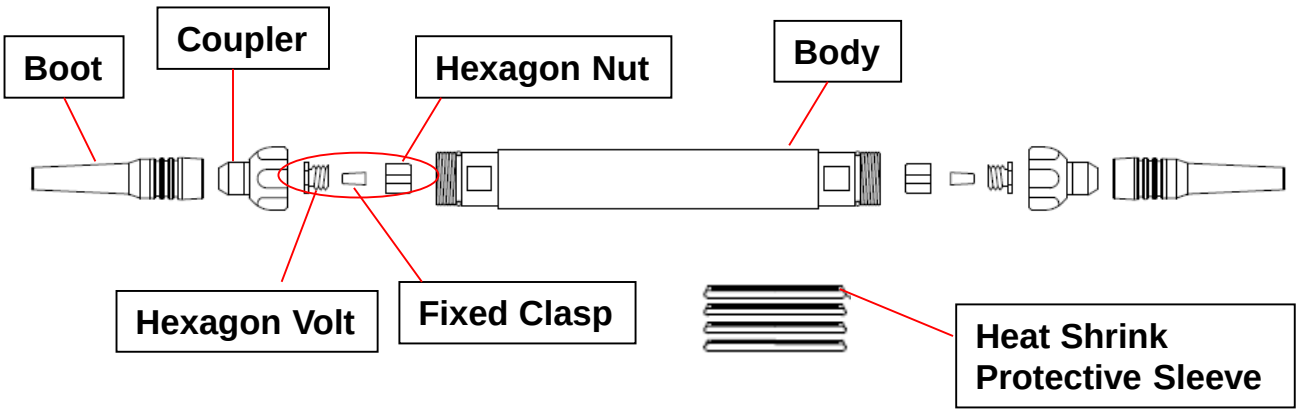
2. EMERGENCY TYPE FIELD OPTIC CABLE SPLICE

2.1 STRUCTURE



※Fiber Optic connection uses a fusion splicing method. In this method, Optical Fibers to be connected are put together and heated by flame or electrical high voltage discharge, to melt and adhere to each other, and a loss degree of less than 0.1dB can be obtained.

2.1.1 Body

It serves to protect the part after fusion splicing of damaged and cut cables. It is high strength flexible conduit that has strong durability as the inside is made of galvanized steel and the outside is made of special PVC resin.

2.1.2 Hexagon Nut & Hexagon Bolt & Fastening Clasp

The above three parts are combined with each other and inserted at both ends of the body to prevent cable rotation and increase tension.

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2.1.4 Coupler

It is assembled at the both ends of the body and plays a role in fixing and connecting parts.

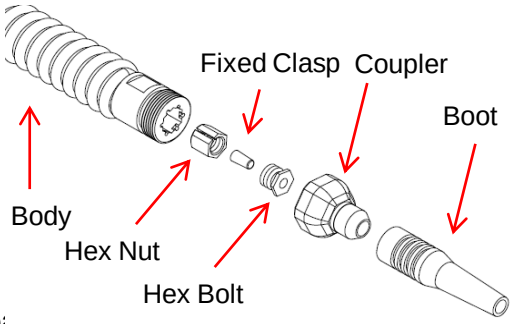
2.1.5 Boot

It is made of rubber and is assembled at the both ends of the product to prevent cable from bending.

2.2 ASSEMBLY METHOD

STEP 1

- **Check if the quantity of components to be assembled is correct.**
  - **Body : 1ea**
  - **Connector : 2ea**
  - **Hexagon Nut : 2ea**
  - **Hexagon Bolt : 2ea**
  - **Fixed Clasp: 2ea**
  - **Boot : 2ea**
  - **Heat Shrink protection sleeve: 4ea**



STEP 2

- **Insert parts into one of the two ends of the cut cable in the following order.**
- **The other side inserts the parts except for the 'body'.**

- **O-ring Position**

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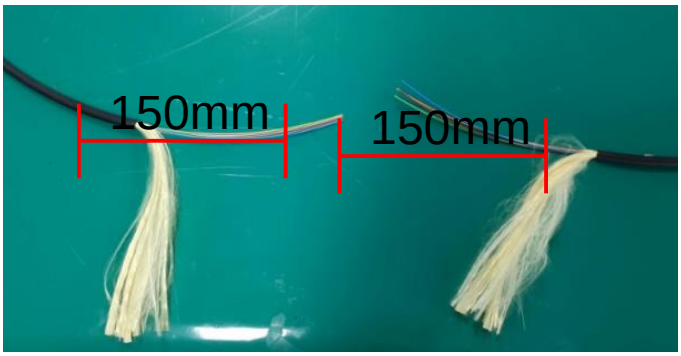
STEP 3

● Peel 150mm from the end of the cable using cable sheath stripper.

