OAsys® EXTERNAL PLANT

NODE JOINT 4A 12 CCT

Part Number: 009471 BT Item Code: XJTSC00074

Description

The OTIAN Node Joint 4A 12 CCT is for use within the external optical fibre network for customer drop off applications only.

- The joint is supplied with 12 splice trays. This is the maximum capacity of the joint.
- Fibres can be routed to the splice trays on a single fibre or single circuit basis.
- The joint is supplied with sufficient components for the preparation, installation and routing of one COF cable on a single fibre or dual fibre per tray basis.
- Blown Fibre cables can be installed using NJ4A B/Fibre Port Kits (BT Item Code: 009472)
- Blown Fibre bundles can be installed using NJ4A B/Fibre Dist Kit 4A's (BT Item Code: 009474)

Tools & Additional Items Required

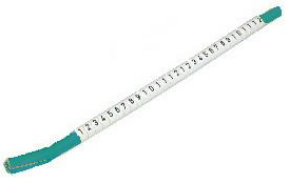
Additional Items Required:	Prysmian Part No.	BT Item Code
None		

Optional Items:	Prysmian Part No.	BT Item Code
Cable Entry Kit 144F Joint	XKTSC00010	008492
NJ4A B/Fibre Port Kit	XKTSC00018	009472
NJ4A B/Fibre Dist Kit 4A	XKTSC00019	009474
Small Joint Support Tool	XJTSC00075	011691
Small Joint Wall Bracket	XJTSC00076	011690

Tools:

Cutter Cable Hand No.5A	Stripper Cable Sheath No.7
Pliers Wiring No.2	Gas Torch 'D' Type
Nozzle	
Nippers Diagonal Cutting 160mm	Tube Cutter 2A
Strippers Optical Fibre 3A	

Component Parts (pictures not to scale)

1 Small Node Joint Qty 1 	**2 Heat shrink Sleeves** Qty 1 	**3 Cable Anchor Plate** Qty 1 	**4 Manifold & Cover** Qty 1 
5 Tube 4mm Qty 8mtrs 	**6 Element Markers** Qty 1 	**7 Tube Markers** Qty 1 	**8 Desiccant Pack** Qty 1 
9 Installation Guide Qty 1 	**10 Record Sheet** Qty 1 	**11 SCOP Protection** Qty 1 	

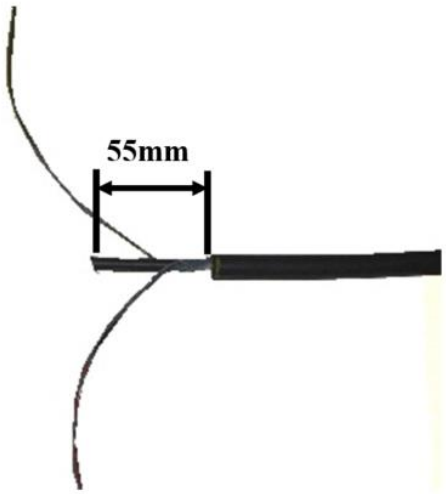
Joint and Input Cable Preparation

Step 1

- Remove the cable from the footway box and apply butt marks to the cable in the appropriate positions.
- Apply reference marks 2 metres from the butt marks for the jointing allowance.
- Cut away any excess cable length using Cutters Cable Hand No.5A.

Joint and Input Cable Preparation

Step 2

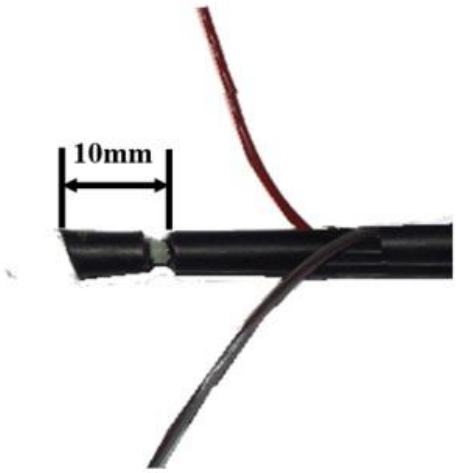


Cut strength member to 55mm

- Remove the cable from the footway box and apply butt marks to the cable in the appropriate positions.
- Apply reference marks 2 metres from the butt marks for the jointing allowance.
- Cut away any excess cable length using Cutters Cable Hand No.5A.

