

# DELO-DUOPOX<sup>®</sup> 6963

**modified epoxy resin | 2C | room-temperature-curing**

filled, very good temperature resistance

### Special features of product

- compliant with RoHS Directive 2015/863/EU
- Long-term preheating of components is possible
- The filler may sediment. Therefore, the individual components must be stirred before use
- Any formation of bubbles during homogenization or mixing can be significantly minimized by using a processing system with vacuum unit

### Function

- encapsulant / potting compound

### Typical area of use

- -40 - 150 °C

### Curing

Curing time

*until final strength  
at rt approx. +23 °C*

48 h

*until final strength  
at +80 °C*

4 h

### Processing

Mixing ratio A : B - volume

9 : 4

Mixing ratio A : B - weight

3 : 1

Processing time after mixing

*in 100 g batch  
at rt approx. +23 °C*

240 min

Storage life in unopened original container

*at +18 °C to +25 °C*

12 month(s)

### Technical properties

Color in cured condition in 1 mm layer thickness

beige

Filler particle type minerals

**Parameters**

Density 1.48 g/cm<sup>3</sup>  
*Component A | DELO Standard 13 | liquid*

Density 1.09 g/cm<sup>3</sup>  
*Component B | DELO Standard 13 | liquid*

Viscosity 4000 mPa·s  
*Component A | liquid | Viscosimeter*

Viscosity 27000 mPa·s  
*Component B | liquid | Viscosimeter*

Tensile shear strength 18 MPa  
*by the criteria of DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | at approx. +23 °C | 48 h*

Tensile strength 20 MPa  
*by the criteria of DIN EN ISO 527 | at approx. +23 °C | 168 h*

Elongation at tear 5 %  
*by the criteria of DIN EN ISO 527 | at approx. +23 °C | 168 h*

Young's modulus 1100 MPa  
*by the criteria of DIN EN ISO 527 | at approx. +23 °C | 168 h*

Shore hardness D 70  
*by the criteria of DIN EN ISO 868 | at approx. +23 °C | 168 h*

Glass transition temperature 67 °C  
*DELO Standard 24 | Rheometer*

Coefficient of linear expansion 164 ppm/K  
*DELO Standard 26 | TMA | Evaluation T: 30 °C - 140 °C*

Shrinkage 2 vol. %  
*DELO Standard 13 | at approx. +23 °C | 168 h*

Water absorption 0.2 wt. %  
*by the criteria of DIN EN ISO 62 | Layer thickness: 4 mm | at approx. +23 °C | 168 h | Type of storage: Media | Medium: Distilled water | Storage temperature: at approx. +23 °C | Duration: 24 h*

Volume resistivity >1E13 Ohm·cm

Surface resistance >1E12 Ohm  
*by the criteria of DIN EN 62631-3-2*

Dielectric strength <i>by the criteria of DIN EN 60243-1</i>	22	kV/mm
Relative permittivity <i>by the criteria of VDE 0303-4</i>	4.2	
Comparative Tracking Index M <i>by the criteria of DIN EN 60112</i>	600	

**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. Curing can be supported or accelerated by heat input. Additional heat input can change the physical properties of the product. 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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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**

You can find further details in the instructions for use.

The instructions for use are available on [www.DELO-adhesives.com](http://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**