

# 3M™ Solar Acrylic Foam Tape FB80

## Product Description

3M™ Solar Acrylic Foam Tape FB80 consists of high-quality acrylic adhesive with visco-elastic properties. It provides a high-performance combination of shear and peel strength. In addition it features high initial tack. Thanks to the white, elastic liner, larger areas can be easily pre-positioned and the film liner can be removed quickly without tearing.

## Key Benefits

- Pressure sensitive adhesive for quick application with immediate handling strength to speed assembly.
- Strength to replace liquid adhesives and mechanical fasteners in many applications.
- Neat application without the mess, ooze, and curing delay of liquid adhesives.
- Can typically tolerate differential movement in the shear plane up to 3 times its thickness.
- Bonds and seals simultaneously with durability to withstand vibration, impact, and weathering.
- Provides a clean, smooth appearance.

## Slitting Tolerance

**Standard** slitting tolerance  $\pm 1/32$  inch ( $\pm 0.8$  mm).

## Core Size


Available on a 3 inch ID Core (76.2 mm).

## UL Component Recognition

Tape FB80 is UL listed under UL 746C category QQW2, file number MH17478.

## Typical Physical Properties

Properties		Typical Values
Color		Grey
Thickness	Inches (mm)	0.031 (0.80)
	Tolerance	$\pm 10\%$
Adhesive Type		General Purpose Acrylic
Foam Type		Closed Cell
Density lb/ft <sup>3</sup> (kg/m <sup>3</sup> )		44 (700)
Release Liner	Type	PE Film
	Inches (mm)	0.005 (0.125)
Thickness	Color	White

Dynamic Adhesion Performance	Unit	Value
90° Peel Adhesion	lb/in (N/100 mm)	18 (310)
 90° Peel Adhesion – Based on A.F.E.R.A. 4001 – after 72 hr, clamp speed 300 mm/min, angle 90°, RT, polished steel.		

Static Shear <sup>2</sup>	Unit	Value
Weight (grams) that 1/2 square inch will hold 10,000 minutes (7 days)	68°F (20°C)	1000
	149°F (65°C)	500
	194°F (90°C)	500

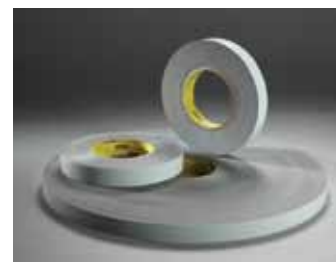
Temperature Resistance	Unit	Value
Short Term (Minutes, Hours)	°F (°C)	302 (150)
Long Term (Days, Weeks)	°F (°C)	194 (90)

Static Shear – A.F.E.R.A. 4012 – after 72 hr, polished steel, >10,000 min, 3,23 m<sup>2</sup> bonded area. Conversion: 1500 g/3.25 cm<sup>2</sup> equals 3000 g/6.5 cm<sup>2</sup>; 500 g/3.25 cm<sup>2</sup> = 1000 g/6.5 cm<sup>2</sup>.



Short Term Temperature Tolerance – No change in room temperature dynamic shear properties following 4 hours conditioning at indicated temperature with 100 g/static load. (Represents minutes, hours in a process type temperature exposure).

Long Term Temperature Tolerance – Maximum temperature where tape supports at least 250 g load per 3.2 cm<sup>2</sup> in static shear for 10,000 minutes. (Represents continuous exposure for days or weeks).



**Note:** All tapes should be thoroughly evaluated by the user under actual conditions with intended substrates to determine whether a specific tape is fit for a particular purpose and suitable for user's method of application, especially if expected use involves extreme environmental conditions.

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

## Application Guidelines

Temperature, humidity, pressure and cleanliness can impact the adhesion characteristics.

- **Temperature:** As temperature increases, the initial adhesion will typically increase. Suggested application temperatures are 70°F to 100°F (21°C to 38°C). Minimum application temperature is 60°F (15°C).
- **Humidity:** The suggested humidity target for the application is below 90% R.H. SAFT that has a paper liner should be kept and applied below 70% R.H. There is concern that bringing cold tape or substrates into a warm humid environment can also cause condensation, which impact adhesion.
- **Pressure:** Increasing pressure can improve the adhesive to surface contact, which can increase the adhesion. Suggested pressurization is 30 psi. Minimum suggested pressurization is 15 psi at bond interface.
- **Cleanliness:** The cleanliness of the surface can also impact adhesion. Typically a thorough cleaning with a 50:50 mixture of isopropyl alcohol and water is sufficient.

The impact of these variables is very dependent on the specific substrate. Going outside of these ranges can have positive or negative impacts. Performance is dependent on the substrate.

See Application Techniques document for additional information.

## Shelf Life

24 months from date of manufacture when stored at 40°F to 100°F (4°C to 38°C) and 0 to 95% relative humidity. The optimum storage conditions are 72°F (22°C) and 50% relative humidity.

Performance of tapes is not projected to change even after shelf life expires; however, 3M does suggest that 3M™ Solar Acrylic Foam Tapes are used prior to the shelf life date whenever possible.

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Issued: 8/11 8203HB  
98-0150-0103-9

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