DELO

TECHNICAL DATASHEET

DELO-DUOPOX CR8031

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

unfilled | very good temperature resistance, suitable for DELO-AUTOMIX

Special features of product

- compliant with RoHS Directive 2015/863/EU
- Long-term annealing of components A and B up to max. +40 °C
- Remove the mixing tube immediately after finishing work. Store the cartridge vertically with the new mixing tube
- 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 - 180 °C

Curing

Curing time

until initial strength *at rt approx. +23 °C* *tensile shear strength 1 - 2 MPa*	8	h
until functional strength *at rt approx. +23 °C* *tensile shear strength > 10 MPa*	16	h
until final strength *at rt approx. +23 °C*	7	d
until functional strength *at +80 °C* *tensile shear strength > 10 MPa*	0.25	h
until final strength *at +80 °C*	1	h

Processing

Mixing ratio A : B - volume	2 : 1
Mixing ratio A : B - weight	2.37 : 1

Processing time after mixing		
in 100 g batch *at rt approx. +23 °C*	85	min
Reaction temperature (max.)		
in 100 g batch	120	°C
Storage life in unopened original container		
at +15 °C to +30 °C	6	month(s)

Technical properties

Color in cured condition in 1 mm layer thickness	black
Transparency in cured condition in 1 mm layer thickness	opaque

