

Product Information

Casting Compound

Elan-tron[®]

SK 6020 / SH 6815 100:2,5

Condensation cross linking silicone, flexible, high operation temperature,
flame retardand acc. UL 94 class HB

Product Description

Elan-tron® SK 6020 with Cross-Linker Elan-tron® SH 6815 is a room temperature cross-linked silicone potting system. The cross-linking is by condensation at room temperature. The elastic and dielectric properties of Elan-tron® SK 6020 remain largely constant over the whole temperature range from -40 to +180°C.

The system meets the ROHS requirements.

Areas of Application

Elan-tron® SK 6020 has elastic properties and long term thermal resistance for potting of winding-head/end-windings of coils as well devices subject to thermal shock. Furthermore Elan-tron® SK 6020 is generally suited to vibration-damping and protection of devices against mechanical shock. Elan-tron® SK 6020 when cured can be removed physically for re-work of the potted devices and after repair the potting can be renewed.

Properties of the Insulating Material

- Condensation cross-linking
- Room temperature curing
- High long-term thermal resistance (180 °C)
- Low temperature flexibility to -40 °C
- Elastic casting material
- Good temperature cycling resistance
- Self-extinguishing to UL 94 Class HB
- Repairable

Processing Methods

Preparation of components: The components to be potted should be clean dry and free from grease. Compatibility between the resin and all materials of the component should be checked prior to use.

Preparation of Material: Elan-tron® SK 6020 contains filler materials which tend to settle and must be stirred in the original container to restore the homogeneous composition before processing.

Mixing: Elan-tron® SK 6020 and Vernetzer Elan-tron® SH 6815 should be mixed in the prescribed ratio. To assist manual mixing systems the Cross-linker Elan-tron® SH 6815 is coloured blue. Care should be taken because air may be included during mixing. Brief application of vacuum can be used to remove air bubbles.

Application: Elan-tron® SK 6020 / Vernetzer Elan-tron® SH 6815 can be applied either manually or with suitable mixing and dosing equipment.

Curing conditions:

- At Room Temperature 6-8 h

The system Elan-tron® SK 6020 / Cross-linker Elan-tron® SH 6815 has a condensation cross-linking mechanism and during curing ethanol is a by-product. If this by-product remains in the device at high temperature the reverse reaction can produce the silicone starting components. Therefore the ethanol must be allowed to escape before the device is used or enclosed.

For the same reason for condensation cross linking systems heating to accelerate the hardening/cross-linking should be avoided.

To remove the ethanol by-product the devices can be stored either at room temperature for 2-3 days or 1-2 hours at 80°C. During this storage the ethanol vapour should be able to escape easily. Devices with a well-sealed lid should be closed only after release of the ethanol.

Storage: Elan-tron® SK 6020 and Cross-linker Elan-tron® SH 6815 in original unopened containers can be stored for 6 months. The shelf of the material is shown on the label of the container

System Specifications

Property	Condition	Resin	Hardener	Units
Viscosity DIN 53019	25°C	3850 ± 350	-	mPa.s
Density DIN EN ISO 2811-2	20°C	1.42 ± 0.05	1.02 ± 0.03	g/cm ³
Shelf Life	23°C	6	6	months

Typical System Characteristics

Property	Condition	Value	Units
Color resin		Beige/natural	
Color hardener		blue transparent	
Viscosity IO-10-50 resin	25°C	-/-	mPa.s (0,17/1,7 sec ⁻¹)
Viscosity IO-10-50 hardener	25°C	-/-	mPa.s (0,17/1,7 sec ⁻¹)
Mix Ratio by weight (resin : hardener)		100:2.5	Parts by weight
Mix Viscosity DIN 53019	25°C	3800	
Process time (200gr mixture)	23°C	ca. 50	min

Typical Cured System Characteristic (Post cure before measurement 24h/23°C + 16h/80°C)

Property	Condition	Value	Units
Thermal Conductivity DIN 52613		0.37	W/m.K
Glass transition temperature IEC 61006		-	°C
Thermal index IEC 216 flexural strength	3 % mass loss	-	°C
Linear coefficient of expansion Beck Test M 56	above tg	-	K ⁻¹
Specific Gravity DIN 16945	20°C	1.42 ± 0.05	g/cm ³
Hardness ISO 868		68 ± 5	Shore A
Tensile Strength DIN 53455/457		3 – 4	MPa
Bending Strength		-	MPa
Volume resistivity IEC 60455 Part 2 7 days storage in water	23°C 23°C (7d storage in water)	- -	Ω.cm Ω.cm
Dielectric Constant ϵ_r IEC 60250	23°C / 50 Hz 23°C / 1K Hz	4.3 -	
Dielectric Strength IEC 60250 7 days storage in water	23°C (50% rh) 23°C (7d storage in water)	30 -	kV/mm kV/mm
Dissipation factor tan-δ IEC 60250	50Hz, 23°C, 50% rh 1 KHz 23°C, 50% rh 1MHz, 23°C, 50% rh	0.09 - -	
Dissipation factor tan-δ IEC 60250 7 days storage in water	50Hz, 23°C, 50% rh 1 KHz 23°C, 50% rh 1MHz, 23°C, 50% rh	- - -	
Tracking resistance IEC 60112		525	CTI
Water absorption ISO 62	24h RT	< 0.1	%

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