DELO® KATIOBOND® OB642
Light-/UV-curing adhesive, medium viscous

**Base**
- modified epoxy resin
- one-component, solvent-free, UV-/light-curing

**Use**
- especially for a fast fixing of components with high strength after irradiation
- for the bonding of metal, glass, plastic and other materials as well as for the coating, fixing or sealing of electronic components
- the cured product is normally used in a temperature range of -40 °C to +150 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU
- halogen-free according to IEC 61249-2-21
- complies with the requirements on low outgassing according to ECSS-Q-70 02 respectively ASTM E 595-93 also known as NASA-outgassing test

**Processing**
- the adhesive is supplied ready for use; in case of cool storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (max. 25 °C); the conditioning time is approx. 0.5 h for containers up to 30 ml; approx. 1 h for containers up to 160 ml; approx. 3 h for containers up to 1000 ml; additional heat addition is not allowed
- the adhesive is usually applied by dispensing
- the adhesive can be processed well from the original container or with DELO dispensing units
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- use DELOTHEN cleaners for the cleaning of bonding surfaces
- when using aqueous cleaners with alkaline properties, they must be removed from the bonding surface after cleaning through appropriate rinsing cycles
- dispensing valves and product-bearing elements must be carefully cleaned before use, residues of other products must be completely removed; DELOTHEN EP as well as acetone are recommended to remove DELO KATIOBOND residues
- for further information please refer to our instructions for use DELO KATIOBOND

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DELO KATIOBOND OB642 - 08.16 (Revision 38)
**Curing**
- curing with UV light or visible light in a wavelength range of 320 – 440 nm. DELOLUX LED curing lamps are especially suitable as per the chart below. All standard DELOLUX HID discharge lamps are also suitable.
- after irradiation curing until final strength within 24 h at room temperature
- increased temperatures accelerate the reaction, lower temperature decelerate it
- increased intensities shorten the required irradiation time, lower intensities prolong it

<table>
<thead>
<tr>
<th>Lamp type</th>
<th>DELOLUX 20 / 50 / 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength [nm]</td>
<td>365</td>
</tr>
<tr>
<td>Suitability</td>
<td>++</td>
</tr>
</tbody>
</table>

- not suitable  + suitable  ++ especially suitable

**Absorption spectrum**
- photoinitiation system in epoxy resin basic matrix

**Curing parameters**
- dependent on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer

**Technical data**

- **Color**
cured in a layer thickness of approx. 0.1 mm  transparent
- **Density [g/cm³]**
at room temperature (approx. 23 °C)  1.1
- **Viscosity [mPas]**
at 23 °C, Brookfield spindle/rpm 4/5  10000
- **Processing time**
at room temperature (max. 25 °C)  4 weeks
- **Thixotropy index**  4
- **Minimal irradiation time [s]**
DELO Standard 37, DSC
UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, at 30 °C  6
- **Recommended irradiation time [s]**
UVA-intensity: 55 - 60 mW/cm² DELOLUXcontrol  10
- **Curing time until final strength [h]**
at room temperature (approx. 23 °C) after irradiation  24
- **Curable layer thickness [mm]**
DELO Standard 20
UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, DELOLUX 03  1
<table>
<thead>
<tr>
<th>Material Combination</th>
<th>Compression Shear Strength [MPa]</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass/glass</td>
<td>23</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 10 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Glass/Al</td>
<td>16</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 30 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Glass/FR4</td>
<td>12</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 30 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Glass/PBT</td>
<td>5</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 10 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Glass/PC</td>
<td>6</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 10 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Glass/LCP</td>
<td>6</td>
<td>LCP Vectra E130i, UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 15 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>PC/PC</td>
<td>4</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 30 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>PC/Al</td>
<td>3</td>
<td>UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 90 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>PMMA/PMMA</td>
<td>10</td>
<td>DELO Standard 5, UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 90 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Die shear strength [N]</td>
<td>190</td>
<td>DELO Standard 30, substrate: ceramic, glass cube with edge length 4 mm, UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 15 s, curing time: 24 h at room temperature (approx. 23 °C)</td>
</tr>
<tr>
<td>Tensile strength [MPa]</td>
<td>46</td>
<td>according to DIN EN ISO 527, layer thickness: 1 mm</td>
</tr>
<tr>
<td>Elongation at tear [%]</td>
<td>2</td>
<td>according to DIN EN ISO 527, layer thickness: 1 mm</td>
</tr>
<tr>
<td>Young's modulus [MPa]</td>
<td>2000</td>
<td>according to DIN EN ISO 527, layer thickness: 1 mm</td>
</tr>
<tr>
<td>Shore hardness D</td>
<td>81</td>
<td>according to DIN EN ISO 868</td>
</tr>
</tbody>
</table>
Decomposition temperature [°C] 281
DELO Standard 36

Glass transition temperature [°C] 136
rheometer

Glass transition temperature [°C] 121
TMA

Coefficient of linear expansion [ppm/K] 67
TMA, in a temperature range of +30 to +100 °C

Coefficient of linear expansion [ppm/K] 166
TMA, in a temperature range of +140 to +150 °C

Shrinkage [vol. %] 4
DELO Standard 13

Water absorption [weight %] 0.7
according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)

Index of refraction 1.53
cured product

Ion content Na+ [ppm] <10
extraction

Ion content K+ [ppm] <10
extraction

Ion content Cl⁻ [ppm] <10
extraction

Ion content F⁻ [ppm] <100
extraction

Storage life at 0 °C to +10 °C 6 months
in unopened original container

Instructions and advice

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 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.

Instructions for use
The instructions for use of DELO KATIOBOND are available on: www.DELO.de. We will be pleased to send them to you on demand.

Occupational health and safety
see material safety data sheet

Specification
The properties in italics are part of the specification. Ranges with clear limits are defined for them and others, where applicable. In the course of the QA test, each batch is tested for these properties and the maintenance of the limits is ensured. The measuring methods used can deviate from those specified in the data sheet. Details can be found in the QA test report.