Technical Datasheet Elecolit[®] 6607



Preliminary Datasheet. The technical statements are only guidelines and can be changed at any time.

6607Product Description

Modified epoxy | 1 part | solvent-free | thermal-curing | thermally conductive

Potting

Good metal bonding

Heat sink bonding

Curing Properties

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

Temperatures	Time
80°C	60 min
120°C	30 min
150°C	10 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 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	Technical Data	
Appearance Gray Filler Aluminum oxide Filler Weight [%] Particle size D90 [μm] 16 Uncured Material Viscosity [mPas] (Kinexus Rheometer, 25 °C, 5s ¹) FE-Standard 054 Thixotropic index [1/10] FE-Standard 054 Density [g/cm²] 1.83 FE-Standard 004 Working life [h] FE-Standard 004 Working life [h] FE-Standard 006 Temperature resistance [°C] Linear shrinkage [%] FE-Standard 006 Temperature resistance [°C] Linear shrinkage [%] FE-Standard 016 FE-Standard 017 Slass transition temperature - DSC [°C] FE-Standard 017 Thermal conductivity [W/m *K] FE-Standard 017 Thermal conductivity [W/m *K] FE-Standard 052 Thermal conductivity [W/m *K] FE-Standard 052 Touris modulus - Tensile test [MPa] 130°C, 30min FE-Standard 022 Tensile strength [MPa] 120°C, 30min 180°C,		
Appearance Filler	Resin	Ероху
Filler Aluminum oxide Filler - weight [%] 50 Particle size D90 [µm] 16 Uncured Material Viscosity [mPas] (Kinexus Rheometer, 25 °C, 5s-1) 50,000 – 65,000 PE-Standard 064 Thixotropic index [1/10] 1.6 – 1.7 PE-Standard 064 Density [g/cm³] 1.83 PE-Standard 064 Working life [h] 48 Working life [h] 78 – 88 PE-Standard 066 Temperature resistance [°C] 4-40 – 200 Linear shrinkage [%] - 40 – 200 Linear shrinkage [%] - 40 – 200 Linear shrinkage [%] - 5 – 40 – 200 Linear shrinkage [%] - 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5	Appearance	
Filler - weight [%] 50 Particle size D90 [µm] 16 Uncured Material Viscosity [mPas] (Kinexus Rheometer, 25 °C, 5s ¹) 50,000 – 65,000 PE-Standard 064 Thixotropic index [1/10] 1.6 – 1.7 PE-Standard 064 Thixotropic index [1/10] 1.83 Working life [h] 2.7 Working life [h] 3.83 Working life [h] 4.84 Working life [h] 5.7 Working life [h] 5.7 Working life [h] 6.7 Working life [h] 6.7 Working life [h] 7.8 – 88 PE-Standard 006 Temperature resistance [°C] 7.40 – 200 Linear shrinkage [%] 7.6 – 40 – 200 Linear shrinkage [%] 7.6 – 40 – 200 Linear shrinkage [%] 7.6 – 40 – 200 Cofficient of 031 Water absorption [wt%] 90 – 115 PE-Standard 016 Glass transition temperature - DSC [°C] 90 – 115 PE-Standard 009 Coefficient of thermal expansion [ppm/K] below Tg 32 – 37 Coefficient of thermal expansion [ppm/K] above Tg 120 – 150 PE-Standard 017 Thermal conductivity [W/m*K] 0.8 – 1.0 Dielectric strength [kV/mm] 18 DIN EN 60243 Volume resistivity [Ohm*cm] 2 x 10¹5 PE-Standard 040 Voung's modulus – Tensile test [MPa] 120°C, 30min 700 – 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 – 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 – 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 – 800 PE-Standard 022		-
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### PE-Standard 064 Thixotropic index [1/10] ### PE-Standard 064 Density [g/cm³] ### PE-Standard 004 Working life [h] ### Working life [h] ### Working life [h] ### Cured Material Hardness shore D ### PE-Standard 006 Temperature resistance [°C] Linear shrinkage [%] ### PE-Standard 031 Water absorption [wt%] ### PE-Standard 036 Glass transition temperature - DSC [°C] ### PE-Standard 039 Glass transition temperature - DSC [°C] ### PE-Standard 039 Coefficient of thermal expansion [ppm/K] below Tg ### PE-Standard 037 Coefficient of thermal expansion [ppm/K] above Tg ### DE-Standard 037 Thermal conductivity [W/m*K] ### PE-Standard 062 Dielectric strength [kV/mm] ### DIN EN 60243 Volume resistivity [Ohm*cm] ### PE-Standard 040 Young's modulus – Tensile test [MPa] ### 130°C, 30min ### 700 – 800 #PE-Standard 022 Tensile strength [MPa] ### 120°C, 30min ### 18 – 30		
