

Technical Datasheet

Elecolit® 323



Product Description

Panacol Elecolit® adhesives are solvent free single or two-component adhesives. They are mostly based on epoxy resin and can be cured at room temperature or by exposure of heat. Elecolit® adhesives are electrically and / or thermally conductive adhesives which are designed for potting, bonding or contacting of conductors.

Elecolit® 323 is a silver-filled 2 part epoxy adhesive specially developed for the bonding of open chip components. Elecolit® 323 is suitable for bonding semiconductors (Na +, K +, Cl- <10ppm) and passed the autoclave test (1000h). According to ISO 10993-5 and 10993-12, Elecolit® 323 is not cytotoxic.

In the standard version, the viscosity is set to fast dosing (4 cycles / sec).

Curing Properties

This product is a two-component adhesive. The adhesive can be cured at room temperature or thermally under exposure to heat after mixing the two components in the ratio indicated. Possible curing temperatures are listed in the table below.

Thermal curing	
Time at 50°C	15h
Time at 80°C	2 - 3h
Time at 100°C	80 min
Time at 120°C	15 min
Time at 150°C	4 min
Time at 180°C	45 sec

The adhesive can be applied after mixing the components within the pot life. To determine the pot life, the time it takes to double the increase in viscosity after mixing of the two components is used.

Curing	
Pot life	4 days
Mixing ratio	1:1

The curing times given are guidelines. They refer to the curing of 2 g of adhesive. The heating up of the joining members are not taken into account.

The final strength of the adhesive is reached at the earliest after 24 h.

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Resin	epoxy
Appearance	grey
Filler	silver
Filler – weight [%]	69
Particle size D95 [µm]	6

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Uncured material

Viscosity mix [mPas]	paste-like
Dichte [g/cm ³] <i>PE-Norm 004</i>	3,0

Cured material

Hardness shore D <i>PE-Norm 006</i>	72
Temperature resistance [°C]	-60 - 175
Shrinkage [%] <i>PE-Norm 031</i>	<1
Water absorption [mass %] <i>PE-Norm 016</i>	<1

Glass transition temperature DSC [°C] <i>PE-Norm 009</i>	45 - 65
Coefficient of thermal expansion [ppm/K] below T _g <i>PE-Norm 017</i>	33

Thermal conductivity [W/m*K] <i>PE-Norm 062</i>	4
Volume resistivity [Ohm*cm] <i>PE-Norm 040</i>	2,E-04

Lap shear strength (steel/steel) [MPa] <i>PE-Norm 013</i>	15
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Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
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 or other dirt in order to obtain an optimal and reproducible bond.

For cleaning we recommend the cleaner IP® Panacol. Substrates with low surface energy (e.g. polyethylene, polypropylene) must be pretreated in order to achieve sufficient adhesion.

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Application

Our products are supplied ready to use. Depending on packaging they can be applied by hand directly from the container or semi or fully automatically. With automated application from the cartridge the adhesive is conveyed by a compressed air-operated displacement plunger via a valve in the needle. When metering low viscosity materials from bottles the adhesive is transported by a diaphragm valve. If help is required, please contact our application engineering department.

Adhesive and substrate may not be cold and must be warmed up to room temperature prior to processing.

For safety information refer to our safety data sheet.

Disclaimer

The product is free of heavy metals, PFOS and Phthalates and is conform to the EU-Directive 2017/2102/EU "RoHS III".

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