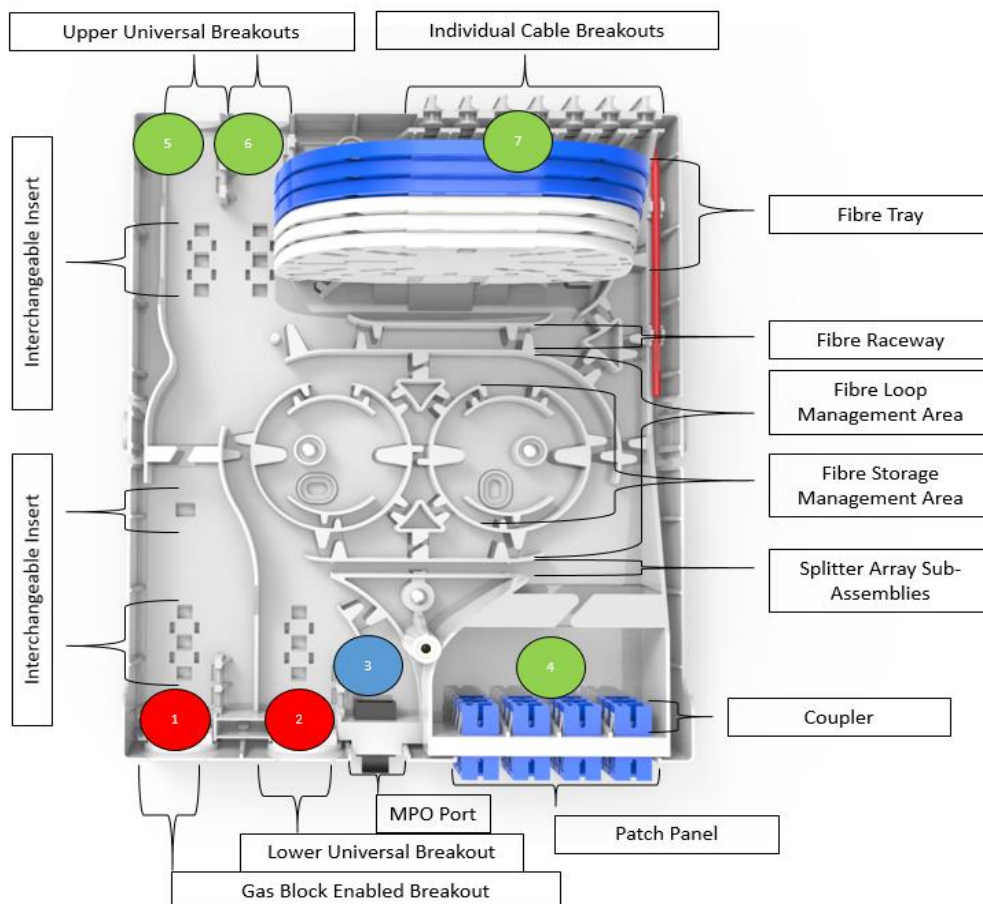
Additional items

Aramid Anchor kit	Gas sealing resin	Tube Entry Funnels
		Picture needed

The Aramid Restraint Kit provides strain relief (up to 8kg) for Aramid yarns from single fibre cables. Each restraint can terminate up to two ruggedized single fibre cables of up to 2.8mm in diameter.
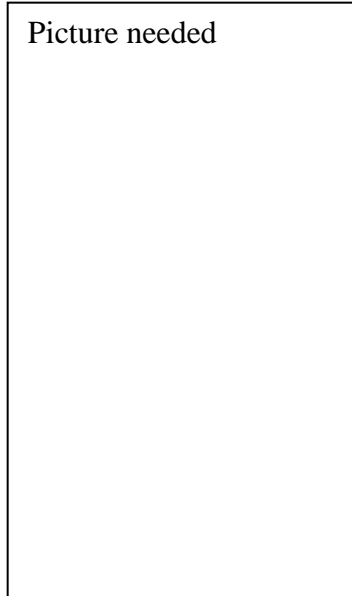
Used to provide a water and gas block at the cable entry. The resin pack fits into a standard single tube sealant gun (not supplied). One pack contains enough resin to seal more than 10 UFS Gas block entry ports and is supplied with 2 application nozzles.
The resin is re-usable such that the units can be sealed on different days.

The tube entry funnels are used when cables or tubes enter the UFS that require gas blocking. The kits contain two funnels with Nuts to secure them in place and sealing compound. Resin should be ordered separately.

Part number:
XAPSC00546
(pack of 10)

Part number:
XKTSC000094

Part number:
XCPSC04002

Additional items

5-5mm gas block connector entry kit

Picture needed

The 5-5mm gas block connector entry kit contains four gas block connectors suitable for tubes with a diameter of 5mm, and a housing to secure them inside the UFS.

Part number: XCPSC04000

CSM Clamp kits

Picture needed

The CSM Clamp kits are used for anchoring cables with a central strength member when they enter the UFS. This kit allows for the retention of up to four cables.

