

### **DELO-DUALBOND® IC343**

UV-/ heatcuring, isotropic conductive adhesive

#### **Base**

- dual-curing modified polycarbamin acid derivative
- one-component, solvent-free, UV-/heatcuring, silver filled, thixed

#### **Use**

- for the electrically conductive bonding of electronic components to printed circuit boards or flexible circuit carriers
- especially for a fast fixing of components and curing at low temperature
- the product is normally used in a temperature range of -40 °C to +130 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2002/95/EC
- halogen-free by the criteria of IEC 61249-2-21

#### **Processing**

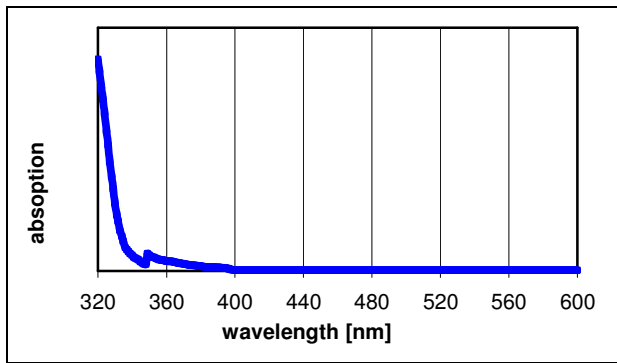
- the adhesive is supplied ready for use; in case refrigerated storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (max. +25 °C); the conditioning time is approx. 0.5 h for containers up to 10 ml, 1 h for containers up to 50 ml; additional heat addition is not allowed
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- dispensing valves and product-bearing elements must be carefully cleaned directly after adhesive use
- adequate cleaners are acetone and BDGA (butyldiglykolacetate); for BDGA use acetone as a chaser, do not use alcoholic or hydrous cleaners

#### **Curing**

- fixing by curing with UVA light in a wavelength range of 320 - 400 nm in 1 - 5 seconds. Curing by heat in a temperature range of +80 °C to +150 °C is mandatory
- the predominant part which has to be bonded should not get fixed with light, the maximum adhesion is given with an only heat cured product
- the time between fixing and heat curing should not be longer than 1 hour at room temperature (max. +25 °C)
- the adhesive features a post-curing attitude. After a heat curing step at low temperatures (< +120 °C) and a short curing time a strength is given. Furthermore the adhesive shows a post curing at room temperature and rises up to the strength after about 24 h recording to the temperature of the heat curing step
- the actual curing times at the respective temperatures are dependent on the heating time of the components, the heating time of the components must be added to the curing time of the adhesive
- the heating time depends on the component size and the oven type

## Absorption spectrum

- photoinitiation system in mCD basic matrix



## Technical data

Color	silver grey
Viscosity [mPas] at 23 °C, rheometer, shear rate 10 1/s	30000
Filler	silver
Density [g/cm <sup>3</sup> ] DELO Standard 13 at room temperature (approx. 23 °C)	3
Processing time [h] at room temperature (max. 25 °C)	72
fixing time by light [s] DELOLUX 03 S, UVA intensity: 55 - 60 mW/cm <sup>2</sup> DELOLUXcontrol	1 - 5
Curing time with air convection oven [min] at +80 °C	30
Curing time with air convection oven [min] at +90 °C	15
Curing time with air convection oven [min] at +100 °C	10
Water absorption [%] according to DIN EN ISO 62 after 30 min at +100 °C	0.2
Compression shear strength PC/PC [MPa] DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	12.8
Compression shear strength PBT/PBT [MPa] DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	4.2
Compression shear strength FR4/FR4 [MPa] DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	11.5
Compression shear strength PC/ABS [MPa] DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	10

<b>Compression shear strength PETP/PETP [MPa]</b> DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	4.5
<b>Compression shear strength FR4/PC [MPa]</b> DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	10
<b>Compression shear strength FR4/PBT [MPa]</b> DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	6.5
<b>Compression shear strength FR4/LCP [MPa]</b> DELO Standard 5 curing: 15 min at +100 °C after 24 h room temperature	5
<b>Decomposition temperature [°C]</b> DELO Standard 36	248
<b>Coefficient of linear expansion [ppm/K]</b> TMA, DELO Standard 26 in a temperature range of +35 to +150 °C	150
<b>Shrinkage [vol. %]</b> DELO Standard 13 curing: 30 min at +100 °C	2.2
<b>Resistivity [<math>\Omega</math>cm]</b> measured at room temperature (max. 25 °C) with Keithley Sourcemeter 10 mA	1.4xE-4
<b>storage life at -18°C</b> in unopened original container	5 months

## **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.

Many product properties are subject to temperature and may change permanently, especially at high temperatures.

It is the user's responsibility to test the suitability of the product for the intended purpose and temperature range of use 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.

### **Instructions for use**

The instructions for use of DELO-DUALBOND are available on: [www.DELO.de](http://www.DELO.de). We will be pleased to send them to you on demand.

### **Occupational health and safety**

see material safety data sheet

### **Specification**

see quality assurance test report