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Product Information

Electronic Protection System

Silicone Potting/Encapsulation Resin

Bectron® SK 7502 Cross-linker Bectron SH 7931

Product description

Bectron[®] SK 7502 forms a silicone rubber in combination with the Cross-Linker Bectron[®] SH 7931 suitable as a potting compound with good thermal conductivity and high long-term thermal resistance. The cross-linking is by condensation at room tem-perature.

The system meets the ROHS requirements.

Areas of application

Bectron[®] SK 7502 is particularly suited to potting of sensitive electronic components and assembled printed circuit boards.

Its good thermal conductivity and high long-term thermal resistance can be utilized for potting electronic components and circuits such as high-performance semi-conductors, high load resistors.

Properties

Elastic moulding compound

Room temperature Cured

Condensation cross-linking

Good Thermal Conductivity

High temperature resistance

Suitable for use from -40 to +180 ℃

Meets UL 94 HB flame retardant standard

ROHS compliant

Processing

Pre-treatment: The components to be moulded should be clean dry and free from grease. Compatibility between the resin and all materials on a PCB should be checked prior to use.

Mixing: Bectron SK 7502 the Cross-Linker Bectron SH 7931 should be mixed ratio specified and stir thoroughly. During stirring make sure that as little air as possible is introduced. After mixing, leave the composition at rest for about 5 minutes, to remove any air bubbles that might be retained. If possible, subject the mixture to vacuum for a short time.

Application: The processing time is about 20 minutes. Within this period, the viscosity will increase; therefore the prepared volume should be just enough to permit processing in this time. The cross-linking reaction mechanism of the compound of Bectron SK 7502 is condensation. Curing should be at room temperature for 24 hours. If heating of the mixed SK7502 & SH7931 is necessary the maximum temperatures is 40° to 50 °C. Higher temperatures may interfere with the curing reaction.

If the moulding compound is used to cast parts that will be installed in a closed system, final heating to 80 °C for 1 hour is recommended at the end of the curing reaction to remove any by-products.

Curing: Recommended curing conditions are:

24 hours at Room Temperature

Table 1 - Properties of materials as supplied

Property	SK 7502	SH 7931	Units
Colour	Beige	Blue	
Viscosity at 25 °C, (DIN 53019)	2650 ± 350	18 ± 3	mPa.s
Density 20 ℃, DIN EN ISO 2811-1	1.74 ± 0.05	0.95 ± 0.03	g/cm ³
Shelf Life	6	6	months

Table 2 - Properties of mixture

Property	Condition	Value	Units
Mix Ratio SK 7502: SK7931	By weight	100 : 2	Parts
Viscosity of mixture @ (DIN 53019)	25℃	2250 ± 250	mPa.s
Processing Time	25℃	20	Minutes

Table 3 - Thermal Properties of cured compound

Property	Condition	Value	Units
Thermal Conductivity, DIN 52612		0.40	W/m.K
Temperature Index IEC 216	Weight loss 2.5%	210	.€
Flammability UL 94		НВ	

Table 4 - Physical/Mechanical of cured compound

Property	Condition	Value	Units
Density, DIN 53217	20℃	1.74 ± 0.05	g/cm ³
Hardness, ISO 868		50 ± 5	Shore A
Elongation at break, DIN 53504		42.5 ± 2.5	%

Table 5 - Dielectric properties of cured compound

Property	Condition	Value	Units
Dielectric Strength IEC 60455 Part 2		24	KV/mm
Dielectric Constant r, IEC 60250	20 ℃, 50 Hz 20℃, 1 MHz	3.8 3.6	
Volume resistivity, IEC 60455 Part 2	20 ℃	10 12	Ω•cm

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