Part number: XCPSC03999

5mm tube drop retention grip kit

Picture needed

The 5mm tube drop retention kit is used for anchoring up to 14x 5mm tubes when exiting from the top of the box.

Part number: XCPSC04003
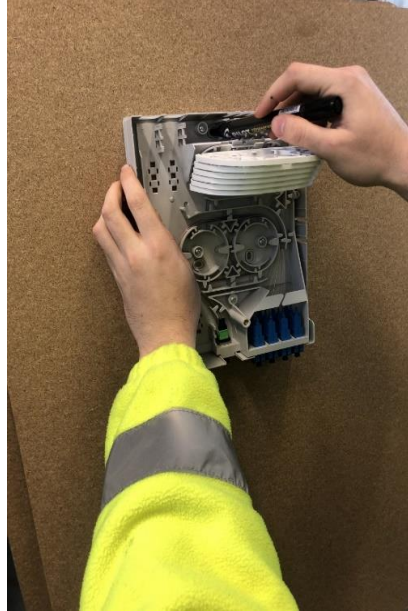
Wall mounting the UFS – Installation

Step 1

- Begin the wall mounting installation by removing the cover from the UFS, gently push the tabs inwards and slide the cover off.

Wall mounting the UFS – Installation

Step 2

- To start mounting the UFS you need to position it against the wall and mark where a hole needs to be drilled.

Wall mounting the UFS – Installation
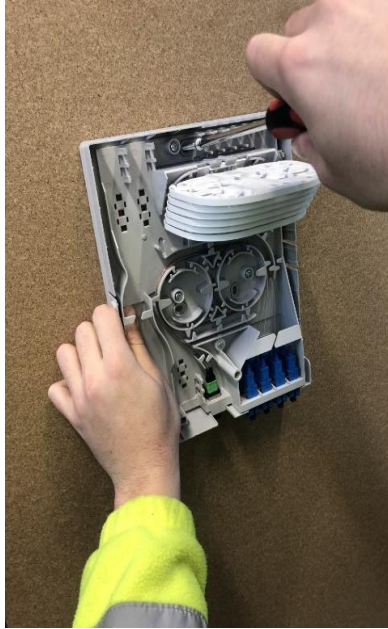
Step 3

**** Before drilling refer to BT specification.

- Once it has been checked begin by using an 8mm drill, make a hole using the mark already made in the previous step.
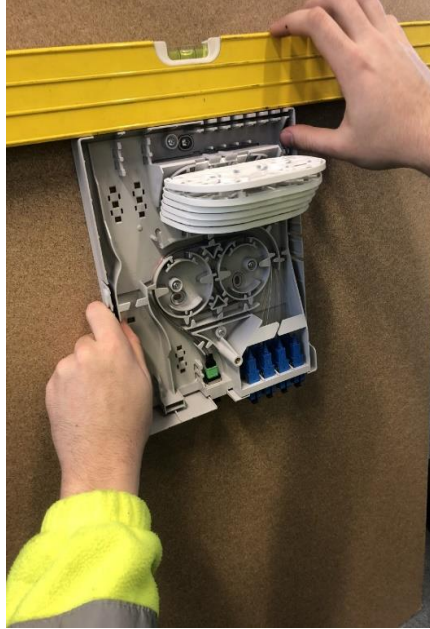
Wall mounting the UFS – Installation

Step 4

- After the making the hole, place the UFS against the wall and begin screwing in the screw using a pozi 2 screwdriver and only to approximately 70% tightness to allow for final adjustments.

- Ensure the fixings you are using are suitable for use with the surface you are fixing the UFS to.

Wall mounting the UFS – Installation

Step 5

- Ensure that the UFS is level using a spirit level before continuing.

Wall mounting the UFS – Installation

Step 6

- Then begin marking out the other holes using a marker.

Wall mounting the UFS – Installation

Step 7

**** Before drilling refer to BT specification.

- Once it has been checked slide the UFS to one side and begin drilling the hole.

Wall mounting the UFS – Installation

Step 8

- Insert the screws in the drilled holes, then tighten the screws to 70% tightness.
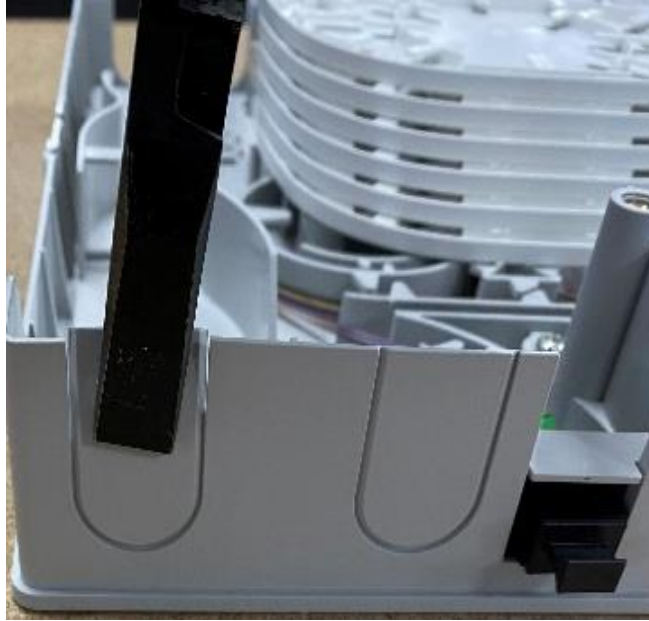
Wall mounting the UFS – Installation

Step 9

- Now fully tighten all the screws, ensuring the UFS is level and positioned correctly.

