

3M™ Polyimide Film Tape 5413

Product Description

3M™ Polyimide Film Tape 5413 features an industry-leading polyimide film backing with a silicone adhesive, designed for PCB solder masking and other high-temperature applications up to 260°C (500°F). This product is amber in color and has a thickness of 2.7 mil (69 microns).

Key Features

- The industry-leading polyimide film remains stable at elevated temperatures, providing an excellent release surface in high-temperature applications
- Dimensional stability at high temperatures helps reduce rework and can enable high productivity
- High-temperature performance of silicone adhesive helps reduce adhesive transfer virtually eliminating the need for additional cleaning
- Flame retardant as well as chemical and radiation resistant, helping protect surfaces and potentially reducing replacement costs
- Product is wound on a polyethylene tape core

Product Construction

Polyimide Film Backing: 1.0 mil
Silicone Adhesive: 1.7 mil

Material Description

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

3M™ Polyimide Film Tape 5413	
Property	Value
Backing	Industry-Leading Polyimide Film
Adhesive	Silicone
Color	Amber
Standard Roll Length	33 meters (36 yards)

Applications

- Masking or protecting residue-sensitive areas on printed circuit boards (PCBs) during high-temperature operations, such as wave soldering and solder reflow
- Release surface in fabrication of parts cured at elevated temperatures

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Typical Physical Properties and Performance Characteristics

Note: The following preliminary 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™ Polyimide Film Tape 5413		
Property	Test Method*	Value
Adhesion to Steel	D-3330	22 oz/in width (24 N/100 mm)
Tensile Strength at Break	D-3759	33 lb/in width (578 N/100 mm)
Elongation at Break	D-3759	62%
Backing Thickness	D-3652	1.0 mil (0.03 mm)
Total Tape Thickness	D-3652	2.7 mil (0.07 mm)
Temperature Use Range**	-	-73° to 260°C (-100° to 500°F)
Dielectric Strength	D-149	7,000 Volts
Outgassing	-	%TLM = 1.50, %CVM = 0.50
Flame Retardancy	Per UL-510 product category: OARC2, File E124809	Pass
Government Specification	ASTM D5213 Type 1, Class A (replaces obsolete MIL-P-46112B)	Pass

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

**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™ Polyimide Film Tape 5413 is 36 months from the date of manufacture when stored in 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 commercially available from 3M. The COA contains the 3M test methods, specifications limits and test results for the product's performance attributes that the product will be supplied against. Contact your local 3M representative for this product's COA.

Regulatory: For regulatory information about this product, contact your 3M representative.

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