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Product Information

Electronic Protection System
Polybutadiene Potting/Encapsulation Resin

Bectron® PB 3231

Hardener Bectron PH 4918

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Product description

Bectron® PB 3231 with Hardener Bectron® PH 4918 is a 2 component system to produce a flexible compound suitable for potting and casting. It is based on polybutadiene and to provide flexibility at very low temperature and superior resistance properties.
The mixed product has low viscosity for easy processing.

Areas of application

Bectron® PB 3231 is suitable for many potting applications needing stability to thermal shock. It is ideal for casting whole PCB to give where good protection against humidity aggressive chemicals shock and vibration are required.

Properties of the cured material

The cured material has very high elasticity and flexibility.
It remains flexible at very low temperatures.
Low glass transition temperature Tg

Satisfies the requirements of ROHS

Storage

Bectron® PB 3231 should be kept in closed containers at normal temperatures.
Hardener Bectron® PH 4918 is moisture sensitive and containers must be well sealed and stored below +40°C. Opened containers should be resealed as soon as possible.

Processing suggestions

Bectron® PB 3231/Hardener Bectron® PH4918 is a low viscosity system which can be applied in a continuous process with conventional mixing and dispensing equipment.
For manual batch application thorough mixing of the 2 components is essential. Pot life is about 1 hour. The reaction is exothermic so only small quantities should be heat-cured.

Recommended temperature for curing is:

- Minimum 18°C, preferably above 20°C
- Complete curing requires 48 hours.

To ensure satisfactory adhesion on the PCB surface the following should be checked:

- Use of residue-free flux
- ensure dry surfaces
- Check compatibility of the coating resin with the solder resist and solder paste.

Table 1 - Properties of materials as supplied

Property	PB 3231	PH 4918	Units
Colour	Beige (natural)	Transparent, colourless	
Viscosity, 23°C, D=3 s^{-1}, DIN 53019	3,800 ± 1,000	1,200 ± 300	mPa.s
Density, 20°C, DIN EN ISO 2811-1	1.02 ± 0.05	1.16 ± 0.05	g/cm^3
Shelf Life	6	6	months

Table 2 - Properties of mixture

Mixing Ratio Bectron® PB 3231 : Hardener Bectron® PH 4918	weight	100: 70	Parts
Viscosity DIN 53019	25°C	1350 ± 1,000	mPa.s
Process time	25°C	60	min

Table 3 – Thermal Properties of cured compound

Property	Condition	Value	Units
Operating Temperature range			°C
Glass transition temperature			°C

Table 4 - Mechanical properties of cured compound

Property	Condition	Value	Units
Density DIN 16945	20°C	1.05 ± 0.05	g/cm^3
Hardness DIN 53505		60 ± 10	Shore A

Table 5 - Dielectric Properties of cured compound

Property	Condition	Value	Units
Volume resistivity DIN 23482 After 7 days water immersion			
Surface Resistance			

Table 6 - Chemical properties of cured compound

Property	Condition	Value	Units
Water absorption	4 days RT	1.3	%