

DELO-PHOTOBOND® 4497

UV- and light curing acrylate adhesive, high viscosity

Base

- modified urethane acrylate
- one-component, solvent-free

Use

- suitable for applications requiring a flexible adhesive with a dry surface, e. g., for electronic components
- high-viscous for the equalization of component tolerances and bridging of gaps, e. g., when sealing plastic housings
- the product is normally used in a temperature range of -40 °C to +120 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2002/95/EC
- halogen-free according to IEC 61249-2-21

Processing

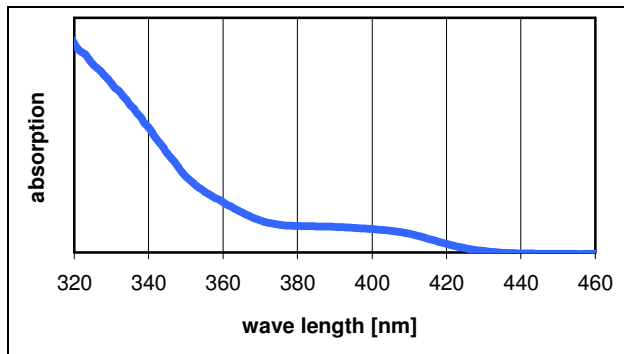
- homogenize during conditioning by tumbling at 1 - 2 rpm before use
- the maximal processing time in the system is 72 h; then, tumbling must be repeated; tumbling time at room temperature (max. 25 °C): 3 h at 1 - 2 rpm
- the adhesive is supplied ready for use; in case of cool or refrigerated storage, it must be ensured that the container is conditioned to room temperature before use
- the adhesive can be applied by dispensing
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- dispensing valves and product-bearing elements must be carefully cleaned before use, residues of other products must totally be completely removed; DELOTHEN EP as well as acetone, isopropanol or a mixture of both are recommended to remove DELO-PHOTOBOND residues
- for further information please refer to our instructions for use DELO-PHOTOBOND and the brochure "Radiation Curing"

Curing

- with UV light or visible light in a wavelength range of 320 - 450 nm

Absorption spectrum

photoinitiation system in acrylate matrix



Curing parameters

- dependent on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer

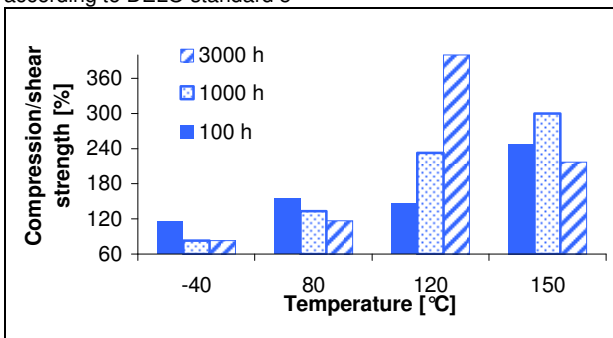
Technical data

Color cured in a layer thickness of approx. 0.1 mm	milky
Density [g/cm³] at room temperature (approx. 23 °C)	1.1
Viscosity [mPas] at 23 °C, Brookfield rpm 7/5	30000
Minimal curing time [s] DELO Standard 23, UVA intensity: 60 mW/cm ² , DELOLUXcontrol	15
Surface	dry
Compression shear strength glass/glass [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	19
Compression shear strength glass/Al [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	19
Compression shear strength glass/PC [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	10
Compression shear strength glass/PMMA [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	3
Compression shear strength PC/Al [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	4
Compression shear strength PC/PC [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	12
Compression shear strength PMMA/PMMA [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, irradiation time: 60 s	7
Tensile strength [MPa] DIN EN ISO 527	11

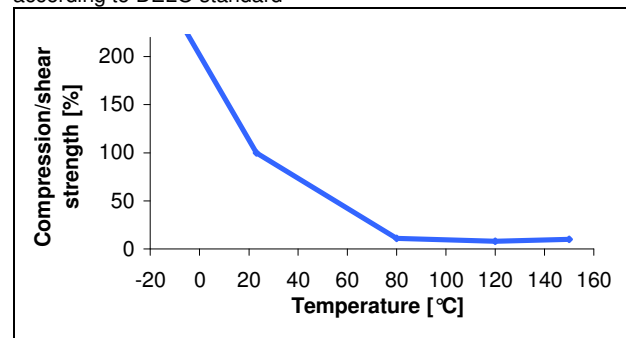
Elongation at tear [%] DIN EN ISO 527	200
Young's modulus [MPa] DIN EN ISO 527	84
Shore hardness A according to DIN EN ISO 868	90
Shore hardness D according to DIN EN ISO 868	40
Glass transition temperature [°C] rheometer	52
Coefficient of linear expansion [ppm/K] in a temperature range of +25 to +140 °C	208
Shrinkage [vol. %] DELO Standard 13	9
Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.9
Index of refraction	1.498
Creep resistance CTI VDE 0303, part 1, IEC 112	600 M
Storage life at room temperature (max. 25 °C) in unopened original container	6 months

Performance under temperature influence

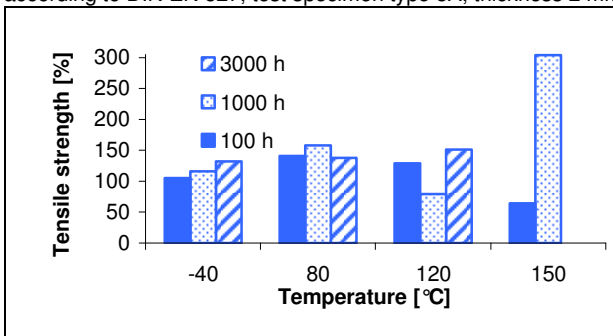
compression/shear strength glass/glass after temperature storage based on initial valve at room temperature measured at room temperature (approx. 23 °C) according to DELO standard 5



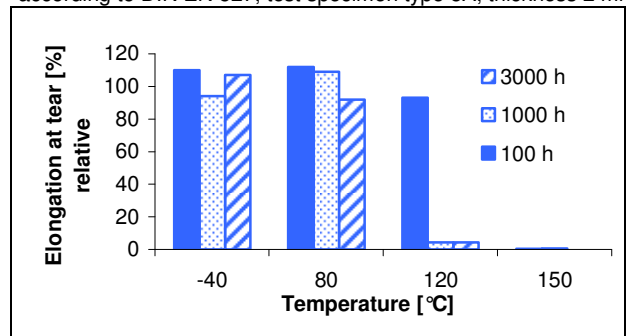
compression/shear strength glass/glass at temperature based on initial valve at room temperature measured at determined temperature according to DELO standard



tensile strength after temperature storage based on absolute initial valve at room temperature measured at room temperature (approx. 23 °C) according to DIN EN 527, test specimen type 5A, thickness 2 mm



elongation at tear after temperature storage based on initial valve at room temperature measured at room temperature (approx. 23 °C) according to DIN EN 527, test specimen type 5A, thickness 2 mm



Performance under chemical influence

Chemical medium	Compression/shear strength glass/Al [%]
ATF gear oil	118
Diesel fuel	85
engine oil 10W40	112

Instructions and advice

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.

Many product properties are subject to temperature and may change permanently, especially at high temperatures.

It is the user's responsibility to test the suitability of the product for the intended purpose and temperature range of use by considering all specific requirements. Type and 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.

Instructions for use

The instructions for use of DELO-PHOTOBOND are available on: www.DELO.de. We will be pleased to send them to you on demand.

Occupational health and safety

see material safety data sheet

Specification

see quality assurance test report