

CORNING

SC One Piece Connectors Termination Procedure

Series: 728-NNN0-NNN0N

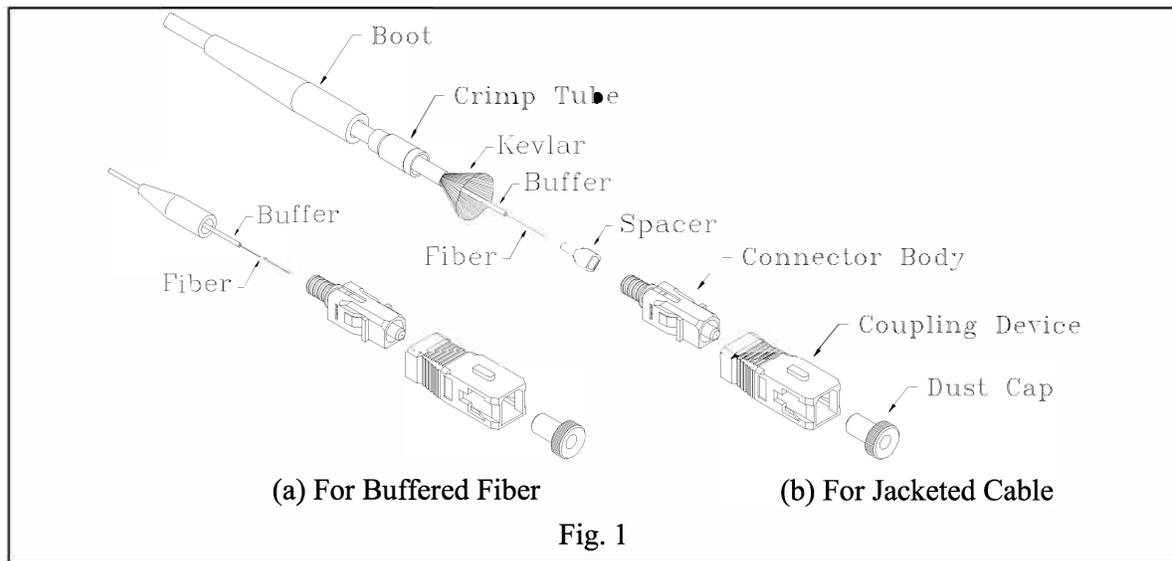
C	Update address and fax number	10/26/18
B	Revise Format	12/1/03
A	Initial Release	1997
Version	Revision History Summary	Issue Date

I INTRODUCTION

This termination procedure is for SC 728-NNN0-NNN0N One-Piece Connectors (Excluding 728-N3N0-NNN0N Series). Please read this procedure thoroughly before starting to assemble a connector. All tools and materials required are listed in Section III.

II DESCRIPTION

Fig. 1 shows the structure of Series 728-NNN0-NNN0N SC One-Piece connector, which consists of Coupling Device, Connector Body, Crimp Tube, Boot, Dust Cap, and Spacer



At the beginning of the process, place the thermometer into the oven. The oven will take 30 minutes to warm up to the required temperature 120°C +/- 5°C. See Fig.2.

