SMDU WALL BOX | 4 SC/APC CONFIGURATION

DEXGREEN

Video Link: https://www.dexgreen.com/smduwallbox

1. Overview
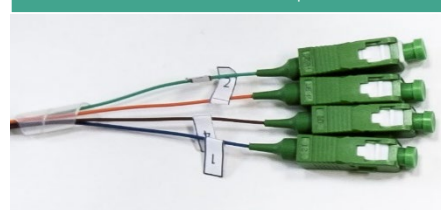

(L)156

(W)144   (H)37.5

1. **Splicing functionality** – capacity up to 8x splices (x4 splice protectors double stacked).
2. **Standoff at rear** – 5mm to facilitate cable routing behind box when box is placed directly on wall.
3. **Incoming 900um SC/APC pigtails** – provided with 4x900um SC/APC pigtails factory installed. These are ready to be spliced onto incoming drop cable. They are labelled with stickers saying **In** (for identification purposes) and have the port numbers at both ends of pigtail. Pigtail colour coding: 1 – Blue; 2 – Orange; 3 – Green; 4 - Brown
4. **4x SC/APC adaptors** – provided with 4xSC/APC adaptors providing up to 4 subscriber ports.
5. **Adaptor bracket** – removable bracket that holds 4 x SC/APC brackets for ease of access. This facilitates testing
6. **Outgoing 900um SC/APC pigtails** – provided with 4x900um SC/APC pigtails factory installed. These are ready to be spliced onto incoming drop cable. They are labelled with stickers saying **Out** (for identification purposes) and have the port numbers at both ends of pigtail. Pigtail colour coding: 1 – Blue; 2 – Orange; 3 – Green; 4 – Brown
7. **Cable entry/ exit ports** – note* when cables enter the unit; they must be brought down to 900um tight buffer modules for storage and splicing.
8. **Inner overlength storage** – this is a removable overlength storage reel that can store a wide range of cable sizes. Recommended to be used to manage incoming drop cable
9. **Outer overlength storage** – this is an outer management route designed to separate incoming drop cable and outgoing customer premises. Recommended to be used to manage outgoing 4 x inside/outside cables (900um)
10. **Logo** – Box can be custom branded to operators' requirements and fit in with required brand guidelines.
11. **Grey colour** – additional colours are available depending on operators' requirements.
12. **Material** – ASA UV stabilised.
13. **Compact footprint** – outer dimensions of box are compact while at the same time having high density to facilitate increased functionality. Dimensions (W)144 x (L)156 x (H)37.5mm
14. **Spiral Wrapping** – this protects the incoming and/or outgoing pigtail fibre modules from being damaged.
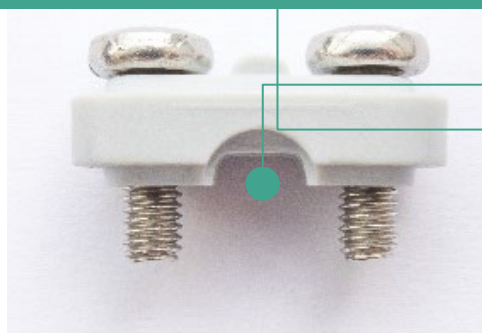
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2. Details

- IP55 (aerial; external use)

- Comes factory installed / tested with 8 x SC/APC pigtails. These are identifiable as entry and exit to ensure correct splicing

Pigtail adhesive labelling with Port Numbers and in/out printed

    - Incoming – 4 x SC/APC 900um pigtails

    - Outgoing– 4 x SC/APC 900um pigtails

- Colour grey RAL 9010 – others available.

- Splicing capacity – 8 splices (4x splice protector holder double stacked).

- Pigtail colour-coding (note: Please ensure colour-coding is consistently followed throughout the installation)- Pigtail 1 – Blue; Pigtail 2 – Orange; Pigtail 3 - Green; Pigtail 4 - Brown

- Cable storage capacity –

    - 3mm cable: 3m maximum.

    - 900um tight buffer: 30m Maximum (4m recommended)

    - 250um fibre: 30m Maximum (4m recommended)

- Number of cable ports – 5 (x4 at bottom; x1 at rear).

- Number of adapters –

    - 4xSC ports (simplex).

- Cable Strain Relief (Note: this varies depending on outer diameter of cable, ensure that the cable saddle is sufficiently tightened in order to provide sufficient strain relief. For Dexgreen Inside/Out Cable the outer diameter is 5.0mm, therefore with reference to images below, Stock Orientation is recommended, if it appears that sufficient strain relief is not achieved, then please use the Inverted orientation, however take care in not over-compressing the cable).
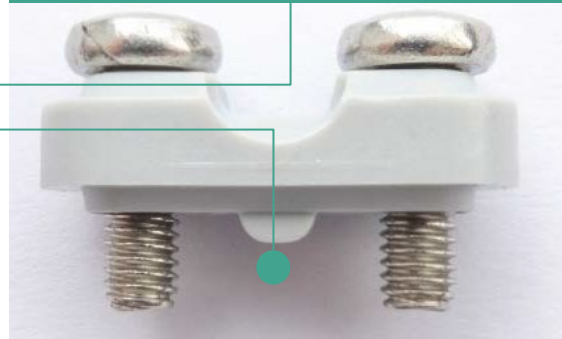
Outer Cable Diameter = 5.0mm-6.0mm

Outer Cable Diameter = 1.4mm-4.9mm

STOCK ORIENTATION

INVERTED ORIENTATION

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SMDU WALL BOX | 4 SC/APC CONFIGURATION

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1. Installation of Drop Cable

Step 1. Remove incoming and outgoing pre-terminated pigtail slack from box

Note* if SMDU Wall Box is supplied with pre-terminated SC/APC pigtails please remove slack from SMDU Wall Box while keeping pigtails terminated in SC/APC adaptor before beginning install.

