CORNING

RLC Slimpack™ Connectors Termination Procedure

Series: 721-N6NN-NNNNN

B	Update address and fax number	10/26/18
A	Initial Release	2/9/09
Version	Revision History Summary	Issue Date

I INTRODUCTION

This document describes the termination procedure of RLC Slimpack connector. This connector is assembled with 3mm or 2.4mm outer diameter cable which has two 900um buffered fibers (Corning DFX cable). Please read this procedure thoroughly before starting assembly.

II DESCRIPTION

Fig. 1 shows the structure of RLC Slimpack connector, which consists of Connector Subassembly, Dust Cap, Upper Cover, Lower Cover, Crimp Cover, Crimp Tube and Boot. Follow the steps below to make LC Cable Assembly.

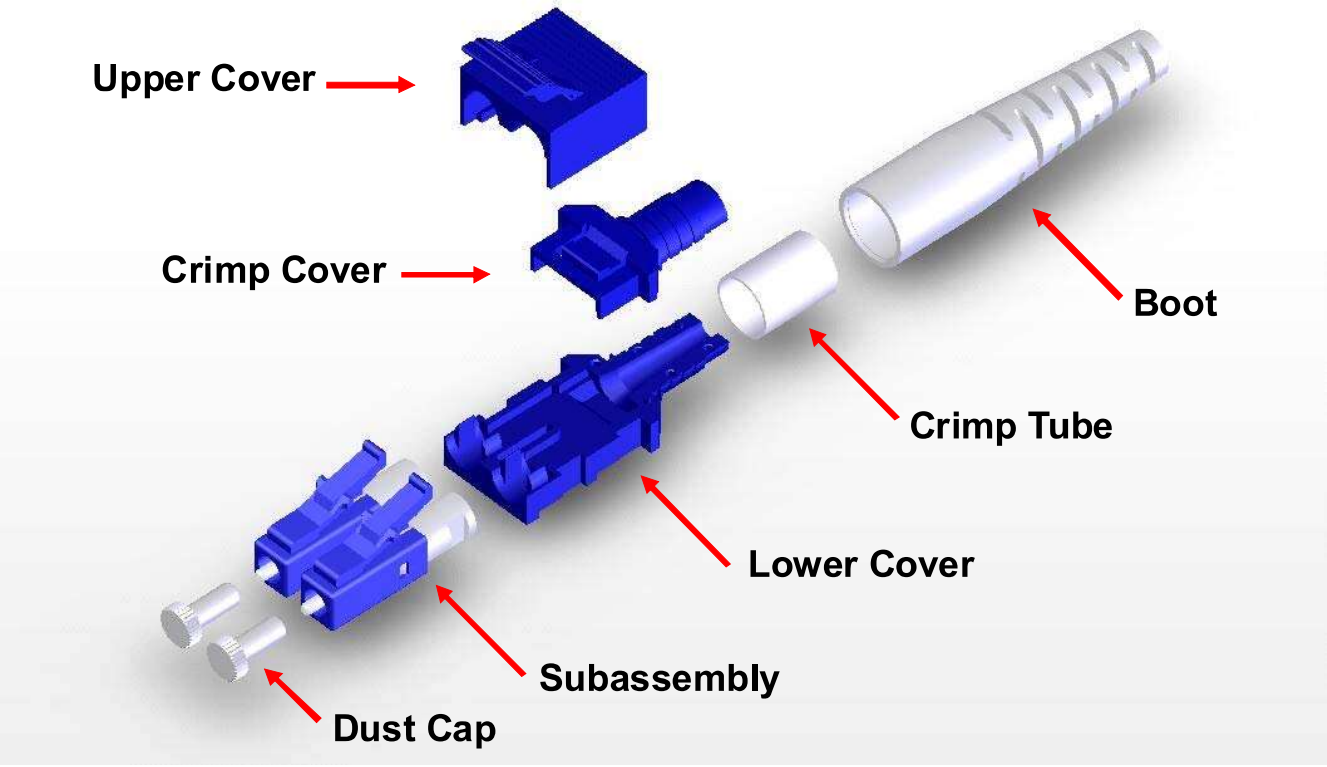

Fig 1

III ASSEMBLY PROCEDURE

