

DELO DUALBOND® AD761

modified epoxy resin | 1C | UV- / VIS- / heat-curing

free of solvents | dual-curing

Special features of product

- compliant with RoHS Directive 2015/863/EU

Function

- electronic adhesive
- electronic encapsulant

Typical area of use

- 40 - 150 °C

Curing

Suitable lamp types	LED 365 nm, LED 400 nm, UVA
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Typical light fixation time

<i>intensity 200 mW/cm² LED 400 nm</i>	15	s
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Typical curing time

<i>at +100 °C in air convection oven</i>	60	min
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<i>at +130 °C in air convection oven</i>	5	min
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<i>at +150 °C in air convection oven</i>	3	min
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Processing

Typical adhesive application	needle dispensing
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Conditioning time (typical)

<i>when stored in cold conditions in containers up to 50 ml</i>	1.5	h
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<i>when stored in cold conditions in containers up to 1,000 ml</i>	4	h
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<i>when stored in cold conditions in containers up to 10 l</i>	10	h
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Processing time

at rt approx. +23 °C 28 d

Storage life in unopened original container

up to <= 1 l at 0 °C to +10 °C 6 month(s)

from > 1 l at 0 °C to +10 °C 3 month(s)

Technical properties

Color in cured condition in 1 mm layer thickness yellowish

Transparency in cured condition in 1 mm layer thickness transparent

Filler information unfilled

Parameters

Density 1.14 g/cm³
by the criteria of DIN EN ISO 2811-3 | liquid

Viscosity 5750 mPa·s
liquid | Rheometer | Shear rate: 10 1/s

Thixotropy index 1.5
liquid | Rheometer

Maximum curable layer thickness 2.5 mm
DELO Standard 20 | **White substrate** | 400 nm | 200 mW/cm² | 15 s | Plus | at approx. +23 °C | 24 h

Maximum curable layer thickness ≥ 4 mm
DELO Standard 20 | **White substrate** | 400 nm | 200 mW/cm² | 30 s | Plus | at approx. +23 °C | 24 h

Compression shear strength 20 MPa
DELO Standard 5 | **Glass | FR4** | 400 nm | 200 mW/cm² | 15 s | Plus | 130 °C | 10 min

Compression shear strength 20 MPa
DELO Standard 5 | **Glass | Glass** | 130 °C | 10 min

Compression shear strength 40 MPa
DELO Standard 5 | **PC | PC** | 130 °C | 10 min

Tensile strength 22 MPa
by the criteria of DIN EN ISO 527 | 400 nm | 200 mW/cm² | 60 s | Plus | 130 °C | 10 min

Elongation at tear <i>by the criteria of DIN EN ISO 527 400 nm 200 mW/cm² 60 s Plus 130 °C 10 min</i>	86	%
Young's modulus <i>DMTA 400 nm 200 mW/cm² 60 s Plus 130 °C 10 min</i>	1000	MPa
Shore hardness D <i>by the criteria of DIN EN ISO 868 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	56	
Glass transition temperature <i>DMTA 400 nm 200 mW/cm² 60 s Plus 130 °C 10 min</i>	48	°C
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: -40 °C - -20 °C 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	91	ppm/K
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: 60 °C - 140 °C 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	214	ppm/K
Shrinkage <i>DELO Standard 13 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	3.3	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62 Layer thickness: 4 mm 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min Type of storage: Media Medium: Distilled water Duration: 24 h</i>	0.5	wt. %
Volume resistivity <i>by the criteria of DIN EN 62631-3-1 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	>1E13	Ohm·cm
Surface resistance <i>by the criteria of DIN EN 62631-3-2 400 nm 200 mW/cm² 15 s Plus 130 °C 10 min</i>	>1E11	Ohm
Comparative Tracking Index <i>by the criteria of DIN EN 60112 400 nm 200 mW/cm² 60 s Plus 130 °C 10 min</i>	600	

Converting table

°F = (°C x 1.8) + 32	1 MPa = 145.04 psi
1 inch = 25.4 mm	1 GPa = 145.04 ksi
1 mil = 25.4 µm	1 cP = 1 mPa·s
1 oz = 28.3495 g	1 N = 0.225 lb

General curing and processing information

The curing time stated in the technical data was determined in the laboratory. It can vary depending on the adhesive quantity and component geometry and is therefore a reference value. The heating time of the components must be added to the actual curing time. It depends on component size and type of heat input. The specified curing temperature must be reached directly at the adhesive. Increasing or decreasing the curing

temperature and / or irradiation intensity and / or irradiation time shortens or prolongs the curing time and can lead to changed physical properties. Parameters can vary for pure light curing, pure heat curing and a combination of light and heat curing. Depending on the adhesive quantity used, exothermic reaction heat is generated which can lead to overheating. In this case, a lower curing temperature is to be selected. All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer. Curing until final strength proceeds within 24 hours at room temperature. Light and heat curing mechanisms can be used independently. High temperatures during or after curing can lead to post-crosslinking of the adhesive which influences the physical properties of the bond. Values measured after 24 h at approx. 23 °C / 50 % r.h., unless otherwise specified.

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.

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Instructions for use

You can find further details in the instructions for use.

The instructions for use are available on www.DELO-adhesives.com.

We will be pleased to send them to you on demand.

Occupational health and safety

See material safety data sheet.

Specification

Nothing contained in this Technical Datasheet shall be interpreted as any express warranty or guarantee. This Technical Datasheet is for reference only and does not constitute a product specification. Please ask our responsible Sales Engineer for the applicable product specification which includes defined ranges. DELO is neither liable for any values and content of this Technical Datasheet nor for oral or written recommendations regarding the use, unless otherwise agreed in writing. This limitation of liability is not applicable for damages resulting from intent, gross negligence or culpable breach of cardinal obligations, nor shall it apply in case of death or personal injury or in case of liability under any applicable compulsory law.

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