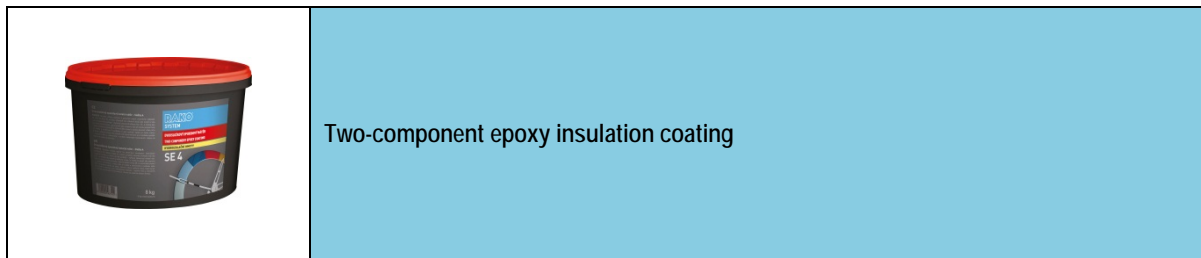


SE 4

Epoxy coating



APPLICATION:

Due to its low viscosity, this product is mainly used as a penetration coating for absorbent mineral bases.

At a higher thickness (two or more layers), it can be used as an insulation layer on a dry, mature base – residual (absolute) moisture of max. 4%. It is also suitable as a final end-use layer.

Binding base for the production of polymer-mortar/polymer-concrete – a mixture of SE 4 and silica sand, showing high compressive strength, tensile bending strength, and adhesion to bases.

It is used as an excellent adhesive for concrete, stone, and wood, and an adhesive layer between old and fresh concrete.

For low-pressure grouting – gluing of cracks and microscopic cracks in dry concrete structures.

This material is slightly prone to yellowing.

Characteristic features:

- high adhesion to bases (such as concrete and screeds)
- high resistance to water, chemicals, many alkali, acids, and petroleum substances (mineral oil, petrol, diesel)
- resistance to heat load, wear and abrasion
- excellent physical and mechanical properties
- high watertight integrity
- environmentally friendly product

COMPOSITION:

Component A – a mixture of low-molecular weight liquid epoxy resins (based on bisphenol A and F,) modified with a monofunctional and difunctional reactive solvent. Component B – a mixture of aliphatic and cycloaliphatic amines, mixed with curing accelerators. The components do not contain volatile organic compounds (VOC).

TECHNICAL PARAMETERS:

Binding base	epoxy resin
Solvents	free of volatile organic compounds (VOC)
Mixing ratio of components	A : B = 10 : 3.2 (parts by weight)
Colour	colourless, transparent
Consistency	low-viscosity liquid
Density of thickened mixture	approx. 1.1 kg/m ³
Method of application	using the brush, roller, or spraying equipment
Thickness of applied layer	according to the required application
Recommended coatings – number	1 to 2
Delay between two coatings	0.5 to 10 hours
Temperature during processing	8-30°C (air, structure, base)
Pot life (depending on the temperature and amount)	approx. 35 min at 20°C (for 8 kg bags)
Final walking surface	after 24 hours at 20°C
Hardening time	5-7 days at 20°C
Volume after hardening	100%

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Water vapour diffusion resistance factor μ		approx. 50000
Thermal stability (after hardening): at dry/humid temperatures		140°C/80°C
Cleaner		acetone thinner, thinner S 6300
Approximate coverage:	coating	200-400 g/m ² per one coating
	adhesive layer, sealing coating	400-700 g/m ²
	polymer-mortar/polymer-concrete	4-5 kg of SE 4 thickened mixture per 1 m ² and layer thickness of 1 cm (1 part by weight SE 4 : 3-5 parts by weight of sand)
	gluing	depending on the height of cut and roughness of base, approx. 1-2 kg/m ²

Mixing procedure:

In the original packaging of two-component reactive resins, the amount of component **B** (hardening agent) is accurately measured to the amount of component **A** (epoxy resin). It is not recommended to process partial amounts. To prepare the thickened mixture, pour the entire content of component **B** into component **A**, and mix it thoroughly. **Use undiluted!** Mixing of the ground mass and hardening agent is performed in the lower vessel, using a slow-moving mixing adapter attached to an electric drill (such as a U-shaped stirrer). After mixing, the mixture should not contain any visible smudges. When mixing, care must be taken to mix both components, in particular around the walls and at the bottom of the vessel. The mixing time is at least 2 minutes. Higher certainty of proper mixing is achieved if the material is poured into an empty vessel after mixing, and mixed once again.

