TECHNICAL DATASHEET
ELECOLIT® 323

PRODUCT DESCRIPTION

Modified epoxy | 2 part | solvent-free | thermal-curing | thermally conductive | electrically conductive

- Bonding open chip components
- Suitable for semiconductors (Na+, K+, Cl- <10ppm)
- Autoclavable (1000h)
- Certified according to ISO 10993-5/-12

CURING PROPERIES

This product is a two-component adhesive. The adhesive can be applied after mixing the two components in their appropriate ratios. All two-component adhesives have a determined pot life. Consideration should be given to the amount of adhesive that is mixed, as it must be applied within the noted pot life for optimal dispensing and assembly.

Mixing ratio	Pot life
1:1	4 days

This adhesive can be cured with heat. Typical curing temperatures are listed in the table below.

Temperatures	Time
80°C	2 – 3 h
100°C	80 min
120°C	15 min
150°C	4 min

The heat cure times are only provided as a guideline. They are derived from curing a 2g adhesive sample without affixed substrates in a laboratory environment. Actual cure times can vary based on part size, configuration, adhesive volume, temperature control, and the time required for the component substrates to attain oven temperature.

The final bond strength of the adhesive is achieved no sooner than 24 h after the bonded components are removed from the oven.

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TECHNICAL DATA

Resin	Epoxy
Appearance	Grey
Filler	Silver
Filler - weight [%]	69
Particle size D100 [µm]	22

Uncured Material	
Viscosity [mPas] Mix	Paste-like
Density [g/cm³] *Test instruction P004*	2.4 – 2.6
Working life [days] *@ room temperature*	4

Cured Material	
Hardness shore D *Test instruction P006*	70 – 90
Typical operating temperature [°C]	-60 – 175
Linear shrinkage [%] *Test instruction P031*	<1
Water absorption [wt%] *Test instruction P016*	<1

Glass transition temperature - DSC [°C] *Test instruction P009*	45 – 65
Coefficient of thermal expansion [ppm/K] below Tg *Test instruction P017*	<50
Coefficient of thermal expansion [ppm/K] above Tg *Test instruction P017*	180 – 300

Thermal conductivity [W/m*K] *Test instruction P062*	3.8 – 4.2
Volume resistivity [Ohm*cm] *Test instruction P040*	1×10^{-4} – 3×10^{-4}

Storage modulus – DMA [MPa] *120°C, 60min* *Test instruction P022*	4,000
Lap shear strength (steel/steel) [MPa] *120°C, 60min* *Test instruction P013*	13 – 17

TRANSPORT/STORAGE/SHELF LIFE

Package type	Transport	Storage	Shelf life*
Syringe/Cartridge	At room temperature max. 25°C	0°C – 10°C	At delivery min. 6 months max. 12 months
Other packages			

Store in original, unopened containers!

INSTRUCTIONS FOR USE

Surface preparation

The surfaces to be bonded should be free of dust, oil, grease, mold release, or other contaminants in order to obtain an optimal and reproducible bond. For cleaning we recommend the cleaner IP® from Hoenle, or a solution of Isopropyl Alcohol at 90% or higher concentration. Substrates with low surface energy (e.g. polyethylene, polypropylene) must be pretreated in order to achieve sufficient adhesion.

Application

Our products are supplied ready to use. Depending on the packaging, our adhesives may be dispensed by hand directly from the package, or they can be applied using dispensing systems and automation. Many commercially available valve and controller options are available to ensure accurate and consistent adhesive dispensing. For assistance with dispensing and curing questions, please contact our Applications Engineering department. Adhesive and substrate should not be cold for proper bonding. They must be allowed to warm to room temperature prior to processing. After curing, the adhesive must be allowed to cool to ambient temperature before testing the product's performance. For safety information refer to our Material Safety Data Sheet (MSDS).

Storage

Store uncured product in its original, closed container in a dry location. Any material removed from the original container must not be returned to the container as it could be contaminated. Hoenle cannot assume responsibility for products that were improperly stored, contaminated, or repackaged into other containers.

Handling and Clean-up

For safe handling information, consult this product's Material Safety Data Sheet (MSDS) prior to use. Uncured material may be wiped away from surfaces with organic solvents. Do not use solvents to remove material from eyes or skin!

DISCLAIMER

The product is free of heavy metals, PFOS and Phthalates and is conform to the current EU-Directive RoHS.

THE VALUES NOTED IN THIS TECHNICAL DATA SHEET ARE TYPICAL PROPERTIES AND ARE NOT MEANT TO BE USED AS PRODUCT SPECIFICATIONS.

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