

3M™ Lapping Film 865X
For Final Polishing of Fiber Optic Connectors

More
Profit
Per **Polish**

Introducing

3M's Newest, Longest Lasting
Final Polish Film

**Advanced technology
helps deliver a better value**

- Consistent performance
- Slurry free – less mess
- Suitable for all polishing equipment
- Highest quality end face



Introducing—

3M™ Lapping Film 865X

- High quality connector end face
- Gives positive or zero protrusion under controlled conditions.
- Good insertion loss and back reflection
- Good end face geometry
- Reduces rework
- Longer lifetime, for lower cost per connector



3M™ Lapping Film final polish products give you a new dimension of consistency and control for polishing ceramic fiber optic connectors. These advanced polishing films are engineered to last longer, for higher yields, less rework and lower costs per part.

3M lapping films deliver consistent results, reducing the need for costly rework. And they easily produce optimal fiber height and outstanding visual quality, helping finished connectors meet Telecordia standards.

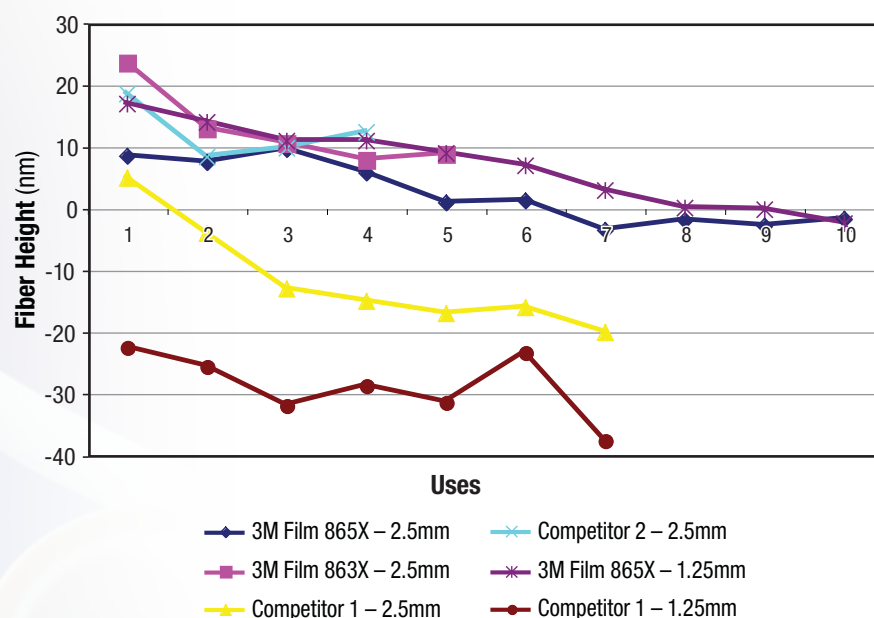
These films contain proprietary high performance silica and resins coated on 3 mil films. 3M final polish products are part of a complete lineup of lapping films designed for fiber optic connector polishing. They provide precision alternatives to messy slurries that require time-intensive cleanup. When used together as an integrated system, these matched 3M technologies can deliver even greater process improvements, while helping to simplify sourcing and recordkeeping.

The 3M Final Polish Products Family

Choose the right combination of speed, control and durability to match the needs of your application.

Film	Features	Polishing Machine Compatibility	Product Configuration
865X	High quality. Lasts 2 to 3x longer than our original final polish films. Maintains good fiber heights with tight standard deviation.	Easy to use on most common machine types.	Available in discs, sheets and rolls. Standard and custom sizes.
863X	Polishes more slowly than 863XW. Offers more controlled cut rate.	For use on most polishing machines and fixtures, including machines that run at higher speeds and higher pressures.	Available in discs, sheets and rolls. Standard and custom sizes.
863XW	Higher mineral content than 863X, for faster polishing.	Designed for use on machines that run at lower speeds and lower pressures. Can be used on IPC (Individual Pressure Control) fixtures that allow connectors to float independently under lower pressures.	Available in discs, sheets and rolls. Standard and custom sizes.

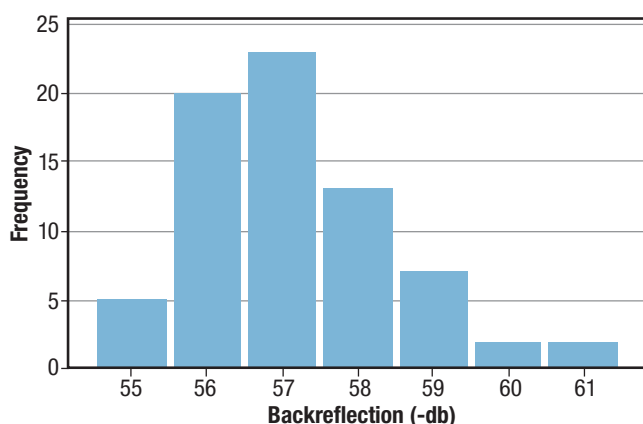
**Fiber Height for Number of Uses
on 2.5mm and 1.25mm Ceramic Connectors**



Actual usage could be longer or shorter depending on equipment, connectors, and process conditions.

