DELO® KATIOBOND® 45952
Light-activated adhesive, high-viscous

**Base**
- modified epoxy resin
- one-component, solvent-free, light-activated, thixotropic
- fluorescent

**Use**
- especially suitable for tension-equalizing bonding and sealing, in particular, in case of high temperature fluctuations at the component
- for the bonding of metal, glass, plastic and other materials as well as for the coating, fixing or sealing of electronic components
- also suitable for the bonding of opaque components through preactivation
- due to its fluorescence, the product is suitable where application control is necessary
- 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
- positively tested according to UL 94 HB
- compliant with RoHS directive 2015/863/EU
- halogen-free according to IEC 61249-2-21

**Processing**
- the product 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); 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; acetone or DELOTHEN EP are recommended as cleaners
- for further information please refer to our instructions for use DELO KATIOBOND.
Curing

- curing with UV light or visible light in a wavelength range of 320 – 550 nm. DELOLUX LED curing lamps are especially suitable as per the chart below. All standard DELOLUX HID discharge lamps are also suitable. For preactivation, only visible light in a wavelength range of 400 – 550 nm can be used.
- the cationic curing mechanism enables adhesive curing after the joining of opaque components after sufficient irradiation
- 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
*) suitable only in case of direct irradiation, preactivation not possible

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
brown milky fluorescent
cured in a layer thickness of approx. 1 mm
brown milky fluorescent

**Density [g/cm³]**
DELO Standard 13
at room temperature (approx. 23 °C)
1.1

**Viscosity [mPas]**
rheometer, PP20, gap 500µm, shear rate 1 1/s, at room temperature (23 °C)
21000

**Thixotropy index**
4

**Preactivation time [s]**
DELO Standard 19
DELOLUX 03 S, UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol
5

**Open time after preactivation [s]**
DELO Standard 19
at room temperature (approx. 23 °C) and normal room lighting
18
Minimal irradiation time [s]
DELO Standard 37, DSC
UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, at 30 °C

60

Recommended irradiation time [s]
UVA-intensity: 55 - 60 mW/cm² DELOLUXcontrol

Recommended irradiation time [s]
DELO Standard 37, DSC
LED 460 nm, intensity: 200 mW/cm²; DELOLUXcontrol, at 30 °C

LED 460nm, intensity: 200 mW/cm² DELOLUXcontrol

Minimal irradiation time [s]

Recommended irradiation time [s]

Curing time until final strength [h]
at room temperature (approx. 23 °C) after irradiation

24

Compression shear strength glass/glass [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing time: 24 h at room temperature (approx. 23 °C)

30

Compression shear strength glass/Al [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing time: 24 h at room temperature (approx. 23 °C)

13

Compression shear strength glass/FR4 [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing time: 24 h at room temperature (approx. 23 °C)

19

Compression shear strength PC/Al [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing time: 24 h at room temperature (approx. 23 °C)

4

Compression shear strength PC/PC [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing time: 24 h at room temperature (approx. 23 °C)

14

Compression shear strength PMMA/PMMA [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s
curing: 24 h at room temperature (approx. 23 °C)

9

Compression shear strength PBT/PBT [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, at optimal preactivation time
curing time: 24 h at room temperature (approx. 23 °C)

9

Compression shear strength PETP/PETP [MPa]
DELO Standard 5
UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, at optimal preactivation time
curing time: 24 h at room temperature (approx. 23 °C)

8

Tensile strength [MPa]
DIN EN ISO 527

18

Elongation at tear [%]
DIN EN ISO 527

54

Young's modulus [MPa]
DIN EN ISO 527

100

Shore hardness D
according to DIN EN ISO 868

44

Decomposition temperature [°C]
DELO Standard 36

220
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Glass transition temperature [°C]</td>
<td>44</td>
</tr>
<tr>
<td>Coefficient of linear expansion [ppm/K]</td>
<td>196</td>
</tr>
<tr>
<td>Shrinkage [vol. %]</td>
<td>3.8</td>
</tr>
<tr>
<td>Water absorption [weight %]</td>
<td>0.9</td>
</tr>
<tr>
<td>Specific volume resistance [Ωcm]</td>
<td>&gt;1xE13</td>
</tr>
<tr>
<td>Surface resistance [Ω]</td>
<td>&gt;1xE12</td>
</tr>
<tr>
<td>Dielectric constant</td>
<td>4.3</td>
</tr>
<tr>
<td>Dielectric constant</td>
<td>4</td>
</tr>
<tr>
<td>Dielectric constant</td>
<td>3.6</td>
</tr>
<tr>
<td>Dielectric constant</td>
<td>3.2</td>
</tr>
<tr>
<td>Creep resistance CTI</td>
<td>600 M</td>
</tr>
<tr>
<td>Storage life at room temperature (0 °C to +25 °C)</td>
<td>6 months</td>
</tr>
</tbody>
</table>

rheometer
TMA, in a temperature range of +30 to +150 °C
DELO Standard 13
according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)
VDE 0303, part 3
VDE 0303, part 3
RF-IV method, 1 MHz, at 25 °C +/- 3 °C
RF-IV method, 10 MHz, at 25 °C +/- 3 °C
RF-IV method, 100 MHz, at 25 °C +/- 3 °C
RF-IV method, 1 GHz, at 25 °C +/- 3 °C
VDE 0303, part 1, IEC 112
in unopened original container
### Performance under temperature influence

**Compression/shear strength glass/glass after temperature storage**
- Based on initial value at room temperature
- Measured at room temperature (approx. 23 °C)
- According to DELO standard 5

**Young’s modulus after temperature storage**
- Based on initial value at room temperature
- Measured at room temperature (approx. 23 °C)
- According to DIN EN ISO 527, test specimen type 1B, thickness 2 mm

**Tensile strength after temperature storage**
- Based on initial value at room temperature
- Measured at room temperature (approx. 23 °C)
- According to DIN EN ISO 527, test specimen type 1B, thickness 2 mm

**Elongation at tear after temperature storage**
- Based on absolute initial value at room temperature
- Measured at room temperature (approx. 23 °C)
- According to DIN EN ISO 527, test specimen type 1B, thickness 2 mm

### Performance under chemical influence

**Compression/shear strength after storage for 1,000 h**
- Based on initial value at room temperature
- Measured at room temperature (approx. 23 °C)
- According to DELO Standard 5

<table>
<thead>
<tr>
<th>Chemical medium</th>
<th>Compression/shear strength glass/Al [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATF gear oil</td>
<td>58</td>
</tr>
<tr>
<td>Diesel fuel</td>
<td>56</td>
</tr>
<tr>
<td>engine oil 10W40</td>
<td>57</td>
</tr>
</tbody>
</table>

DELO KATIOBOND 45952 - 02.19 (Revision 57)
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.