OAsys® Equipment meets BT OTIAN® Equipment Specifications

CONNECTORISED LEAD IN JOINT MK3

Description

- The Connectorised Lead in Joint (CLJ) is a purpose-built customer access termination point, that allows the fast and incremental activation of customer services using simple practices.
- The CLJ allows the plug-in connection of up to 8 individual customer lead-in cables at the time-of-service activation.
- The CLJ allows for the storage of a continuous cable loop within the dedicated loop storage facility at the front of the closure.
- The splice tray is vertically mounted and allows full access without disturbance to the looped loose tubes or the connectorized pigtails.
- The joint is supplied with sufficient components for the preparation, installation, and routing of the cable loop.

Tools & Additional Items Required

Additional Items Required:	Prysmian Part No.
None	

Optional Items:	Prysmian Part No.
None	

Tools:

Large Screwdriver
File
Gas Torch or Hot Air Gun
Cable Sheath Stripper
Fibre stripping tools
Splicing machine

Component Parts (pictures not to scale)

1 Connectorised Lead in Joint **Qty 1**	**2** Oval Port Heat Shrink **Qty 1**	**3** SCOP Sleeve **Qty 2**
4 Desiccant Pack **Qty 1**	**5** Splice Protectors	**3** Installation Instructions **Qty 1**

Clean before you connect. ⚠️
It is important that all fibre connectors and adapters are cleaned prior to mating using approved local practice. Failure to clean may result in either poor signal performance and/or permanent damage to the connector end faces.

IP134	Issue Number: 03	Date: 24th October 2024

## Joint and Cable Preparation – Oval port

---

Step 1

- Knock out the oval port end plate of the Joint **(1)** from the inside using a large screwdriver and remove any burrs using a file.

- Apply the oval port Heat Shrink **(2)** over the port of the base, ensuring that the dry end without any glue on the inside is at the top of the port. Shrink approximately 30mm using a gas torch or hot air gun. Use the foil in the kit to protect the other ports from the heat as shown. Leave the shrink to cool for 10 minutes.

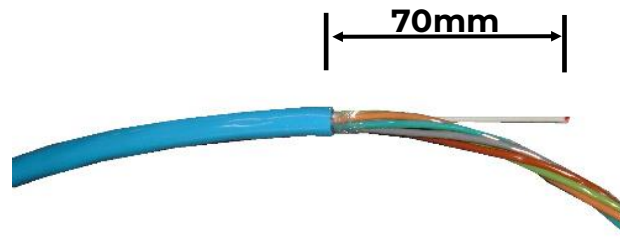## Joint and Cable Preparation – Oval port

---

Step 2
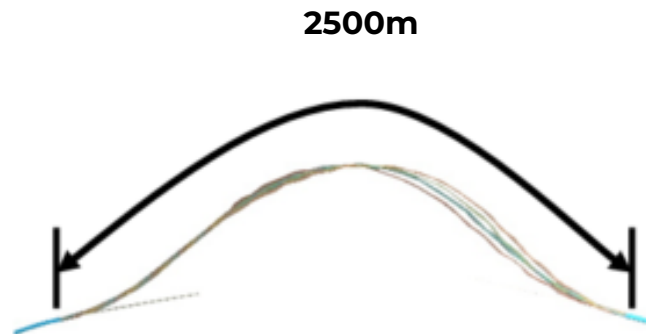
2500m

Remove a 2500mm window of cable sheath

- Remove the cables from the footway box and apply a reference mark to the cable where the centre of the window cut will be made.

- Apply two butt marks 1250mm back either side of this mark. Before removing the sheath double check that the two butt marks are 2500mm apart.

- Remove the cable sheath between the two butt marks using approved practices.

- Remove all tape and binders.

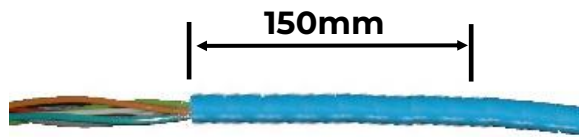## Joint and Cable Preparation – Oval port

---

Step 3

70mm

Cut strength member to 70mm

- Access the central strength member and cut it in the centre.

- Cut each end back to 70mm from the cable butt as shown.

Joint and Cable Preparation – Oval port

Step 4

150mm

Abrade and clean 150mm back from butt

- Circumferentially abrade the sheath 100mm back from the cable butt using the abrading strip provided with the Heat Shrink Kit.

- Clean the cable sheath at each butt using the alcohol tissue supplied with the Heat Shrink Kit **(2)**.

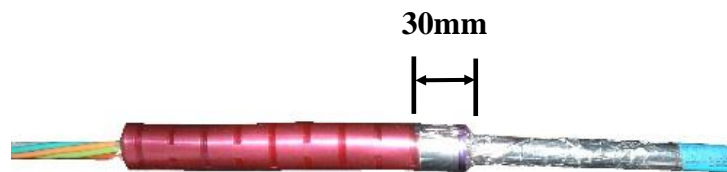## Joint and Cable Preparation – Oval port

Step 5

Apply a SCOP sleeve level with the cable butt.

- Apply a SCOP sleeve **(3)** to the cable sheath level with the cable butt. The SCOP sleeve should be applied so that its long edge is in line with the cable. Remove the paper backing and wrap the sleeve tightly around the cable sheath.
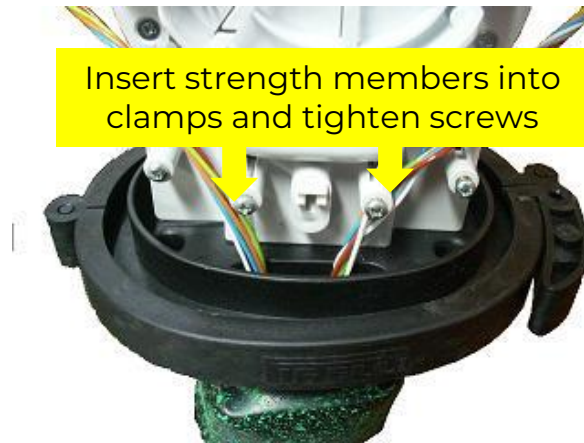
Joint and Cable Preparation – Oval port

Step 6

30mm

- Apply aluminium foil, supplied with the Heat Shrink Kit **(2)** around the cable sheath so that it overlaps the SCOP sleeve by approximately 30mm as shown above.