3M™ Lapping Films – Engineered for Improved Polish Quality and Productivity

3M™ Lapping Film 865X Backreflection Results



Using 3M™ Lapping Films 865X, 863X/863XW for your final polishing step helps you easily meet Telecordia backreflection standards.

Suggested polishing sequences with 3M™ Lapping Film Final Finish Products

Select your polishing sequence based on the type of connector and polishing equipment specifications. These recommended sequences provide typical starting points. Your actual process may vary, depending on your equipment and finish requirements. 3M offers a full line of additional lapping films.

Step	Product	3M ID	Micron Grade	Mineral	Color	Pad Hardness (durometer)	Time (sec)	Speed (rpm)	Pressure (g/conn)
------	---------	-------	--------------	---------	-------	--------------------------	------------	-------------	-------------------

2.5 mm UPC Connectors (Option 1)

Denub-Epoxy Removal	3M™ Lapping Film	461X or 462X	9, 5 or 3	Silicon Carbide	Charcoal	70-80	30-60	130-150	150
Step 2	3M™ Diamond Lapping Film	661X, 661XU, 660XV or 662XW	1 or 0.5	Diamond	Purple or White	70-80	30-60	130-150	150-225
Step 3	3M Lapping Film	865X*	NA	Silicon Dioxide	White	70-80	60-90	130-150	150-225

2.5 mm UPC Connectors (On slow or low pressure machines)

Denub-Epoxy Removal	3M Lapping Film	461X	15	Silicon Carbide	Charcoal	60-70	30	Fixed	100-200
Step 2	3M Diamond Lapping Film		6	Diamond	Brown	60-70	60	Fixed	100-200
Step 3	3M Diamond Lapping Film	661X, 661XU, 660XV or 662XW	3	Diamond	Pink	60-70	45	Fixed	100-200
Step 4	3M Diamond Lapping Film		1 or 0.5	Diamond	Purple or White	60-70	45	Fixed	100-200
Step 5	3M Lapping Film	865X*	NA	Silicon Dioxide	White	70-80	90-120	Fixed	100-200

2.5 mm APC Connectors

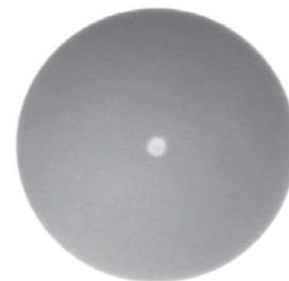
Denub-Epoxy Removal	3M Lapping Film	461X	15	Silicon Carbide	Charcoal	Glass	30-60	130-150	150
Cutting Angle		661X	15 or 30	Diamond	Orange	Glass			
Step 2	3M Diamond Lapping Film	661X, 661XU, 660XV or 662XW	3	Diamond	Pink	70-80			
Step 3			1 or 0.5	Diamond	Purple or White	70-80	30-60	130-150	150-225
Step 4	3M Lapping Film	865X*	NA	Silicon Dioxide	White	70-80	60-90	130-150	150-225

1.25 mm LC and MU Connectors

Denub-Epoxy Removal	3M Lapping Film	461X or 462X	9, 5 or 3	Silicon Carbide	Charcoal	80-90	30-60	100-120	75-125
Step 2	3M Diamond Lapping Film	661X, 661XU, 660XV or 662XW	1 or 0.5	Diamond	Purple or White	80-90	30-60	100-120	100-150
Step 3	3M Lapping Film	865X*	NA	Silicon Dioxide	White	80-90	30-90	100-120	100-150

*Films 863X or 863XW are also available for final polish applications.

Fiber optic connector end face quality after 3M™ Lapping Film 865X final polish. Picture at 800X magnification.



Consistency
+
High Quality
End Face
+
Long Life

That's the Value
of 3M™ Lapping
Film 865X



Important Notice: Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Please consult the 3M product technical data sheet and Material Safety Data Sheet before use.

Warranty; Limited Remedy; Limited Liability: 3M's product warranty is stated in its Product Literature available upon request. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.



**Electronics Markets
Materials Division**

3M Electronics
3M Center, Building 21-1W-10
St. Paul, MN 55144-1000
www.3M.com/electronics
1-800-251-8634

Please recycle. Printed in USA.
Issued: 1/09 © 3M 2009.
All rights reserved. 6665HB
60-5002-0042-7

3M and Trizact are trademarks of 3M Company.
Used under license by 3M subsidiaries and affiliates.