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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°C

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°C, 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°C	2250 ± 250	mPa.s
Processing Time	25°C	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	°C
Flammability UL 94		HB	

Table 4 – Physical/Mechanical of cured compound

Property	Condition	Value	Units
Density, DIN 53217	20°C	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 °C, 50 Hz 20°C, 1 MHz	3.8 3.6	
Volume resistivity, IEC 60455 Part 2	20 °C	10^{12}	Ω • cm