Fibre routing – Gas Block Enabled breakout

Step 1

- Begin by removing the gas block insert using plyers.

Fibre routing – Gas Block Enabled breakout

Step 2

- Then insert the nut in the gas block insert.

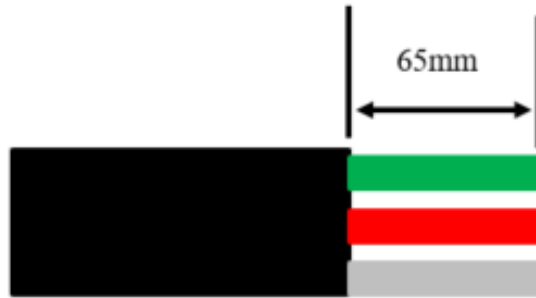## Fibre routing – Gas Block Enabled breakout

Step 3

- Screw in the funnel, connecting it to the nut.
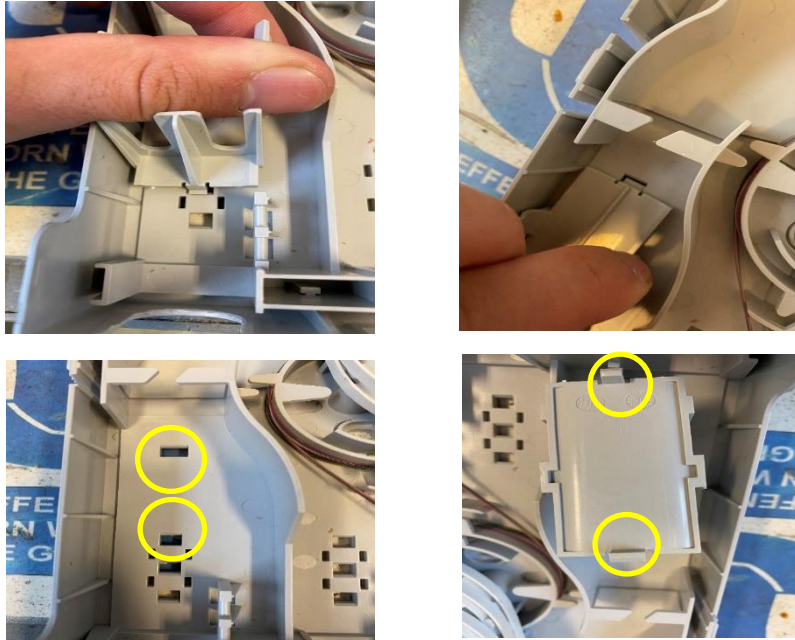
Blown fibre tubing

Step 4

- Remove the sheath of the Blown fibre tubing and allow for 65mm of blown fibre tube.
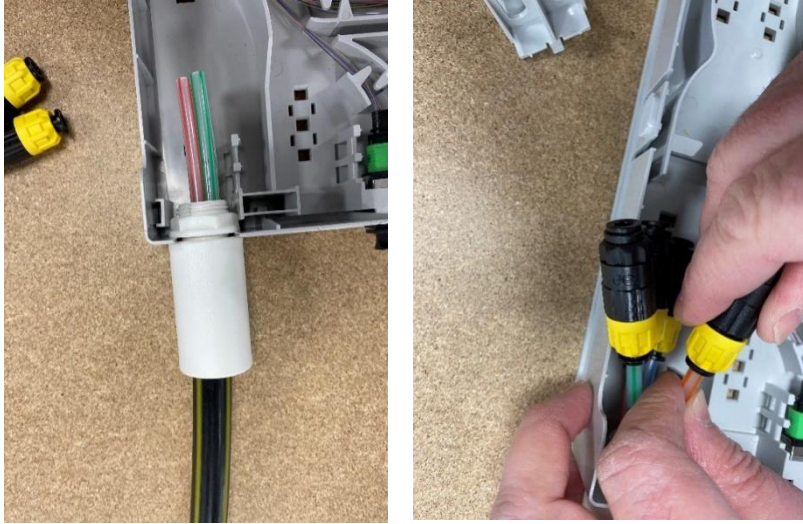
Blown fibre tubing

| Step 5 | |

- After preparing the cable, place the grey tube guide into the UFS base by slotting the hinges over hole.

Blown fibre tubing

Step 6

- Feed the cable into the funnel from the outside in and feed the blown fibre tubes into the 5mm gas block connector.

Blown fibre tubing

Step 7

- Place the gas block connectors into the gas block guide, ensure that they are in place and click them in.

Blown fibre tubing

| Step 8 | |

- After ensuring everything is in place, use compound 16 then insert the resin 10b into the funnel as shown.