PE-Standard 064		50.000 - 65.000
PE-Standard 064 1.83		, ,
Density [g/cm³]		1.6 – 1.7
## PE-Standard 004 Working life [h]		
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Cured Material Hardness shore D PE-Standard 006 Temperature resistance [°C] Linear shrinkage [%] PE-Standard 031 Water absorption [wt%] PE-Standard 031 Valer absorption with [%] PE-Standard 016 Coefficient of thermal expansion [ppm/K] below Tg PE-Standard 017 Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Voung's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 025 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18–30		
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Hardness shore D PE-Standard 006 Temperature resistance [°C] Linear shrinkage [%] PE-Standard 031 Water absorption [wt%] PE-Standard 016 Glass transition temperature - DSC [°C] PE-Standard 009 Coefficient of thermal expansion [ppm/K] below Tg PE-Standard 017 Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus - Tensile test [MPa] 120°C, 30min 700 - 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 - 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 - 30		
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Linear shrinkage [%] PE-Standard 031 Water absorption [wt%] PE-Standard 016 Glass transition temperature - DSC [°C] PE-Standard 009 Coefficient of thermal expansion [ppm/K] below Tg PE-Standard 017 Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 052 Tensile strength [MPa] 120°C, 30min Tool = 30 Tensile strength [MPa] 120°C, 30min Tensile strength [MPa] 120°C, 30min Tensile strength [MPa]	PE-Standard 006	70 00
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Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30		90 – 115
Coefficient of thermal expansion [ppm/K] above Tg PE-Standard 017 Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30	Coefficient of thermal expansion [ppm/K] below Tg	22 27
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Thermal conductivity [W/m*K] PE-Standard 062 Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min To0 – 800	Coefficient of thermal expansion [ppm/K] above Tg	120 _ 150
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Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min Too – 800 Tensile strength [MPa] 120°C, 30min Too – 800	Thermal conductivity [W/m*K]	
Dielectric strength [kV/mm] DIN EN 60243 Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30		0.8 - 1.0
DIN EN 60243 Volume resistivity [Ohm*cm] 2 x 10 ¹⁵		
Volume resistivity [Ohm*cm] PE-Standard 040 Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30		18
Young's modulus – Tensile test [MPa] 120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min 700 – 800 PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30		2 4015
120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30	· -	2 x 10 ²³
120°C, 30min PE-Standard 056 Storage modulus – DMA [MPa] 130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30	Young's modulus – Tensile test [MPa]	
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130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 – 800 18 – 30		-,,
130°C, 30min PE-Standard 022 Tensile strength [MPa] 120°C, 30min 700 – 800 18 – 30	Storage modulus – DMA [MPa]	
PE-Standard 022 Tensile strength [MPa] 120°C, 30min 18 – 30		700 – 800
120°C, 30min		
120°C, 30min	Tensile strength [MPa]	
		18 – 30

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Elongation at break [%] 120°C, 30min PE-Standard 014	0.4 – 0.5
Block Shear Test [MPa] (PCB) 150°C, 30min PE-Standard 049	18
Block Shear Test [MPa] (PCB) 150°C, 30min/3 x Reflow 288°C, 10s PE-Standard 049	16

Transport/Storage/Shelf Life

Package type	Transport	Storage	Shelf life*
Syringe/Cartridge	-20°C	20%5	At delivery
Other packages		-20°C	min. 3 months max. 6 months

^{*}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, 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.

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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