

## DELO®-ML DB166

Anaerobic- and light curing adhesive, high-strength

### Base

- Modified urethane acrylate
- one-component, solvent-free
- dual-curing adhesive

### Use

- fixing: coaxial components, e. g., bearings or sockets
- adhesive leaking from the bonding gap can be cured in seconds with visible light
- therefore, firmness to touch can be reached faster
- DELO curing lamps generating radiation adjusted to the adhesives are available to initiate this reaction
- easy application control due to fluorescent color
- the cured product is normally used in a temperature range of -60 °C to +180 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU

### Processing

- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- DELOTHEN cleaners are recommended for the optimal preparation of bonding areas
- thread connections must be tightened well
- the adhesive is good to dispense from original containers or by means of dispensing systems suitable for anaerobic-curing adhesives

### Curing

- anaerobic, i.e., by exclusion of air and under metal influence at room temperature with small gap
- the curing may be assisted by application of heat, use of activator and/or light, e.g. if the curing speed is too slow or if it comes to larger gaps
- the build-up of strength depends on the components and the geometry joined. The initial strength is achieved after just a few minutes. Significant acceleration is possible by using an activator and/or applying heat
- curing with UV light in a wavelength range of 320 – 450 nm. DELOLUX LED curing lamps are especially suitable as per the chart below. All standard DELOLUX HID discharge lamps are also suitable
- both curing mechanisms can be used in combination or separately

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

- not suitable + suitable ++ especially suitable

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## Properties

- light-curing and anaerobic-curing
- visible adhesive in boundary areas can be cured with visible light
- high strength, difficult to remove

## Technical data

**Color**  
uncured

colorless transparent,  
fluorescent

**Color**

cured in a layer thickness of approx. 0.1 mm

preferred clearance [mm]

0,05-0,1

clearance with heat or activator [mm]

up to 0,3-0,4

clearance with light curing [mm]

4

**Density**

measured with helium pycnometer  
at room temperature (approx. 23 °C)

**Viscosity [mPas]**

at 23 °C, rheometer, shear rate 2 1/s

8000

**Viscosity [mPas]**

at 23 °C, rheometer, shear rate 10 1/s

5300

**Curing time until initial strength [min]**

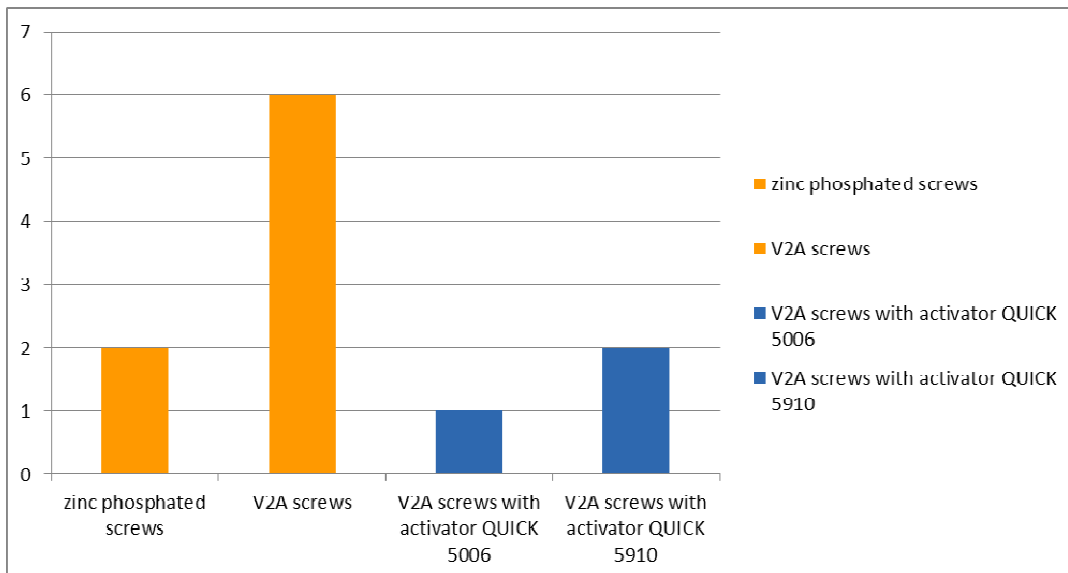
1.5

Curing time until initial strength

With and without the accelerator

DELO-QUICK

measured at room temperature (approx. 23 °C)



