

DELO-DUOPOX® CR716

Multi-purpose 2c epoxy casting resin, heat-curing, low-viscous, filled

Base

- epoxy resin
- two-component, thixotropic

Use

- multi-purpose casting compound
- for casting in mechanical engineering and tool construction
- for casting in electrical engineering and electronics
- high temperature resistance
- the cured product is normally used in a temperature range of -60 °C to +180 °C; depending on the application, other limits may be more reasonable
- low exothermy, suitable for larger preparations, multi-purpose

Processing

- components A and B must be mixed well or homogenized in the mixing ratio stated below
- a converting plant that generates vacuum highly reduces bubbling during mixing or homogenizing
- sedimentation of the filler is possible; therefore, please stir single components before use
- depending on the adhesive amount used, reaction heat is developed which can lead to overheating; in this case, the curing temperature must be reduced accordingly
- 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

- curing proceeds after mixing the component A and B at a temperature range typically from +130 °C to +150 °C
- the minimal curing temperature is +130 °C
- the maximal curing temperature is +180 °C
- increased temperatures shorten the curing process, lower temperatures extend it, and can change the properties of the cured product
- the heating time depends on the component size and the oven type
- 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

Technical data

Color
cured

black

Filler

minerals

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Filler particle size [μm] d 95	≤ 65
Filler content [weight %]	66
Mixing ratio (A : B) according to volume (A : B) according to weight	1 : 1 0.95 : 1
Density of component A [g/cm^3] DELO Standard 13 at room temperature (approx. 23 °C)	1.65
Density of component B [g/cm^3] DELO Standard 13 at room temperature (approx. 23 °C)	1.72
<i>Viscosity of component A</i> [mPas] at 23 °C, rheometer gap 200 μm , shear rate 10 1/s	20000
<i>Viscosity of component B</i> [mPas] at 23 °C, rheometer gap 200 μm , shear rate 10 1/s	7000
Open time after mixing [h] at room temperature (max. 23 °C) and 50 % r.F.	6
Curing time with air convection oven [min] at +150 °C adhesive temperature	20
Curing time with air convection oven [min] at +130 °C adhesive temperature	60
Compression shear strength AI/AI [MPa] DELO Standard 5 curing: 20 min at 150 °C	32
Compression shear strength PPS/PPS [MPa] DELO Standard 5 curing: 20 min at +150 °C	23
Compression shear strength PA/PA [MPa] DELO Standard 5 curing: 20 min at +150 °C	15
Temperature stability AI/AI at +150 °C [MPa] according to DIN EN 1465, sand-blasted curing: 20 min at +150 °C	8
Tensile strength [MPa] according to DIN EN ISO 527 curing: 20 min at +150 °C after 24h room temperature (max. + 25°C)	36
Elongation at tear [%] according to DIN EN ISO 527 curing: 20 min at +150 °C after 24h room temperature (max. + 25°C)	0,6
Young's modulus [MPa] according to DIN EN ISO 527 curing: 20 min at +150 °C after 24h room temperature (max. + 25°C)	7000
Shore hardness D DIN EN ISO 868	87
Glass transition temperature [°C] DELO Standard 28, TMA, 2nd heating process	173

Coefficient of linear expansion [ppm/K] DELO Standard 26, TMA in a temperature range of +30 °C to +160 °C	37
Coefficient of linear expansion [ppm/K] DELO Standard 26, TMA in a temperature range of +180 °C to +240 °C	80
Shrinkage [vol. %] DELO Standard 13 curing: 20 min at +150 °C	2
Water absorption [weight %] DIN EN ISO 62, after 20 min at +150 °C	0,23
Decomposition temperature [°C] DELO Standard 36 Curing: 20 min at +150 °C	284
Ion content Na+ extraction	< 10
Ion content K+ extraction	< 10
Ion content F- extraction	< 10
Ion content Cl- extraction	< 10
Storage life at room temperature (approx. 23 °C) in unopened original container	6 months

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 [%]
acetone	54
ethanol denatured	60
ATF gear oil	94
petrol	61
petrol E10	66
diesel fuel	87
engine oil 10W40	85
acetic acid	42
demineralised water / glycol mixture 50:50	58
distilled water	69
glycol	83

Chemical medium	Compression/shear strength PA6/PA6 [%]
petrol	29
gear oil	89

Chemical medium	Compression/shear strength PPS/PPS [%]
petrol	76
gear oil	102

Chemical medium	Compression/shear strength PBT/PBT [%]
petrol	34
gear oil	56

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.

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Occupational health and safety

see material safety data sheet

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.

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.