

# DELO-DUOPOX<sup>®</sup> 02 rapid

**modified epoxy resin | 2C | room-temperature-curing**

unfilled | suitable for DELO-AUTOMIX

### Special features of product

- compliant with RoHS Directive 2015/863/EU

### Function

- electronic adhesive

### Typical area of use

- -40 - 80 °C

### Curing

Curing time

<i>until initial strength at rt approx. +23 °C tensile shear strength 1 - 2 MPa</i>	12	min
<i>until functional strength at rt approx. +23 °C tensile shear strength &gt; 10 MPa</i>	24	h
<i>until final strength at rt approx. +23 °C</i>	72	h
<i>until final strength at +60 °C</i>	1.5	h
<i>until functional strength at +80 °C tensile shear strength &gt; 10 MPa</i>	15	min
<i>until final strength at +80 °C</i>	60	min

### Processing

Mixing ratio A : B - volume	1 : 1
Mixing ratio A : B - weight	1 : 1
Processing time after mixing	
<i>in 3 g batch at rt approx. +23 °C</i>	6 min

Reaction temperature (max.)

*in 20 g batch* 130 °C

Storage life in unopened original container

*up to <= 1 l per component at +15 °C to +30 °C* 12 month(s)

**Technical properties**

Color in cured condition in 1 mm layer thickness yellowish

Transparency in cured condition in 1 mm layer thickness transparent

**Parameters**

Density 1.17 g/cm<sup>3</sup>  
*Component A | DELO Standard 13 | liquid*

Density 1.14 g/cm<sup>3</sup>  
*Component B | DELO Standard 13 | liquid*

Viscosity 7500 mPa·s  
*Component A | liquid | Rheometer | Shear rate: 2 1/s | Gap: 37 µm*

Viscosity 18000 mPa·s  
*Component B | liquid | Rheometer | Shear rate: 2 1/s | Gap: 37 µm*

Tensile shear strength 1 MPa  
*Based on DIN EN 1465 | AI | AI | Pretreatment: sand-blasted | at approx. +23 °C | 7 d | Measuring temperature: 100 °C*

Tensile shear strength 16 MPa  
*DELO Standard 39 | AI | AI | Pretreatment: sand-blasted | at approx. +23 °C | 24 h*

Tensile shear strength 18 MPa  
*Based on DIN EN 1465 | AI | AI | Pretreatment: sand-blasted | at approx. +23 °C | 72 h*

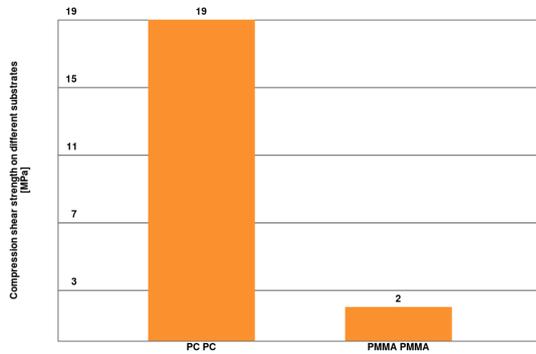
Peel resistance 2.5 N/mm  
*DELO Standard 38 | Steel | Steel | Pretreatment: sand-blasted | at approx. +23 °C | 7 d*