Fibre routing – Lower universal breakout

| Step 1 | |

- Begin by removing the lower universal breakout insert using plyers.

Fibre routing – Lower universal breakout

Step 2

- Then insert the nut in the lower universal breakout.

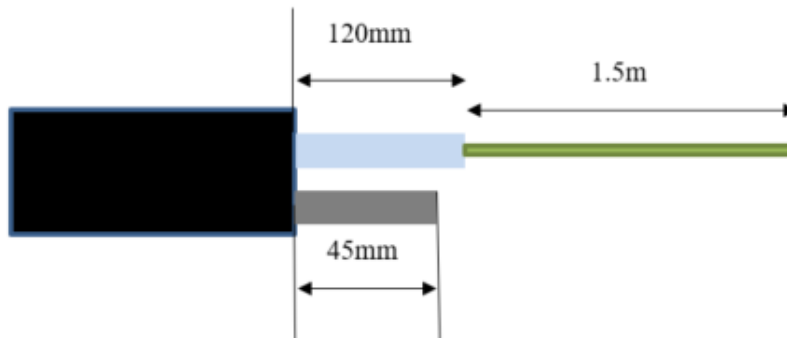## Fibre routing – Lower universal breakout

Step 3

- Screw in the funnel, connecting it to the nut.
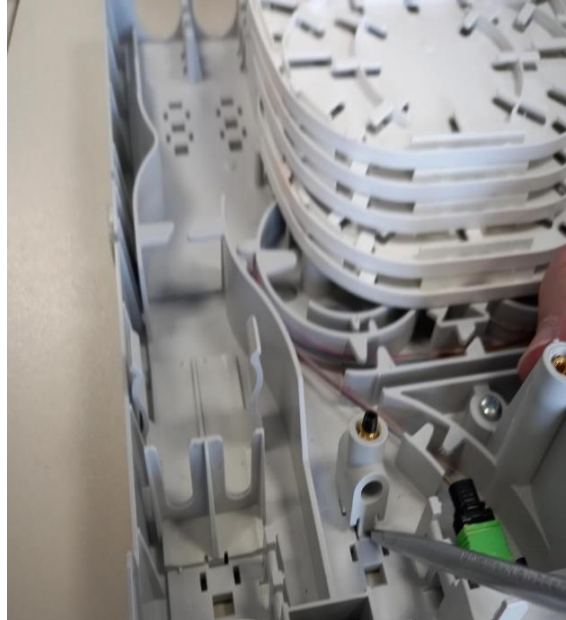
Fibre routing – Lower universal breakout

Step 4

- Mark your cable 1.5m away from the end and remove the sheath, then cut the central strength member of the external COF cable to 45mm from the cable butt. Allow the element tubing to be cut at 120mm so the fibre is protected.

Fibre routing – Lower universal breakout

Step 5

- Insert the central strength member clamp into the UFS base, position the clamp over the hinges and click into place.
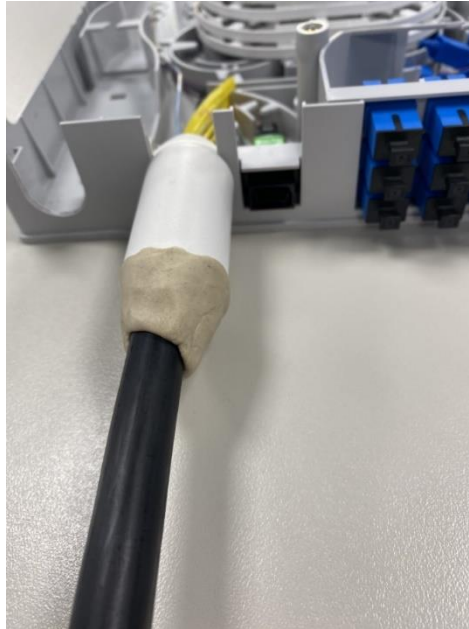
Fibre routing – Lower universal breakout

Step 6	

- Slide the cable previously prepared into the funnel and clamp the central strength member down.

Fibre routing – Lower universal breakout

Step 7

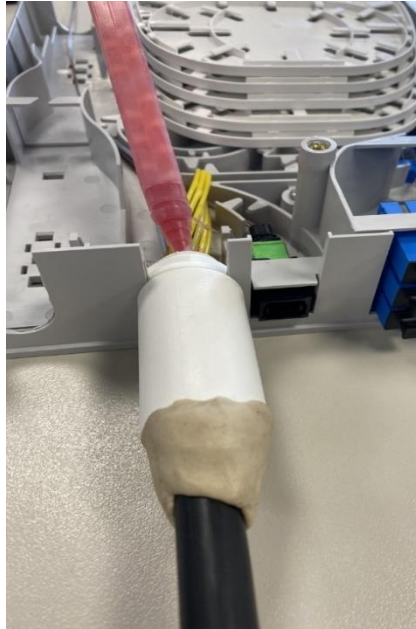- Insert compound 16 around the funnel and onto the cable.

