

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

Color

green

preferred clearance [mm]

0,05-0,1

clearance with heat or activator [mm]

up to 0,3-0,4

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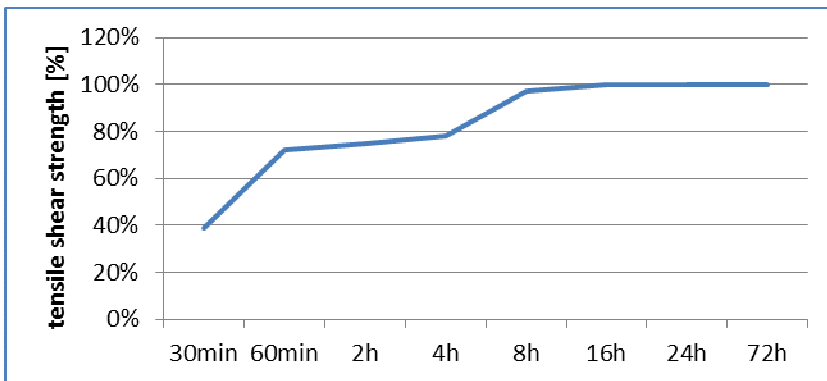
Density [g/cm³]
at room temperature (approx. 23 °C) 1.1

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

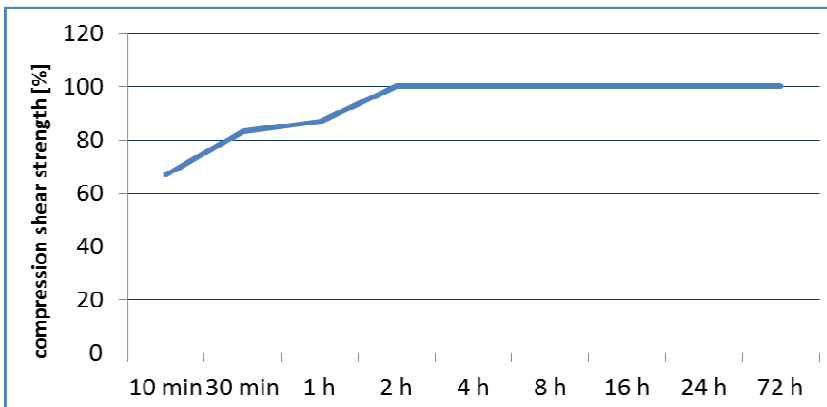
Curing time until initial strength [min] 2 - 4
at room temperature (approx. 23 °C), anaerobic on zinc-phosphated screws

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]

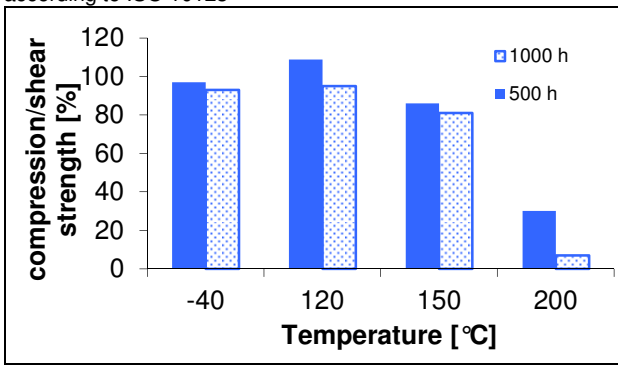
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DELO Standard 45

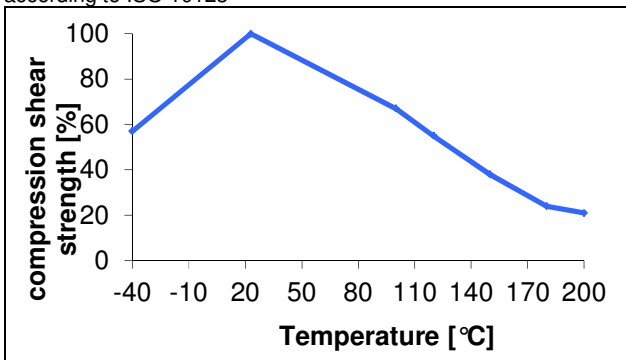
DMA

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 at room temperature (max. 25 °C)
in unopened original container up to 600 ml

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 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. 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.