- Smooth out the foil by rubbing with the shaft of a large screwdriver.

Cable Installation

Step 7

Insert strength members into clamps and tighten screws

- Carefully feed the cable loop through the oval port of the joint base.

- Hold the loop into position by inserting the strength members into the clamp posts. Tighten the screws to hold the cable in position. Do not over tighten.
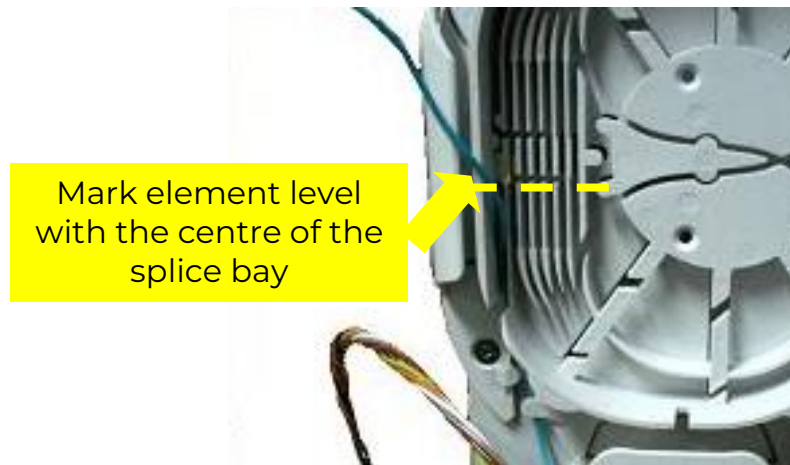
Cable Installation

Step 8

- If a secondary splice tray is present, pull open. The tray pivots outwards to allow access to the primary splice tray.

Cable Installation

Step 9

Mark element level with the centre of the splice bay

- Remove the cover from the splice tray by undoing the two screws in the centre of the cover.

- Identify the required cable element and cut it in the middle of the stripped length. Mark a butt position on the element approximately level with the centre of the splice protector bay of the splice tray.
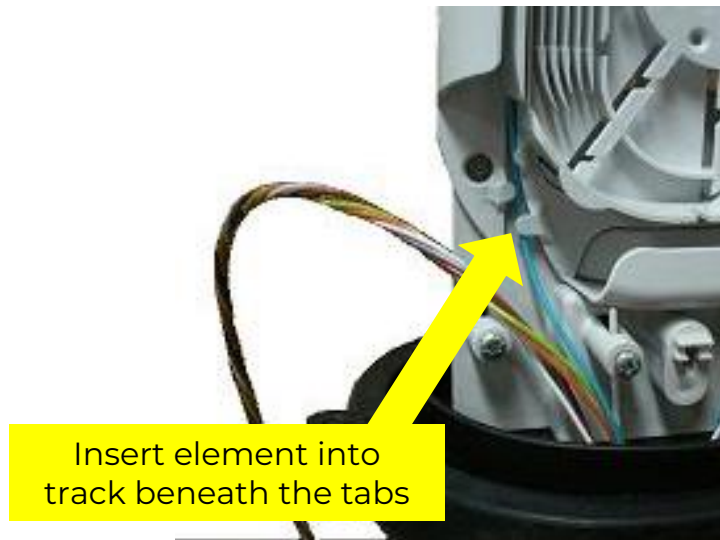
Cable Installation

Step 10

Remove tube to expose fibres
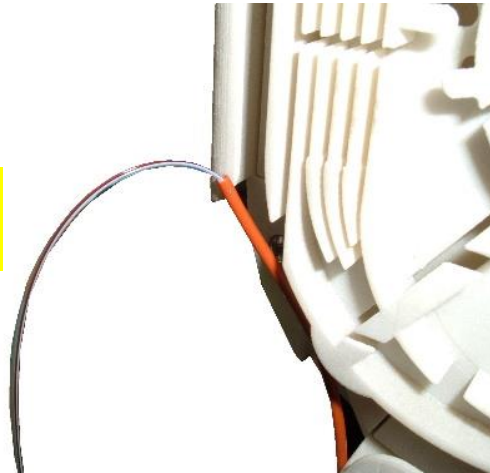
- Remove the tube to expose the fibres using approved practices.

Cable Installation

Step 11

Insert element into track beneath the tabs
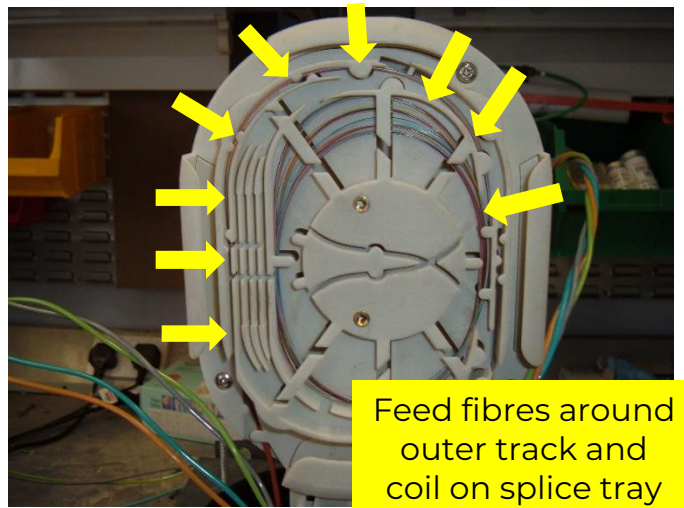
- Feed the element underneath the tabs of the routing track as shown above, so that the fibres are in the channel running alongside the splice bay of the splice tray.

- Ensure that the element is positioned correctly in the track and does not protrude above it.

Cable Installation

Step 12

Feed fibres around outer track and coil on splice tray

- Route the fibres around the outside channel of the splice tray and temporarily store them on the splice tray by coiling beneath the tabs of the central storage area.

Cable Installation

Step 13

Install half a turn from each side of the loop

- Install the cable loop by firstly routing the cable elements from one side halfway around the loop storage bay.

- Next run the other side halfway around the storage bay until they meet as shown above.

NOTE: Take care not to kink the cable elements when installing the loop. Do not rush and follow these precisely.

Cable Installation

Step 14

Continue feeding one coil from one side followed by a coil from the other side.

- Continue so that one complete turn from each end of the cable loop has been installed as shown. When feeding the loop push back so that the cable elements are pushed into the extremities of the storage area.