Fibre routing – Lower universal breakout

Step 8	

- Then insert the resin 10b to lock everything into place, fill until you can see resin at the top of the funnel.

Fibre routing – Upper universal breakout - BFT

Step 1

- Begin by removing the breakout, using plyers, apply light force and pull away.

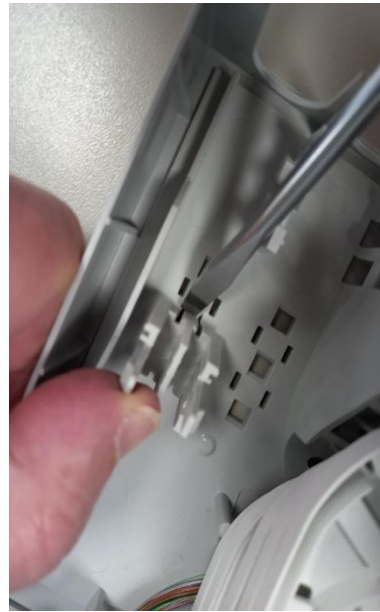## Fibre routing – Upper universal breakout - BFT

Step 2

60mm

• Prepare the internal tubing by removing the sheath of the cable, then cut the tubing at 60mm from the butt, remove all tapes and binders.

Fibre routing – Upper universal breakout - BFT

Step 3

- Insert the tubing holders into place, position it over the hinges and apply a slight amount of force to clip it into position.

Fibre routing – Upper universal breakout - BFT

Step 4

- Feed 2x cable ties through the cable anchor location and insert the cable.

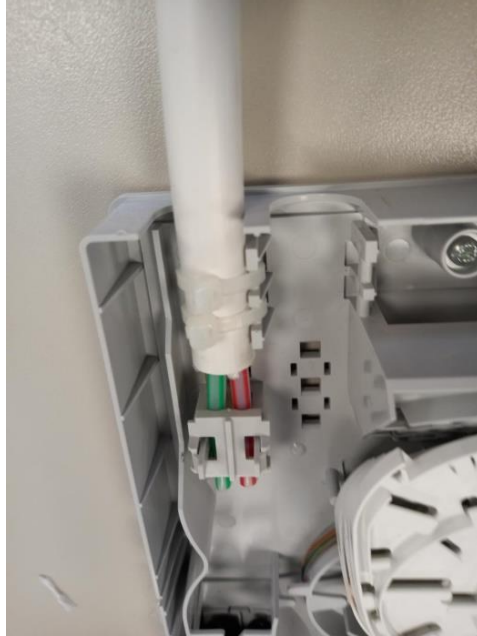## Fibre routing – Upper universal breakout - BFT

Step 5

- Place the tubing into the clamp then pull the cable ties tight as possible and cut away the excess, using flush cutters.

Fibre routing – Upper universal breakout - BFT

Step 6

- Slot the tubing holder by placing it over the hinges on the side.
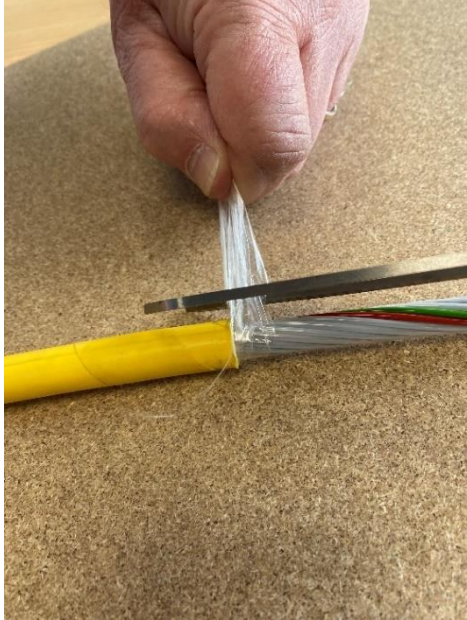
Fibre routing – Upper universal breakout - COF

Step 1

- Begin by removing the breakout, using plyers, apply light force and pull.

Fibre routing – Upper universal breakout - COF

Step 2

- When using the internal COF cable, strip it back and remove the plastic wrap and aramid.

Fibre routing – Upper universal breakout - COF

Step 3

- Mark the cable 1.5m from the end and remove the sheath. Remove all bindings and tape at the butt. Mark the central strength member 45mm from the butt and cut.

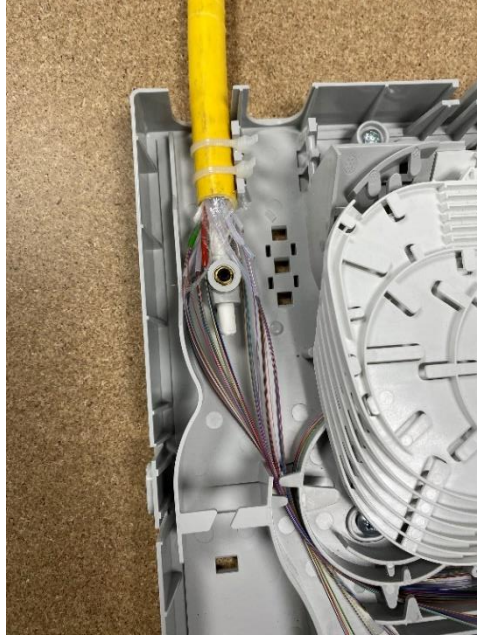## Fibre routing – Upper universal breakout - COF

Step 4	

- After removing the breakout slot, you then need to insert the central strength member clamp, align the slots with the slots on the UFS insert and push them into the holes.