20mm
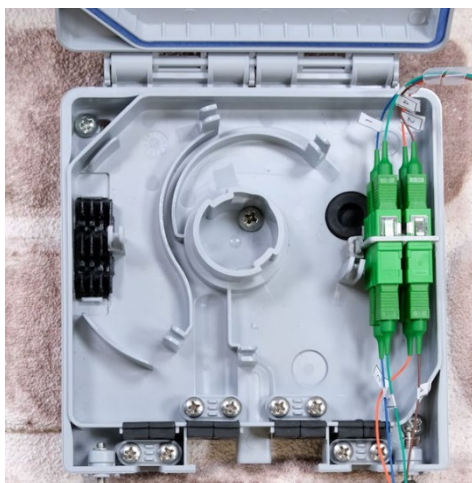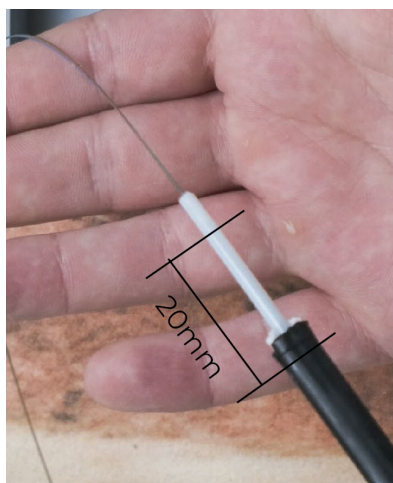
Step 2. Prepare 4 Fibre Application

Strip recommended length of 1.5m of outer sheath of Incoming Drop Cable to expose 4 fibres (@ Ø250um or Ø900um, depends on drop cable construction), as shown.
<u>Note:</u>
- Max storage length = 4m at Ø250um/ Ø900um (for one cable only).
- Greater lengths are possible
- Leave 20mm of inner sheathing exposed to protect fibre going into inner over-length management tray.

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1. Installation of Drop Cable
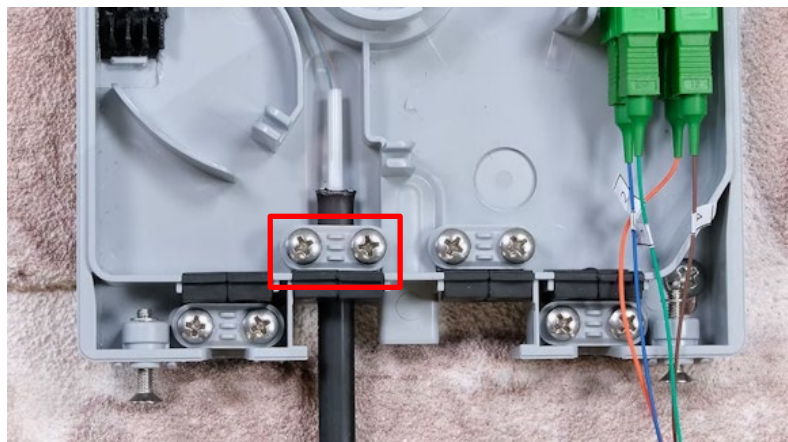
STOCK ORIENTATION

Step 3.1. Install the incoming cable

Secure incoming cable to SMDU Wall Box , by installing the cable in the split grommet and securing the cable with the strain relief clamp. Depending on cable outer diameter, ensure the Cable strain relief clamp is placed in the correct orientation, see **Section 2** of this instruction for further details
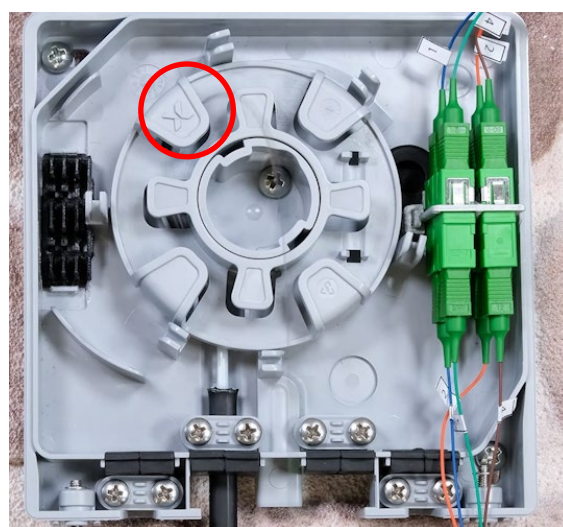

Step 3.2. Storage

- Remove inner slack storage tray and insert the recommended length 1.5m of 4f (@ Ø250um/ Ø900um) at the 'X' location.
- After the 4 fibres is routed through the 'X' location ensure to lock tray into position, by twisting it towards the clockwise direction.

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1. Installation of Drop Cable

Step 3.3. Route Into Slack Storage Tray

Store the recommended length of 1.5m of 4f (@ Ø250um/ Ø900um) within the slack management tray (fibre is routed clockwise).
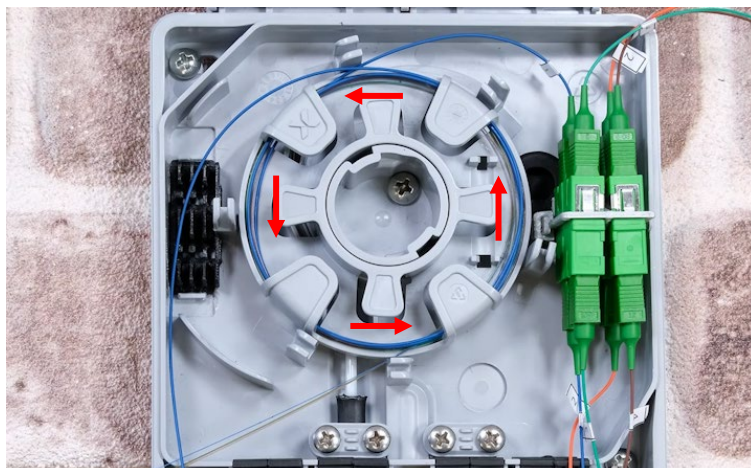Note:

