

DELO-DUOPOX DB8989

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

light-fixable, suitable for DELO-AUTOMIX, 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

- construction adhesive
- electronic adhesive

Typical area of use

- -40 - 150 °C

Curing

Suitable lamp types LED 365 nm, LED 400 nm

Recommended light fixation time

*intensity 1,000 mW/cm²
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 3 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 of component A <i>DELO Standard 13 Liquid</i>	1.16	g/cm ³
Density of component B <i>DELO Standard 13 Liquid</i>	1.49	g/cm ³
Viscosity of component A <i>Liquid Rheometer Shear rate: 10 1/s Gap: 500 µm</i>	170000	mPa·s
Viscosity of component B <i>Liquid Rheometer Shear rate: 10 1/s Gap: 500 µm</i>	160000	mPa·s
Light-fixable layer thickness <i>Based on PA 125 400 nm 200 mW/cm² 60 s</i>	3	mm
Tensile shear strength <i>Based on DIN EN 1465 Al Al Pretreatment: sand-blasted at approx. +23 °C 7 d</i>	25	MPa
Tensile shear strength <i>Based on DIN EN 1465 Al Al Pretreatment: sand-blasted 80 °C 60 min</i>	28	MPa
Compression shear strength <i>DELO Standard 5 Glass Al at approx. +23 °C 168 h</i>	30	MPa

<p>Compression shear strength <i>DELO Standard 5 PBT PBT at approx. +23 °C 168 h Type of storage: Constant climate Temp.: 85 °C Humidity: 85 % Duration: 1000 h</i></p>	2	MPa
<p>Compression shear strength <i>DELO Standard 5 PBT PBT at approx. +23 °C 168 h</i></p>	5	MPa
<p>Compression shear strength <i>DELO Standard 5 LCP E130i LCP E130i at approx. +23 °C 168 h</i></p>	13	MPa
<p>Compression shear strength <i>DELO Standard 5 Glass PA6 Pretreatment: Annealing at approx. +23 °C 168 h</i></p>	6	MPa
<p>Compression shear strength <i>DELO Standard 5 Glass PA6 Pretreatment: Annealing 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i></p>	6	MPa
<p>Compression shear strength <i>DELO Standard 5 Glass Al at approx. +23 °C 168 h Type of storage: Constant climate Temp.: 85 °C Humidity: 85 % Duration: 1000 h</i></p>	40	MPa
<p>Compression shear strength <i>DELO Standard 5 Glass Al 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h Type of storage: Constant climate Temp.: 85 °C Humidity: 85 % Duration: 1000 h</i></p>	30	MPa
<p>Compression shear strength <i>DELO Standard 5 Glass Al 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i></p>	25	MPa
<p>Compression shear strength <i>DELO Standard 5 Al Al at approx. +23 °C 168 h Type of storage: Constant climate Temp.: 85 °C Humidity: 85 % Duration: 1000 h</i></p>	32	MPa
<p>Compression shear strength <i>DELO Standard 5 Al Al at approx. +23 °C 168 h</i></p>	28	MPa
<p>Tensile strength <i>Based on DIN EN ISO 527 at approx. +23 °C 168 h</i></p>	45	MPa
<p>Tensile strength <i>Based on DIN EN ISO 527 at approx. +23 °C 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i></p>	50	MPa
<p>Elongation at tear <i>Based on DIN EN ISO 527 at approx. +23 °C 168 h</i></p>	4	%

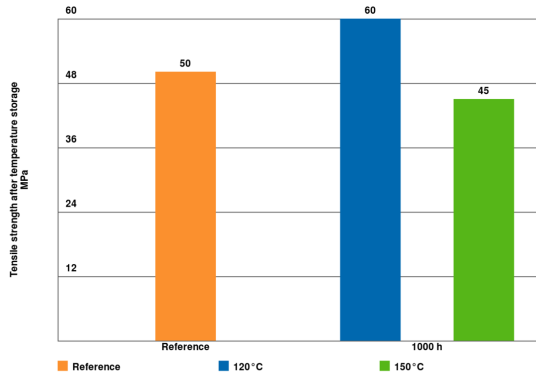
Elongation at tear <i>Based on DIN EN ISO 527 at approx. +23 °C 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i>	1	%
Young's modulus <i>Based on DIN EN ISO 527 at approx. +23 °C 168 h</i>	4000	MPa
Young's modulus <i>Based on DIN EN ISO 527 at approx. +23 °C 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i>	4700	MPa
Shore hardness D <i>Based on ASTM D2240 400 nm 200 mW/cm² 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/cm² 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: 140 °C - 220 °C 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h</i>	160	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: -35 °C - 70 °C 400 nm 200 mW/cm² 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
Shrinkage <i>400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 7 d</i>	3	vol. %
Shrinkage <i>at approx. +23 °C 7 d</i>	3	vol. %
Water absorption <i>Based on DIN EN ISO 62 400 nm 200 mW/cm² 60 s Plus at approx. +23 °C 168 h Type of storage: Desiccator Duration: 72 h</i>	0.13	wt. %

