

### **DELO DUALBOND® MF4990**

light and humidity-curing acrylate adhesive, high viscosity

#### **Base**

- modified acrylate
- one-component, solvent-free

#### **Use**

- multi-purpose for plastic/plastic, glass/plastic, metal/plastic, glass/glass and glass/metal bondings
- easy application control due to fluorescent color with emission wavelengths of about 440 and 610 nm
- 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
- compliant with RoHS directive 2015/863/EU

#### **Processing**

- supplied ready for use; in case of cold 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
- 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
- use DELOTHEN EP cleaner for the cleaning of glass

#### **Curing**

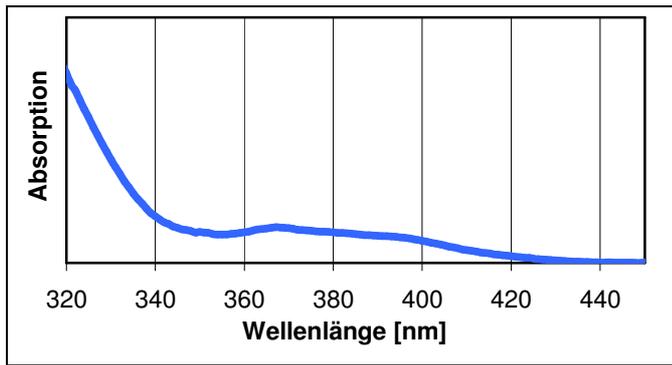
- with UV light or visible light in a wavelength range of 320 - 450 nm and by humidity in shadow zones
- humidity curing starts at the surface of the acrylate; a skin is formed after a few hours; deep curing of the acrylate proceeds with approx. 2mm/24h

#### **Curing parameters**

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

## Absorption spectrum

- photoinitiation system in acrylate matrix



## Technical data

*Color*  
cured

red fluorescent

**Viscosity [mPas]**

at 23 °C, rheometer, PP20, gap 200µm, shear rate 1/s

75000

**Viscosity [mPas]**

at 23 °C, Brookfield spindle/rpm 7/5

120000

**Minimal curing time [s]**

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

15

**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

4

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

DELO Standard 5

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

7

**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 PC/ABS [MPa]**

DELO Standard 5

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

4

**Young's modulus [MPa]**

DIN EN ISO 527

26

**Tensile strength [MPa]**

DIN EN ISO 527

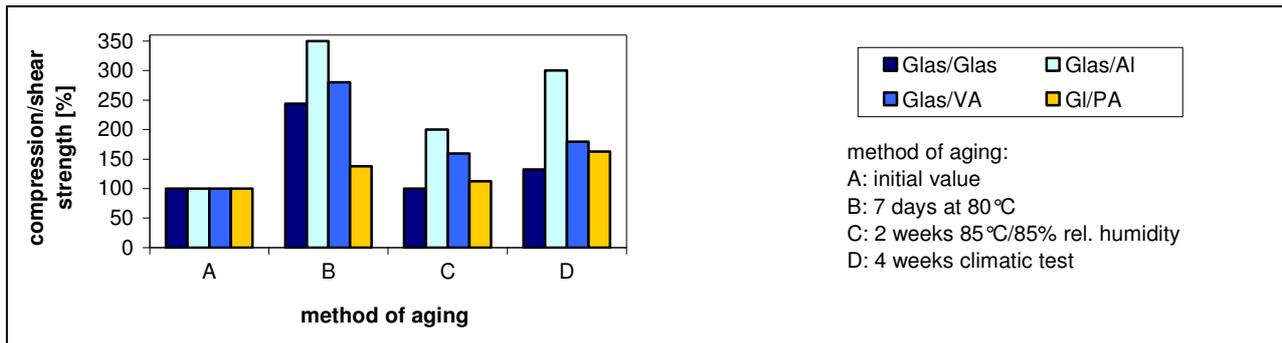
6

**Elongation at tear [%]**

DIN EN ISO 527

80

**Compression shear strength**  
after aging



**Shore hardness A**  
according to DIN EN ISO 868

65

**Shrinkage [vol. %]**  
DELO Standard 13

3.6

**Water absorption [weight %]**  
DIN EN ISO 62

2.8

**Glass transition temperature [°C]**  
DMTA

70

**Processing time**  
at room temperature (max. 25 °C)

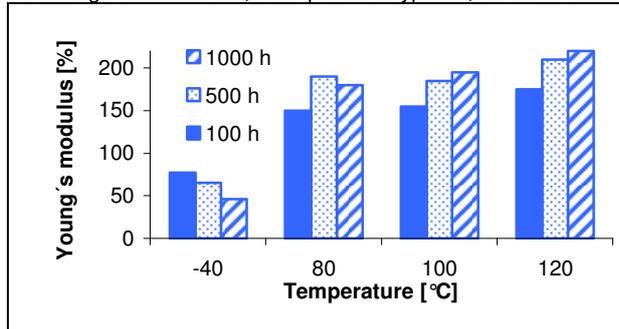
2 weeks

**Storage life**  
at 0 °C to +10 °C in unopened original container

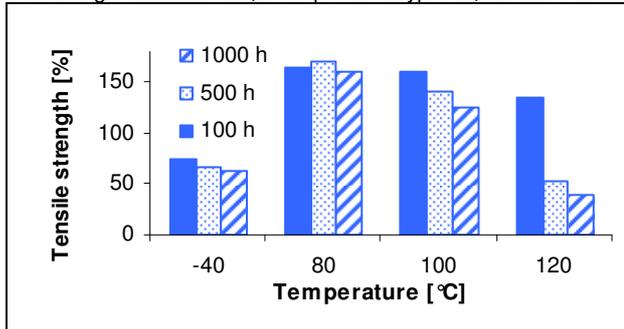
6 months

## Performance under temperature influence

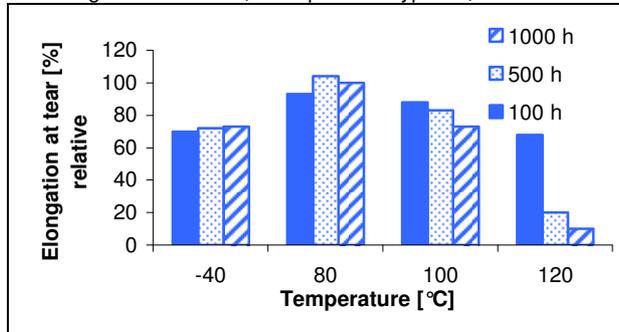
Young's modulus after temperature storage  
based on initial value at room temperature  
measured at room temperature (approx. 23 °C)  
according to DIN EN 527, test specimen type 5A, thickness 2 mm



tensile strength after 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



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



## 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 the product for the intended purpose by considering all specific requirements. Type and 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. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for the intended 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 DELOs' General Terms of Business. Verbal side agreements are not permitted. This document is subject to change.

### 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.