Fibre routing – Upper universal breakout - COF

Step 5

- Insert the cable into the Upper universal breakout. Use cable ties around the butt of the cable to ensure it is in place, then insert the central strength member into the central strength member clamp.

Can be placed in either side *.

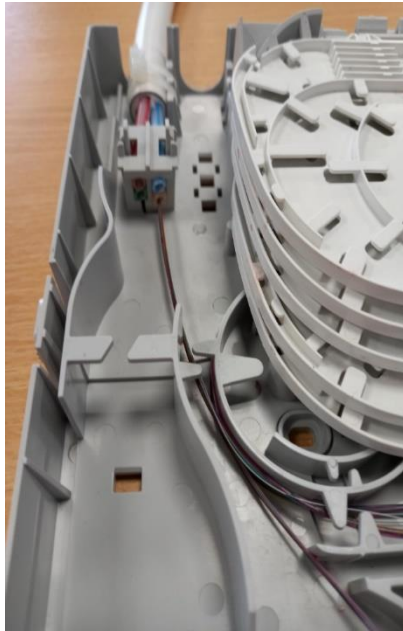## Fibre routing – Upper universal breakout - COF

Step 6

- Use an Allen key to tighten the central strength member clamp.

Fibre routing – Upper break out

Step 1

- Following the same steps as Fibre routing – Upper universal breakout Internal tubing, pages 30-35. Ensure there is 1.5m of fibre from the tube butt.

Fibre routing – Patch Panel

Step 1

- Use the numbers on the cover to locate the correct adapter position.

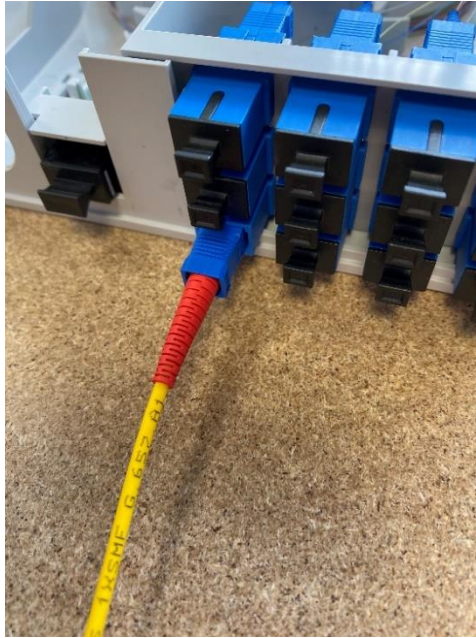## Fibre routing – Patch Panel

Step 2

- Before removing anything Begin removing the black plug, then by using the approved fibre cleaning kit, clean both the tail and the port connector.
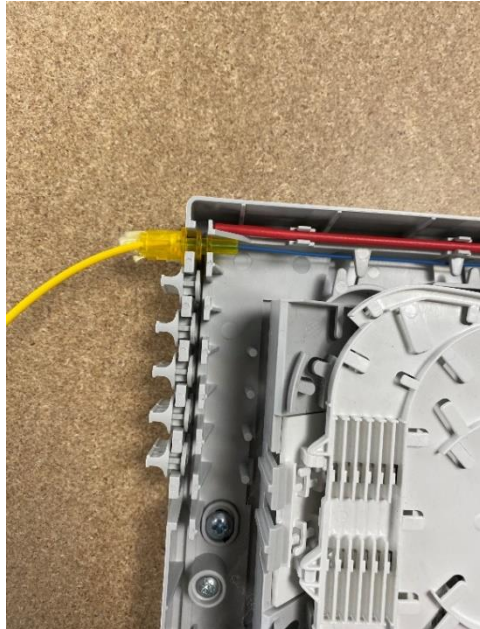
Fibre routing – Patch Panel

Step 3

- After the correct measures have been taken, then insert the tail into the patch panel.

