

# DELO-DUOPOX<sup>®</sup> DB8989

**modified epoxy resin | 2C | light-fixable / room-temperature-curing**

light-fixable, suitable for side-by-side cartridges, very good temperature resistance

### Special features of product

- compliant with RoHS Directive 2015/863/EU
- halogen-free according to IEC 61249-2-21
- low-outgassing according to ECSS-Q-70-02

### Function

- structural adhesive
- electronic adhesive

### Typical area of use

- -40 - 150 °C
- metal bondings

### Curing

Suitable lamp types LED 365 nm, LED 400 nm

Typical light fixation time

*intensity 1,000 mW/cm<sup>2</sup>  
LED 400 nm* 1 - 20 s

Curing time

*until initial strength  
at rt approx. +23 °C  
tensile shear strength 1 - 2 MPa* 5.5 h

*until final strength  
at rt approx. +23 °C* 168 h

### Processing

Mixing ratio A : B - volume 2 : 1

Mixing ratio A : B - weight 1.55 : 1

Processing time after mixing

*in 3 g batch  
at rt approx. +23 °C* 45 min

*in 100 g batch  
at rt approx. +23 °C* 30 min

Storage life in unopened original container

at +15 °C to +30 °C 6 month(s)

**Technical properties**

Color in cured condition in 0.1 mm layer thickness white

Transparency in cured condition in 0.1 mm layer thickness translucent

Color in cured condition in 1 mm layer thickness white

Transparency in cured condition in 1 mm layer thickness opaque

Filler particle type minerals

**Parameters**

Density 1.16 g/cm<sup>3</sup>  
*Component A | liquid*

Density 1.49 g/cm<sup>3</sup>  
*Component B | liquid*

Viscosity 170000 mPa·s  
*Component A | liquid | Rheometer | Shear rate: 10 1/s | Gap: 500 µm*

Viscosity 160000 mPa·s  
*Component B | liquid | Rheometer | Shear rate: 10 1/s | Gap: 500 µm*

Light-fixable layer thickness 3 mm  
*400 nm | 200 mW/cm<sup>2</sup> | 60 s | at approx. +23 °C*

Tensile shear strength 25 MPa  
*Based on DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | at approx. +23 °C | 7 d*

Tensile shear strength 28 MPa  
*Based on DIN EN 1465 | **AI** | **AI** | Pretreatment: sand-blasted | 80 °C | 60 min*

Compression shear strength 28 MPa  
*DELO Standard 5 | **AI** | **AI** | at approx. +23 °C | 168 h*

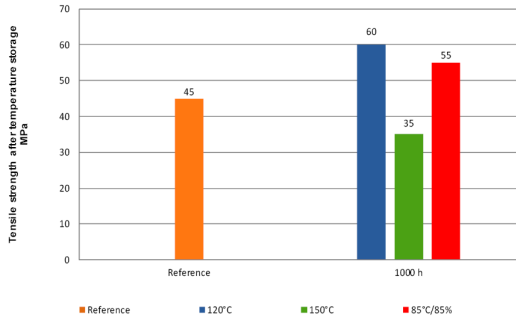
Compression shear strength 32 MPa  
*DELO Standard 5 | **AI** | **AI** | at approx. +23 °C | 168 h | Type of storage: Constant climate | Storage temperature: 85 °C | Humidity: 85 % | Duration: 1000 h*

Compression shear strength 25 MPa  
*DELO Standard 5 | **Glass** | **AI** | 400 nm | 200 mW/cm<sup>2</sup> | 60 s | Plus | at approx. +23 °C | 168 h*

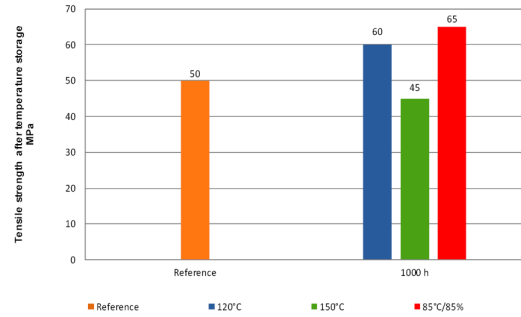
Compression shear strength <i>DELO Standard 5   <b>Glass   AI</b>   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h   Type of storage: Constant climate   Storage temperature: 85 °C   Humidity: 85 %   Duration: 1000 h</i>	30	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass   AI</b>   at approx. +23 °C   168 h</i>	30	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass   AI</b>   at approx. +23 °C   168 h   Type of storage: Constant climate   Storage temperature: 85 °C   Humidity: 85 %   Duration: 1000 h</i>	40	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass   PA6</b>   Pretreatment: Annealing   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	6	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass   PA6</b>   Pretreatment: Annealing   at approx. +23 °C   168 h</i>	6	MPa
Compression shear strength <i>DELO Standard 5   <b>LCP GF30   LCP GF30</b>   at approx. +23 °C   168 h</i>	13	MPa
Compression shear strength <i>DELO Standard 5   <b>PBT   PBT</b>   at approx. +23 °C   168 h</i>	5	MPa
Compression shear strength <i>DELO Standard 5   <b>PBT   PBT</b>   at approx. +23 °C   168 h   Type of storage: Constant climate   Storage temperature: 85 °C   Humidity: 85 %   Duration: 1000 h</i>	2	MPa
Tensile strength <i>Based on DIN EN ISO 527   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	50	MPa
Tensile strength <i>Based on DIN EN ISO 527   at approx. +23 °C   168 h</i>	45	MPa
Elongation at tear <i>Based on DIN EN ISO 527   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	1	%
Elongation at tear <i>Based on DIN EN ISO 527   at approx. +23 °C   168 h</i>	4	%
Young's modulus <i>Based on DIN EN ISO 527   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	4700	MPa
Young's modulus <i>Based on DIN EN ISO 527   at approx. +23 °C   168 h</i>	4000	MPa
Shore hardness D <i>Based on ASTM D 2240   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	85	

