

Be sure to read and completely understand this procedure before applying product. Be sure to select the proper Optical Cable Corporation product before application.

## LC CONNECTOR TERMINATION PROCEDURE

### 1.00 GENERAL

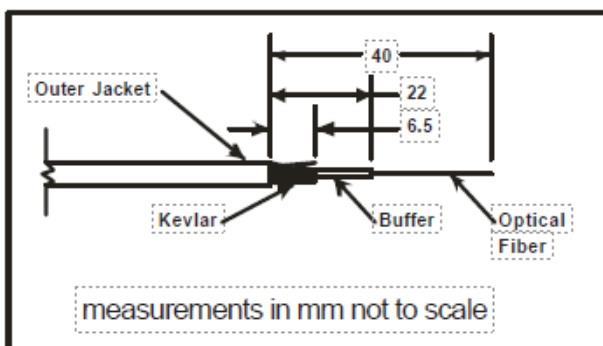
- 1.01 This document provides assembly instructions for LC style fiber optic connectors.

### 2.00 PROCEDURE

- 2.01 Set curing oven to 100°C (212°F).
- 2.02 MIX THE EPOXY (Optical Cable Corporation recommends OPTICURE 100 SYSTEM or TRA-BOND \_\_\_\_). Prepare the epoxy according to the manufacturer's instructions. Fill the syringe with epoxy and remove any air bubbles. *Caution: Do not exceed the pot life of the epoxy recommended by the manufacturer.*

#### CABLE PREPARATION

- 2.03 Slide Crimp Ring, Strain Relief Boot, and Crimp Sleeve (where applied) onto the cable.
- 2.04 Strip the cable to the dimensions shown in Figure 1.



**FIGURE 1 CABLE PREPARATION**

- 2.05 Slightly bend the exposed fiber to assure that no nicks occurred while removing the secondary coating. If the fiber was nicked, it will break easily.
- 2.06 Clean the exposed fiber by drawing it through an alcohol pad.

#### FILLING CONNECTOR WITH EPOXY

- 2.07 Using the epoxy-filled syringe, wipe the

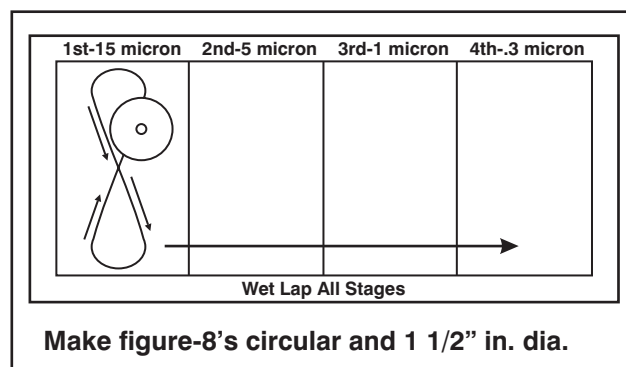
needle. Insert the needle into the connector until it bottoms out. Keeping the contact bottomed out, fill the connector with epoxy until a small amount of epoxy forms on the tip of the connector before quickly removing the syringe.

#### FITTING CONNECTOR TO CABLE

- 2.08 Insert the fiber into the connector while slowly rotating the connector. *Caution: Do not move fiber back and forth during the fitting, this may cause epoxy spread out to exposed area and damage the connector.*
- 2.09 Spread Kevlar around the connector backpost. Remove the tape and slide the Crimp Sleeve over the Kevlar and connector backpost. Crimp the sleeve using a crimp tool. Use the .178" hex die to crimp over the backpost. Use the .151" hex die to crimp over the cable.
- 2.10 Slide the Strain Relief Boot over the Crimp Sleeve and connector.
- 2.11 Use adhesive manufacturer's recommended procedure.
- 2.12 Using a scribing tool, lightly score the fiber at the point where the fiber and epoxy bead meet. Gently pull on the fiber until it separates.

### 3.00 POLISHING

- 3.01 Insert connector ferrule into polishing puck and gently place onto 15 micron lapping film (see Figure 2). Using very light pressure, make 3 to 5 figure-8's until fiber



**FIGURE 2 FIBER POLISHING**

height is level to ferrule end-face. Using 15 micron lapping film, do 12 to 15 figure-8's. This step creates the end-face radius for the PC Finish. Use the connector spring tension to gage how much pressure you are applying. **Note:** Use this same pressure throughout polishing operation.

