

### **DELO-PHOTOBOND® FB4175**

UV- and light curing acrylate adhesive, high viscosity

#### **Base**

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

#### **Use**

- particularly suitable for bonding of fasteners (onsets)
- good adhesion to plastics (e. g. polyamide), carbon-fiber-reinforced plastics (CFRP) and metal
- good peel resistance
- the cured 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 2015/863/EU
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#### **Processing**

- the adhesive is supplied ready for use; in case of cool storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (+18 °C to +25 °C); the conditioning time is approx. 0.5 h for containers up to 50 ml and approx. 4 h for containers up to 1,000 ml; additional heat addition is not allowed
- 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 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 "Light Curing"

#### **Curing**

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

Lamp type	DELOLUX 20 / 50 / 80		
Wavelength [nm]	365	400	460
Suitability	+	++	-

- not suitable + suitable ++ especially suitable

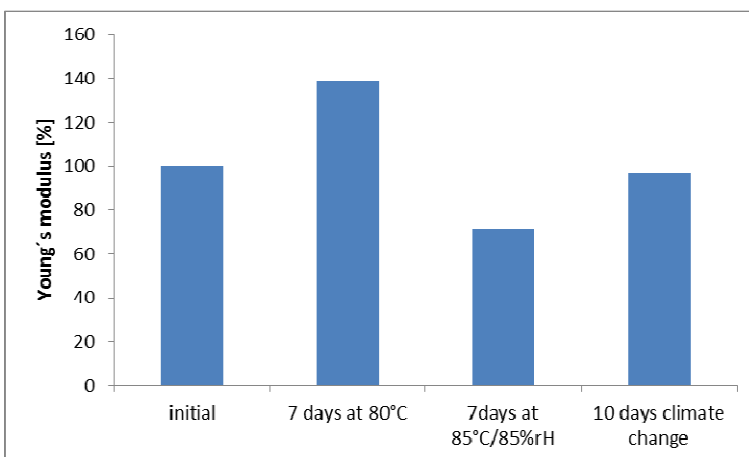
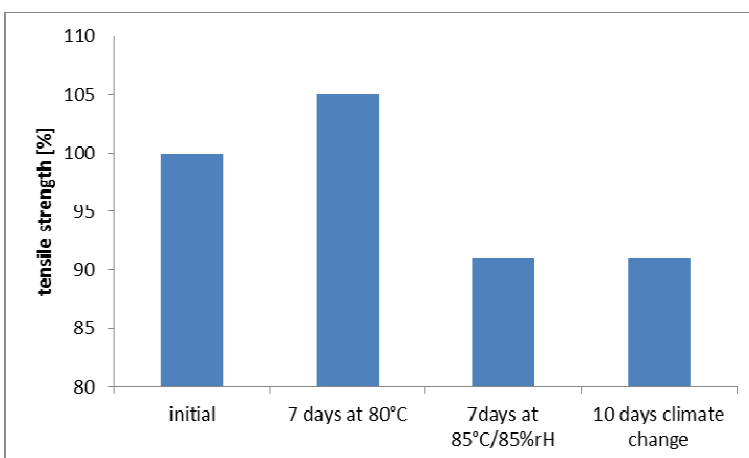
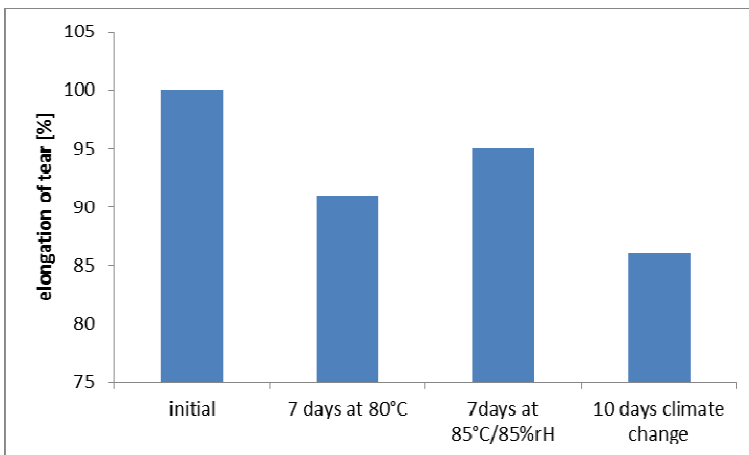
#### **Curing parameters**

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

## **Technical data**

<b>Color</b> cured in a layer thickness of approx. 0.1 mm	yellowish
<b>Density [g/cm<sup>3</sup>]</b> at room temperature (approx. 23 °C)	1.12
<b>Viscosity [mPas]</b> at 23 °C, Brookfield spindle/rpm 7/5	210000
<b>Minimal curing time [s]</b> DELO Standard 23, UVA intensity: 60 mW/cm <sup>2</sup> , DELOLUXcontrol	8
<b>Minimal curing time [s]</b> DELO Standard 23, LED intensity: 200 mW/cm <sup>2</sup> , DELOLUXcontrol	6
<b>Compression shear strength glass/glass [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	27
<b>Compression shear strength glass/Al [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	20
<b>Compression shear strength glass/PA [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	20
<b>Compression shear strength PC/PC [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	16
<b>Compression shear strength glass/FR4 [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	22
<b>Compression shear strength PMMA/PMMA [MPa]</b> DELO Standard 5 LED intensity: 400nm, 200 mW/cm <sup>2</sup> , DELOLUXcontrol, irradiation time: 10 s	14
<b>Young's modulus [MPa]</b> DIN EN ISO 527 LED intensity 400nm, 150 mW/cm <sup>2</sup> , DELOLUXcontrol	150
<b>Tensile strength [MPa]</b> DIN EN ISO 527 LED intensity 400nm, 150 mW/cm <sup>2</sup> , DELOLUXcontrol	22
<b>Elongation at tear [%]</b> DIN EN ISO 527 LED intensity 400nm, 150 mW/cm <sup>2</sup> , DELOLUXcontrol	220

**Material properties**  
after aging



**Shore hardness D**  
DIN 53505

51

**Glass transition temperature [°C]**  
DELO Standard 24, rheometer  
LED intensity: 400nm, 200 mW/cm<sup>2</sup>, DELOLUCcontrol

67

**Volume shrinkage [vol. %]**  
DELO Standard 13

6.7

**Water absorption [weight %]**  
DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)

1.1

## Storage life

at room temperature (0 °C to +25 °C) in unopened original container

6 months

## **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. It is the customer's responsibility to test the suitability of the product for the intended purpose 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. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for the intended purpose.

Nothing contained herein shall be construed to indicate the non-existence of any relevant patents or to constitute a permission, encouragement or recommendation to practice any development covered by any patents, without permission of the owner of this patent.

All products provided by DELO are subject to DELOs' General Terms of Business. Verbal side agreements are not permitted. This document is subject to change.

### Instructions for use

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

### Occupational health and safety

see material safety data sheet

### Specification

The properties in italics are part of the specification. Ranges with clear limits are defined for them and others, where applicable. In the course of the QA test, each batch is tested for these properties and the maintenance of the limits is ensured. The measuring methods used can deviate from those specified in the data sheet. Details can be found in the QA test report.