



DuPont™ Pyralux® HP

High Performance Epoxy Adhesive

Flexible Circuit Materials

Product Description

DuPont™ Pyralux® HP is an epoxy-based adhesive system demonstrating both low loss and high reliability, specifically designed for OEMs and PCB design manufacturers. Its optimized low-loss solution is suitable for multi-layer flex and rigid-flex PCB's in military, telecommunications, automotive and medical applications.

Key Features and Benefits

- Excellent electrical performance (low Dk/Df)
- Robust processability
- Demonstrated high reliability
- Designed for extreme PCB applications
- Manufactured in the USA
- Certified to IPC-4203/19
- RoHS compliant

Packaging

DuPont™ Pyralux® HP epoxy adhesive is supplied on 24 in (610 mm) wide rolls in either 100 ft (30.5 m) or 250 ft (76 m) lengths, on nominal 3 in (76 mm) cores.

Storage and Warranty

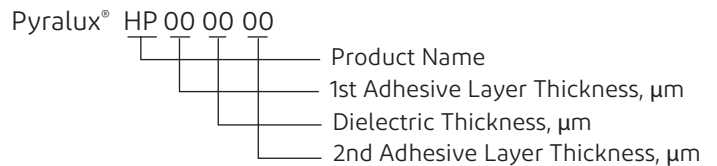
Pyralux® HP high performance epoxy adhesive requires refrigeration and should be stored below 5 °C (41 °F) and at 50 ± 20% humidity. The product should not be frozen and should be kept dry, clean, and well- protected. If there has been a deviation from the recommended storage conditions, an examination and small scale evaluation should be performed prior to committing to large scale production.

Subject to compliance with the foregoing handling and storage recommendations, DuPont's warranties shall remain in effect for the period provided in the DuPont Standard Conditions of Sale.

Table 1 - Standard Pyralux® HP Offerings

Product Code	Adhesive Thickness μm (mil)
HP120000	12 (0.5)
HP250000	25 (1)
HP500000	50 (2)

Product Code Key



Processing

Lamination conditions for DuPont™ Pyralux® HP high performance epoxy adhesive are typically in the following ranges:

Part Temperature: 175 - 190 °C (347 - 374 °F)

Pressure: 28 - 40 kg/cm² (400 - 565 psi)

Time:..... 60 - 120 minutes, at temperature

Additional Pyralux® HP adhesive processing information is available from your DuPont sales representative.

Pyralux® HP Construction Selection

A variety of Pyralux® HP high performance laminate system constructions are commercially available. For help beyond the standard offerings in Table 1, please use contact your DuPont sales representative or use the Laminate Product Selector at pyralux.dupont.com to identify the appropriate product code for your laminate solution.



Safe Handling

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

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Quality and Traceability

DuPont™ Pyralux® HP high performance epoxy adhesive 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.

Product Performance

Table 2 - DuPont™ Pyralux® HP high performance epoxy adhesive properties

Property	HP250000 Typical Values	Test Method
Dielectric Constant (Dk)		
1 MHz	2.7	IPC-TM-650 2.5.5.3
10 GHz	2.8	ASTM D2520
Loss Tangent (Df)		
1 MHz	0.003	IPC-TM-650 2.5.5.3
10 GHz	0.0035	ASTM D2520
Peel Strength (Adhesion to Copper)		
As Received, N/mm (lb/in)	0.003	IPC-TM-650 2.4.9
After Solder, N/mm (lb/in)	0.0035	
Adhesive Flow, mils/mil	3.0	IPC-TM-650 2.3.17.1
Solder Float, 288 °C for 10 s	Pass	IPC-TM-650 2.4.13
Moisture Absorption, %	<0.4	IPC-TM-650 2.6.2
Moisture & Insulation Resistance, Ω	> 1x10 ⁸	IPC-TM-650 2.6.3.2
Dielectric Strength, V/mil	3000	ASTM D149
Volume Resistivity, MΩ·cm	1x10 ¹⁰	IPC-TM-650 2.5.17
Surface Resistance, MΩ	1x10 ⁹	IPC-TM-650 2.5.17
Tensile Modulus, MPa (ksi)	371 (54)	IPC-TM-650 2.4.19
Tensile Strength, MPa (ksi)	11 (1.6)	IPC-TM-650 2.4.19
Elongation, %	222	IPC-TM-650 2.4.19
Glass Transition Temperature (Tg), °C	102	IPC-TM-650 2.4.24

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



For more information on Pyralux® HP Adhesive or other DuPont products, please visit our website.

pyralux.dupont.com

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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.

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