DuPont™ Pyralux® TK

Kapton® & Fluoropolymer Bond Ply

Flexible Circuit Materials

Product Description

DuPont™ Pyralux® TK Bond Ply features a layered dielectric, comprising a core ply of Kapton® covered on both sides with a low lamination temperature fluoropolymer. This bond ply can be used to encapsulate etched details for environmental protection and electrical insulation. Using bond ply can eliminate a layer of Kapton® dielectric and a layer of adhesive in low layer count multilayer constructions. Pyralux® TK can address your highest performance flex and rigid-flex applications where dielectric constant must fall below 3.0.

Key Features and Benefits

- Fluoropolymer film provides low-loss dielectric constant loss tangent
- Low moisture absorption for consistent performance
- Designed for use with Pyralux® TK Copper-Clad Laminates
- Certified to IPC-4203/5
- UL 94V-0, UL File E124294
- RoHS Compliant

Packaging

Pyralux® TK Bond Ply is supplied on 24 in. (610 mm) wide by 250 ft (76 m) long rolls, on nominal 3 in. (76 mm) cores. Narrower widths and alternative lengths, as well as sheets, are available by special order.

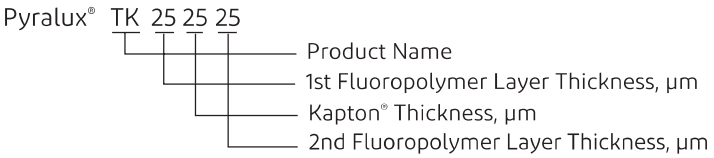
Storage

DuPont™ Pyralux® TK Bond Ply should be stored in original packaging at temperatures of 4 - 29 °C (40 - 85 °F) and below 70% relative humidity. The product should not be frozen and should be kept dry, clean, and well-protected. Subject to compliance with the foregoing handling and storage recommendations, DuPont's warranties as provided in the DuPont Standard Conditions of Sale shall remain in effect for a period of two years following the date on the Certificate of Analysis.

Table 1 - Standard Pyralux® TK Bond Ply Offerings

Product Code	Kapton® Thickness µm (mil)	Fluoropolymer Thickness µm (mil)
TK252525	25 (1.0)	25 (1.0)
TK255025	50 (2.0)	25 (1.0)
TK445044	50 (2.0)	44 (1.75)

Product Code Key



Processing

Lamination conditions for DuPont™ Pyralux® TK flexible circuit materials are typically in the following ranges:

Part Temperature: .....280 - 290 °C (535 - 554 °F)

Pressure: .....16.8 - 18.3 kg/cm^2 (240 - 260 psi)

Time:..... 1 hour, at temperature

Pyralux® TK Bond Ply processing guide available from your DuPont sales representative.

Safe Handling

Prior to handling, DuPont recommends referencing the Pyralux® Safe Handling Guide available at pyralux.dupont.com.

Quality and Traceability

DuPont™ Pyralux® TK Bond Ply is manufactured under a certified ISO9001:2015 Quality Management System facility. Complete material and manufacturing records, which include archive samples of finished product, are maintained by DuPont. Each manufactured lot is identified for reference traceability. The packaging label serves as the primary tracking mechanism in the event of customer inquiry and includes the product name, batch number, size, and quantity.

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Product Performance

Table 2 - DuPont™ Pyralux® TK Bond Ply Properties

Property	TK252525 Typical Value	Test Method
Dielectric Constant (Dk)		
10 GHz, Normal	2.3	IPC-TM-650 2.5.5.5
10 GHz, In-plane	2.6	ASTM D2520
Loss Tangent (Df)		
10 GHz	0.0015	ASTM D2520
Peel Strength		
Pyralux® TK Dielectric, N/mm (lb/in)	1.0 (6.0)	
As Received 36 µm Copper Foil, N/mm (lb/in)	0.87 (5.0)	
As Received 18 µm Shiny Copper, N/mm (lb/in)	0.50 (3.0)	IPC-TM-650 2.4.9
Solder Float, 288 °C for 10 s	Pass	IPC-TM-650 2.4.13
Moisture Absorption, %	0.3	IPC-TM-650 2.6.2
Dielectric Strength, V/µm	190	ASTM D149
Decomposition Temperature (2% / 5%), °C	494 / 514	DuPont Method, TMA

Data within this table are typical values for the listed product. Performance can vary depending on construction and processing.

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For more information on Pyralux® TK Bond Ply or other DuPont products, please visit our website.

pyralux.dupont.com

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