

Light-activated and UV-curing epoxy
resin adhesives

DELO[®]-KATIOBOND[®]



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

Application areas

DELO®-KATIOBOND® adhesives are predominantly used in electronics, micro-electronics, electrical engineering and precision engineering 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 evaporated before application.

Filled DELO®-KATIOBOND® products are to be homogenized before use if necessary (see technical data sheets).

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. The UVA-curing products require wavelengths between 320 and 400 nm. Therefore, the transmission of the component material in the necessary wavelength range must be tested before bonding plastics when using UV-curing products. The light-curing products cure at wavelengths between 400 and 550 nm and are also suitable for many translucent plastics.

Preparation/pretreatment → Application → Irradiation

Production flow for an open bonding, coating or sealing:

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 or sealing translucent components:

1. Preparation/pretreatment of the components
2. Application of the adhesive
3. Joining
4. Irradiation (the entire adhesive area must be irradiated).

Preparation/pretreatment → Application → Preactivation → Joining

Preactivation = irradiation; the entire adhesive volume or adhesive area must be irradiated

Production flow for opaque components: Light-activated DELO®-KATIOBOND® adhesives are required.

1. Preparation/pretreatment of the components
2. Application of the adhesive
3. Preactivation through adjusted, measured irradiation. Lamp, intensity and irradiation time must be selected in such a way that the adhesive has not formed skin before joining and the polymerization has not progressed far so that the adhesive can still wet the components very well. The more low-energy the activation, the longer the open time. The curing time until initial strength is extended, however.
4. Joining

Curing

Complete curing can only be achieved if the complete adhesive volume is reached by light of the suitable wavelength in the dose required.

That means that

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

When using opaque materials, light-activated adhesives DELO®-KATIOBOND® 45.. must be applied and irradiated correctly before joining. For this preactivation, the adhesive must be irradiated sufficiently but must not have formed skin or must not be gelled already in order to be able to wet the second component well during the open time. The complete adhesive are must be irradiated for preactivation!

In case of larger adhesive amounts, the exothermic curing reaction can lead to a strong heating of the adhesive and the component.

When selecting a lamp, attention must be paid to the emission spectrum. DELO® offers a lamp range tailored to the adhesives. The curing time depends on product and lamp (see technical data sheets). The intensity of the lamp must be monitored. We recommend the measuring device DELOLUXcontrol.

The curing speed of the respective products can be varied through the parameters lamp type, lamp intensity, lamp distance and irradiation time. The parameters for preactivation must be determined under production conditions and with original components in any case. After sufficient activation, the adhesive also cures in shadowed areas. The more low-energy the activation, the longer the open time and, thus, the time available for the joining process. 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 (at +41 °F (+5 °C)) 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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