Technical Datasheet

Structalit® 5802

Product Description

Modified epoxy | 2 part | solvent-free | room temperature/heat-curing

- Bonding and coating of metals, glass and plastics
- Good oil, chemical and moisture resistance
- Low shrinkage
- Low water absorption
- Good adhesion to metal, glass and plastics
- Flame classification based on UL 94 HB

Curing Properties

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.

If static mixers are used, we recommend Quadro mixers with 24 elements to achieve sufficient mixing.

Mixing ratio	Pot life
1:1	25 min

This adhesive can be cured at room temperature or more rapidly with heat. Typical curing temperatures are listed in the table below.

Temperatures	Time
25°C	7 h
80°C	15 min

The curing times given are guidelines. They refer to rheological measurements according to PE-Norm 067. The heating times of the parts to be joined are not taken into account.

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	Epoxy
Appearance	Dark gray
Filler	Chalk
Filler - weight [%]	24
Particle size D95 [µm]	12.5

Uncured Material	
Viscosity mix [mPas] (Kinexus Rheometer, 25 °C, $10s^{-1}$) *PE-Norm 064*	40,000 – 65,000
Density [g/cm³] *PE-Norm 004*	1.1 – 1.2

Cured Material	
Hardness shore D *80°C, 30min* *PE-Norm 006*	65 – 85
Temperature resistance [°C]	-40 – 180
Shrinkage [%] *80°C, 30min* *PE-Norm 031*	< 0.5
Water absorption [%] *80°C, 30min* *PE-Norm 016*	< 1

Glass transition temperature - DSC [°C] *80°C, 30min* *PE-Norm 009*	70 – 90
Coefficient of thermal expansion [ppm/K] below Tg *80°C, 30min* *PE-Norm 017*	40 – 50
Coefficient of thermal expansion [ppm/K] above Tg *80°C, 30min* *PE-Norm 017*	160 – 190

Thermal conductivity [W/m*K] *80°C, 30min* *PE-Norm 062*	0.35 – 0.45
Dielectric strength [kV/mm] *RT, 4d* *DIN EN 60243*	30 – 35
Sheet resistance [Ohm/sq] *RT, 4d* *PE-Norm 044*	> 5 x 10^{14}
Volume resistivity [Ohm*cm] *RT, 4d* *PE-Norm 044*	> 10^{15}

Comparative tracking index – CTI *RT, 4d* *IEC 60112:2020*	600

Young´s modulus – Tensile test [MPa] *80°C, 30min* *PE-Norm 056*	3,000 – 4,500
Tensile strength [MPa] *80°C, 30min* *PE-Norm 014*	25 – 35
Elongation at break [%] *80°C, 30min* *PE-Norm 014*	1 – 2
Lap shear strength (stainless steel/stainless steel) [MPa] *80°C, 30min* *PE-Norm 013*	20 – 25
Lap shear strength ($AlMg_3$/$AlMg_3$) [MPa] *80°C, 30min* *PE-Norm 013*	12 – 15
Lap shear strength (PA6 GF/PA6 GF) [MPa] *80°C, 30min* *PE-Norm 013*	6 – 10

Transport/Storage/Shelf Life

Package type	Transport	Storage	Shelf life*
Syringe/Cartridge	At room temperature max. 25°C	At room temperature max. 25°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 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 packaging they can be applied by hand directly from the container or by using compatible 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. To obtain best results, the adhesive and substrates to be bonded may not be cold and should be allowed to warm to room temperature prior to processing. 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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