Joint and Input Cable Preparation

Step 3

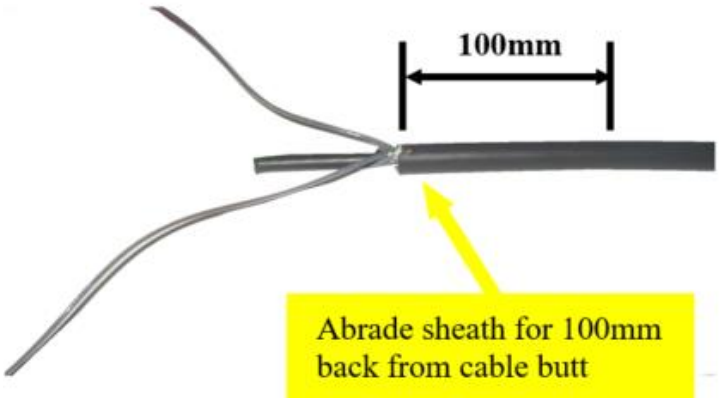


Cut polyethylene coating back 10mm

- Measure back 10mm from the end of the central strength member and apply a butt mark.
- Circumferentially cut through the polythene coating using a length of the discarded ripcord to expose the central strength member.
- Partially remove the polythene coating using Pliers Wiring No.2. Do not completely remove the covering at this stage, as this may cause damage to the cable elements.

Joint and Input Cable Preparation

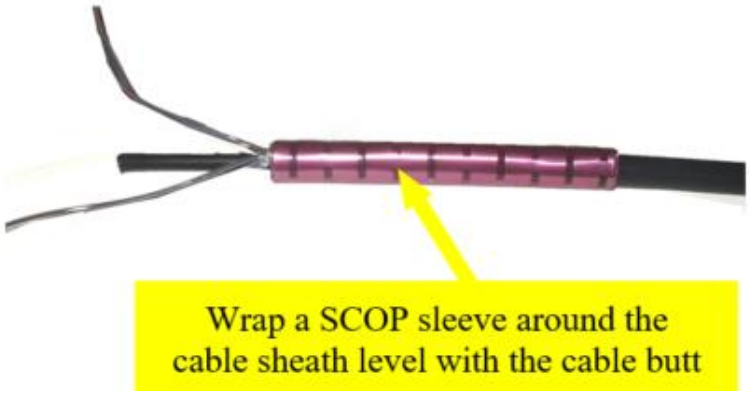
Step 4



- Measure the copper conductor 500mm from the cable butt and cut to length using Nippers Diagonal Cutting 160mm.
- Clean the cable sheath using the alcohol tissue supplied with the Heat Shrink Kit **(2)**.
- Circumferentially abrade the sheath 100mm back from the cable butt using the abrading strip provided.

Joint and Input Cable Preparation

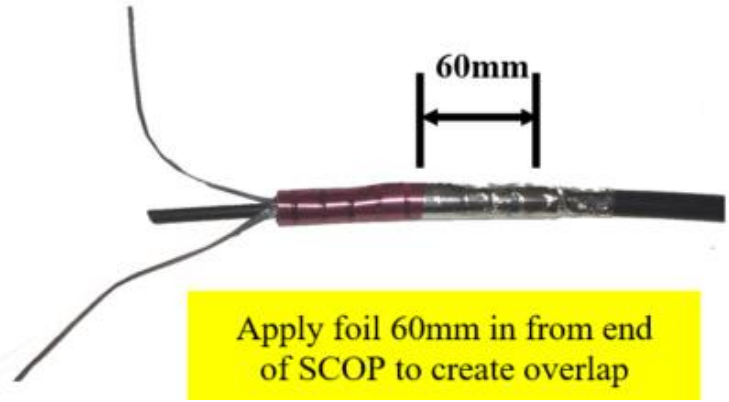
Step 5



- Re-clean the sheath and apply a large SCOP Protection Sleeve **(11)** supplied to the cable level with the cable butt.

