

DELO[®]-ML DB140

modified acrylate | 1C | UV- / VIS- / anaerobic-curing

free of solvents | tension-equalizing, very good temperature resistance, dual-curing, fast fixation, high-strength

Special features of product

- compliant with RoHS Directive 2015/863/EU
- compliant with limits of VOC content in adhesive acc. to GB33372-2020
- passes ANSI/UL 94 HB Flame Test

Function

- structural adhesive
- construction adhesive

Typical area of use

- -60 - 180 °C
- glass/metal bondings
- screw locking and thread sealing
- small metal areas with high fitting accuracy

Curing

Suitable lamp types	LED 365 nm, LED 400 nm, UVA	
Intensity (maximum)	700	mW/cm ²
Typical irradiation time		
<i>intensity 200 mW/cm² LED 400 nm</i>	10	s
Curing time		
<i>until initial strength at rt approx. +23 °C anaerobic on zinc-phosphated screws</i>	1 - 3	min
<i>until final strength at rt approx. +23 °C anaerobic on zinc-phosphated screws</i>	24	h

Processing

Conditioning time (typical)

*when stored in cold conditions
in containers up to 50 ml* 30 min

*when stored in cold conditions
in containers up to 1,000 ml* 4 h

Processing time

in standard climate +23 °C / 50 % r. h. 28 d

Typical layer thickness 0.05 - 0.1 mm

Typical layer thickness with heat or activator 0.3 - 0.4 mm

Storage life in unopened original container

*up to <= 600 ml
at 0 °C to +10 °C* 6 month(s)

*up to <= 600 ml
at 0 °C to +25 °C* 3 month(s)

Technical properties

Color in uncured condition colorless

Transparency transparent

Color in cured condition in 0.1 mm layer thickness yellowish

Color in cured condition in 1 mm layer thickness yellowish

Fluorescence fluorescent

Parameters

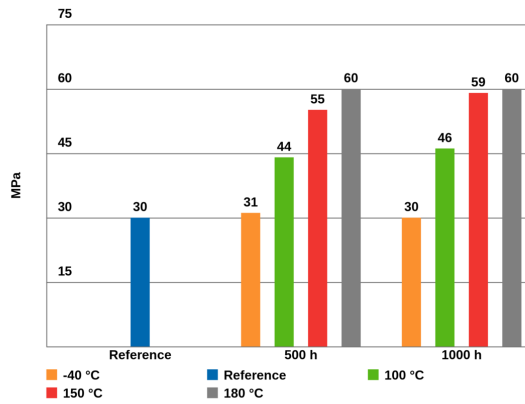
Density 1.09 g/cm³
liquid

Viscosity 900 mPa·s
liquid | Rheometer | Shear rate: 10 1/s | Gap: 200 µm

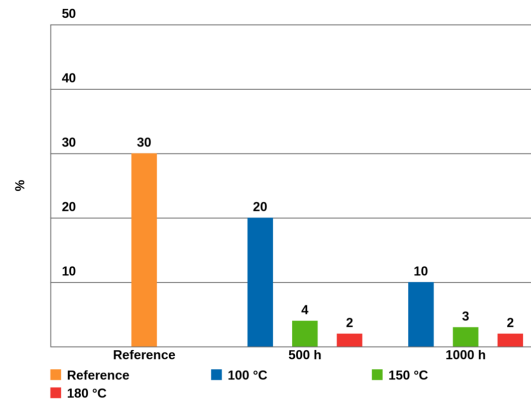
Maximum curable layer thickness 4 mm
DELO Standard 20 | White substrate | 400 nm | 200 mW/cm² | 60 s