**Tensile shear strength St/St [MPa]**

according to DIN EN 1465,

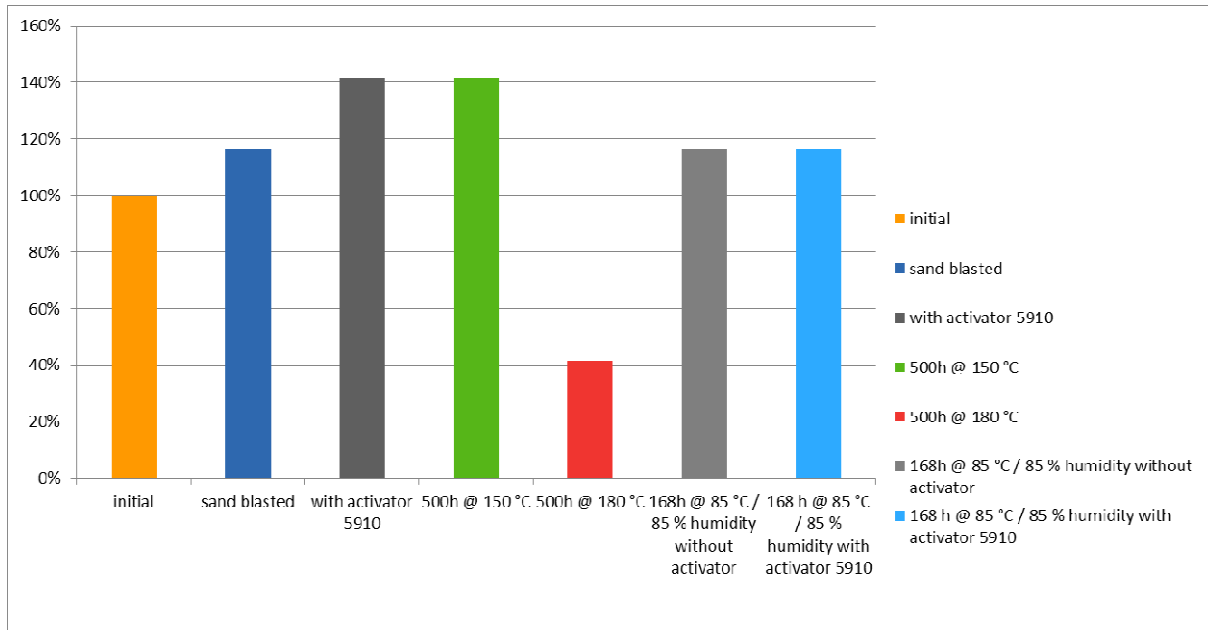
component thickness 1.6 mm, gap 0.1 mm

curing: 72 h at room temperature (approx. 23 °C)

12

## Tensile shear strength St/St

tensile shear strength after various storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)



### Tensile shear strength Al/Al [MPa]

according to DIN EN 1465,  
sand blasted  
component thickness 1.6 mm, gap 0.1 mm  
curing: 72 h at room temperature (approx. 23 °C)

10

### Tensile shear strength Al/Al [MPa]

according to DIN EN 1465,  
with activator DELO-QUICK 5910  
component thickness 1.6 mm, gap 0.1 mm  
curing: 72 h at room temperature (approx. 23 °C)

12

### Compression shear strength glass/glass [MPa]

DELO Standard 5  
LED 400 nm, intensity: 200 mW/cm<sup>2</sup> DELOLUXcontrol, irradiation time: 60 s

20

### Compression shear strength steel/PA [MPa]

DELO Standard 5  
LED 400 nm, intensity: 200 mW/cm<sup>2</sup> DELOLUXcontrol, irradiation time: 60 s

