

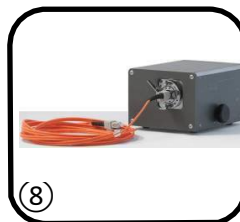
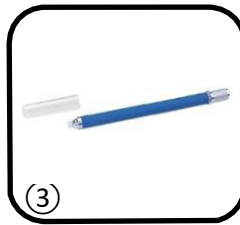
IP68 ODVA Compatible LC Duplex Connector Termination Procedure

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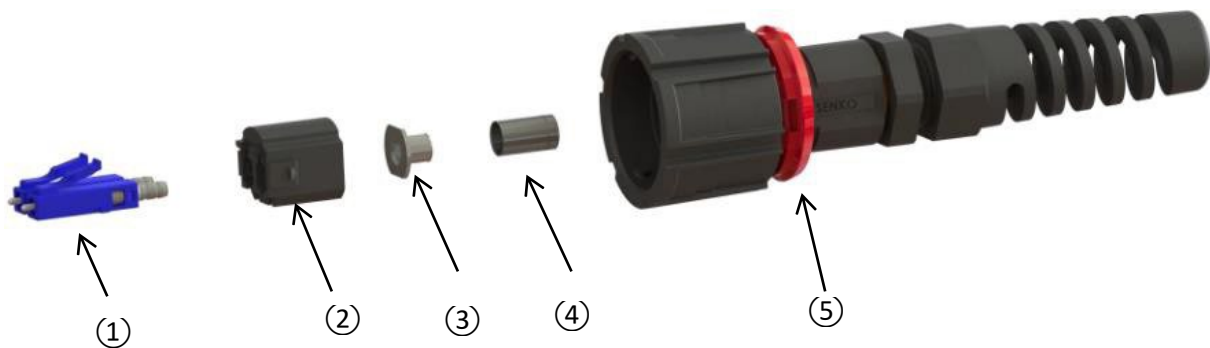
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1. Tools Required:

1. Cable Jacket/Buffer Removal Tool
2. IPA (Isopropyl Alcohol)
3. Fiber Cleaving Tool
4. Cleaner
5. IP Crimp Tool
(4.8mm Diameter cable)
(5.xmm Diameter cable)
(7.0mm Diameter cable)
6. Curing Oven
7. Polishing Machine
8. Interferometer



2. Description of Parts:

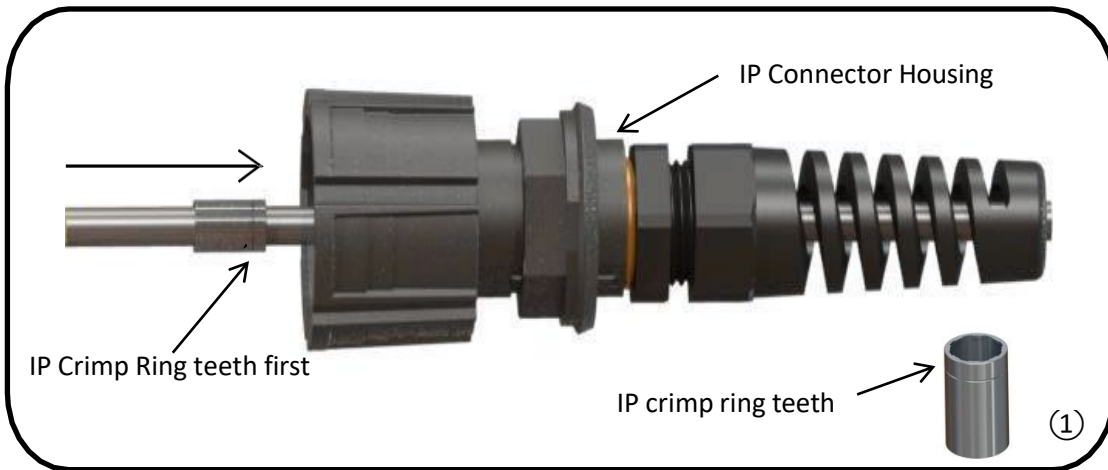


1. LC Unibody Connector
2. IP LC Duplex Connector Clip
3. IP Back-Post
4. IP Crimp Ring
5. IP Connector Housing with Safe lock