- Max recommended storage length = 4m at Ø250um/ Ø900um (for one cable only).
- Greater lengths are possible.
- It is very important to coil 4f @ Ø250um / Ø900um such that each fibre can be extracted easily in future installations.
- At least 1.5m of slack is recommended in order to be used for splicing or future fibre repair.
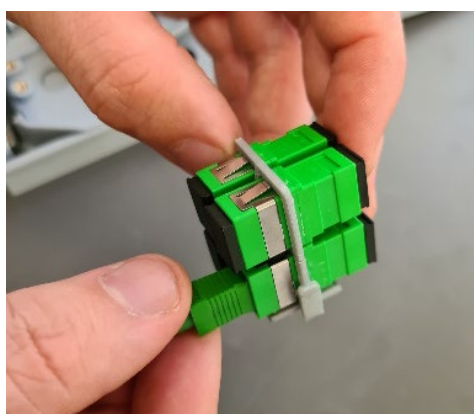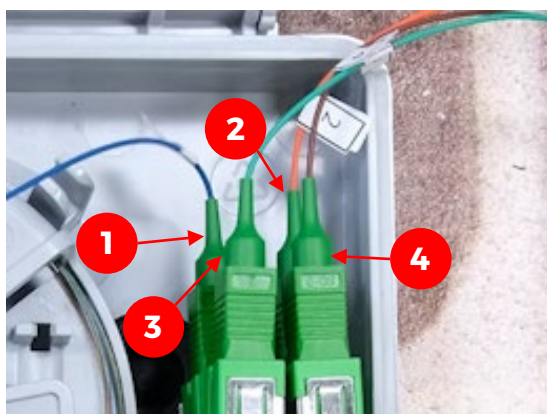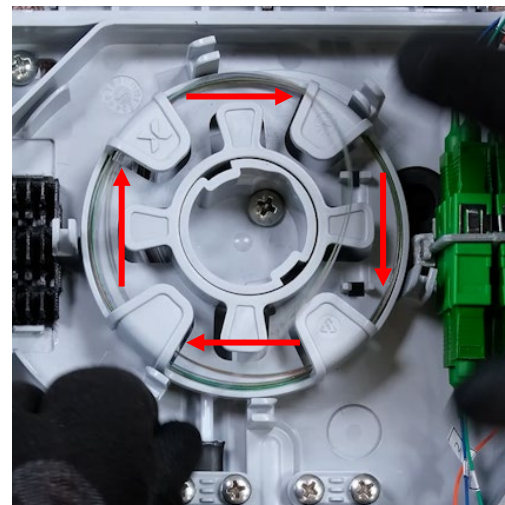
Step 4. Install incoming pigtail

- Plug blue SC/APC pigtail (note pigtails are colour coded as follows: Pigtail 1 – Blue; Pigtail 2 – Orange; Pigtail 3 - Green; Pigtail 4 - Brown) into port 1 of SC/APC adaptor as labelled.
- Note* the SMDU Wall Box for this application comes by default connectorised / installed / tested from factory.
- Pigtails are identifiable as incoming / outgoing in order to aid the installer in splicing on to correct cables

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1. Installation of Drop Cable

Step 5. Route incoming pigtail

Route incoming pigtail into inner slack storage tray. This slack is routed anti-clockwise.
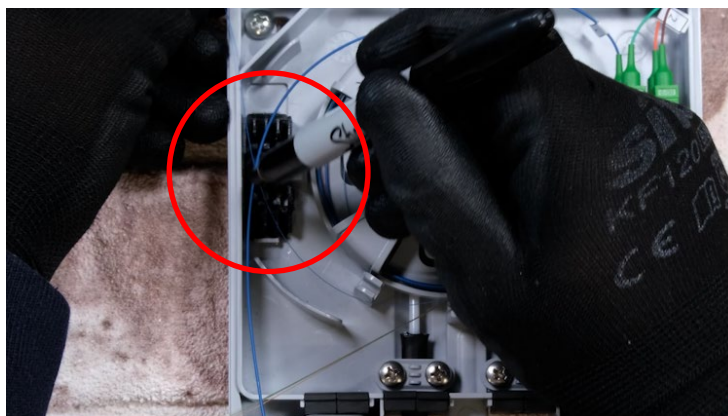
Step 6. Mark for splice (pigtail to drop cable)

- There are four separate splice cradles available which can be double stacked, therefore giving a total splice capacity of eight splices.
- It is recommended for consistency that the splice cradle on left-most position is spliced first and as splices are added they move towards the right-most splice cradle (double stacking).

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1. Installation of Drop Cable

Incoming Pigtail

Splice protector (in storage cradle)
Note: left most cradle is used.

Incoming 4 fibre cable
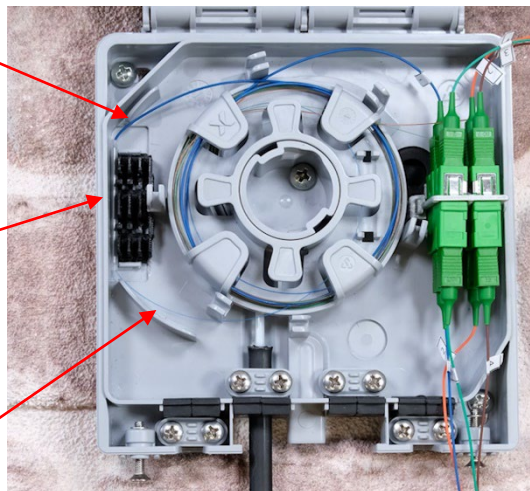
Step 7. Store splice and slack

- After splicing, store the splice protector into the bottom left of the splice cradle (See point on previous step for recommended order of use of splice cradles).
- Excess Ø900um slack from pigtail is stored within outer over-length management routing to avoid crossover of pigtail with Incoming four fibre cable. .
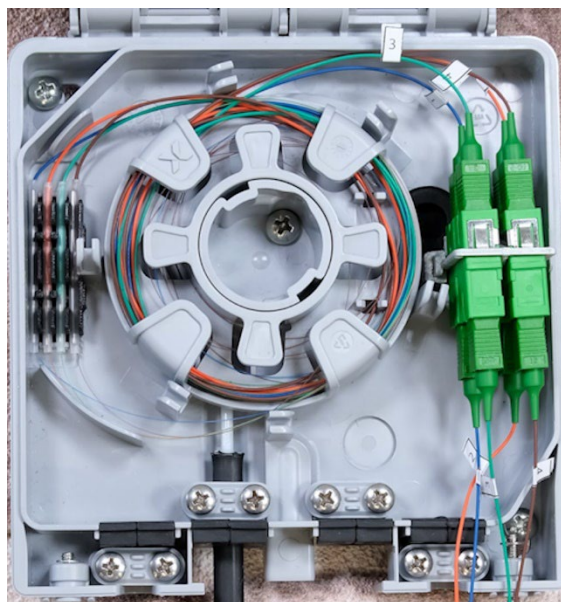
### Step 8. Terminate all 4f of drop cable onto pigtails

- Repeat steps four, five and six for all future splices until all 4 SC/APC ports are spliced / connected.
- Store splices from left to right (Splice 1- Blue; Splice 2 – Orange; Splice 3 – Green; Splice 4 - Brown)
- Note: For future splices ensure all required steps are followed.

