

Technical Information

DELOMONOPOX® AD297

heat curing, construction adhesive

Base

- epoxy resin, construction adhesive
- one-component, heat-curing, filled, thixotropic

Use

- for the bonding of all metal types, temperature-resistant plastic, ferrite and ceramic
- especially for high-strength, tough-hard bondings with very high static and dynamic loading capacity, even at increased temperatures
- the cured product is normally used in a temperature range of -55 °C to +200 °C; depending on the application, other limits may be more reasonable
- for bondings requiring a high run resistance
- compliant with RoHS directive 2015/863/EU

Processing

- the adhesive is supplied ready for use; in case of cool storage, it must be ensured that the container is conditioned to room temperature before use
- the containers are conditioned at room temperature (max. 25 °C); the conditioning time is approx. 3 h for a container volume of 310 ml; approx. 6 h for containers up to 1,000 ml; additional heat addition is not allowed
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations
- the adhesive can be processed well from the original container or with DELO dispensing units
- 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
- adhesion to the components can be improved by sand blasting, grinding or pickling

Curing

- curing proceeds at temperatures between +130 and +180 °C
- increased temperatures shorten the curing process, lower temperatures extend it, and can change the properties of the cured product
- to heat the components, increased temperatures can be used, as well
- the heating time of the components must be added to the actual curing time
- for curing, the inside of the adhesive layer must have the required temperature
- depending on the adhesive amount used, exothermic reaction heat is developed which can lead to overheating; in this case, the curing temperature must be reduced accordingly
- fast induction curing is possible

Technical data

Color

silver grey

Filler

aluminium powder

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Density [g/cm ³] DELO Standard 13 at room temperature (approx. 23 °C)	1.4
Viscosity [mPas] at 23 °C	pasty
Curing time with air convection oven [min] at +130 °C	75
Curing time with air convection oven [min] at +150 °C	40
Curing time with air convection oven [min] at +180 °C	15
Tensile shear strength Al/Al [MPa] DIN EN 1465, sand-blasted component thickness: 1.6 mm curing: 40 min at +150 °C	21
Floating roller peel resistance St/St [N/mm] DELO Standard 38, sand-blasted component thickness: 1.5 mm and 0.5 mm adhesive layer thickness: 0.1 mm	5
Temperature stability Al/Al at +100 °C [MPa] according to DIN EN 1465, sand-blasted component thickness: 1.6 mm	20
Temperature stability Al/Al at +150 °C [MPa] according to DIN EN 1465, sand-blasted component thickness: 1.6 mm	11
Temperature stability Al/Al at +200 °C [MPa] according to DIN EN 1465, sand-blasted component thickness: 1.6 mm	2
Tensile strength [MPa] according to DIN EN ISO 527 layer thickness: 2 mm after 40 min at +150 °C	48
Elongation at tear [%] according to DIN EN ISO 527 layer thickness: 2 mm after 40 min at +150 °C	2.5
Young's modulus [MPa] according to DIN EN ISO 527 layer thickness: 2 mm after 40 min at +150 °C	4000
Shore hardness D according to DIN EN ISO 868 after 40 min at +150 °C	75
Glass transition temperature [°C] DELO Standard 27, DSC	110
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +30 °C to +80 °C	68
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +130 °C to +150 °C	186
Shrinkage [vol. %] DELO Standard 13	2.1

Water absorption [weight %]
DIN EN ISO 62, after 60 min at +150 °C

0.15

Specific volume resistance [Ωcm]
VDE 0303, part 3
specimen: diameter 120 mm, thickness 2 mm

>1xE13

Surface resistance [Ω]
VDE 0303, part 3
specimen: diameter 120 mm, thickness 2 mm

>1xE13

Storage life at room temperature (max. 25 °C)
in unopened original container

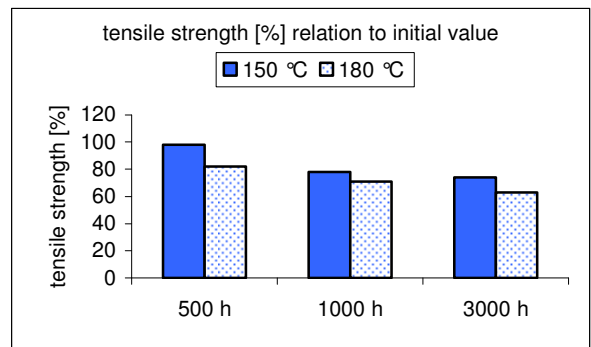
4 weeks

Storage life at 0 °C to +10 °C
in unopened original container

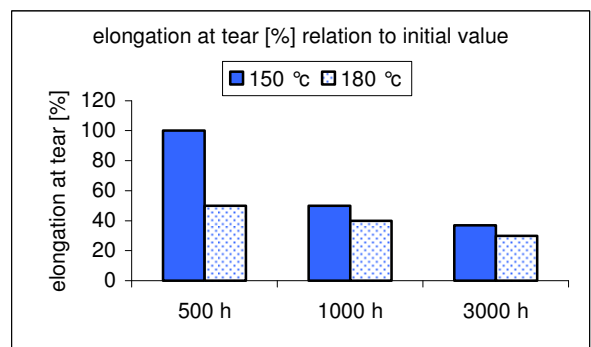
6 months

Performance under temperature influence

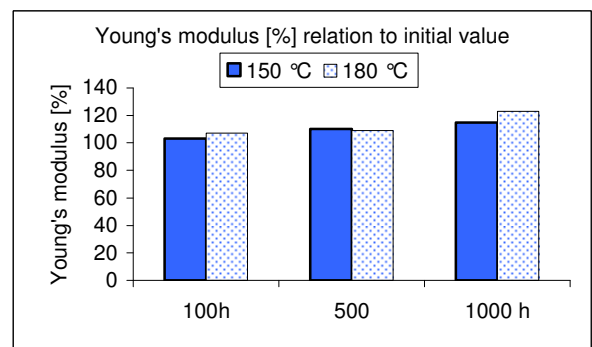
Tensile strength
after thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 2 mm
curing: 40 min at +150 °C
measured at room temperature (approx. 23 °C)



Elongation at tear
after thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 2 mm
curing: 40 min at +150 °C
measured at room temperature (approx. 23 °C)



Young's Modulus
after thermal ageing
by the criteria of DIN EN ISO 527
layer thickness: 2 mm
curing: 40 min at +150 °C
measured at room temperature (approx. 23 °C)



Performance under chemical influence

medium	Compression shear strength Al/Al after 100 h [%]	Compression shear strength Al/Al after 500 h [%]	Compression shear strength Al/Al after 1000 h [%]
acetone	71	63	60
ethanol denatured	91	88	83
acetic acid (10%)	65	40	16
sulphuric acid (10%)	86	40	25
ATF gear oil	91	90	88
benzine	93	90	89
diesel	90	89	85
Motor oil 10W40	95	93	90
Demineralised water / glykol compound 50:50	98	88	86
Brake fluid	100	97	77

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 the product for the intended purpose by considering all specific requirements. Type and 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. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for the intended 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 DELOs' General Terms of Business. Verbal side agreements are not permitted. This document is subject to change.

Instructions for use

The instructions for use of DELOMONOPOX 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.