DELO

Technical Information

# DELO® MONOPOX GE2710

## Base
- epoxy casting resin
- one-component, heat-curing, unfilled

## Use
- for the casting, coating and fixing of components and assembly groups
- especially for the use in electronics
- good flow behavior
- the cured product is normally used in a temperature range of -40 °C to +180 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU
- halogen-free according to IEC 61249-2-21

## Processing
- the adhesive is supplied ready for use, in case of cooled storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (max. +23 °C); the conditioning time is approx. 0.5 h for containers up to 10 ml, approx. 1 h for containers up to 50 ml, approx. 3 h for containers up to 310 ml and approx. 9 h for 5 l containers ; additional heat addition is not allowed
- the adhesive can be processed well from the original container or with DELO dispensing units
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- use DELOTHEN cleaners for the cleaning of bonding surfaces
- adhesion to the components can be improved by sand blasting, grinding or pickling
- Application control by fluorescence

## Curing
- curing proceeds at temperatures between +100 and +130 °C
- increased temperatures shorten the curing process, lower temperatures extend it, and can change the properties of the cured product
- fast induction curing possible

## Technical data

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| Color<br>cured in a layer thickness of approx. 1 mm | black, opaque, fluorescent |
| Density [g/cm³]<br>DELO Standard 13<br>at room temperature (approx. +23 °C | 1.2 |
| *Viscosity* [mPas]<br>at 23 °C, rheometer, shear rate 10 1/s | 8000 |

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|---|---|
| Processing time<br>at room temperature (23℃ / 50% r.h.) | 2 weeks |
| Curing time with air convection oven [min]<br>at +130 ℃ adhesive temperature | 30 |
| Tensile shear strength Al/Al [MPa]<br>by the criteria of DIN EN 1465, sand-blasted<br>component thickness 1.6 mm, gap 0.1 mm<br>curing: 30 min at +130 ℃ | 22 |
| Compression shear strength Al/Al [MPa]<br>DELO Standard 5<br>curing: 30 min at +130 ℃ | 68 |
| Compression shear strength PA6/PA6 [MPa]<br>DELO Standard 5<br>curing: 30 min at 130 ℃ | 35 |
| *Compression shear strength PPS/PPS* [MPa]<br>DELO Standard 5<br>curing: 30 min at +130 ℃ | 22 |
| Compression shear strength PBT/PBT [MPa]<br>DELO Standard 5<br>curing: 30 min at +130 ℃ | 20 |
| Compression shear strength FR4/FR4 [MPa]<br>DELO Standard 5<br>curing: 30 min at +130 ℃ | 72 |
| Compression shear strength VA/VA [MPa]<br>DELO Standard 5<br>curing: 30 min at 130℃ | 37 |
| Tensile strength [MPa]<br>according to DIN EN ISO 527<br>layer thickness: 2 mm<br>curing: 30 min at +130 ℃ | 70 |
| Elongation at tear [%]<br>according to DIN EN ISO 527<br>layer thickness: 2 mm<br>curing: 30 min at +130 ℃ | 3 |
| Young's modulus [MPa]<br>at +23 ℃, DMTA, 3 Point Bending<br>curing: 30 min at +130 ℃ | 2900 |
| Shore hardness D<br>according to DIN EN ISO 868<br>curing: 30 min at +130 ℃ | 81 |
| Glass transition temperature [℃]<br>at +23 ℃, DMTA, 3 Point Bending<br>curing: 30 min at +130 ℃ | 93 |
| Coefficient of linear expansion [ppm/K]<br>DELO Standard 26, TMA<br>below Tg | 70 |
| Coefficient of linear expansion [ppm/K]<br>DELO Standard 26, TMA<br>above Tg | 193 |
| Shrinkage [vol. %]<br>DELO Standard 13<br>curing: 30 min at 130 ℃ | 3 |

| | |
|---|---|
| Water absorption [weight %]<br>according to DIN EN ISO 62<br>curing: 30 min at +130 °C | 0.1 |
| Storage life at 0 °C to +10 °C<br>in unopened original container | 3 months |

## Instructions and advice

### General

The data and information provided are based on tests performed under laboratory conditions. Reliable information about the behavior of the product under practical conditions and its suitability for a specific purpose cannot be concluded from this. It is the customer's responsibility to test the suitability of a product for the intended purpose by considering all specific requirements and by applying standards the customer deems suitable (e. g. DIN 2304-1). Type, physical and chemical properties of the materials to be processed with the product, as well as all actual influences occurring during transport, storage, processing and use, may cause deviations in the behavior of the product compared to its behavior under laboratory conditions. All data provided are typical average values or uniquely determined parameters measured under laboratory conditions. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for a specific purpose.
Nothing contained herein shall be construed to indicate the non-existence of any relevant patents or to constitute a permission, encouragement or recommendation to practice any development covered by any patents, without permission of the owner of this patent.
All products provided by DELO are subject to DELO's General Terms of Business. Verbal ancillary agreements are deemed not to exist.

### Instructions for use

The instructions for use of DELO MONOPOX are available on: www.DELO.de. We will be pleased to send them to you on demand.

### Occupational health and safety

see material safety data sheet

### Specification

The properties in italics are part of the specification. Ranges with clear limits are defined for them and others, where applicable. In the course of the QA test, each batch is tested for these properties and the maintenance of the limits is ensured. The measuring methods used can deviate from those specified in the data sheet. Details can be found in the QA test report.