

DELO[®] MONOPOX HT2999

modified epoxy resin | 1C | heat-curing

free of solvents | thixotropic, pasty, filled | electrically insulating, very good temperature resistance, very high temperature strength

Special features of product

- compliant with RoHS Directive 2015/863/EU

Function

- construction adhesive

Typical area of use

- -55 - 220 °C
- setting of layer thickness

Curing

Typical curing time

| | | |
|--------------------------------------|----|-----|
| at +150 °C in air convection oven | 10 | min |
| at +130 °C in air convection oven | 30 | min |

Processing

Conditioning time (typical)

| | | |
|--|---|---|
| when stored in cold conditions in containers up to 310 ml | 3 | h |
|--|---|---|

Processing time

| | | |
|---|---|---|
| in standard climate +23 °C / 50 % r. h. | 7 | d |
|---|---|---|

Storage life in unopened original container

| | | |
|-------------------|---|----------|
| at 0 °C to +10 °C | 6 | month(s) |
|-------------------|---|----------|

Technical properties

| | |
|---|------------------|
| Color in cured condition in 1 mm layer thickness | gray |
| Transparency in cured condition in 1 mm layer thickness | opaque |
| Filler particle type | spacer, minerals |

Filler particle size d90 = 70 µm

Parameters

Density 1.58 g/cm³
by the criteria of DIN 66137-2 | liquid

Tensile shear strength 16 MPa
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min*

Tensile shear strength 16 MPa
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Measuring temperature: 150 °C*

Tensile shear strength 13 MPa
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Measuring temperature: 180 °C*

Tensile shear strength 9 MPa
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Measuring temperature: 200 °C*

Tensile shear strength 5 MPa
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Measuring temperature: 220 °C*

Compression shear strength 52 MPa
*DELO Standard 5 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min*

Compression shear strength 52 MPa
*DELO Standard 5 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Type of storage: Constant climate | Storage temperature: 85 °C | Humidity: 85 % | Duration: 168 h*

Compression shear strength 50 MPa
*DELO Standard 5 | **AI** | **AI** | Pretreatment: sand-blasted | 150 °C | 10 min | Type of storage: Temp. | Storage temperature: 180 °C | Duration: 1000 h*

Compression shear strength 45 MPa
*DELO Standard 5 | **Stainless steel** | **Stainless steel** | Pretreatment: sand-blasted | 150 °C | 10 min*

Compression shear strength 56 MPa
*DELO Standard 5 | **Stainless steel** | **Stainless steel** | Pretreatment: sand-blasted | 150 °C | 10 min | Type of storage: Constant climate | Storage temperature: 85 °C | Humidity: 85 % | Duration: 168 h*

Compression shear strength 50 MPa
*DELO Standard 5 | **Stainless steel** | **Stainless steel** | Pretreatment: sand-blasted | 150 °C | 10 min | Type of storage: Temp. | Storage temperature: 180 °C | Duration: 1000 h*

Tensile strength 54 MPa
by the criteria of DIN EN ISO 527 | 150 °C | 10 min

| | | |
|--|---------|--------|
| Elongation at tear <i>by the criteria of DIN EN ISO 527 150 °C 10 min</i> | 1 | % |
| Young's modulus <i>DMTA 150 °C 10 min</i> | 4400 | MPa |
| Shore hardness D <i>by the criteria of DIN EN ISO 868 150 °C 10 min</i> | 88 | |
| Glass transition temperature <i>DMTA 150 °C 10 min</i> | 180 | °C |
| Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: -30 °C - 110 °C 150 °C 10 min</i> | 30 | ppm/K |
| Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: 170 °C - 230 °C 150 °C 10 min</i> | 135 | ppm/K |
| Shrinkage <i>DELO Standard 13 150 °C 10 min</i> | 1.1 | vol. % |
| Water absorption <i>by the criteria of DIN EN ISO 62 Layer thickness: 4 mm 150 °C 10 min Type of storage: Media / Medium: Distilled water Storage temperature: at approx. +23 °C Duration: 24 h</i> | 0.15 | wt. % |
| Decomposition temperature <i>DELO Standard 36 150 °C 10 min</i> | 306 | °C |
| Volume resistivity <i>by the criteria of DIN EN 62631-3-1 150 °C 10 min</i> | > 1E+15 | Ohm·cm |
| Surface resistance <i>by the criteria of DIN EN 62631-3-2 150 °C 10 min</i> | > 1E+13 | Ohm |
| Dielectric strength <i>by the criteria of DIN EN 60243-1 150 °C 40 min</i> | 22 | kV/mm |

Converting table

| | |
|----------------------|--------------------|
| °F = (°C x 1.8) + 32 | 1 MPa = 145.04 psi |
| 1 inch = 25.4 mm | 1 GPa = 145.04 ksi |
| 1 mil = 25.4 µm | 1 cP = 1 mPa·s |
| 1 oz = 28.3495 g | 1 N = 0.225 lb |

General curing and processing information

The curing time stated in the technical data was determined in the laboratory. It can vary depending on the adhesive quantity and component geometry and is therefore a reference value. The heating time of the components must be added to the actual curing time. It depends on component size and type of heat input.

The specified curing temperature must be reached directly at the adhesive. Increasing or decreasing the curing temperature and / or irradiation intensity and / or irradiation time shortens or prolongs the curing time and can lead to changed physical properties. Depending on the adhesive quantity used, exothermic reaction heat is generated which can lead to overheating. In this case, a lower curing temperature is to be selected. Values measured after 24 h at approx. 23 °C / 50 % r.h., unless otherwise specified.

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.

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Instructions for use

You can find further details in the instructions for use.

The instructions for use are available on www.DELO-adhesives.com.

We will be pleased to send them to you on demand.

Occupational health and safety

See material safety data sheet.

Specification

Nothing contained in this Technical Datasheet shall be interpreted as any express warranty or guarantee. This Technical Datasheet is for reference only and does not constitute a product specification. Please ask our responsible Sales Engineer for the applicable product specification which includes defined ranges. DELO is neither liable for any values and content of this Technical Datasheet nor for oral or written recommendations regarding the use, unless otherwise agreed in writing. This limitation of liability is not applicable for damages resulting from intent, gross negligence or culpable breach of cardinal obligations, nor shall it apply in case of death or personal injury or in case of liability under any applicable compulsory law.

CONTACT

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