

## Technical Information

### **DELO-ML® UB160**

Anaerobic adhesive, high strength

#### **Base**

- urethane methacrylic ester
- one-component, solvent-free

#### **Use**

- fixing: coaxial components, e. g., bearings or sockets
- securing and sealing: thread connections
- the cured product is normally used in a temperature range of -60 °C to +200 °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 or use of activator, 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

#### **Properties**

- thixotropic, high viscous setting
- when trying to unscrew prestressed thread connections, the screw can break
- reduced curing times with activator DELO-QUICK
- excellent curing even on highly passivated surfaces by activating the surfaces with DELO-QUICK
- specific high strength, difficult to remove

#### **Technical data**

<i>Color</i>	green
preferred clearance [mm]	0,05-0,1
clearance with heat or activator [mm]	up to 0,3-0,4

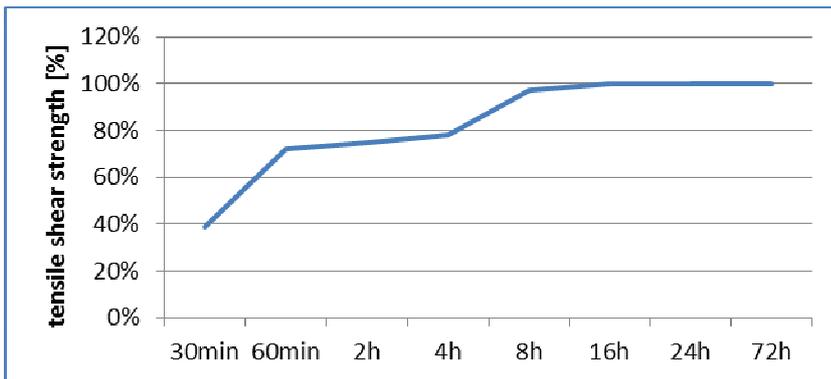
Density [g/cm<sup>3</sup>]  
at room temperature (approx. 23 °C) 1.1

Viscosity [mPas]  
at 23 °C, Brookfield spindle/rpm 4/5 10000

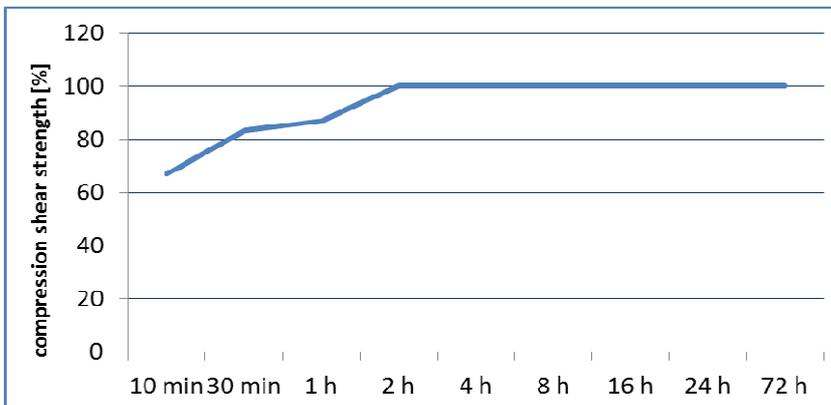
Curing time until initial strength [min] 2 - 4  
at room temperature (approx. 23 °C), anaerobic on zinc-phosphated screws

### curing progress

compression shear strength shaft-hub joint  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to ISO 10123



compression shear strength shaft-hub joint with activator DELO-QUICK 5006  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to ISO 10123



Off-torque without tightening torque [Nm] 40

Off-torque after pre-torqued to 46 Nm [Nm] 70  
ISO 10964, screw M10/8.8

Compression shear strength [MPa] 40  
according to ISO 10123

Compression shear strength after 1 h [MPa] 30  
according to ISO 10123

Tensile shear strength Al/Al [MPa] 8  
DIN EN 1465, sand- blasted

Tensile shear strength St/St [MPa]

14

DIN EN 1465, sand-blasted

Glass transition temperature [°C]

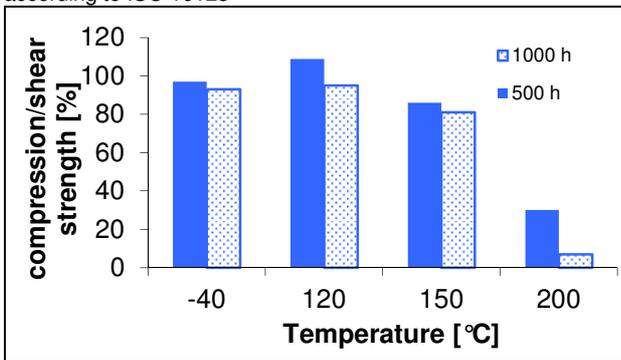
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DELO Standard 45

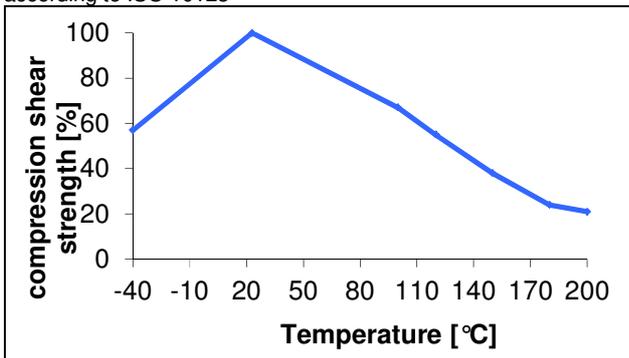
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### Performance under temperature influence

compression/shear strength shaft -hub joint  
after temperature storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to ISO 10123



compression/shear strength shaft-hub joint at temperature  
based on initial value at room temperature  
measured at determined temperature  
according to ISO 10123



### Performance under chemical influence

compression shear strength after storage for 1,000 h  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to ISO 10123

Chemical medium	Compression/shear strength shaft-hub joint [%]
ATF gear oil	107
Diesel fuel	98
engine oil	100
fuel	98

### Processing time

after opening the original container

4 weeks

## Storage life

In unopened original container up to 600 ml at room temperature (0-25 °C)

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-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.