

## 3M™ Solar Acrylic Foam Tapes for Frame Bonding

### Overview

3M™ Solar Acrylic Foam Tapes can provide durable attachment solutions for solar module frames. The immediate holding feature allows for high throughput during manufacturing. Compared to sealants, there is no need to clean off any excess material, resulting in less labor and a more professional look. With field experience in millions of solar panels around the world, 3M Solar Acrylic Foam Tape is a time-tested solution for Frame Bonding. 3M Solar Acrylic Foam Tapes are UL certified.

### About 3M™ Solar Acrylic Foam Tapes

For over 30 years many industries worldwide have been using 3M Solar Acrylic Foam Tape technology to permanently bond and attach many substrates. The acrylic-based chemistry allows its use in critical applications that demand durability in a variety of markets including Automotive, Electronics, Signage, Glazing and Construction.

### Advantages and Benefits

- Pressure sensitive adhesive provides immediate holding strength with no process bottlenecks for drying time or clamping.
- “No-mess” application
- Proven long-term durability in demanding outdoor applications
- Save money and time through improved productivity

### Recommended Products

	Thickness	Standard Widths* (mm)	Standard Lengths (m)	Level Wound Length (m)
3M™ Solar Acrylic Foam Tape FB80	0.8 mm	19 and 22	100	600
3M™ Solar Acrylic Foam Tape FB60	0.6 mm	19 and 22	100	700-800

\*Other widths available upon request.



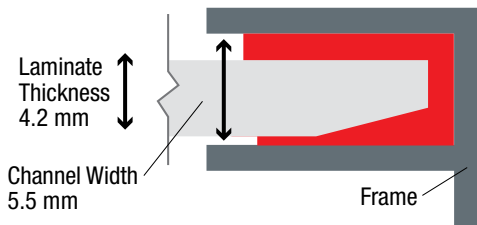
### Solution Comparisons

	Ease of Use	Appearance	Performance in Frame	UV Durability	UL Certification	Total Cost of Use
3M™ Solar Acrylic Foam Tapes	•	•	•	•	•	•
Sealants			•	•	•	•

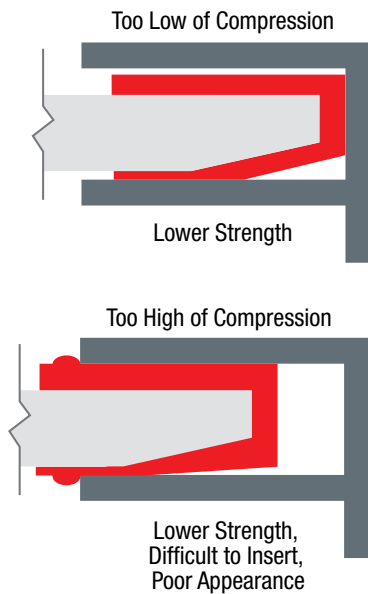
### Application Development with 3M

3M Technical Support will work with you to help develop the application. Based on the geometry of the aluminum frame, the glass panel and the target compressibility we can help you select an appropriate tape. These schematics illustrate the range of possibilities and the need for proper compression.

#### Correct Compression



#### Incorrect Compression



### Application Methods

3M Solar Acrylic Foam Tapes can be applied in a variety of ways from simple manual applicators to fully automated robotic systems. We can connect you with companies who can help with these options. Please contact your local 3M representative for details.



Example of automated application



Example of semi-automated application



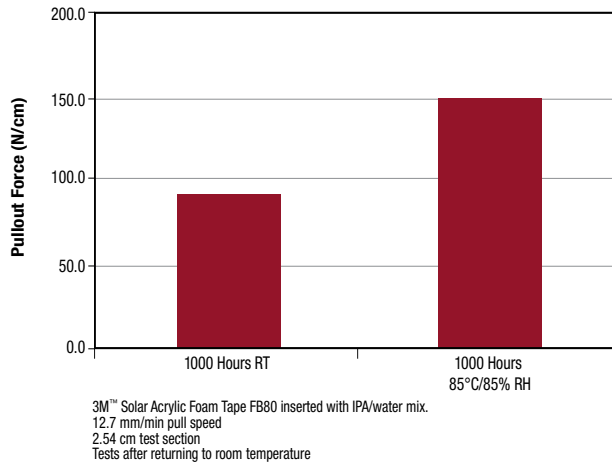
Example of 3M™ hand applicator

## Insertion and Testing

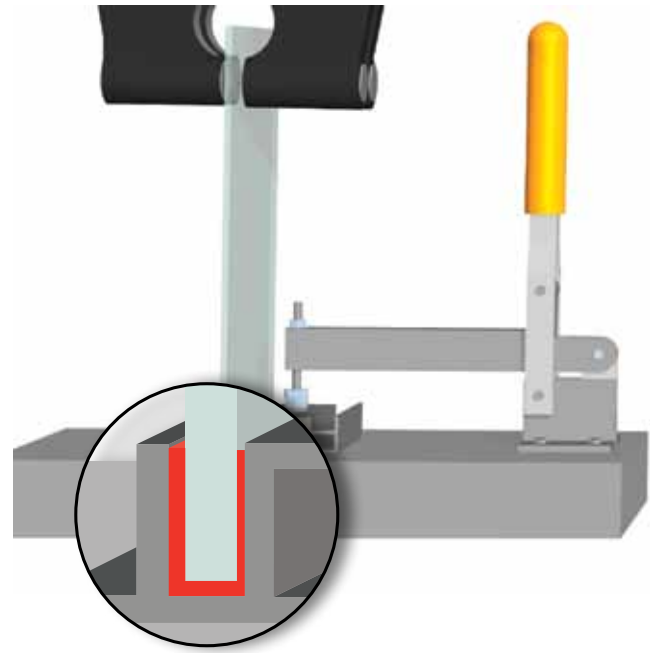
Due to the compression fit, a temporary lubricant (IPA-water mixture or soapy water) helps the insertion step. The lubricant can be sprayed on, rubbed on or can be applied by pressing the taped panel into a long section of a sponge saturated with the lubricant.

To help develop the application 3M can perform custom tests for your particular system of aluminum frame, panel and backsheet. Pull-out tests using small sections of panels in frame (shown in the schematic below) mimic some aspects of the deformation during snow or wind loads.

Typical data for 3M Solar Acrylic Foam Tape FB80 is shown below.



**Aging Effect:** Samples were tested after equilibrating to room temperature. Aging typically shows slight increase in pullout force.



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**Korea**

82 2 3771 4043

**India**

91 80 22231414

**Canada**

800 364 3577

**Brazil**

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**Malaysia**

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For more information on our solar manufacturing product line, contact 3M Renewable Energy at 800-755-2654 or visit us at [www.3M.com/solar](http://www.3M.com/solar).

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