NOTE: The SCOP Protection Sleeve **(11)** is not required for external cable that contains a metal barrier.

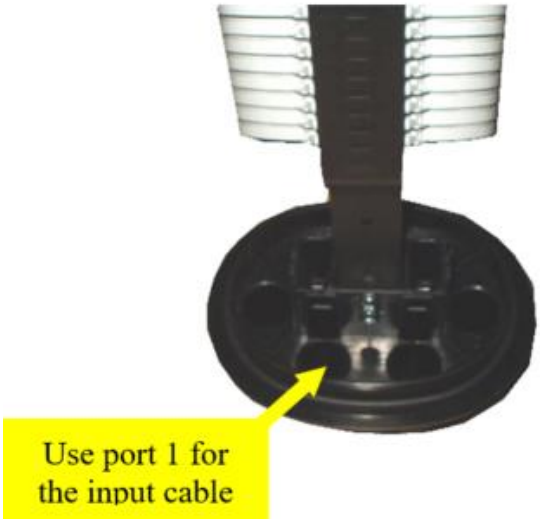
Step 6



- Apply 1¼ turns of adhesive aluminium foil, 60mm in from the end of the large SCOP **(11)** sleeve supplied as shown. Use a smooth tool handle to flatten the foil evenly over the SCOP and the cable sheath.

Input Cable Installation

Step 7

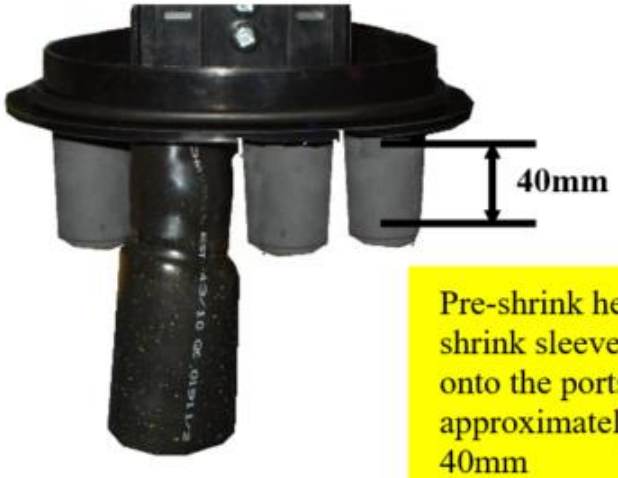


- Identify port 1 using the numbers marked on the inside of the joint base.
- Knock out the end of the port from the inside using a blunt instrument.
- Remove any burrs using a file.

Note: It is recommended that port 1 is used for the input cable where possible, as this simplifies fibre routing.

Input Cable Installation

Step 8



Pre-shrink heat shrink sleeves onto the ports for approximately 40mm

WARNING: Protective gloves should be worn for the following operations. when using a gas torch.

- Clean the outer surface of the port using an alcohol tissue, supplied with the Heat Shrink Kit **(2)**.
- Assemble a Heat Shrink Sleeve over the port and pre-shrink 40mm of the sleeve onto the port using a gas torch with a D type nozzle. Do not shrink the sleeve past the end of the port.
- Allow 10 minutes for the sleeve to cool.

Input Cable Installation

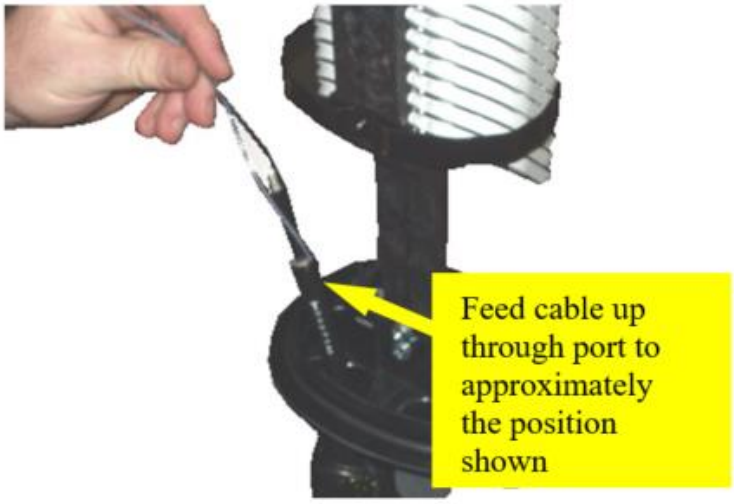
Step 9

Apply tape to the ends of the elements to ease feeding through the port

- Obtain the prepared cable and temporarily tape the ends of the cable elements. This will assist in feeding the cable up through the port.

