

3M™ Polyurethane Protective Tape 8642

Technical Data Sheet

Product Description

3M™ Polyurethane Protective Tape 8642 is a rugged impact protection tape designed to protect aircraft surfaces such as lower fuselage, flaps, and spoilers against small foreign object damage (FOD) and erosion. The tape consists of a tough polyurethane outer layer combined with an energy-absorbing acrylic foam adhesive. A removable poly liner protects the tape during storage. The product is available in two versions: perforated and non-perforated. The perforated version contains 0.025 inch x 0.005 inch oblong holes, spaced ¼ inch apart.

For 3M recommended application and removal procedures, please refer to *3M™ Polyurethane Protective Tape 8642 Installation, Maintenance, and Removal Instructions* available from <https://www.3m.com/aerospace> and included with every package of 3M™ Polyurethane Protective Tape 8642.

Dimensions

Approximate Applied Thickness*	0.043 in (1.09 mm)
Standard Roll Length	36 yd (32.9 m)
Available Roll Widths	Maximum 24 in (61 cm)
Approximate Weight (Perforated Tape)*	1.67 lb/sqyd (904 g/sqm)
Approximate Weight (Non-Perforated Tape)*	1.69 lb/sqyd (913 g/sqm)

*Excludes the poly liner that is removed from the tape prior to application.

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.

Property	Test Method	Units	Results (Perforated)	Results (Non-Perforated)
Tensile Strength @ Break	ASTM-D882 Method A	lb/in (N/100mm)	46.8 (819)	101 (1765)
Elongation @ Break		%	433	836
Tear strength	ASTM-D1938	lb (kg)	1.7 (0.8)	8.2 (3.7)
180° Peel Adhesion @ 73° F (23° C) to:	ASTM D1000 24 hr dwell at 73 °F / 50% RH	oz/in (N/100mm)		
2024 T3 Bare Aluminum			52 (57)	49 (54)
Stainless Steel			44 (48)	41 (45)
G10 Glass Composite			33 (36)	37 (40)
MIL-PRF-85285 Type IV Topcoat			33 (36)	22 (24)
MIL-PRF-85285 Type IV Topcoat (with 3M™ Adhesion Promoter 86A)			112 (122)	95 (104)
MIL-PRF-85285 Type IV Topcoat (sanded with 320 grit sandpaper and applied with 3M™ Protective Tape Application Solution)			84 (92)	74 (81)
PPG Desothane® HS CA8000 Polyurethane Topcoat			26 (29)	29 (32)
PPG Desothane® HS CA8000 Polyurethane Topcoat (with 3M™ Adhesion Promoter 86A)			80 (87)	118 (129)
PPG Desothane® HS CA8000 Polyurethane Topcoat (sanded with 320 grit sandpaper and applied with 3M™ Protective Tape Application Solution)			68 (75)	86 (94)
Taber Abrasion Mass Loss	ASTM D4060 H18 Wheel, 1kg each arm, 1000 cycles	g	0.01	0.01
Dielectric Strength	ASTM D149	V/mil (kV/mm)	472 (18.6)	
Dielectric Constant	ASTM D2520			
2470 MHZ			2.44	2.45
5180 MHZ			2.41	2.42
Electric Loss Tangent				
2470 MHZ			0.035	0.030
5180 MHZ	0.029	0.036		

Authorization to Use

Ensure products meet all applicable specifications, standards, and maintenance manual requirements for the platform being worked on and validate all aircraft approvals against current technical documentation.

Environmental Health and Safety

- 3M™ Polyurethane Protective Tapes are 100% solids and are considered to be articles.
- Before handling any chemical products, always read the container label and the SDS.
- When using solvents, extinguish all ignition sources, including pilot lights. Read and follow manufacturer's warnings and directions for use.
- Local air quality regulations may regulate or prohibit the use of surface preparation and cleaning materials based on solvent (VOC) content.

Shipping and Storage

- No special/hazardous labeling or packaging is required.
- No 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 the date of manufacture or as expressly certified by 3M.

Precautionary Information

Refer to product label and Safety Data Sheet (SDS) for health and safety information before using this product. For SDS visit our website https://www.3m.com/3M/en_US/company-us/SDS-search/.

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 866-556-5712. If you are outside of the U.S., please contact your nearest 3M representative.

**These products are manufactured under a 3M Quality Management System registered to the AS9100 standard*

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