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2. Installation of up to 3 lead in cables
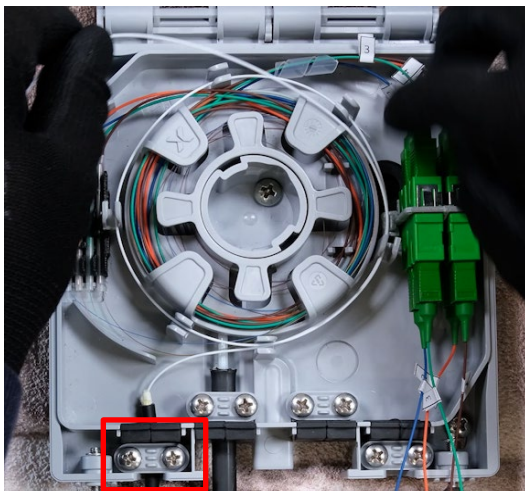
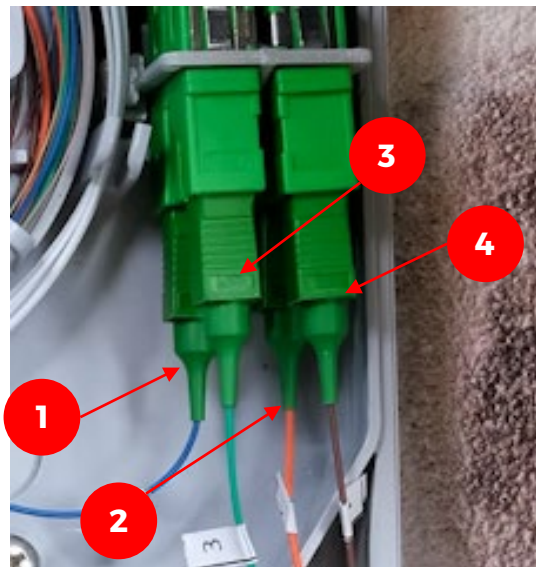**Stock Orientation**

Step 9. Install inside /out cable

- Install the Inside/Out cable into entry port 1 (bottom left).
- Note: Other exit ports are possible
- Strip recommended length of 1.5m of Inside/Out cable down to Ø900um, (the outer sheath enters for approx. 15mm). Store 1.5m of Ø900um fibre within the outer slack storage section **(store in an anti-clockwise direction).**

Note:
- Outer slack storage must only be used for ease of splicing for future terminations.
- Maximum storage length = 2.5m for each incoming Ø900um Inside/Out cable.
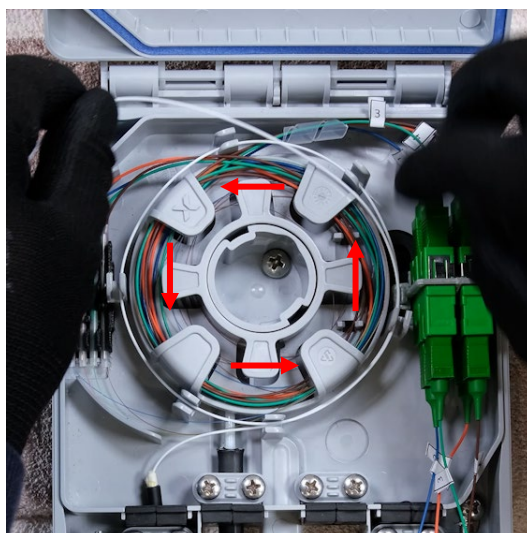
Step 10. Route cable and storage
Excess Ø900um slack is stored within outer over-length management routing to avoid crossover with four fibre cable. This slack is routed anti-clockwise.

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2. Installation of up to 3 lead in cables

Step 10. Install outgoing pigtail

- Plug blue SC/APC pigtail into port 1 of SC/APC adaptor as labelled.
- Note* the SMDU Wall Box for this application comes by default connectorised from factory.
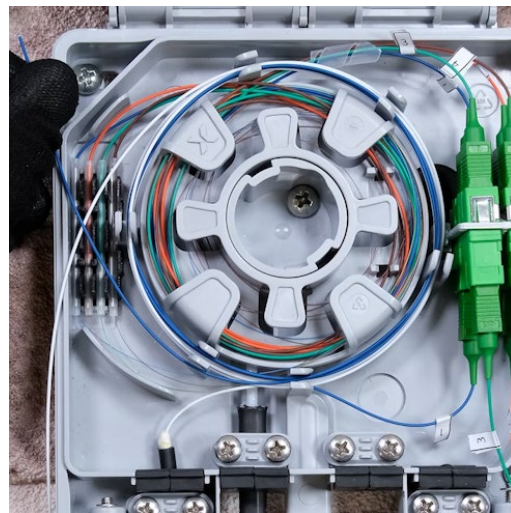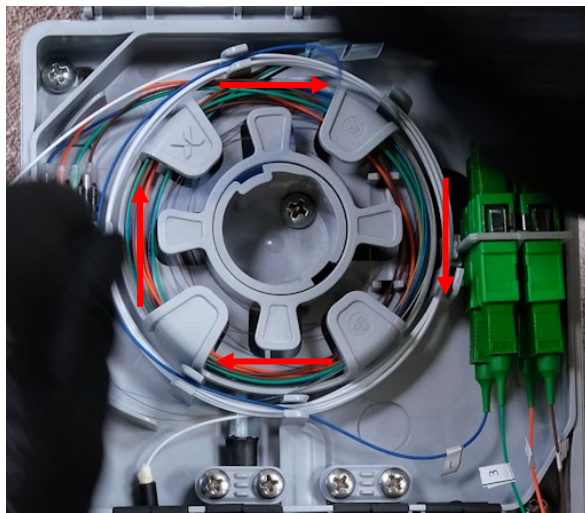
Step 11. Route outgoing pigtail

Route outgoing pigtail into outer slack storage tray. This slack is routed clockwise.

