Reference Document	Document No.	LINDEN-ETP-5022
Title	Termination Procedure for Lancer ST	

Rev	Date	Author	Notes
0	11/05/19	SMO	Initial Release
1	12/6/19	SMO	Added A/O polish info

1. Assembly Tools

The tools required for the patchcord or pigtail assembly using STFOC cable are as follows:

1.1 Cable Outer Jacket Strippers
1.2 LCP/Silicone Coating (Buffer) Removal Tool Clauss/Miller Strippers (e.g. FIS F1-1520)
1.3 Kevlar Cutters
1.4 IPA (Isopropyl Alcohol)
1.5 Epoxy roller/mixer
1.6 Syringe
1.7 Fiber Cleave Tool
1.8 Crimp Tool
1.9 Curing Oven (optional)
1.10 Polishing Machine (Seikoh Giken [SFP-70D2])
1.11 Polishing Fixture (Seikoh ST/PC Ferrule Holder for [SFP70D2])
1.12 Epoxy (TRA-CON Blue Dye Epoxy (2 Grams) [BAF113SC])
1.13 Stripping template

2. Fiber Cable Preparation

2.1 Slide boot and crimp ring onto cable

Figure 1. ST boot and crimp ring onto cable

2.2 Mark outer jacket according to the template

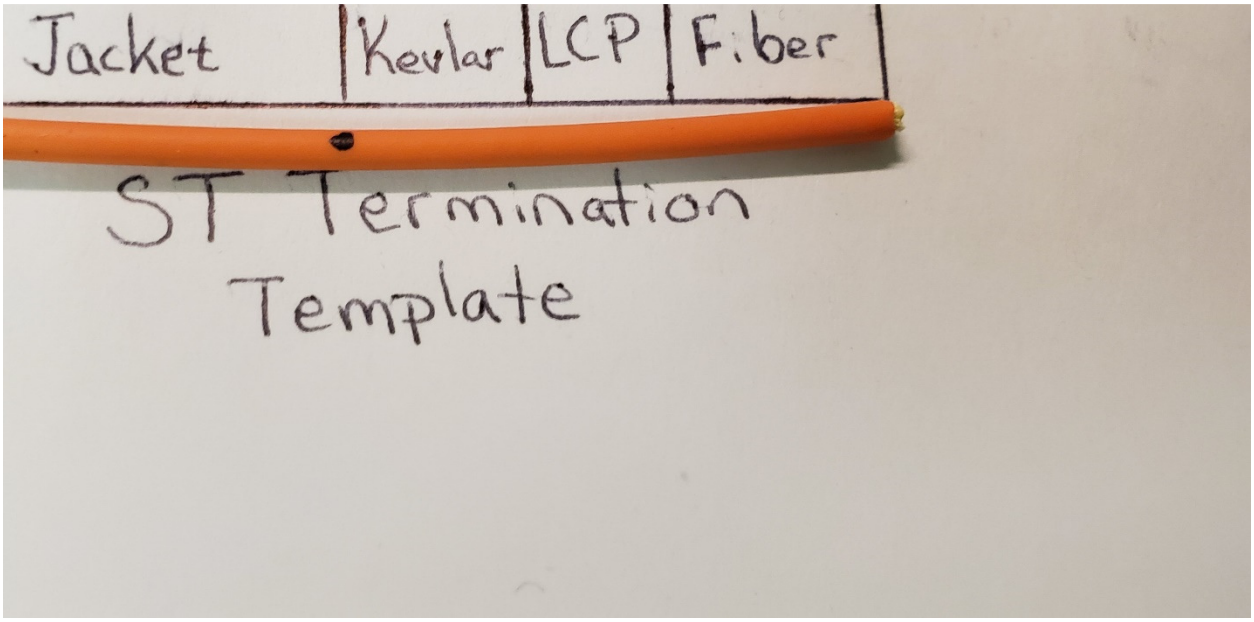

Figure 2. Mark Cable Jacket According to Template

2.3 Strip off outer jacket using 1.6mm to 3mm hole in Jonard JIC-375 stripping tool.

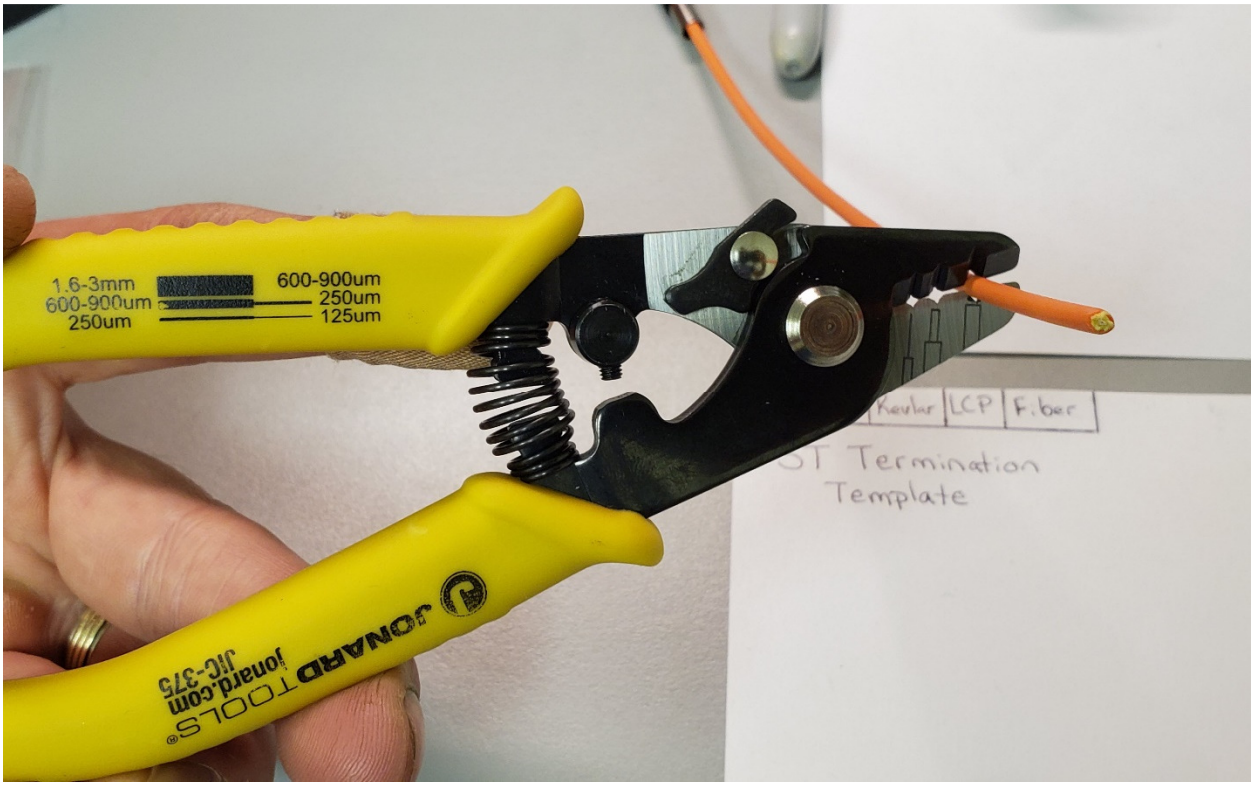

Figure 3. Removal of Outer Jacket

2.4 Push back Kevlar

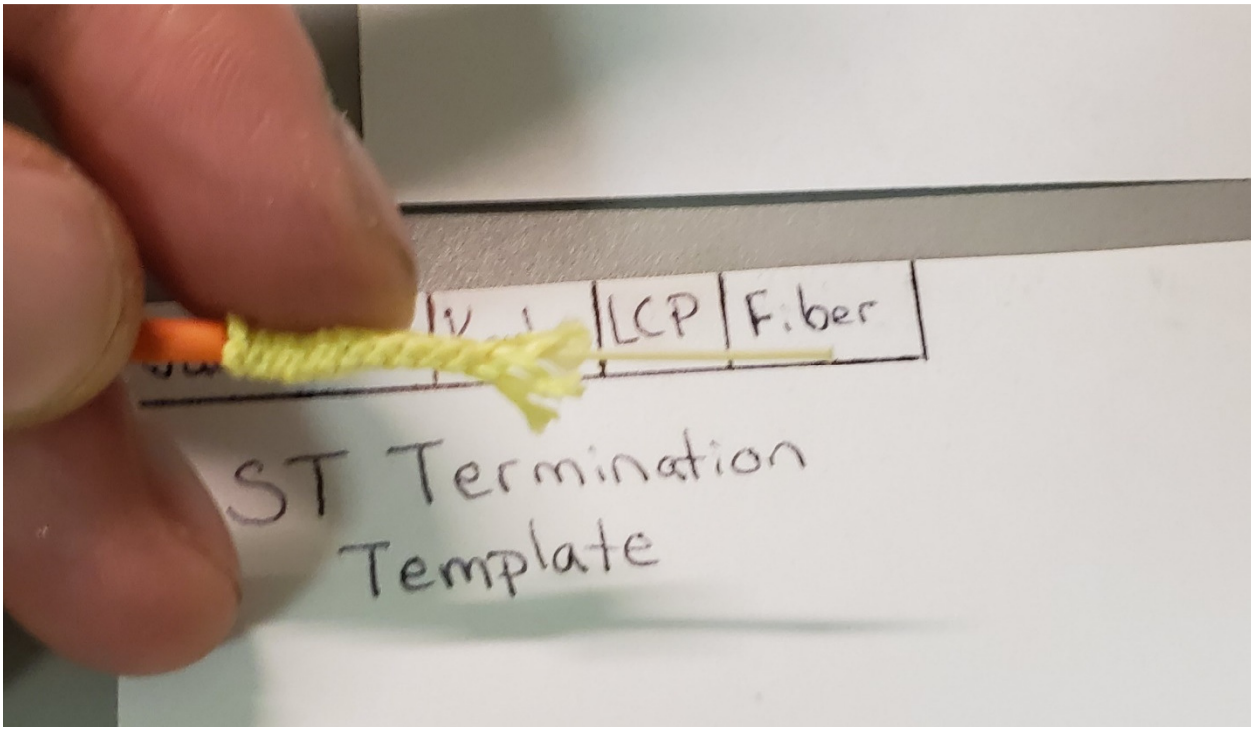

Figure 4. Push Back Kevlar

2.5 Open Kevlar braid using plastic tool, like tweezers shown in Figure 5 and cut to length with Kevlar Cutters according to the template.

