

DELO[®]-ML DB140

modified acrylate | 1C | UV- / VIS- / room-temperature-curing

free of solvents | can be fixed quickly, high-strength | dual-curing, very good temperature resistance, tension-equalizing

Special features of product

- compliant with RoHS Directive 2015/863/EU
- 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
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Typical irradiation time

<i>intensity 200 mW/cm² LED 400 nm</i>	10
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Curing time

<i>until initial strength at rt approx. +23 °C anaerobic on zinc-phosphated screws</i>	1 - 3	min
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Processing

Conditioning time (typical)

<i>when stored in cold conditions in containers up to 50 ml</i>	30	min
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<i>when stored in cold conditions in containers up to 1,000 ml</i>	4	h
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Processing time

<i>at rt approx. +23 °C</i>	30	d
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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

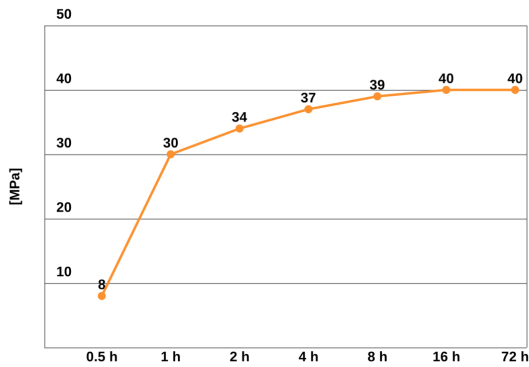
Color in uncured condition	colorless	
Transparency	transparent	
Color in cured condition in 0.1 mm layer thickness	yellowish	
Color in cured condition in 1 mm layer thickness	yellowish	
Fluorescence	fluorescent	

Parameters

Density <i>liquid</i>	1.09	g/cm ³
Viscosity <i>liquid Rheometer Shear rate: 10 1/s Gap: 200 µm</i>	900	mPa·s
Maximum curable layer thickness <i>DELO Standard 20 400 nm 200 mW/cm² 60 s</i>	4	mm
Tensile shear strength <i>Based on DIN EN 1465 Al Al at approx. +23 °C 72 h</i>	6	MPa
Tensile shear strength <i>Based on 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>Based on ISO 10123 Steel shaft Steel hub at approx. +23 °C 1 h</i>	30	MPa
Compression shear strength <i>Based on ISO 10123 Steel shaft Steel hub at approx. +23 °C 72 h</i>	40	MPa
Tensile strength <i>Based on DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	30	MPa

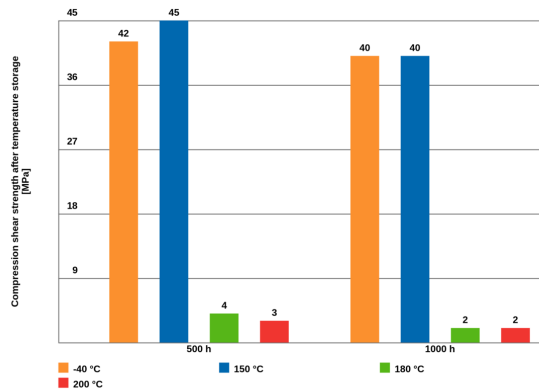
Elongation at tear <i>Based on DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	30	%
Young's modulus <i>Based on DIN EN ISO 527 400 nm 200 mW/cm² 90 s</i>	900	MPa
Shore hardness D <i>Based on DIN EN ISO 868 400 nm 200 mW/cm² 90 s</i>	74	
Glass transition temperature <i>DMTA 400 nm 200 mW/cm² 60 s</i>	120	°C
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>Based on 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. %

Compression shear strength for determining the curing process
shaft-to-hub bonding, substrates: steel hub/steel hub, based on ISO 10123



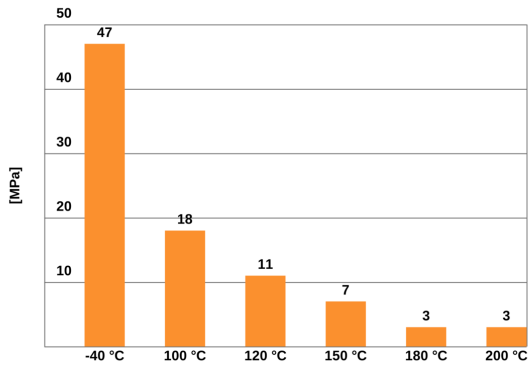
at roomtemperature (approx. 23 °C)

Compression shear strength after temperature storage / based on ISO 10123



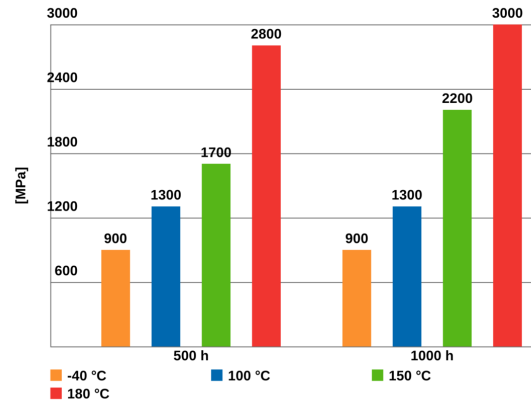
Substrates: Stahl Welle/ Stahl Nabe

Compression shear strength measured at stated temperatures

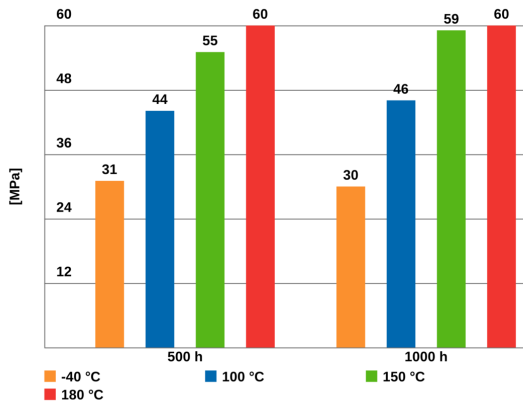


Substrates: steel shaft / steel hub

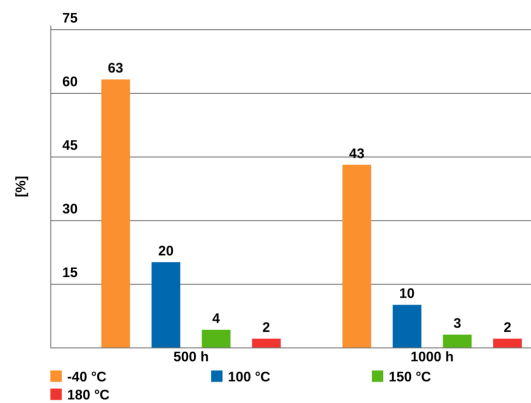
Young's Modulus after temperature storage
Curing 400 nm 200 mW/cm² 90 s // DIN EN ISO 527



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



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



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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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.

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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CONTACT

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ADHESIVES

DISPENSING

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