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BIOPOXY 50mm

Very good light-resistant epoxy casting system

BIOPOXY is a very good lightfast, transparent epoxy resin system for many casting applications.

NEW: BIOPOXY

Resin component with certified organic content of 43.59 %

Due to the reduced reactivity of the system, layer thicknesses of up to 5 cm can be cast in one operation (material & room temperature max. 23°C).

Even at a curing temperature of 40°C, layer thicknesses of 2 cm can be produced without any problems.

BIOPOXY is also excellently suited as a low-viscosity impregnation system with a very long pot life (e.g. wood consolidation). It has excellent adhesion properties on various fabrics, foams, wood and mineral materials.

Mineral fillers as well as light fillers can be added without problems, if required. Depending on the type of filler, this can extend or shorten the pot life, processing time and also the curing time.

Appropriate application tests with regard to the intended casting project are recommended.

Product specification

- transparent 2K epoxy system
- very long pot life, low viscosity
- solvent-free, phenol-free, benzyl alcohol-free
- very good wetting properties
- 5 cm layer thickness per potting (at max. 23°C MT & RT) possible,
- 2 cm per potting up to +40°C curing temperature
- very good self-bleeding properties
- minimized curing shrinkage due to low exothermic temperature development
- good chemical resistance and mechanical properties

Fields of application

- Casting in higher thicknesses
- Infusion- & vacuum-system
- Impregnation
- Hand-laminating

Properties of resin / hardener

	BIOPOXY (resin)	BIOPOXY (hardener)	remarks
Density [g/cm³]	1,098 - 1,118	0,965 - 0,985	20°C
Viscosity [mPas]	450 - 950	50 - 110	25°C
Colour	transparent	transparent	
Storage [°C]	+20 to +25°C		

Mixing ratio

	BIOPOXY (resin)	BIOPOXY (hardener)	remarks
Mixing ratio	**100**	**40**	weight parts
	100 ml	45 ml	by volume at 20°C
Viscosity of mixture [mPas]	100 - 500		25°C
The specified mixing ratio must be adhered to as closely as possible. Deviations cause an unbalanced curing process with possibly poor results.			

Consumption

Casting-system	**approx. 1,10 - 1,15 kg per litre volume**
	approx. 1,10 - 1,15 kg per m² for a layer-thickness of 1 mm

Application

BIOPOXY			remarks
Material-temperature	[°C]	+20 to +23	
Ambient temperature	[°C]	+20 to +23	
Substrate temperature	[°C]	+20 to +23	
Rel. air humidity	[%]	< 85	
Higher room, material and/or object temperatures than 23°C may lead to heat tinting (yellowing) and/or bubble formation due to overheating during the curing process. Corresponding layer thickness reduction per potting process is required.			

Processing

BIOPOXY (Technical values valid for both resins)			remarks
Potlife (100 g mixture / **23°C)**	[h]	> 7	material temperature 23°C
De-aeration time in the mixing-vessel 1.000 g mixture / 24°C	[minutes]	30 - 45	larger quantities, higher liquid level or higher temperatures cause a shortened pot life and must therefore be poured earlier or the quantity of mixture will have to be reduced
Casting 540 g, Ø 12 cm, 50 mm h gelled after max. exothermic temperature		17 hours ~ 40°C after 19 hours	start-temperature 23°C
firm to grip	[h]	~ 24 h / at 50 mm layer-thickness	at 23°C
ability to pour over after	[h]	~ 48 h / at 50 mm layer-thickness	at 23°C curing-temperature
Max. waiting period before next coating / casting without sanding**		max. 3 days	at 23°C
mechanically workable after	[days]	4 - 5	at 23°C curing-temperature
thermally resistance	[°C]	~ 45°C	after curing 25°C/30 days
Surface hardness Hardness tester Kern/Sauter HBD 100-0, cone 30°, Testparameters: 5 kg compression-load 15 seconds (similar to DIN ISO 7619-1)	[Shore D; ± 2]	**casting 60 x 60 x 50 mm h**	
		high viscous, soft	after 1 day / 23°C
		35 (rubbery)	after 2 days / 23°C
		46	after 3 days / 23°C
		68	after 4 days / 23°C
		70	after 5 days / 23°C
		74	after 6 days / 23°C
		75	after 7 days / 23°C
		78	after 14 days / 23°C

Lower film thicknesses and / or lower curing temperatures require longer curing times and slower increase of surface hardness

The values given are average results and may vary depending on the processing method and curing conditions. It is essential to protect surfaces from moisture (dew, condensation), dust, etc. during the curing time.
**Surfaces cured for a longer period must be ground to ensure optimum adhesion properties.

Packing / Delivery (2-component-pack)

RESIN	20 kg	5 kg	2.3 kg	1 kg	
HARDENER	8 kg	2 kg	920 g	400 g	
drums on request					

Storage

Store in a cool and dry place at +20 to +25°C. Products can be stored for 1 year in the original container. Always close containers tightly after removing product.

Due to its special properties and high purity, the resin is sensitive to cold. At storage or transport temperatures below +15°C, haze formation / highly visible turbidity up to crystallization may occur. Please check the transparency of the resin before processing.

Regeneration without loss of quality can be achieved by heat treatment. Ideally, regenerate the resin at max. +55°C for 24 hours in the delivery container. Open the cap slightly to allow pressure equalization. After cooling, use the resin as usual.

The hardener tends to form carbamate when exposed to oxygen and/or moisture. This cannot be regenerated, the hardener must be disposed of properly. Always close container tightly after use.

Safety advises

Biopoxy epoxy resins and Biopoxy amine hardeners are classified and labeled as hazardous substances according to REACH, CLP/GHS regulation. Hazard and safety information on the labels as well as the information in the safety data sheets must be observed.

Disposal of product residues and containers

Liquid residues and containers with residual ingredients must be disposed of properly via the local hazardous waste disposal company (special waste). Do not allow to enter ground water or bodies of water.

Only properly cured material may be disposed of with household or commercial waste.

All data correspond to our current state of knowledge and experience. Technical data are average values determined under standard laboratory conditions, but do not represent a guarantee of product properties and do not establish a legal relationship. The technical data do not necessarily correlate with results determined on the finished part. The user is responsible for ensuring suitability with regard to the intended application.

Our information does not release the user from the obligation to carry out practical application and load tests, whether mechanical or chemical, on the finished component.

Manufacturing processes and raw materials contained are continuously adapted to the current state of the art or to the legal toxicological regulations.

Compliance with national and local official requirements that may arise in connection with the processing of these products is the responsibility of the user.

Furthermore, our general terms and conditions of sale and delivery apply in all cases.