

# DuPont™ Pyralux® GPL

Low Loss Sheet Adhesive

Flexible Circuit Materials



## Product Description

DuPont™ Pyralux® GPL Sheet Adhesive is a proprietary B-staged modified epoxy adhesive. This stand-alone adhesive exhibits low loss characteristics for high performance applications, while retaining excellent mechanical resilience to facilitate high-yield circuit fabrication. Pyralux® GPL is primarily utilized to bond flexible inner layers or rigid cap layers in flexible and rigid-flex constructions.

## Key Features and Benefits

- Low loss modified epoxy composition
- High thermal resistance to facilitate processing
- Low resin flow mitigates squeeze out during multiple lamination cycles
- Excellent bond strength affords high reliability

## Packaging

Pyralux® GPL Sheet Adhesive is supplied on 250 mm (9.8 in) wide rolls in 100 m (328 ft) lengths, on nominal 76 mm (3 in) cores.

## Storage and Warranty

Pyralux® GPL Sheet 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 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.

## Processing

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

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

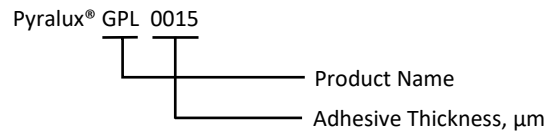
Pressure:.....28 - 40 kg/cm<sup>2</sup> (400 - 565 psi)

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

**Table 1 – Standard Pyralux® GPL Sheet Adhesive Offerings**

Product Code	Adhesive Thickness um(mil)
GPL0015	15(0.6)
GPL0025	25(1.0)
GPL0030	30(1.2)

## Product Code Key



A variety of Pyralux® GPL Sheet Adhesive constructions are commercially available. For help beyond the standard offerings in Table 1, please contact your DuPont sales representative.

## Quality and Traceability

DuPont™ Pyralux® GPL Sheet 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.

## Safe Handling

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

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## Product Performance

Table 2 - DuPont™ Pyralux® GPL Sheet Adhesive Properties

Property	GPL0025 Typical Values	Test Method
Dielectric Constant (Dk) 10 GHz	2.8	IPC-TM-650 2.5.5.3 ASTM D2520
Loss Tangent (Df) 10 GHz	0.0035	IPC-TM-650 2.5.5.3 ASTM D2520
Adhesion to Copper (Peel Strength) As Received, N/mm (lb/in) After Solder, N/mm (lb/in)	1.8 (10.3) 1.8 (10.3)	IPC-TM-650 2.4.9
Coefficient of Thermal Expansion XY-Axis, ppm/°C	105	IPC-TM-650 2.4.41
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/μm	123	ASTM D149
Volume Resistivity, Ω · cm	> 1x10 <sup>16</sup>	IPC-TM-650 2.5.17
Surface Resistance, Ω	> 1x10 <sup>15</sup>	IPC-TM-650 2.5.17
Tensile Modulus, MPa	371	IPC-TM-650 2.4.19
Tensile Strength, MPa	11	IPC-TM-650 2.4.19
Elongation, %	222	IPC-TM-650 2.4.19
Glass Transition Temperature (Tg), °C	102	DuPont Method, TMA
Chemical Resistance Peel Strength Retention, %	>80%	DuPont Method, NaOH & HCl Dip for 10 min separately
Flammability	Pass	UL94 VTM-0

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® GPL Sheet Adhesive or other DuPont products, please visit [electronics.dupont.com](http://electronics.dupont.com).

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