Cable Installation

Step 15

A single loop should be remaining after several coils have been installed.

- Continue with this process of feeding one side of the loop for one complete turnaround the storage area, and then the other side of the loop for one complete turn, until a single loop is remaining as shown above.
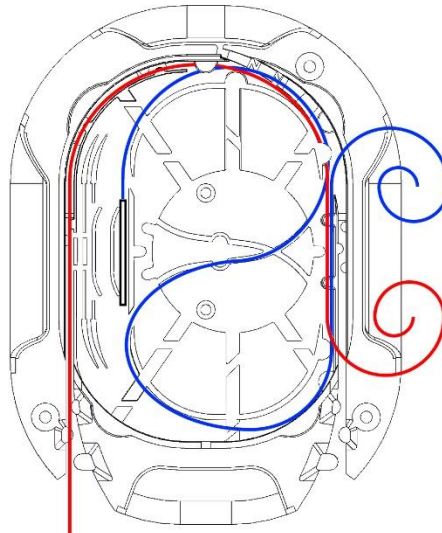
Cable Installation

Step 16

Flip the loop over and store away

- Flip the loop over and push it beneath the tabs of the storage area so that the loop is now completely installed as shown above.
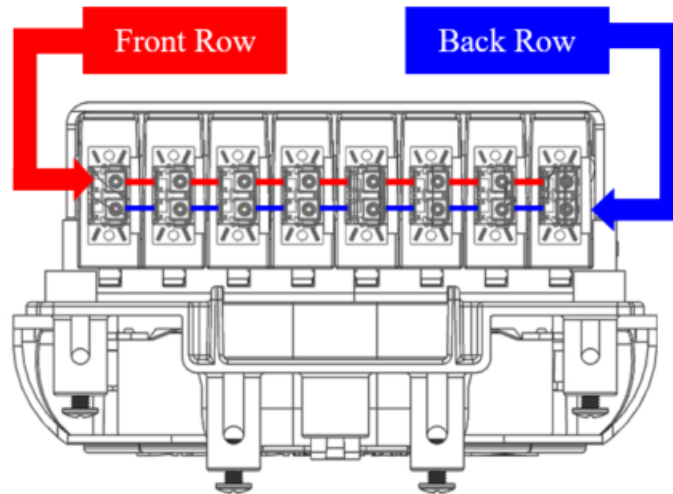
Splicing of Fibres (LC Splitters)

Step 17

Remove fibres back to the cross-over point

- Remove the splitters input fibres from the splice tray and ensure that the input fibres are run through the cross over point in the tray so that they are in the opposite direction to the fibres from the loop.

NOTE: If the loop fibres are entering from the right-hand side then remove the input fibres from the cross-over so that they are in the opposite direction to the fibres from the loop.

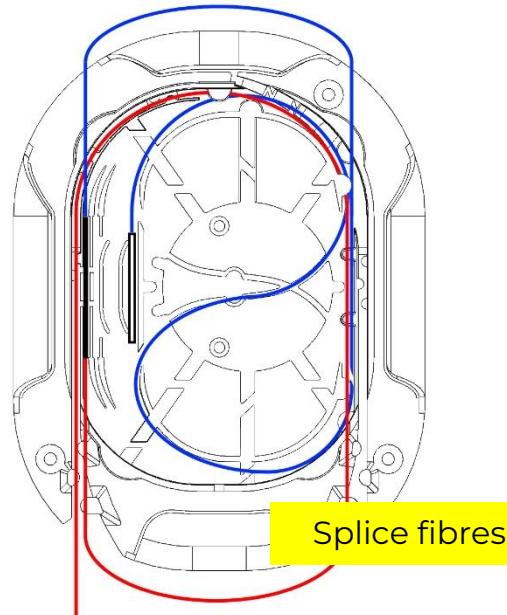## Splicing of Fibres (LC Splitters)

Step 18

- The splitter input fibre identified with a label connects to the front row of the LC adapters.

- The splitter input fibre with no label connects to the back row of the LC adapters.

Splicing of Fibres (LC Splitters)

Step 19

Splice fibres

- Splice each fibre to the corresponding splitter input fibre and allow the splice protector to cool before installing into the splice bay.

- Install the splice protector into one of the splices protectors' bays of the splice tray as shown.

- Repeat this process for the remaining fibre.

- There should now be two loops of fibres as shown above. A loop of splitter input fibres as shown in blue, and a loop of the cable fibres as shown in red.
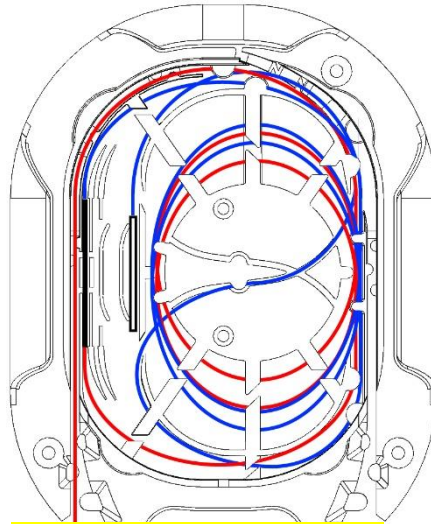
Splicing of Fibres (LC Splitters)

Step 20
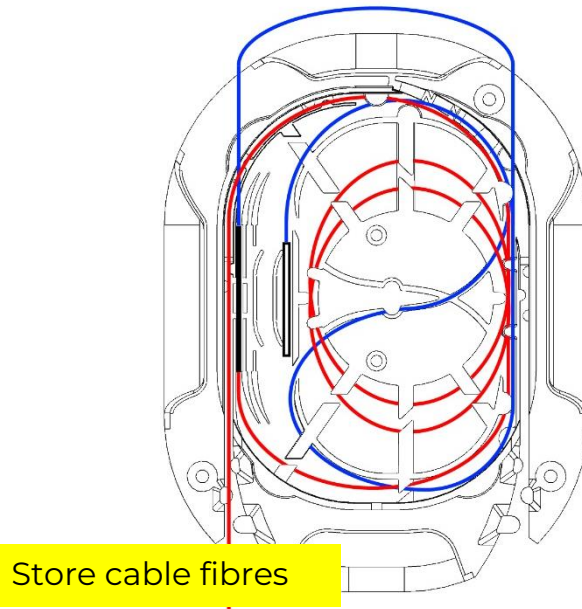
Store cable fibres

- Starting with the cable fibres, carefully feed the fibres from the splice protector around the outer track of the splice tray to the centre storage area. Ensure that the fibres are beneath all the retaining tabs in the track.

