

DELOMONOPOX® AD224

heat-curing adhesive, reflow resistant

Base

- modified epoxy resin
- one-component, heat-curing, solvent-free, unfilled, thixotropic

Use

- for the fast, high-strength bonding of components and assembly groups
- fast curing at moderate temperatures
- very good adhesion to LCP, reflow consistent
- 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
- compliant with RoHS directive 2011/65/EU

Processing

- the adhesive is supplied ready for use, in case of cool or refrigerated 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. 0.5 h for containers up to 10 ml; additional heat addition is not allowed
- the adhesive is applied by dispensing
- the surfaces to be bonded must be dry as well as free of dust, grease and other contaminations

Curing

- curing proceeds at temperatures between +90 and +210 °C
- increased temperatures shorten the curing process, lower temperatures extend it, and can change the properties of the cured product
- the actual curing times at the respective temperatures are dependent on the heating time of the components, the heating time of the components must be added to the curing time of the adhesive
- the curing times of the adhesive at the curing temperatures recommended can be drawn from the technical data

Technical data

<i>Color</i>	black
Density [g/cm ³] DELO Standard 13 at room temperature (approx. 23 °C)	1.2
<i>Viscosity</i> [mPas] at 23 °C, rheometer, shear rate 10 1/s	25000
Curing time with air convection oven [min] at +90 °C	60

Curing time with air convection oven [min] at +100 °C	30
Curing time with air convection oven [min] at +120 °C	15
Tensile shear strength Al/Al [MPa] by the criteria of DIN EN 1465, sand-blasted, component thickness 1.6 mm, gap 0.1 mm curing: 15 min at +120 °C	26
Compression shear strength Al/Al [MPa] DELO Standard 5 curing: 15 min at +120 °C	48
Compression shear strength LCP/LCP (E130i) [MPa] DELO Standard 5 curing: 15 min at +120 °C	14
Compression shear strength LCP/LCP (E471i) [MPa] DELO Standard 5 curing: 15 min at +120 °C	10
Compression shear strength LCP/LCP (E540i) [MPa] DELO Standard 5 curing: 15 min at +120 °C	11
Compression shear strength PBT/PBT [MPa] DELO Standard 5 curing: 15 min at +120 °C	11
Compression shear strength PPS/PPS [MPa] DELO Standard 5 curing: 15 min at +120 °C	15
Compression shear strength PPA/PPA (GF40) [MPa] DELO Standard 5 curing: 15 min at +120 °C	12
Compression shear strength brass/brass [MPa] DELO Standard 5 curing: 15 min at +120 °C	40
Tensile strength [MPa] according to DIN EN ISO 527 layer thickness: 2 mm curing: 15 min at +120 °C after 24 h room temperature	22
Elongation at tear [%] according to DIN EN ISO 527 layer thickness: 2 mm curing: 15 min at +120 °C after 24 h room temperature	12
Young's modulus [MPa] according to DIN EN ISO 527 layer thickness: 2 mm curing: 15 min at +120 °C after 24 h room temperature	850
Shore hardness D according to DIN EN ISO 868 curing: 24h at room temperature	75
Glass transition temperature [°C] TMA, DELO Standard 28	80
Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +30 to +70 °C	108

Coefficient of linear expansion [ppm/K] TMA, DELO Standard 26 in a temperature range of +90 °C bis +180 °C	172
Shrinkage [%] DELO Standard 13	2.7
Water absorption [weight %] according to DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	0.6
Storage life at room temperature (max. 25 °C) in unopened original container	3 days
storage life at -18°C in unopened original container	6 months

