ÅNGSTRÖMLAP®

Multimode Hand Polishing Instructions for Zirconia Ferrule Connectors

Fiber Optic Center™, Inc., the global supplier of ÅNGSTRÖMLAP®, the most widely used lapping film in the world, is also an industry leader in cost effective high performance multimode PC polishing processes for volume assembly production.

Achieving consistent results that meet the demanding technical specifications for high-speed multimode systems requires the optimization of many factors throughout the termination and testing process. These include:

- suitable fiber
- suitable epoxy
- proper mixing, application & curing of epoxy
- connector quality & tolerances
- pressure & time of polishing at each step
- lapping film quality & consistency
- lapping film grit sizes & materials
- polishing solutions
- adapter quality & tolerances
- calibration & quality of test instruments & reference cables
- test methods & conditions
- overall cleanliness
- specific cleaning procedures

Instructions

When used with a quality hand polishing puck and the materials listed below the high performance multimode polishing process requires less than five minutes per connector. Diamond polishing progressions typically lead to better results and better yields. Please let us know if you need information on our diamond films.

1. Clean the rubber pad (70-80durometer)[1] with at least 99% pure isopropyl alcohol and lint free wipes. Acctec 404 or 604 lint free wipes, or TX806 or TX811 pre-saturated wipes are recommended to insure no contamination occurs during the cleaning process.

2. Use a thin layer of de-ionized water to adhere the lapping films to the glass plate.

3. Between each polishing step, clean the connector end-faces, the surface of the polishing puck and the lapping film surface with the alcohol and lint-free wipes.

4. Refer to the table below for the recommended multimode polishing progression.

[1] A glass plate should be used for flat polishing

Technical Specifications

Insertion Loss = 0.5dB or less[2]
Typical ≤ 0.2dB[2]

Product specifications and data are subject to change without notice. FOC last update 12/31/2025.

[2] For 62.5/125um fiber

Polishing Timetables

2.5mm Multimode Polishing Progression - Table 1.1

Polishing Step	Material & Grit Size	Fig-8s[1]	Fluid	Usage[2]	Part Number
Epoxy Removal	Aluminum Oxide 12um	20-30	none	10-20	AO12F363N100
Rough Polish	Aluminum Oxide 3um	20-30	de-ionized water	10-20	AO3T363N100
Medium Polish	Aluminum Oxide 1um	20-30	de-ionized water	10-20	AO1T363N100
Final Polish	Aluminum Oxide 0.5um	10-15[3]	Ultra Polish Solution, UPS-3	10-20	AO05F363N100

1.25mm Polishing Progression - Table 1.2

Polishing Step	Material & Grit Size	Fig-8s[1]	Fluid	Usage[2]	Part Number
Epoxy Removal	Aluminum Oxide 12um	20-30	none	10-20	AO12F363N100
Medium Polish	Aluminum Oxide 1um	20-30	de-ionized water	10-20	AO1T363N100
Final Polish	Aluminum Oxide 0.5um	10-15[3]	Ultra Polish Solution, UPS-3	10-20	AO05F363N100

[1] Complete large figure eights from one end of the film to the other. Use the weight of the polishing puck with light pressure.
[2] Usage estimates are per connector, and may vary.
[3] Over-polishing produces excessive fiber undercut.

Final Polish Film Options

As a polishing leader, Fiber Optic Center,™ Inc. always looks for process improvements. Most innovations occur at the final step. Some other final polish options that achieve superior results are as follows:

Polishing Step	Material & Grit Size	Fig-8s[1]	Fluid	Usage[2]	Part Number
Final Polish	Yellow ALG	40-60	de-ionized water	20	ALG15XY503N100
Final Polish	Transparent FOS-01	40-60	de-ionized water	20	FOS-01
Final Polish	White XP4	40-60	Polishing Solution, 1012	20	XP40NC503N100
Final Polish	Calcined Aluminum 0.3um	10-15[3]	Ultra Polish Solution, UPS-3	20	CA03F502N100
Cleaning[4]	Flocked Pile, None	20-30	de-ionized water	100	ABR60NC502N1

[1] Complete large figure eights from one end of the film to the other. Use the weight of the polishing puck with light pressure.
[2] Usage estimates are per connector, and may vary.
[3] Over-polishing produces excessive fiber undercut.
[4] Optional, but recommended, cleaning step after final polish.

Other Options

You can try removing steps from Table 1.1 to decrease polishing times and material costs, but results may vary. Remove the 3um step first. Please contact us for other available multimode progressions, or if you would like us to match your current polishing progression. Other lapping film sheet sizes are available. Diamond lapping films are also available, and typically yield better results.

Ordering Information

Product specifications and data are subject to change without notice. FOC last update 12/31/2025.