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2. Installation of up to 3 lead in cables
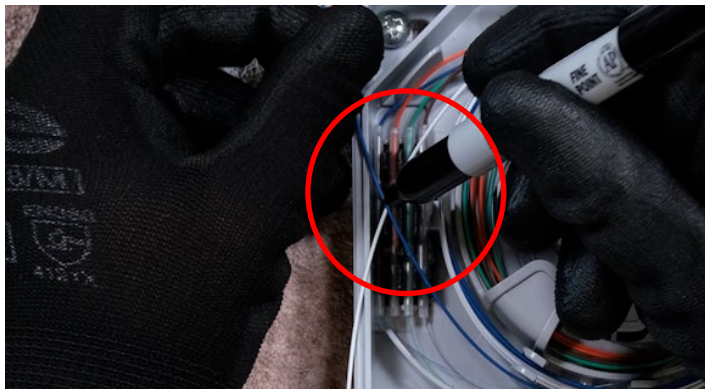
Step 12. Mark for splice (pigtail to inside/out cable)

- There are four separate splice cradles available which can be double stacked, therefore giving a total splice capacity of eight splices.
- It is recommended for consistency that the splice cradle on left-most position is spliced first and as splices are added they move towards the right-most splice cradle (double stacking). Please remember to splice in the correct order; i.e. Splice 1 – Blue; Splice 2 – Orange; Splice 3 – Green; Splice 4 – Brown. See image below illustrating pigtail on to Splice 1
- Excess Ø900um slack from pigtail is stored within outer over-length management routing to avoid crossover of the pigtail with the incoming four fibre cable.

Lead in cable fibre

Splice protector (in storage cradle)
Note: left most cradle is used.

Outgoing pigtail

Pigtail 1 - Blue

Step 13. Store splice and slack

- After splicing, store the splice protector into the top left of the splice cradle (See point on previous step for recommended order of use of splice cradles).
- Excess Ø900um slack from pigtail is stored within outer over-length management routing to avoid crossover with four fibre cable.
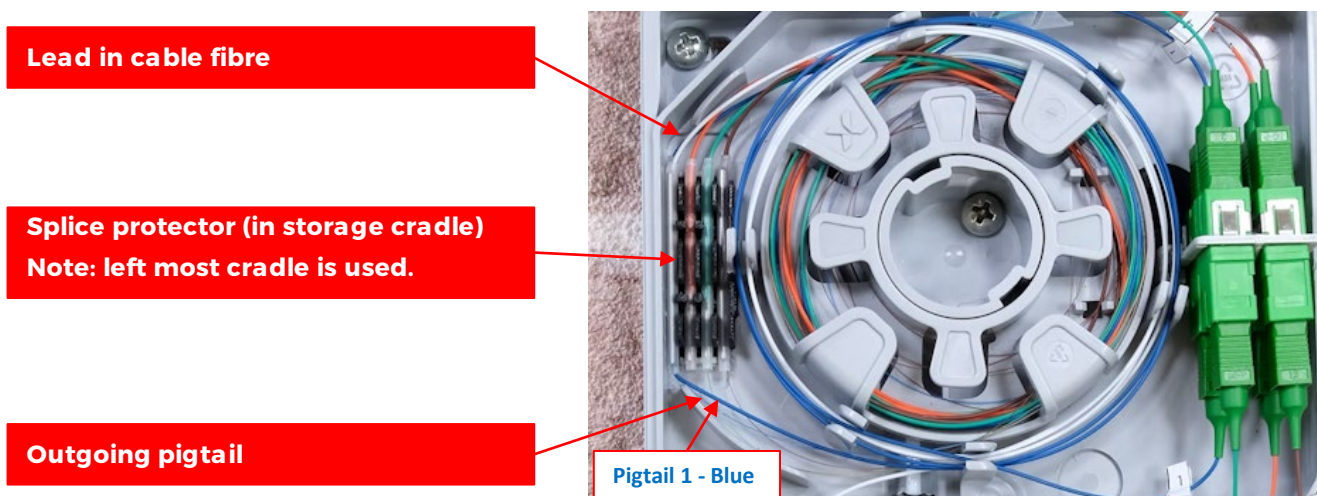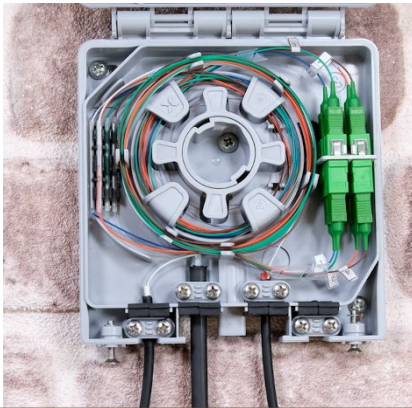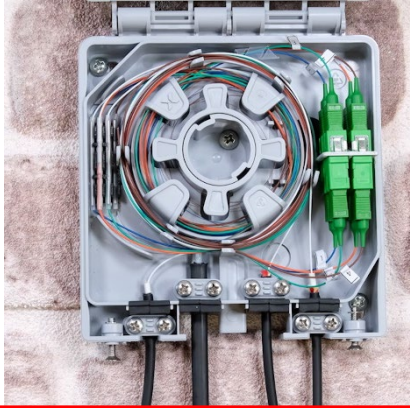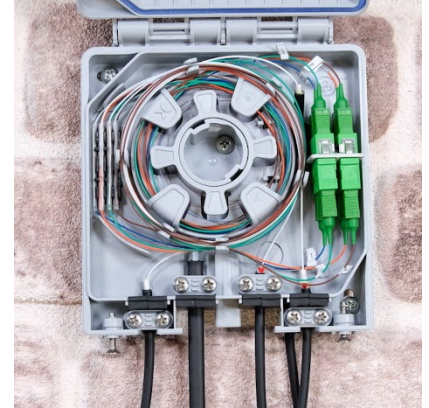
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2. Installation of up to 3 lead in cables

Termination 2

Termination 3

Termination 4

Step 14. Terminate remaining inside/out cables onto outgoing pigtails

- Repeat steps four and five for all future splices until all 4 SC/APC ports are connected.
- Store splices from left to right (Splice 1- Blue; Splice 2 – Orange; Splice 3 – Green; Splice 4 - Brown)
- Note: For future splices ensure all required steps are followed.