8

### Compression shear strength steel/PA [MPa]

DELO Standard 5  
with activator DELO-QUICK 5910 one sided on PA

7

### Compression shear strength [MPa]

according to ISO 10123

30

### Compression shear strength [MPa]

according to ISO 10123  
after storage for 500 h at 150 °C, measured at room temperature (approx. 23 °C)

27

### Tensile strength [MPa]

according to DIN EN ISO 527

33

### Elongation at tear [%]

according to DIN EN ISO 527

47

Young's modulus [MPa]  
according to DIN EN ISO 527

1100

Shore hardness D  
according to DIN EN ISO 868

70

Volume shrinkage [%]  
DELO Standard 13

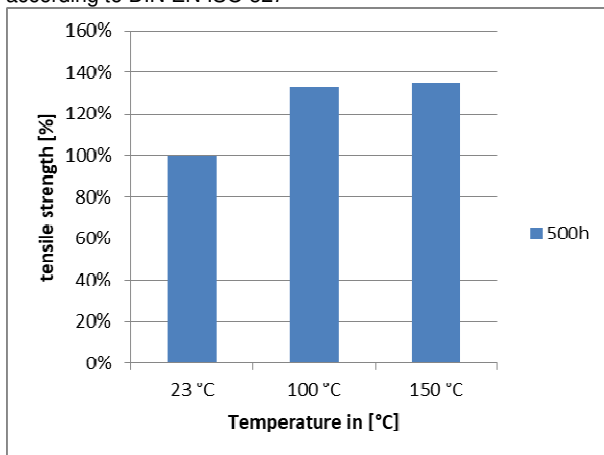
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Water absorption [%]  
according to DIN EN ISO 62

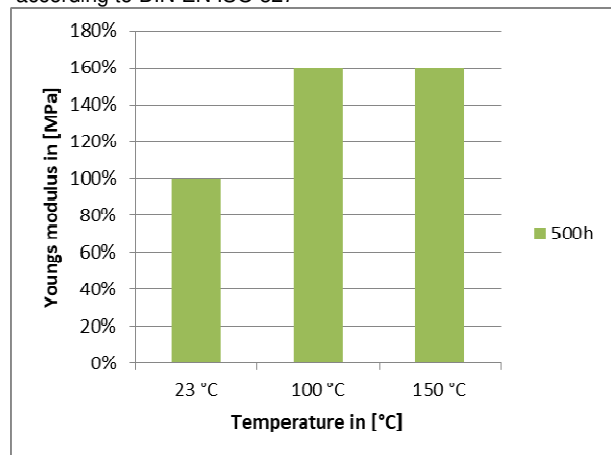
1

### Performance under temperature and media influence

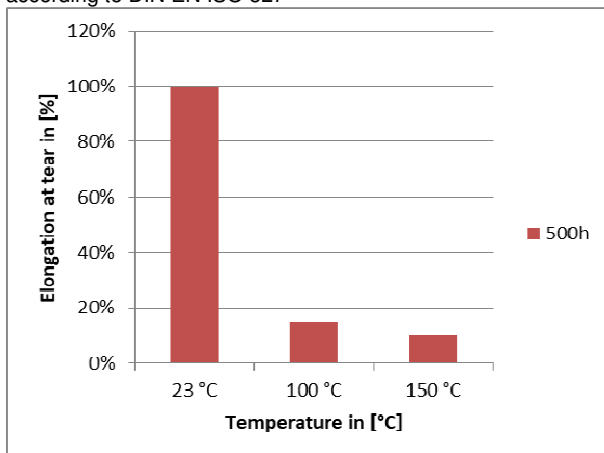
tensile strength after temperature storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to DIN EN ISO 527



Young's modulus after temperature storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to DIN EN ISO 527



elongation at tear after temperature storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to DIN EN ISO 527



Storage life

3 months

in unopened original container up to 600 ml at room temperature (approx. 23 °C)

## **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 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.

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 DELO's General Terms of Business. Verbal ancillary agreements are deemed not to exist.

### **Instructions for use**

The instructions for use of DELO-ML 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.