

### **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**

- components A and B must be mixed well or homogenized in the mixing ratio stated below
- supplied ready for use and can be processed well from the original container
- using the DELO-AUTOMIX system for processing is especially advantageous, see selection chart "DELO-AUTOMIX system"
- 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**

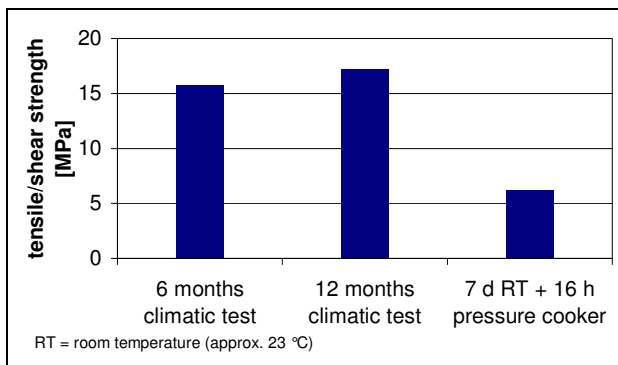
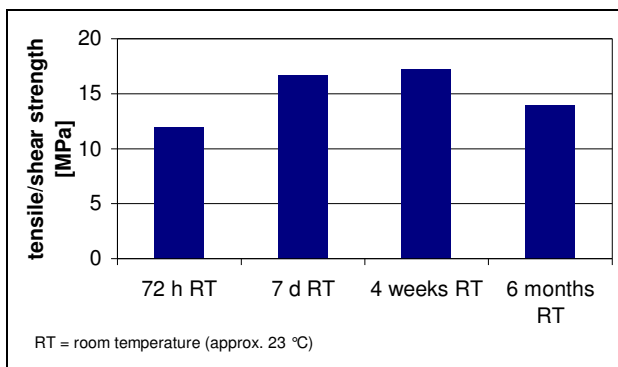
- at room temperature (ca. 23 °C)
- increased temperatures accelerate curing
- applying heat could change physical characteristics

#### **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 <sup>3</sup> ] at room temperature (approx. 23 °C)	1.45

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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
Maximal 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</i> [MPa] DIN EN 1465, sand-blasted component thickness: 1.6 mm after 24 h at room temperature (ca. 23 °C)	12
Tensile shear strength A/AI DIN En 1465, sand-blasted component thickness: 1.6 mm	

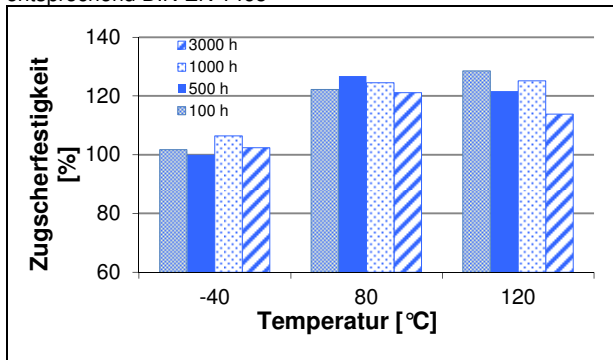


<b>Tensile shear strength Al/Al [MPa]</b> DELO Standard 39, sand-blasted component thickness: 6 mm after 72 h at room temperature (approx. 23 °C)	13
<b>Floating roller peel resistance St/St [N/mm]</b> DELO Standard 38, sand-blasted component thickness: 1.5 mm	6
<b>Temperature stability Al/Al at +100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

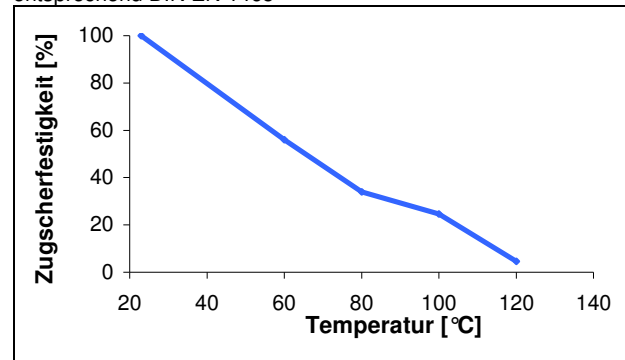
Chemical medium	Compression/shear strength Al/Al [%]
ATF gear oil	37
Diesel fuel	44
engine oil 10W40	37
demineralised water / glykol mixture 50:50	35

## 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

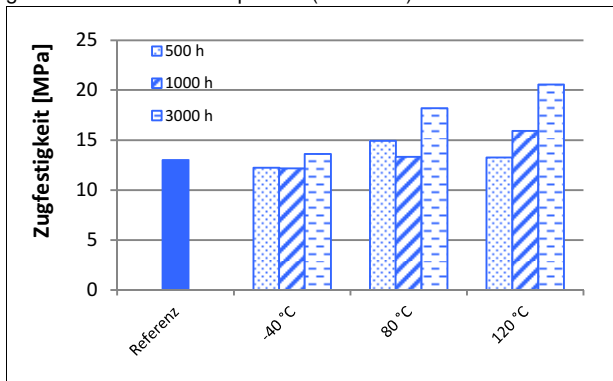


Zugscherfestigkeit Al/Al sandgestrahlt bei Temperatur bezogen auf Wert bei Raumtemperatur gemessen bei angegebener Temperatur entsprechend DIN EN 1465



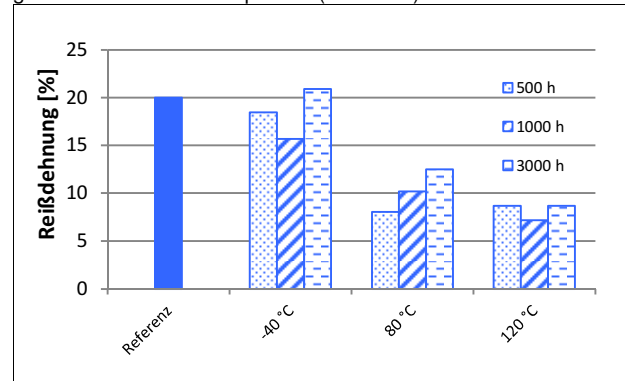
## Zugfestigkeit

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)



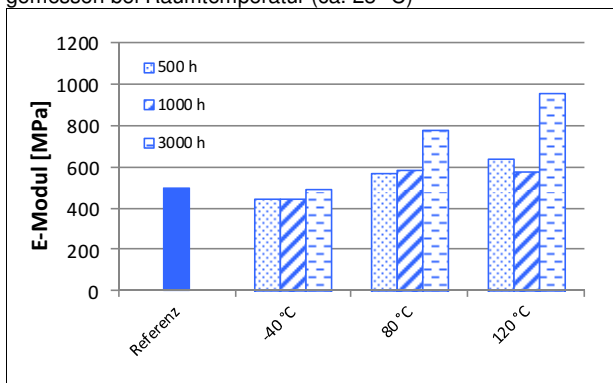
## Reißdehnung

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](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.