Cable directly entering from the rear

If the lead in cable is being taken into the premises directly behind the SMDU Wall Box , the rear cable port can be used. Once the cable has been taken into the premises, place the SMDU Wall Box flush against the wall, the 5mm stand offs are not required in this scenario. Route the fibre from the lead in cable into the central overlength mandrel through the fibre guide at the 11 O'clock (top left) position, see image 1.

Spiral Wrap

Fibre routing

Rear-entry

Image 1

Cable is going straight through rear exit point through wall directly into the customers premises

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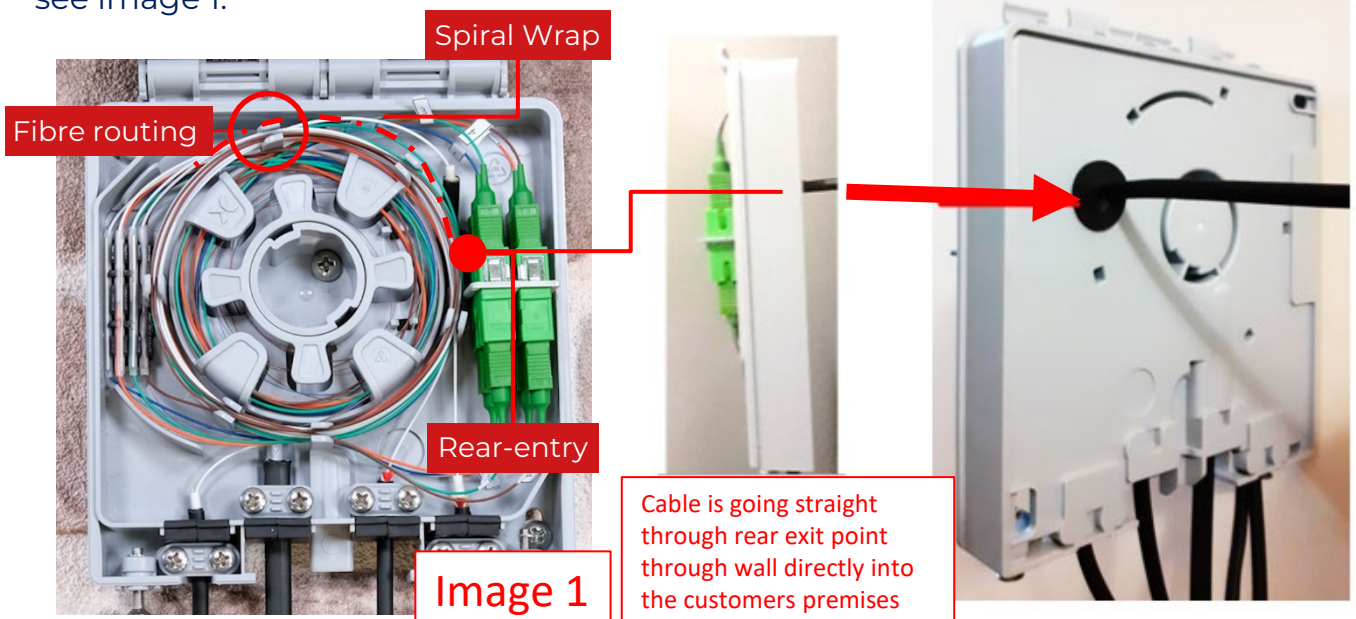
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3. Installation of 4ᵗʰ lead in cable

If 4 customers are to be fed from the SMDU Wall Box the 4th lead in cable can either be taken through the rear port if unused or can be double stacked on top of an existing cable in one of the 3 lower ports.

Option 1: Rear cable port, cable entering directly behind SMDU Wall Box
If the 4th lead in cable is being taken into the premises directly behind the SMDU Wall Box , refer to the guidance provided on page 11 for installation through the rear cable port.

Option 2: Rear cable port, cable entering away from SMDU Wall Box
If the lead in cable is to be taken through the rear cable port but is not entering the premises directly, the SMDU Wall Box must be mounted away from the wall leaving a gap for the cable to run behind.
Pass the cable through the rear entry and form a gradual bend as the cable exits the port. Use the 5mm stand offs to space the SMDU Wall Box away from the wall, see images 2 & 3, and mount the SMDU Wall Box . Provide additional strain relief by strapping the cable to the existing cable that exits the right-hand port using a cable tie. Inside the SMDU Wall Box, route the fibre from the lead in cable into the central overlength mandrel through the fibre guide at the 11 O'clock (top left) position.
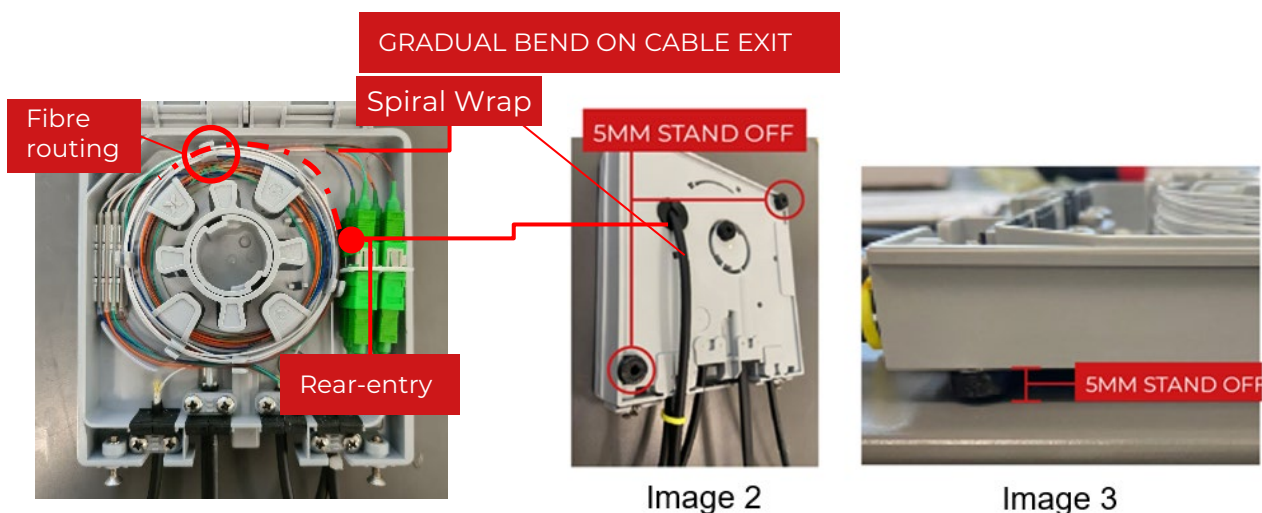