3. Termination Procedure:

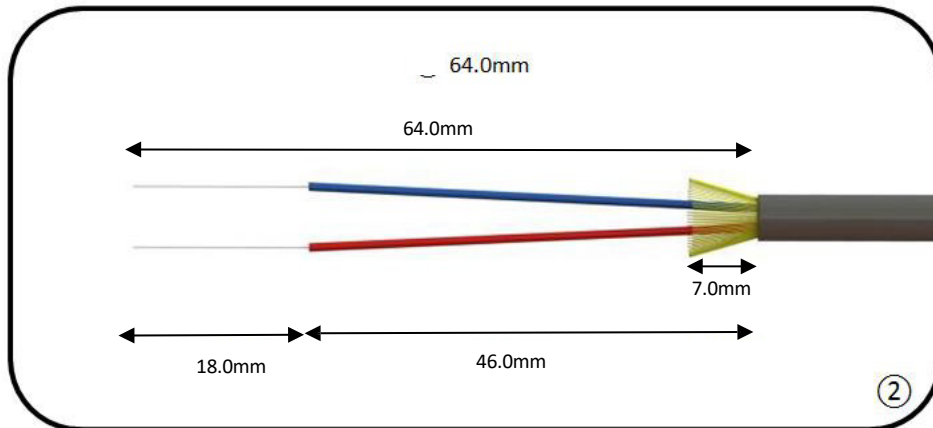
3.1 Cable Preparation

1. Slide IP Connector Housing and IP Crimp onto the cable. See Figure 1.



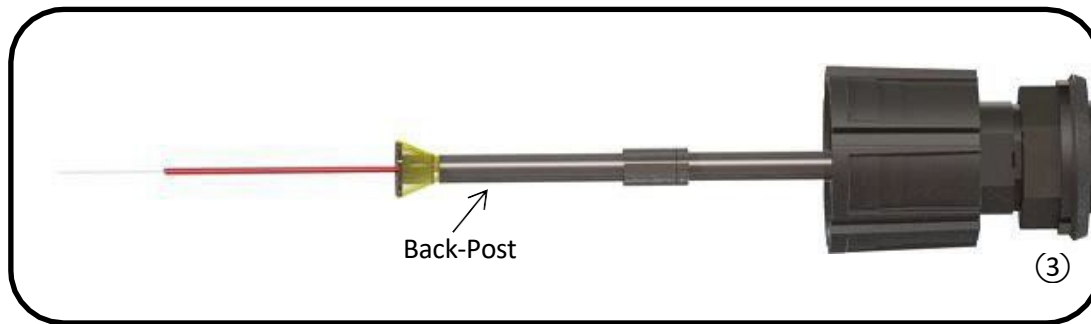
3.2 Cable Strip Lengths

1. Remove 64mm of the outer cable jacket to expose the inner strength members & 900 μ m buffers. Cut the strength member to 7mm and remove 18mm of the 900 μ m buffer. See Figure 2 for details.

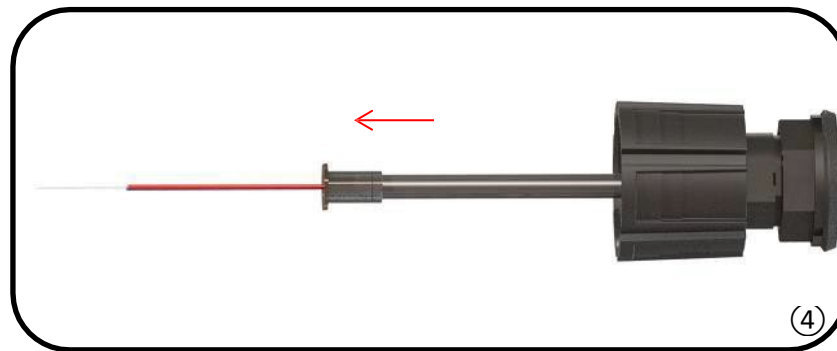


3.3 Cable Preparation

1. Slide the IP Back-Post over the 900 μ m buffers. See figure 3.
Note: Spread the Kevlar / strength members out as evenly as possible.



2. Slide Crimp sleeve over the LC Back-Post and crimp in place.
Note: Make sure you push the IP Back-Post against the top of the cable jacket. See Figure 4.



3. Using the appropriate IP crimp tool for the correct size feeder cable being used, double crimp the IP Crimp ring into place to secure to the feeder cable. See figures 5a and 5b.
Note: The crimp tool type should be selected from the Tools Required list earlier in this assembly procedure.



