Very Low Outgassing High Shear Polyester Tape

8439

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Product Description

A silver colored polyester film tape for the demanding requirements of hard disk drive and related electronics manufacturing. The metalized polyester backing offers low static and diffusivity and is complimented with a very 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, 1 mil	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	29 oz./in.	
After 30 hrs @ 72°F	44 oz./in.	
After 30 hrs @ 120°F	54 oz./in.	
After 30 hrs @ 150°F	68 oz./in.	
Adhesion to Aluminum:		D-3330
Initial	22 oz./in.	
After 30 hrs @ 72°F	41 oz./in.	
After 30 hrs @ 120°F	48 oz./in.	
After 30 hrs @ 150°F	68 oz./in.	
Shear Strength:		D-3654
0.5 in. x 0.5 in. w/1750 gm load	> 10,000 min.	
0.5 in. x 0.5 in. w/1000 gm load	> 10,000 min.	
Mechanical Performance:		D-3659
Tensile Strength	29 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	
Moisture Vapor Transmission Rate:	0.29 gms H_2O/24 hr/100 in^2	D-3833
Static[1]:	< 100 volts	
NASA Outgassing:		E-595
Total Mass Loss (TML)	0.46%	
Condensable Materials (CVCM)	< 0.01%	
Water Vapor Recovered (WVR)	0.24%	

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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 CG Analysis[2] (units = µg/cm^2)		D-4526[3]
Hydrocarbons	< .05 µg/cm^2	
Acrylates	< .05 µg/cm^2	
Organic Acids	< .02 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	< 20 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

- Perimeter sealing of hard disk drive clamshells.
- Temporary porthole sealing of hard disk drive clamshells.
- Process aid.
- General purpose sealing.
- 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 shear strength	• Helps reduce chance of tape slippage when shear stress is applied
	• 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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