

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
- 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
<i>Filler</i>	minerals
Mixing ratio (A : B) according to weight	0.88 : 1
(A : B) according to volume	1 : 1
Density of component A [g/cm³] DELO Standard 13 at room temperature (approx. 23 °C)	1.18
Density of component B [g/cm³] DELO Standard 13 at room temperature (approx. 23 °C)	1.33
Viscosity of component A [mPas] at 23 °C, rheometer	100000

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

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

Maximum 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

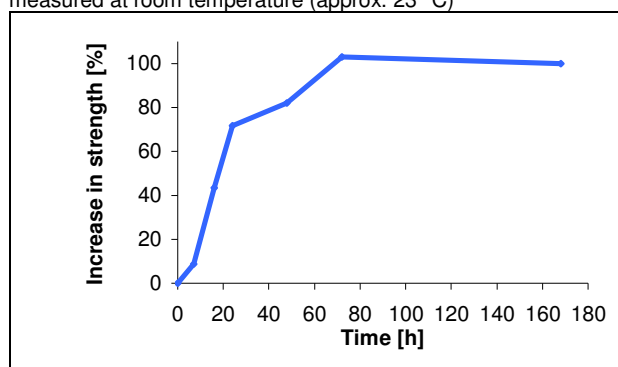
Curing time until functional strength [h] 16
tensile shear strength > 10 MPa
at room temperature (approx. 23 °C)

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

Tensile shear strength Al/Al [MPa] 22
by the criteria of DIN EN 1465, sand-blasted
component thickness 1.6 mm, gap 0.1 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
by the criteria of DIN EN 1465, sand-blasted
component thickness: 1.6 mm gap: 0.1 mm
curing: 7d 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)

Compression shear strength PC/ABS [MPa] 13
DELO Standard 5
Curing: 7 d at room temperature (ca. 23 °C)

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

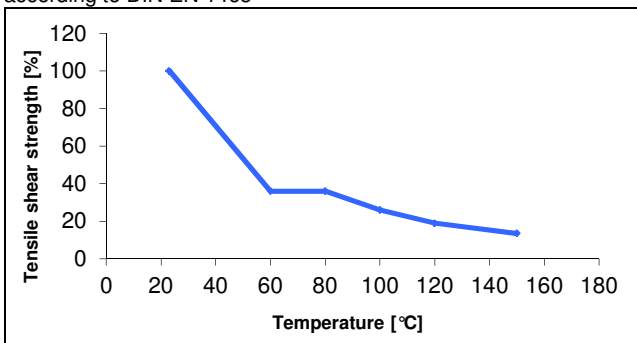
12 months

Storage life at room temperature (approx. 23 °C)
in unopened original container (volume per component >= 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. 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.