EN

Technical Data Sheet

Bectron®

SG 75V1-75/SG 79V1-75

100:100

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

ELANTAS Europe Sales offices:

Collecchio (PR) 43044 - Italy
Strada Antolini n° 1 loc. Lemignano
Tel +39 0521 304777 Fax +39 0521 804410

Hamburg 20539 - Germany
Großmannstrasse. 105
Tel +49 40 78946 0 Fax +49 40 78946 349

Quattordio (AL) 15028 - Italy
Via San Martino, 6
Tel +39 0131 773870 Fax +39 0131 773875

bectron.elantas.europe@altana.com
www.elantas.com/europe

Product description

Bectron® SG 75V1-75 when mixed with Bectron® SG 79V1-75 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 -40°C and +180°C. A 1:1 mixing ratio allows easy and safe processing of the system.

Key Properties

- Addition cure system
- Fast curing at room temperature
- Long term thermal resistance
- Transparency and Elasticity
- Soft and elastic self repearing gel
- UL 94 HB, 3mm; File E140720

Areas of application

Bectron® SG 75V1-75 cross-linked with Bectron® SG 79V1-75 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 75V1-75 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 75V1-75 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 75V1-75 and cross-linker Bectron® SG 79V1-75 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.

Application: Working time is about 45 minutes; 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 conditions to achieve mechanical cure:

- 1,5 hours at Room Temperature
- 15 minutes at 60°C
- 5.5 minutes at 120°C

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 75V1-75

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	900 ÷ 1100	mPa·s

SG 79V1-75

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	700 ÷ 1000	mPa·s

SG 75V1-75 / SG 79V1-75

Properties	Conditions	Test Method	Value	M/U
Penetration	23 °C	DIN EN ISO 2137 (Internal Test M77)	60 ÷ 90	1/10 mm
Isothermal viscosity increase	23 °C - up to 2000 mPas	DIN EN 60455-2; 5.6 (Internal Test H11B)	37 ÷ 53	min
Mix ratio by weight		---	100 : 100	

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
Density	23 °C	ISO 2811-1 (Internal Test S12)	0,96	g/cm³

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
Density	23 °C	ISO 2811-1 (Internal Test S12)	0,97	g/cm³

Typical properties of the liquid mix

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Clear transparent	
Gel time	100 °C	DIN 16945 (Internal Test H17B1)	2 ÷ 5	min
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	750 ÷ 1250	mPa·s
Doubling of the mix viscosity	23 °C	DIN EN 60455-2; 5.6 (Internal Test H11B)	37 ÷ 53	min

Typical thermal properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Thermal Conductivity		--	0,2	W/(m·K)
Water Absorption	24 h / 23 °C	DIN EN ISO 62 (Internal Test M09a/b)	0,12	%
	0,5 h / 100 °C		0,17	%

Typical dielectric properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Comparative tracking index (CTI)	23 °C, 10mm, test solution B	IEC 60112 (Internal Test M26)	> 600	V
Dielectric constant at 10 kHz	22 °C	IEC 60250 (Internal Test M03b)	2,7	
	180 °C		2,1	
Dielectric dissipation at 10 kHz	22 °C	IEC 60250 (Internal Test M03b)	< 0,01	
	180 °C		< 0,01	
Volume resistivity at temperature	22 °C	IEC 60464 (Internal Test M13)	3×10^{14}	Ω·cm
	180 °C		2×10^{14}	Ω·cm

Typical mechanical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Density	20 °C	DIN 53217	0,98	g/cm³

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