DELO

Technical Information

DELO-KATIOBOND® OB678

UV-curing adhesive, highly viscous

Base

- modified epoxy resin
- one-component, solvent-free, UV-curing, thixotropic

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 by the criteria of 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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Curing

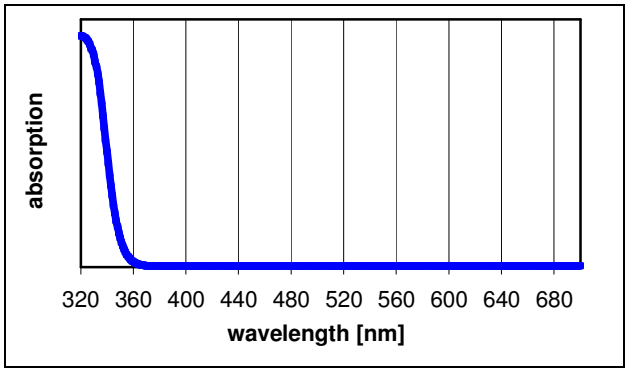
- curing with UV light in a wavelength range of 320 – 380 nm. DELOLUX LED curing lamps are especially suitable as per the chart below. All standard DELOLUX HID discharge lamps are also suitable.
- after irradiation curing until final strength within 24 h at room temperature
- increased temperatures accelerate the reaction, lower temperature decelerate it
- increased intensities shorten the required irradiation time, lower intensities prolong it

Lamp type	DELOLUX 20 / 50 / 80		
Wavelength [nm]	365	400	460
Suitability	++	-	-

- 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)	1.12
Viscosity [mPas] at 23 °C, Brookfield spindle/rpm 7/5	60000
Processing time at room temperature (max. 25 °C)	4 weeks
Thixotropy index	6
Minimal irradiation time [s] DELO Standard 37, DSC UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, at 30 °C	5
Recommended irradiation time [s] UVA-intensity: 55 - 60 mW/cm² DELOLUXcontrol	6
Minimal irradiation time [s] DELOLUX 80 / 365, intensity: 200 mW/cm² DELOLUXcontrol	3
Recommended irradiation time [s] DELOLUX 80 / 365, intensity: 200 mW/cm² DELOLUXcontrol	6

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	4
Compression shear strength glass/glass [MPa] DELO Standard 5 UVA ntensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	15
Compression shear strength glass/Al [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	11
Compression shear strength glass/FR4 [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	12
Compression shear strength glass/PBT [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	5
Compression shear strength glass/PC [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	4
Compression shear strength glass/LCP [MPa] LCP Vectra E130i DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 15 s curing time: 24 h at room temperature (approx. 23 °C)	6
Compression shear strength glass/VA [MPa] DELO Standard 5 UVA intensity: 55 - 60 mW/cm² DELOLUXcontrol, irradiation time: 6 s curing time: 24 h at room temperature (approx. 23 °C)	11
Die shear strength [N] 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)	290
Tensile strength [MPa] according to DIN EN ISO 527 layer thickness: 2 mm	37
Elongation at tear [%] according to DIN EN ISO 527 layer thickness: 2 mm	2
Young's modulus [MPa] according to DIN EN ISO 527 layer thickness: 2 mm	1700
Shore hardness D according to DIN EN ISO 868	80
Decomposition temperature [°C] DELO Standard 36	275
Glass transition temperature [°C] rheometer	118

Coefficient of linear expansion [ppm/K] TMA, in a temperature range of +30 to +65 °C	81
Coefficient of linear expansion [ppm/K] TMA, in a temperature range of +110 to +150 °C	163
Shrinkage [vol. %] DELO Standard 13	4
Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.3
Index of refraction cured product	1.52
Storage life at 0 °C to +10 °C in unopened original container	6 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. It is the customer'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. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for the intended 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 DELOs' General Terms of Business. Verbal side agreements are not permitted. This document is subject to change.

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.