

DELO DUALBOND® RE3440

UV-/heat-curing adhesive

Base

- dual-curing modified polycarbamin acid derivate
- one-component, solvent-free, UV-/heat-curing

Use

- especially for a fast fixing of components an curing at low temperatures
- the cured 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 2015/863/EU
- halogen-free by the criteria of IEC 61249-2-21

Processing

- the adhesive is supplied ready for use. If the products are stored in the refrigerator, 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, 2 h for containers up to 160 ml, and 5 h for containers up to 600 ml; 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 parts in contact with the product must be thoroughly cleaned directly after adhesive use
- suitable cleaners are acetone and BDGA (butyl diglycol acetate); when using BDGA, an additional cleaning step with acetone is necessary; do not use alcoholic or aqueous cleaners

Curing

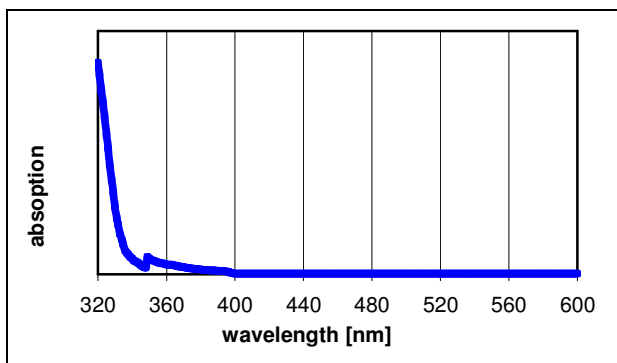
- pre-fixation with UVA light in a wavelength range of 320 – 400 nm in 1 – 5 s; heat curing at temperatures of +80 °C to +130 °C is mandatory
- the predominant part of the bond should not be light-fixed as the maximum adhesion is achieved through pure heat curing
- the period of time between pre-fixation and heat curing should not exceed 1 h at room temperature (max. +25 °C)
- the adhesive exhibits a post-curing effect; after heat curing at low temperatures (below +120 °C) for a short time, initial strength is achieved; in addition, the adhesive post-cures at room temperature and achieves the final strength values allowed by the curing temperature applied
- the actual curing times at the specific temperatures depend 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 oven type used

Lamp type	DELOLUX		
Wavelength [nm]	365	400	460
Suitability	++	+	-

- not suitable + suitable ++ especially suitable

Absorption spectrum

- photoinitiation system in mCD basic matrix



Technical data

<i>Color</i>	black
Density [g/cm ³] DELO Standard 13 at room temperature (approx. 23 °C)	1.2
<i>Viscosity</i> [mPas] rheometer, PP20, gap 500µm, shear rate 10 1/s, at room temperature (23 °C)	16000
Processing time [h] at room temperature (max. 25 °C)	72
Fixing time by light [s] UVA 365 nm, intensity: 55 - 60 mW/cm ² 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

Compression shear strength Al/Al [MPa] DELO Standard 5 curing: 40 min at +100 °C after 24 h room temperature	12
Compression shear strength PBT/PBT [MPa] DELO Standard 5 curing: 40 min at +100 °C after 24 h room temperature	14
Compression shear strength PC/ABS [MPa] DELO Standard 5 curing: 40 min at +100 °C after 24 h room temperature	27
Compression shear strength PETP/PETP [MPa] DELO Standard 5 curing: 40 min at +100 °C after 24 h room temperature	11
Compression shear strength FR4/FR4 [MPa] DELO Standard 5 curing: 40 min at +100 °C after 24 h room temperature	30
Tensile strength [MPa] according to DIN EN ISO 527 layer thickness: 2 mm curing: combination of irradiation and heat curing + 24 h at room temperature (approx. 23 °C)	11
Elongation at tear [%] according to DIN EN ISO 527 layer thickness: 2mm curing: combination of irradiation and heat curing + 24 h at room temperature (approx. 23 °C)	5
Young's modulus [MPa] according to DIN EN ISO 527 layer thickness: 2mm curing: combination of irradiation and heat curing curing time: 24 h at room temperature (approx. 23 °C)	400
Shore hardness D according to DIN EN ISO 868	38
Glass transition temperature [°C] TMA, DELO-Norm 28 Prefixing: 2 x 10s DELOLUX 03 S, UVA-intensity: 55-60mW/cm ² DELOLUXcontrol Heatcuring: 20 min at +120 °C	75
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +30 to +70 °C	115
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +80 to +160 °C	182
Shrinkage [vol. %] DELO Standard 13	2.4
Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.5
Storage life at -18 °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 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 DUALBOND 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.