DELO

Instructions for Use &
General Information
on the Product Group

DELO® DUALBOND®

Light- and heat-curing acrylates

Application areas

DELO DUALBOND adhesives are predominantly used in electronics, microelectronics, electrical engineering and precision engineering for bonding, coating, fixing and sealing.

The adhesives can be cured by light using a light source with the wavelength range specified in the technical data sheet. DELOLUX curing lamps are suitable.

Furthermore, curing can also be effected by heat or a combination of both curing mechanisms.

Preparation of the components to be bonded

The contact surfaces must be free of humidity, grease and other contaminations in order to achieve optimal bond strength. Commercially available isopropanol can be used for cleaning of the components.

After cleaning, adhesion to the component can be further improved by means of surface pretreatment. You can draw additional details from the Technical information “Surface Pretreatment”.

The suitability and strength of the adhesive are to be verified on original components under application-specific conditions.

Preparation of the adhesive

The adhesives should be conditioned to room temperature before bonding without adding temperature. The containers are conditioned at room temperature (+18 °C up to max. 25 °C); the conditioning time is approx. 4 h for containers up to 1 kg; additional heat addition is not allowed. Condensation water on adhesive and substrate should be prevented or evaporated before application.

Please keep in mind that the adhesive may cure at room temperature under exclusion of air. Instructions regarding the processing times at room temperature of the specific containers can be found in the Technical Data Sheet. If you have any questions, please ask your DELO contact.

Processing

You can draw the detailed, product-specific information on the processing of each product from the respective technical data sheet. The products can be processed by means of DELO dispensing units.

Stainless steel, polyethylene (PE, HDPE), polypropylene (PP) and teflon (PTFE) that are sufficiently resistant to chemicals and are completely opaque are suitable materials for equipment parts that come in contact with adhesive such as dispensing valves and product lines. When using other materials, their compatibility must be checked in advance. It is not recommended to use polyurethane (PU), base metals, copper and its alloys.

Preparation/pretreatment → Application → Joining → Curing

Production flow for bonding components:

1. Preparation/pretreatment of the components
2. Application of the adhesive to one component
3. Joining
4. Curing by irradiation with UV and visible light (e. g., in case of a translucent component, the complete adhesive area must be irradiated) or/and heat addition

Preparation/pretreatment → Application → Joining → Irradiation → Curing

Production flow for bonding components with precuring:

1. Preparation/pretreatment of the components
2. Application of the adhesive to one component
3. Joining
4. Irradiation with UV and visible light for precuring (fixing of the component)
5. Curing by heat addition

Preparation/pretreatment → Application → Curing

Production flow for coatings:

1. Preparation/pretreatment of the components to be casted
2. Application of the adhesive
3. Curing with UV and visible light or/and heat addition

Curing

The adhesive can be cured by heat addition as well as by light. Complete curing by light can only proceed if the total adhesive is reached by light of the suitable wavelength.

That means that

- the adhesive must be open (casting, coating)
- or at least one of two components to be bonded is made of a translucent material

Adhesive which is not reached by light can be completely cured by subsequent heat addition. The irradiation times as well as curing temperatures and times are product-specific and can be drawn from the respective Technical Data Sheet. In case of heat curing, the heating time of the components must be added to the curing time. The heating time should not exceed approx. 15 minutes. Heating can proceed in air convection ovens, with IR transmitters or other suitable heat sources. It is important that the curing temperature is reached at the adhesive. In case of curing temperatures below the temperature ranges specified in the technical data sheet, curing is decelerated or the product cures incompletely or not at all. The adhesive must not be heated beyond the resistance temperature. When selecting a lamp, attention must be paid to the emission spectrum. DELO offers a lamp range tailored to the adhesives. The intensity achieved at the adhesive must be checked at regular intervals, using DELOLUXcontrol. The curing speed of the respective products can be varied through the parameters lamp type, lamp intensity, lamp distance and irradiation time. Adhesive containers and dispensing tips must be protected or shielded against UV and visible light. During changing container, no scattered radiation may reach the inside of the container.

Instructions and advice for occupational health and safety:

see material safety data sheet.

Skin and eyes must be protected from UV radiation or glare of the lamp. A respective screening of the lamp by means of yellow-colored plastic or gray glass and colored safety glasses (e. g., green or brown) is recommended for eye protection.

Storage

After delivery in unopened, opaque original container.

Cool storage is recommendable.

Storage life: see technical data sheet

The container should not be exposed to direct solar radiation as it can heat up strongly due to its color. This may lead to an unwanted reactivity reduction or the adhesive may even cure.

CONTACT

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