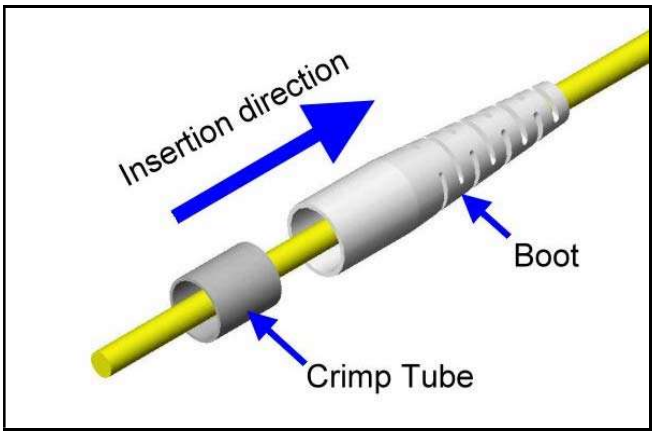

Fig 1

Step 1 Slide the Crimp tube and Boot

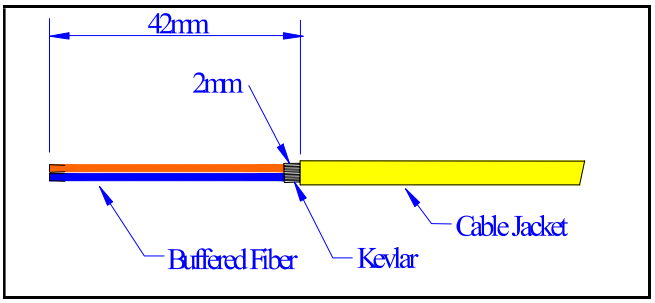

Fig 2

Step 2 Use jacket stripper to cut cable jacket 42mm. Next, cut the Kevlar to a length of 2mm using the Kevlar cutter.

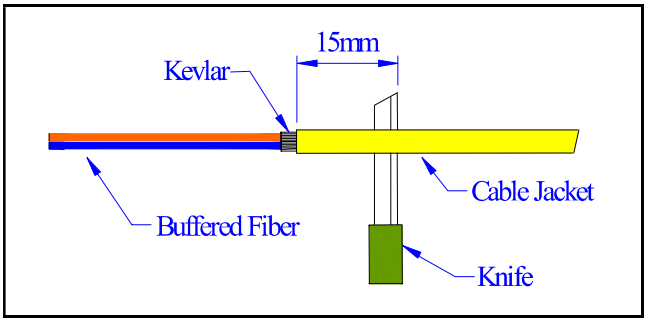

Fig 3

Step 3 Use knife to make two 15mm slots on opposite edges of the cable jacket.

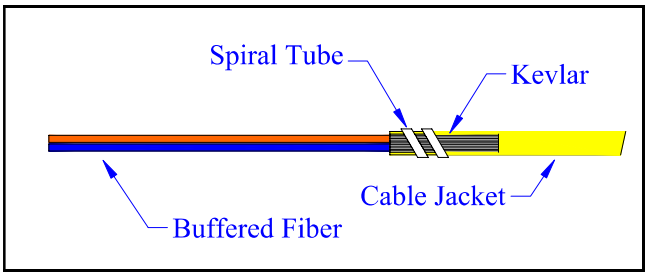

Fig 4

Step 4 Insert the spiral tube from the end of fiber and secure the tube by folding it back over the buffered fiber so that the Kevlar does not unravel.

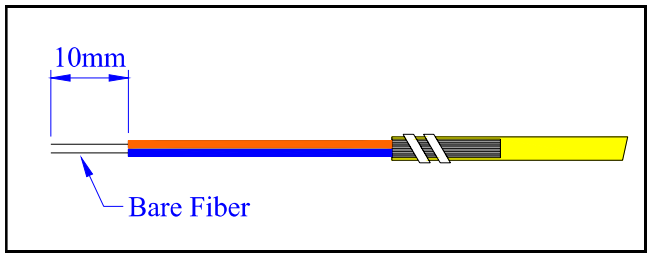

Fig 5

Step 5 Use buffer stripper to remove the required length of buffer and use alcohol and lens wiper to clean the bare fiber.