- Continue to coil the fibres around the central storage area, beneath the tabs. Flip the last loop over and store it beneath the tabs so that all the fibres are retained within the splice tray.

Splicing of Fibres (LC Splitters)
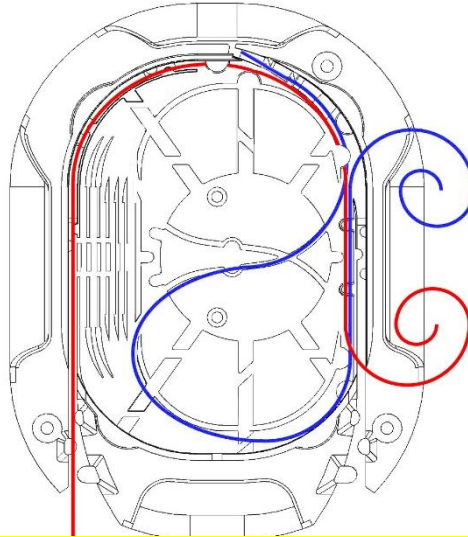
Step 21

Store splitter fibres

- Repeat step 19 for the splitter input fibres.

- Ensure all fibres are correctly located beneath the splice tray tabs.

Splicing of Fibres (LC Pigtails)

Step 22

Remove fibres back to the cross-over point

- Remove the fibres from the splice tray and ensure that the pigtail fibres are run through the cross over point in the tray so that they are in the opposite direction to the fibres from the loop.

NOTE: If the loop fibres are entering from the right-hand side then remove the pigtail fibres from the cross-over so that they are in the opposite direction to the fibres from the loop.
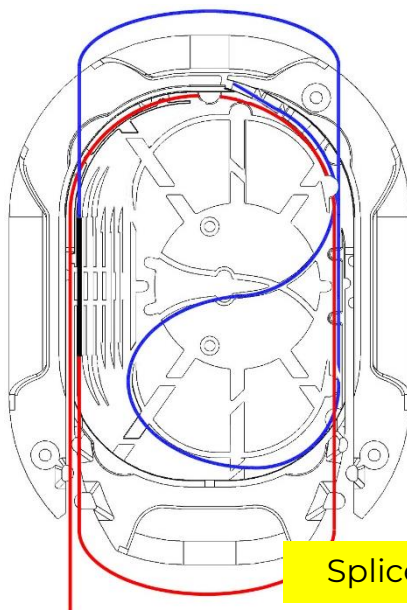
Splicing of Fibres (LC Pigtails)

Step 23
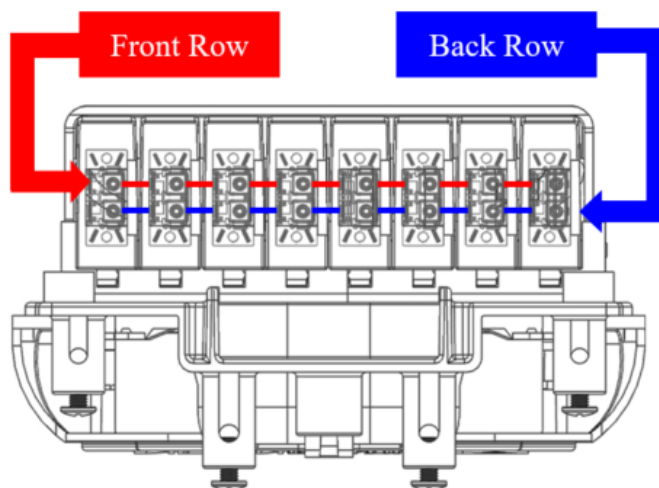
- The pigtail fibres identified with a label connect to the front row of the LC adapters.

- The pigtail fibres with no labels connect to the back row of the LC adapters.

- The adapters are numbered 1 to 8 from left to right.

- Each adapter contains the same colour pigtails, one with a label and one without.

- The fibre colour orientation is as follows from left to right. Red, Blue, Green, Yellow, Violet, White, Orange, Grey.

Splicing of Fibres (LC Pigtails)

Step 24

Splice fibres

- Splice each fibre to the corresponding colour pigtail fibre and allow the splice protector to cool before installing into the splice bay.

- Install the splice protector into one of the splices protectors' bays of the splice tray as shown.

- Repeat this process for all the fibres.

- There should now be two loops of fibres as shown above. A loop of pigtail fibres as shown in blue, and a loop of the cable fibres as shown in red.
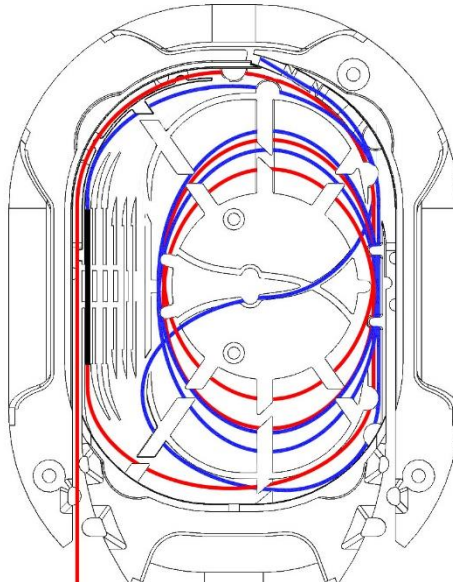
Splicing of Fibres (LC Pigtails)

Step 25
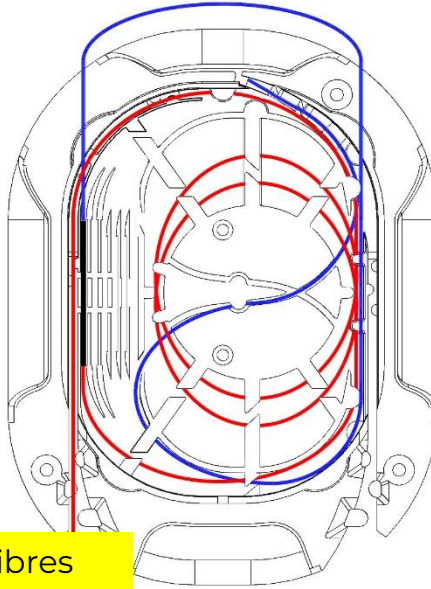
Store cable fibres

- Starting with the cable fibres, carefully feed the fibres from the splice protector around the outer track of the splice tray to the centre storage area. Ensure that the fibres are beneath all the retaining tabs in the track.

