

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

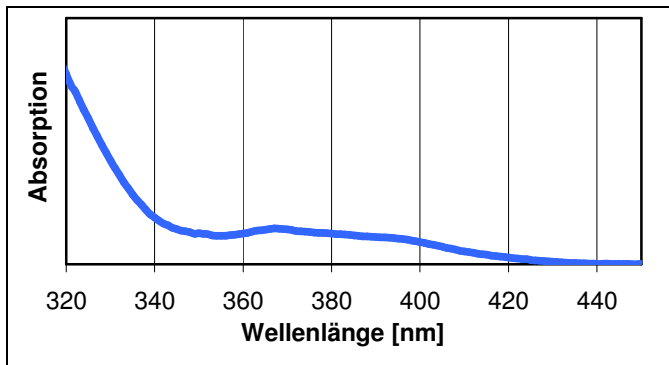
- with UV light or visible light in a wavelength range of 320 - 450 nm and by humidity in shadow zones
- humidity curing starts at the surface of the acrylate; a skin is formed after a few hours; deep curing of the acrylate proceeds with approx. 2mm/24h

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

Density [g/cm³]

at room temperature (approx. 23 °C)

1.07

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/cm², DELOLUXcontrol

15

Compression shear strength glass/glass [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s

9

Compression shear strength glass/Al [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s

4

Compression shear strength glass/FR4 [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s

7

Compression shear strength glass/PA [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s

8

Compression shear strength glass/PBT [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm²; DELOLUXcontrol, irradiation time: 60 s

4

Compression shear strength PC/ABS [MPa]

DELO Standard 5

UVA intensity: 55 - 60 mW/cm², DELOLUXcontrol, irradiation time: 60 s

4

Young's modulus [MPa]

DIN EN ISO 527

26

Tensile strength [MPa]

DIN EN ISO 527

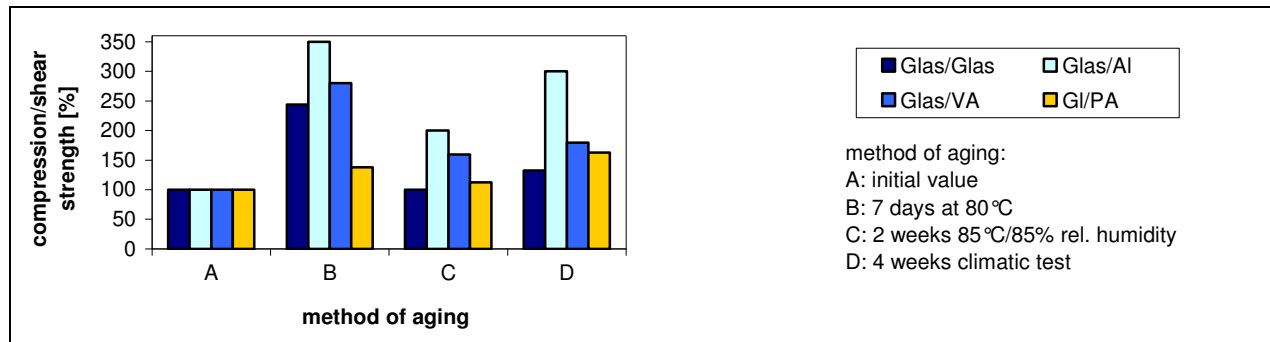
6

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)

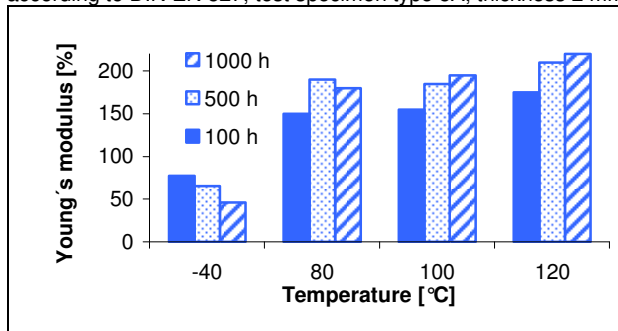
2 weeks

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

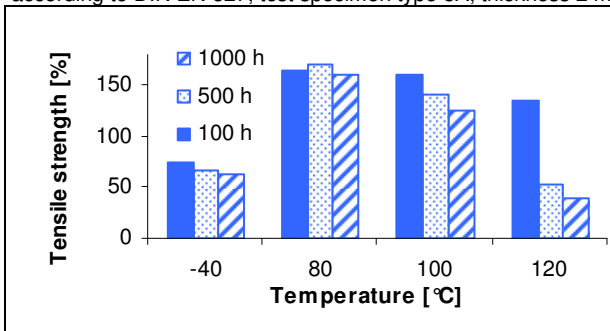
6 months

Performance under temperature influence

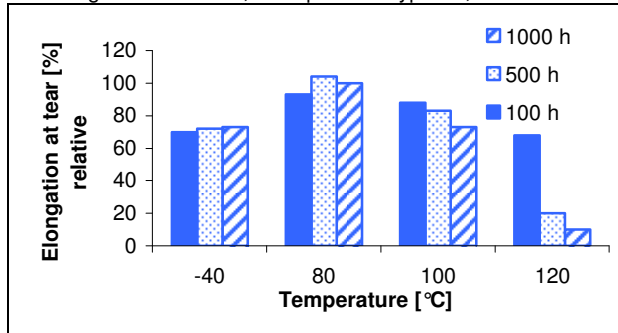
Young's modulus after temperature storage
based on initial value at room temperature
measured at room temperature (approx. 23 °C)
according to DIN EN 527, test specimen type 5A, thickness 2 mm



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 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. 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.