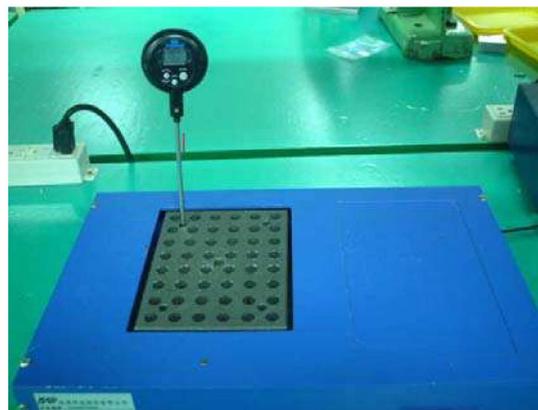
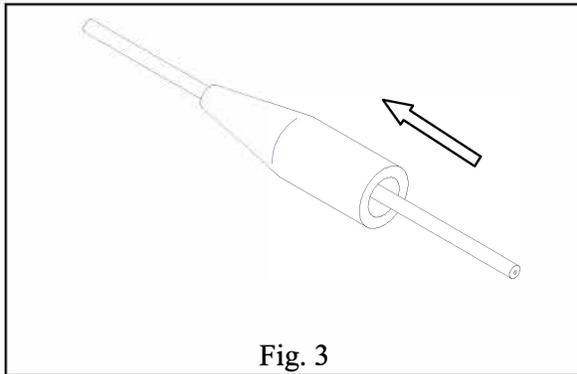
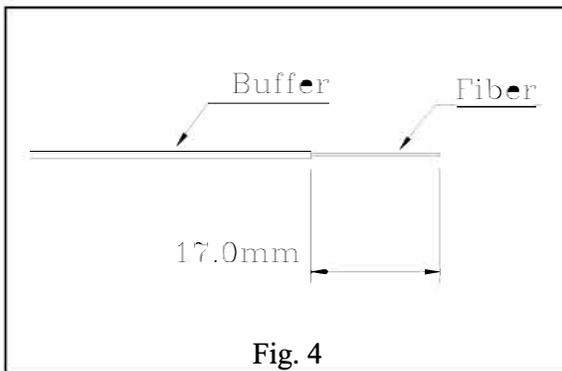


Fig. 2

(A) FOR BUFFER FIBER



Step 1 Slide Boot onto the cable shown in Fig. 3.



Step 2 Use Buffer Stripper to remove the require length of buffer and use alcohol and lint-free tissue to clean the bare fiber. See Fig. 4 for the correct dimensions.

Step 3 Prepare epoxy per manufacturer's instructions. Remove the plunger from the syringe. Pour the epoxy into the syringe. Reinstall the plunger into the syringe.

Note: (1) Try to avoid trapping air in the syringe while pouring the epoxy into the syringe.

(2) Do not exceed the pot life of the epoxy as recommended by the manufacturer.



Step 4 Insert the syringe tip into the rear of the connector until it bottoms with the ceramic ferrule. Place a mark with marking pen, the mark just below the connector. See Fig. 5.



