DELO

TECHNICAL DATASHEET

DELO PHOTOBOND 4494

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

free of solvents | thixotropic

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, UVA	
Recommended irradiation time		
intensity 55 - 60 mW/cm² UVA	7	s
intensity 200 mW/cm² LED 400 nm	3	s

Processing

Adhesive application	needle-dispensable	
Processing time		
tumble before processing for 3 h | 1 – 2 1/min | conditioned containers in containers up to 1,000 ml	3	h
Storage life in unopened original container		
at +18 °C to +25 °C	9	month(s)

Technical properties

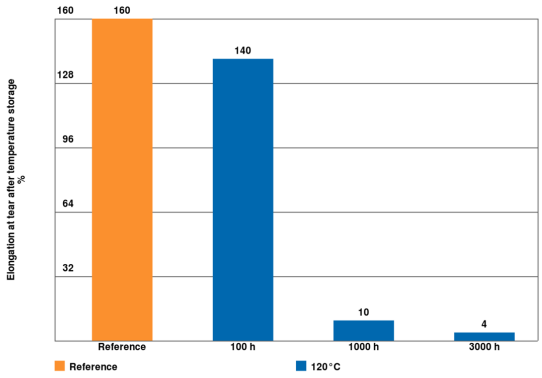
Color in uncured condition	colorless
Color in cured condition in 0.1 mm layer thickness	colorless
Color in cured condition in 1 mm layer thickness	colorless

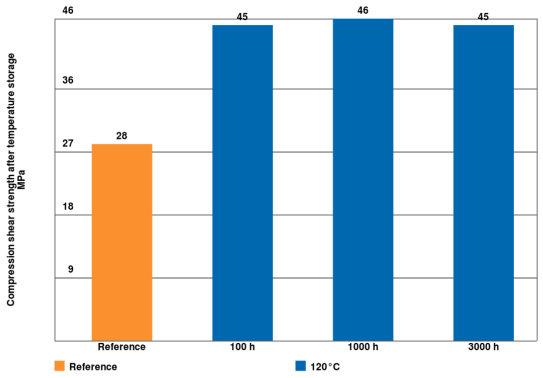
Parameters

Density *Liquid*	1.0	g/cm³
Viscosity *Based on DIN EN 12092 | Liquid | Viscosimeter*	20000	mPa·s
Compression shear strength *DELO Standard 5 | Glass | Glass | 60 mW/cm² | 60 s*	28	MPa
Compression shear strength *DELO Standard 5 | PC | Al | 60 mW/cm² | 60 s*	5	MPa
Compression shear strength *DELO Standard 5 | PC | Glass | 60 mW/cm² | 60 s*	17	MPa
Compression shear strength *DELO Standard 5 | PC | PC | 60 mW/cm² | 60 s*	18	MPa
Compression shear strength *DELO Standard 5 | PMMA | Glass | 60 mW/cm² | 60 s*	4	MPa
Compression shear strength *DELO Standard 5 | PMMA | PMMA | 60 mW/cm² | 60 s*	10	MPa
Compression shear strength *DELO Standard 5 | Glass | Al | 60 mW/cm² | 60 s*	25	MPa
Tensile strength *Based on DIN EN ISO 527 | 60 mW/cm² | 90 s*	20	MPa
Elongation at tear *Based on DIN EN ISO 527 | 60 mW/cm² | 90 s*	160	%
Young's modulus *Based on DIN EN ISO 527 | 60 mW/cm² | 90 s*	400	MPa
Shore hardness D *Based on DIN EN ISO 868 | 60 mW/cm² | 90 s*	62	
Glass transition temperature *DELO Standard 24 | Rheometer*	100	°C
Coefficient of linear expansion *TMA | Evaluation T: 25 °C - 140 °C*	211	ppm/K

Shrinkage *DELO Standard 13*	9	vol. %
Water absorption *Based on DIN EN ISO 62 | 60 mW/cm² | 90 s | Type of storage: Media | Medium: Distilled water | Temp.: at approx. +23 °C*	1.3	wt. %
Index of refraction *Liquid | Refractometer*	1.503	
Decomposition temperature *DELO Standard 36*	182	°C
Relative permittivity *Based on RF-IV | 1.00 GHz*	3.0	
Relative permittivity *Based on RF-IV | 100.00 MHz*	3.4	
Relative permittivity *Based on RF-IV | 10.00 MHz*	3.4	
Relative permittivity *Based on RF-IV | 1.00 MHz*	3.4	

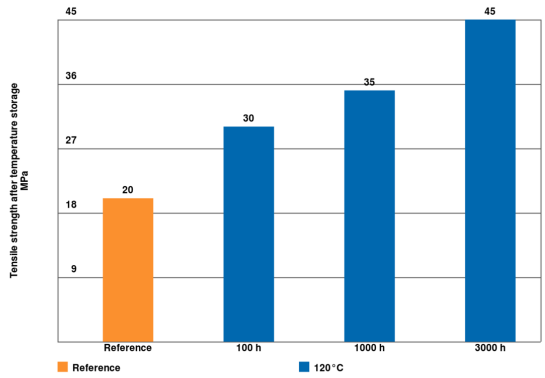
Elongation at tear after temperature storage / based on DIN EN ISO 527



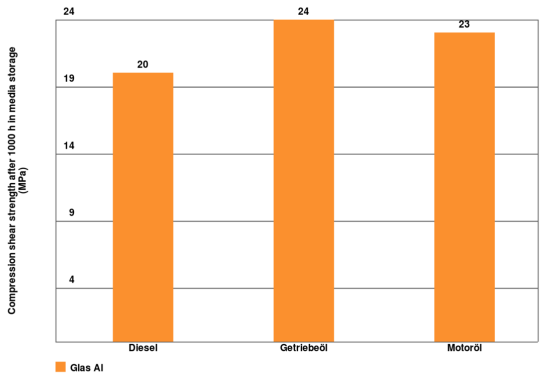


Substrates: Glas / Glas

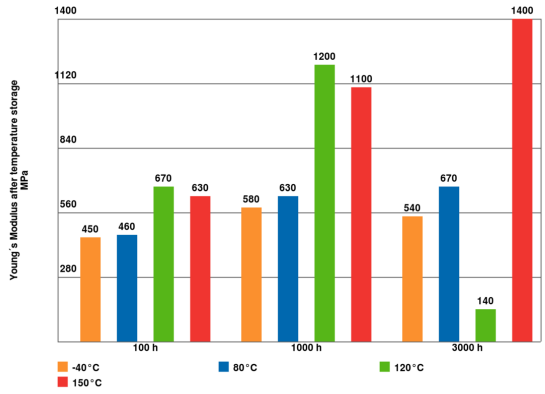
Tensile strength after temperature storage / based on DIN EN ISO 527



Media resistance after 1000 h



Young´s Modulus 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 adhesive can be tumbled during conditioning if necessary, depending on the chemical basis and container size. Alternatively, a pressure tank with integrated stirring element can be used to keep the material continuously homogeneous.
The viscosity may decrease during tumbling.
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 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.