

DELO®-PUR 9691

Multi-purpose 2c polyurethane, cures at room temperature, medium-viscous, filled

Base

- polyurethane
- two-component

Use

- for the bonding of metal, plastic and sometimes even elastomers
- initial strength is reached fast
- good tough-elastic properties
- very good strengths under static and dynamic conditions
- mixture is flowable
- also suitable for small castings
- the cured product is normally used in a temperature range of -40 °C to +125 °C; depending on the application, other limits may be more reasonable
- compliant with RoHS directive 2015/863/EU
- successfully tested according to UL 94 HB
- tested for biocompatibility and meets the requirements according to DIN EN ISO 10993-5: test for cytotoxicity

Processing

- supplied ready for use and can be processed well from the original container
- components A and B must be mixed homogeneously in the mixing ratio stated below
- using the DELO-AUTOMIX system for processing is especially advantageous
- 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

Curing

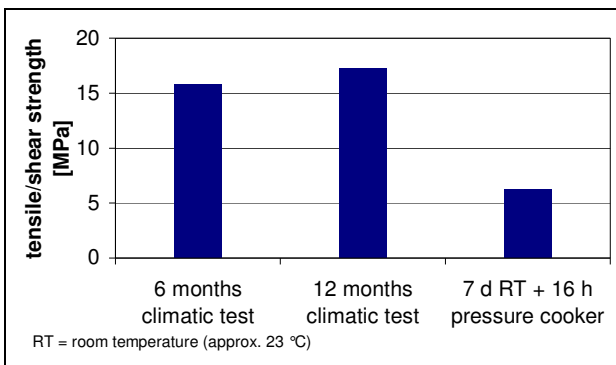
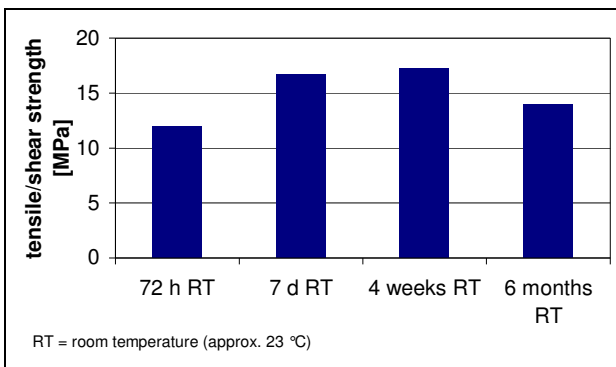
- at room temperature (ca. 23 °C)
- increased temperatures accelerate curing
- applying heat could change physical characteristics

Technical data

| | |
|-------------------------------------|----------|
| Color | black |
| Filler | minerals |
| Mixing ratio | |
| (A : B) according to weight | 1 : 1 |
| (A : B) according to volume | 1 : 1 |
| Density [g/cm ³] | 1.45 |
| at room temperature (approx. 23 °C) | |

| | |
|--|-------|
| Viscosity of component A [mPas] Brookfield at 23 °C | 80000 |
| Viscosity of component B [mPas] Brookfield at 23 °C | 80000 |
| Processing time in 3 g preparation [min] at room temperature (approx. 23 °C) | 10 |
| Maximum reaction temperature [°C] in 100 g preparation | 40 |
| Curing time until initial strength [min] tensile shear strength 1 - 2 MPa at room temperature (approx. 23 °C) | 90 |
| Curing time until functional strength [h] tensile shear strength > 10 MPa at room temperature (approx. 23 °C) | 6 |
| Curing time until functional strength [min] at +80 °C | 20 |
| Curing time until final strength [h] at room temperature (approx. 23 °C) | 72 |
| Curing time until final strength [min] at +80 °C | 22 |
| <i>Tensile shear strength A/AI [MPa]</i> by the criteria of DIN EN 1465, sand-blasted component thickness 1.6 mm, curing: 24 h at room temperature (approx. 23 °C) | 12 |

Tensile shear strength A/AI
by the criteria of DIN EN 1465, sand-blasted
component thickness 1.6 mm

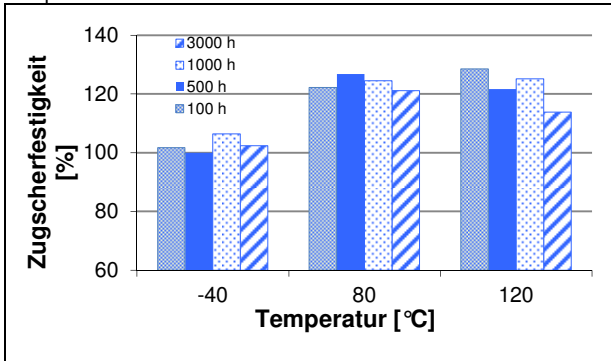


| | |
|---|----------|
| Tensile shear strength Al/Al [MPa] DELO Standard 39, sand-blasted component thickness: 6 mm after 72 h at room temperature (approx. 23 °C) | 13 |
| Floating roller peel resistance St/St [N/mm] DELO Standard 38, sand-blasted component thickness: 1.5 mm | 6 |
| Temperature stability Al/Al at +100 °C [MPa] according to DIN EN 1465, sand-blasted component thickness: 1.6 mm | 2.5 |
| Tensile strength [MPa] according to DIN EN ISO 527 | 13 |
| Elongation at tear [%] according to DIN EN ISO 527 | 20 |
| Young's modulus [MPa] according to DIN EN ISO 527 | 500 |
| Shore hardness D according to DIN EN ISO 868 | 69 |
| Glass transition temperature [°C] DELO Standard 24, Rheometer, 2nd heating process | 49 |
| Coefficient of linear expansion [ppm/K] in a temperature range of +25 to +140 °C | 162 |
| Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C) | 0.24 |
| Decomposition temperature [°C] DELO Standard 36 | 225 |
| Specific volume resistance [Ωcm] VDE 0303, part 30 | >1xE13 |
| Surface resistance [Ω] VDE 0303, part 30 | >1xE13 |
| Dielectric strength [kV/mm] VDE 0303, part 2 | 16.6 |
| Creep resistance CTI VDE 0303, part 11, DIN EN 60112 | 600 M |
| Storage life at room temperature (approx. 23 °C) in unopened original container | 6 months |
| Performance under chemical influence compression shear strength after storage for 1,000 h based on initial value at room temperature measured at room temperature (approx. 23 °C) according to DELO Standard 5 | |