Fig. 6



Fig. 7

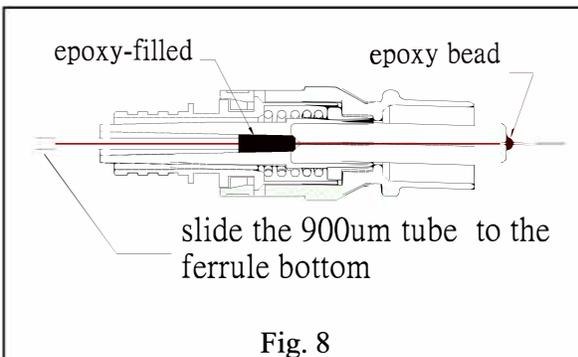


Fig. 8

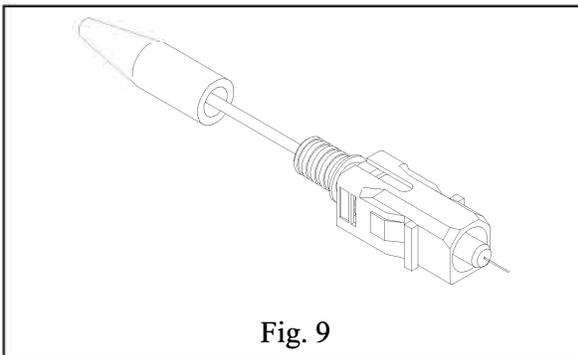


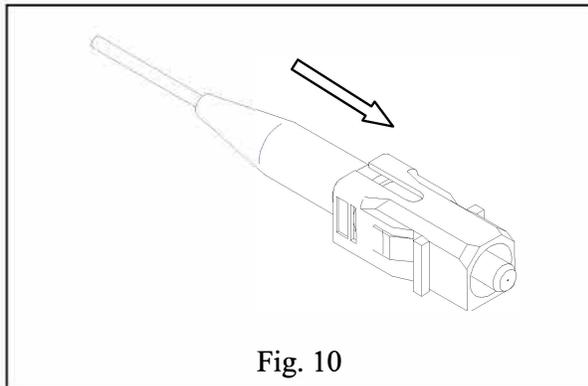
Fig. 9

Step 5 Hold the connector and maintain pressure and slowly inject epoxy. The moment epoxy is visible at the tip of the ferrule, release pressure on the plunger. Move the syringe tip approximately 1~2mm from the mark of the connector and continue injecting appropriate epoxy. Release the pressure on the plunger and stop injecting epoxy. Withdraw the syringe tip straight back. See Fig. 6 and Fig. 7.

Note: (1) Do not let the epoxy to overflow into the outside of the rear body.

Step 6 Insert the bare fiber carefully into the epoxy-filled connector. Slightly rotate the connector will help the fiber to get through the ferrule easier. Slide the fiber gently in and out of ferrule to form the epoxy bead on the tip of the ferrule. See Fig. 8 and Fig.9.

Note: (1) The 900um tube must bottom with ferrule.



Step 7 Slide the boot over the crimped tube as shown in Fig. 10.

Step 8 Carefully mount the connector onto the curing fixture. Place the connector into curing oven to cure epoxy. The curing temperature is 120 °C +/- 5°C for 20 minutes for curing.

Note: (a) Be careful not to break the fiber protruding from the ferrule tip and the boot do not touch the high temperature of the oven.

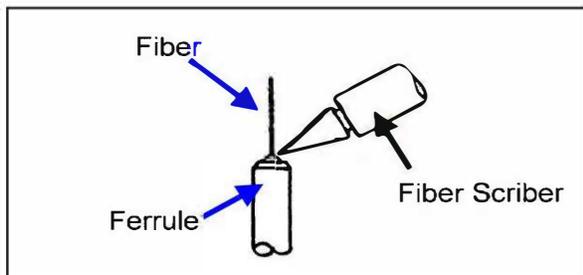


Fig 11

Step 9 Remove the fixture from the connector after epoxy is fully cured. Use a fiber scribe to cleave the protruded fiber slightly at the point where the fiber and epoxy bead meet. Gently push the tip of fiber until the fiber separates. See Fig. 11.

Note: (a) Fiber shall be cleaved again if fiber is not break by light push on the tip of fiber
(b) Be sure that the epoxy has changed to red color before cleaving the protruded fiber.

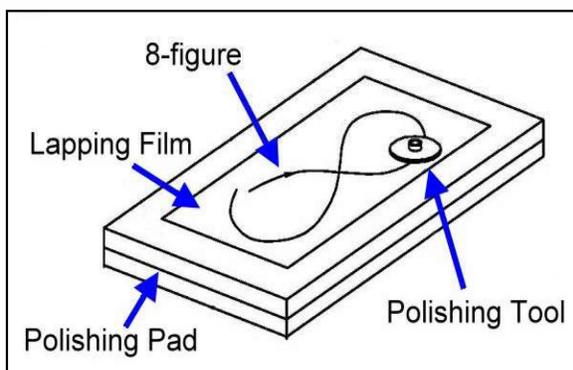


Fig 12

Step 10 Use alcohol and lens wiper to clean the polishing pad and polishing tool and place a 16 µm lapping film on the polishing pad and mount the connector onto suitable polishing fixture.

Note: Polishing Machine manufacturers offer different polishing procedures. Please refer to the polisher manuals for proper polishing process. Also, this polishing procedure is for reference only.

Step 11 Polish the end of the connector by applying light pressure on the connector and move the polishing jig by a Figure-8 motion until the polishing traces caused by protruded fiber disappear. See Fig. 12.

