



Polyimide Film Tape

5413

Technical Data

Product Description A tape consisting of a Kapton® polyimide film and silicone adhesive designed for high temperature applications.

| Product Construction | Backing | Adhesive | Liner | Color | Standard roll Length |
|----------------------|------------------------|----------|-------|-------|----------------------|
| | Kapton® polyimide film | Silicone | None | Amber | 36 yds (33m) |

Typical Physical Properties **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: | 22 oz./in. width (24 N/100mm) | D-3330 |
| Tensile Strength at Break: | 33 lbs./in. width (578 N/100mm) | D-3759 |
| Elongation at Break: | 62% | D-3759 |
| Backing Thickness: | 1 mils (.03mm) | D-3652 |
| Total Tape Thickness: | 2.7 mils (.07mm) | D-3652 |
| Temperature Use Range: | -100°F to 500°F (-73°C to 260°C) | |

- General Information**
- At room temperature, the properties of Kapton® and polyimide polyester films are similar, however, as the temperature increases or decreases, the properties of the Kapton® film are less affected than polyester.
 - Kapton® film does not soften at elevated temperatures, thus the film provides an excellent release surface at elevated temperatures.

Shelf Life To obtain best performance, use this product within 12 months from date of manufacture and store under normal conditions of 60° to 80°F (15° to 21°C) and 40 to 50% R.H. in the original carton.

- Application Ideas**
- 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.

| Features | Features | Advantages | Benefits |
|----------|-----------------------------|--|---|
| | Thin Kapton® polyimide film | Dimensionally stable at high temperatures | Higher productivity by reducing rework |
| | | Flame retardant, chemical and radiation resistant | Protects surfaces, helping reduce replacement costs |
| | Silicone adhesive | High temperature performance reduces adhesive transfer | No cleaning required/helps increase productivity |
| | High adhesive film bond | Reduces adhesive transfer | No cleaning required/helps increase productivity |

3M™ Polyimide Film Tape

5413

page 2 of 2

Technical Information and Data

The technical information and data, recommendations, and other statements provided in this document are based on tests or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be used with the 3M product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Limited Warranty and Limited Remedy

The 3M product will be free from defects in material and manufacture for a period of one (1) year from the date of manufacture. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. If the 3M product is defective within the warranty period stated above, YOUR EXCLUSIVE REMEDY AND 3M'S SOLE OBLIGATION SHALL BE, AT 3M'S OPTION, TO REPLACE OR REPAIR THE 3M PRODUCT OR REFUND THE PURCHASE PRICE OF THE 3M PRODUCT.

Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, warranty, negligence, or strict liability.



This Industrial Tape and Specialties Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

**Industrial Tape and Specialties Division**

3M Center, Building 220-7W-03
St. Paul, MN 55144-1000
1 800 362 3550
1 800 223 7427 Fax on Demand
www.3M.com/industrialtape

© 3M IPC 2001
All rights reserved.

Kapton® is a registered
trademark of E. I. DuPont
de Nemours Co.

70-0703-2532-2
December/06/2001