Note: *Two of the fiber must have the same length, different length will get more bending loss.*

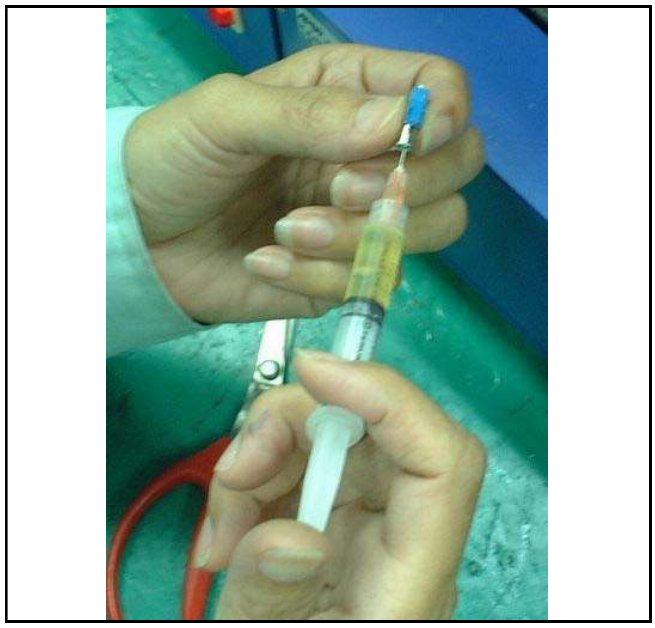

Fig 6

Step 6 Have the epoxy ready according to the manufactures instructions and put part of the mixed epoxy into a small container. The rest of epoxy should be stored in the freezer for latter use.

Step 7 Apply a couple of drops of the epoxy to the inside of subassembly by using a needle or syringe.

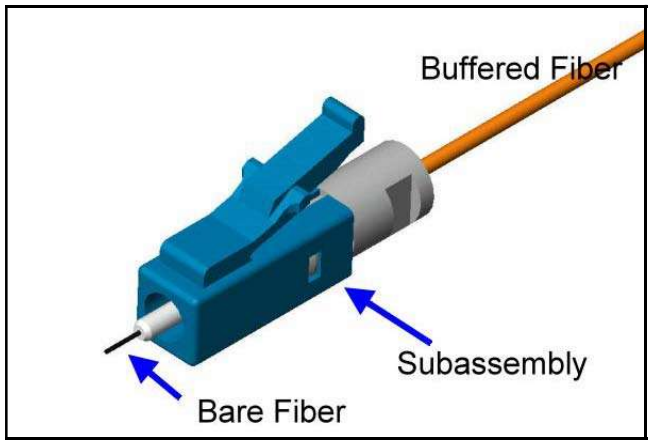

Fig 7

Step 8 Insert fiber carefully into the epoxy-filled subassembly. Slightly rotate the subassembly will help the fiber to get through the ferrule.

Step 9 Slide the fiber gently in and out of ferrule to form the epoxy bead on the end of ferrule. Or, apply a drop of epoxy on the ferrule end face to form the epoxy bead around fiber.

Fig 8

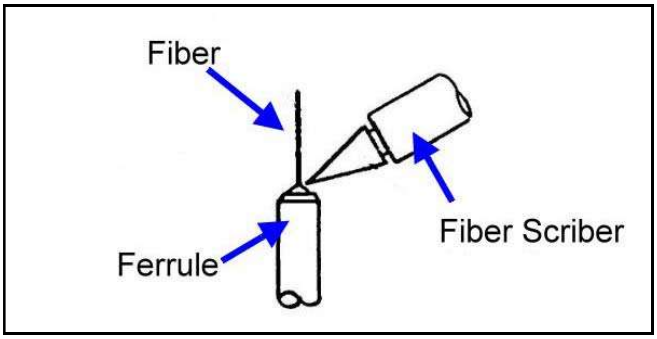

Fig 9

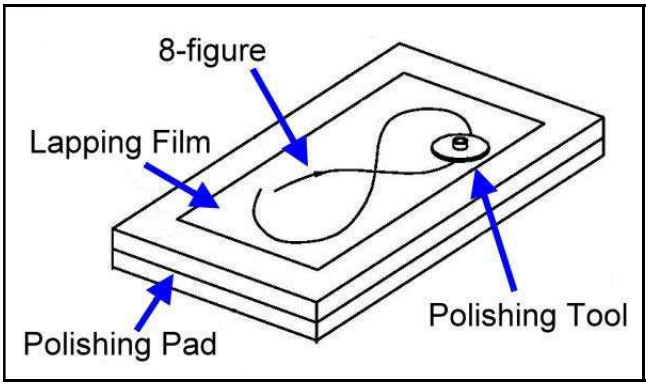

Fig 10

Step 10 Carefully mount the connector subassembly onto the curing fixture, and cure it. The heating temperature is 120°C for 20 minutes.

