

# DELO<sup>®</sup> PHOTOBOND<sup>®</sup> LA4899

**modified urethane polymer | 1C | humidity-curing after preactivation**

free of solvents | thixotropic, unfilled | preactivated

### Special features of product

- compliant with RoHS Directive 2015/863/EU

### Typical area of use

- 40 - 120 °C

### Curing

Suitable lamp types LED 400 nm, LED 460 nm

Typical preactivation time

*intensity 300 mW/cm<sup>2</sup>  
LED 400 nm* 6 s

*intensity 400 mW/cm<sup>2</sup>  
LED 460 nm* 6 s

### Processing

Typical adhesive application needle dispensing, stencil printing, screen printing

Conditioning time (typical)

*when stored in cold conditions  
in containers up to 50 ml* 30 min

*when stored in cold conditions  
in containers up to 1,000 ml* 4 h

Processing time

*in standard climate +23 °C / 50 % r. h.  
in containers up to 600 ml* 14 d

Storage life in unopened original container

*at 0 °C to +10 °C* 6 month(s)

### Technical properties

Color in uncured condition yellowish

Color in cured condition in 0.1 mm layer thickness colorless

Fluorescence fluorescent

**Parameters**

Density 1.13 g/cm<sup>3</sup>  
*by the criteria of DIN 66137-2 | liquid*

Viscosity 200000 mPa·s  
*liquid | Rheometer | Shear rate: 2 1/s | Gap: 500 µm*

Viscosity 80000 mPa·s  
*liquid | Rheometer | Shear rate: 10 1/s | Gap: 500 µm*

Maximum curable layer thickness 1.5 mm  
*400 nm | 300 mW/cm<sup>2</sup> | 6 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Maximum curable layer thickness 2 mm  
*460 nm | 400 mW/cm<sup>2</sup> | 6 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Open time after preactivation 20 s  
*DELO Standard 19 | Preactivation | 400 nm | 300 mW/cm<sup>2</sup> | 6 s*

Open time after preactivation 30 s  
*DELO Standard 19 | Preactivation | 460 nm | 400 mW/cm<sup>2</sup> | 6 s*

Compression shear strength 3 MPa  
*DELO Standard 5 | **AI | AI** | Preactivation | 400 nm | 300 mW/cm<sup>2</sup> | 6 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Compression shear strength 6 MPa  
*DELO Standard 5 | **Glass | Glass** | Preactivation | 400 nm | 200 mW/cm<sup>2</sup> | 4 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Compression shear strength 6 MPa  
*DELO Standard 5 | **PC | PC** | Preactivation | 400 nm | 200 mW/cm<sup>2</sup> | 4 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Compression shear strength 5 MPa  
*DELO Standard 5 | **PC-ABS | PC-ABS** | Preactivation | 400 nm | 200 mW/cm<sup>2</sup> | 4 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Compression shear strength 7 MPa  
*DELO Standard 5 | **PMMA | PMMA** | Preactivation | 400 nm | 200 mW/cm<sup>2</sup> | 4 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Peel resistance 19 N/cm  
***PC | PC** | Preactivation | 400 nm | 200 mW/cm<sup>2</sup> | 4 s | Plus | at approx. +23 °C | Rel. air humidity: 50 % | 72 h*

Peel resistance <i>PC / PMMA   Preactivation   400 nm   200 mW/cm<sup>2</sup>   4 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   72 h</i>	22	N/cm
Tensile strength <i>by the criteria of DIN EN ISO 527   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   168 h</i>	4	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   168 h</i>	380	%
Young's modulus <i>DMTA   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   72 h</i>	< 10	MPa
Shore hardness A <i>by the criteria of DIN EN ISO 868   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   168 h</i>	35	
Glass transition temperature <i>DMTA   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   72 h</i>	- 80	°C
Shrinkage <i>DELO Standard 13   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   168 h</i>	1.3	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62   Layer thickness: 2 mm   400 nm   200 mW/cm<sup>2</sup>   60 s   Plus   at approx. +23 °C   Rel. air humidity: 50 %   168 h   Type of storage: Media   Medium: Distilled water   Storage temperature: at approx. +23 °C   Duration: 24 h</i>	1.9	wt. %

**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. 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. A short irradiation time (preactivation time) results in an open time within which opaque components can be joined. The product cures completely after preactivation by humidity at room temperature. Air humidity is mandatory for curing. All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer. 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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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

You can find further details in the instructions for use.

The instructions for use are available on [www.DELO-adhesives.com](http://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.

# CONTACT

DELO PHOTOBOND LA4899 | as of 12.10.2021 16:34 | Page 4 of 4

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