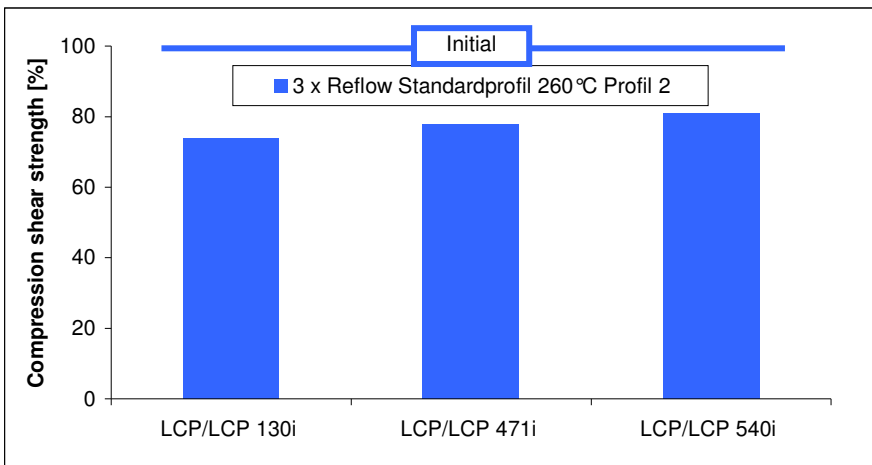
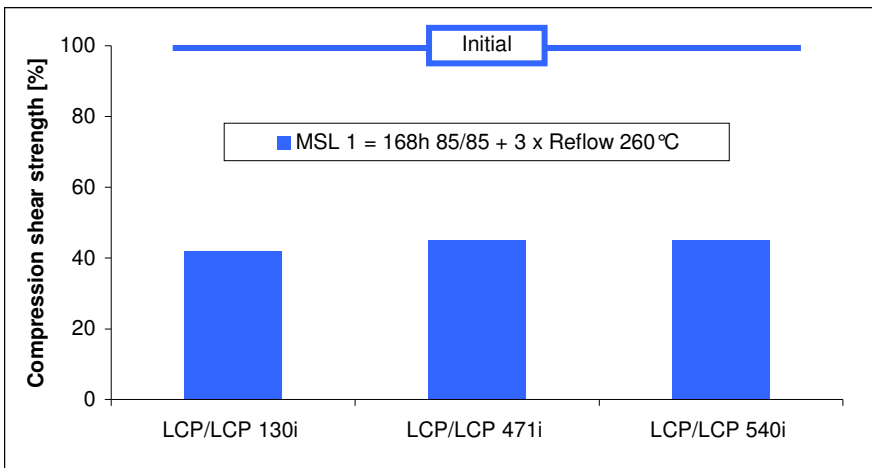
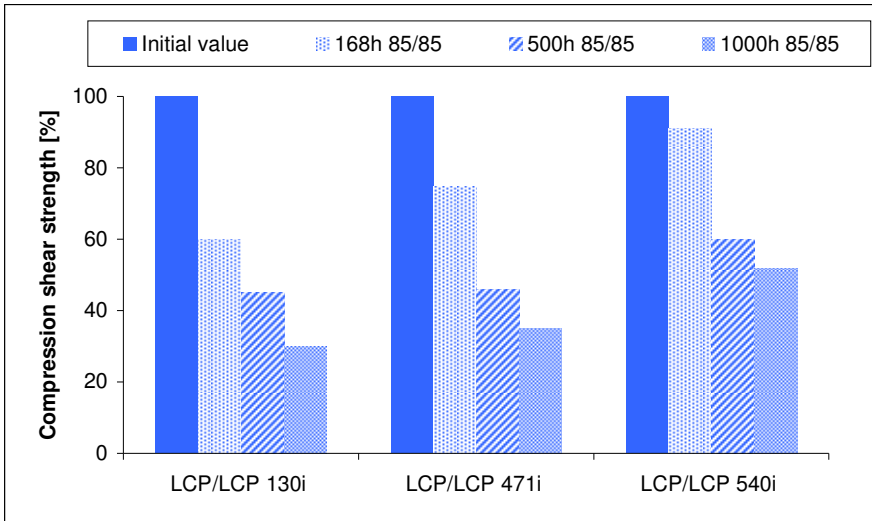
Compression shear strength LCP/LCP

DELO Standard 5

Curing: 15 min at +120 °C

after reliability test

24h room temperature (approx. 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.

Many product properties are subject to temperature and may change permanently, especially at high temperatures.

It is the user's responsibility to test the suitability of the product for the intended purpose and temperature range of use 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. 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. Verbal ancillary agreements are deemed not to exist. This is a test product. The product is, therefore, subject to modifications.

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.