- Continue to coil the fibres around the central storage area, beneath the tabs. Flip the last loop over and store it beneath the tabs so that all the fibres are retained within the splice tray.

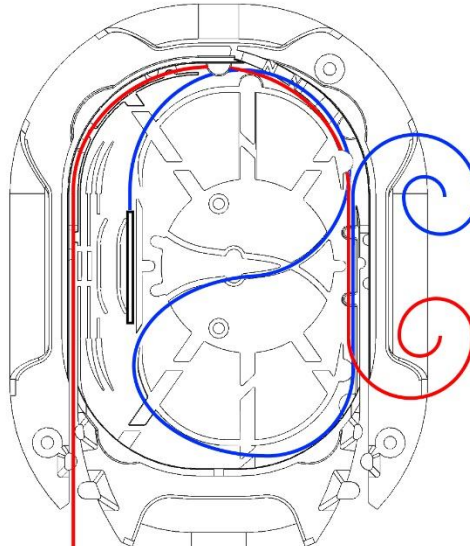## Splicing of Fibres (LC Pigtails)

Step 26

Store pigtail fibres

- Repeat step 24 for the pigtail fibres.

- Ensure all fibres are correctly located beneath the splice tray tabs.

Splicing of Fibres (SC Splitter)

Step 27

Remove fibre back to the cross-over point

- Remove the splitter input fibre from the splice tray and ensure that the input fibre is run through the cross over point in the tray so that it is in the opposite direction to the fibre from the loop.

NOTE: If the loop fibre is entering from the right-hand side then remove the input fibre from the cross-over so that it is in the opposite direction to the fibre from the loop.

Splicing of Fibres (SC Splitter)

Step 28
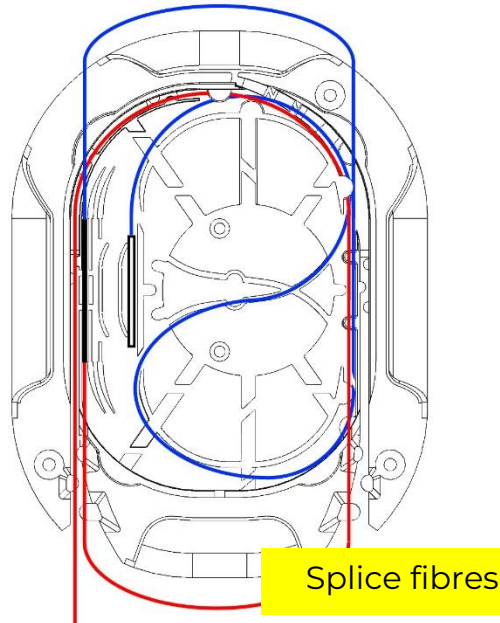
Splice fibres

- Splice the fibre to the splitter input fibre and allow the splice protector to cool before installing into the splice bay.

- Install the splice protector into one of the splices protectors' bays of the splice tray as shown.

- There should now be two loops of fibres as shown above. A loop of the splitter input fibre as shown in blue, and a loop of the cable fibre as shown in red.
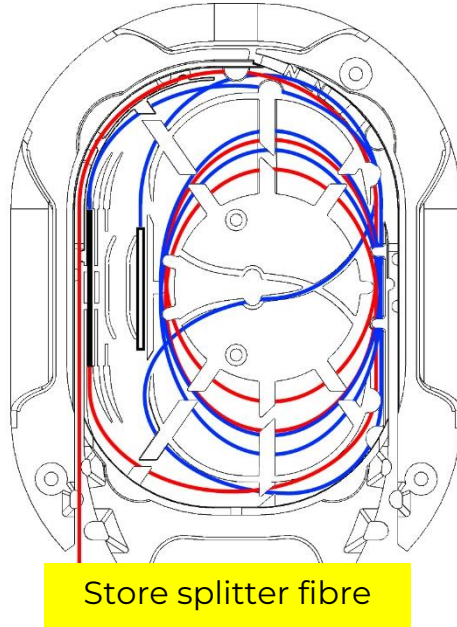
Splicing of Fibres (SC Splitter)

Step 29
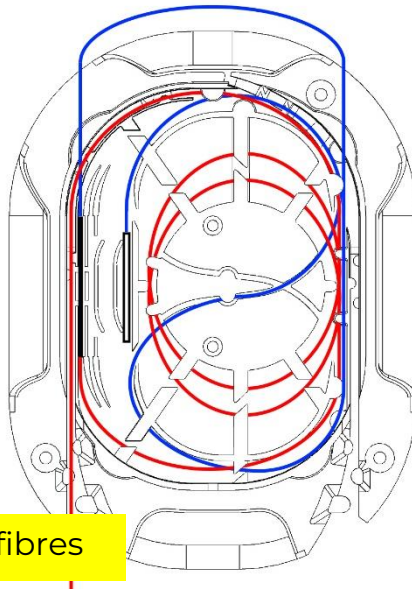
Store cable fibres

- Starting with the cable fibre, carefully feed the fibre from the splice protector around the outer track of the splice tray to the centre storage area. Ensure that the fibre is beneath all the retaining tabs in the track.

- Continue to coil the fibre around the central storage area, beneath the tabs. Flip the last loop over and store it beneath the tabs so that the fibre is retained within the splice tray.
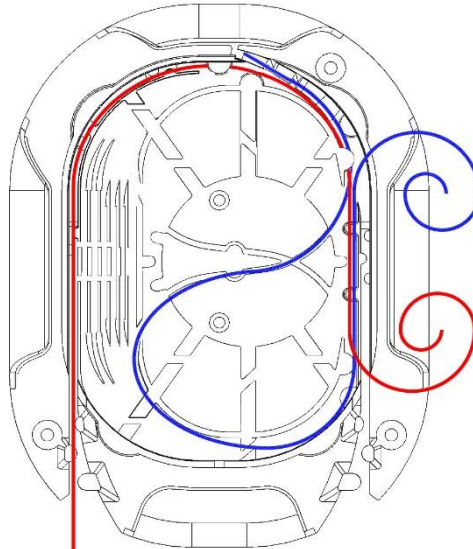
Splicing of Fibres (SC Splitter)

Step 30

Store splitter fibre

- Repeat step 28 for the splitter input fibre.

