

DELO-DUOPOX® CR8715

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 -40 °C to +180 °C; depending on the application, other limits may be more reasonable
- low exothermy, suitable for larger preparations

Processing

- sedimentation of the filler is possible; therefore, please stir single components before use
- components A and B must be mixed homogeneously in the mixing ratio stated below
- a converting plant that generates vacuum reduces voiding during mixing or homogenizing
- 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

- proceeds after mixing the component A and B at a temperature typically ranging 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, which must be added to the curing time of the adhesive

Technical data

<i>Color</i> cured	black
Filler	minerals
Filler particle size [μm] d 95	≤ 65
Filler content [weight %]	63

Mixing ratio	
(A : B) according to volume	0.65 : 1
(A : B) according to weight	0.60 : 1
Density of component A [g/cm³]	1.58
at room temperature (approx. 23 °C)	
Density of component B [g/cm³]	1.72
at room temperature (approx. 23 °C)	
Viscosity of component A [mPas]	8000
at 23 °C, rheometer gap 200 µm, shear rate 10 1/s	
Viscosity of component B [mPas]	15000
at 23 °C, rheometer gap 200 µm, shear rate 10 1/s	
Open time after mixing [h]	6
at room temperature (max. 23 °C) and 50 % r.F.	
Curing time with air convection oven [min]	20
at +150 °C adhesive temperature	
Curing time with air convection oven [min]	60
at +130 °C adhesive temperature	
Tensile shear strength Al/ Al sand [MPa]	8
by the criteria of DIN EN 1465, sand-blasted component thickness: 1.6 mm curing: 20 min at 150 °C + 24 h at room temperature (approx. 23 °C)	
Compression shear strength Al/Al [MPa]	20
DELO Standard 5 curing: 20 min at +150 °C + 24h room temperature	
Compression shear strength PA6/PA6 [MPa]	9
DELO Standard 5 curing: 20 min at +150 °C + 24h room temperature	
Compression shear strength FR4/FR4 [MPa]	50
DELO Standard 5 curing: 20 min at +150 °C + 24h room temperature	
Compression shear strength PPS/PPS [MPa]	18
DELO Standard 5 curing: 60 min at +130 °C + 24h room temperature	
Temperature stability Al/Al at +150 °C [MPa]	7
according to DIN EN 1465, sand-blasted component thickness: 1.6 mm	
Tensile strength [MPa]	54
according to DIN EN ISO 527 layer thickness: 2 mm curing: 20 min at +150 °C + 24 h at room temperature (approx. 23 °C)	
Elongation at tear [%]	0.7
according to DIN EN ISO 527 layer thickness: 2 mm curing: 20 min at +150 °C + 24 h at room temperature (approx. 23 °C)	
Young's modulus [MPa]	8500
according to DIN EN ISO 527 layer thickness: 2 mm curing: 20 min at +150 °C + 24 h at room temperature (approx. 23 °C)	
Shore hardness D	89
according to DIN EN ISO 868	

Glass transition temperature [°C] DELO Standard 26, TMA, 2nd heating process	176
Coefficient of linear expansion [ppm/K] DELO Standard 26 TMA	29
Volume shrinkage [vol. %] DELO Standard 13 curing: 20 min at +150 °C + 24h room temperature	2
Water absorption [%] according to DIN EN ISO 62 curing: 20 min at +150 °C + 24h room temperature	0.13
Decomposition temperature [°C] DELO Standard 36 curing: 20 min at +150 °C + 24h room temperature	307
Storage life at room temperature (approx. 23 °C) in unopened original container volume per component <= 10 l	6 months
Storage life at room temperature (approx. 23 °C) in unopened original container volume per component > 10 l	3 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 AI/AI [%]
ethanol denatured	73
ATF gear oil	85
petrol E5	92
diesel fuel	101
engine oil 10W40	96
demineralised water / glycol mixture 50:50	75
AdBlue	99

Chemical medium	Compression/shear strength PA6/PA6 [%]
petrol E5	143

Chemical medium	Compression/shear strength PPS/PPS [%]
petrol E5	86

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.