

UV- and light-curing acrylate adhesives

DELO[®]-PHOTOBOND[®]



**Instructions for use &
General information
on the product group**

Application areas

DELO[®]-PHOTOBOND[®] adhesives are predominantly used in electronics, electrical engineering, micro-electronics, medical technology, optics and precision engineering as well as in the jewelry, furniture and glass industry for bonding, coating, fixing and sealing.

The adhesives are cured by light, using a light source with the wavelength range specified in the technical data sheet. DELOLUX[®] irradiation equipment is suitable.

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 cleaners DELOTHEN. You can draw more detailed information from the technical information "DELOTHEN Cleaners".

After cleaning, adhesion to the component can be further improved by means of surface pretreatment. You can draw additional details from the written information on 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. Condensation water on adhesive and substrate should be prevented or completely evaporated before application.

Processing

After applying the adhesive, the components are to be joined and possibly fixed speedily as the curing process of the products already starts through room lighting.

Preparation/pretreatment → Application → Irradiation

Production flow for an open bonding:

1. Preparation/pretreatment of the components
2. Application of the adhesive
3. Irradiation until complete curing (the entire adhesive volume must be irradiated).

Preparation/pretreatment → Application → Joining → Irradiation

Production flow for bonding components:

1. Preparation/pretreatment of the components
2. Application of the adhesive to one component
3. Joining
4. Irradiation until complete curing (the entire adhesive area must be irradiated).

or when using capillary adhesives:

1. Preparation/pretreatment of the components
2. Joining/positioning
3. Application of the adhesive into the fillet of the components
4. Let the adhesive completely capillate into the bonding gap.
5. Irradiation until complete curing (the entire adhesive area must be irradiated).

Curing

Complete curing can only be achieved if the complete adhesive volume 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

The UVA-curing products require wavelengths between 315 and 400 nm. Therefore, these products are not suitable for many plastic types as UVA light is absorbed by plastic. The products which are cured by visible light (VIS) cure at wavelengths between 380 and 450 nm and are also suitable for translucent plastics. It is important that the components must be positioned before irradiation.

The surface of some DELO[®]-PHOTOBOND[®] adhesives remains tacky outside the bonding gap after curing. The tacky surface can be removed with DELOTHEN EP cleaner.

When selecting a lamp, attention must be paid to the emission spectrum. DELO[®] offers a lamp range tailored to the adhesives. The intensity of the lamp must be monitored. We recommend the measuring device DELOLUXcontrol. The curing reaction proceeds very fast upon irradiation and stops immediately after removing the light source. The curing time depends on product and lamp (see technical data sheets). 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 filling or when exchanging the container, no scattered radiation may reach the inside of the container as this can start the polymerization.

You can draw the detailed, product-specific information on the processing of each product from the respective technical data sheet.

Instructions and advice for occupational health and safety

see material safety data sheet

Skin and eyes must be protected against UV radiation or glare of the lamp. A respective shielding of the lamp by means of yellow-colored plastic or grey glass and colored protective glasses (e. g. green or brown) is recommended for eye protection.

Storage

In unopened, opaque 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.

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 user'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. 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.

If you have any further questions

Please contact us.

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