Technical Datasheet
Elecolit® 6604

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® 6604 is a one component epoxy adhesive with excellent mechanical properties and excellent thermal conductivity. Elecolit® 6604 has a good flow behavior and can be processed with a dispenser, in screen printing, with a spreading knife or spatula.

Suitability on various substrates

FR4	✓	Al	✓	glass	✓	steel	✓
brass	o						

✓excellent o suitable * pretreatment necessary/recommended

Curing Properties

The product is a one-component adhesive and cures under exposure to heat. Possible curing temperatures are listed in the table below.

Thermal curing	[min]
Time at 100°C	60
Time at 130°C	30
Time at 150°C	10

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.

Technical Data

Resin	epoxy
Appearance	grey
Filler	aluminium oxide
Filler – weight [%]	50
Particle size D95 [µm]	40

Uncured material

Viscosity [mPas] (Brookfield LVT, 25°C, Sp 4, 3rpm) *PE-Norm 001*	110 000 - 140 000
Density [g/cm³] *PE-Norm 004*	1,71
Flash point [°C] *PE-Norm 050*	>100

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Cured material

Hardness shore D *PE-Norm 006*	80 - 90
Temperature resistance [°C] *PE-Norm 065*	-40 - 200
Water absorption [mass %] *PE-Norm 016*	0,3

Glass transition temperature DSC [°C] *PE-Norm 009*	110 - 120
Coefficient of linear expansion [ppm/K] below Tg *PE-Norm 017*	34,6
Coefficient of linear expansion [ppm/K] above Tg *PE-Norm 017*	136,0

Thermal conductivity [W/m*K] *PE-Norm 062*	1,1
Dielectric constant [10kHz]	4,0
Dielectric strength [kV/mm]	18,1
Volume resistivity [Ohm*cm] *PE-Norm 040*	2,00E+15

Young's modulus E [MPa] *PE-Norm 056*	5 710
Tensile strength [MPa] *PE-Norm 014*	47,2
Elongation at break [%] *PE-Norm 014*	1,0
Lap shear strength (steel/steel) [MPa] *PE-Norm 013*	18,0
Lap shear strength (Al/Al) [MPa] *PE-Norm 013*	12,0

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
Cartridge	0°C - 10°C	0°C - 10°C	at delivery min. 3 months max. 6 months
Other packages			

Store in original, unopened containers!

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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.

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.

Note

The product is free of heavy metals, PFOS and Phthalates and is conform to the EU-Directive 2011/65/EU "RoHS II" .

Our data sheets have been compiled to the best of our knowledge. The enclosed information describes characteristic properties, with no declaration of commitment. We recommend trials in order to confirm that our products satisfy the particular application requirements. For any additional technical support, please contact our application engineering department. For warranty claims, please refer to our standard terms and conditions.