



Final Polish of Fiber Optic Connectors using 3M™ Lapping Films 863X and 863XW on Domaille Engineering Polishing Machines

Technical Application Bulletin

June, 2005

General Information

The 3M™ Lapping Films 863X and 863XW used in the final step of fiber optic connector polishing are designed to provide scratch-free, defect-free surfaces while producing optimal fiber height to meet Telcordia GR-326 standards.

The techniques used when handling and setting up these films can greatly affect the performance of the 3M Lapping Films. Described within are steps to achieve the best possible final polish results.

Cleanliness is important. The work area, the cleaning between steps, the condition of the fixture, the type of water and the type of tissue can all affect the performance and life of 3M Lapping Films.

The process steps prior to the final polishing film can also affect the quality of your results. A good practice is to use either 0.5 um or 1 um 3M™ Diamond Lapping Film in the step prior to final polish with 3M Lapping Film 863X or 863XW. Be certain to use enough time in this diamond step so that the scratch pattern is smooth and uniform.

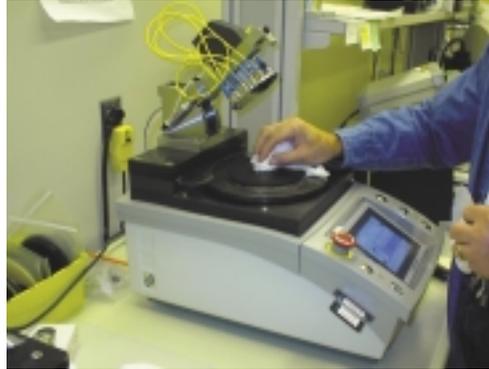
3M Lapping Films 863X and 863XW can be used multiple times. The number of uses will be dependent on your particular process, equipment, connector types and procedures. These instructions are a guide to help you achieve the best results, with the highest first pass yield, using 3M Lapping Film for your final polish step.

3M

Final Polish of Fiber Optic Connectors using 3M™ Lapping Films 863X and 863XW on Domaille Engineering Polishing Machines

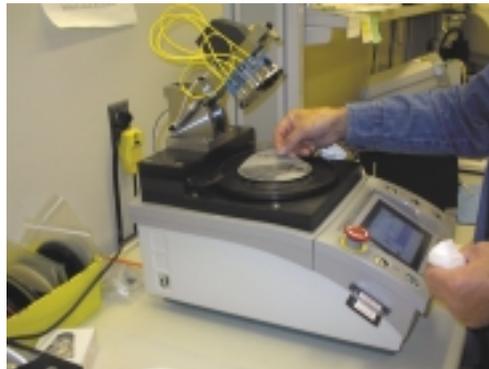
Step-by-step Instructions for Machine Preparation and Set-up for Final Polish

1. Prepare the rubber back-up pad. Spray pad with de-ionized or distilled water and wipe surface with low lint tissue, leaving surface damp enough to hold lapping film.



Note: The rubber back-up pad should be in good condition, with no scratches, gouges or foreign material on the surface. Additional cleaning or replacement may be necessary.

2. Center the 3M™ Lapping Film on the rubber back-up pad. The water tension should hold the disc in place.



3M

Final Polish of Fiber Optic Connectors using 3M™ Lapping Films 863X and 863XW on Domaille Engineering Polishing Machines

**Step-by-step
Instructions for
Machine Preparation
and Set-up for
Final Polish
(continued)**

- 3. Spray the disc, for cleaning, with de-ionized or distilled water. One or two pumps from a spray bottle is adequate for this step.



- 4. Wipe the surface of the 3M™ Lapping Film with a clean tissue. The goal here is to remove the air bubbles, smooth out the film and clean the surface of the film. The film should be wiped until almost completely dry and laying flat.



- 5. This shows the film well adhered to the back-up pad, laying smooth and clean.



3M

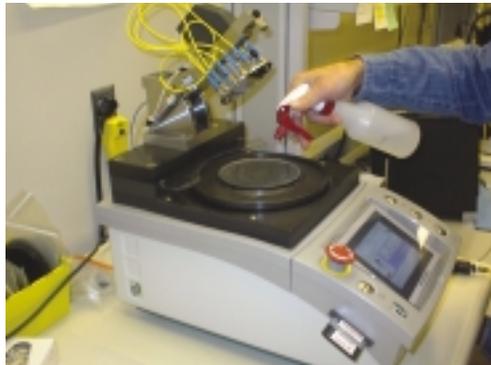
Final Polish of Fiber Optic Connectors using 3M™ Lapping Films 863X and 863XW on Domaille Engineering Polishing Machines

Step-by-step Instructions for Machine Preparation and Set-up for Final Polish (continued)

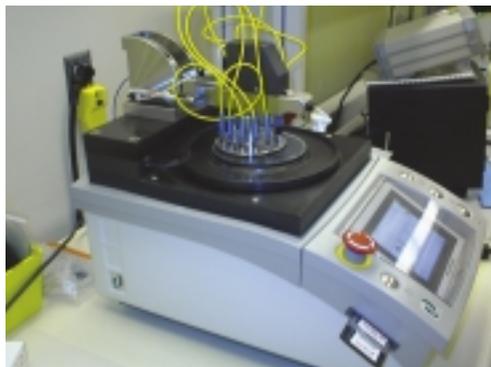
6. Blow the surface of the film completely dry with clean air or nitrogen to help remove any particulates that may have settled on the film.



7. Apply de-ionized or distilled water. Using about 3 pumps of the spray bottle or enough to cover the surface of the film.



8. Lower the fixture, gently, taking care to not gouge the film. It is best to hold the fixture against the arm while moving the arm to the horizontal position. Once the arm is locked in place, the connector ends can be manually brought in contact with the lapping film, by lowering the fixture.



After the cycle, carefully lift the fixture before releasing the fixture holding arm, to minimize scoring of the film. The film can be wiped dry, and placed in a clean area for the next use.



Final Polish of Fiber Optic Connectors using 3M™ Lapping Films 863X and 863XW on Domaille Engineering Polishing Machines

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M Electronics Markets Materials Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Warranty and Limited Remedy

Unless stated otherwise in 3M's product literature, packaging inserts or product packaging for individual products, 3M warrants that each 3M product meets the applicable specifications at the time 3M ships the product. Individual products may have additional or different warranties as stated on product literature, package inserts or product packages. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. If the 3M product is defective within the warranty period, your exclusive remedy and 3M's and seller's sole obligation will be, at 3M's option, to replace the product or refund the purchase price.

Limitation of Liability

Except where prohibited by law, 3M and seller will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



Electronics Markets Materials Division

3M Center, Building 21-1W-10, 900 Bush Avenue
St. Paul, MN 55144-1000
1-800-251-8634 phone
651-733-9175 fax
www.3M.com/electronics



Recycled Paper
40% pre-consumer
10% post-consumer

Printed in U.S.A.
©3M 2005 60-5002-0080-7 (6/05)