Technical Datasheet
Structalit® 8838

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

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® 8838 is a one part heat curing black epoxy, primarily designed for encapsulating components on a printed circuit board (PCB). When cured, it provides a flexible encapsulation to the electronic components and shows stable electronic performance in temperature/humidity testing. Structalit® 8838 is designed to be jet dispensable and it's shear thinning behavior allows for improved flow control and targeted deposition on specific components. It's low halogen content keeps the electronic part away from corrosion. Good compatibility with flux residue ensures a good and complete curing on the electronic components. The cured adhesive is also compatible with reflow process.

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 80°C	30
Time at 130°C	10
Time at 150°C	5

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	black

Uncured material

Viscosity [mPas] (Kinexus Rheoeter, 25 °C, 20 s^{-1}) *PE-Norm 064*	6 500 - 7 500
Density [g/cm³] *PE-Norm 004*	1,1
Flash point [°C] *PE-Norm 050*	>100
Worklife time [h] *at room temperature max. 25°C*	72

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Cured material

Hardness shore D *PE-Norm 006*	15 - 25
Temperature resistance [°C]	-40 - 200
Shrinkage [%] *PE-Norm 031*	<1
Water absorption [mass %] *PE-Norm 016*	<2

Glass transition temperature DSC [°C] *PE-Norm 009*	15 - 25
Coefficient of thermal expansion [ppm/K] below Tg *PE-Norm 017*	17
Coefficient of thermal expansion [ppm/K] above Tg *PE-Norm 017*	312

Young's modulus E [MPa] *PE-Norm 056*	13
Tensile strength [MPa] *PE-Norm 014*	2
Elongation at break [%] *PE-Norm 014*	52
Lap shear strength (FR4/FR4) [MPa] *PE-Norm 013*	13

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
Cartridge	0°C - 10°C	-20°C	At delivery max. 3 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 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.

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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.

Disclaimer

The product is free of heavy metals, PFOS and Phthalates and is conform to the EU-Directive 2017/2102/EU "RoHS III".

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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