

Polishing Kit Instructions POF/Glass



Model Number:
IF CPK AND IF CPK2

INDUSTRIAL FIBER OPTICS

Introduction – IF CPK

IF CPK is to provide you with instructions and polishing materials to correctly polish/terminate the ends of plastic optical fiber. The procedure and materials are applicable to jacketed and unjacketed fiber sizes 250 µm to 3 mm in diameter.

Kit Contains:

- 2 sheets of 11.5 x 14 cm (4.5 x 5.5 inches) 2000-grit polishing paper
- 2 sheets of 11 x 14 cm (4.25 x 5.5 inches) 3 µm polishing film
- Instruction sheet

Equipment Required

- Professional Fiber Cutter (Sharp knife or single-edged razor blade is an acceptable substitute)
- Wire Stripper (sized for the jacket and fiber) or Micro-stripper
- Section of fiber optic cable to be polished
- Tissue paper
- Small amount of water, light oil or glycerin
- Recommended: Polishing puck sized for the bare fiber or jacket diameter being polished

Introduction – IF CPK2

IF CPK2 is to provide you with instructions and polishing materials to correctly polish/terminate the ends of glass (hard clad silica) optical fiber. The procedure and materials are applicable to connectorized glass fibers and unconnectorized jacketed fiber sizes 200/230 µm or larger with a proper size polishing puck.

Kit Contains:

- 2 sheets of 11.5 x 14 cm (4.5 x 5.5 inches) 2000-grit polishing paper
- 2 sheets of 11 x 14 cm (4.25 x 5.5 inches) 3 µm polishing film
- 2 sheets of 11 x 14 cm (4.25 x 5.5 inches) 1 µm polishing film
- Instruction sheet

Equipment Required

- Polishing Puck- sized for the ferrule/connector end attached to the optical fiber cable
- Glass cutter or Glass scribing tool (sometimes called cleaving tile or stone)
- Glass plate (IF 830090-recommended) or other hard flat surface
- Tissue paper
- Small amount of water, light oil or glycerin

Polishing Procedure – IF CPK and IF CPK2

1. Choose a flat, level table approximately 60 x 90 cm (2 x 3 feet) in size as your work area for this activity.
2. Assemble all items from the “EQUIPMENT REQUIRED” list above at your work area.
3. Place the 2000-grit polishing paper on a hard flat surface or the glass plate, wet the paper with a light liquid. If using the plastic optical fiber without a puck, use your fingers as the puck. Place the polishing puck, with the ferrule inside, onto the polishing paper. Polish the end of the ferrule in a “figure 8” pattern as shown in Figure 1. Repeat the pattern while holding the polishing puck at a 90° or perpendicular angle to the polishing surface. Keeping the front surface of the polishing puck flat against the polishing paper will aid in obtaining a good flat termination.
4. After 20 complete strokes, observe the end of the ferrule. (A microscope or magnifying glass is helpful, but not required.) If the fiber end is cloudy, not flat, or has scratches, go back and repeat Steps 3 and 4. If the end is not flat, it is because some angular rotation is occurring when polishing, so be careful to keep the polishing puck flat to the polishing paper during the complete “figure 8” motion.
5. Repeat steps 3 and 4 with any additional fiber cable ferrules or connectors.
6. Place the 3 μm polishing paper on a hard flat surface, wet the film with a light liquid. Clean the polishing puck and the end of the ferrule thoroughly before inserting it into the polishing puck. Polish the end of the fiber cable ferrule in the same “figure 8” pattern, as shown in Figure 1.
7. After 20 strokes, wipe the end of the fiber off with tissue paper, observe the end of the fiber. The fiber should have a nice gloss with a flat fiber end. (A microscope or magnifying glass is helpful, but not required.) If the fiber end is cloudy, not flat, or has scratches, go back and repeat Step 6.
8. Repeat steps 6 and 7 with any additional fiber cable ferrules or connectors. (For IF CPK – POF polishing this is the final stage, proceed to step 9 for IF CPK2 – glass fiber polishing).
9. Place the 1 μm polishing paper on a hard flat surface, wet the film with a light liquid. Clean the polishing puck and the end of the ferrule thoroughly before inserting it into the polishing puck. Polish the end of the fiber cable ferrule in the same “figure 8” pattern, as shown in Figure 1.
10. After 20 strokes, wipe the end of the fiber off with tissue paper, observe the end of the fiber. The fiber should have a high gloss with a flat fiber end. (A microscope or magnifying glass is helpful, but not required.) If the fiber end is cloudy, not flat, or has scratches, go back and repeat Step 10.
11. Repeat steps 9 and 10 with any additional fiber cable ferrules or connectors.

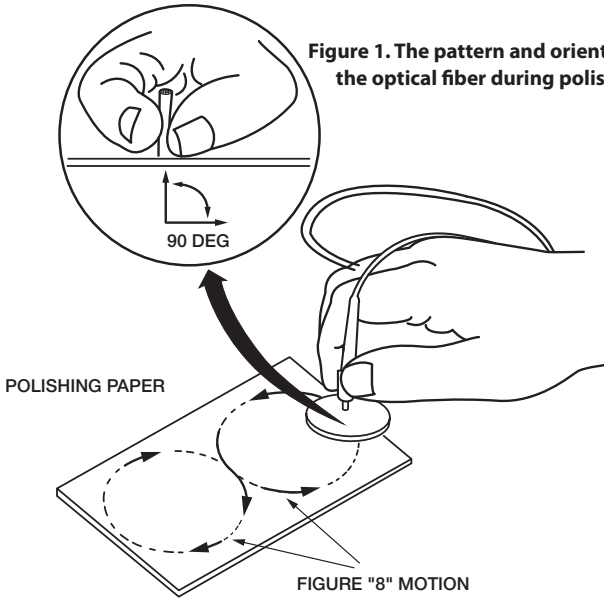
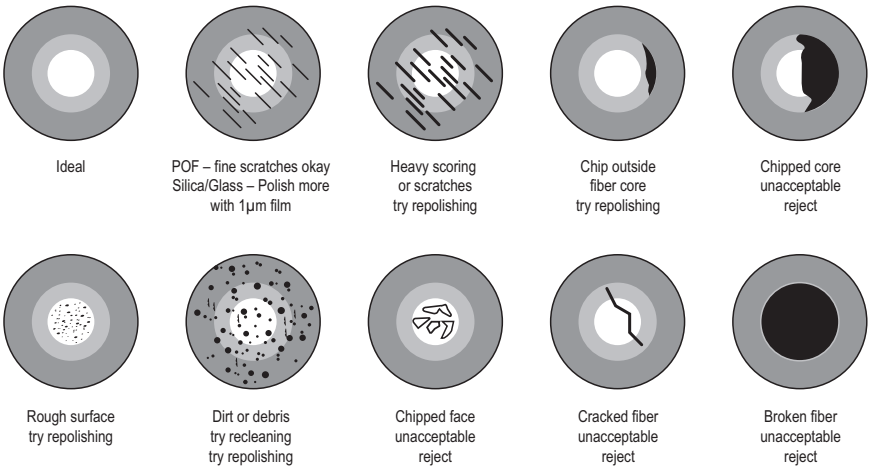


Figure 1. The pattern and orientation of the optical fiber during polishing.

Polishing Inspection

Below is a reference guide for end face finish.



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