

DELO[®]-ML 5249

Anaerobic adhesive, removable



Use

- securing of screws: all threads
- sealing: thread connections
- standard product for the sealing of metal thread connections with DIN-EN-DVGW authorization; DIN-EN-DVGW registration no. NG-5146BL0234
- the cured product is normally used in a temperature range of -60 °C to +150 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU

Base

- methacrylic ester
- one-component, solvent-free

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

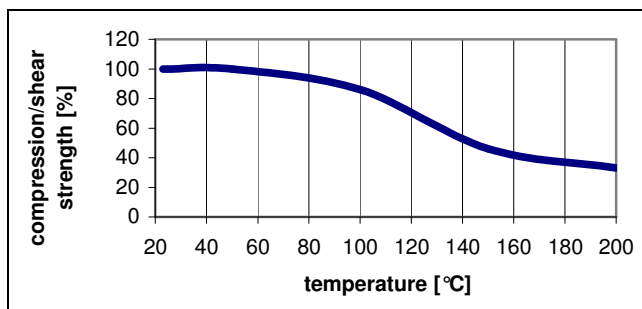
- optimized for the securing of screws and the sealing of threads
- when determining the tightening torque considering the frictional torque of the screws, the following total frictional torques can be used for the calculation: μ total 0.10 to 0.13 on blank stainless steel screws; μ total 0.13 to 0.17 on phosphated stainless steel screws
- adjusted flow behavior for self-distribution in the thread; however, no leakage from the thread
- significantly reduced curing times with activator DELO-QUICK
- excellent curing even on highly passivated surfaces by activating the surfaces with DELO-QUICK
- specific medium strength, removable
- authorized for the use in gas-operated installations

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

Technical data

<i>Color</i>	blue
preferred clearance [mm]	0,05-0,1
clearance with heat or activator [mm]	up to 0,3-0,4
Density [g/cm ³] at room temperature (approx. 23 °C)	1.1
<i>Viscosity</i> [mPas] Brookfield at 23 °C	1000 thix
<i>Curing time until initial strength</i> [min] at room temperature (approx. 23 °C), anaerobic on zinc-phosphated screws	5 - 20
<i>Curing time until initial strength</i> [min] at room temperature (approx. 23 °C), with DELO-QUICK 5002 (accelerator for DELO-ML) on V2A screws	5
<i>Curing time until final strength</i> [h] at room temperature (approx. 23 °C), anaerobic on zinc-phosphated screws	24
<i>Off-torque without M(on)</i> [Nm]	18
<i>Off-torque with M(on) 46 Nm</i> [Nm] ISO 10964, screw M10/8.8	50
<i>Compression shear strength</i> [MPa] according to ISO 10123	15
<i>Compression shear strength after 1 h</i> [MPa] according to ISO 10123	approx. 2
<i>Compression shear strength</i> according to ISO 10123, temperature-dependent	



Chemical resistance	very good
Storage life at room temperature (max. 25 °C) in unopened original container up to 600 ml	12 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.