ELANTAS
Electrical Insulation

Product Information

Electronic Protection System

Polybutadiene Potting/Encapsulation Resin

Bectron® PB 3200

Hardener Bectron PH 4917

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Product description

Bectron® PB 3200 with Hardener Bectron® PH 4917 is a 2 component system to produce a very flexible casting. It is based on polyurethane with polybutadiene to provide good flexibility at very low temperature and superior resistance properties

The mixed product has very low viscosity for rapid high volume processing.

Areas of application

Bectron® PB 3200 is suitable for many applications, particularly where severe thermal shock stability is required and also where good protection against humidity aggressive chemicals shock and vibration are required.

Its flexibility allows mechanical removal for rework or to produce a cast of the unit potted.

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 3200/PH 4917 is supplied in a one pot "combi-container" which should be kept well closed at normal temperatures.
Once opened the follow the processing suggestions below. The product can not be resealed.

Processing suggestions

When the container seal is broken the hardener is released into the resin. The mixture should be well stirred for a homogenous mixture before use.
Bectron® PB 3200/Hardener Bectron® PH 4917 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 small quantities is recommended in view of the short pot life and exothermic reaction which will cause a rise in temperature during curing.

Recommended temperature for curing is:

- Minimum 5°C, preferably above 15°C
- Complete curing requires 24 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 3200	PH 4917	Units
Colour	White, milky	Yellow-brown	
Viscosity 25°C DIN 53019	450 ± 150	150± 50	mPa.s
Density 20°C DIN EN ISO 2811-1	1.06 ± 0.05	1.14 ± 0.05	g/cm^3
Shelf Life	6	6	Months

Table 2 - Properties of mixture

Mixing Ratio Bectron® PB 3200 : Hardener Bectron® PH 4917	weight	100:18	Parts
Viscosity DIN 53019	25°C	900 ± 150	mPa.s
Process time (200g Mixture)	25°C	20	Min

Table 3 – Thermal Properties of cured compound

Property	Condition	Value	Units
Thermal Conductivity DIN 52613	23°C	0,28 ± 0,02	W/m.K
Glass transition temperature IEC 61006		-50	°C

Table 4 - Mechanical properties of cured compound

Property	Condition	Value	Units
Density DIN 16945	20°C	1.06 ± 0.05	g/cm^3
Hardness DIN 53505		30 ± 10	Shore A
Elongation at break DIN 53455		50	%

Table 5 – Dielectric properties of cured compound

Property	Condition	Value	Units
Volume resistivity DIN 60093	20 °C	10^{13}	Ω • cm
Surface resistance DIN 60093	20 °C	3×10^{13}	Ω
Tracking resistance IEC 60112		> 600 M	CTI

Table 6 - Chemical properties of cured compound

Property	Condition	Value	Units
Water absorption	4 days RT	1.3	%

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