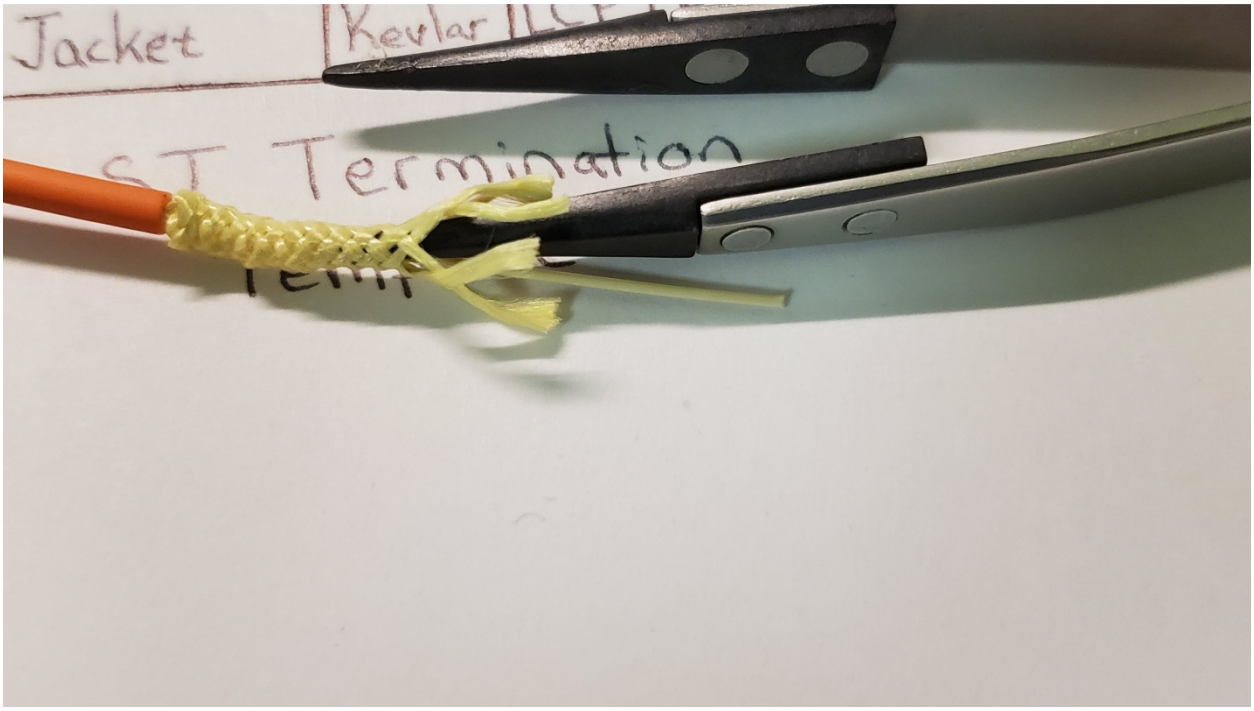

Figure 5. Opening of the Kevlar Braid for Cutting to Length

2.6 Mark the LCP Layer according to the template.

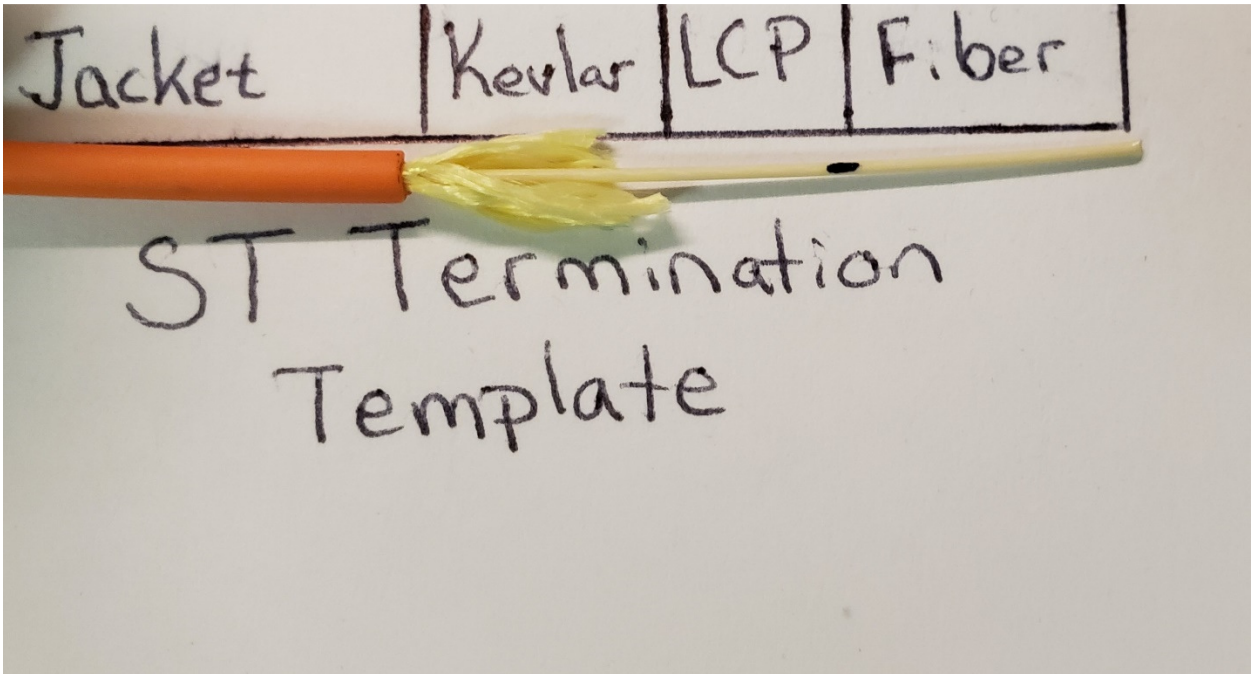

Figure 6. Mark the LCP Jacket

2.7 Strip off LCP jacket using 250µm hole in Jonard JIC-375 stripping tool.

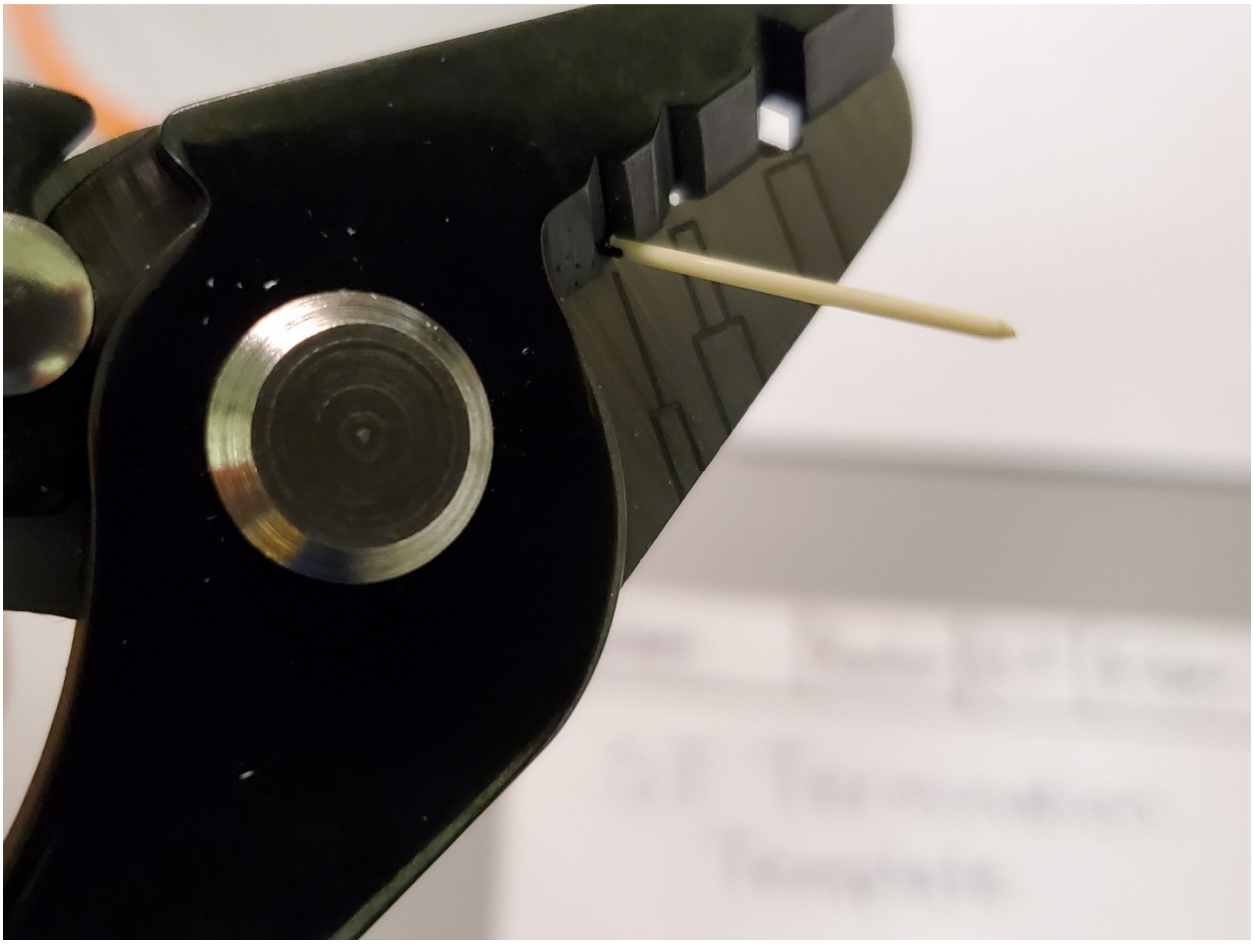

Figure 7. Stripping the LCP Layer

2.6 Make sure to remove all of the fiber buffer using the tool and clean with isopropyl alcohol.

2.7 Mix the epoxy bipack thoroughly with the roller.

Figure 8. Epoxy Bi-Pak Mixed with Roller

2.8 Cut the corner of the bi-pak and pour the contents into the syringe. Point the syringe up and let the epoxy flow to the bottom. Then depress the plunger and remove the air from the syringe.

Figure 9. Epoxy in Syringe