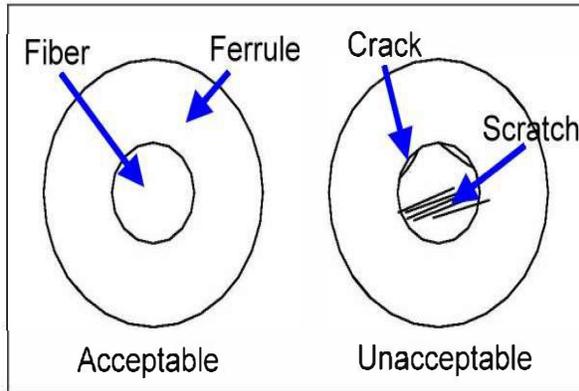


Fig 13

Step 12 Repeat the previous step with a 9 μ m, 3 μ m, 1 μ m and 0.3 μ m lapping film respectively.

Step 13 Clean connector end and use a X200 microscope to inspect the end surface of the connector. No adhesive, crack and scratch should be visible. See Fig. 13.

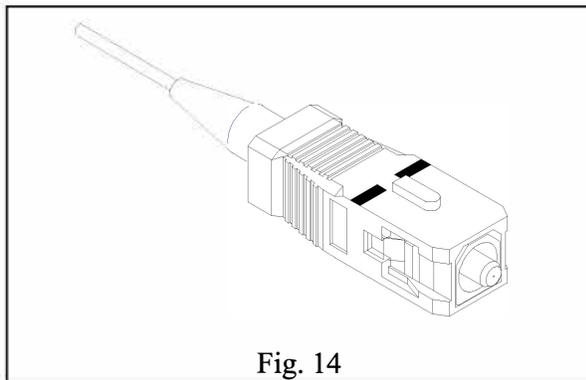


Fig. 14

Step 14 Pull the coupling device over the front outer shell and make sure snaps in place. See Fig. 14.

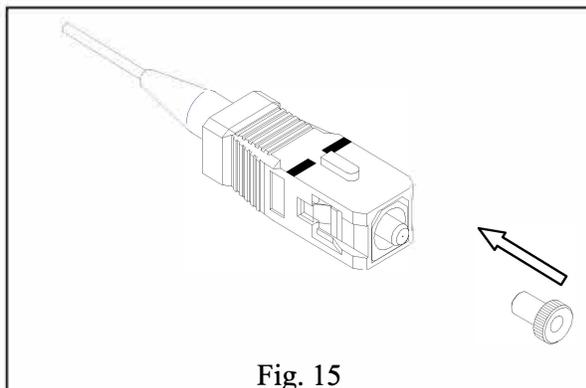
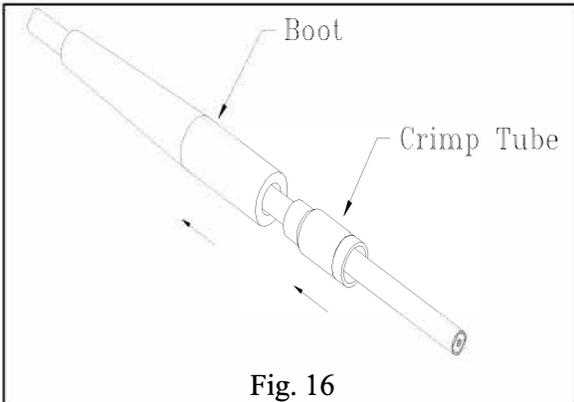


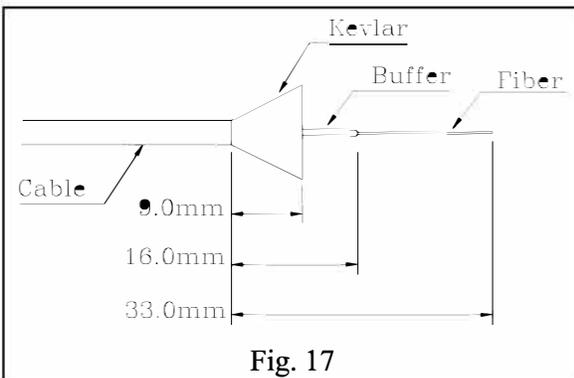
Fig. 15

Step 15 Carefully and thoroughly clean the optical contact with a lens tissue and isopropyl alcohol and cover the connector with the dust cap. See Fig. 15.

