



DuPont™ Pyralux® HXC

Black Coverlay

Flexible Circuit Materials

Product Description

DuPont™ Pyralux® HXC Black Coverlay features DuPont™ Kapton® MBC, matte black polyimide film, for high performance applications where design aesthetics are critical. This product is coated on one side with a proprietary B-staged modified epoxy adhesive. Pyralux® HXC Coverlay can be used to encapsulate etched details in flexible and rigid-flex multilayer constructions for environmental protection and electrical insulation. Black coverlay is also commonly used to enhance circuit aesthetics and improve LED lighting controls in specialty applications.

Key Features and Benefits

- Uniform and color-stable matte black surface
- Crease and scratch resistance surface maintains appearance through high temperature cycles
- Excellent bond strength to copper foil
- UL 94 VTM-0, UL File E161336
- Halogen free and RoHS Compliant

Packaging

DuPont™ Pyralux® HXC Black Coverlay is supplied as 200 linear meter (656 ft) rolls in widths of either 249 mm (9.8 in) or 500 mm (19.7 in).

Storage and Warranty

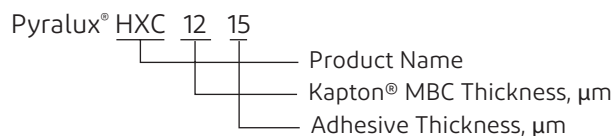
Pyralux® HXC Black Coverlay requires refrigeration and should be stored below 5 °C (41 °F). The product should not be frozen and should be kept dry, clean, and well-protected. If stored properly, this product should retain its original properties for normal usage within 4 months from the production date. 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.

Table 1 - Standard Pyralux® HXC Black Coverlay Offerings

Product Code	Kapton® MBC Thickness μm (mil)	Adhesive Thickness μm (mil)
HXC1215	12.5 (0.5)	15 (0.6)
HXC1220	12.5 (0.5)	20 (0.8)
HXC1225	12.5 (0.5)	25 (1.0)
HXC2525	25 (1.0)	25 (1.0)

Product Code Key



Processing

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

Part Temperature:160 - 180 °C (320 - 356 °F)

Pressure:20 - 40 kg/cm² (290 - 580 psi)

Time:..... 60 - 90 minutes, at temperature

Pyralux® HXC Black Coverlay 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® HXC Black 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.

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Product Performance

Table 2 - DuPont™ Pyralux® HXC Black Coverlay Properties

Property	HXC1225 Typical Value	Test Method
Gloss (GU) at 60°	25	Gloss Meter
Color, L*	34.5	C.I.E
Dielectric Constant (Dk) 1 MHz 10 GHz	3.7 3.6	IPC-TM-650 2.5.5.3
Loss Tangent (Df) 1 MHz 10 GHz	0.012 0.054	IPC-TM-650 2.5.5.3
Peel Strength (Adhesion to Copper) As Received, N/mm (lb/in) After MEK Soak for 10 min, N/mm (lb/in)	0.85 (4.8) 0.65 (3.7)	IPC-TM-650 2.4.9
Adhesive Resin Flow, mm (mil)	0.11 (4.3)	IPC-TM-650 2.3.17.1
Dimensional Stability (MD/TD)	± 0.05 %	IPC-TM-650 2.2.4
Solder Float, 288 °C for 10 s	Pass	IPC-TM-650 2.4.13
Volume Resistivity, $\Omega \cdot \text{cm}$	$> 10^{14}$	ASTM D257
Surface Resistance, Ω	$> 10^{12}$	ASTM D257

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



pyralux.dupont.com

For more information on Pyralux® HXC Black Coverlay or other DuPont products, please visit our website.

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.

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