

### **DELO DUALBOND® AD4950**

UV/light and humidity-curing acrylate adhesive, medium viscosity

#### **Base**

- modified acrylate
- one-component, solvent-free

#### **Use**

- multi-purpose for plastic/plastic, glass/plastic, metal/plastic, glass/glass and glass/metal bondings
- tension-equalizing thanks to high elongation at tear
- the cured product is normally used in a temperature range of -40 °C to +120 °C; depending on the application, other limits may be more reasonable
- positively tested according to UL 94 HB
- compliant with RoHS directive 2015/863/EU

#### **Processing**

- the adhesive is supplied ready for use; in case of cool or refrigerated storage, 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 50 ml and approx. 4 h for containers up to 1,000 ml; additional heat addition is not allowed
- the adhesive is usually applied by dispensing
- the adhesive can be processed well from the original container or with DELO dispensing units
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- use DELOTHEN cleaners for the cleaning of bonding surfaces
- for further information please refer to our instructions for use DELO DUALBOND and the brochure "Light Curing"

#### **Curing**

- with UV light or visible light in a wavelength range of 320 - 450 nm and by humidity in shadow zones
- humidity curing starts at the surface of the acrylate; a skin is formed after a few hours; deep curing of the acrylate proceeds with approx. 2mm/24h

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

- not suitable + suitable ++ especially suitable

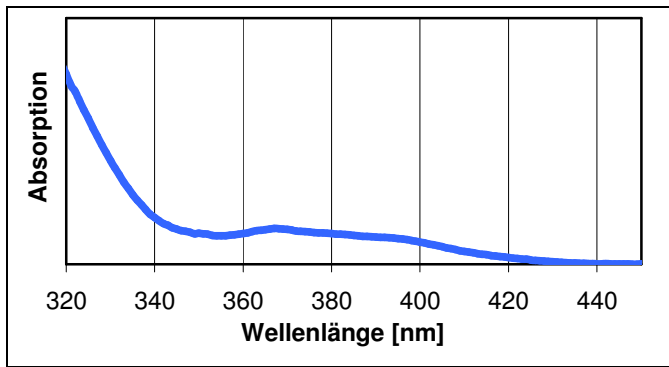
#### **Curing parameters**

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

**DELO** Industrial Adhesives  
DELO-Allee 1  
86949 Windach · Germany  
Phone +49 8193 9900-0  
Fax +49 8193 9900-144  
info@DELO.de · www.DELO.de

## Absorption spectrum

- photoinitiation system in acrylate matrix



## Technical data

### *Color*

uncured in 0.1 mm layer thickness

colorless

### Density [g/cm<sup>3</sup>]

DELO standard 13

1.0

### Viscosity [mPas]

at 23 °C, Brookfield spindle/rpm 7/5

36000

### Viscosity [mPas]

at 23 °C, rheometer, PP20, gap 500µm, shear rate 2/s

25400

### Minimal curing time [s]

DELO Standard 23, UVA intensity: 60 mW/cm<sup>2</sup>, DELOLUXcontrol

10

### Minimal curing time [s]

DELO Standard 23, LED intensity: 200 mW/cm<sup>2</sup>, DELOLUXcontrol

4

### Compression shear strength glass/glass [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>, DELOLUXcontrol, irradiation time: 60 s

9

### Compression shear strength glass/Al [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>, DELOLUXcontrol, irradiation time: 60 s

6

### Compression shear strength glass/PA [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>, DELOLUXcontrol, irradiation time: 60 s

8

### Compression shear strength glass/PBT [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>; DELOLUXcontrol, irradiation time: 60 s

4

### Compression shear strength glass/FR4 [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>, DELOLUXcontrol, irradiation time: 60 s

11

### Compression shear strength PMMA/PMMA [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm<sup>2</sup>, DELOLUXcontrol, irradiation time: 60 s

