ELANTAS
Electrical Insulation

Product Information

Electronic Protection System

Thin Film Coating, UV Cure

Bectron® PL 5621 D

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Product

Bectron® PL 5621 D is a solvent free one-component thin film coating based on modified epoxy chemistry. It can be cured by UV irradiation and/or heat.
The formulation and performance of Bectron® PL 5621 D are suited to the most demanding requirements of automotive and other applications as well serial production systems.

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Bectron® PL 5621 D has zero VOC is lead-free and satisfies the requirements of the ROHS directive.

Areas of application

Bectron® PL 5621 D is a VOC-free conformal coating with the excellent electrical performance expected of epoxy systems and excellent adhesion to most surfaces. As a thin film it suitable for coating of:

- assembled printed circuit boards for electronics
- hybrids
- SMD modules

It provides good protection against moisture, corrosion and migration as well as vibration.

Properties

- Rapid UV curing
- Optional secondary heat cure
- Temperature resistance -40 to +130°C
- Short Temperature resistance up to 160°C
- Good Adhesion
- Good dielectric properties
- VOCfree
- Low viscosity
- ROHS compliant

Resistance to Harsh Conditions

Components varnished with Bectron® PL 5621 D provide maximum protection against contaminants such as moisture and dust and many chemicals. It is resistant to corrosive gas atmosphere, weak acid fuels, oils, glycols and many other fluids used in automotive and shipping industry.

Bectron® PL 5621 D can survive temperature shock and temperature cycling resistance such as -40 to +130°C for several cycles

Storage

Bectron® PL 5621 D should be stored in closed original containers storage for 3 months. Storage at a maximum 5°C is recommended.

Preparation

The components to be coated should be clean dry and free from grease and compatibility between the resin and all materials on a PCB should be checked prior to use. Residual water from washing the PCB can cause bubbles so low solids flux or alcohol based cleaning materials are recommended.

Processing

Bectron® PL 5621 D has low viscosity to be suitable for automatic robot systems. Selective coating can be applied by commercial nozzles such as select spray, swirl coating, needle dispensing or jetting. It can also be applied manually by dipping or brushing.

Inspection of the area coated is possible as the coating is fluorescent under UV light.

Curing

Fast curing by UVA (315 - 380nm) @ 1.500 mJ/cm2.

Heat curing @ 90°C for 30 minutes

Where UV curing is used, if resin flows underneath the components or other areas heat cure is need harden the coating completely.

Table 1 - Typical properties of Coating Bectron® PL 5621 D

Property	Conditions	Value	Unit
Colour		Colourless	
Viscosity (DIN 53019)	23°C	400 ± 250	mPas
Specific gravity (DIN EN ISO 2811-2)	20°C	1.11 ± 0.05	g/cm^3
Shelf Life	5 °C	3	Months

Table 2 – Thermal Properties of cured coating

Property	Condition	Value	Units
Temperature Resistance (IEC 60216)		130	°C
Flammability	Vertical		

Table 3 - Mechanical properties of cured coating

Property	Condition	Value	Units
Mandrel Bend Test (IEC 60464-2)	3 mm, 0.06 mm film	>180	°
Cross Cut Test (DIN EN ISO 2409)		GT 0 - 1	

Table 4 – Dielectric properties of cured coating

Property	Condition	Value	Units
Permittivity (IEC 60250)	23°C 10 KHz	3.1	
Dielectric Dissipation Factor (IEC 60250)	23°C 10 KHz	0.024	
Dielectric Strength (IEC 60464 part 2) - After 24 hours water immersion	23°C	165 150	KV/mm KV/mm
Volume Resistivity (IEC 60464 part 2) After 7 days in water	23°C 23°C	1.4 x 10^{15} 1.4 x 10^{12}	Ω • cm Ω • cm
Tracking resistance (IEC 60112)		600	CTI