Input Cable Installation

Step 10



- Carefully feed the input cable up through port 1. Push the cable through until the butt position is accessible as shown.
- Remove the tape and separate out the cable elements.

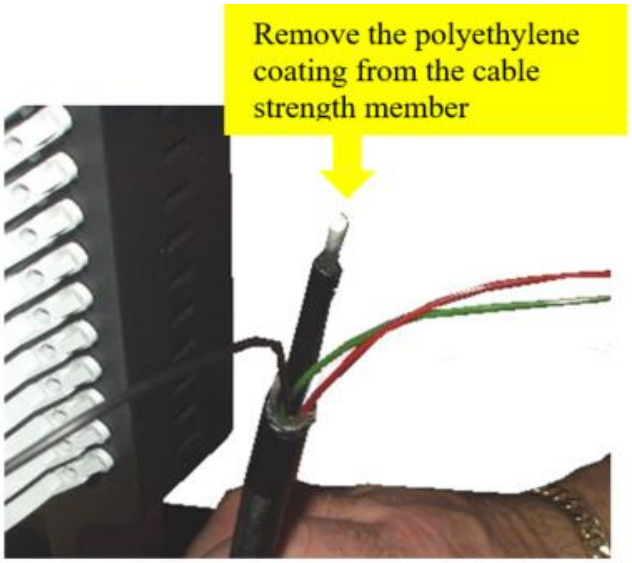
Input Cable Installation

Step 11

- Apply Element Markers **(6)** to each element by referencing back to the cable butt.
- Apply a short length of PVC tape to each of the elements approximately 200mm above the cable butt to prevent the collets from sliding back.

Input Cable Installation

Step 12



- Using Pliers Wiring No.2 remove the polythene covering from the end of the cable strength member.

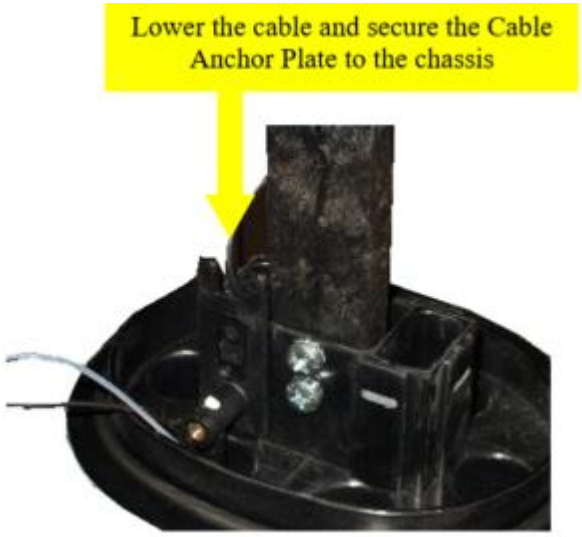
Input Cable Installation

Step 13

- Assemble the clamp post of a Cable Anchor Plate **(3)** onto the cable strength member.
- Secure the strength member using the grub screw provided and a 2mm Allen Key. Ensure that the clamp post faces the user.

Input Cable Installation

Step 14



- Lower the cable back down into the joint and locate the sliding rails of the Cable Anchor Plate **(3)** over the chassis runner.
- Press downwards fully on the anchor plate to fully locate the locking tab.

Input Cable Installation

Step 15

- Attach the 2x12 Manifold **(4)** to the Cable Anchor Plate **(3)** and press firmly into place.

Input Cable Installation

Step 16

Fully convert heat shrink sleeve

WARNING: Protective gloves should be worn for the following operations when using a gas torch.