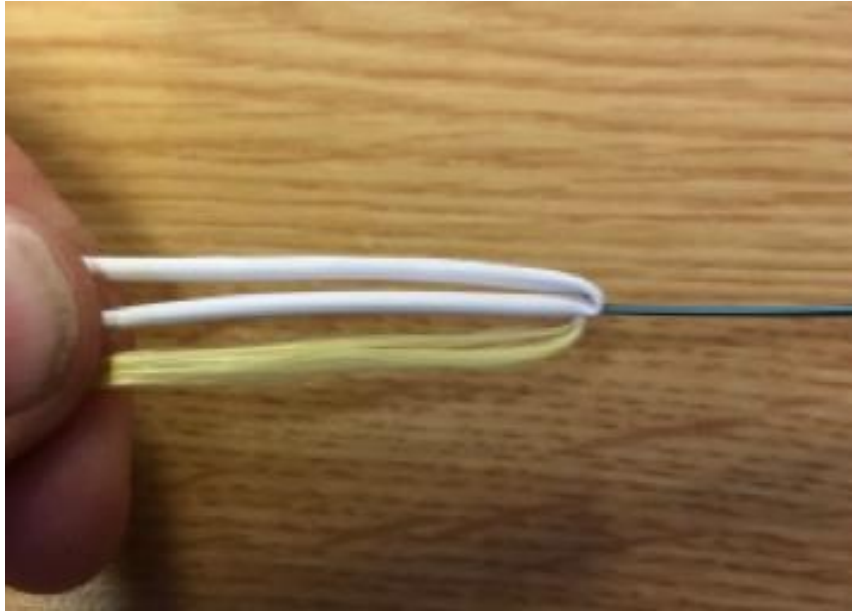## Fibre routing – Individual cable breakout

Step 1

* Please see installation guide IP008.

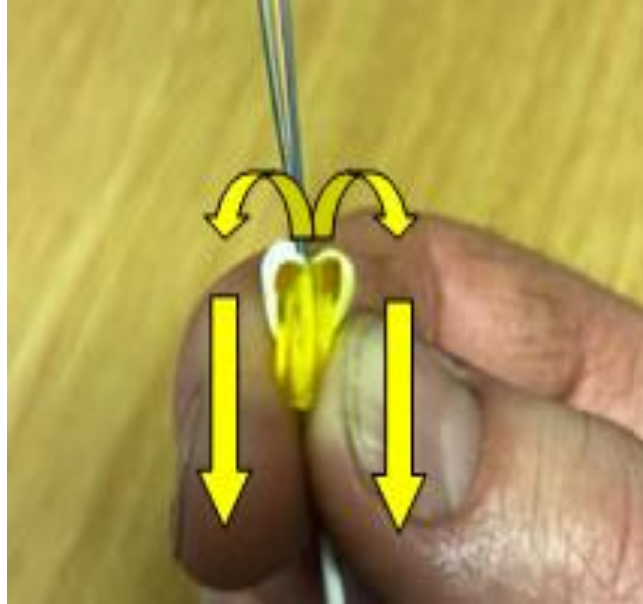## Invisilight cable

Step 1

- Carefully fold back the sheath and separate the aramid strands as shown leaving at least 100mm.

Note: refer to IP008 Restraint Kit 2A installation guide for detailed instructions.

Invisilight cable

Step 2

- Thread the internal part of the Kevlar Restraint over the stripped fibres, aramid, and stripped sheath.

- Carefully fold back the aramid and stripped sheath and line up the cable butt in line with the top of the Kevlar Restraint.
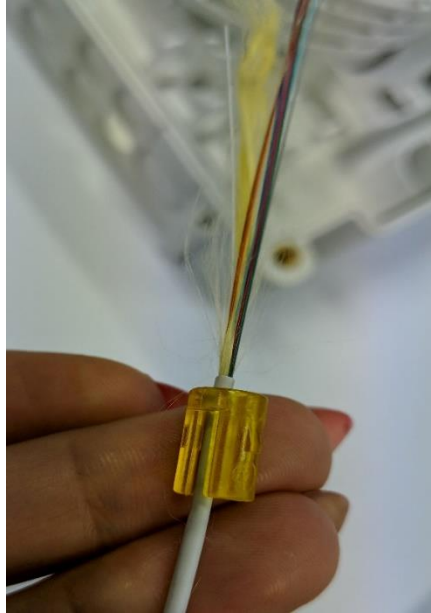
Invisilight cable

Step 3

- Slide the external part of the Kevlar Restraint over the fibres

- Ensure the sheath and aramid strands are spread and pass either side of the locking tab.

- Visually check the Kevlar Restraint clips are securely engaged.

- Trim the sheath and aramid strands in line with the bottom of the Kevlar Restraint.

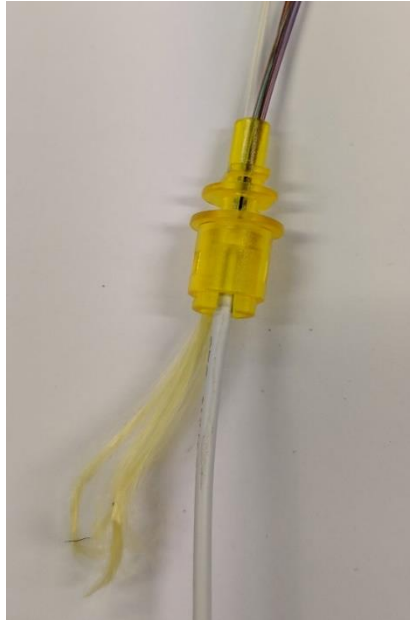## Easy bend cable

Step 1	

- Slide over the cable inner body and hold in position at cable butt.