2.9 Place the tip of the syringe into the back post of the connector flush with the back of the ferrule. Depress the plunger until epoxy starts to come out of the ferrule tip. Then pull the syringe back slightly and depress some more epoxy to get a small amount filled in behind the ferrule and inside the backpost.

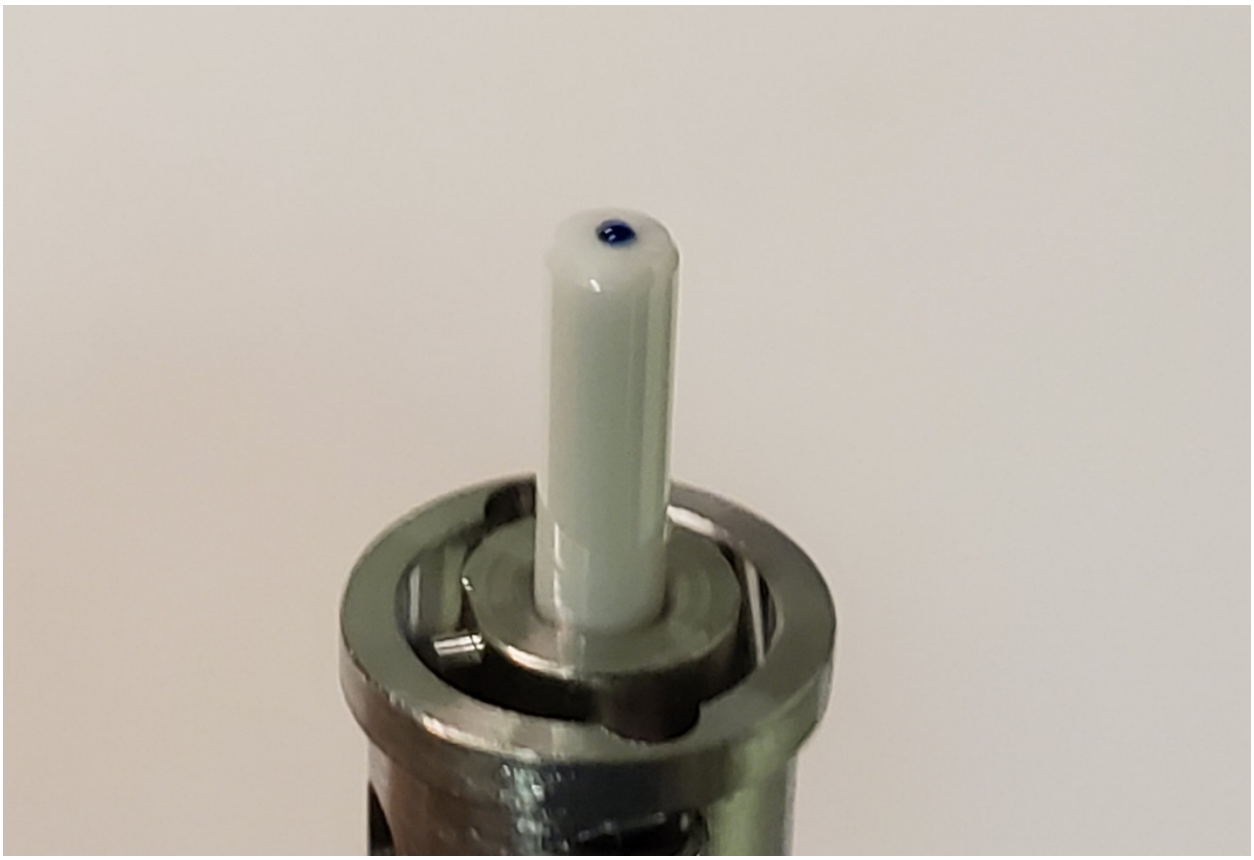

Figure 10. Epoxy Bead at the Tip of the Connector Ferrule

2.10 Slide the fiber into the connector making sure the fiber goes into the ferrule. If the fiber stops do not push with force. Pull back the fiber slightly and reinsert. When the fiber enters the ferrule properly it will slide in easily.
2.11 Make sure the Kevlar is pulled aside so that it is on the outside of the backpost. The ferrule backpost should stop just short of the cable outer jacket.

