

Technical Datasheet

Structalit[®] 5893



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[®] 5893 is a thermal curable one-component epoxy-based adhesive with fast curing at low temperature. Structalit[®] 5893 is characterized by good shock resistance. Structalit[®] 5893 contains fillers which can sediment, the product has to be homogenized before processing. Structalit[®] 5893 has met the requirements for ISO 10993-5 and is suitable for use in the assembly of disposable medical devices.

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 100°C	80
Time at 120°C	30
Time at 150°C	10

The curing times given are guidelines. They refer to rheological measurements according to PE-Norm 067 . 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
Filler	quartz
Filler – weight [%]	35
Particle size D95 [µm]	21

Uncured material

Viscosity [mPas] (Kinexus Rheometer, 25°C, 10s ⁻¹) <i>PE-Norm 064</i>	6 000 - 10 000
Density [g/cm ³] <i>PE-Norm 004</i>	1,5
Flash point [°C] <i>PE-Norm 050</i>	>100

Cured material

Hardness shore D <i>PE-Norm 006</i>	75 - 90
Temperature resistance [°C]	-40 - 200
Shrinkage [%] <i>PE-Norm 031</i>	<1
Water absorption [mass %] <i>PE-Norm 016</i>	<1

Glass transition temperature DSC [°C] <i>PE-Norm 009</i>	90 - 120
Coefficient of thermal expansion [ppm/K] below Tg <i>PE-Norm 017</i>	39
Coefficient of thermal expansion [ppm/K] above Tg <i>PE-Norm 017</i>	127

Thermal conductivity [W/m*K] <i>PE-Norm 062</i>	0,5
Dielectric constant [10kHz]	3
Dielectric strength [kV/mm]	19
Volume resistivity [Ohm*cm] <i>PE-Norm 040</i>	1,0E+16
Insulating resistance [Ohm*cm] <i>PE-Norm 044</i>	2,5E+14

Young's modulus E [MPa] <i>PE-Norm 056</i>	3 857
Tensile strength [MPa] <i>PE-Norm 014</i>	27
Elongation at break [%] <i>PE-Norm 014</i>	1
Lap shear strength (steel/steel) [MPa] <i>PE-Norm 013</i>	9

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life*
Cartridge	0°C - 10°C	-20°C	at delivery min. 3 months max. 6 months
Other packages		0°C - 10°C	

***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.

Disclaimer

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

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