- Complete the shrinking of the Heat Shrink Sleeve **(2)** onto the cable/s using a gas torch with a D type nozzle.
- Starting from the base of the port, evenly heat each sleeve, working radially, until full recovery is complete.
- Ensure that a good flow of adhesive is visible from the base of the sleeve.
- Allow 10 minutes for the Heat Shrink Sleeve to cool before handling.

Input Cable Installation

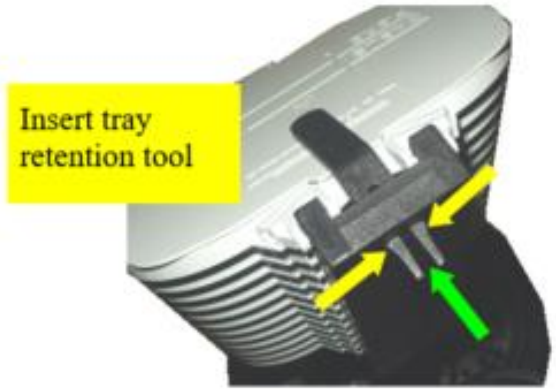
Step 17

Insert copper conductors into toning connector

- Strip the sheath from the copper conductor of the cable back 10mm.
- Route the conductor to the terminal block, insert the stripped end and secure by fully tightening the screw.
- Coil any excess conductor length within the central chassis section.

Routing of the Input Cable Fibres

Step 18



- Remove the tray retention tool from the top of the joint spine by squeezing the ends in the direction of the yellow arrows, as shown above, and pushing from the rear of the spine in the direction of the green arrow.

Routing of the Input Cable Fibres

Step 19

- Obtain access to the bottom splice tray (tray 1) by hinging up the splice trays above.

  NOTE: The Tube Retention Cradle can be removed to ease tube routing. To remove, hinge up all splice trays to gain access to the tool and remove following instructions for the Tray Retention Tool in step 19.

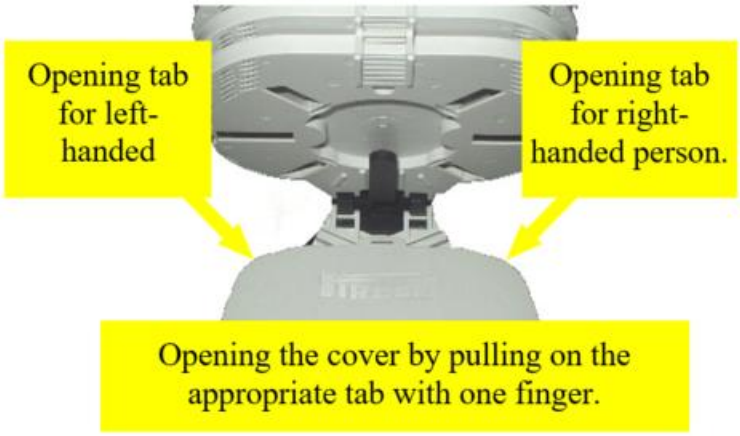
Routing of the Input Cable Fibres

Step 20

- Insert the tray retention tool the opposite way up from before, into the slot in the joint spine, directly below tray 2. Push until it locks.

Routing of the Input Cable Fibres

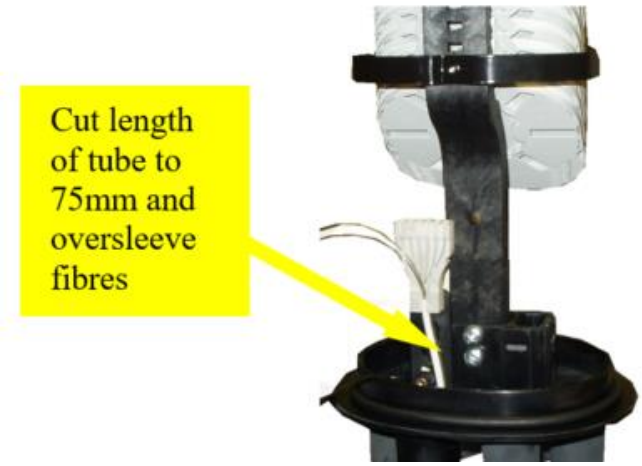
Step 21



- Open the splice tray cover by pulling on either the left- or right-hand opening tabs as shown above.