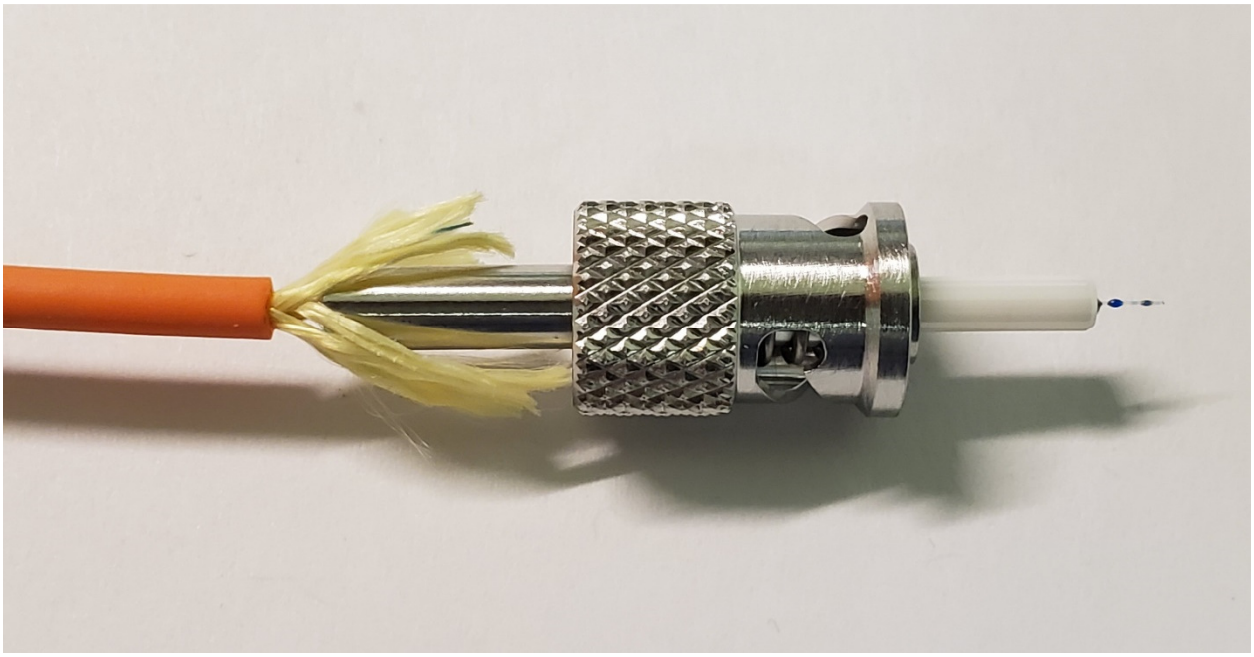

Figure 11. Kevlar Placed over Backpost

2.12 Place the crimp ring over the connector backpost and crimp with a 0.178" hex crimp tool.

Figure 12. Crimping

2.9 Place a small drop of Loctite 44 on the crimp ring.

Figure 13. Loctite 444 Adhesive for the Boot

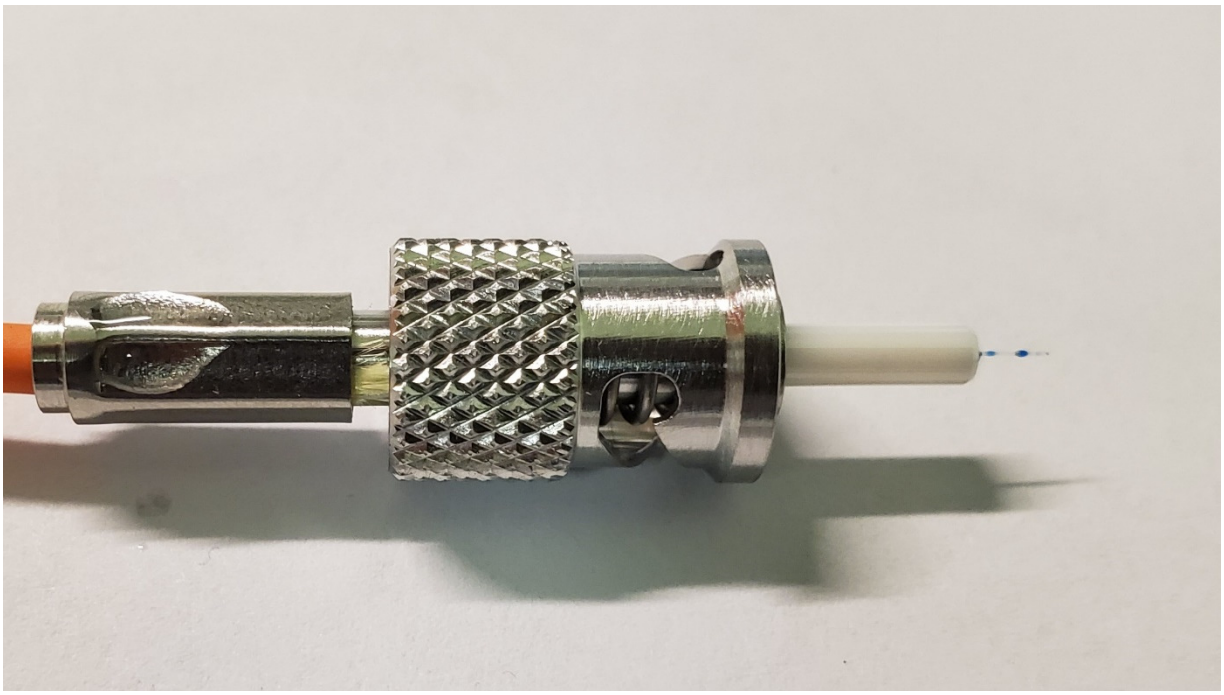

Figure 14. Adhesive on Crimp Ring

2.9 Pull the boot into place.

Figure 15. Boot in Place

3. Curing epoxy

3.1 Cure the epoxy according to the manufacturer's instructions. Either 18 hours at room temperature of 1 hour at 65C.

4. Cleaving of the Fiber

Note: In the following step, take care not to break the exposed fiber.

