EN

Technical Data Sheet

Bectron®

SG 75V1-15 /SG 79V1-15

100:100

Electronic Silicone Gel - 2 K - Addition cure
Silicone Potting Compound - Transparent

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Product description

Bectron® SG 75V1-15 when mixed with Bectron® SG 79V1-15 will cure at room temperature to form a transparent gel in about 24 hours. Elastic and dielectric properties of the final gel remain largely stable between -45°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
- Transparency and Elasticity
- Low Hardness

Areas of application

Bectron® SG 75V1-15 cross-linked with Bectron® SG 79V1-15 is specifically designed for protection of electronic components against mechanical stress and vibration. Thanks to its high thermal resistance and a low ions content Bectron® SG 75V1-15 system is particularly suited for potting semiconductors in power modules.

Processing methods

Pre-treatment: parts and components to be potted should be clean, dry and free from grease. Compatibility between Bectron® SG 75V1-15 system and all materials to be in contact with should be checked prior to use. 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.

Mixing: Bectron® SG 75V1-15 and cross-linker Bectron® SG 79V1-15 should be mixed at the ratio specified and stirred thoroughly immediately prior to processing. During stirring some air may be introduced in the system. Evacuation under vacuum may be needed to obtain a bubble free gel. To obtain a softer and tacky gel a mixing ratio of 1.5 : 1 up to 2:1 can be used.

Application: Working time is about 1 hours; viscosity will start to build up after mixing. It is recommanded to prepare only the quantity of product that can be applied in this timeframe.

Curing/Post-curing

Recommended curing conditions:

- 24 hours at Room Temperature
- 30 minutes at 100°C
- 10 minutes at 150°C

For applications where dimensional precision is important it is recommended to cure at room temperature.

Storage and stability

Product should be stored in its original sealed container to avoid any potential contamination at a temperature between 5°C till 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

SG 75V1-15

Properties	Conditions	Test Method	Value	M/U
Density	20 °C	ISO 2811-1 (Internal Test S12)	0,94 ÷ 1,00	g/cm³
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	2700 ÷ 3700	mPa·s

SG 79V1-15

Properties	Conditions	Test Method	Value	M/U
Density	20 °C	ISO 2811-1 (Internal Test S12)	0,94 ÷ 1,00	g/cm³
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	2300 ÷ 3300	mPa·s

Typical properties of the resin

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Clear transparent	
Shelf life	23 °C	Internal Test	12	months

Typical properties of the hardener

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Clear transparent	
Shelf life	23 °C	Internal Test	12	months

Typical properties of the liquid mix

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Clear transparent	
Mix Ratio by weight		Internal Test	100 : 100	
Gel time	40 °C	DIN 16945 (Internal Test H17B1)	13 ÷ 19	min
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	3000	mPa·s

Typical mechanical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Penetration	23 °C	DIN EN ISO 2137 (Internal Test M77)	10 ÷ 20	1/10 mm

Typical dielectric properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Dielectric constant at 10 kHz	25 °C	IEC 60250 (Internal Test M03b)	3,3	
	110 °C		2,8	
Dielectric dissipation at 10 kHz	25 °C	IEC 60250 (Internal Test M03b)	< 0,01	
	110 °C		< 0,01	
Volume resistivity at temperature	25 °C	IEC 60464 (Internal Test M13)	2×10^{14}	Ω·cm
	110 °C		4×10^{12}	Ω·cm

Typical thermal properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Linear expansions coefficient	From -80 to +220 °C	TMA (Internal Test M56)	360	ppm/K
Glass transition temperature (Tg)		IEC 61006 (Internal Test M24a)	-42	°C

Typical chemical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Water Absorption	24 h, 23 °C	DIN EN ISO 62 (Internal Test M09a/b)	0,17	%
	0,5 h, 100 °C		0,07	%

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