

# DELO<sup>®</sup> PHOTOBOND<sup>®</sup> AD414

**modified acrylate | 1C | UV- / VIS-curing**

free of solvents

### Special features of product

- compliant with RoHS Directive 2015/863/EU

### Typical area of use

- 40 - 120 °C
- pin sealing
- pin potting

### Curing

Suitable lamp types	LED 365 nm, LED 400 nm, UVA	
Typical irradiation time		
<i>intensity 55 - 60 mW/cm<sup>2</sup> UVA</i>	17	s
<i>intensity 200 mW/cm<sup>2</sup> LED 400 nm</i>	11	s

### Processing

Conditioning time (typical)		
<i>when stored in cold conditions in containers up to 50 ml</i>	30	min
<i>when stored in cold conditions in containers up to 1,000 ml</i>	4	h
Storage life in unopened original container		
<i>at 0 °C to +25 °C</i>	6	month(s)

### Technical properties

Color in uncured condition	blue
Color in cured condition in 0.1 mm layer thickness	blue
Color in cured condition in 1 mm layer thickness	blue
Fluorescence	fluorescent

**Parameters**

Density <i>liquid</i>	1.0	g/cm <sup>3</sup>
Viscosity <i>by the criteria of DIN EN 12092   liquid   Viscosimeter</i>	1300	mPa·s
Compression shear strength <i>DELO Standard 5   <b>Glass</b>   <b>AI</b>   60 mW/cm<sup>2</sup>   60 s</i>	8	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass</b>   <b>FR4</b>   60 mW/cm<sup>2</sup>   60 s</i>	6	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass</b>   <b>Glass</b>   60 mW/cm<sup>2</sup>   60 s</i>	7	MPa
Compression shear strength <i>DELO Standard 5   <b>Glass</b>   <b>PA6</b>   60 mW/cm<sup>2</sup>   60 s</i>	5	MPa
Compression shear strength <i>DELO Standard 5   <b>PC</b>   <b>PC</b>   60 mW/cm<sup>2</sup>   60 s</i>	6	MPa
Tensile strength <i>by the criteria of DIN EN ISO 527   60 mW/cm<sup>2</sup>   90 s</i>	8	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527   60 mW/cm<sup>2</sup>   90 s</i>	540	%
Shore hardness A <i>by the criteria of DIN EN ISO 868   60 mW/cm<sup>2</sup>   90 s</i>	44	
Glass transition temperature <i>DELO Standard 24   Rheometer</i>	28	°C
Coefficient of linear expansion <i>TMA   Evaluation T: 30 °C - 150 °C   60 mW/cm<sup>2</sup>   90 s</i>	260	ppm/K
Water absorption <i>by the criteria of DIN EN ISO 62   Type of storage: Media   Medium: Distilled water   Storage temperature: at approx. +23 °C</i>	0.7	wt. %
Decomposition temperature <i>DELO Standard 36</i>	220	°C
Volume resistivity	>1E13	Ohm·cm
Surface resistance	>1E12	Ohm

Dielectric strength 14 kV/mm  
*by the criteria of DIN EN60243-1*

Relative permittivity 4.0  
*by the criteria of RF-IV | 1 MHz*

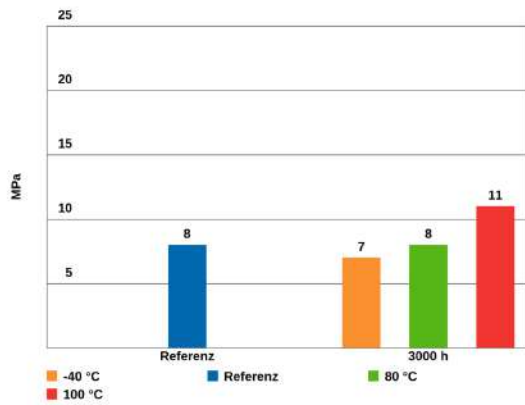
Relative permittivity 3.5  
*by the criteria of RF-IV | 10 MHz*

Relative permittivity 3.3  
*by the criteria of RF-IV | 100 MHz*

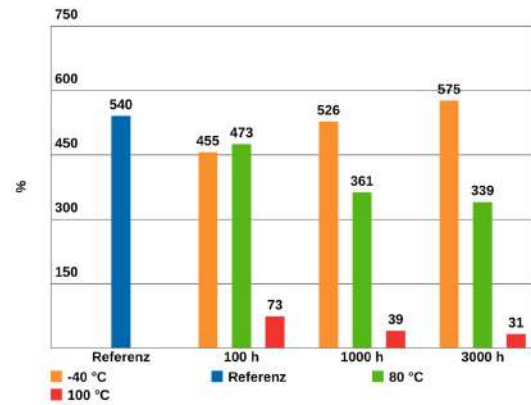
Relative permittivity 3.0  
*by the criteria of RF-IV | 1000 MHz*

Comparative Tracking Index 600 M  
*by the criteria of DIN EN 60112*

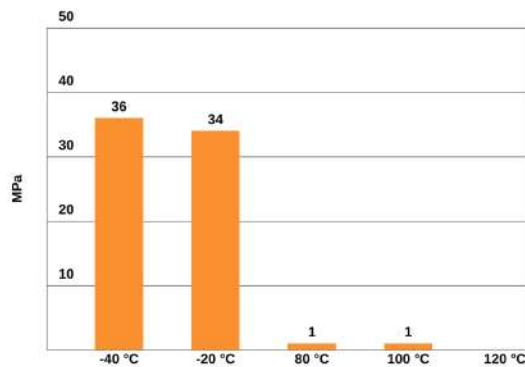
Tensile strength after thermal storage, based on DIN EN ISO 527



Elongation at tear after thermal storage, based on DIN EN ISO 527



Compression shear strength measured at the stated temperatures



Substrates: glass / glass

**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

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**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. 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.

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**

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.

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