

EN

Technical Data Sheet

Bectron®

SK 75V2-45/SH 79V2-45

100:100

UL 94 V-0 listed

Electronic Silicone - 2 Part - Addition cure
Silicone Potting Compound

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Product description

Bectron[®] SK 75V2-45 when mixed with Bectron[®] SH 79V2-45 will cure at room temperature to a flexible rubber in about 24 hours. Elasticity and dielectric properties of the final rubber remain largely stable in a wide range of temperatures, between -55°C and +200°C. A 1:1 mixing ratio allows easy and safe processing of the system.

Key Properties:

- Addition cure system
- Curing at room temperature
- Cure can be accelerated with heat
- Long term thermal resistance
- Low shrinkage
- Thermal conductivity
- Classified UL 94 V0 (File E140720)

Areas of application

Thanks to its elastic properties and long-term thermal resistance Bectron[®] SK 75V2-45 system is successfully used for encapsulation of very sensitive electronic circuits and components operating in very high temperatures.

Processing methods

Pre-treatment: The components to be treated should be clean dry and free from grease. Compatibility between the resin and all materials of the component should be checked prior to use. Bectron[®] SK 75V2-45 and cross linker Bectron[®] SH 79V2-45 contain filler materials which tend to settle and must be stirred in the original containers to restore the homogenous composition before processing.

Mixing: The two components should be mixed in the prescribed ratio. Care should be taken because air may be entrapped during mixing. Brief application of vacuum can be used to remove air bubbles. Equipment must be kept clean and care is needed to avoid cross-contamination of components, which may cause hardening in the equipment after days or weeks of use.

Application: Working time is about 60 minutes; viscosity will start to build up after mixing. It is recommended to prepare only the quantity of product that can be applied in this timeframe. All vessels, pipes and equipment used must be thoroughly cleaned because the Pt catalyst of this system may be easily poisoned by traces of Sulphur compounds, amines or tin salts. This would seriously inhibit the cross-linking reaction.

Curing/Post-curing

Cure will be completed at room temperature in about 24 hours.

A temperature increase of 10 °C reduces the curing time by about half.

Storage and stability

Product should be stored in its original sealed container to avoid any potential contamination at a temperature between 5°C to 30 °C. Store accordingly to any specific instruction listed on the product label. Product should be used prior to the expiring date marked on the label.

Handling precautions

Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

Sales specifications

SK 75V2-45

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	2000 ÷ 6000	mPa·s
Density	20 °C	ISO 2811-1 (Internal Test S12)	1,76 ÷ 1,86	g/cm³

SH 79V2-45

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	1500 ÷ 3500	mPa·s
Density	20 °C	ISO 2811-2 (Internal Test S11)	1,71 ÷ 1,81	g/cm³

Typical properties of the resin

Properties	Conditions	Test Method	Value	M/U
Colour		--	Beige	
Shelf life	5°C to 30 °C	Internal Test	12	months

Typical properties of the hardener

Properties	Conditions	Test Method	Value	M/U
Colour		--	Beige	
Shelf life	5°C to 30°C	Internal Test	12	months

Typical properties of the liquid mix

Properties	Conditions	Test Method	Value	M/U
Mix ratio by weight		--	100:100	
Gel time	40 °C	DIN 16945 (Internal Test H17B1)	16 ÷ 24	min
Curing Time	20 °C	Internal Test	ca. 60	min
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	3200	mPa·s

Typical thermal properties of the cured product

Properties	Conditions	Test Method	Value	M/U
UL 94 classification		File No. E140720	V - 0	
Water Absorption	24 h / 23 °C	DIN EN ISO 62 (Internal Test M09a/b)	0,15 ÷ 0,17	%
	0,5 h / 100 °C		0,06 ÷ 0,08	%
Linear expansions coefficient	From -80 to +220 °C	TMA (Internal Test M56)	150	ppm/K
Thermal conductivity		DIN 52613 (Internal Test M98a)	0,5	W/(m·K)
Glass transition temperature (Tg)		IEC 61006 (Internal Test M24a)	- 56	°C

Typical dielectric properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Volume resistivity	23 °C - Initial Value	IEC 60464 -2 (Internal Test M5)	5×10^{14}	$\Omega \cdot \text{cm}$
	23 °C - After 7d of water immersion		6×10^{10}	$\Omega \cdot \text{cm}$
Dielectric Strength	23 °C	IEC 60455-2 (Internal Test M31)	8,0	kV/mm
Comparative tracking index (CTI)	23 °C, 10mm, test solution B	IEC 60112 (Internal Test M26)	> 600	V
Dielectric constant at 10 kHz	21 °C	IEC 60250 (Internal Test M03b)	4,5	
	200 °C		4,7	
Dielectric dissipation at 10 kHz	21 °C	IEC 60250 (Internal Test M03b)	< 0,02	
	200 °C		< 0,1	
Volume resistivity at temperature	21 °C	IEC 60464 (Internal Test M13)	2×10^{14}	$\Omega \cdot \text{cm}$
	200 °C		1×10^{14}	$\Omega \cdot \text{cm}$

Typical mechanical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Hardness Shore A/V1	23 °C	ISO 868 (Internal Test M30b)	30 ÷ 50	Shore A
Density	23 °C	ISO 2811-2 (Internal Test S11)	1,76	g/cm ³

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