If partial amounts of individual packages are used, it is necessary to meet the mixing ratio specified on the packaging (**A : B = 10 : 3.2**).

To ensure that the residues of component **B**, adhered to the walls of the empty container, are hardened, mix these residues with a small amount of the already mixed material.

Pot life of the thickened mixture: The pot life depends on the temperature and amount of the mixture being prepared. Higher amounts of the thickened mixture and higher temperatures shorten the pot life.

Processing time: Depending on the temperature and amount of material.

Weight [kg]	Processing time [min]		
	10°C	20°C	30°C
3	60	40	20
10	60	30	15

BASE PREPARATION AND PROCESSING:

Used as a coating: The base must be dry – residual (absolute) humidity of max. 4%. The concrete surface must not be levelled. Smooth, sintered, polished, glazed, or non-cohesive surfaces are not suitable bases unless they are treated by blasting or milling, to create a clean, rough, and consistent base. Bitumen and asphalt surfaces must be completely removed. When applying the product on concrete, plaster, or screed bases, the base must be solid, free of oil and grease. Cement milk must be removed. Due to the low viscosity and good fluidity properties of SE 4, no prior penetration coating is necessary. If two layers of SE 4 coating are applied, the first coating must be slightly sticky before applying the second layer. Depending on the type and temperature of the base, the slight tackiness of the first coating layer is a guarantee of perfect adhesion between both coatings. Sanding the coating with a sufficient amount of silica sand enables longer intermediate times, and increases adhesion of the subsequent layer – the base treated in this manner enables the gluing of ceramic tiles with the **AD 321** epoxy adhesive.

Repair of damaged floors:

Clean the cavities, surfaces with potholes and beaten tracks, remove dust and other loose particles (preferably using a powerful industrial vacuum cleaner), and apply the SE 4 coating. Rollers or brushes are suitable application tools. The previous layer of SE 4 must be slightly sticky (see "Used as coating"). Within 10 hours after applying the SE 4 coating, any recessed areas should be filled with polymer-mortar, prepared by mixing the SE 4 and dry silica sand. The mixing ratio for polymer-mortar production is as follows: 1 part by weight of SE 4 and 3-5 parts by weight of dry silica sand (for surfaces with potholes to a depth of 2 cm, use the grain size of sand 0.1-4 mm, resp. over 0.1 cm for surfaces with potholes over a depth of 2 cm).

Production of polymer-mortar/polymer-concrete with reactive (epoxy) resin:

Additives: **dry silica or river sand**

Grain size of sand: depending on the thickness of the applied layer, the grain size of $\approx 1/3$ of the layer being applied

Mixing ratio: **1 : 3-5** (1 part by weight of the SE 4 thickened mixture and 3-5 parts by weight of sand)

Pot life: approx. 40 min at 20°C

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Thickness of layer: 5-20 mm

When mixing sand and binder, due to the high viscosity of material, it is recommended to use an electric drill with a slow-moving stirrer. First, prepare the thickened mixture of SE 4, then, while mixing, add sand to this mixture. Application of the polymer-mortar/polymer-concrete layer is carried out in a standard manner using a trowel or spatula. If material sticks to the tools during laying, we recommend soaking the tools in acetone, or S 6300 thinner. Acetone or S 6300 thinner, however, should never be used for the dilution of polymer-mortar/polymer-concrete!

If a slip-resistant surface is required, the freshly applied layer should be sprinkled with dry silica sand, or grit gravel. This slip-resistant surface can be additionally perfectly anchored with another SE 4 coating without added fillers (this coating is recommended to apply within 10 hours of laying a polymer-mortar/polymer-concrete layer).