Image 2

Image 3

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3. Installation of 4ᵗʰ lead in cable

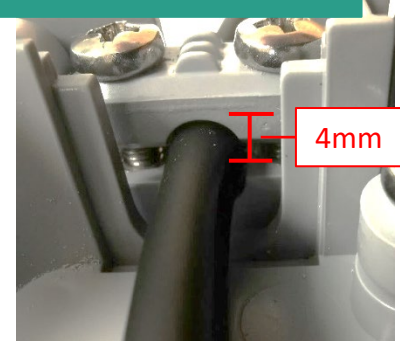**Option 3: Double stack lead in cable in lower cable port.**
The lower cable ports can be used to accommodate 2 cables by positioning one on top of another. In order to achieve this, route the 2 cables through the Rubber Grommet in order to achieve seal, then once cables are in grommet securely place it into its receptacle within the SMDU Wall Box (**Ref: Image 5**)

Image 5 – Cables placed in Rubber Grommet

Once cables are inserted, placed Strain Relief clamp over them in its Stock Orientation and tighten it over the cables. It is recommended to leave approx. 4mm clearance between the Strain relief clamps. Do not over-tighten the strain relief clamps as this could result in excessive compression being placed on the cable **(Ref: Image 6)**.

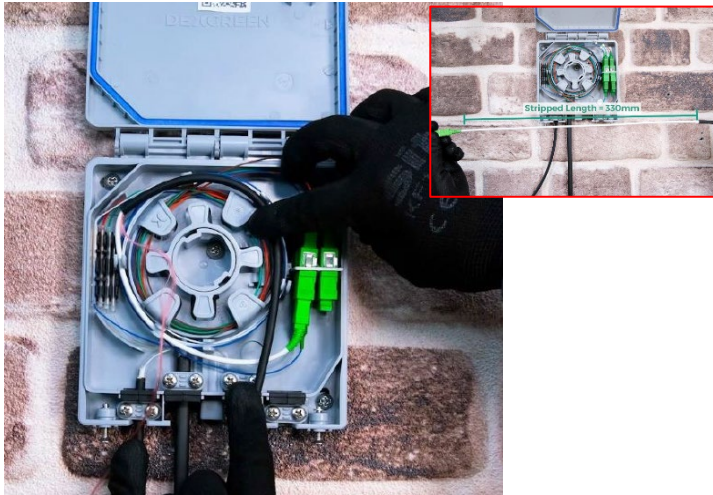**Image 6 – Physical Strain Relief of 2 x Cables**

Cable clamp slightly tightened in order to give adequate strain relief for cables

4mm

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4. Installation of up to 3 lead in cables (Connectorised)

## Step 1. Measure Length to strip outer sheath

- Before installing the cable into the chosen entry port, plug the SC/APC connector into the required port of the SC/APC adaptors, in this example port 3 is selected (located top left).
- Route the cable around the outside management clips (simulating the cable route).
- When installing the lead in cable into a lower entry port, in this example mid right, from the connector boot, **strip 330mm of outer sheath.**
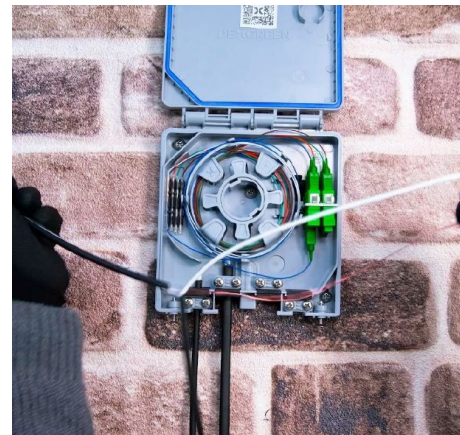
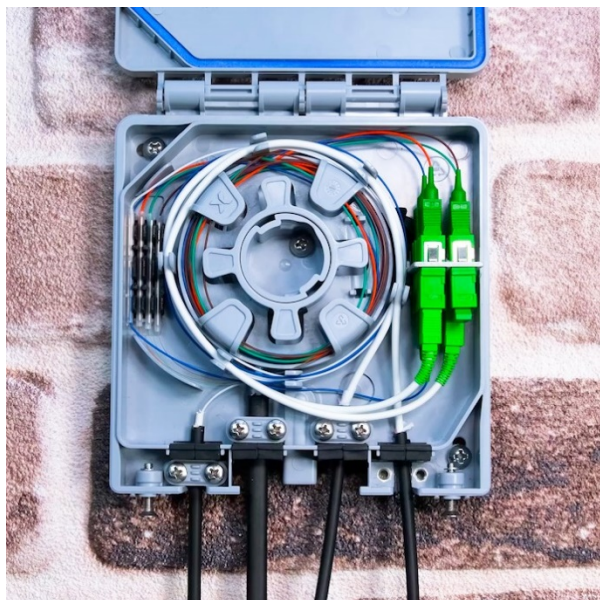## Step 2. Remove Excess cable contents