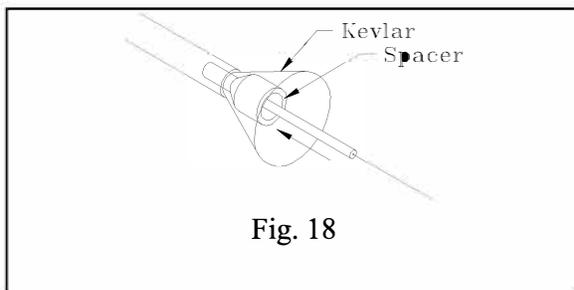
(B) FOR JACKETED FIBER



Step 1 Slide Boot, Crimp Tube onto the cable shown in Fig. 16.



Step 2 Use Jacket Stripper to remove cable jacket and cut the strength member (Kevlar). See Fig. 17 for the correct dimensions.



Step 3 Insert the Spacer carefully into the buffer of cable and push the Spacer all the way until it stops. See Fig. 18.

Step 4 Use Buffer Stripper to remove the require length of buffer and use alcohol and lint-free tissue to clean the bare fiber. See Fig. 19





Fig. 20

Step 5 Prepare epoxy per manufacturer's instructions. Remove the plunger from the syringe. Pour the epoxy into the syringe. Reinstall the plunger into the syringe.

Note: (1) Try to avoid trapping air in the syringe while pouring the epoxy into the syringe.
(2) Do not exceed the pot life of the epoxy as recommended by the manufacturer



Fig. 21

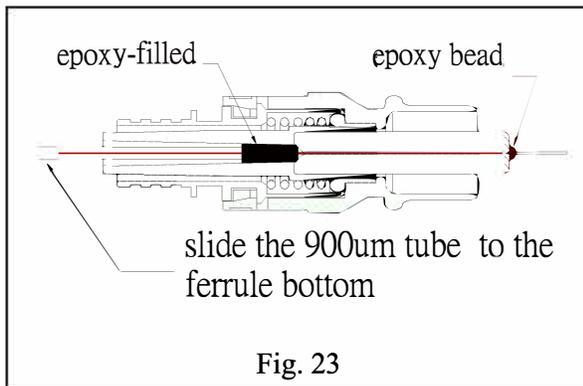
Step 6 Insert the syringe tip into the rear of the connector until it bottoms with the ceramic ferrule. Place a mark with marking pen, the mark just below the connector. See Fig. 20.

Step 7 Hold the connector and maintain pressure and slowly inject epoxy. The moment epoxy is visible at the tip of the ferrule, release pressure on the plunger. Move the syringe tip approximately 1~2mm from the mark of the connector and continue injecting appropriate epoxy. Release the pressure on the plunger and stop injecting epoxy. Withdraw the syringe tip straight back. See Fig. 21 and Fig. 22.

Note: (1) Do not let the epoxy to overflow into the outside of the rear body.

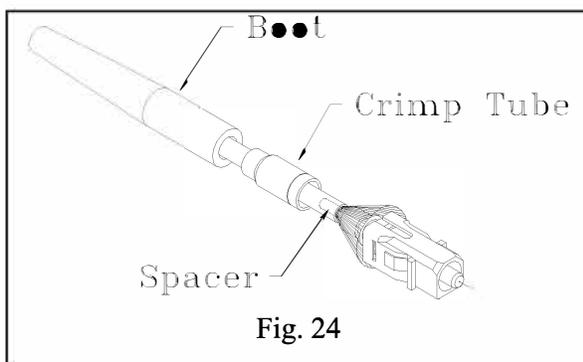


Fig. 22



Step 8 Insert the bare fiber carefully into the epoxy-filled connector. Slightly rotating the connector will help the fiber to get through the ferrule easier. Slide the fiber gently in and out of ferrule to form the epoxy bead on the end of ferrule. See Fig. 23 and Fig.24.