- Ensure all fibres are correctly located beneath the splice tray tabs.

Splicing of Fibres (SC Pigtails)
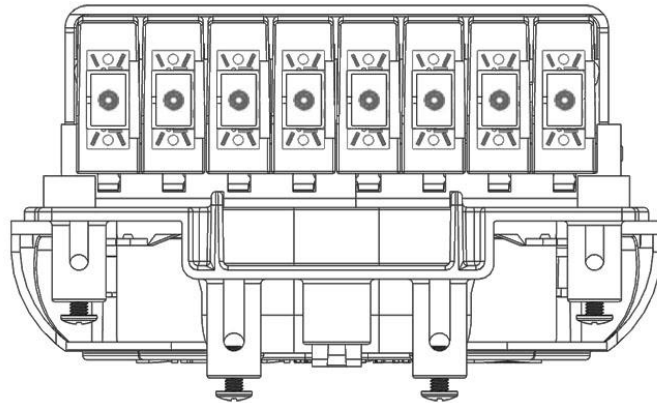
Step 31

Remove fibres back to the cross-over point

- Remove the fibres from the splice tray and ensure that the pigtail fibres are run through the cross over point in the tray so that they are in the opposite direction to the fibres from the loop.

NOTE: If the loop fibres are entering from the right-hand side then remove the pigtail fibres from the cross-over so that they are in the opposite direction to the fibres from the loop.

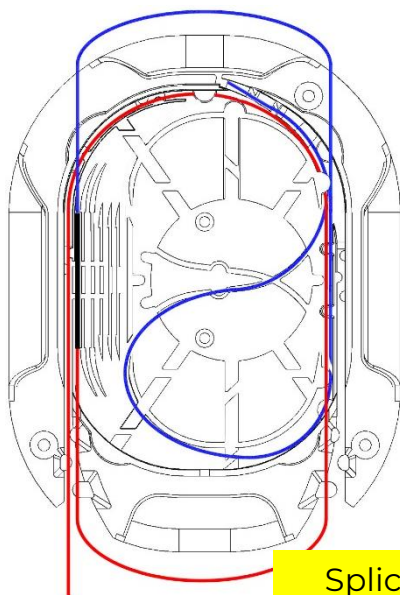## Splicing of Fibres (SC Pigtails)

Step 32

- The adapters are numbered 1 to 8 from left to right.

- The fibre colour orientation is as follows from left to right. Red, Blue, Green, Yellow, Violet, White, Orange, Grey.

Splicing of Fibres (SC Pigtails)

Step 33

Splice fibres

- Splice each fibre to the corresponding colour pigtail fibre and allow the splice protector to cool before installing into the splice bay.

- Install the splice protector into one of the splices protectors' bays of the splice tray as shown.

- Repeat this process for all the fibres.

- There should now be two loops of fibres as shown above. A loop of pigtail fibres as shown in blue, and a loop of the cable fibres as shown in red.
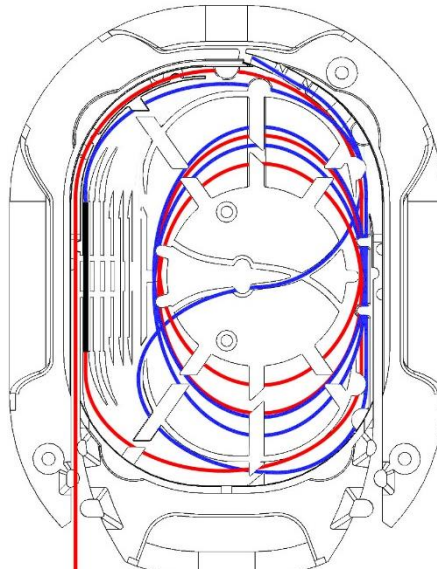
Splicing of Fibres (SC Pigtails)

Step 34
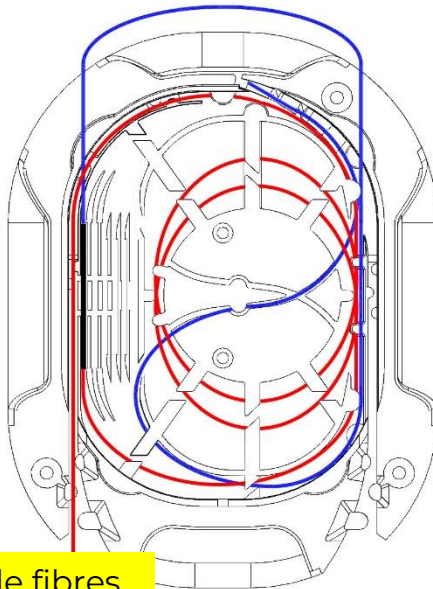
Store cable fibres

- Starting with the cable fibres, carefully feed the fibres from the splice protector around the outer track of the splice tray to the centre storage area. Ensure that the fibres are beneath all the retaining tabs in the track.

- Continue to coil the fibres around the central storage area, beneath the tabs. Flip the last loop over and store it beneath the tabs so that all the fibres are retained within the splice tray.
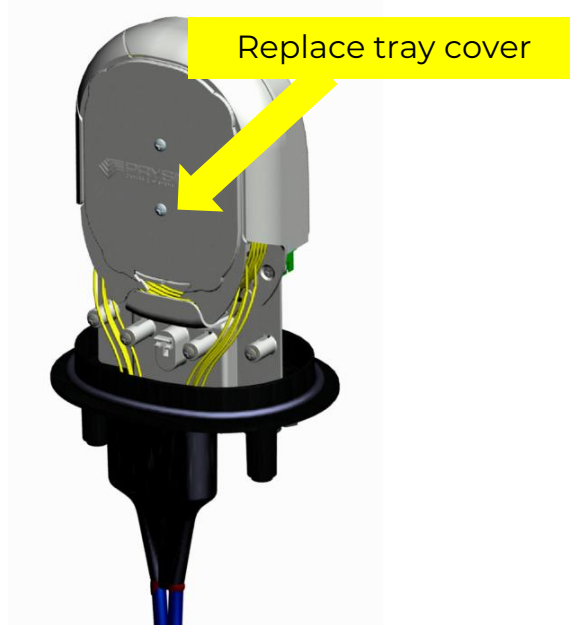
Splicing of Fibres (SC Pigtails)

Step 35

Store pigtail fibres

- Repeat step 34 for the pigtail fibres.

