

Polyurethane Protective Tape 8547-1

Technical Data Sheet

Product Description

3M™ Polyurethane Protective Tape 8547-1 is a temporary, flame resistant tape made from an abrasion-resistant polyurethane elastomer and low-adhesion acrylic adhesive. It is commonly used to protect high-value aircraft parts and skins from damage during the manufacturing and transportation processes. The transparent polyurethane backing allows for visual inspection through the tape and helps prevent damage associated with tool drops, abrasions, and scratches, protecting underlying coatings and substrates from surface damage. The adhesive has been specially formulated to remove cleanly from a variety of surfaces, even after prolonged usage and exposure to environmental conditions.

Dimensions

Approximate Applied Thickness*	0.0125 inch (0.32 mm) Film 0.0015 inch (0.04 mm) Adhesive Total thickness 0.014 inch (0.36 mm)
Standard Roll Length	36 yd (32.9 m)
Available Widths	Minimum 1/2 inch Maximum 48 inches (1.25 cm to 122 cm)
Approximate Weight*	0.088 lb/sqft (0.43 kg/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	Typical Value
Tensile Strength @ Break	ASTM D882	lb/in (N/100 mm)	58.7 (1028)
Elongation % @ Break	ASTM D882	%	548
Taber Abrasion Mass Loss	ASTM D4060 H-18, 1000g wt, 1000 cycles	g	0.019
Flame Resistance	FAR 25.853 (a) Appendix F, Part I, (a), 1, (v) Horizontal Burn	-	Pass
	NFPA 701 (2019 Edition) Large Scale Test	-	Pass

180° Peel Adhesion (ASTM D-1000)

Peel Adhesion (oz/in) (N/100 mm)		Aging Condition			
		73 °F / 50% RH 1 week	140 °F x 95% RH 1 week ⁽¹⁾	180 °F 1 week ⁽²⁾	Accelerated Weathering ⁽³⁾
Substrate	Poly II Acrylic	12.0 (13.1)	11.2 (12.3)	16.5 (18.1)	22.7 (24.8)
	Glass	5.1 (5.6)	8.7 (9.6)	9.0 (9.9)	11.9 (13.1)
	Bare 2024-T3 Aluminum	5.8 (6.4)	4.1 (4.4)	11.2 (12.3)	12.9 (14.1)
	304 Stainless Steel	7.3 (8.0)	6.4 (7.0)	20.7 (22.7)	28.9 (31.6)
	G10 Epoxy Glass Fiber Composite	7.7 (8.4)	11.4 (12.4)	17.6 (19.3)	19.9 (21.8)
	PPG Desothane® HS CA8000 Polyurethane Topcoat	5.8 (6.4)	6.1 (6.7)	15.7 (17.2)	11.8 (12.9)
	AkzoNobel Aerodur 3002G Clear Coat	6.4 (7.0)	6.9 (7.6)	15.8 (17.3)	12.7 (13.9)
	MIL-PRF-85285 Type IV Topcoat	8.4 (9.2)	8.3 (9.1)	6.4 (7.0)	15.0 (16.4)
	MIL-PRF-23377 Primer	4.2 (4.6)	12.2 (13.3)	9.3 (10.2)	11.1 (12.2)

*Note: 8547-1 removed cleanly with no residual adhesive from all substrates after all aging conditions

(1) Samples allowed to dwell for 24 hours at 73 °F / 50% RH after removal from environmental chamber before testing

(2) Samples allowed to dwell for 1 hour at 73 °F / 50% RH after removal from oven before testing

(3) Samples exposed per ASTM G154, Cycle 1 for 168 hours then allowed to dwell for 24 hours at 73 °F / 50% RH prior to testing

Safety and Regulatory

- 3M™ Polyurethane Protective Tape is 100% solids and contains no hazardous air pollutants (HAPs), volatile organic components (VOCs). Respiratory protection is not required under normal use conditions.
- 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 is required.

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 were manufactured under a 3M Quality Management System registered to the AS9100 standard*

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