4.1 After the connector has cooled to room temperature, use a suitable cleave tool to remove the excess fiber protruding the tip of the ferrule.

4.2 Rest the blade of the cleave tool against the fiber just on top of the epoxy bead on the surface of the ferrule.
Gently run the full length of the blade over one side of the fiber and be careful while removing the fiber cut-off so as not to lose it.

4.3 Place fiber in a suitable sharps bin for proper disposal.

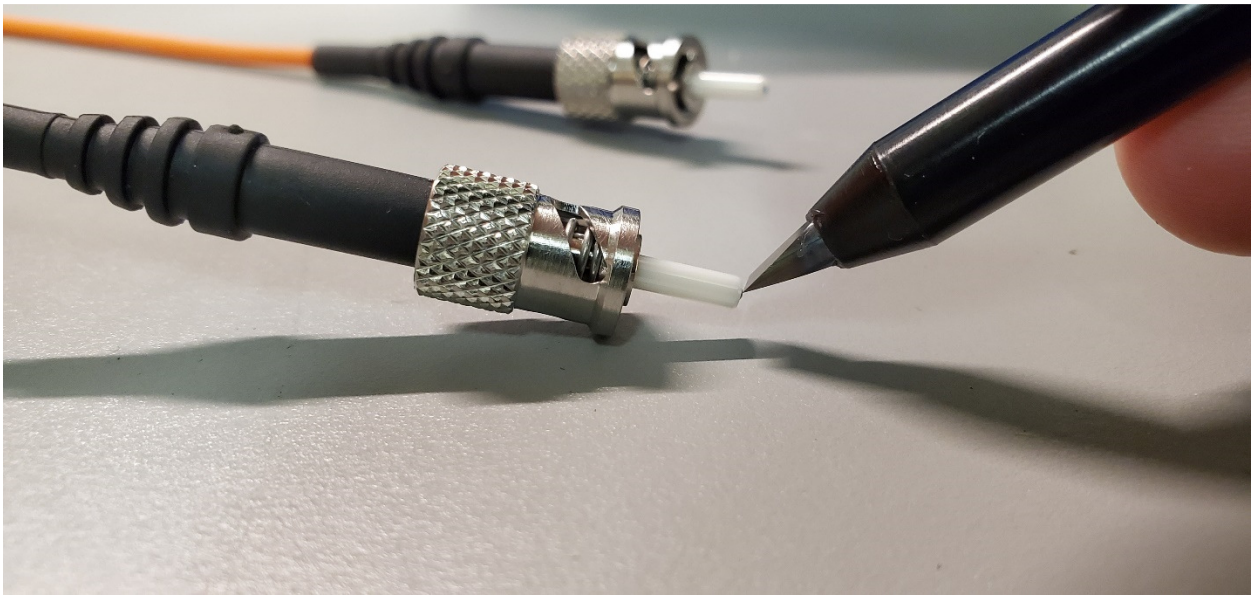

Figure 16. Cleaving the Fiber

5. Polishing

5.1 Place the connectors into the polishing plate, making sure that they are fully inserted. The tip of the ferrule will protrude through the bottom of the plate as shown below. Put a small amount of pressure on the tip of the ferrule with your finger tip to make sure the ferrule spring is working.

