Technical Datasheet

Elecolit® 327

Product Description

Modified Polyimide | 1 part | thermal curing | thermally conductive | electrically conductive

- Electrically conductive contacts
- Silver filled
- High temperature resistance
- Outstanding adhesion to gold, aluminum, tantalum, germanium and ceramics
- Low ion content (≤ 5 ppm F^-, Cl^-, Na^+, K^+)

Curing Properties

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

Temperatures	Time
120°C	4 h
150°C	1 h

After thermal curing, the product must be post-cured for 2 hours at 200 ° C. 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 and temperature control 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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Resin	Polyimide
Appearance	Grey
Filler	Silver
Filler - weight [%]	81

Uncured Material	
Viscosity [mPas]	Paste-like
Density [g/cm³] *PE-Standard 004*	2.7 – 2.8
Working life [days] *@ room temperature*	3

Cured Material	
Hardness shore D *150°C, 60min + 200°C, 2h* *PE-Standard 006*	70 – 90
Temperature resistance [°C]	-45 – 275
Shrinkage [%] *150°C, 60min + 200°C, 2h* *PE-Standard 031*	<5
Water absorption [wt%] *150°C, 60min + 200°C, 2h* *PE-Standard 016*	<1.5
Glass transition temperature - DSC [°C] *150°C, 60min + 200°C, 2h* *PE-Standard 009*	>180
Coefficient of thermal expansion [ppm/K] below Tg *150°C, 60min + 200°C, 2h* *PE-Standard 017*	30 – 35
Thermal conductivity [W/m*K] *150°C, 60min + 200°C, 2h* *PE-Standard 062*	3.8 – 4.2
Volume resistivity [Ohm*cm] *150°C, 60min + 200°C, 2h* *PE-Standard 040*	$1 \times 10^{-4} – 3 \times 10^{-4}$
Storage modulus – DMA [MPa] *150°C, 60min + 200°C, 2h* *PE-Standard 022*	600 – 800

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Transport/Storage/Shelf Life

Package type	Transport	Storage	Shelf life*
Syringe/Cartridge	-20°C	≤ -20°C	At delivery min. 6 months max. 12 months
Other packages	At room temperature max. 25°C	0°C – 10°C	

Store in original, unopened containers!

Instructions for use

Elecolit® 327 must be homogenized after transport at room temperature or storage at 0°C – 10°C, because the filler can sediment. In case of crystallization, it can be reversed by heating to 60°C.

N-methylpyrrolidone dissolves most plastics, so the processing equipment should be made of glass, stainless steel, polyethylene or polypropylene.

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 Panacol, 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. Panacol 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!

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Disclaimer

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

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Contact

Panacol-Elosol GmbH
Stierstädter Straße 4
61449 Steinbach
Germany
Phone: +49 6171 6202-0
Mail: info@panacol.de
www.panacol.com

Panacol-USA, Inc.
142 Industrial Lane
Torrington CT 06790
USA
Phone: +1 860-738-7449
Mail: info@panacol-usa.com
www.panacol-usa.com

Panacol-Korea Co., Ltd.
#707, Kranz Techno,
388 Dunchon-daero
Junwon-gu, Seongnam
Gyeonggi-do, 13403 KOREA
Phone: +82 31 749 1701
Mail: info@panacol-korea.com
www.panacol-korea.com

Eleco Panacol – EFD
125, av Louis Roche
Z.A. des Basses Noëls
92238 Gennevilliers Cdx FRANCE
Tél.: +33 (0)1 47 92 41 80
Mail: eleco@eleco-panacol.fr
www.eleco-panacol.fr