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Technical Data | July 2021

3M™ Polyimide Film Tape 5413

Product Description

3M™ Polyimide Film Tape 5413 with DuPont™ Kapton® polyimide film and silicone adhesive used for PCB solder masking and other high temperature applications. This product is amber colored and 2.7 mil (69 microns) thick.

Key Features

- The DuPont™ Kapton® polyimide film does not soften at elevated temperatures, thus the film provides an excellent release surface at elevated temperatures
- Is dimensionally stable at high temperatures, which helps reduce rework, helping to enable high productivity
- Is flame retardant, chemical and radiation resistant which helps protect surfaces to help reduce replacement costs
- The silicone adhesive's high temperature performance helps reduce adhesive transfer which helps to eliminate cleaning, enabling high productivity
- Polyethylene tape core instead of cardboard

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™ Polyimide Film Tape 5413	
Property	**Value**
Backing	Dupont™ Kapton® Polyimide Film
Adhesive	Silicone
Color	Amber
Standard Roll Length	33 m (36yd)

Applications

- Mask for protection of gold fingers of printed circuit boards during wave solder or solder dip process.
- Release surface in fabrication of parts cured at elevated temperatures.

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 products Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Polyimide Film Tape 5413		
Property	**Method***	**Value**
Adhesion to Steel:	D-3330	22 oz/in width (24 N/100 mm)
Tensile Strength at Break:	D-3579	33 lb/in width (578 N/100 mm)
Elongation at Break:	D-3579	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)

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Dielectric Strength:	D-149	7000 volts
Outgassing:	-	%TLM = 1.50, %CVCM = 0.50
Flame Retardancy:	Per UL-510 product category: OARC2 File E124809	Pass

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

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 cartons 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.

3M™ Polyimide Film Tape 5413

Safety Data Sheet: Consult Safety Data Sheet before use.

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

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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