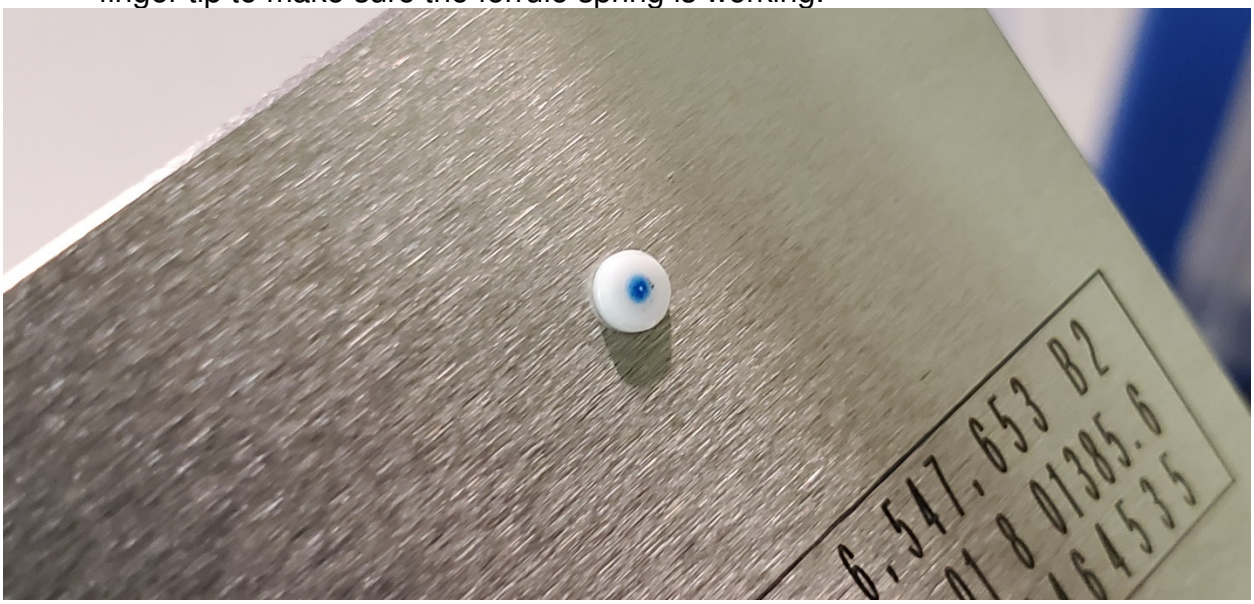

Figure 17. Fiber Tip Protruding through Bottom of Polishing Plate

5.2 Put polishing pad onto polishing machine and squirt a small amount of water onto the pad and wipe with a Kim Wipe.

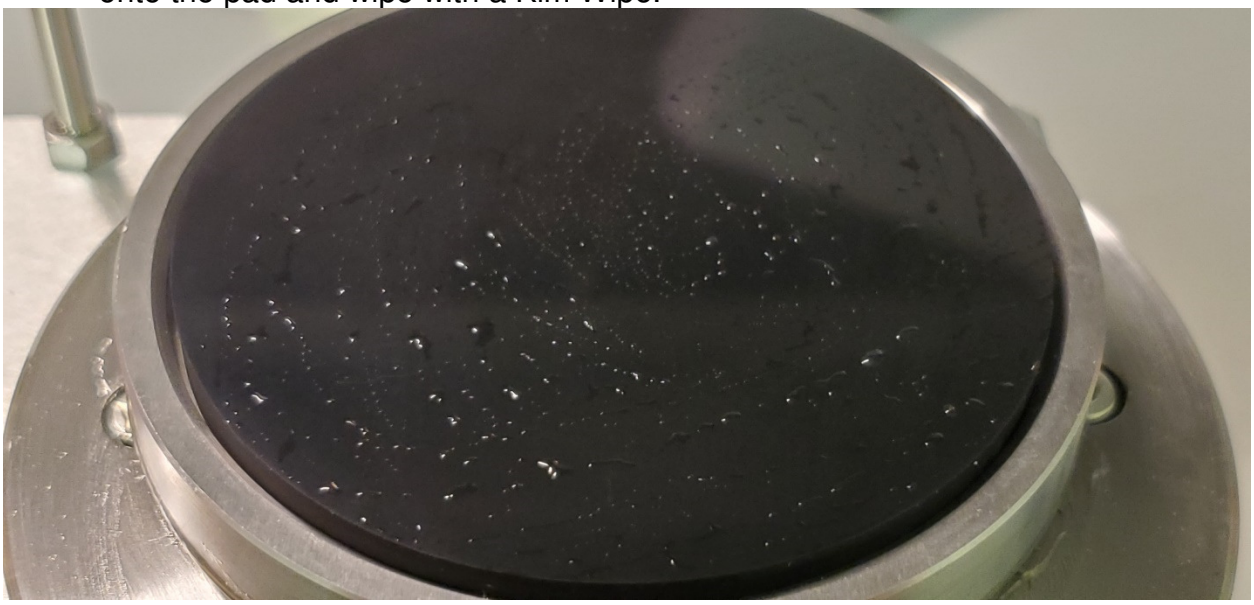

Figure 18. Polishing Pad

5.3 Place the green polishing film onto the pad, glossy side down. Roll over the film with the roller to make sure it sticks to the pad.

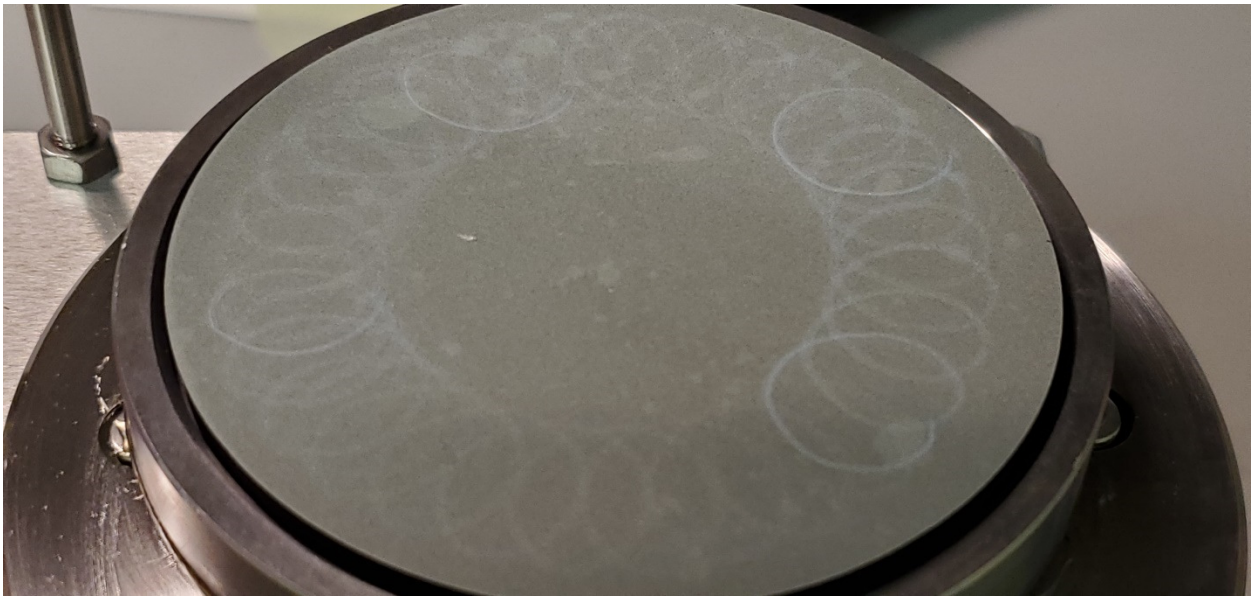

Figure 19. Green Polishing Film on Pad

5.4 Set the timer for 30s
5.5 Place the polishing fixture onto the machine and press the red button to start the cycle. DO NOT fasten the latch on the left side of the machine. Make sure the polishing film is affixed firmly to the pad beneath while the machine is running.
5.6 After the cycle ends, remove the fixture, squirt distilled water onto the bottom of the fixture and wipe the connector end faces with a Kim Wipe.