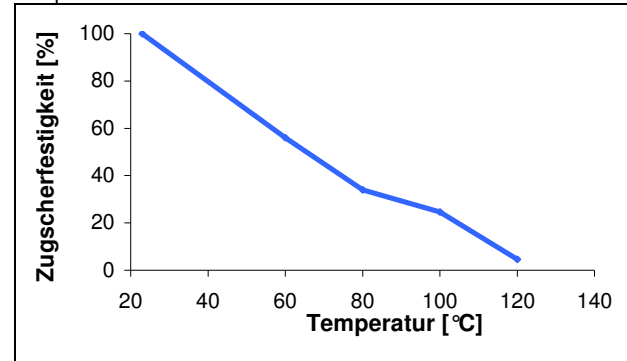
| Chemical medium | Compression/shear strength Al/Al [%] |
|--|--------------------------------------|
| ATF gear oil | 37 |
| Diesel fuel | 44 |
| engine oil 10W40 | 37 |
| demineralised water / glykol mixture 50:50 | 35 |

Performance under temperature influence

Zugscherfestigkeit Al/Al sandgestrahlt nach Temperaturlagerung bezogen auf Anfangswert bei Raumtemperatur gemessen bei Raumtemperatur (ca. 23 °C) entsprechend DIN EN 1465

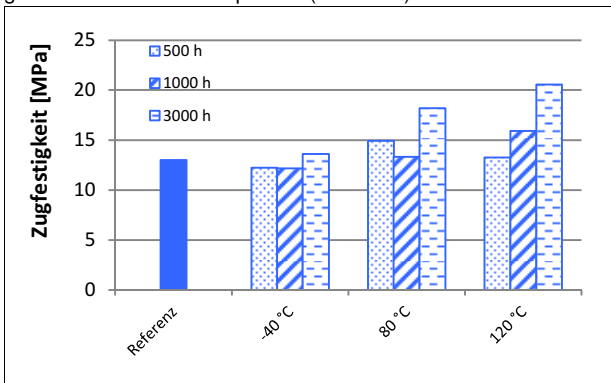


Zugscherfestigkeit Al/Al sandgestrahlt bei Temperatur bezogen auf Wert bei Raumtemperatur gemessen bei angegebener Temperatur entsprechend DIN EN 1465



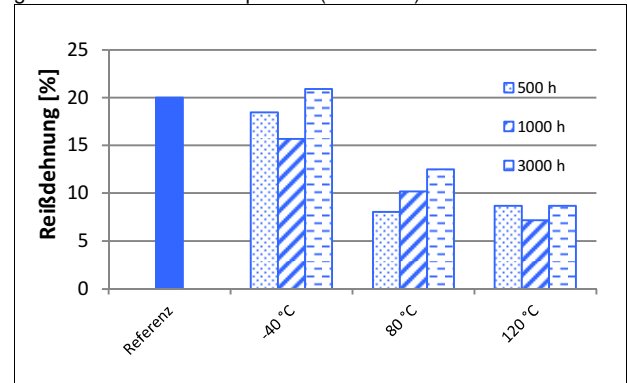
Zugfestigkeit

nach 500 h / 1.000 h / 3.000 h Temperaturalterung in Anlehnung an DIN EN ISO 527
Schichtdicke: 4 mm
Aushärtung: 7 d bei Raumtemperatur (ca. 23 °C)
gemessen bei Raumtemperatur (ca. 23 °C)



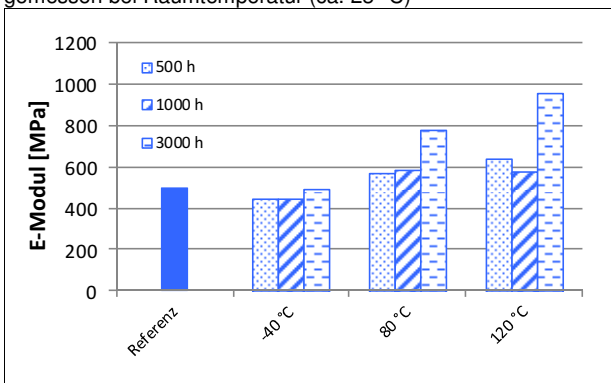
Reißdehnung

nach 500 h / 1.000 h / 3.000 h Temperaturalterung in Anlehnung an DIN EN ISO 527
Schichtdicke: 4 mm
Aushärtung: 7 d bei Raumtemperatur (ca. 23 °C)
gemessen bei Raumtemperatur (ca. 23 °C)



E-Modul

nach 500 h / 1.000 h / 3.000 h Temperaturalterung in Anlehnung an DIN EN ISO 527
Schichtdicke: 4 mm
Aushärtung: 7 d bei Raumtemperatur (ca. 23 °C)
gemessen bei Raumtemperatur (ca. 23 °C)



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-PUR 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.