Note: *During the curing, the cable should maintain vertically to avoid any bending which can cause micro-bending loss after assembly.*

Step 11 Remove the fixture from the connector subassembly after epoxy is fully cured. Use a fiber scriber to score the protruded fiber slightly at the point where the fiber and epoxy bead meet. Gently push the tip of fiber until the fiber separates.

Note: *Do not break the fiber directly when the fiber is scored. Fiber shall be scored again if fiber is not broken by light push on the tip of fiber.*

Step 12 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. Cable assembly makers should develop their own polishing process.*

Step 13 Polish the end of connector by applying light pressure on the connector and move the polishing jig by an 8-figure motion until the polishing traces caused by protruded fiber disappear.

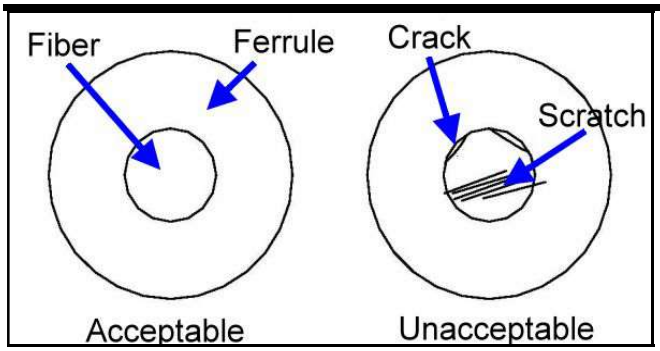

Fig11

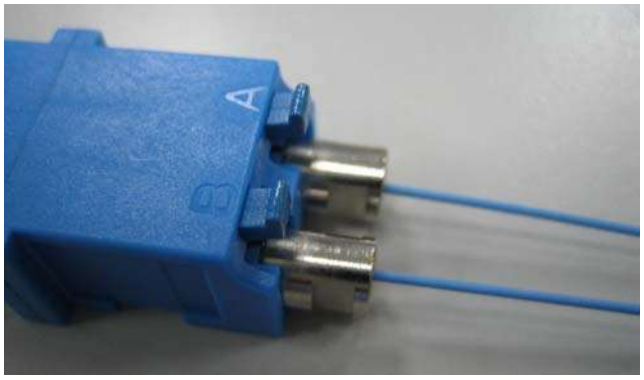

Fig12

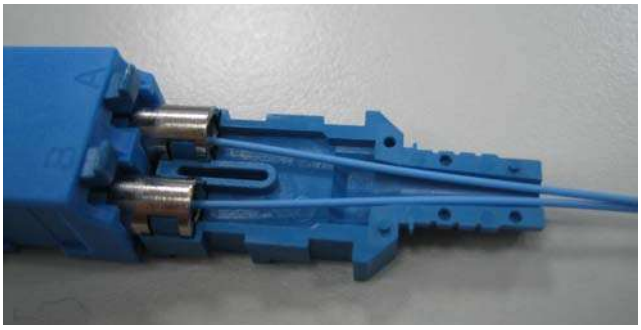

Fig 13

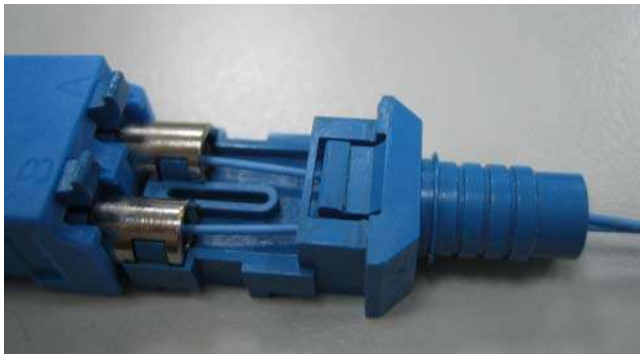

Fig 14

Step 14 Repeat the previous step with a 9μm, 3μm, 1μm and 0.3μm lapping film respectively.

Step 15 Clean connector end and use a X200 microscope to inspect the end surface of the connector. No adhesive, crack and scratch should be visible.

Step 16 After passing the visual inspection, put into LC duplex adapter. (Fig 12)

Step 17 Place the lower cover down the end of the connector.

Step 18 Place the Crimp Cover on Lower Cover.