- Use Ripcord the make a longitudinal split on the outer sheath.
- Remove any excess cable contents using Kevlar scissors in order to completely expose Inner Sheathing

## Step 3. Install Outgoing Inside Outside Cable
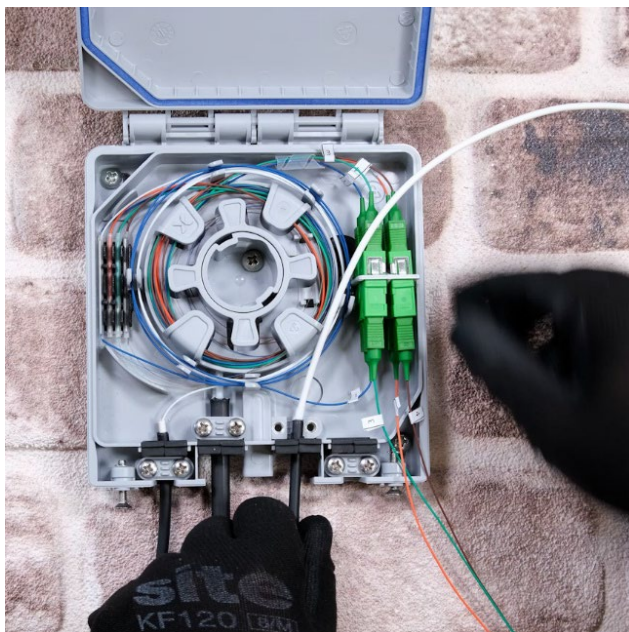
- Unscrew the cable strain relief clamp and remove the sealing grommet.
- Ensure to split the sealing grommet before installing the cable
- Install the cable along with the sealing grommet into the middle right-hand port and secure the cable strain relief clamp.

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4. Installation of up to 3 lead in cables (Connectorised)

Step 4. Install 2nd lead in Cable

- If installing a lead in cable into one of the outer entry ports follow the same steps as detailed on page 15.
- In the picture above the lead in cable has been installed into *the __lower right entry__* and plugged into port 3 of the SC/APC adaptor.

Stripped Length = 260mm
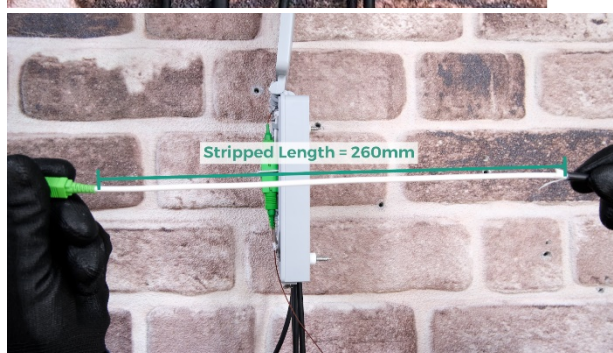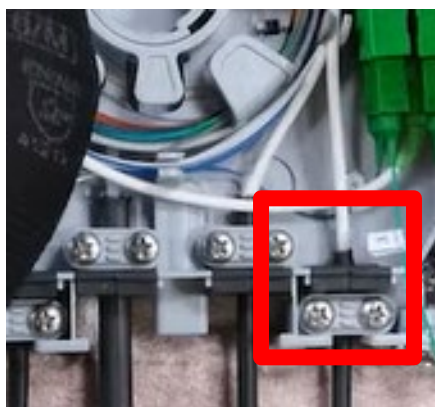
### Step 5. Rear Entry cable measurement.

- When installing the lead in cable through the rear entry, plug the connector into the required SC/APC adaptor port. Measure and strip 260mm of the from the connector boot.
- Route the cable from the adapter port (in this example port 4) into the outer management clips and mark the cable at the one o-clock clip position.

Step 6. Remove Excess cable contents

- Use Ripcord the make a longitudinal split on the outer sheath.
- Remove any excess cable contents using Kevlar scissors in order to completely expose Inner Sheathing

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4. Installation of up to 3 lead in cables (Connectorised)

Step 7. Route Cable into rear entry port

- Remove the SMDU Wall Box from the wall, install the 5mm stand-off onto the securing screws.
- Route the cable into the rear entry port, if the sealing grommet needs to be removed, ensure to replace it after cable is routed.
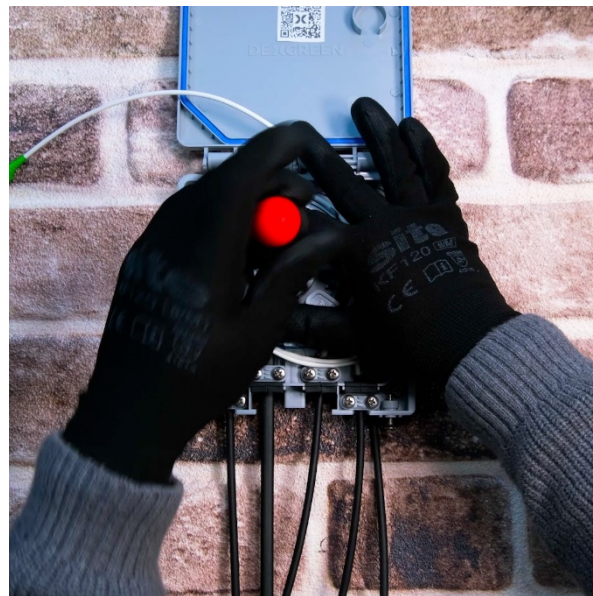
Step 8. Re-install The Closure to the wall

- Push the SMDU Wall Box against the wall ensuring the cable runs straight down behind the right-hand cable.
- Secure the screws and ensure the SMDU Wall Box if fixed tightly against the wall.
- Cable tie the rear entry cable to the cable entering the right-hand port to provide additional restraint

Spiral Wrap

Step 9. Terminate the cable

- Plug the connector of the lead in cable into the required SC/APC adaptor port, in this example port 4 (Brown Pigtail).
- Ensure to add spiral wrapping onto the Incoming pigtails, in order to protect fibre.

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