

DELO-DUOPOX® DB8989

Multi-purpose 2c epoxy resin, cures at room temperature, light fixable

Base

- epoxy resin
- two-component

Use

- high-strength construction adhesive
- multi-purpose
- in applications with elevated temperature stress
- in mechanical engineering, car manufacturing and tool construction
- in electrical engineering and electronics
- the cured product is normally used in a temperature range of -40 °C to +150 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU
- halogen-free according to IEC 61249-2-21

Processing

- supplied ready for use and can be processed well from the original container
- components A and B must be mixed homogeneously in the mixing ratio stated below
- using the DELO-AUTOMIX system for processing is especially advantageous
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations

Curing

- proceeds at room temperature (approx. 23 °C)
- Fixation possible by irradiation with UVA light in a wavelength in the range of 320 – 400 nm in typically 1 – 20 seconds. Independently thereof the mixed adhesive cures completely at room temperature in the non-irradiated areas as well.
- increased temperatures (e. g. +60 °C to +120 °C) accelerate curing
- applying heat could change physical characteristics

Technical data

Color

uncured in a layer thickness of approx. 1 mm

whitish opaque

Color

uncured in a layer thickness of approx. 0.1 mm

white translucent

Filler

minerals

Mixing ratio

(A : B) according to volume

(A : B) according to weight

2 : 1

1.55 : 1

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Density of component A [g/cm³] DIN 66137-2, measured with helium pycnometer at room temperature (approx. 23 °C)	1.16
Density of component B [g/cm³] DIN 66137-2, measured with helium pycnometer at room temperature (approx. 23 °C)	1.49
Viscosity of component A [mPas] at 23 °C, rheometer (Paar) shear rate 10/s	170000
Viscosity of component B [mPas] at 23 °C, rheometer (Paar) shear rate 10/s	160000
Processing time in 3 g preparation [min] at room temperature (approx. 23 °C)	45
Processing time in 100 g preparation [min] at room temperature (approx. 23 °C)	30
Fixing time by light [s] LED 400 nm, intensity: 1000 mW/cm ² DELOLUXcontrol	1 - 20
Curing time until initial strength [h] tensile shear strength 1 - 2 MPa at room temperature (approx. 23 °C), no irradiation	3.5
Curing time until final strength [d] at room temperature (approx. 23 °C), no irradiation	7
Tensile shear strength Al/Al [MPa] by the criteria of DIN EN 1465, sand-blasted component thickness 1.6 mm, gap 0.1 mm curing: 7 d at room temperature (approx. 23 °C)	25
Tensile shear strength Al/Al [MPa] by the criteria of DIN EN 1465, component thickness 1.6 mm, gap 0.1 mm curing: 1 h at 80 °C + 24 h at room temperature (approx. 23 °C)	28
Compression shear strength Al/Al [MPa] DELO standard 5, blank Curing: 7d at room temperature (approx. 23 °C)	28
Compression shear strength Al/Al [MPa] DELO standard 5, blank Curing: 7d at room temperature (approx. 23 °C) + 1000 h 85°C/85%	32
Compression shear strength glass/PA6 [MPa] DELO Standard 5 curing: 7 d at room temperature (approx. 23 °C)	6
Compression shear strength glass/PA6 [MPa] DELO Standard 5 curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C)	6
Compression shear strength glass/Al [MPa] DELO Standard 5 curing: 7 d at room temperature (approx. 23 °C)	30
Compression shear strength glass/Al [MPa] DELO standard 5 curing: 7d at room temperature (approx. 23 °C) + 1000 h 85°C/85%	40

