

### **DELO-DUOPOX® AD840**

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

#### **Base**

- epoxy resin
- two-component, thixotropic

#### **Use**

- high-strength construction adhesive
- multi-purpose
- the cured product is normally used in a temperature range of -40 °C to +150 °C; depending on the application, other limits may be more reasonable
- tested for biocompatibility and meets the requirements according to DIN EN ISO 10993-5: test for cytotoxicity
- successfully tested according to UL 94 HB (by an independent test institute)
- compliant with RoHS directive 2015/863/EU

#### **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
- increased temperatures accelerate curing
- applying heat could change physical characteristics

#### **Technical data**

<i>Color</i>	dark gray
Filler	minerals
Mixing ratio (A : B) according to weight	0.88 : 1
(A : B) according to volume	1 : 1
Density of component A [g/cm <sup>3</sup> ] DELO Standard 13 at room temperature (approx. 23 °C)	1.18
Density of component B [g/cm <sup>3</sup> ] DELO Standard 13 at room temperature (approx. 23 °C)	1.33

**Viscosity of component A [mPas]** 100000  
at 23 °C, rheometer

**Viscosity of component B [mPas]** 100000  
at 23 °C, rheometer

**Processing time in 100 g preparation [min]** 90  
at room temperature (approx. 23 °C)

**Maximal reaction temperature [°C]** 86  
in 100 g preparation at room temperature (approx. 23 °C)

**Curing time until initial strength [h]** 7  
tensile shear strength 1 - 2 MPa  
at room temperature (approx. 23 °C)

**Curing time until initial strength [min]** 13  
at +80 °C

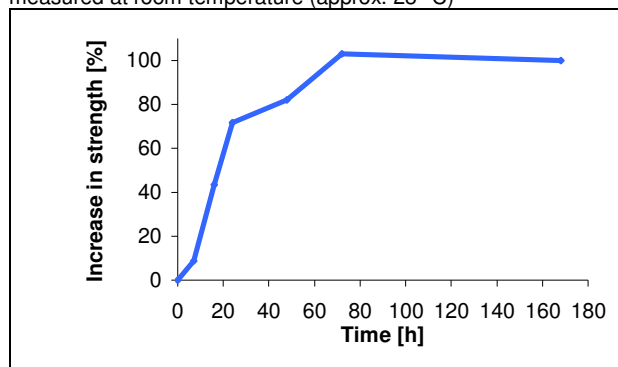
**Curing time until functional strength [h]** 16  
tensile shear strength > 10 MPa  
at room temperature (approx. 23 °C)

**Curing time until functional strength [min]** 20  
at +80 °C

**Tensile shear strength Al/Al [MPa]** 22  
DIN EN 1465, sand-blasted  
component thickness: 1.6 mm  
curing: 72 h at room temperature (approx. 23 °C)

**Tensile shear strength Al/Al [MPa]** 27  
DELO Standard, blank  
component thickness: 6 mm  
curing: 7 d at room temperature (approx. 23 °C)

based on initial value at room temperature  
measured at room temperature (approx. 23 °C)



**Tensile shear strength St/St [MPa]** 22  
DIN EN 1465, sand-blasted  
component thickness: 1.6 mm  
curing: 7 d at room temperature (approx. 23 °C)

**Compression shear strength Al/Al [MPa]** 26  
DELO-Norm 5  
Curing: 7 d at room temperature (ca. 23 °C)

**Compression shear strength stainless steel/stainless steel [MPa]** 30  
DELO-Norm 5  
Curing: 7 d at room temperature (ca. 23 °C)

**Compression shear strength PA/PA [MPa]** 17  
DELO Standard 5  
Curing: 7 d at room temperature (ca. 23 °C)

<b>Compression shear strength PC/ABS [MPa]</b> DELO Standard 5 Curing: 7 d at room temperature (ca. 23 °C)	13
<b>Compression shear strength ABS/ABS [MPa]</b> DELO Standard 5 Curing: 7 d at room temperature (ca. 23 °C)	7.5
<b>Compression shear strength glass/glass [MPa]</b> DELO Standard 5 Curing: 7 d at room temperature (ca. 23 °C)	29
<b>Floating roller peel resistance St/St [N/mm]</b> DELO Standard 38, St/St sand-blasted component thickness: 1.6 mm and 0.5 mm	6
<b>Temperature stability Al/Al at +100 °C [MPa]</b> DIN EN 1465, sand-blasted component thickness: 1.6 mm adhesive layer thickness: 0.1 mm	5
<b>Temperature stability Al/Al at +120 °C [MPa]</b> DIN EN 1465, sand-blasted component thickness: 1.6 mm adhesive layer thickness: 0.1 mm	4
<b>Tensile strength [MPa]</b> DIN EN ISO 527 curing: 7 d room temperature (approx. 23 °C)	30
<b>Elongation at tear [%]</b> DIN EN ISO 527 curing: 7 d room temperature (approx. 23 °C)	6
<b>Young's modulus [MPa]</b> DIN EN ISO 527 curing: 7 d room temperature (approx. 23 °C)	1700
<b>Shore hardness D</b> DIN EN ISO 868 after storage at rt for 7 d	76
<b>Glass transition temperature [°C]</b> DELO Standard 24, Rheometer, 2nd heating process	69
<b>Coefficient of linear expansion [ppm/K]</b> TMA, DELO Standard 26 in a temperature range of +30 °C to +50 °C	100
<b>Coefficient of linear expansion [ppm/K]</b> TMA, DELO Standard 26 in a temperature range of +90 °C to +150 °C	186
<b>Coefficient of linear expansion [ppm/K]</b> TMA, DELO Standard 26 in a temperature range of +30 to +150 °C	160
<b>Shrinkage [vol. %]</b> DELO Standard 13	3
<b>Water absorption [weight %]</b> DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.18
<b>Decomposition temperature [°C]</b> DELO Standard 36	280
<b>Specific volume resistance [Ωcm]</b> VDE 0303, part 30	3.9xE14

Surface resistance [ $\Omega$ ]

VDE 0303, part 30

2.6xE14

Dielectric strength [kV/mm]

DIN IEC 60243-1

25

Creep resistance CTI

VDE 0303, part 11, DIN EN 60112

600 M

Storage life at room temperature (approx. 23 °C)

in unopened original container (volume per component < 1l)

12 months

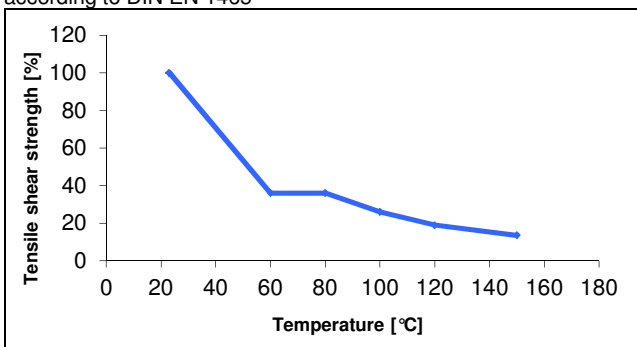
Storage life at room temperature (approx. 23 °C)

in unopened original container (volume per component  $\geq$  1l)

6 months

### Performance under temperature influence

tensile shear strength Al/Al sand-blasted at temperature  
based on initial value at room temperature  
measured at determined temperature  
according to DIN EN 1465



### 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	62
diesel fuel	69
kerosene	78
engine oil	67
glycol	112
brake fluid	81
distilled water/ glycol-mixture 50:50	44

## **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-DUOPOX 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.