DELO

Instructions for Use &
General Information
on the Product Group

DELO®-ML

Anaerobic adhesives

Application areas

DELO-ML are liquid, one-component adhesives that cure by exclusion of oxygen and under influence of metal ions. They are especially suitable for bonding metal components.

The dualbond types (DB) can additionally be cured with UV light or visible light.

The flexible, tension-equalizing DB types are also suitable for metal-to-glass or certain metal-to-plastic bondings.

All DELO-ML adhesives can be cured faster by increasing the temperature or by using activators. The DB types can be fixed quickly within seconds by exposing them to UV light.

Application possibilities:

- Form-closed connecting of axisymmetric components → Fixing
- Securing of screws → Screw securing
- Sealing of pipe, screw and flange connections → Surface or thread sealing
- Dual-curing DELO-ML types (DB) can also be used for small casting applications as well as certain glass and plastic bondings.

The disparate ML types

can easily be distinguished from each other thanks to their disparate colors:

- Low-strength (yellow)
- Medium-strength (blue)
- High-strength (green)
- Dual-curing: Anaerobic and UV- or light-curing (yellowish transparent)

Preparation of the components to be bonded

The contact surfaces must be free of oil, grease and other contaminations in order to achieve optimal bond strength. We provide our DELOTHEN cleaners. You can find more details in the “DELOTHEN Cleaners” technical information. After cleaning, adhesion to the component can be further improved by surface pretreatment. You can find further information in the written information on surface pretreatment.

The suitability and strength of the adhesive are to be verified on original components under application-specific conditions. After customer-specific tests, DELO-ML 5327 can also be used on slightly oily surfaces.

Preparation of the adhesive

The adhesives are usually supplied ready for use. In case of cool storage, the containers must be conditioned to room temperature (+18 to +25 °C) before use to prevent condensation during adhesive application. Head addition is not permitted. The conditioning time of containers up to 50 ml is approx. 0.5 h. The conditioning time of containers up to 1,000 ml is approx. 4 h. You can find detailed, product-specific information on adhesive preparation in the specific Technical Data Sheet.

Processing

The products are supplied ready for use. Depending on the scope of delivery, they can be processed manually directly from the container or by means of DELO dispensing units (such as pinch valve).

Dispensing valvues and material-conveying parts must be thoroughly cleaned before using the adhesive. Rediduces of other products must be removed without leaving any residues.

PE, HDPE, PP and PTFE, which are sufficiently resistant to chemicals and are completely opaque when using the dual-curing DELO-ML products, are suitable as materials for material-conveying parts, such as dispensing valves and product tubes. When using other materials, the materials must be checked for suitability and compatibility. It is not recommended to use PU or metal. This is how unintentional curing in the system can be prevented. In additon, it must be kept in mind that anaerobic products may also cure in the system during production downtimes (exclusion of oxygen).

The adhesive is often applied to only one component to be bonded. However, it is also possible to apply the adhesive to both components.

It must be ensured that the complete gap is completely filled with DELO-ML over the entire bonding surface. This is how trapped air, which can prevent complete curing, is avoided. For securing screws and for sealings, the adhesive is to be applied onto all turns of the thread which are in mesh after assembly. For blind holes, enough adhesive must be dispensed to the bottom of the borehole so that air in the borehole can escape. During assembly, the adhesive spreads inside the complete gap as a consequence of the radial and axial movement of the screw or the bolt. When applying an adhesive bead for subsequent spreading through the joining pressure, an “open” bead must be ensured. That is to say that the bead must be dispensed in such a way that the adhesive presses the air outwards, and the air is not trapped. When sealing surfaces, the use of a short-haired roller has proven to be efficient. The roller must be soaked completely in order to prevent trapped air.

You can find further detailed, product-specific information on the processing of each product in the specific Technical Data Sheet.

Activators

DELO-QUICK is used to accelerate curing of DELO-ML on metal and passive metal surfaces (zinc-plated, chrome-plated, cadmium-plated, etc.), as well as for curing on certain plastic types.

1. Apply DELO-QUICK to one surface.
2. Let it evaporate.
3. Apply DELO-ML to the other surface.
4. Join the components.

Curing can also be accelerated by brushing the components with a brass or copper brush.

Curing

Curing proceeds by exclusion of oxygen and under the catalytic effects of metal ions. It can be accelerated through heat and/or DELO-QUICK for DELO-ML. Dual-curing products can be cured anaerobically or by light of the suitable wavelength and intensity. You can find the detailed, product-specific information on the processing of each product in the specific Technical Data Sheet.

Instructions and advice for occupational health and safety

See Material Safety Data Sheet

Storage

In unopened original container. Cool storage is recommendable.

Storage life: see Technical Data Sheet

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