

### Product Description

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

Structalite® 701 is a two part, thermal curing epoxy adhesive. Structalite® 701 appears amber and transparent in thin layers. Structalite® 701 has good bonding to a wide range of materials including metals (alumina, steel and stainless steel) and many plastics. It provides good application behavior, long pot life and short curing time.

Structalite® 701 has met the requirements for USP Class VI and ISO 10993-5. Structalite® 701 is temperature resistant up to 200 °C and has shown excellent moisture and chemical resistance which makes it suitable for sterilization methods including autoclaving, EtO and gamma irradiation.

### 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 | [min] |
|----------------|-------|
| Time at 80°C   | 20    |
| Time at 120°C  | 5     |
| Time at 150°C  | 2     |
| Time at 200°C  | 1     |

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     | 6 h  |
| Mixing ratio | 10:1 |

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 | transparent, amber |

# Technical Datasheet

## Structalit® 701



### Uncured material

|  |                 |
|--|-----------------|
| Viscosity mix [mPas]<br>(Brookfield LVT, 25°C)<br><i>PE-Norm 001</i>                 | 3 000 - 5 000   |
| Viscosity part A [mPas]<br>(Brookfield LVT, 25°C, Sp 4, 12rpm)<br><i>PE-Norm 001</i> | 10 000 - 20 000 |
| Viscosity part B [mPas]<br>(Brookfield LVT, 25°C, Sp 2, 30rpm)<br><i>PE-Norm 001</i> | 400 - 800       |
| Density [g/cm <sup>3</sup> ]<br><i>PE-Norm 004</i>                                   | 1,17            |
| Flash point [°C]<br><i>PE-Norm 050</i>   | >100            |

### Cured material

|   |           |
|---|-----------|
| Hardness shore D<br><i>PE-Norm 006</i>          | 80 - 90   |
| Temperature resistance [°C]                     | -40 - 200 |
| Shrinkage [%]<br><i>PE-Norm 031</i>             | <1        |
| Water absorption [mass %]<br><i>PE-Norm 016</i> | <1        |

|   |           |
|---|-----------|
| Glass transition temperature DSC [°C]<br><i>PE-Norm 009</i>                         | 110 - 120 |
| Coefficient of thermal expansion [ppm/K] below T <sub>g</sub><br><i>PE-Norm 017</i> | 50        |
| Coefficient of thermal expansion [ppm/K] above T <sub>g</sub><br><i>PE-Norm 017</i> | 230       |

|   |       |
|---|-------|
| Young's modulus E [MPa]<br><i>PE-Norm 056</i> | 4 300 |
|---|-------|

### Transport/Storage/Shelf Life

| Trading unit   | Transport           | Storage    | Shelf-life*                                 |
|----------------|---------------------|------------|---|
| Cartridge      | at room temperature | 0°C - 10°C | at delivery min. 6 months<br>max. 12 months |
| Other packages | max. 25°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".

#### **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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## Structalit<sup>®</sup> 701



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