



Low Static Polyimide Film Tape

5419

Technical Data

July, 1994

Supersedes June, 1993

Product Description

A translucent, polyimide film-backed silicone adhesive tape with unique and extremely low electrostatic discharge properties. For gold tab protection during wave soldering of printed circuit boards.

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.

Construction

Backing	Adhesive	Color	Standard Roll Length
Polyimide	Silicone	Gold	36 yds. (33 m)

ASTM Test Method

Adhesion to Steel:	20 oz./in width (22N/100 mm)	D-3330
Tensile Strength:	33 lbs./in. width (578 N/100 mm)	D-3759
Elongation at Break:	60%	D-3759
Backing Thickness:	1 mil (.03 mm)	D-3652
Total Tape Thickness:	2.7 mils (.07 mm)	D-3652
Temperature Use Range:	-100°F. to +500°F. (-73°C. to +260°C.)	
Dielectric Strength:	7000 volts	
Insulation Resistance:	>1*10 ⁶ ohms	
Static Charge:	(measured @ 50% RH, 70° in an ESD controlled environment)	
Removal from roll:	<150 volts	
Removal from PWB:	<50 volts	

General Information

- 5419 tape employs a proprietary technology that results in extremely low electrostatic discharge at unwind and removal from the PWB. Conventional polyimide tapes can typically generate over 10,000 volts during use which can damage board mounted electronic components. 5419 tape overcomes this problem without any of the typical drawbacks of conventional “anti static” or “static-free” tapes (e.g., variable adhesion and opaqueness).
- At room temperature the properties of polyimide and polyester film are similar. However, as the temperature increases or decreases, the properties of the polyimide film are less affected than polyester.
- Polyimide film does not soften at elevated temperatures, thus, the film provides an excellent release surface at elevated temperatures.

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Application Ideas

- Mask for printed circuit boards during wave solder or solder dip process.
- Used as release surface in fabrication of parts cured at elevated temperatures.

Features

- Polyimide film
- Silicone adhesive
- Low static

Advantages

- Dimensionally stable at high temperatures.
- Flame retardant and chemical resistant.
- High temperature performance reduces adhesive transfer.
- Virtually eliminates circuit board degradation due to electrostatic discharge.

Benefits

- Helps promote high productivity.
- Protects surfaces, helping reduce replacement.
- Helps promote high productivity.
- Reduces costly board waste due to component failure.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-227-5085. Address correspondence to: 3M Industrial Tape and Specialties Division, 3M Center, Building 220-8E-04, St. Paul, MN 55144-1000. Our fax number is 612-733-9175. In Canada, phone: 1-519-451-2500. In Puerto Rico, phone: 1-809-750-3000. In Mexico, phone: 5-728-0400.

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