DuPont™ Pyralux® LF

Acrylic-Based Coverlay

Flexible Circuit Materials

Product Description

DuPont™ Pyralux® LF Coverlay features DuPont™ Kapton® polyimide film, coated on one side with a proprietary B-staged modified acrylic adhesive. This coverlay can be used to encapsulate etched details in flexible and rigid-flex multilayer constructions for environmental protection and electrical insulation.

Key Features and Benefits

- Excellent bond strength affords high reliability
- High thermal resistance to facilitate processing
- Able to withstand multiple lamination cycles
- No refrigeration required for storage
- Certified to IPC-4203/1
- RoHS Compliant

Packaging

Pyralux® LF Coverlay is supplied on 24 in (610 mm) wide by 250 ft (76 m) long rolls, on nominal 3 in (76 mm) cores. Narrower widths or cut sheets are also available by special order.

Storage Conditions and Warranty

DuPont™ Pyralux® LF Coverlay 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.

Processing

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

Part Temperature: ..... 182 - 199 °C (360 - 390 °F)

Pressure: ..... 14 - 28 kg/cm^2 (200 - 400 psi)

Time: ..... 1 - 2 hours, at temperature

Pyralux® LF Coverlay processing guide available from your DuPont sales representative.

Table 1 - Standard Pyralux® LF Coverlay Offerings

Product Code	Adhesive Thickness µm (mil)	Kapton® Thickness µm (mil)
LF7013	25 (1.0)	13 (0.5)
LF0110	25 (1.0)	25 (1.0)
LF0120	25 (1.0)	51 (2.0)
LF0130	25 (1.0)	76 (3.0)
LF0150	25 (1.0)	127 (5.0)
LF7034	38 (1.5)	25 (1.0)
LF7082	51 (2.0)	13 (0.5)
LF0210	51 (2.0)	25 (1.0)
LF0220	51 (2.0)	51 (2.0)
LF0230	51 (2.0)	76 (3.0)
LF0250	51 (2.0)	127 (5.0)
LF0310	76 (3.0)	25 (1.0)
LF7001	13 (0.5)	13 (0.5)
LF1510	13 (0.5)	25 (1.0)

Pyralux® LF Coverlay Construction Selection

A variety of Pyralux® LF Coverlay constructions are commercially available. For help beyond the standard offerings in Table 1, please use the Laminate Product Selector at pyralux.dupont.com to identify the appropriate product code for your coverlay solution.

Safe Handling

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

Quality and Traceability

DuPont™ Pyralux® LF Coverlay 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.

DuPont™ Pyralux® LF

Acrylic-Based Coverlay

Flexible Circuit Materials

Product Performance

Table 2 - DuPont™ Pyralux® LF Coverlay Properties

Property	LF0110 Typical Value	Test Method
Dielectric Constant (Dk) 1 MHz 10 GHz	 3.6 3.1	 IPC-TM-650 2.5.5.3 ASTM D2520
Loss Tangent (Df) 1 MHz 10 GHz	 0.020 0.015	 IPC-TM-650 2.5.5.3 ASTM D2520
Peel Strength* (Adhesion to Copper) As Received, N/mm (lb/in) After Solder, N/mm (lb/in)	 1.8 (10.0) 1.6 (9.0)	 IPC-TM-650 2.4.9
Adhesive Flow, mm (mil)	0.05 - 0.10 (2 - 4)	IPC-TM-650 2.3.17.1
Dimensional Stability (MD/TD)	± 0.07 %	IPC-TM-650 2.2.4
Solder Float, 288 °C for 10 s	Pass	IPC-TM-650 2.4.13
Volume Resistivity, Ω · cm	$> 10^{15}$	IPC-TM-650 2.5.17
Surface Resistance, Ω	$> 10^{14}$	IPC-TM-650 2.5.17

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

*Lamination Conditions: 14 kg/cm^2 (200 psi) at 182 °C (360 °F) for 1 hour to treated side of 1 oz RA copper foil.

DUPONT™

For more information on DuPont™ LF Coverlay or other DuPont products, please visit our website.

pyralux.dupont.com

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. It may be subject to revision as new knowledge and experience becomes available. This information is not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. Since we cannot anticipate all variations in end-use and disposal conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information. It is intended for use by persons having technical skill, at their own discretion and risk. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right.

CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 and "DuPont Policy Regarding Medical Applications" H-50103-5..

DuPont™, the DuPont Oval Logo, and all products, unless otherwise noted, denoted with ™, ℠ or ® are trademarks, service marks or registered trademarks of affiliates of DuPont de Nemours, Inc. Copyright © 2022 DuPont de Nemours Inc. All rights reserved.

EI-10118 (10/22)