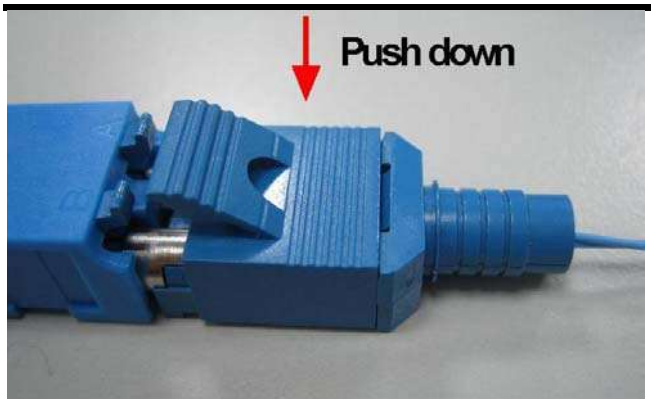

Fig 15

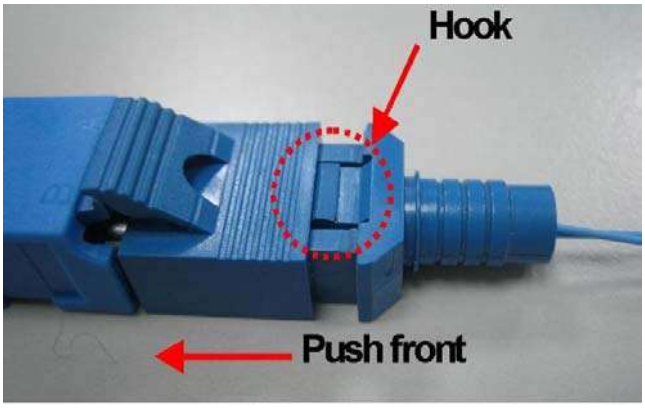

Fig 16

Step 19 Install the Upper Cover like in Fig15 & Fig 16

Step 20 Install Dust Cap

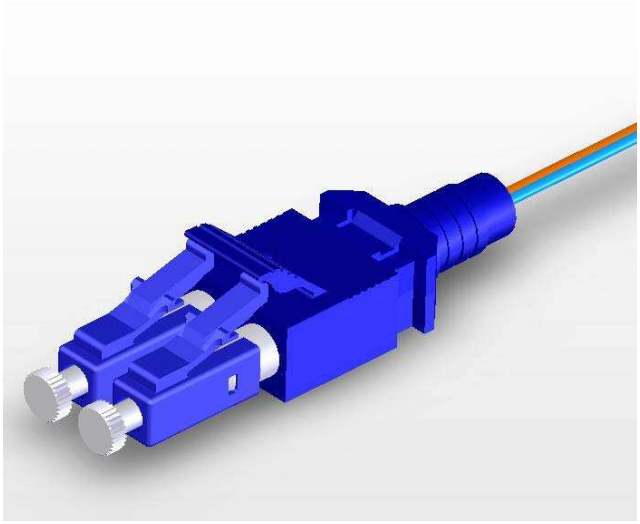

Fig17

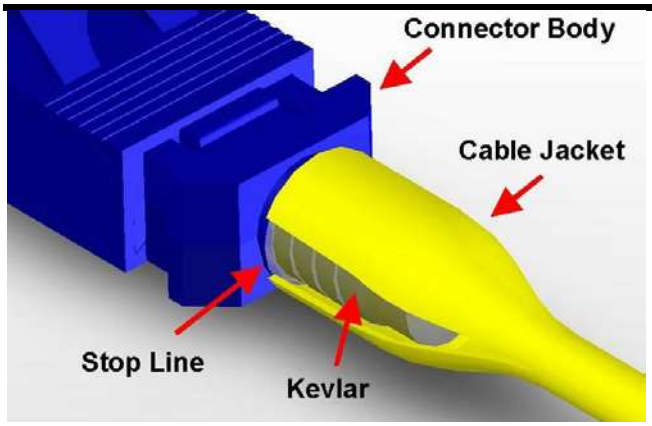

Fig 18

Step 21 Careful remove the sprial tube. Position the Kevlar and cable jacket forward onto the rear of the connector body.

