



3M™ Scotchshield™ Film 15T

UL Recognized Component and Certified by TÜV

3M™ Scotchshield™ Film 15T is a new addition to our line of advanced backside barrier films for crystalline silicon photovoltaic solar modules. Offering performance characteristics comparable to 3M™ Scotchshield™ Film 17T, 3M™ Scotchshield™ Film 15T has a thinner construction with a slightly lower partial discharge rating.

Made with a unique solvent-free manufacturing process, 3M™ Scotchshield™ Film 15T is constructed with a durable outer layer of THV fluoropolymer bonded to PET, with an added layer of EVA to provide excellent adhesion to typical module encapsulants. The outer surface is treated to facilitate the use of a broad range of adhesives, tapes and labels.

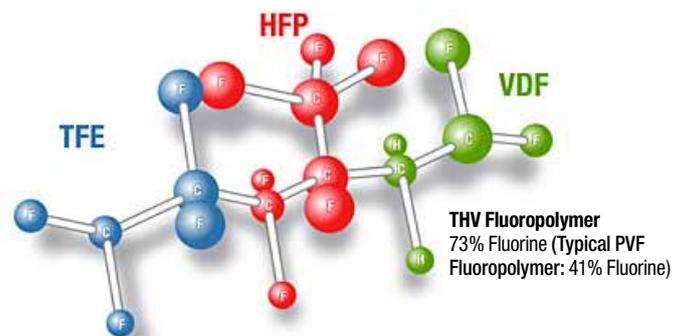
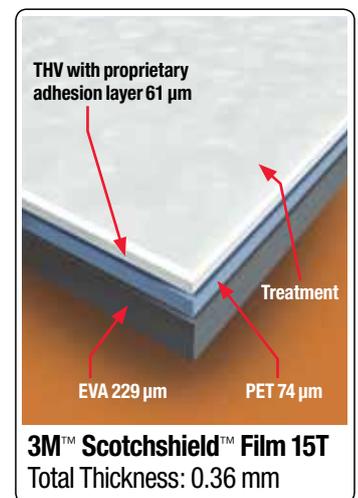
Performance Features

- Excellent retention of interlayer adhesion after environmental aging
- Outstanding UV stability
- Low moisture vapor transmission rate
- Excellent reflectivity
- Exceptional compatibility with encapsulants for strong, durable bonds

THV shows excellent thermal stability

3M fluoropolymers have been under continuous product development and improvement since the 1950s. This advanced material has an extensive record of long-term weathering, low MVTR and UV resistance.

	THV
UL-94 Burn Rating	V-0, VTM-0
UL-746B RTI (Relative Thermal Index Mechanical and Electrical @ 1 mil, 25 µm)	150°C
Radiant Panel Test ASTM E162 For Entire Backsheet	RP50



Typical Properties (data not for specification purposes)

	Value	Test Method
Electrical Properties		
Breakdown Voltage	24kV	ASTM D149
Partial Discharge	>1000VDC	IEC60664-1
Mechanical/Physical Properties		
Tensile Strength		
Machine Direction	32 MPa (4.6 kpsi)	ASTM D882
Transverse Direction	38 MPa (5.5 kpsi)	
Elongation		
Machine Direction	94%	ASTM D882
Transverse Direction	83%	
Shrinkage		
Machine Direction	<1.2%	ASTM D2305 (150°C, 15 min)
Transverse Direction	<1.0%	
Adhesion		
Outer Layer to PET	5.3 N/cm (3.0 lbs/in)	3M Internal Method (Post Lamination)
Inner Layer to PET	Substrate Failure	
Backsheet to EVA Encapsulant	Substrate Failure	
Barrier Properties		
Moisture Vapor Transmission Rate	4.4 g/m ² -day	ASTM F1249 (37.8°C/100%RH)

Indicated tensile and elongation values are for the PET layer. The outer THV layer remains intact beyond 500% elongation, helping to maintain a durable outer skin on the module.

Substrate Failure: The bond between film layers is stronger than the strength of the bonded films—one or more of the bonded films fail, rather than the adhesive bond.

Processing Features

- Conformable and flexible for ease of lamination
- Robust processing window for wrinkle-free lamination
- Solvent-free manufacturing process, no residual solvents
- Surface treatment to facilitate bonding and sealing of frames and junction boxes
- No special packaging or storage required

Shelf Life

This product has a shelf life of two years from the date of manufacture when stored under normal conditions in the original, unopened package.

Normal storage conditions are defined as 4°C to 38°C (40°F to 100°F) and 0-95% relative humidity. The optimum storage conditions are 22°C (72°F) and 50% relative humidity.

United States

3M Renewable Energy Division
800 755 2654

Germany

49 2131 144450

Denmark

45 43 480100

Spain

34 91 3216000

France

33 1 30316161

United Kingdom

44 1344 858000

Italy

39 02 70351

Singapore

65 6450 8888

China

86 21 62753535

Korea

82 2 3771 4043

India

91 80 22231414

Canada

800 364 3577

Brazil

0800 13 23 33

Mexico

52 55 52702250

Taiwan

886 933 896752

Japan

81 3 3709 8283

Malaysia

603 78062888

Other Areas

800 755 2654

For more information on our solar manufacturing product line, contact 3M Renewable Energy at 800 755 2654 or visit us at www.3M.com/scotchshieldfilm.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M 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.



Renewable Energy Division

3M Center, Building 235-1S-67
St. Paul, MN 55144-1000
800 755 2654
www.3M.com/scotchshieldfilm

Please recycle. Printed in USA.
© 2012, 3M. All rights reserved.
Issued: 3/12 8553HB
98-0150-0062-7

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