Routing of the Input Cable Fibres

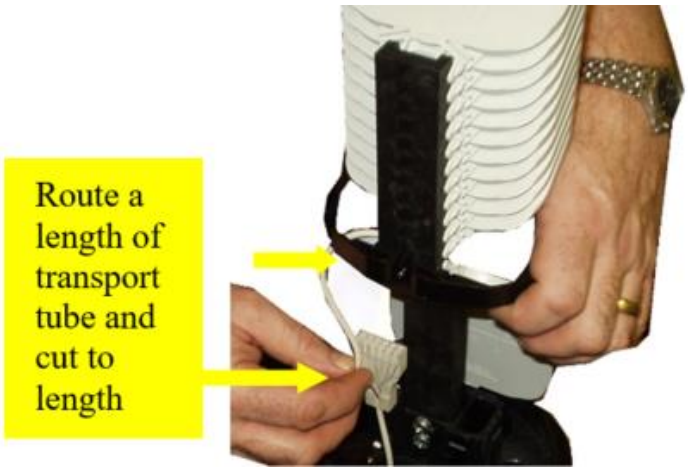
Step 22



- Identify the first cable element from the input cable and apply a butt mark approximately 10mm below the bottom of the 2x12 Manifold **(4)**.
- Remove the tube to expose the fibres using approved practices.
- Degrease the fibres using white spirit.
- Cut a length of Tube **(5)** to 75mm. Oversleeve the fibres and plug the tube into the bottom rear port of the manifold.

Routing of the Input Cable Fibres

Step 23



- Separate the fibres into their appropriate groups.
- Select a length of Transport Tube **(5)** and align one end with the entry port of the splice tray.
- Route the tube, inside the tube retention cradle, back to the 2x12 Manifold **(4)** and cut to length approx. 10mm below the top of the Manifold.

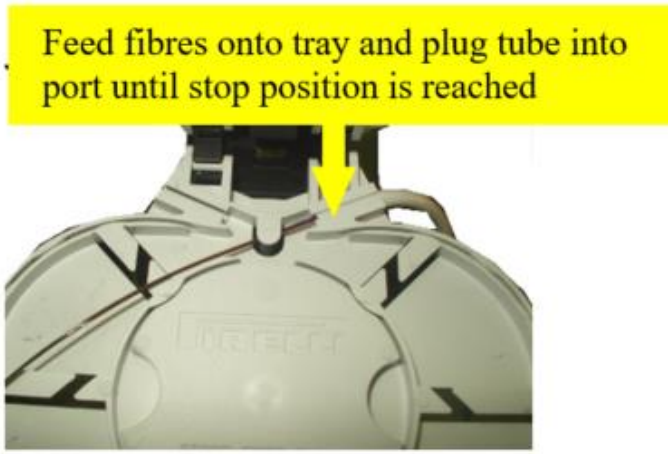
Routing of the Input Cable Fibres

Step 24

- Slide the tube over the first fibre/s and locate the end into the rear left-hand slot of the 2x12 Manifold **(4)**. Push the tube down until the stop position is reached.

Routing of the Input Cable Fibres

Step 25

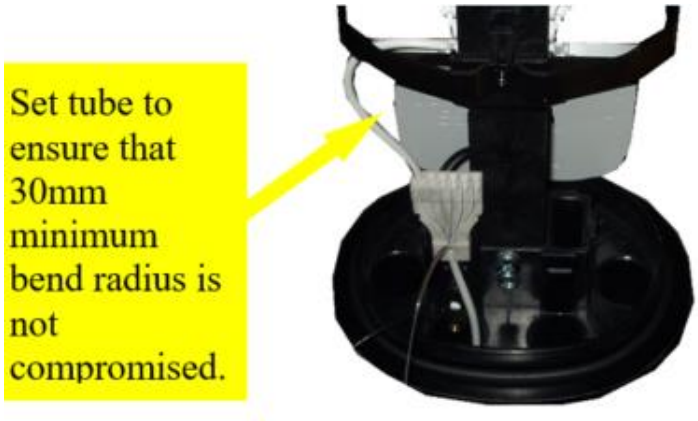


- Feed the fibre/s through the slot on the tray entry port and plug the Transport Tube **(5)** into the port.
- Push the tube fully home until the stop position is reached.

