

## Technical Information

### **DELOMONOPOX® GE725**

Heat-curing electronic casting compound, fill

#### **Base**

- epoxy casting resin
- one-component, heat-curing, solvent-free, filled, thixotropic

#### **Use**

- especially for the casting of bare semiconductors and sensors
- the cured product is normally used in a temperature range of -65 °C to +180 °C; depending on the application, other limits may be more reasonable
- meets the requirements of JEDEC MSL1
- compliant with RoHS directive 2015/863/EU
- successfully tested according to UL 94 HB (by an independent test institute)

#### **Processing**

- the adhesive is supplied ready for use; in case of cool or refrigerated storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (max. 25 °C); the conditioning time is approx. 0.5 h for containers up to 10 ml, approx. 1 h for containers up to 50 ml and approx. 3 h for containers up to 310 ml; additional heat addition is not allowed
- the adhesive can be optimally processed within the processing time (storage life at room temperature)
- the adhesive is normally applied by dispensing
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- dispensing valves and product-bearing elements must be carefully cleaned directly after adhesive use; acetone is recommended as cleaner

#### **Curing**

- curing proceeds at temperatures of +125 °C to +180 °C in 20 - 90 min plus heating time of the components
- increased temperatures shorten the curing process, lower temperatures extend it, and can change the properties of the cured product
- the minimal curing temperature is +125 °C
- the maximal curing temperature is +180 °C
- the actual curing times at the respective temperatures are dependent on the heating time of the components, the heating time of the components must be added to the curing time of the adhesive
- the heating time depends on the component size and the oven type

#### **Technical data**

*Color*

black

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|                                                                                                              |      |
|--------------------------------------------------------------------------------------------------------------|------|
| Density [g/cm <sup>3</sup> ]<br>DELO standard 13                                                             | 1.67 |
| Viscosity [mPas]<br>at 23 °C, rheometer, shear rate 10 1/s                                                   | 6500 |
| Processing time [h]<br>at room temperature (max. 25 °C)                                                      | 48   |
| Curing time with air convection oven [min]<br>at +150 °C                                                     | 20   |
| Curing time with air convection oven [min]<br>at +125 °C                                                     | 90   |
| Compression shear strength Al/Al [MPa]<br>DELO Standard 5<br>curing: 20 min at 150 °C                        | 22   |
| Compression shear strength FR4/FR4 [MPa]<br>DELO Standard 5<br>curing: 20 min at 150 °C                      | 50   |
| Tensile strength [MPa]<br>according to DIN EN ISO 527<br>layer thickness: 2 mm<br>after 20 min at +150 °C    | 50   |
| Elongation at tear [%]<br>according to DIN EN ISO 527<br>layer thickness: 2 mm<br>after 20 min at +150 °C    | 0.5  |
| Young's modulus [MPa]<br>according to DIN EN ISO 527<br>layer thickness: 2 mm<br>after 20 min at +150 °C     | 9700 |
| Shore hardness D<br>according to DIN EN ISO 868<br>after 20 min at +150 °C                                   | 87   |
| Glass transition temperature [°C]<br>TMA, DELO Standard 28<br>curing: 20 min at +150 °C                      | 178  |
| Coefficient of linear expansion [ppm/K]<br>TMA, DELO Standard 26<br>in a temperature range of +30 to +150 °C | 25   |
| Water absorption [weight %]<br>according to DIN EN ISO 62<br>after 20 min at +150 °C                         | 0.1  |
| Decomposition temperature [°C]<br>DELO Standard 36                                                           | 323  |
| Ion content Na+ [ppm]<br>extraction                                                                          | <10  |
| Ion content K+ [ppm]<br>extraction                                                                           | <10  |
| Ion content Cl- [ppm]<br>extraction                                                                          | <10  |
| Thermal conductivity [W/m·K]<br>photoflash method<br>according to ASTM E 1461<br>layer thickness: 0.5 mm     | 0.5  |

|                                                                 |          |
|-----------------------------------------------------------------|----------|
| Dielectric constant<br>RF-IV method, 1 MHz, at 25 °C +/- 3 °C   | 3.7      |
| Dielectric constant<br>RF-IV method, 10 MHz, at 25 °C +/- 3 °C  | 3.7      |
| Dielectric constant<br>RF-IV method, 100 MHz, at 25 °C +/- 3 °C | 3.6      |
| Dielectric constant<br>RF-IV method, 1 GHz, at 25 °C +/- 3 °C   | 3.6      |
| storage life at -18°C<br>in unopened original container         | 6 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 the product for the intended purpose by considering all specific requirements. Type and 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. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for the intended 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.

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### **Instructions for use**

The instructions for use of DELOMONOPOX are available on: [www.DELO.de](http://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.