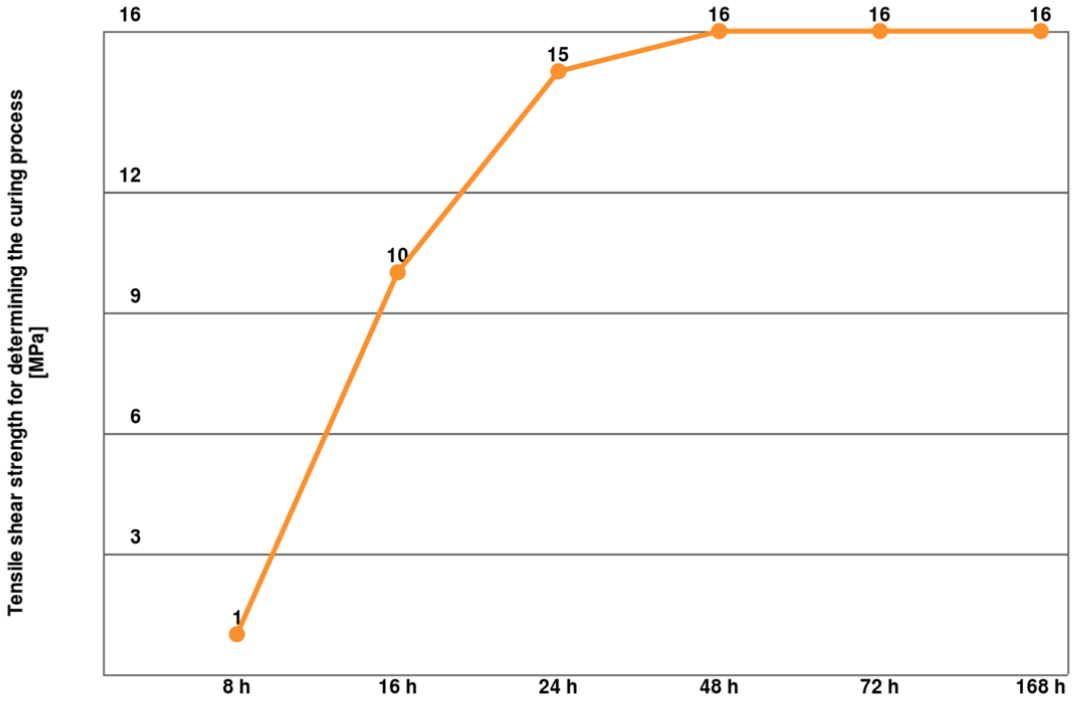
Parameters

Density of component A *DELO Standard 13 | Liquid*	1.15	g/cm³
Density of component B *DELO Standard 13 | Liquid*	0.97	g/cm³
Viscosity of component A *Liquid | Rheometer | Shear rate: 10 1/s | Gap: 37 µm*	18000	mPa·s
Viscosity of component B *Liquid | Rheometer | Shear rate: 10 1/s | Gap: 37 µm*	11000	mPa·s
Tensile shear strength *Based on DIN EN 1465 | Al | Al | Pretreatment: sand-blasted | at approx. +23 °C | 168 h*	16	MPa
Tensile shear strength *Based on DIN EN 1465 | Al | Al | Pretreatment: sand-blasted | 80 °C | 1 h*	28	MPa
Tensile strength *Based on DIN EN ISO 527 | 80 °C | 1 h*	48	MPa
Tensile strength *Based on DIN EN ISO 527 | at approx. +23 °C | 7 d*	40	MPa

Elongation at tear *Based on DIN EN ISO 527	at approx. +23 °C	7 d*	5	%
Elongation at tear *Based on DIN EN ISO 527	80 °C	1 h*	3	%
Young's modulus *Based on DIN EN ISO 527	80 °C	1 h*	2100	MPa
Young's modulus *Based on DIN EN ISO 527	at approx. +23 °C	7 d*	1700	MPa
Shore hardness D *Based on DIN EN ISO 868	at approx. +23 °C	7 d*	72	
Glass transition temperature *DELO Standard 26	TMA	at approx. +23 °C	7 d*	66	°C
Glass transition temperature *DMTA	at approx. +23 °C	7 d*	102	°C
Coefficient of linear expansion *DELO Standard 26	TMA	Evaluation T: 30 °C - 50 °C	at approx. +23 °C	7 d*	112	ppm/K
Coefficient of linear expansion *DELO Standard 26	TMA	Evaluation T: 80 °C - 160 °C	at approx. +23 °C	7 d*	200	ppm/K
Shrinkage *DELO Standard 13	at approx. +23 °C	7 d*	4	vol. %
Water absorption *Based on DIN EN ISO 62	at approx. +23 °C	7 d	Type of storage: Desiccator	Duration: 72 h*	0.23	wt. %
Decomposition temperature *DELO Standard 36*	252	°C
Relative permittivity *Based on RF-IV	1.00 MHz*	3.2	
Relative permittivity *Based on RF-IV	100.00 MHz*	3.1	
Relative permittivity *Based on RF-IV	10.00 MHz*	3.2	

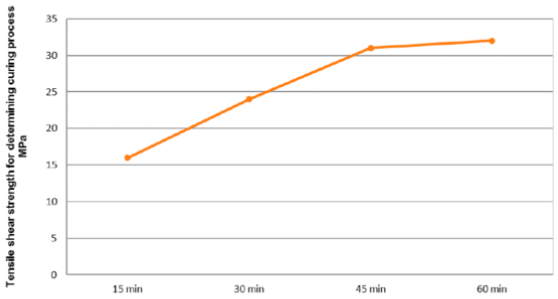
Relative permittivity *Based on RF-IV	1.00 GHz*	3.0
Creep resistance CTI M *Based on DIN IEC 60112*	600

Substrates: Al/Al, based on DIN EN 1465

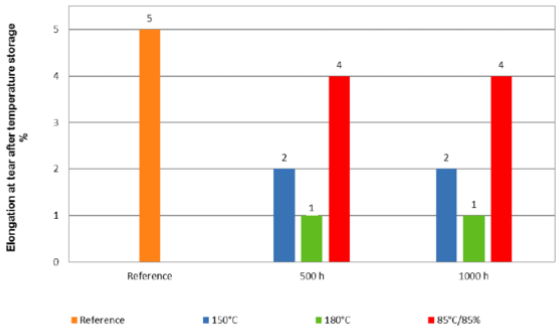


at roomtemperature (approx. 23 °C)