- Ensure all fibres are correctly located beneath the splice tray tabs.

prysmian

Joint Closedown

Step 36

Replace tray cover

- Replace the splice tray cover and tighten the two screws.

Joint Closedown

Step 37

Complete the heat shrinking of the oval sleeve

- Fit the glue clip from the Heat Shrink Kit (2) onto the Heat Shrink sleeve between the two cables as shown.

- Fully convert the Heat Shrink sleeve using a gas torch or hot air gun. Take care to protect the drop cable ports with foil. Allow 10 minutes for the shrink to cool.

Joint Closedown

Step 38

Place the desiccant pack into the oval port
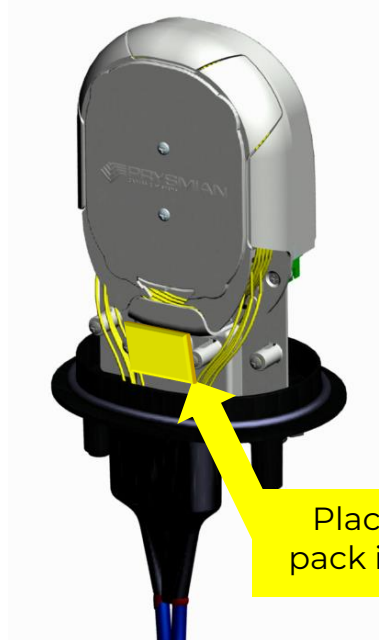
- Open the Desiccant Pack (4) and insert it into the oval port of the joint between the two cable butts.

Lead in Assembly Installation

Step 39

- Ensure that the 'O' seal and adjacent surfaces of the base and cap are clean. Lower the cap onto the base.

- Assemble the clamp around the base.
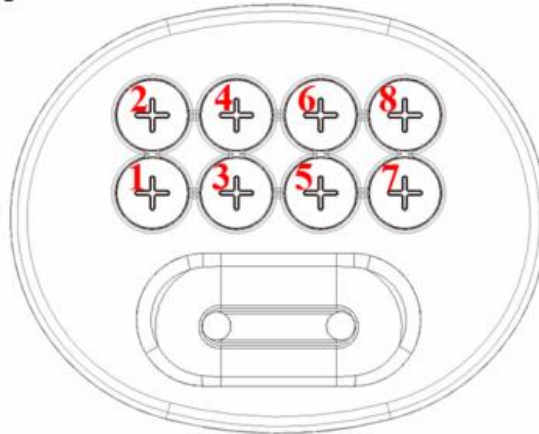
Lead in Assembly Installation

Step 40

Push the toggle arm to lock the clamp

- Squeeze the clamp together and engage the toggle arm. Push the toggle arm into the clamp to lock and seal.

Lead in Assembly Installation

Step 41

Unscrew the appropriate blanking plug

- Remove the joint cap.

- Identify the required port using the diagram above and remove the blanking plug using a large screwdriver. The port numbers shown correspond to the fibre numbers of the main cable. Port 1 should be used first, then 2 etc.

- **Check that the O-Ring is attached to the blanking plug, if not remove from the port.**

Lead in Assembly Installation

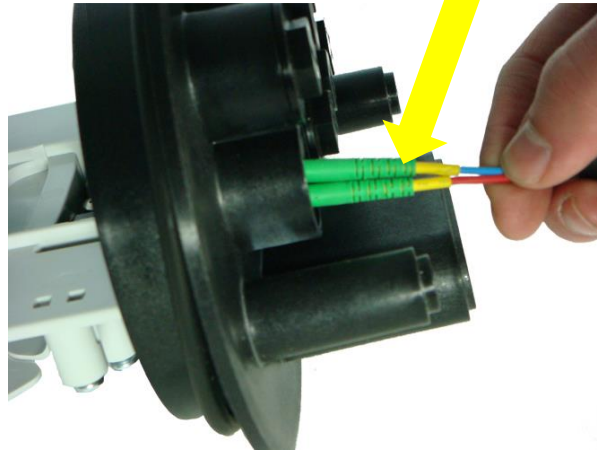| Step 42	Remove the Transport Sleeve and Connector Support from the drop cable

- Remove the transport sleeve and the connector support from the end of the customer drop cable. (SC Retainer Differs in appearance).

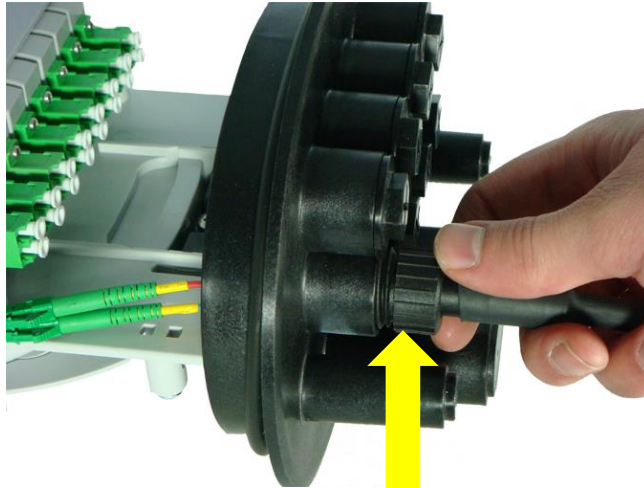## Lead in Assembly Installation

Step 43

Feed the connector through port.

- Feed the LC/SC connector(s) through the port of the joint base.

Lead in Assembly Installation

Step 44

Screw the lead in seal into the port

- Push the lead in seal into the port and fully tighten the locking nut.

Lead in Assembly Installation

Step 45
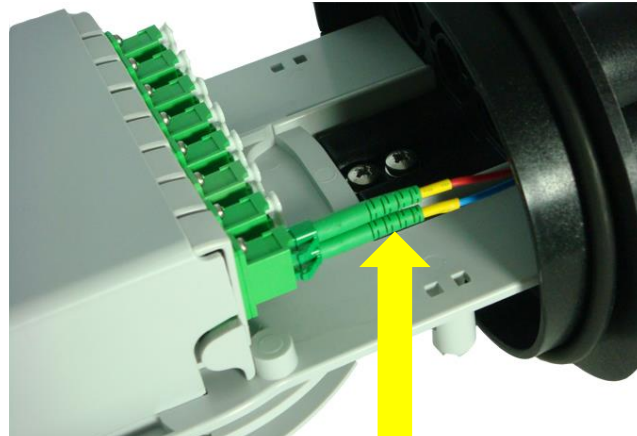
Connect the LC connectors to the LC Adapter

- Plug the LC/SC connector(s) into the adapter in the joint.

