3M

Low Outgassing Polyester Tape

8333

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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	Adhesive	Color
Metalized Polyester	Acrylic	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:		D-3330
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.	
Adhesion to Aluminum:		D-3330
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.	
Shear Strength:		D-3654
0.5 in. x 0.5 in. w/1000 gm load	> 200 min.	
Mechanical Performance:		D-3659
Tensile Strength	27 lb./in.	
Elongation @ Break	120%	
Yield Point (%)	10%	
Yield Point (lbs./in.)	16 lb./in.	
Caliper:		D-3652
Backing	1.0 mil	
Adhesive	1.0 mil	
Total	2.0 mil	
Static[1]:	< 100 volts	
NASA Outgassing:		E-595
Total Mass Loss (TML)	0.43%	
Condensable Materials (CVCM)	0.05%	
Water Vapor Recovered (WVR)	0.21%	

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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	

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

[2] Outgassing = 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.

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

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General Information

- Best resulted 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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