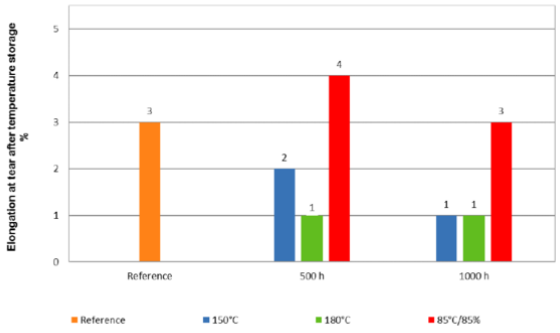
Substrates: Al/Al, based on DIN EN 1465

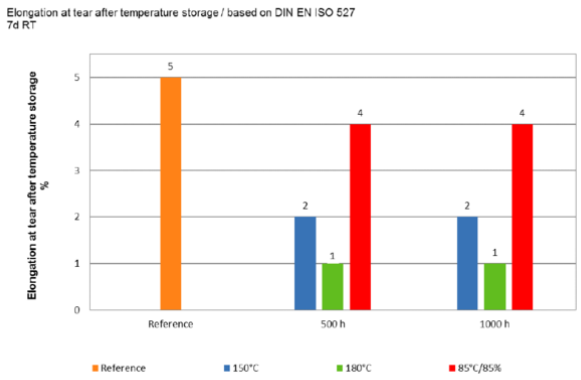


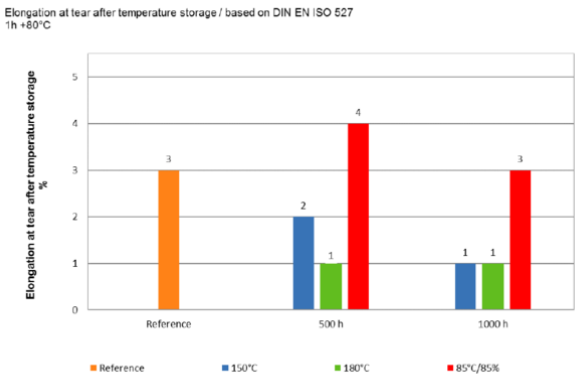
Elongation at tear after temperature storage / based on DIN EN ISO 527
7d RT

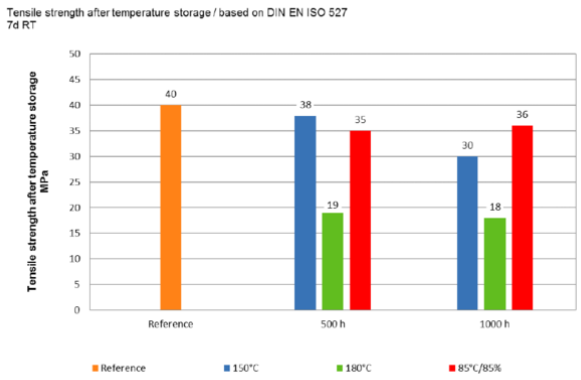


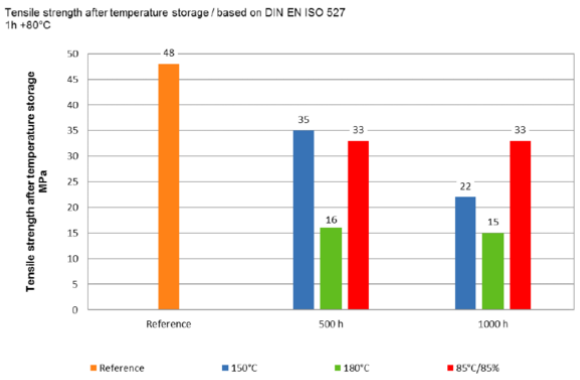
Elongation at tear after temperature storage / based on DIN EN ISO 527
1h +80°C











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.