Easy bend cable

Step 2

- Splay aramid evenly over the inner body and slide over outer body and click into position.

Note: refer to IP008 Restraint Kit 2A installation guide for detailed instructions.

Easy bend cable

Step 3

- Begin the process by stripping the cable then by stripping back the aramid to 25mm. The fibre itself is needed to be stripped to a length of 2m from the cable butt.

Easy bend cable

Step 4

- Fold the 25mm of aramid on itself and then slide the collet over the top of it.

Easy bend cable

Step 5

- After putting the collet on the cable, slot into the Individual breakout in any spot.

- Place the cable in a section then put half a blank plug on top of it, locking it in place.

Easy bend cable

| |
|---|
| **Step 6** |
| • Alternatively, you can place two cables into the Individual cable breakout. |

Fibre routing

Step 1

Male MPO cable

A Male 12 Fibre MPO Connector is plugged into the pre fitted Female MPO connector. This delivers the connectivity of 12 fibres from the node in one single plug & play. Ensure that All connectorised cables must be cleaned before completing connectivity using an MPO Stickler cleaner. The connectorised cleaning practises can be found in section 2 of Course (OROFN16) – Jointing Fibre Awareness of Sticklers usage.

Fibre routing

Step 2
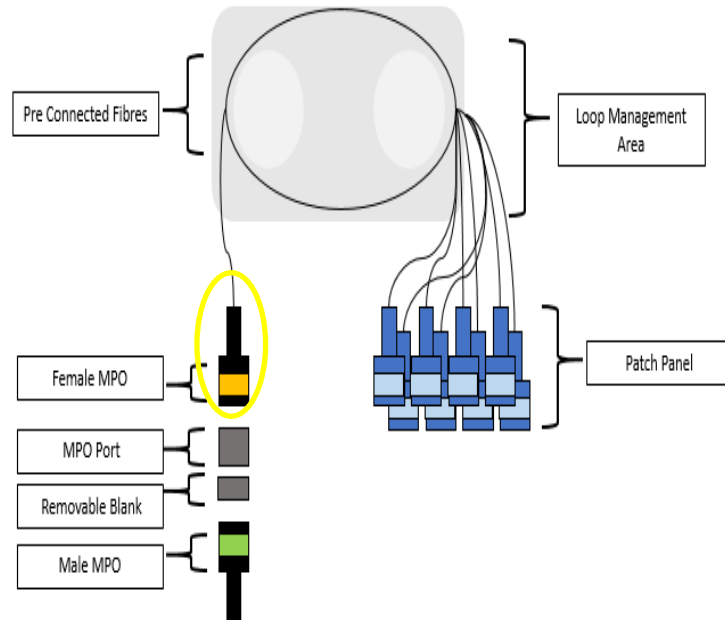
<u>Female MPO cable</u>

The Female MPO has 12 Fibres. These are stored in the Loop management area within the UFS, which is located behind the splice trays. The female MPO fibres are pre connected to the Patch panel.

Fibre routing

Step 3

Patch panel

The Patch panel enables connectorised connectivity via UPC-SC (Universal Polished Connector) Easy Bend Cable & SC Tails to Customer NTE.

As the MPO cable is a 12 Fibre input into the UFS. The patch panel is a 12 Fibre output of the UFS. F1 of the incoming cable will correlate to F1 of the Patch panel, all the fibres on the MPO Cable will follow this sequential logic. All 12 incoming fibres will be terminated on the patch panel.

Once the patch panel capacity is exhausted incoming & outgoing cables use the trays and cable breakouts as would be expected in BAU.

Closing the UFS

Step 1	
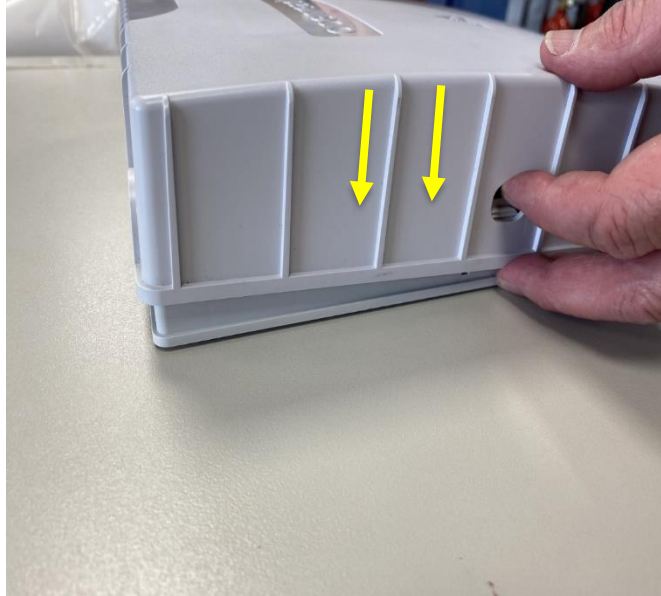
- Place the UFS cover over the cover release taps and apply a slight amount of pressure, when you hear a click it means it is in place.

Closing the UFS

Step 2

- After placing the cover on, begin screwing it in.

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