

EN

Preliminary Technical Data Sheet

ELAN-tim[®]

CS26AV0023/CS26AV0012

100:100

Electronic Silicone - 2 Part - Addition cure
Silicone Potting Compound - High Thermal Conductivity

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Product description

ELAN-tim CS26AV0012 with Hardener ELAN-tim CS26AV0023 is a 2-part addition heat cure system. It is a highly filled silicone compound to enhance thermal conductivity maintaining electrical insulation properties. Thermally conductive materials act as a thermal potting material for electrical and/or electronic device for improving the overall efficiency. A 1:1 mixing ratio allows easy and safe processing of the system.

Key Properties:

- Good thermal conductivity
- Excellent dielectric properties
- Elasticity properties
- High tensile strength
- Low volatility
- Very low shrinkage
- High temperature stability
- Temperature range -50°C to 200°C
- Ambient or accelerated curing
- excellent adhesion to metals and plastic achievable by heating

Areas of application

This type is specifically designed for protection of electronic components against mechanical stress and vibration when thermal conductivity is also needed. Thanks to its elastic properties and long term thermal resistance this system is successfully used for protection and encapsulation of electronic sensitive devices, electronic components and circuits as well as high-performance semiconductors, LED's and displays, outdoor or harsh environment lighting housings & power modules. Possibility of accelerated cure at high temperatures allows use in mass production manufacturing lines.

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. ELAN-tim resin as well as the Hardener contain filler materials which tend to settle and must be stirred in the original containers to restore the homogenous composition before processing.

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: 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 to obtain a bubble free elastomer. 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: Viscosity will start to build up after mixing. The working time is about 60 minutes. It is recommended to prepare only the quantity of product that can be applied in this timeframe of the working time at room temperature. This system can be applied either manually or with suitable mixing and dosing equipment.

Curing/Post-curing

Cure will be completed at room temperature in 12 to 24 hours or in 1 hour at 120°C. To achieve good adhesion, one hour at 120°C is recommended.

Storage and stability

Products should be stored in their original sealed containers to avoid any potential contamination at a temperature between 5°C till 35°C. Store accordingly to any specific instruction listed on the product label. Products 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

CS26AV0023

Properties	Conditions	Test Method	Value	M/U
Density	23 °C	ISO 2811-2 (Internal Test S11)	2,90 ÷ 3,10	g/cm ³

CS26AV0012

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CS26AV0012 / CS26AV0023

Properties	Conditions	Test Method	Value	M/U
Hardness Shore A/1	23 °C	ISO 868 (Internal Test M30b)	54 ÷ 70	Shore A

Typical properties of the liquid mix

Properties	Conditions	Test Method	Value	M/U
Mix ratio by weight		--	100 :100	
Colour		--	Blue	
Mixed Viscosity	25 °C	DIN 53019	10000	mPa·s
Pot life (doubled initial viscosity)	25 °C	DIN EN 60455-2;5,6 (Internal Test H11B)	50 ÷ 70	min

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/mm ²
Nominal strain at Break	23 °C	ISO 37 (Internal Test 29)	18	%

Typical dielectric properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Dielectric Strength	23 °C - 1mm foil - sphere against plate	IEC 60455-2 (Internal Test M31)	15	kV/mm
Dielectric constant at 10 kHz	21 °C	IEC 60250 (Internal Test M03b)	6,6	
	200 °C		5,7	
Dielectric dissipation at 10 kHz	23 °C	IEC 60250 (Internal Test M03b)	< 0,02	
	200 °C		< 0,02	
Volume resistivity at temperature	23 °C	IEC 60464 (Internal Test M13)	2 x 10 ¹⁴	Ω·cm
	200 °C		8 x 10 ¹²	Ω·cm

Typical properties of the resin

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	White	
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	8500 ÷ 10000	mPa·s
Shelf life	Unopened container months	Internal Test	6	months

Typical properties of the hardener

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Blue	
Viscosity	25 °C	DIN 53019 (Internal Test V18/b/c)	9500 ÷ 11000	mPa·s
Shelf life	Unopened container months	Internal Test	6	months

Typical thermal properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Linear expansion coefficient above T _g	-45÷160 °C	IEC (Internal Test M56)	75	ppm/K
Specific heat capacity	15 °C	DSC	1,00	J/(g·K)
Flammability	3 mm	IEC 60707/IEC 60695-11-10 (Internal Test M25c)	V - 0	
Thermal conductivity	50 °C	ASTM D5470 (Internal Test M98a)	2,60	W/(m·K)
Thermal conductivity		THB-100 (Internal Test M98b)	3,1	W/(m·K)

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