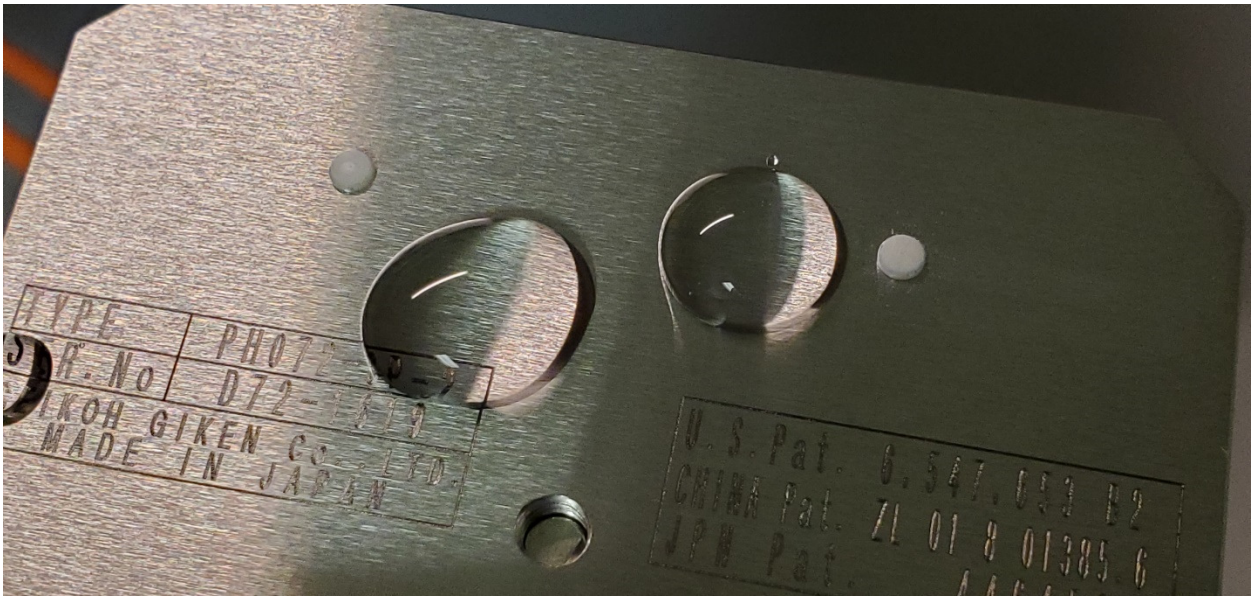

Figure 19. Cleaning the Endface

5.7 Remove the green polishing film and place a pink film onto the pad. Roll the film firmly onto the pad. Squirt water onto the film and wipe with a Kim Wipe.

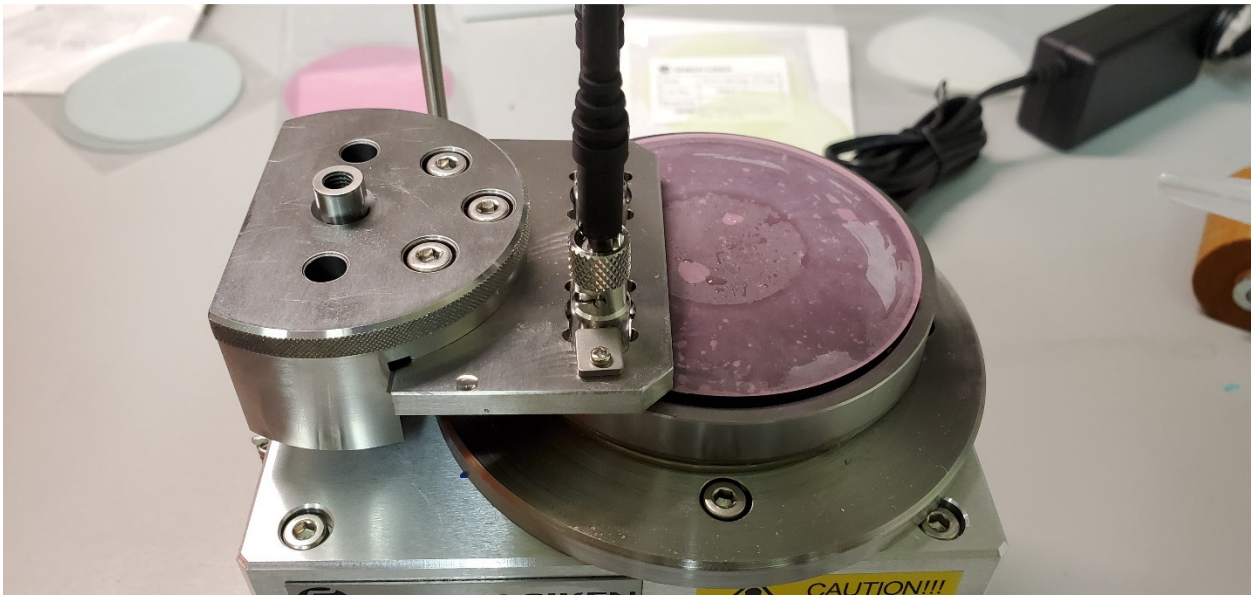

Figure 20. Polishing Fixture in Place

5.8 Set the timer for 30s
5.9 Place the fixture onto the machine and press the red button to start the cycle. AFTER the cycle begins, fasten the latch on the side of the machine. Make sure the polishing film is affixed firmly to the pad beneath while the machine is running.
5.10 After the cycle ends, remove the fixture, squirt distilled water onto the bottom of the fixture and wipe the connector end faces with a Kim Wipe.
    5.10a If using aluminum oxide 9um polishing film, DO NOT fasten the latch on the side of the machine and set run time for 1 min.
5.11 Place the yellow polishing film onto the pad, glossy side down. Roll over the film with the roller to make sure it sticks to the pad.
5.12 Set the timer for 1 min
5.13 Place the polishing fixture onto the machine and press the red button to start the cycle. AFTER the cycle begins, fasten the latch on the side of the machine. Make sure the polishing film is affixed firmly to the pad beneath while the machine is running.
5.14 After the cycle ends, remove the fixture, squirt distilled water onto the bottom of the fixture and wipe the connector end faces with a Kim Wipe.

5.15 Place the white polishing film onto the pad, glossy side down. Roll the film firmly onto the pad. Squirt water onto the film and wipe with a Kim Wipe
5.16 Set the timer for 1 min

5.17 Place the fixture onto the machine and press the red button to start the cycle. AFTER the cycle begins, fasten the latch on the side of the machine.
5.18 After the cycle ends, remove the fixture, squirt distilled water onto the bottom of the fixture and wipe the connector end faces with a Kim Wipe.