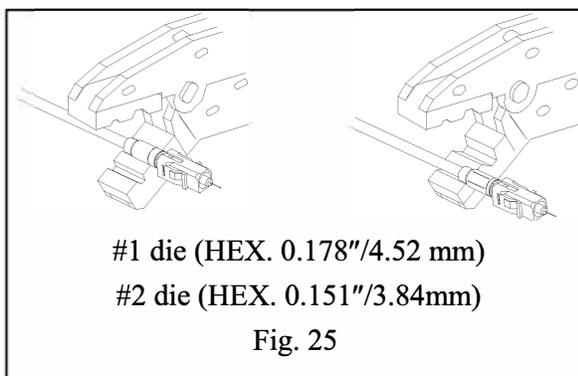
Note: (1) The 900um tube must bottom with the ferrule.



Step 9 Slide crimp tube over Kevlar and connector body. Crimp the tube twice with the crimping tool. (See Fig. 25) Crimp the large end tube with #1 die first and small end tube with #2 die later.

Note: (a) In case of Buffered Fiber termination, skip this step.

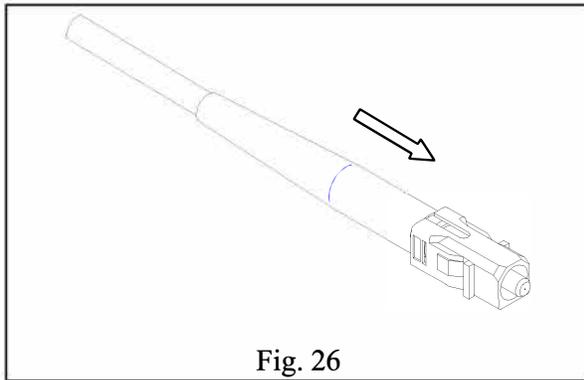
(c) #2 die is HEX 0.128"/3.25mm when a 2mm Crimp tube is applied.



Step 10 Slide the boot over the crimped tube as shown in Fig. 26.

Step 11 Carefully mount the connector onto the curing fixture. Place the connector into curing oven to cure epoxy. The heating temperature is 120 °C +/- 5°C for 20 minutes for curing.

Note: (a) Be careful not to break the fiber protruding from the ferrule tip and the boot do not touch the high temperature of the oven.



Step 12 Remove the fixture from the connector after epoxy is fully cured. Use a fiber scribe to cleave the protruded fiber slightly at the point where the fiber and epoxy bead meet. Gently push the tip of fiber until the fiber separates. See Fig. 27.

Note:

(a) Fiber shall be cleaved again if fiber is not break by light push on the tip of fiber

(b) Be sure that the epoxy has changed to red color before cleaving the protruded fiber.

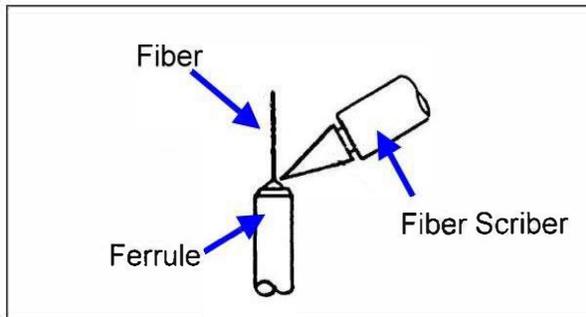


Fig 27

Step 13 Use alcohol and lens wiper to clean the polishing pad and polishing tool and place a 16 μm lapping film on the polishing pad and mount the connector onto suitable polishing fixture.

Note: Polishing Machine manufacturers offer different polishing procedures. Please refer to the polisher manuals for proper polishing process. This polishing procedure is for reference only

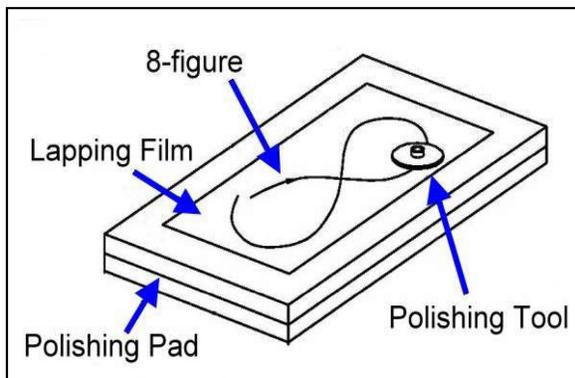


Fig 28

Step 14 Polish the end of the connector by applying light pressure on the connector and move the polishing jig by a Figure-8 motion until the polishing traces caused by protruded fiber disappear. See Fig. 28.