Compression shear strength glass/Al [MPa] DELO Standard 5 curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C)	25
Compression shear strength glass/Al [MPa] DELO Standard 5 curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C) + 1000 h 85 °C/85%	30
Compression shear strength PBT GF30/ PBT GF30 [MPa] DELO Standard 5 curing: 7 d at room temperature (approx. 23 °C)	5
Compression shear strength PBT GF30/ PBT GF30 [MPa] DELO standard 5, blank Curing: 7d at room temperature (approx. 23 °C) + 1000 h 85 °C/85%	2
Compression shear strength LCP E130i / LCP E130i [MPa] DELO Standard 5 curing: 7 d at room temperature (approx. 23 °C)	13
Temperature stability Al/Al at +80 °C [MPa] DIN EN 1465, sand-blasted Component thickness: 1.6 mm Curing: 7 d at room temperature (approx. 23 °C)	6
Temperature stability Al/Al at +80 °C [MPa] DIN EN 1465, sand-blasted component thickness: 1.6 mm curing: 1h at +80 °C	9
Tensile strength [MPa] According to standard DIN EN ISO 527 Curing: 7 d room temperature (approx. 23 °C)	45
Tensile strength [MPa] According to DIN EN ISO 527 Curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx.. 23 °C)	50
Elongation at tear [%] According to standard DIN EN ISO 527 Curing: 7 d room temperature (approx. 23 °C)	4
Elongation at tear [%] According to DIN EN ISO 527 Curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx.. 23 °C)	1
Young's modulus [MPa] According to standard DIN EN ISO 527 Curing: 7 d room temperature (approx. 23 °C)	4000
Young's modulus [MPa] According to DIN EN ISO 527 Curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx.. 23 °C)	4700
Shore hardness D curing: 7 d at room temperature (approx. 23 °C)	82
Shore hardness D curing: LED 400 nm, intensity: 200 mW/cm ² DELOLUXcontrol, irradiation time: 60 s after 7 d at room temperature (approx. 23 °C)	85

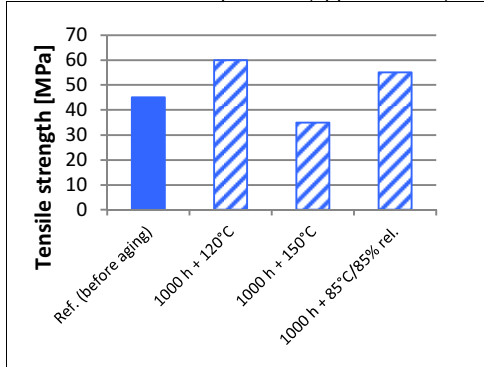
Glass transition temperature [°C] 2nd heating process, DMTA curing: 7 d room temperature (approx. 23 °C)	114
Glass transition temperature [°C] 2nd heating process, DMTA curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C)	121
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +35 °C to +100 °C curing: 7 d room temperature (approx. 23 °C)	55
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +120 °C to +175 °C curing: 7 d room temperature (approx. 23 °C)	160
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +35 °C to +100 °C curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C)	55
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +120 °C to +175 °C curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx. 23 °C)	160
Shrinkage [vol. %] DELO Standard 13 curing: 7 d at room temperature (approx. 23 °C)	3
Shrinkage [vol. %] DELO Standard 13 curing: LED 400 nm, intensity: 200 mW/cm ² DELOLUXcontrol, irradiation time: 60 s after 7 d at room temperature (approx. 23 °C)	3
Water absorption [weight %] DELO Standard 16 curing: 7 d at room temperature (approx. 23 °C)	0.14
Water absorption [weight %] DELO Standard 16 curing: LED 400 nm, intensity: 200 mW/cm ² DELOLUXcontrol, irradiation time: 60 s after 7 d at room temperature (approx. 23 °C)	0.13
Decomposition temperature [°C] Curing: Combination of irradiation and room temperature curing LED 400 nm, intensity 200 mW/cm ² , DELOLUXcontrol, 60s 7 d room temperature (approx.. 23 °C)	302
Storage life at room temperature (approx. 23 °C) in unopened original container	3 months

Performance under temperature influence

Tensile strength

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: 7d room temperature (approx. 23 °C)

