

# DuPont™ Pyralux® HP

## High Performance Epoxy Adhesive

### Flexible Circuit Materials

## Preliminary Data Sheet



### Product Description

DuPont™ Pyralux® HP is an unsupported epoxy-based adhesive with low loss and high reliability, specifically designed for OEMs and PCB design manufacturers. Its optimized low-loss solution is multi-layer flex and rigid-flex military, automotive and medical industries. Pyralux® HP adhesive provides best-in-class insertion loss performance, increase functionality and ease of processing while maintaining high reliability.

### 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 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 the above recommended storage conditions have been deviated from, 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.

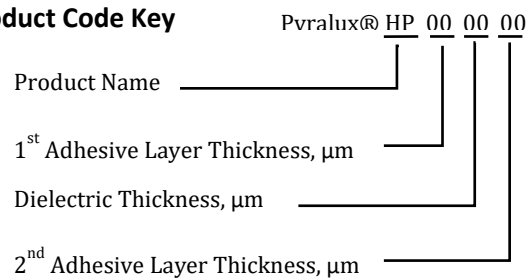
### Safe Handling

Prior to handling, DuPont recommends referencing the Pyralux® Safe Handling Guide available at [pyralux.dupont.com](http://pyralux.dupont.com).

**Table 1 – Standard Pyralux® HP Offerings**

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

### Product Code Key



### 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](http://pyralux.dupont.com) to identify the appropriate product code for your laminate solution.



### 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.

### Quality and Traceability

DuPont™ Pyralux® HP High Performance 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 Laminate System 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		
As Received, N/mm (lb/in)	1.76 (10.0)	IPC-TM-650 2.4.9
After Solder, N/mm (lb/in)	1.76 (10.0)	
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 <sup>8</sup>	IPC-TM-650 2.6.3.2
Dielectric Strength, V/mil	3000	ASTM D149
Volume Resistivity, MΩ · cm	1x10 <sup>10</sup>	IPC-TM-650 2.5.17
Surface Resistance, MΩ	1x10 <sup>9</sup>	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.



[pyralux.dupont.com](http://pyralux.dupont.com)

For more information on Pyralux® HP High Performance Laminate System or other DuPont products, please visit [electronics.dupont.com](http://electronics.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. © 2019 DuPont de Nemours, Inc. All rights reserved.