※ When peeling off the cable sheath, be careful not to damage the optical fiber inside.



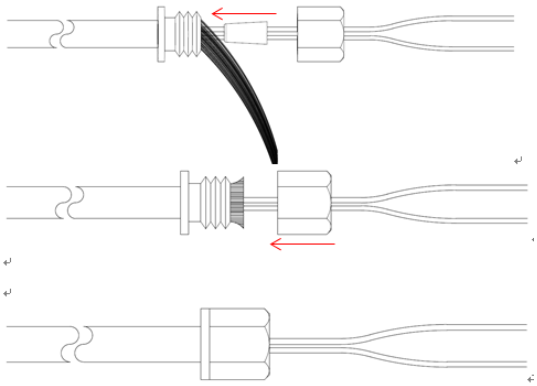
STEP 4

● Place the hex bolt at the end of the peeled cable sheath, spread the Kevlar evenly and then push the fixing clasp into the hex bolt.

● Check that the cable is fixed with the fixing clasp, and cut the Kevlar to the end of the fixing clasp.

● Fasten the previously inserted hex nut with the hex bolt.

● Do the same with the other end of the cable.



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STEP 5

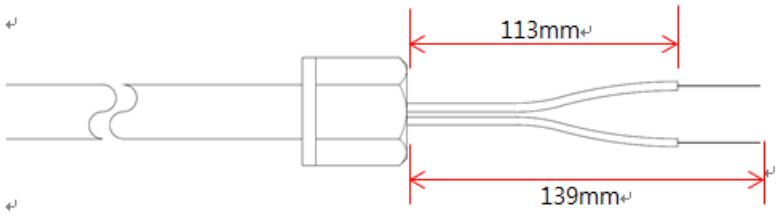
● Insert the previously prepared heat shrink protective sleeve over the fiber buffer of the left cable.

● Using an optical fiber stripper strip the exposed fiber buffer as much as the size shown in the figure below.

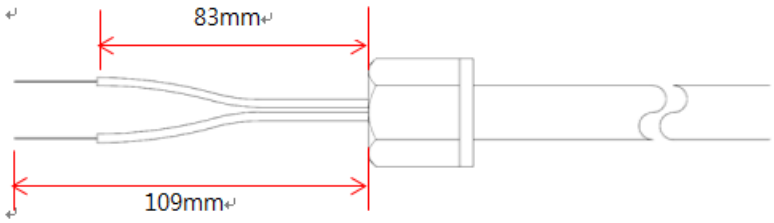
※ Steps 5-7 are performed for each optical fiber buffer

※ be careful when handling optical fibers as they are vulnerable to physical impact.

※ Workers must receive appropriate training on Work procedures and how to use tools and equipment.



-Left side cable-



-Right side cable-

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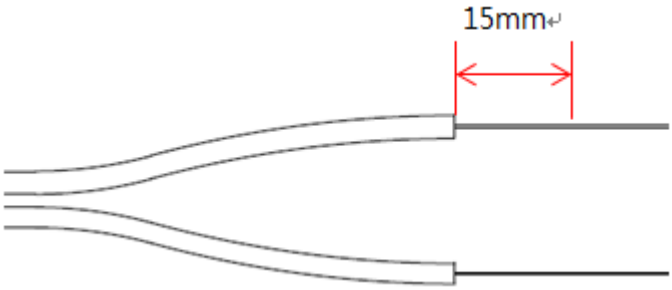
STEP 6

● Cut the peeled optical fiber leaving 15mm left. (using an optical fiber cutter)

● Wipe the peeled optical fiber with alcohol after cutting. (use dust-proof tissue)

※ After wiping, be careful not to get foreign substances on the optical fiber.

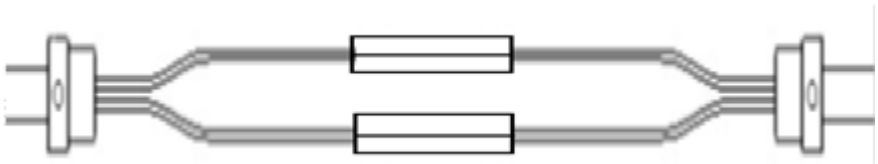


STEP 7

● Fusion Splicing of prepared optical fibers (using a fusion splicer)

※ When fusion splicing, pay attention to the color so that the optical fiber wiring is not twisted.

