Instructions for Use & General Information on the Product Group

DELO® MONOPOX Anhydride
One-component adhesives and encapsulants on the basis of anhydrides

Application areas
DELO® MONOPOX products on the basis of anhydrides are predominantly used for bonding, fixing and casting in electronics, microelectronics, and electrical engineering. They are characterized by high reliability and resistance to temperatures and chemicals.

A heat curing step is necessary. The DELO® MONOPOX anhydride adhesives can be cured at a temperature of +212 °F and up.

It is the user’s responsibility to the the suitability and strength of the adhesive on original components for the intended purpose by considering all specific requirements.

Processing
Preparation/pretreatment → Application → Joining → Heat curing
Pretreatment / 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.

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.

Possible condensation water on components must evaporate before adhesive application. For optimal results, the FR4 substrates must be dried.

Preparation of the adhesive

The products are supplied ready for use. After conditioning, they can be processed by means of DELO® dispensing units.

The adhesive must be conditioned to room temperature in the supplied original container without adding heat in good time before bonding (see Technical Data Sheet).

Condensation water on the adhesive and the substrate must be prevented.

The adhesive must not be frozen and thawed again.

Storage

<table>
<thead>
<tr>
<th>Storage temperature</th>
<th>The conditioning time of containers up to 10 ml</th>
<th>The conditioning time of containers up to 50 ml</th>
<th>The conditioning time of containers up to 310 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage temperature –0.4°F</td>
<td>approx. 0.5 h</td>
<td>approx. 1 h</td>
<td>approx. 3 h</td>
</tr>
<tr>
<td>Storage temperature –40°F</td>
<td>approx. 1 h</td>
<td>approx. 2 h</td>
<td>approx. 4 h</td>
</tr>
</tbody>
</table>

Adhesive application / joining

When the adhesive has been applied, processing should continue quickly as adhesives on the basis of anhydrides are sensitive to hydrolysis in uncured condition due to their chemical nature.

Larger areas and thick layers are particularly critical. Due to the large surface/volume ratio, much humidity can be absorbed within a short period of time.

Dispensing valves and product-guiding components must be thoroughly cleaned directly after use of the adhesives. Acetone is a suitable cleaner. Alcohol-containing or aqueous cleaners must not be used.

Curing by heat

The adhesive is cured by heat.

The curing temperatures and time are product-specific and can be found in the specific Technical Data Sheet. The heating time of the components must be added to the curing time. Heating can proceed in air convection ovens, with IR transmitters, or with other suitable heat sources.

If the temperatures used for curing are below the temperature ranges specified in the Technical Data Sheet, the product cures incompletely or does not achieve the values specified.

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

After delivery, remove the package from the dry ice and condition to the storage temperature in unopened condition for at least 4 h (see figure).

Please make sure that frozen container is only minimally touched as large temperature difference between container and adhesive may lead to the adhesive becoming “detached” from the inner cartridge wall. It is recommended that the container is removed at its rear end or thermally insulating gloves are used.

Storage life and storage temperature can be drawn from the Technical Data Sheet

Storage in unopened original container.
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.