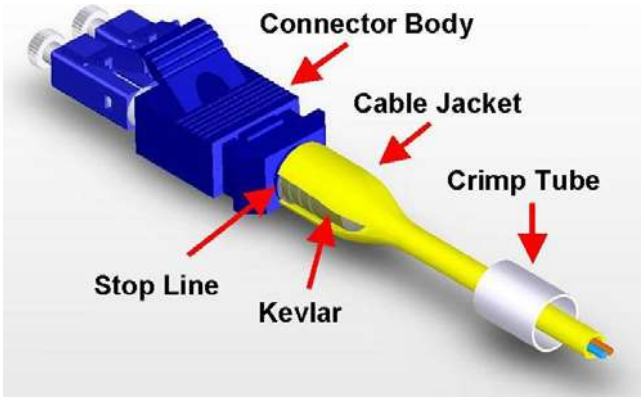

Fig 19

Step 22 Slide the crimp tube over the Kevlar and cable jacket until stop line.

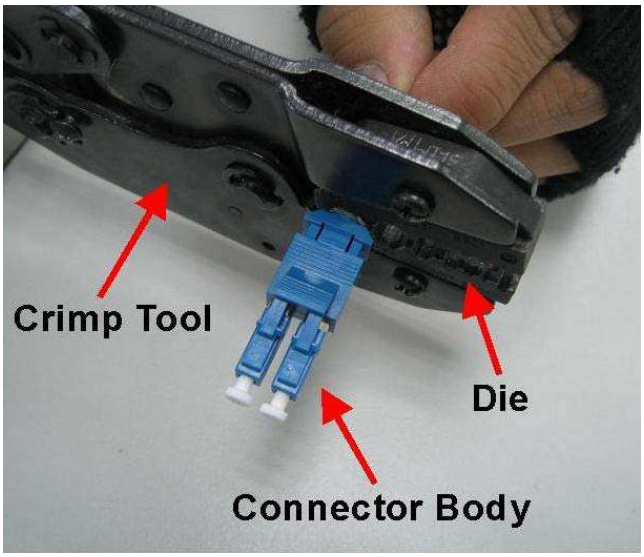

Fig 20

Step 23 Crimp the crimp tube using AFOP LC Slimpack Connector crimp tool. The hexagon die dimension is shown in Fig 20.

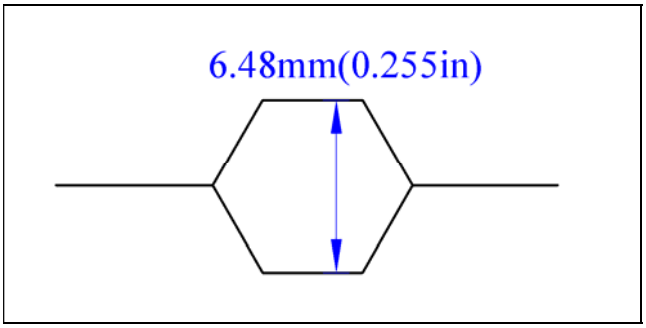

Fig 21

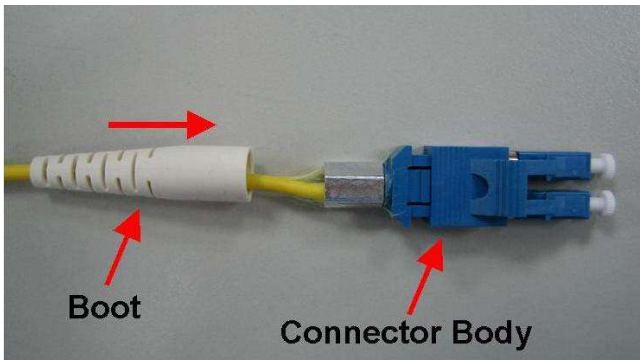

Fig 22

Step 24 Slide the boot over the crimp tube.

IV Required Tools and Materials

Note: *Most Tools and Consumable material are standard and can be purchased through its own manufacturers or distributors.*

TOOLS
JACKET STRIPPER
KEVLAR CUTTER
BUFFER STRIPPER
FIBER SCRIBER
KNIFE
MICROSCOPE X200
CRIMPING TOOL
POLISHING TOOL(LC)
POLISHING PAD
HEAT BLOWER
CONSUMABLE ITEMS
EPOXY (EPO-TEK 353ND)
SPIRAL TUBE
LAPPING FILM 16 μm
LAPPING FILM 9 μm
LAPPING FILM 3 μm
LAPPING FILM 1 μm
LAPPING FILM 0.3 μm
LENS WIPER
SYRINGE