● After fusion splicing, use a heat shrink sleeve to protect the fusion joint.



STEP 8

● After fusion splicing, measure the intermediate optical characteristics of each port of the connectors at both ends.

※ If you are not satisfied with the optical characteristic measurement loss value, proceed with rework again from step 3.

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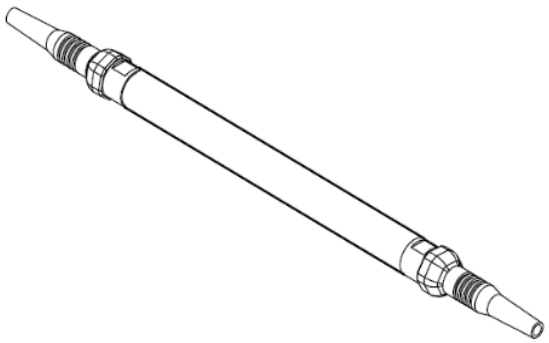
STEP 9

● After fusion splicing is completed, check the length and properly fix the previously fastened hex nuts and hex bolts to the hex key at the end of the part body.

● Next, assemble the connector with the body and finally assemble the boot.



STEP 10

● After assembly is completed, measure the final optical characteristics of each port of the connectors at both ends.

※ If you are not satisfied with the optical characteristic measurement loss value, dismantle the assembled parts and redo step 3.

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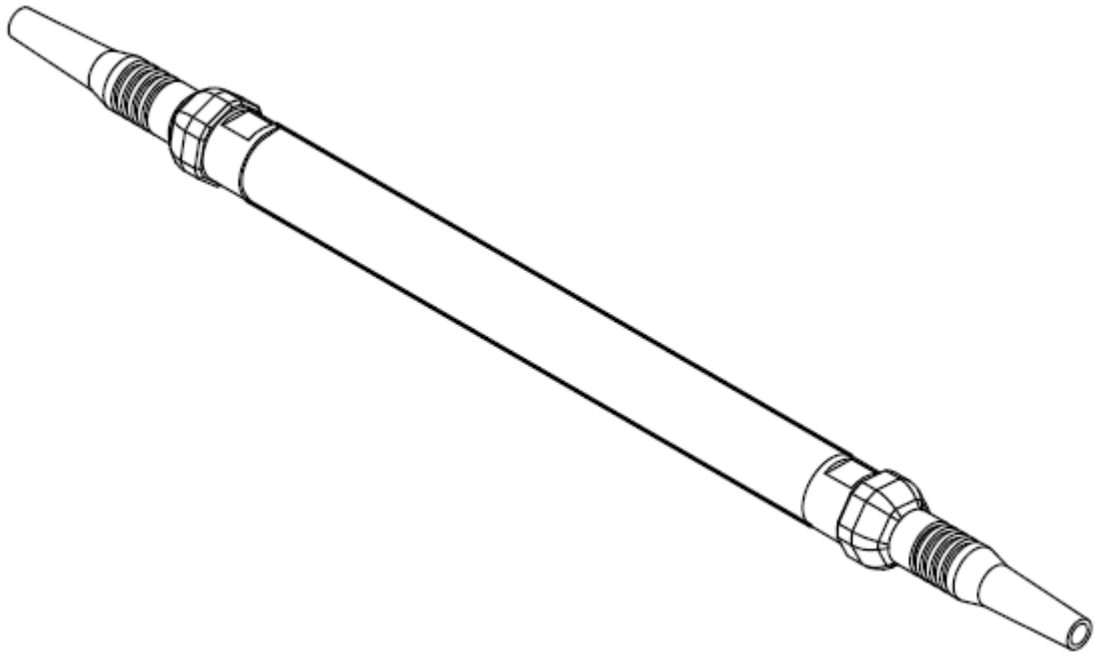
2.3 PRODUCT SPECIFICATION



SPECIFICATION	
Operating Temperature	-40°C to +85°C
Water Immersion	IP68
Cable Retention	1000 N (cable dependent)
Flexibility	Minimum Bending radius 75mm
Size	Main Body - 300mm