**Clean off connector ferrule and puck to prevent cross contamination and scratching of fiber core.**

3.02 Repeat polishing using 5 micron lapping film (See Figure 2).  
**Clean off connector ferrule and puck to prevent cross contamination and scratching of fiber core.**

3.03 Repeat polishing using 1 micron lapping film (See Figure 2).  
**Clean off connector ferrule and puck to prevent cross contamination and scratching of fiber core.**

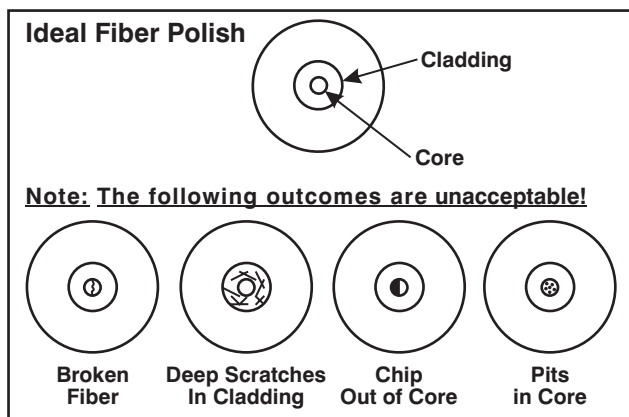
3.04 Repeat polishing using .3 micron lapping film (See Figure 2).  
**Clean off connector ferrule and puck to prevent cross contamination and scratching of fiber core.**

3.05 Then insert ferrule straight up into 100X or 200X inspection microscope and inspect fiber core. The core & cladding should be free of scratches and chips (See Figure 3).

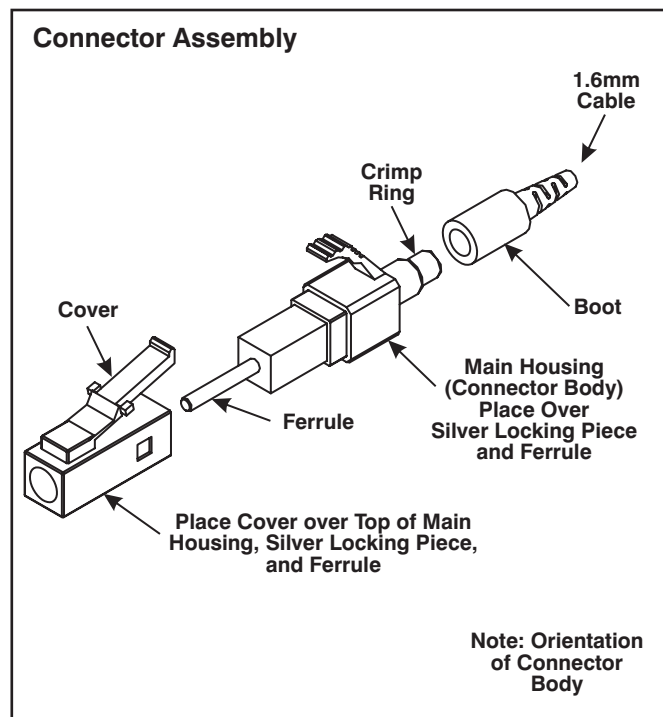
**IMPORTANT:** The Borosilicate Glass Ferrule can be field repaired. Most scratches and chips can be removed with a *Repair Polish Process*. Using the rubber mat and .3 μm polishing film, making 15 to 20 laps with reduced polishing pressure you can remove damage in core and cladding area. The repair process can be repeated several times if needed. If severe damage occurs, use 1. μm lapping film and finish on .3 μm by following polishing sequence 3.03 and 3.04. By following these steps, you will maintain the PC Finish with a Super Smooth Polish to achieve a low insertion loss test measurement.

#### 4.00 FINAL ASSEMBLY

4.01 Place cover with small end over main housing (See Figure 4). Make sure to line up housing and cover properly (see below). Slide boot up and snap into place.



**FIGURE 3 FIBER POLISH FINISH**



**FIGURE 4 FINAL ASSEMBLY**