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Technical Data | June 2020

3M™ Low Static Polyimide Film Tape 7419

Product Description

3M™ Low Static Polyimide Film Tape 7419 uses DuPont™ Kapton© polyimide film backing and silicone-free acrylic adhesive and is used for PCB solder masking and other high temperature applications.

Key Features

- Specially formulated acrylic adhesive is resistant to typical solder mask temperatures for short periods of time, stays firmly in place during processing and removes cleanly from typical electronic substrates even after 10 min @ 260°C (500°F).
- Non-silicone adhesive formulation lessens the potential for silicone contamination which can interfere with subsequent bonding or conformal coating operations.
- The high temperature acrylic adhesive also has excellent chemical resistance and can be considered for demanding chemical masking applications.
- Product is wound on a polyethylene tape core.

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Product Construction/Material Description

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

3M™ Low Static Polyimide Film Tape 7419	
Property	**Value**
Color	Amber
Backing	Dupont™ Kapton© Polyimide Film
Adhesive	Specialty Acrylic
Standard Roll Length	33 meters (36 yards)

Applications

- Masking or protecting residue sensitive areas on printed circuit boards during high temperature operations such as wave soldering and solder reflow

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Application Techniques

- Substrate should be smooth, clean, dry and oil-free to ensure good wet-out and adequate adhesion.
- Tape may not bond or conform to low surface energy, rough or sharply curved surfaces.

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. Final product specifications and testing methods will be outlined in the product's Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Low Static Polyimide Film Tape 7419		
Property	**Method***	**Value**
Adhesion to Steel	ASTM D-3330, Part A	
Initial		4 oz/in width (4.5 N/100 mm)
72 hrs @ 25°C		5 oz/in width (5.6 N/100 mm)
10 min @ 260°C		17 oz/in width (19 N/100 mm)
Adhesion to Copper	ASTM D3330, Part A	
Initial		4 oz/in width (4.5 N/100 mm)
72 hrs @ 25°C		5 oz/in width (5.6 N/100 mm)
10 min @ 260°C		10 oz/in width (11 N/100 mm)
Static Discharge**	-	< 100 volts
Dielectric Strength	-	6000 volts
Surface Resistivity	ESD Method S-11	5 x 10^6 ohms/sq
Temperature Use Range***	-	10 min @ 260°C

*Methods listed as ASTM are tested in accordance with the ASTM method noted

**Static discharge during removal from roll

*** Temperature use range is defined as the maximum time at the stated temperature after which the tape may be removed cleanly, without staining, from a copper substrate

Storage and Shelf Life

The shelf life of 3M™ Low Static Polyimide Film Tape 7419 is 18 months from the date of manufacture when stored in the original packaging materials and stored at 21°C (70°F) and 50% relative humidity.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is manufactured and deemed to be commercially available from 3M. The COA contains the 3M specifications, test results and test methods for the product's performance attributes that the product will be supplied against. Contact your local 3M representative for this product's COA.

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