For more information on this or other products and their availability, please contact **Fiber Optic Center,™ Inc.** at (800) 473-4237 or (508) 992-6464, fax at (508) 991-8876, or e-mail at sales@focenter.com.

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ÅNGSTRÖMLAP®

Single Mode and High Quality Multimode Manual Polishing Instructions for Zirconia Ferrule Connectors

Fiber Optic Center™, Inc., the global supplier of ÅNGSTRÖMLAP®, the most widely used lapping film in the world, is also an industry leader in cost effective high performance ultra PC and angled single mode polishing processes for volume assembly production.

Achieving consistent results that meet the demanding technical specifications for single mode systems requires the optimization of many factors throughout the termination and testing process. These include:

- suitable fiber
- suitable epoxy
- proper mixing, application & curing of epoxy
- connector quality & tolerances
- pressure & time of polishing at each step
- lapping film quality & consistency
- lapping film grit sizes & materials
- polishing solutions
- adapter quality & tolerances
- calibration & quality of test instruments & reference cables
- test methods & conditions
- overall cleanliness
- specific cleaning procedures

Instructions

When used with a quality hand polishing puck and the materials listed below, the PC and APC polishing processes require less than five minutes per connector.

1. Clean hard rubber pads (70-80 durometer) with at least 99% pure isopropyl alcohol and lint free wipes. Acctec 404 or 604 lint free wipes, or TX806 or TX811 pre-saturated wipes are recommended to insure no contamination occurs during the cleaning process.

2. Use a minimal amount of de-ionized water to adhere lapping films to rubber pads. A piece of double sided tape can be used to help keep lapping film on the pads.

3. Between each polishing step, clean the connector end-faces, the surface of the polishing puck and the lapping film surface with the alcohol and lint-free wipes.

4. Refer to tables below for recommended UPC and APC polishing progressions. Please note progressions are for pre-angled and pre-domed connectors.

Technical Specifications

SM UPC Back-Reflection	=	-50B or less
SM APC Back-Reflection	=	-65dB or less
Insertion Loss[1]	=	0.2db or less
Insertion Loss[2]	=	0.5dB or less
Typical[2]	≤	0.2dB

Product specifications and data are subject to change without notice. FOC last update 12/31/2025.

[1] For 9/125um fiber
[2] For 62.5/125um fiber

Polishing Timetables

2.5mm Diamond Progression - Table 1.1

Polishing Step	Material & Grit Size	Fig-8s[1]	Fluid	Usage[2]	Part Number
Epoxy Removal	Blue Silicon Carbide 9um	20-30	none	20	SC9T503N100
Rough Polish	Orange Diamond 5um	20-30	de-ionized water	100	D5BF503N1
Medium Polish	Purple Diamond 1um	20-30	de-ionized water	100	D1KT503N1
Final Polish[3]	Light Blue Calcined Alumina 0.3um	40-60	Ultra Polish Solution, UPS-3	1	CA03F502N100
Cleaning[4]	Flocked Pile, None	20-30	de-ionized water	100	ABR60NC502N1

1.25mm Diamond Progression - Table 1.2

Polishing Step	Material & Grit Size	Fig-8s[1]	Fluid	Usage[2]	Part Number
Epoxy Removal	Blue Silicon Carbide 9um	20-30	none	20	SC9T503N100
Medium Polish	Purple Diamond 1um	20-30	de-ionized water	100	D1KT503N1
Final Polish[3]	Light Blue Calcined Alumina 0.3um	40-60	Ultra Polish Solution, UPS-3	1	CA03F502N100
Cleaning[4]	Flocked Pile, None	20-30	de-ionized water	100	ABR60NC502N1

[1] Complete large figure eights from one end of the film to the other. Use the weight of the polishing puck with light pressure.
[2] Usage estimates are conservative, and may vary.
[3] Please note other final polish films listed below.
[4] Optional, but recommended, cleaning step.

Final Polish Film Options

As a leader in single mode polishing, ***Fiber Optic Center,™ Inc.*** always looks for process improvements. Most innovations occur at the final step. Some other final polish options that achieve superior results are as follows:

Polishing Step	Material & Grit Size	Fig-8s[5]	Fluid	Usage[6]	Part Number
Final Polish	Sequoia Final Polish Film	40-60	de-ionized water	20	SEQFPF503N100
Final Polish	Transparent FOS-01	40-60	de-ionized water	20	FOS-01
Final Polish	Aluminum Oxide 0.5um	10-15[7]	Ultra Polish Solution, UPS-3	20	AO05F503N100

[5] Complete large figure eights from one end of the film to the other. Use the weight of the polishing puck with light pressure.
[6] Usage estimates are per connector, and may vary.

Ordering Information

Product specifications and data are subject to change without notice. FOC last update 12/31/2025.

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