

DELO® PHOTOBOND® LA4860

Modified urethane polymer
Light-activated humidity curing

Base

one component, solvent free, thixotropic

Use

- also suitable for the bonding of opaque components through preactivation
- UV- and light-activation: can be cured through UV-blocking foils
- for flat or bead-shaped bonding applications or sealings. For example flacon- / instrument panel- or display bonding.
- the cured product is normally used in a temperature range of -40 °C to +110 °C; depending on the application, other limits may be more reasonable
- due to its fluorescence, the product is suitable where application control is necessary
- compliant with RoHS directive 2015/863/EU

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 (+18 °C to +25 °C); the conditioning time is approx. 0.5 h for containers up to 50 ml and approx. 4 h for containers up to 1,000 ml; additional heat addition is not allowed
- the adhesive can be applied by dispensing
- 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 before use, residues of other products must be completely removed; DELOTHEN EP is recommended to remove DELO PHOTOBOND residues

Curing

- Curing only after activation with UV light or visible light in a wavelength range of 320-450 nm, a large-scale humidity access is essential
- Short exposure times create an open time, so opaque parts can be joined
- After light activation, the product cures completely due to the following humidity curing mechanism

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

- not suitable + suitable ++ especially suitable

Curing parameters

- dependent on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer

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Technical data

Color cured in a layer thickness of approx. 0.1 mm	colorless fluorescent
Color uncured	yellowish fluorescent
Viscosity [mPas] at 23 °C, rheometer, PP20, gap 500µm, shear rate 2/s	70000
Recommended preactivation time [s] LED 400nm, intensity: 200 mW/cm ² , DELOLUXcontrol 500µm layer thickness	4
Open time after preactivation [s] DELO Standard 19 at standard conditions (23 °C/50 %relative humidity) and normal room lighting	23
Compression shear strength glass/glass [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	2
Compression shear strength glass/PC [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	3
Compression shear strength glass/PMMA [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	1
Compression shear strength PMMA/ABS [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	1
Compression shear strength PC/ABS [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	2
Compression shear strength PC-ABS/PC-ABS [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	1
Compression shear strength PC/PC [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	1
Compression shear strength Al/Al [MPa] DELO-Norm 5 LED intensity: 400 nm, 200mW/cm ² , DELOLUXcontrol, preactivation time: 4 s 72h at 23 °C/50% relative humidity	2
Tensile strength [MPa] DIN EN ISO 527 LED 400 nm, intensity: 200 mW/cm ² , DELOLUXcontrol curing time: 7 d at 23 °C / 50 % relative humidity	1

Elongation at tear [%] DIN EN ISO 527 LED 400 nm, intensity: 200 mW/cm ² , DELOLUXcontrol curing time: 7 d at 23 °C / 50 % relative humidity	350
Young's modulus [MPa] DIN EN ISO 527 LED 400 nm, intensity: 200 mW/cm ² , DELOLUXcontrol curing time: 7 d at 23 °C / 50 % relative humidity	<100
Glass transition temperature [°C] DMTA tension, 1Hz	-64
Shrinkage [vol. %] DELO Standard 13	3
Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.7
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 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 PHOTOBOND 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.