- With LC connectors ensure the red tail LC is plugged into the front row of the adapter.

Lead in Assembly Installation

Step 46

Replace the cap

- Replace the joint cap.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 47

- Remove the joint cap.

- Identify the required port using a large screwdriver punch out the base of the port.

- Apply a circular port Heat Shrink **(XAUSC00027)** over the port of the base. Shrink approximately 30mm using a gas torch or hot air gun. Use the foil in the kit to protect the other ports from the heat as shown. Leave the shrink to cool for 10 minutes.

Drop Cable Installation - Circular Port, Secondary Splice tray
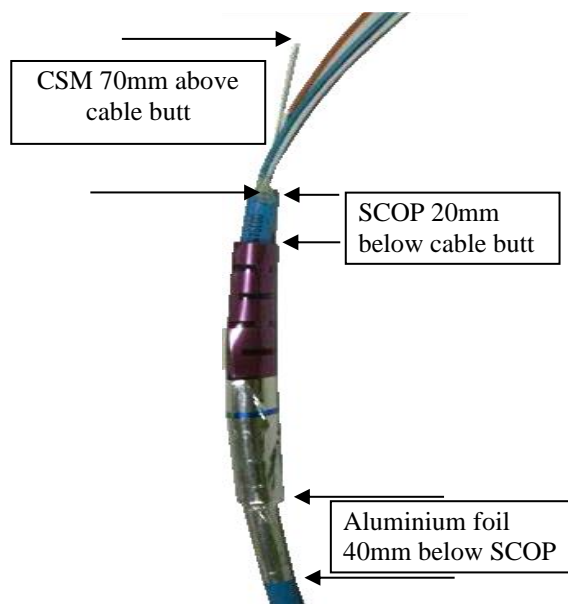
Step 48
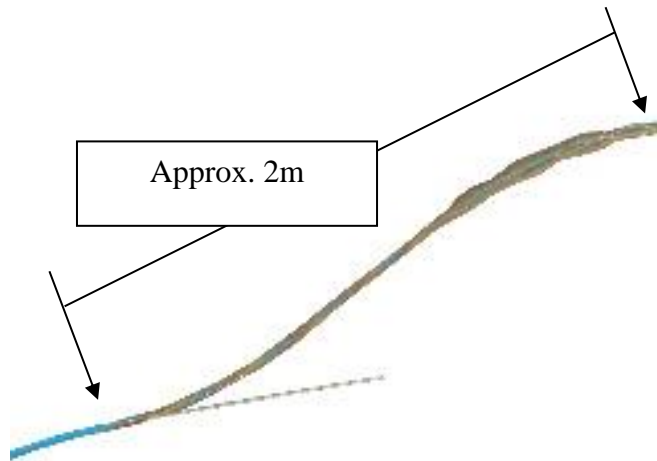
Approx. 2m

- Apply a butt mark to the drop cable approximately 2m from the end of the cable.

- Remove the cable sheath back to the but mark using approved practices.

- Remove all tapes, binders, and fillers.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 49

CSM 70mm above cable butt

SCOP 20mm below cable butt

Aluminium foil 40mm below SCOP

- Cut the CSM back to 70mm from the cable butt as shown.

- Circumferentially abrade the sheath 100mm from the butt of the cable.

- Apply the SCOP to the sheath of the cable approximately 20 mm from the cable butt as shown above.

- Apply the aluminium foil approximately 40mm from the bottom of the SCOP as shown above.

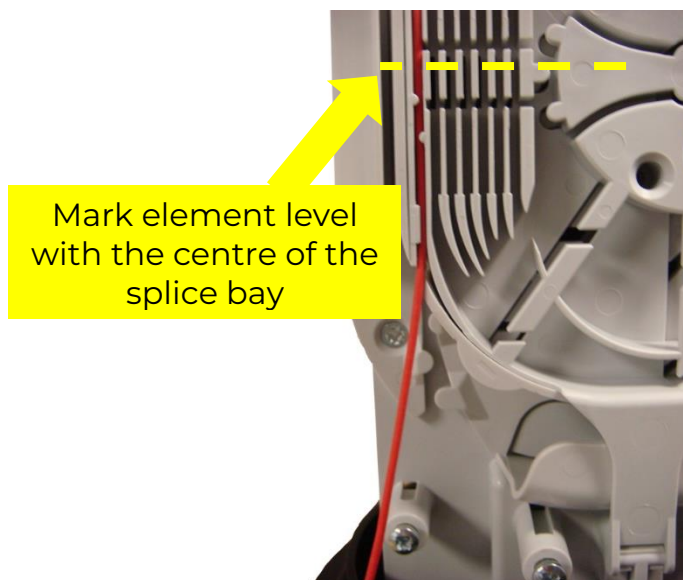## Drop Cable Installation - Circular Port, Secondary Splice tray

Step 50

- Install the drop cable into the port and lock the CSM into the anchor bracket by tightening up the Screw.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 51

Mark element level with the centre of the splice bay

- Remove the required element from the cable loop.

- Mark a butt position on the element approximately level with the centre of the splice protector bay of the secondary splice tray.

- Remove the tube to expose the fibres using approved practices.

- Route the required element from the cable loop on to the secondary splice tray as shown above.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 52	

- Mark a butt position on the drop cable element approximately level with the centre of the splice protector bay of the secondary splice tray.

- Remove the tube to expose the fibres using approved practices.

- Route the required drop cable element on to the secondary splice tray as shown above.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 53

- Ensure that the elements are positioned correctly in the tracks and do not protrude above them.

- Route and store the fibres within the splice tray storage facility.

- Splice the required fibres as shown in steps 17 to 35.

Drop Cable Installation - Circular Port, Secondary Splice tray

Step 54

- Carefully re-install the loop as per steps 12 to 16 and replace the tray cover.

- Replace the joint cap as shown in steps 24 and 25.

IP134   Issue Number: 03   Date: 24th October 2024