Shore hardness D <i>Based on DIN EN ISO 868   at approx. +23 °C   168 h</i>	82	
Glass transition temperature <i>DMTA   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	121	°C
Glass transition temperature <i>DMTA   at approx. +23 °C   168 h</i>	114	°C
Coefficient of linear expansion <i>DELO Standard 26   TMA   Evaluation T: -35 °C - 70 °C   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	55	ppm/K
Coefficient of linear expansion <i>DELO Standard 26   TMA   Evaluation T: -30 °C - 70 °C   at approx. +23 °C   168 h</i>	55	ppm/K
Coefficient of linear expansion <i>DELO Standard 26   TMA   Evaluation T: 120 °C - 230 °C   at approx. +23 °C   168 h</i>	160	ppm/K
Coefficient of linear expansion <i>DELO Standard 26   TMA   Evaluation T: 140 °C - 220 °C   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h</i>	160	ppm/K
Shrinkage <i>DELO Standard 13   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   7 d</i>	3	vol. %
Shrinkage <i>DELO Standard 13   at approx. +23 °C   7 d</i>	3	vol. %
Water absorption <i>Based on DIN EN ISO 62   Layer thickness: 4 mm   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   168 h   Type of storage: Media   Medium: Distilled water</i>	0.13	wt. %
Water absorption <i>Based on DIN EN ISO 62   Layer thickness: 4 mm   at approx. +23 °C   168 h   Type of storage: Media   Medium: Distilled water</i>	0.14	wt. %

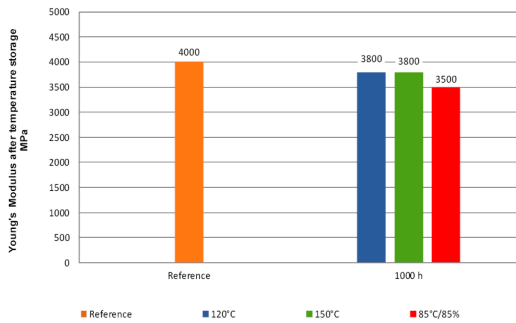
Tensile strength after temperature storage / based on DIN EN ISO 527



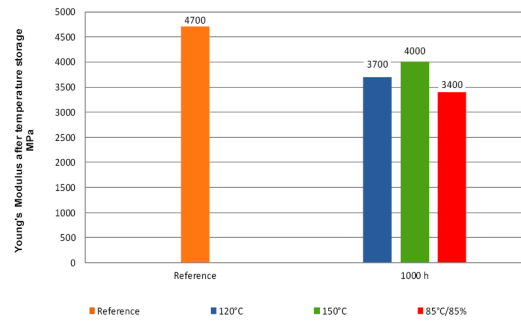
Tensile strength after temperature storage / based on DIN EN ISO 527  
light fixation LED 400nm, intensity 200mW/cm², 60s



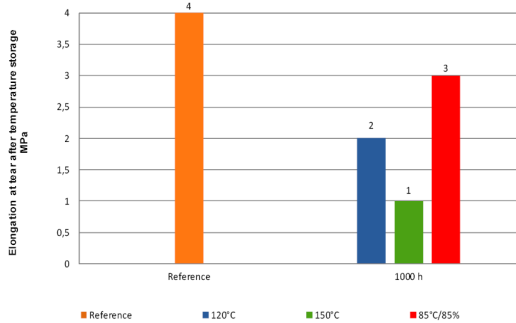
Young's Modulus after temperature storage / based on DIN EN ISO 527



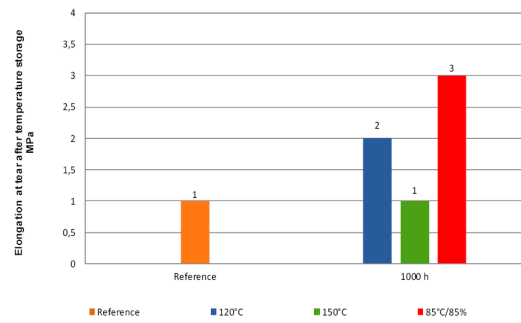
Young's Modulus after temperature storage / based on DIN EN ISO 527  
light fixation LED 400nm, intensity 200mW/cm², 60s



Elongation at tear after temperature storage / based on DIN EN ISO 527



Elongation at tear after temperature storage / based on DIN EN ISO 527  
light fixation LED 400nm, intensity 200mW/cm², 60s



### 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. All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer. Unless otherwise specified, the values were measured after 168 h at approx. 23 °C / 50 % r. h., and the values of heat-cured samples were measured after 24 h at approx. 23 °C / 50 % r. h.

## 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

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

DELO-DUOPOX DB8989 | as of 23.07.2021 08:22 | Page 6 of 6

**DELO** Industrial Adhesives  
Headquarters

▶ Germany · Windach / Munich ... [www.DELO-adhesives.com](http://www.DELO-adhesives.com)

ADHESIVES

DISPENSING

CURING

CONSULTING

**DELO**