Tensile shear strength <i>by the criteria of DIN EN 1465 Al Al at approx. +23 °C 72 h</i>	6	MPa
Tensile shear strength <i>by the criteria of DIN EN 1465 Steel Steel at approx. +23 °C 72 h</i>	13	MPa
Compression shear strength <i>DELO Standard 5 Glass Glass 400 nm 200 mW/cm² 60 s</i>	30	MPa
Compression shear strength <i>by the criteria of ISO 10123 Steel shaft Steel hub at approx. +23 °C 1 h</i>	30	MPa
Compression shear strength <i>by the criteria of ISO 10123 Steel shaft Steel hub at approx. +23 °C 72 h</i>	40	MPa
Tensile strength <i>by the criteria of DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	30	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	30	%
Young's modulus <i>by the criteria of DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	900	MPa
Shore hardness D <i>by the criteria of DIN EN ISO 868 400 nm 200 mW/cm² 90 s</i>	74	
Glass transition temperature <i>DMTA 400 nm 200 mW/cm² 60 s</i>	120	°C
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: 35 °C - 70 °C 400 nm 200 mW/cm² 60 s</i>	110	ppm/K
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: 100 °C - 160 °C 400 nm 200 mW/cm² 60 s</i>	179	ppm/K
Shrinkage <i>DELO Standard 13 400 nm 200 mW/cm² 90 s</i>	8.7	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62 Layer thickness: 4 mm 400 nm 200 mW/cm² 90 s Type of storage: Media Medium: Distilled water Storage temperature: at approx. +23 °C Duration: 24 h</i>	0.8	wt. %

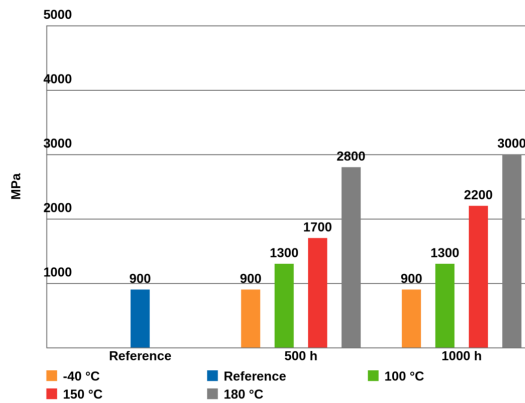
Tensile strength after temperature storage, by the criteria of DIN EN ISO 527



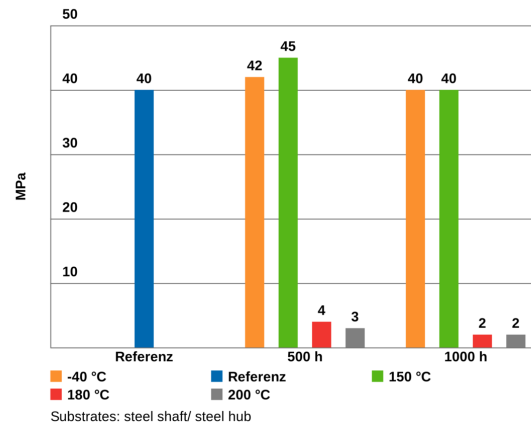
Elongation at tear after temperature storage, by the criteria of DIN EN ISO 527



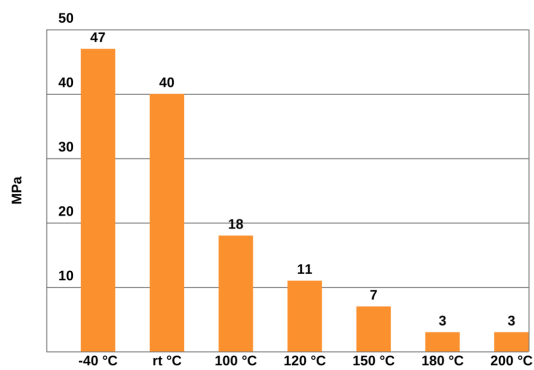
Young's modulus after temperature storage, by the criteria of DIN EN ISO 527



Compression shear strength after thermal storage, based on ISO 10123

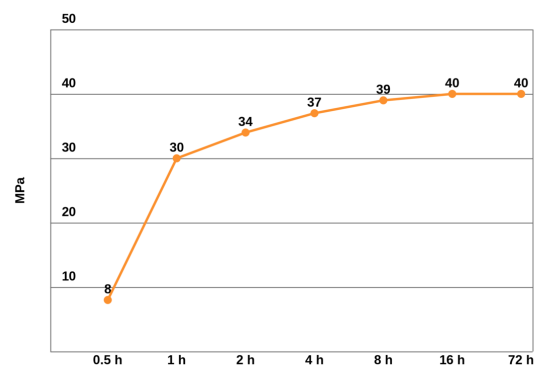


Compression shear strength measured at the stated temperatures



Substrates: steel shaft / steel hub

Compression shear strength for determining the curing process shaft-to-hub bonding substrates: steel shaft/steel hub, by the criteria of DELO standard 31



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. All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer. 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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Instructions for use

You can find further details in the 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

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