Technical Datasheet
Structalit® 5810

Product Description

Panacol Structalit® 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. Structalit® products are designed for bonding, casting and protecting components in electronic and automotive industry.

Structalit® 5810 is suitable for bonding, coating and potting of metals, glass and many plastics. Structalit® 5810 has good adhesion to PC in case of thermal shock. Structalit® 5810 has good moisture and chemical resistance.

Suitability on various substrates

copper	✓	steel	✓	glass	✓	Al	✓
PC	✓						

✓excellent o suitable * pretreatment necessary/recommended

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 25°C	24 h
Time at 80°C	45 min
Time at 120°C	20 min
Time at 150°C	5 min

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	7 h
Mixing ratio	2:1
Initial strength	24 h
Final strength	48 h

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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Technical Data

Resin	epoxy
Appearance	transparent

Uncured material

Viscosity mix [mPas] (Brookfield LVT, 25°C) *PE-Norm 001*	2 000 - 3 000
Viscosity part A [mPas] (Brookfield LVT, 25°C) *PE-Norm 001*	900 - 1 300
Viscosity part B[mPas] (Brookfield LVT, 25°C) *PE-Norm 001*	3 000 - 4 000
Density [g/cm³] *PE-Norm 004*	1,09
Flash point [°C] *PE-Norm 050*	>100
Refractive index [nD20] *PE-Norm 018*	1,568

Cured material

Hardness shore D *PE-Norm 006*	65 - 80
Temperature resistance [°C] *PE-Norm 065*	-40 - 180
Shrinkage [%] *PE-Norm 031*	0,6
Water absorption [mass %] *PE-Norm 016*	0,2

Glass transition temperature DSC [°C] *PE-Norm 009*	55 - 60
Coefficient of linear expansion [ppm/K] below Tg *PE-Norm 017*	60,0
Coefficient of linear expansion [ppm/K] above Tg *PE-Norm 017*	246,7

Dielectric constant [10kHz]	3,5
Volume resistivity [Ohm*cm] *PE-Norm 040*	1,00E+14

Young's modulus E [MPa] *PE-Norm 056*	2 882
Tensile strength [MPa] *PE-Norm 014*	21,5
Elongation at break [%] *PE-Norm 014*	0,7
Lap shear strength (Al/Al) [MPa] *PE-Norm 013*	9,0
Lap shear strength (steel/steel) [MPa] *PE-Norm 013*	17,7
Lap shear strength (brass/brass) [MPa] *PE-Norm 013*	11,6

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
Other packages	at room temperature max. 25°C	at room temperature max. 25°C	at delivery min. 6 months max. 12 months

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.

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.