

SP1000 Polishing Machine Process for MT-RJ Multimode Connectors with Thermoplastic Ferrules

The SP1000-MTRJ-M-TP polishing kit contains all film consumables required for this process. Other necessary items include alcohol, compressed air, lint-free wipes and distilled water. All films may be ordered separately (in packs of 50 sheets) using the part numbers in Table 1.

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STEP NO.	FILM Part # and Description	PRESSURE (lbs)	SPEED (rpm)	TIME (seconds)	FILM LUBRICANT
1	95-515-SC Gray	N/A	N/A	N/A	N/A
2	95-515-SC Gray	4 Glass Plate	175	45	Distilled Water
3	95-503-SC Gray	4 Glass Plate	175	90	Distilled Water
4	95-501-AO-Flock Green	4 Glass Plate	175	70	Distilled Water
5	95-5005-AO-Flock Pink	4 Glass Plate	175	70	Distilled Water

Table 1

Before Polishing

- a) Inspect the polishing jig for cleanliness. Clean with alcohol and wipes.
- b) Inspect glass plate for cleanliness. Clean with alcohol and wipes.
- c) Inspect connectors to be polished. Insure that there is not epoxy on the sides or in the grooves of the ferrules. If there is epoxy found in these areas the connectors will not fit properly into the polishing jig.
- b) Load the polishing jig by placing the ferrules in the slots with the window facing out. Tighten the outside latch until it just touches the ferrule. Tighten the top clamp onto the end of the ferrule using supplied torque-limiting wrench. Over-tightening will damage the ferrule. Tighten the outside latch again until firm.
- c) All ports of the polishing jig must be filled for proper polishing.

Loading the Polishing Jig

- a) Remove the sharp fiber cleave on each connector using the film from Step 1 in Table 1 and light hand pressure in a circular motion. Continue until the fiber is flush with the epoxy bead. Do not discard the film, it will be used again later.
- d) Place the previously used Step 1 film on the glass plate on top of the work surface. Place the loaded polishing jig onto the film. Without applying hand pressure, rotate the polishing jig on the film using a circular motion. Continue until all the connectors leave circular paths on the film indicating the epoxy beads are at even heights. Evening the beads prevents tearing of the film during the initial polishing on the machine in process Step 2.

- e) Position the loaded jig onto the polishing machine and secure in place.

Polishing

- a) After the completion of each step clean connector end-faces with water and wipes. Then again with alcohol and wipes. Blow dry with compressed air.
- b) Each time before applying the polishing film clean the glass plate with alcohol and wipes.
- c) Secure the appropriate film to the glass plate using a 1/2-inch piece of double-sided tape.
- d) After attaching the polishing film to the glass plate blow it clean with compressed air. Do not use alcohol.
- e) Add lubricant to film per Table 1.
- f) Set time, pressure and speed per Table 1.
- g) Lower the jig onto the film then press the start button to allow the cycle to begin.
- h) At the completion of the polishing inspect the ferrule end-faces with a microscope. Figure 1 shows a typical finish.
- i) The polishing films can be used only one time then discarded.

Rework

- a) All ports of the jig must be loaded for proper rework.
- b) To remove scratches and pits, repeat process Steps 3 through Step 5.

Results

- The SP1000-MTRJ-M-TP Polishing Kit and SP1000 Polishing Machine will yield fiber end-face with the visual quality as show in the picture below.

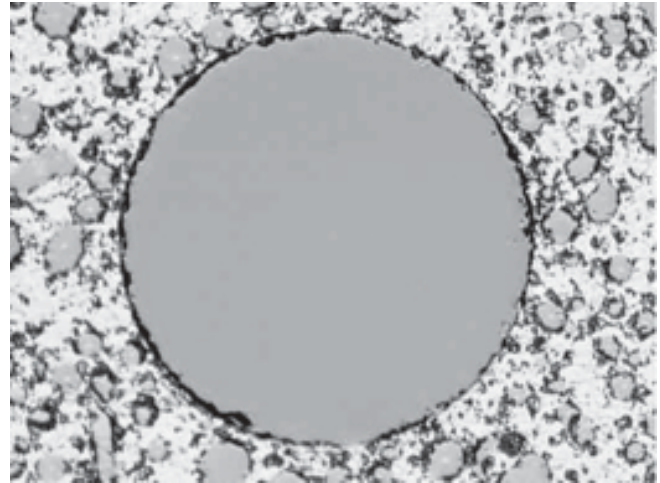


Figure 1

- The process will yield fiber protrusion as shown in the graph below.

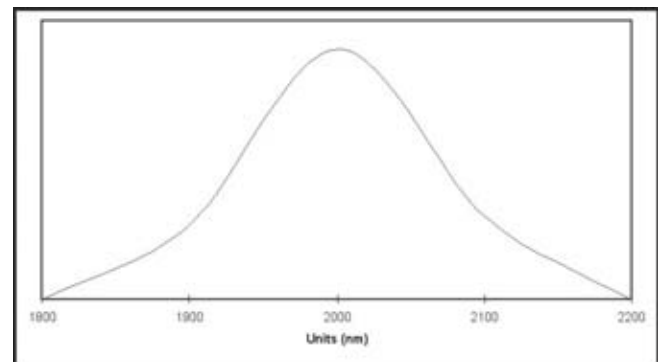


Figure 2