Figure 5a



Figure 5b

4. Connector Termination

4.1 Epoxy Preparation

1. Prepare the epoxy according to the manufacturer's instructions.
Note: Recommended epoxy: SENKO S-123
2. Fill the syringe with epoxy and remove any air bubbles.
Note: Do not exceed the pot life of the epoxy.
3. Wipe clean the needle tip before inserting into the back of the ferrule / flange.
4. Push the epoxy application needle into the back of the connector body so that it bottoms out against the back of the ferrule.
5. Inject epoxy carefully into the ferrule.
Note: Hold the connector body with the ferrule pointing up.
6. Press the syringe plunger until a very small bead of epoxy appears on the tip of the ferrule.
7. Slightly pull back the needle inside the body by approximately 1mm and inject another small amount into the back of the ferrule.
8. Wipe off excess bead of epoxy from the tip of the ferrule.
9. Insert the optical fiber into the back of the connector body and repeat this on the other fiber.

4.2 Curing the Epoxy

1. Using a suitable curing oven, set the temperature according to the epoxy manufacturer's specifications. Example: SENKO S-123 curing time can be achieved in 5 minutes @ 100°C.
2. Gently place the assembly into the curing oven and cure to the specified time.
3. When connectors are fully cured, remove from the oven and cool to room temperature.

4.3 Cleaving the Fibers

1. After the connectors are cooled to room temperature, use a suitable cleave tool to remove the protruding fibers from the tips of the connectors.
2. This is achieved by holding the connector upright.
3. Rest the blade of the cleave tool gently against the top of the epoxy bead on the tip of the ferrule.
4. Carefully run the full width of the cleave tool blade across the fiber.
Note: take care not to knock the fiber off by applying too much pressure.
5. Remove the excess fiber by running your thumb and forefinger carefully up the length of the fiber, without forcing it to break off. The fiber should fall away from the assembly. If it doesn't re-cleave the fiber and repeat the above step.
6. Place the off-cuts of fiber into a suitable sharps bin for proper disposal.
7. Check the sides of the ferrules for any excess epoxy that may have cured to them, if any are present remove by using a sharp knife, and then wipe the ferrule with a tissue.

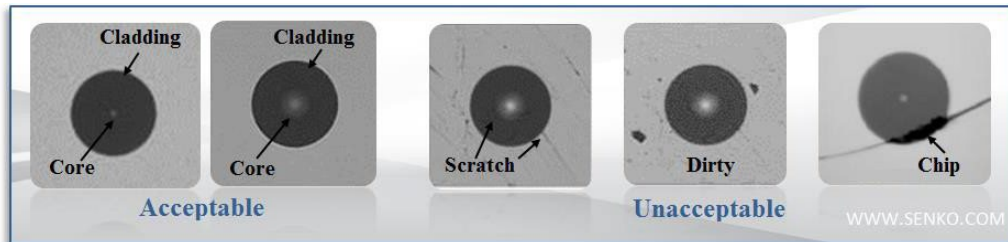
4.4 Polishing

1. If TELCORDIA GR-326-CORE type end-face criteria and performance are to be achieved, it is advisable to use the SENKO APC8000 polishing machine and polishing instructions.

4.5 End-Face Inspection

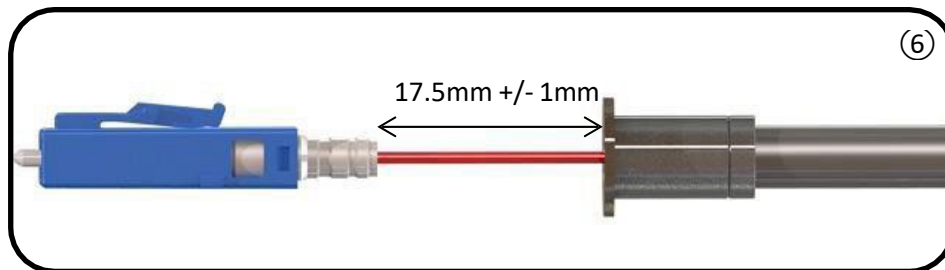
Caution: Optical fibers may emit radiation if the far end is connected with a working laser or light-emitting diode (LED). Never view the fiber end of the cable or plug with the naked eye or any optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source. Check the polished end face of the ferrule using a microscope or a magnifier.

Note: There should be no scratches or cracks.



