EN

Technical Data Sheet

Bectron®

SG 75L2-30/SG 79L5-30

100:100

UL 94 V-0 listed

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

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Product description

Bectron® SG 75L2-30 when mixed with Bectron® SG 79L5-30 will cure at room temperature to form a gel in about 24 hours. Elastic and dielectric properties of the final gel remain largely stable between -50°C and +180°C. A 1:1 mixing ratio allows easy and safe processing of the system.

Key Properties

- Addition cure system
- Curing at room temperature
- Long working time
- Cure can be accelerated with heat
- Long term thermal resistance
- Elasticity
- Low Hardness
- Classified UL 94 V0 (File E 140720)

Areas of application

Bectron® SG 75L2-30 cross-linked with Bectron® SG 79L5-30 is specifically designed for protection of electronic components against mechanical stress and vibration when high thermal conductivity is needed. Possibility of accelerated cure at high temperature allows use in mass production manufacturing lines.

Processing methods

Pre-treatment: parts and components to be potted should be clean, dry and free from grease. Compatibility between Bectron® SG 75L2-30 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 75L2-30 and cross-linker Bectron® SG 79L5-30 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 2 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:

- 48 hours at Room Temperature
- 2 hours at 80°C

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

Storage and stability

Bectron® SK 75V1-19 represents a two-component silicone rubber. Shelf-life of the material is 12 months if stored between 5°C bis 30°C. Store accordingly to any specific instruction listed on the product label. Product must be used prior to the expiry date shown 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 75L2-30

Properties	Conditions	Test Method	Value	M/U
Density	20 °C	ISO 2811-1 (Internal Test S12)	1,73 ÷ 1,83	g/cm³
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	11000 ÷ 14500	mPa·s

SG 79L5-30

Properties	Conditions	Test Method	Value	M/U
Density	20 °C	ISO 2811-1 (Internal Test S12)	1,69 ÷ 1,79	g/cm³
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	7500 ÷ 9000	mPa·s

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Properties	Conditions	Test Method	Value	M/U
Penetration	23 °C	DIN EN ISO 2137 (Internal Test M77)	20 ÷ 40	1/10 mm

Typical properties of the resin

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Beige	
Shelf life	5°C to 30 °C	Internal Test	12	months

Typical properties of the hardener

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Blue	
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	
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	10500	mPa·s
Processing time with Geltimer	25 °C	DIN 16945 (Internal Test H17B1)	120	min

Typical thermal properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Thermal conductivity	25 °C	IO-10-87 (ASTM C 518)	0,9	W/(m·K)
Linear expansions coefficient	From -80 to +220 °C	TMA (Internal Test M56)	140	ppm/K
Thermo analytical estimation of TI (loss of mass)	---	TGA (Internal Test M62)	163	°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)	1×10^{15}	Ω·cm
	23 °C - After 7d of water immersion		5×10^{14}	Ω·cm
Dielectric Strength	23 °C - potting /sphere against plate	IEC 60455-2 (Internal Test M31)	13	kV/mm
Comparative tracking index (CTI)	23 °C, 10 mm, test solution B	IEC 60112 (Internal Test M26)	> 600	V
Dielectric constant at 10 kHz	22 °C	IEC 60250 (Internal Test M03b)	3,8	
	180 °C		3,4	
Dielectric dissipation at 10 kHz	22 °C	IEC 60250 (Internal Test M03b)	< 0,01	
	180 °C		< 0,02	

Typical mechanical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Tensile Strength	23 °C	ISO 37 (Internal Test 29)	1,1	N/mm²
Nominal strain at Break	23 °C	ISO 37 (Internal Test 29)	57	%
Density	22 °C	ISO 2811-2 (Internal Test M27)	1,75	g/cm³
Young Modulus	23 °C	ISO 37 (Internal Test 29)	6,93	MPa

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