WARNING: When pushing the tube in, ensure that fingers are close to the end to prevent the tube from kinking.

Routing of the Input Cable Fibres

Step 26



- Set the bend of the Transport Tube **(5)** to ensure that the minimum bend radius of 30mm is not compromised.
- Ensure that the tube is correctly positioned inside the tube retention cradle.

Routing of the Input Cable Fibres

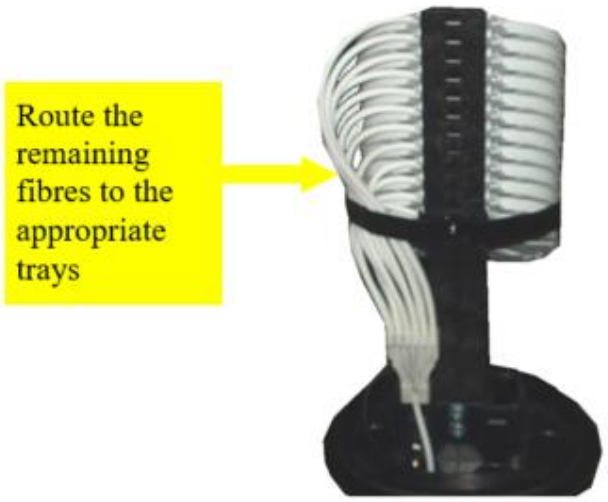
Step 27

Store the fibre ends in the central mandrel track to ease later access

- Route the fibres around the storage area of the tray and coil beneath the tray tabs.
- Store the fibre ends in the central mandrel tracks for later access.

Routing of the Input Cable Fibres

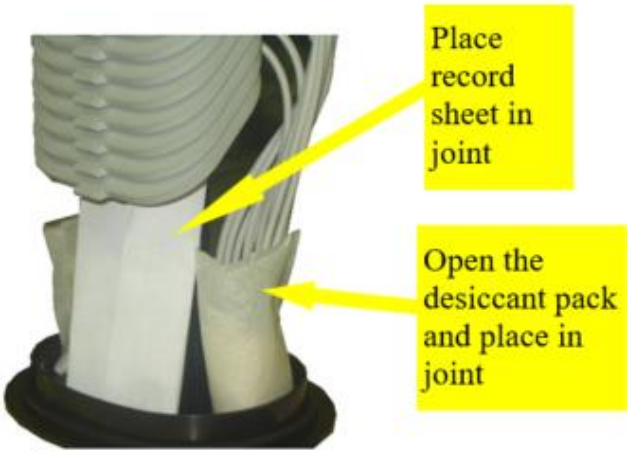
Step 28



- Repeat steps 19 to 27 to route all the remaining fibres from the input cable.
- Identify the tubes using Tube Marker Collets **(7).**
- Ensure that all the tubes are correctly located inside the tube retention cradle.

Joint Closedown

Step 29



- Fill out the local record sheet and place it in the plastic wallet. Fold the wallet and place it in the joint as shown.
- Obtain the desiccant Pack **(8)** and open. Place the pack in the vacant ports or chassis area.

Joint Closedown

Step 30

Roughly align the arrow on the cap with the centre of the clamp post to ease installation of the clamp

- 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 ensuring that the indication arrow on the cap is roughly aligned with the centre of the clamp post.

Joint Closedown

Step 31

- Squeeze the clamp together and engage the toggle arm. Push the toggle arm into the clamp to lock and seal.
- Mark the cables and restrain the joint in accordance with ISIS practice EPT COF D525.

Joint Re-Entry / Re-Closedown

Step 32

When entering the Node Joint 4A it is very important to pull the pressure relief valve located on the base of the joint to ensure the enclosure is fully vented and is not pressurised before removing the Cap.

When closing the joint assembly, it is important to check the following points have been completed:

1. Check the general condition of the enclosure for any sign of damage,
2. Ensure that the 'O' seal and the mating surfaces of the enclosure are clean and free from debris,
3. Replace the Desiccant pack and dispose of the old one in the appropriate manner,

Once completed, ensure the clamp is correctly located onto the assembly as per step 30.

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