5. Connector Assembly

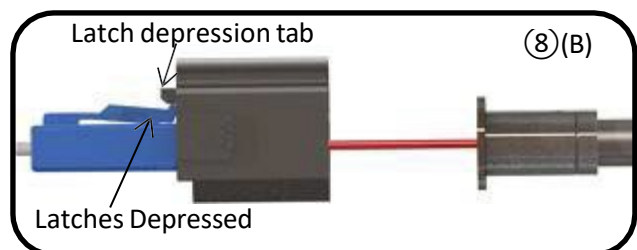
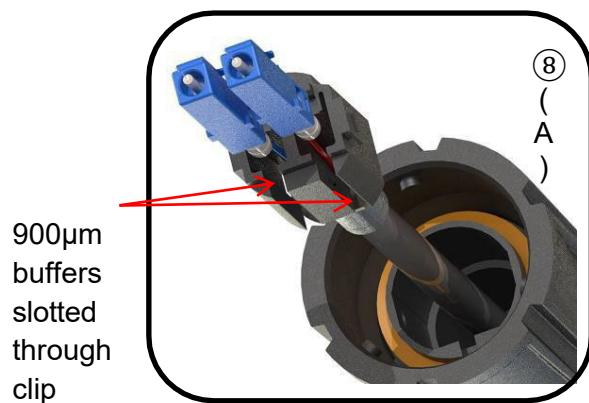
1. Check the buffer length between the LC connector back-post and the top of the IP back-post is 17.5mm +/- 1mm. See Figure 6.



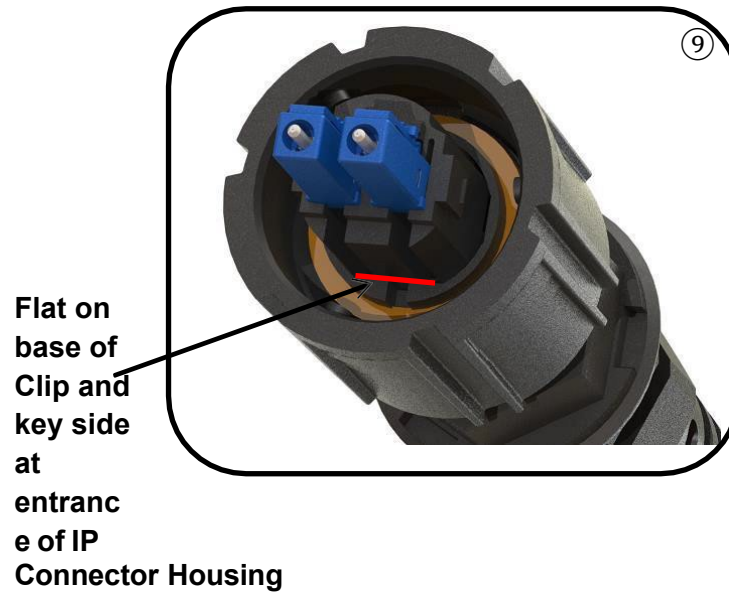
2. Install the IP LC Duplex Connector Clip onto the connectors, by slotting the 900µm buffers through the slots in the clip. See Figure 7.

Note: Make sure that the connector clip latch depression tab is facing the latches of the connectors.

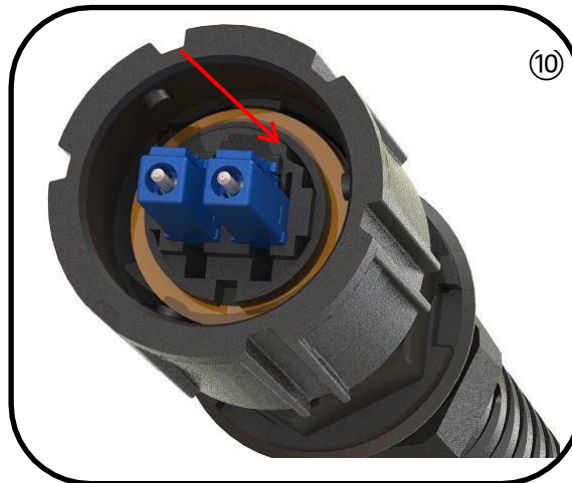
3. Depress the latches on the connectors and push the connectors into the clip until it locks into place. See Figure 8A and 8B.



- Slide the IP connector housing up the cable and insert the connector clip into the housing, making sure that the flat bottom part of the clip is facing down to the key inside the entrance of the IP connector housing. See figure 9 highlighted by red line.



- Push the clip fully inside the IP connector housing until you feel and hear it positively snap into place. See Figure 10 fully inserted.



- Tighten the cable gland boot to the required torque, 22" lbs. (approximately).