8

### Young's modulus [MPa]

according to DIN EN ISO 527

45

### Tensile strength [MPa]

according to DIN EN ISO 527

8

### Elongation at tear [%]

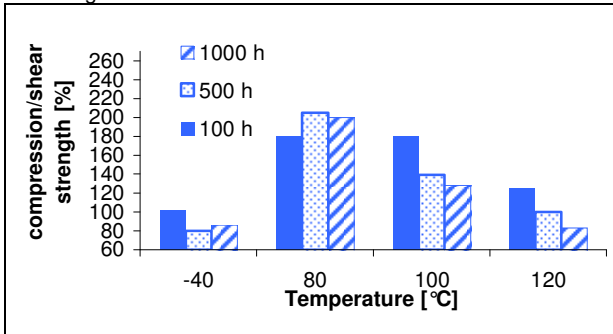
according to DIN EN ISO 527

270

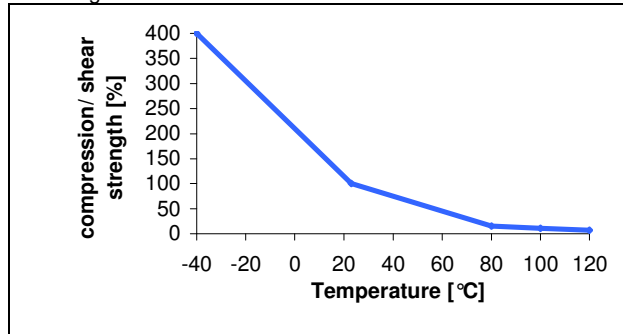
<b>Shore hardness A</b> according to DIN EN ISO 868	77
<b>Glass transition temperature [°C]</b> DMTA tension, 1Hz	72
<b>Shrinkage [vol. %]</b> DELO Standard 13	4.6
<b>Water absorption [weight %]</b> according to DIN EN ISO 62	2.5
<b>Decomposition temperature [°C]</b> DELO Standard 36	206
<b>Coefficient of linear expansion [ppm/K]</b> TMA, in a temperature range of +30 to +140 °C	217
<b>Ion content Cl- [ppm]</b> extraction	<5
<b>Ion content F- [ppm]</b> extraction	<5
<b>Ion content K+ [ppm]</b> extraction	<5
<b>Ion content Na+ [ppm]</b> extraction	<5
<b>Processing time</b> at room temperature (max. 25 °C)	4 weeks
<b>Storage life</b> at 0 °C to +10 °C in unopened original container	6 months

## Performance under temperature influence

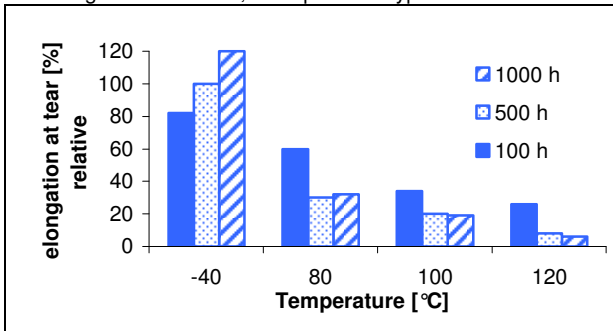
compression/shear strength glass/glass after temperature storage based on initial value at room temperature measured at room temperature (approx. 23 °C) according to DELO standard 5



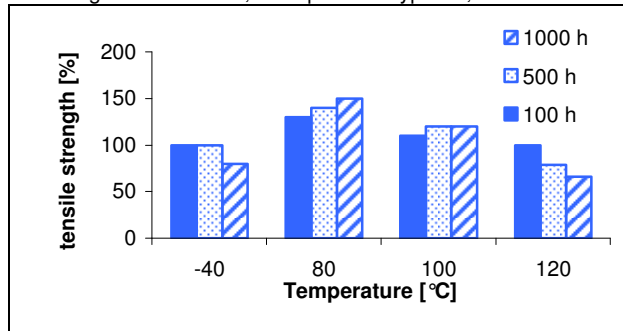
compression/shear strength glass/glass at temperature based on initial value at room temperature measured at determined temperature according to DELO standard 5



elongation at tear after temperature storage based on initial value at room temperature measured at room temperature (approx. 23 °C) according to DIN EN 527, test specimen type 5A thickness 2 mm



tensile strength after temperature storage based on initial value at room temperature measured at room temperature (approx. 23 °C) according to DIN EN 527, test specimen type 5A, thickness 2 mm



## 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](http://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.