

EPOKATE CHEM

Art.-No. 09-S05

Highly chemical-resistant two-component solvent-free epoxy-based resin system for flooring.

Properties

EPOKATE CHEM is a low-viscous solvent-free, transparent two-component epoxy resin system. Cured product is characterised by an excellent chemical resistance combined with a considerable elasticity, compared to analogous resin coatings. Once cured, the resin system is resistant to the effects of several chemicals - ethers, esters, ketones, alcohols, acetic acid (10%), nitric acid (25%), sulphuric acid (36%), lactic acid (10%), as well as car fuels, brake fluids, spirit etc.

Areas of application

EPOKATE CHEM can be used:

- as extra heavy chemical load epoxy resin for floor sealant;
- varnish coating for floors with constant heavy chemical load.

Technical data

Basis:	two-component epoxy resin (A/F)
Colour:	colourless
Viscosity (+23° C):	<i>approx.</i> 210 mPa·s (± 80)
Density (+23° C):	Mixed ca 1.1 g/sm ³
Mixture ratio (resin : hardener):	100 : 49 parts by weight
Pot life (+23° C):	20-25 min
Minimum cure temperature:	+12° C
Overcoating time (+23° C):	8 hours to max 24 hours
Fully cured (+23° C):	7 days
Tensile strength:	exceeds the tensile strength of concrete several times
Cleaning:	clean tools immediately with a suitable epoxy resin solvent.
Packaging:	10 kg
Storage:	18 months when stored in unopened original container under dry conditions at +12 ... +30 °C. Observe regulations for the storage of potential soil and groundwater pollutants.

Note:

At low temperatures, the product may crystallise and turn into an opaque, grease-like mass. Such product can be used within two hours of defrosting in a water-bath at 50...60° C.

Requirements to the surface being coated:

The concrete surfaces should be:

- dry, hard and load-bearing;
- free of dust, loose particles, oil and grease;
- protected against moisture penetrating or rising from beneath the concrete surface;
- strength min C20/25;
- min 28 days old;
- tensile strength $\geq 1.5 \text{ N/mm}^2$;
- moisture content below 4%.

The recommended surface treatment methods are sand or bead blasting, diamond grinding or milling.

Product preparation

Component A (resin) and component B (hardener) are delivered in the predetermined mixing ratio. Ensure that the hardener drains completely from its container to the resin container. Mixing of the combined resin system is to be carried out with a suitable mixer for approx. 2 minutes at 300 rpm, mixing both from the bottom and edges of the container. It is important to ensure the hardener is evenly dispersed in the resin component. The minimum temperature during mixing should be $+12^\circ \text{ C}$. Decant the mixed material into a larger container and mix through once again for approx. 1 minute. The sand and other fillers added to the mixed material should be dry and at a temperature of min. $+12^\circ \text{ C}$.

Methods of application and norms for consumption

1. Varnish and impregnant for trowelled screed (EPOSYST HM/ CHEM)

Once 16 up to a maximum of 24 hours have passed from the application of a levelled and packed trowelled screed layer, remove any loose sand grains. To prepare the varnish, combine the EPOKATE CHEM resin and hardener, apply to the surface and let the product impregnate the trowelled screed layer. Make sure that the coated surface is always saturated with the product and there are no apparent dry spots. After 20-25 minutes, remove any excess product with a soft rubber spatula.

Consumption norms per 1 mm of layer thickness are presented in the following table.

Norms for consumption:	
EPOKATE CHEM	300 - 320 g/m ²

2. Sealant and varnish for chemical-resistant epoxy resin coatings (EPOSYST Chem)

Apply the sealant to a previously primed substrate. To prepare the EPOKATE CHEM sealant, combine the EPOKATE CHEM resin and hardener and add natural quartz sand according to the mixing ratios given below.

EPOKATE CHEM	10 kg
Quartz sand (\varnothing 0.1-0.3 mm grain)	5 kg

Apply the sealant to the floor with a notched trowel. Cover the sealant with a full layer of a roughening spread containing coloured or natural sand. Consumption norms per 1 mm of layer thickness are presented in the following table.

Norms for consumption:	
EPOKATE CHEM	800 g/m ²
Quartz sand (ø 0.1-0.3 mm grain)	530 g/m ²
Roughening spread (ø 0.7-1.2 mm grain)	2.5-3.5 kg/m ²

Once 16 up to a maximum of 24 hours have passed from the application of the sealant, remove any loose sand grains. To prepare the EPOKATE CHEM varnish coating, combine the EPOKATE CHEM resin and hardener. Apply the product to the substrate with a rubber spatula and, if necessary, smooth with a short-haired roller. Consumption norms per 1 mm of layer thickness are presented in the following table.

Norms for consumption:	
EPOKATE CHEM	0,8-1,2 kg/m ²

NB! The EPOKATE CHEM resin system should not be altered by adding solvents or other additives that might affect the ultimate properties of the resin system.

Health and safety

EPOKATE CHEM is an epoxy resin system with no added solvents. As the product is based on an epoxy resin it may cause irritation and even hypersensitivity (allergy) upon skin contact. Hence, suitable protective equipment should be worn while the product is in liquid form to avoid contact with skin. Once reacted (cured), the product is completely harmless. Component B (hardener) is caustic. When handling and working with the product, please observe the safety requirements detailed in the Material Safety Data Sheet. All government health and environmental regulations and directives must also be followed. Product residues are to be disposed of under the waste disposal code (epoxy resin).

Notes:

- The temperature of the product, environment and substrate should be at least 12 °C, or at least 3 °C above the dew point temperature. Relative humidity must not exceed 80%.
- The EPOKATE CHEM resin system should not be altered by adding solvents or other additives that might affect the ultimate properties of the resin system.
- The bond between individual coats can be affected by the presence of dust or moisture.
- In case the interval between application of coats is longer than 48 hours, the substrate must be abraded and cleaned thoroughly and a new pore-sealing primer coating must be applied. It is not enough to simply overcoat.
- A fresh coating should be isolated from flowing water and dampness for approx. 12 hours. Dampness in the curing phase produces a white discolouration and unhardened surface.
- Higher temperatures shorten the pot life and accelerate the curing process, whereas lower temperatures increase the pot life and curing time.

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- Material consumption rate is also increased at lower temperatures.
 - EPOKATE CHEM's temperature resistance is about 65 °C.
 - Applications that are not specified in this Technical Data Sheet may only be carried out after consultation with and written approval of the Technical Services Department of Epokate OÜ.
 - Epokate OÜ assumes no responsibility for any consequences of a misuse of this product, as the post-market usage and storage conditions of the product are beyond our control.

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