Grouting of cracks in concrete:

SE 4 can be used for the grouting of cracks with a size of 0.5 mm to 10 mm in a dry and matured base. The crack being treated must be dry, free of oil stains, grease, dust, and other impurities. The crack surface should be enlarged by a cutting disk to concrete with the cutting of cross joints for fixing the anchor clips. Before application, any loose particles should be removed (preferably vacuumed using an industrial vacuum cleaner).

Transfer the mixed mixture into a suitable application tool and fill the repaired crack to approx. 1/3 of its profile. Then, pour the fine siliceous sand with a fraction of up to 0.3 mm, which settles on the bottom, and pushes the remaining amount of resin. In this manner, the entire crack profile will be effectively filled.

CAUTION:

- SE 4 coatings, which are not fully hardened, should not be exposed to sunlight (such as through a window), since heating and subsequent increase in the volume of air contained in the base can create undesirable bubbles.
- If water is applied too soon (before final hardening after 24 hours), a grey coating may be formed. After hardening, this coating can be partially removed by washing with a weak citric acid solution (3%).
- In rainy conditions, or if the rain is expected, the SE 4 coating should not be processed or applied.
- The air and object temperature during processing must be at least +8°C, max. +30°C. In any case, the coating should never be applied at temperatures higher than +30°C!
There exists a risk of a very fast and stormy reaction.
- Unused residues of SE 4 can be disposed of after hardening as construction wastes.
- Unused residues of component A and component B, including contaminated containers, should be disposed of as hazardous wastes (see the Safety Data Sheet).

FIRST AID:

In the event of health problems, or if in doubts, if swallowed accidentally, and after eye contact, always seek medical advice immediately and provide your doctor with the information from this Safety Data Sheet. If inhaled, remove the victim to fresh air, ensure rest, and prevent underheating. In contact with skin, remove immediately contaminated clothing. Wash the contaminated skin with plenty of water. Do not use thinners or solvents. In case of contact with eyes, rinse eyes under running water for at least 15 minutes and seek medical advice. If swallowed, rinse mouth with water and let drink about 1/2 litre of clean water. Do not induce vomiting. Seek medical advice.

SAFETY AND HYGIENE REGULATIONS:

Component A: Warning symbol: **Xi irritant, N dangerous for the environment**

- R 36/38 Irritating to eyes and skin.
- R 43 May cause sensitization by skin contact.
- R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S 2 Keep out of the reach of children.
- S 28 After contact with skin, wash immediately with plenty of warm water.
- S 37/39 Wear suitable gloves and eye/face protection
- S 46 If swallowed, seek medical advice immediately and show this container or label.
- S 61 Avoid release to the environment. Refer to special instructions or Safety Data Sheets.

Component B: Warning symbol: **C corrosive, N dangerous for the environment**

- R 20/21 Harmful by inhalation and in contact with skin.
- R 35 Causes severe burns.
- R 42/43 May cause sensitization by inhalation and skin contact.
- R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S 1/2 Keep locked up and out of the reach of children.
- S 23 Do not breathe spray.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 28 After contact with skin, wash immediately with plenty of water.
- S 36/37/39 Wear suitable protective clothing gloves, and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 46 If swallowed, seek medical advice immediately and show this container or label.
- S 51 Use only in well-ventilated areas.
- S 61 Avoid release to the environment. Refer to special instructions or Safety Data Sheets.

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The company is registered in the Companies Register, administered by the Regional Court in Plzeň, Section C, File 22719

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STORAGE:

If the product is stored in the original packaging in a dry place at temperatures from +15°C to + 25°C, the minimum shelf life is 12 months. The expiration date is specified on the packaging. Flammable liquids, hazard class IV.

SHIPPING:

The SE 4 coating is supplied in 1 kg packages in 2 plastic containers (component A: 0.76 kg, component B: 0.24 kg), or 8 kg in 2 plastic containers (component A: 6.06 kg, component B: 1.94 kg).

QUALITY:

- The product quality is regularly checked in the manufacturer's laboratories.
- The manufacturer and distributor apply a certified quality management system, according to ISO 9001.

DISTRIBUTOR:

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VALIDITY:

Since 1 August 2013

We reserve the right to make any changes that are the result of technical progress. This issue cancels and supersedes all previous issues.

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