Water absorption

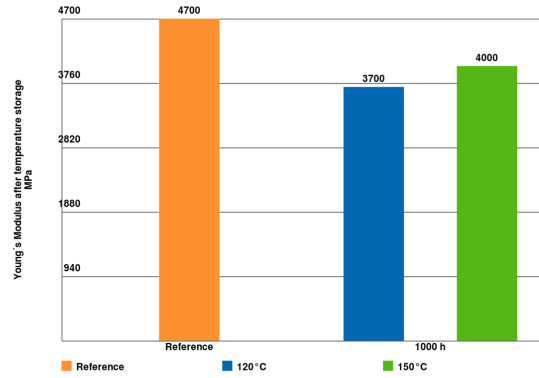
0.14 wt. %

Based on DIN EN ISO 62 | at approx. +23 °C | 168 h | Type of storage: Desiccator | Duration: 72 h

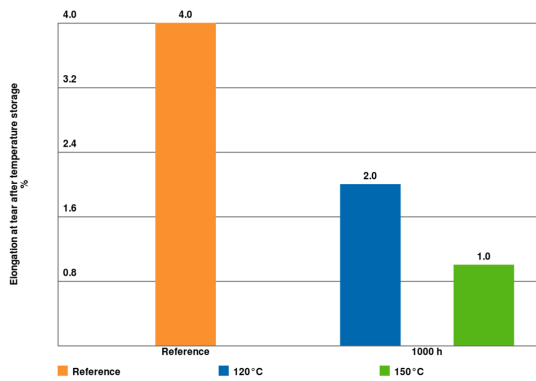
Tensile strength after temperature storage / based on DIN EN ISO 527



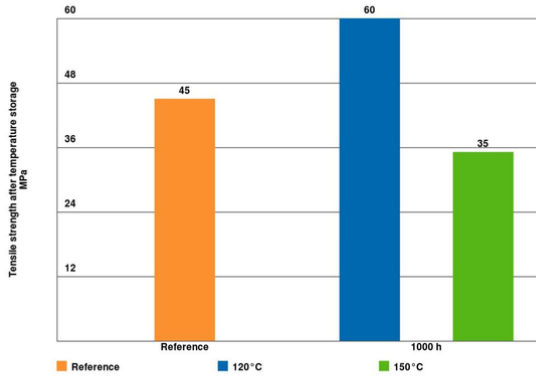
Young's Modulus after temperature storage / based on DIN EN ISO 527



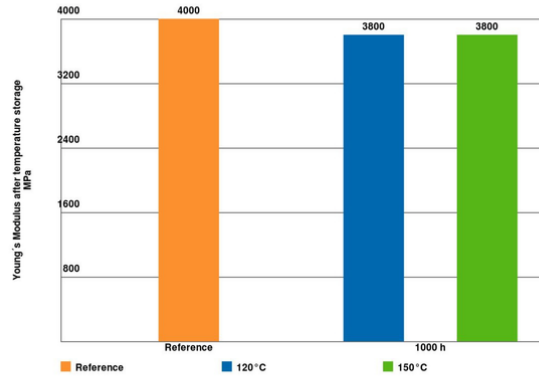
Elongation at tear after temperature storage / based on DIN EN ISO 527



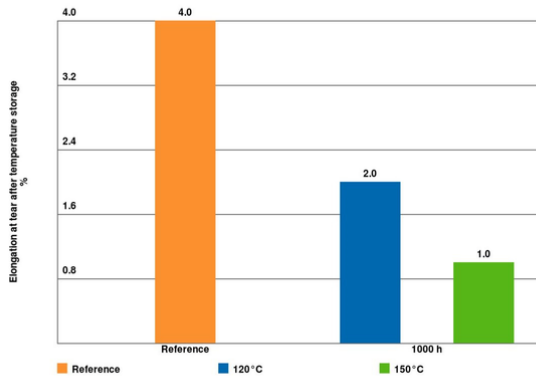
Tensile strength after temperature storage / based on DIN EN ISO 527
without light fixation



Young's Modulus after temperature storage / based on DIN EN ISO 527
without light fixation



Elongation at tear after temperature storage / based on DIN EN ISO 527
without light fixation



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.

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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

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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