EPOXONIC®
innovative epoxies

EPOXONIC® 241

Thermal conductive and flame resistant potting compound for Microelectronics and Electrical Engineering

EPOXONIC® 241 is a solvent-free, mineral filled 2-part potting compound based on epoxy resin.

Main characteristics:

- Heat resistance to 150 °C
- Thermal shock resistance
- Chemical resistance
- Outstanding electrical insulation properties
- High thermal conductivity
- Low thermal expansion
- Flame-resistance
- Low viscosity
- Low corrosion
- Toughness

Application:

EPOXONIC® 241 is especially suited for potting of electrical devices with high requirements for thermal shock resistance and chemical resistance.

Properties:

Specific values measured by standard test specimen at 23 °C, cured 1 h / 70 °C + 1 h / 120 °C.

Operating temperature	-40 °C to +150 °C	
Colour	green	
Shore hardness	90 Shore D	DIN EN ISO 868
Density	1.7 g/cm^3	DIN EN ISO 1183-1
Coefficient of linear thermal expansion CTE (TMA)	35 – 45 x 10^{-6}/K (50 – 80 °C)	ISO 11359-2
Glass transition temperature (DSC)	105 – 115 °C	DIN 53765
Water absorption	0.07 % at 23 °C / 24 h	DIN EN ISO 62
Thermal conductivity	1.0 W/mK	DIN EN ISO 8894-1

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Additional Properties:

Tensile strength	31 MPa	DIN EN ISO 527
E-modulus	9,000 MPa	DIN EN ISO 527
Flexural strength	70 MPa	DIN EN ISO 178
Flexural modulus	8,200 MPa	DIN EN ISO 178
Outer fibre strain at break	0.9 %	DIN EN ISO 178
Compressive strength	118 MPa	EN ISO 604
Compressive modulus	7020 MPa	EN ISO 604
Lap shear strength (aluminium)	5.5 MPa	DIN EN 1465
Flame-resistance	V0 (not listed)	UL 94
Volume resistivity	3.4 x 10^{13} Ω	DIN IEC 60093
Specific volume resistivity	1.6 x 10^{15} Ωcm	DIN IEC 60093
Surface resistivity	2.6 x 10^{12} Ω	DIN IEC 60093
Specific Surface resistivity	4.5 x 10^{14} Ωcm	DIN IEC 60093
Dissipation factor (1 MHz)	0.079	DIN 53483
Dielectric constant (1 MHz)	1.3	DIN 53483
Dielectric strength	> 22 kV/mm	DIN EN 60243-1
Track resistance	passed	DIN IEC 112

Processing:

Mix ratio		Part A : Part B = 100 : 8 parts by weight
Mixing temperature		20 – 40 °C
Viscosity cone/plate viscometer		
	25 °C	20,000 – 30,000 mPas (Part A)
	25 °C	20 – 50 mPas (Part B)
	25 °C	4,500 – 6,500 mPas (Mixture A + B)
Pot life	25 °C	approx. 30 – 45 min (time to double viscosity)
Method of application		e.g. dispenser
Cure schedule		e.g. 1 h / 70 °C + 2 h / 110 °C

	Optimum cure schedules have to be determined by the specific application.

Storage:

The shelf life of EPOXONIC® 241 Part A and part B is 12 months at temperatures < 25 °C when stored in tightly closed, original containers. Part A and part B are to be stirred very well before use. Part B can crystallise. In this case the whole container has to be completely heated and the content liquefied and homogenised. Partly emptied containers should be tightly closed immediately after use.

Health and Safety:

Recommended industrial hygiene procedures should always be followed when handling this product. Please refer to the corresponding Material Safety Data Sheet for details.

Packaging:

EPOXONIC® 241 Part A is delivered in 20 l metal pails containing 20 kg material. The Part B is delivered in 5 or 10 l metal cans with a pour spout containing 4 kg material, respectively. Other packaging options are available upon request.

Quality Assurance:

If required EPOXONIC® 241 will be supplied with a Certificate of Analysis.

Disclaimer:

All information herein is based on the present state of knowledge and believed to be reliable. Any suggestions or recommendations are made without liability on our part since we shall have no control over the use of our product. Buyers and users should make their own assessment of this product under their own conditions and for their own requirements.