

DELO[®] PHOTOBOND[®] 4494

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

free of solvents | thixotropic, unfilled

Special features of product

- compliant with RoHS Directive 2015/863/EU

Typical area of use

- 40 - 120 °C

Curing

Suitable lamp types LED 365 nm, LED 400 nm

Typical irradiation time

intensity 200 mW/cm² 3 s
LED 400 nm

Processing

Processing time

tumble before processing for 3 h | 1 – 2 1/min | conditioned containers 28 d
in containers up to 1,000 ml

Storage life in unopened original container

at +18 °C to +25 °C 9 month(s)

Technical properties

Color in uncured condition colorless

Color in cured condition in 0.1 mm layer thickness colorless

Color in cured condition in 1 mm layer thickness colorless

Parameters

Density 1.0 g/cm³
liquid

Viscosity 20000 mPa·s
by the criteria of DIN 53019 | liquid | Rheometer | Shear rate: 2 1/s | Gap: 500 µm

Compression shear strength <i>DELO Standard 5 Glass AI 60 mW/cm² 60 s</i>	25	MPa
Compression shear strength <i>DELO Standard 5 Glass Glass 60 mW/cm² 60 s</i>	28	MPa
Compression shear strength <i>DELO Standard 5 PC AI 60 mW/cm² 60 s</i>	5	MPa
Compression shear strength <i>DELO Standard 5 PC Glass 60 mW/cm² 60 s</i>	17	MPa
Compression shear strength <i>DELO Standard 5 PC PC 60 mW/cm² 60 s</i>	18	MPa
Compression shear strength <i>DELO Standard 5 PMMA Glass 60 mW/cm² 60 s</i>	4	MPa
Compression shear strength <i>DELO Standard 5 PMMA PMMA 60 mW/cm² 60 s</i>	10	MPa
Tensile strength <i>by the criteria of DIN EN ISO 527 60 mW/cm² 90 s</i>	20	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527 60 mW/cm² 90 s</i>	160	%
Young's modulus <i>by the criteria of DIN EN ISO 527 60 mW/cm² 90 s</i>	400	MPa
Shore hardness D <i>by the criteria of DIN EN ISO 868 60 mW/cm² 90 s</i>	62	
Glass transition temperature <i>DELO Standard 24 Rheometer</i>	100	°C
Coefficient of linear expansion <i>TMA Evaluation T: 25 °C - 140 °C</i>	211	ppm/K
Shrinkage <i>DELO Standard 13</i>	9	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62 60 mW/cm² 90 s Type of storage: Media Medium: Distilled water Storage temperature: at approx. +23 °C</i>	1.3	wt. %
Index of refraction <i>Refractometer liquid</i>	1.503	

Decomposition temperature 182 °C
DELO Standard 36

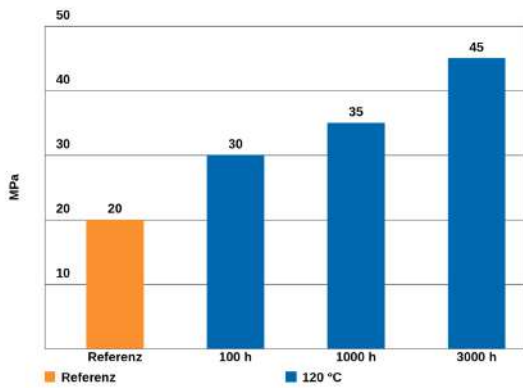
Relative permittivity 3.0
by the criteria of RF-IV | 1 GHz

Relative permittivity 3.4
by the criteria of RF-IV | 1 MHz

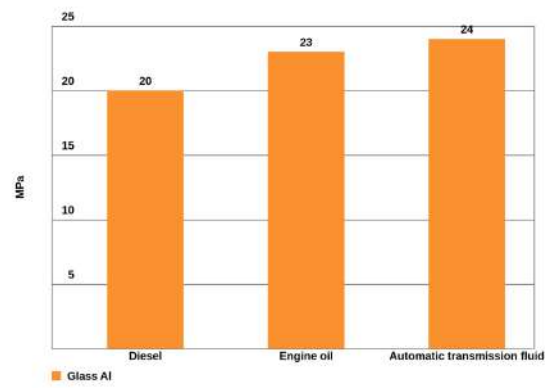
Relative permittivity 3.4
by the criteria of RF-IV | 10 MHz

Relative permittivity 3.4
by the criteria of RF-IV | 100 MHz

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

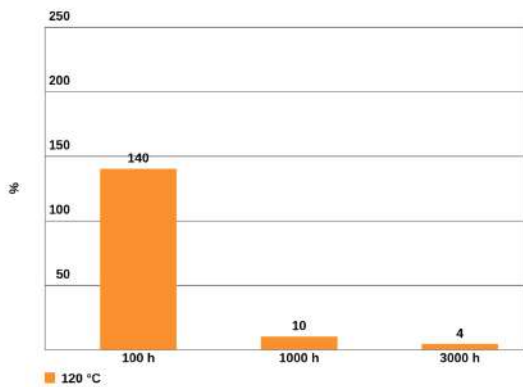


Compression shear strength after media storage for 1000 h

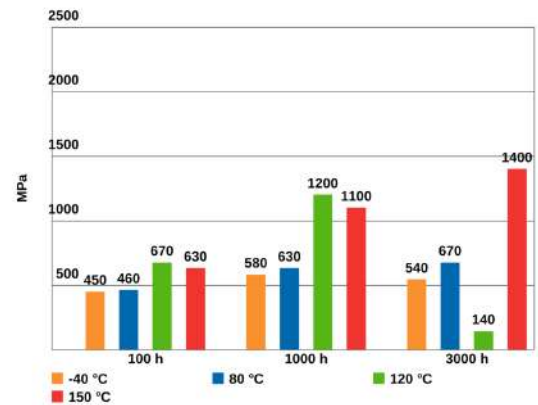


DELO Standard 5

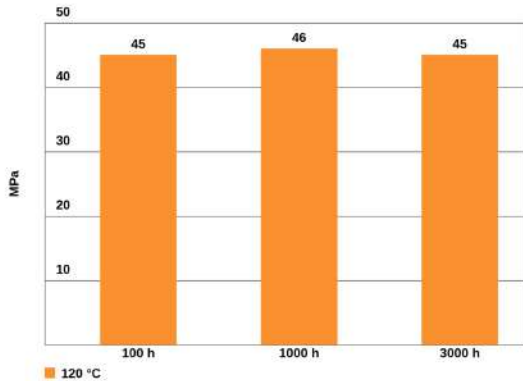
Elongation at tear after temperature storage, by the criteria of DIN EN ISO 527



Young's modulus after thermal storage
 Curing 60 mW/cm² /



Compression shear strength after temperature storage
Substrates: glass/ glass, by the criteria of DELO Standard 5



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 adhesive can be tumbled during conditioning if necessary, depending on the chemical basis and container size. After tumbling, a waiting time of 1 – 2 h must be maintained to enable air bubbles to escape. Alternatively, a pressure tank with integrated stirring element can be used to keep the material continuously homogeneous.

The viscosity may decrease during tumbling. Cartridges are excluded from tumbling.

Further information can be found in the instructions for use. 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. Increasing or decreasing the curing temperature and / or irradiation intensity and / or irradiation time shortens or prolongs the curing time and can lead to changed physical properties. 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

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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

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