



Low Outgassing Polyester Tape

8333

Technical Data

October, 2005

Supersedes September, 1998

Product Description

A metalized polyester tape ideal for the demanding requirements of hard disk drive and related electronics manufacturing. The 1 mil metalized polyester backing offers low static and low diffusivity, complimented with a low outgassing, acrylic adhesive. This product offers a high level of permanence, yet is cleanly removable from most substrates even after extended heat treatments.

Construction

Backing

Metalized Polyester

Adhesive

Acrylic

Color

Silver

Typical Physical Properties and Performance Characteristics

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

ASTM Test Method

Adhesion to Steel:

Initial	31 oz./in.
After 30 hrs @ 72°F	34 oz./in.
After 30 hrs @ 120°F	38 oz./in.
After 30 hrs @ 150°F	42 oz./in.

D-3330

Adhesion to Aluminum:

Initial	29 oz./in.
After 30 hrs @ 72°F	30 oz./in.
After 30 hrs @ 120°F	34 oz./in.
After 30 hrs @ 150°F	39 oz./in.

D-3330

Shear Strength:

0.5 in. x 0.5 in. w/1000 gm load	> 200 min.
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D-3654

Mechanical Performance:

Tensile Strength	27 lb./in.
Elongation @ Break	120%
Yield Point (%)	10%
Yield Point (lbs./in.)	16 lb./in.

D-3659

Caliper:

Backing	1.0 mil
Adhesive	1.0 mil
Total	2.0 mil

D-3652

Static¹:

< 100 volts

NASA Outgassing:

Total Mass Loss (TML)	0.43%
Condensable Materials (CVCM)	0.05%
Water Vapor Recovered (WVR)	0.21%

E-595

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Typical Physical Properties and Performance Characteristics (continued)

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

	ASTM Test Method
Outgassing by Headspace GC Analysis ² (units = µg/cm ²)	D-4526 ³
Hydrocarbons	< .05 µg/cm ²
Acrylates	< .20 µg/cm ²
Organic Acids	< .05 µg/cm ²
Alcohols & Esters	< .05 µg/cm ²
Siloxanes	< .02 µg/cm ²
Anions by Ion Chromatography (units = ng/cm ²)	
Fluoride	not detected
Chloride	< 50 ng/cm ²
Nitrite	not detected
Bromide	not detected
Nitrate	not detected
Phosphate	not detected
Sulfate	not detected

¹Static = Residual voltage on surface of tape after unwind @ 12 in./min. as measured by 3M Model 709 static sensor.

²Outgassing = Dynamic headspace analysis of volatile components collected during a 4 hr @ 80°C heat cycle using a Hewlett-Packard Model 5890 Series II gas chromatograph coupled with a Hewlett-Packard Model 5989B mass spectrometer.

³ASTM test method modified per footnote #2 above.

Application Ideas

- Temporary porthole sealing of hard disk drive clamshells.
- General purpose cleanroom applications.
- Other applications which require a low outgassing polyester film tape.

Key Attributes

Features	Advantages	Benefits
• 1 mil metalized polyester backing	• Thin, high strength • Bleeds static charge rapidly • Low diffusivity • Low water vapor transmission rate	• Helps reduce breakage • Helps reduce risk of product damage due to electrostatic discharge • Effective contamination barrier • Effective barrier for water vapor
• High purity acrylic adhesive	• Low outgassing • Low extractable ionic content • Clean removability from a wide variety of substrate materials • Excellent initial adhesion • Long aging	• Helps reduce risk of chemical contamination • Helps reduce risk of chemical contamination • Eliminate cleanup of substrate materials during rework operations • Adhesive has good tack properties for easy application • Adhesive stable over long periods of time

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General Information

- Best results obtained using firm rubdown pressure on clean, oil-free substrate materials.
- Dimensionally stable over temperature range from -60°F to 300°F (-51°C to 149°C).
- Standard packaging includes plastic cores and individual plastic bags.
- Shear performance decreases with increasing temperature.

Shelf Life

18 months from manufacture of material if properly stored at 60-80°F (16-27°C) and 40-50% relative humidity.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M Electronics Markets Materials Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-634-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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3M Center, Building 21-1W-10, 900 Bush Avenue
St. Paul, MN 55144-1000
1-800-251-8634 phone
651-778-4244 fax
www.3M.com/electronics



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