Tensile strength 24 MPa  
*Based on DIN EN ISO 527 | at approx. +23 °C | 7 d*

Elongation at tear 20 %  
*Based on DIN EN ISO 527 | at approx. +23 °C | 7 d*

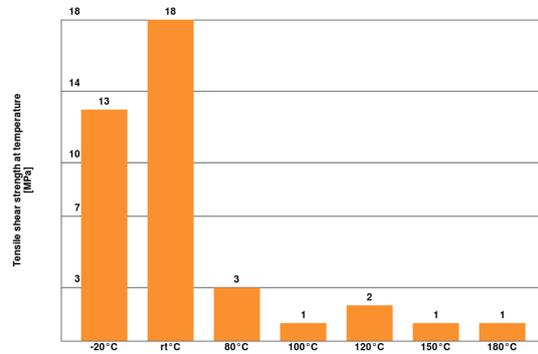
Young's modulus <i>Based on DIN EN ISO 527   at approx. +23 °C   7 d</i>	1000	MPa
Shore hardness D <i>Based on DIN EN ISO 868   at approx. +23 °C   7 d</i>	74	
Glass transition temperature <i>DELO Standard 24   Rheometer   at approx. +23 °C   7 d</i>	31	°C
Coefficient of linear expansion <i>DELO Standard 26   TMA   Evaluation T: 30 °C - 140 °C</i>	211	ppm/K
Shrinkage <i>DELO Standard 13   at approx. +23 °C   7 d</i>	4	vol. %
Water absorption <i>Based on DIN EN ISO 62   at approx. +23 °C   7 d   Type of storage: Media   Medium: Distilled water   Storage temperature: at approx. +23 °C   Duration: 24 h</i>	0.7	wt. %
Decomposition temperature <i>DELO Standard 36   at approx. +23 °C   7 d   Type of storage: Temp.   Storage temperature: 100 °C   Duration: 24 h</i>	280	°C
Volume resistivity <i>Based on VDE 0303-30</i>	>1xE12	Ohm·cm
Surface resistance <i>Based on DIN EN 62631-3-2</i>	1xE11	Ohm
Dielectric strength <i>Based on DIN EN 60243-1</i>	17	kV/mm
Creep resistance CTI M <i>Based on DIN EN 60112</i>	600	
Relative permittivity <i>Based on VDE 0303-4</i>	3.2	

Compression shear strength on different substrates



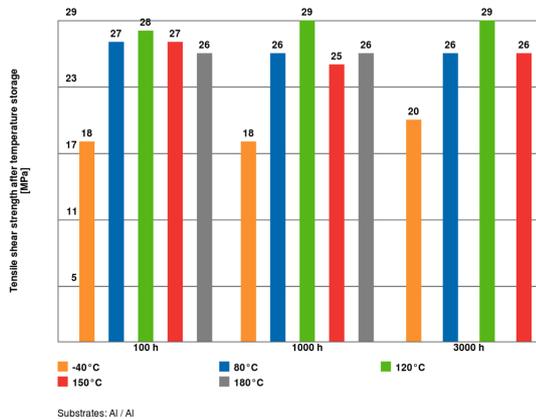
DELO Standard 5

Tensile shear strength measured at stated temperatures



Substrates: Al / Al

Tensile shear strength after temperature storage / based on DIN EN 1465



Substrates: Al / Al

### Converting table

°F = (°C x 1.8) + 32	1 MPa = 145.04 psi
1 inch = 25.4 mm	1 GPa = 145.04 ksi
1 mil = 25.4 µm	1 cP = 1 mPa·s
1 oz = 28.3495 g	1 N = 0.225 lb

### General curing and processing information

The curing time stated in the technical data was determined in the laboratory. It can vary depending on the adhesive quantity and component geometry and is therefore a reference value. Curing can be supported or accelerated by heat input. Additional heat input can change the physical properties of the product. Values measured after 24 h at approx. 23 °C / 50 % r.h., unless otherwise specified.

## 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

You can find further details in the instructions for use.

The instructions for use are available on [www.DELO-adhesives.com](http://www.DELO-adhesives.com).

We will be pleased to send them to you on demand.

## Occupational health and safety

See material safety data sheet.

## Specification

Nothing contained in this Technical Datasheet shall be interpreted as any express warranty or guarantee. This Technical Datasheet is for reference only and does not constitute a product specification. Please ask our responsible Sales Engineer for the applicable product specification which includes defined ranges. DELO is neither liable for any values and content of this Technical Datasheet nor for oral or written recommendations regarding the use, unless otherwise agreed in writing. This limitation of liability is not applicable for damages resulting from intent, gross negligence or culpable breach of cardinal obligations, nor shall it apply in case of death or personal injury or in case of liability under any applicable compulsory law.

# CONTACT

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ADHESIVES

DISPENSING

CURING

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