Step 15 Repeat the previous step with a 9 μm , 3 μm , 1 μm and 0.3 μm lapping film respectively.

Step 16 Clean connector end and use a X200 microscope to inspect the end surface of the connector. No adhesive, crack and scratch should be visible. See Fig. 29.

**SERIES 728-NNN0-NNN0N
SC ONE-PIECE CONNECTORS
TERMINATION PROCEDURE**

CORNING

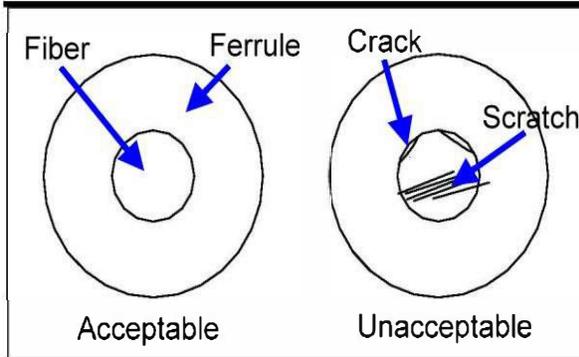


Fig. 29

Step 17 Pull the coupling device over the front outer shell and make sure snaps in place. See Fig. 30.

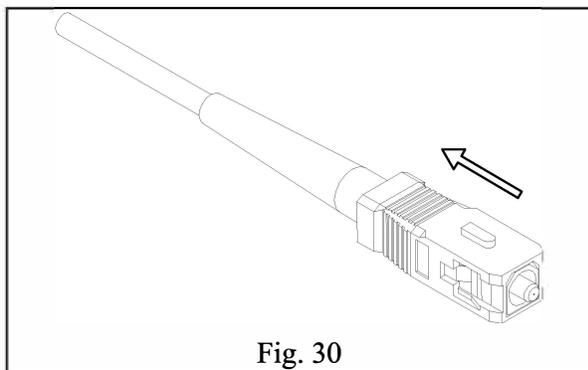


Fig. 30

Step 18 Carefully and thoroughly clean the optical contact with a lens tissue and isopropyl alcohol and cover the connector with the dust cap. See Fig. 31

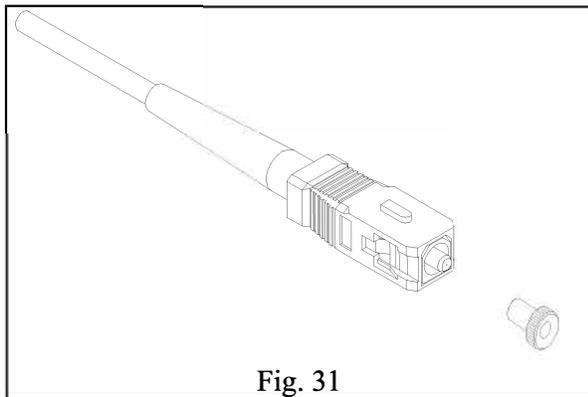


Fig. 31

III REQUIRED TOOLS AND MATERIALS

Note: Most Tools and Consumable material are standard and can be purchased through distributors.

TOOLS
JACKET STRIPPER
KEVLAR CUTTER
BUFFER STRIPPER
DIMENSION TEMPLATES(SC ONE-PIECE)
FIBER SCRIBER
MICROSCOPE X200
CRIMPING TOOL(ST, FC, SC)
POLISHING TOOL(SC)
POLISHING PAD
CONSUMABLE ITEMS
EPO-TEK 353ND EPOXY
LAPPING FILM 5 μm
LAPPING FILM 1 μm
LAPPING FILM 0.3 μm
LENS WIPER
SYRINGE