

# 3M

# Wind Tape

## 8609

Technical Data Sheet

October, 2007

### Product Description

3M™ Wind Tape 8609 can be used to help protect wind turbine blade surfaces from damage caused by sand and rain erosion and minor impact.

3M 8609 Tape is made from an exceptionally tough, transparent, abrasion-resistant polyurethane elastomer that resists puncture, tearing, and erosion. It is formulated especially for excellent resistance to ultraviolet light. 3M 8609 Tape provides surface protection using a technology that is solvent-free, requires no special application tools, and is fast and easy to apply. 3M 8609 Tape is transparent and is constructed with a long-aging, solvent-resistant pressure-sensitive acrylic adhesive. The technology used in the production of 3M 8609 Tape is related to 3M products that have demonstrated effective performance on large military helicopter rotor blades

### Typical Physical Properties and Performance Characteristics

- Notes: 1) The following technical information and data should be considered representative or typical only and should not be used for specification purposes.  
 2) ASTM = American Society for Testing and Materials.  
 3) Metric values are listed in parenthesis.

#### A. Dimensions

Approximate Applied Thickness <sup>1</sup>	0.012 inch (0.30 mm) Film 0.002 inch (0.06 mm) Adhesive 0.014 inch (0.36 mm) = Total thickness
Standard Roll Length <sup>2</sup>	18 yd (16.5 m)
Standard Roll Width <sup>2</sup>	8 inch (203 mm)
Approximate Weight	0.81 lb/yd <sup>2</sup> (439 g/m <sup>2</sup> )

<sup>1</sup> Excludes the paper liner that is removed from the tape prior to application.

<sup>2</sup> Custom roll lengths and widths are available

#### B. Typical Physical Properties and Performance Characteristics

Property	Test Method	Units	Typical Value
Tensile Strength @ Break	ASTM D882 Method A	lb/in (N/100 mm)	70 (1228)
Elongation % @ Break	ASTM D882 Method A	%	500
Tear Strength	ASTM D1938	lbs. (kg)	3.5 (1.6)
Taber Abrasion	ASTM C501 H-18,1000 g wt. 1000 cycle	Loss in grams	< 0.10
Hardness	ASTM D2240	Shore A	80
Dielectric Strength	ASTM D1000	Volts	18,200
Rain Erosion	University of Dayton Research Institute - simulating 1" rain/hr at 500MPH		no damage after 2 hrs
Peel Adhesion <sup>3</sup> @ 70°F (21°C) to: Polyester Gel Coat Epoxy Primer Polyurethane Paint	ASTM D1000, 24 hr dwell, 180° peel	oz/in (N/100 mm)	75 (82) 90 (98) 65 (71)
Max. Service Temperature		°F (°C)	275 (135)

<sup>3</sup> The pressure-sensitive acrylic adhesive provides excellent adhesion to these common surfaces, which are used in the wind energy industry, when properly prepared and applied.

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### Typical Physical Properties and Performance Characteristics (continued)

#### A. Solvent Resistance

There is little or no apparent effect after 24 hours immersion in the following solvents:

Motor Oil	—
Distilled Water	—
Hydraulic Fluid	—
Diesel Fuel	Slight Edge Penetration

When exposure to hydrocarbon fluids occurs, some discoloration of unpainted films may occur.

### Safety and Regulatory

- Polyurethane Protective Tape is **100%** solids and contains no hazardous air pollutants (HAPs), volatile organic component (VOC's). Respiratory protection is not required under normal use conditions.
- Polyurethane Protective Tape meets US Federal and California regulations for landfillable materials. The product is potentially recyclable.
- Packaging materials meet US Federal and California regulations for landfillable materials and are recyclable or reusable.
- This product is considered to be an article that does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

### Shipping and Storage

No special/hazardous labeling or packaging required or regulations for air, ground or water shipment for this product.

Keep film in a clean area, away from excessive moisture and out of direct sunlight. Store rolls in the shipping carton. Return partially used rolls to the shipping carton.

**Shelf life:** Two (2) years from date of manufacture.

### Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, visit [www.3M.com/msds](http://www.3M.com/msds) or call 1-800-364-3577 or (651) 737-6501.

### For Additional Information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

<b>Australia</b> 61-2-498-9711 tel 61-2-498-9710 fax	<b>Austria</b> 01-86686-298 tel 01-86686-229 fax	<b>Brazil</b> 55 19 3838-7876 tel 55 19 3838-6892 fax	<b>Canada</b> 800-410-6880 ext. 6018 tel 800-263-3489 fax
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<b>South Africa</b> 11-922-9111 tel 11-922-2116 fax	<b>Spain</b> 34-91-321-6000 tel 34-91-321-6002 fax	<b>Switzerland</b> 01-724-9114 tel 01-724-9068 fax	<b>United Kingdom</b> (0) 161-237-6174 tel (0) 161-237-3371 fax

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### Limitation of Remedies and Liability

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This product was manufactured under a 3M quality standard registered under AS9100 standards.

### Aerospace and Aircraft Maintenance Division

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