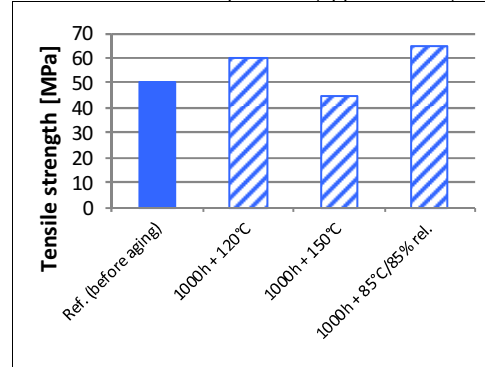
measured at room temperature (approx. 23 °C)



Tensile strength

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: LED 400nm, intensity 200mW/cm², 60s
7d room temperature (approx. 23 °C)

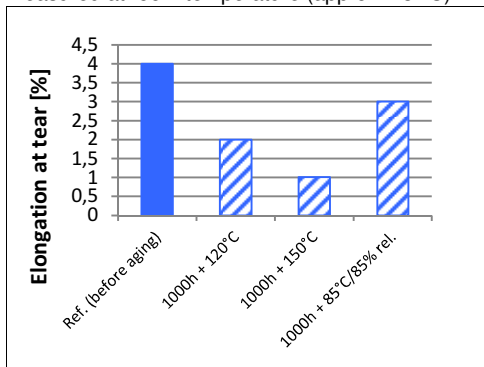
measured at room temperature (approx. 23 °C)



Elongation at tear

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: 7d room temperature (approx. 23 °C)

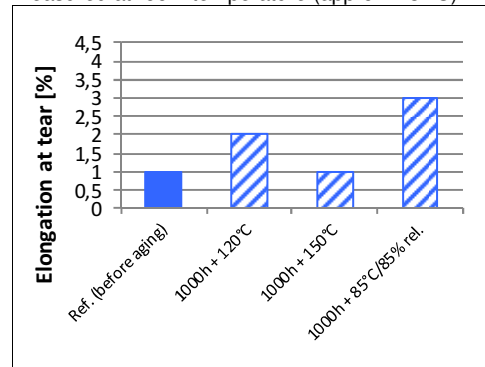
measured at room temperature (approx. 23 °C)



Elongation at tear

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: LED 400nm, intensity 200mW/cm², 60s
7d room temperature (approx. 23 °C)

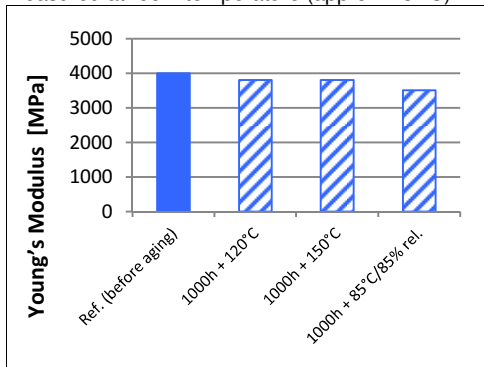
measured at room temperature (approx. 23 °C)



Young's Modulus

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: 7d room temperature (approx. 23 °C)

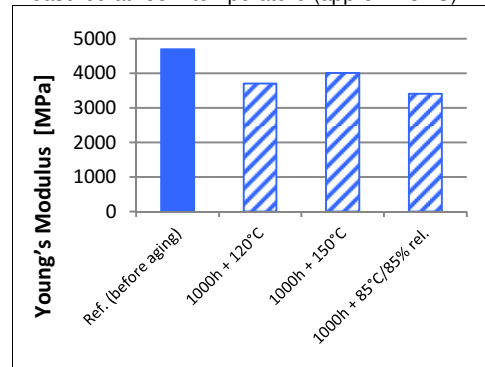
measured at room temperature (approx. 23 °C)



Young's Modulus

after 1,000 h thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 4 mm
curing: LED 400nm, intensity 200mW/cm², 60s
7d room temperature (approx. 23 °C)

measured at room temperature (approx. 23 °C)



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 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 of DELO-DUOPOX are available on: www.DELO.de. We will be pleased to send them to you on demand.

Occupational health and safety

see material safety data sheet