EPISOL® STONE DESIGN PU

2K POLYURETHANE BINDER FOR INTERIOR AND EXTERIOR DECORATIVE FLOORS

DESCRIPTION

EPISOL® STONE DESIGN PU is a 2-component, transparent, vapour-permeable, highly UV-resistant and solvent free binder, based on aliphatic polyurethane resin with residual elastic properties and good mechanical and chemical resistance.

ADVANTAGES

- Solvent free
- Simple mixing ratio 1:1
- Very good weather and UV resistance
- Very good chemical and mechanical properties
- Transparent

FIELD OF APPLICATION

EPISOL® STONE DESIGN PU is used as a binder for stone carpets with the addition of fire-dried coloured quartz or marble gravel. These floors are mainly used indoors and especially outdoors in:

- Public buildings
- Private buildings
- Offices
- Shopping malls
- Terraces and balconies
- Pool floors
- etc...

APPLICATION

Note: The following is a typical application description. In case of other jobsite parameters, please contact our technical department.
The binder EPISOL® STONE DESIGN PU cannot be used as a top or final layer.
When applying stone carpet, in damp and wet areas, or on weathered surfaces, it may be necessary to apply a membrane layer first. Ask for more information about these systems.

PRELIMINARY ANALYSES

Before starting the substrate preparation and applying the products, it is important to test various parameters in order to achieve a good and sustainable result.
Compressive strength of the substrate: min. 25 N/mm^2
Tensile strength of the substrate: min. 1.5 N/mm^2
Concrete substrates must be at least 28 days old.
EPISOL® STONE DESIGN PU can be applied on a dry surface. Moisture content in the substrate in function of the primers to be used, see next section "Preparation of the substrate".
Conditions during the application and curing: see "Application conditions" further described in this technical data sheet.
Technically studied dilatation joints must be provided. These are resumed in the synthetic resin system to be installed.
The flatness of the surface must be consistent with the desired requirements. Should this not be the case, then correct measures have to be taken to fill in or smooth out the irregularities with products that are complementary to the substrate and to the coating to be installed.
Shrink joints and passive cracks can be coated. This on condition that they are not used as dilatation joints or if they do not follow other movements of the structure and the substrate and that they are flattened with products that are complementary to the substrate and to the synthetic resin system to be installed.

REQUIRED TOOLS

- Mixing containers
- Mixer with spindle (min. 300 rpm)
- Trowel, squeegee
- Masking tape

PREPARATION OF THE SUBSTRATE

Tears, cracks, joints and other elements showing water leaks must be made fully water and leak proof.
The surface must be mechanically pre-treated. This can be achieved by removing the dust by bullet- or sandblasting or by sanding the surface. These treatments ensure that an open texture surface is obtained, to remove the cement skin from concrete and old remnants of coatings and adhesives.
High pressure water jetting is possible but then the surface must dry sufficiently.
For applications on concrete and other cementitious substrates, EPISOL® STONE DESIGN PU must always be applied on a hardened, pore-tightening adhesive layer for a reliable blocking effect against rising alkalinity.
The epoxy primers EPISOL® UNIVERSAL or EPISOL® PRIMER RFE can be used as an adhesive layer for mineral substrates. Optionally, the EPISOL® EGALISER leveling or scraping layer can be used.
For metal substrates or ceramic tile substrates, EPISOL® PRIMER WTF should be applied as an adhesive layer beforehand.
If not all pores are closed and there is no continuous film-forming layer on the substrate, a 2nd layer of primer must be applied. Cement joints between tiles should be treated in the same way.
The wet primer is lightly sprinkled with fire-dried quartz sand with grain size 0.2 - 0.8 mm.
Moisture content in the substrate: ≤ 5% moisture, or as stated on the technical data sheets of the above-mentioned bonding layers and leveling or scratching layer.
Before applying the primer or leveling layer:
Always apply the products on a clean surface, free from adhesion reducing materials such as dirt, oil, grease, old coatings or surface treatments, ...
The parts of the surfaces to be coated that do not meet the requirements as described above (compressive strength, tensile strength, parts that are not well connected, ...) must be treated or removed and repaired according to a correct method and with products that are complementary to the substrate and the synthetic resin system to be installed.

RESIPLAST
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For applications on concrete and other cementitious substrates:
The parts of the surfaces to be overcoated that do not meet the requirements as described above (compressive strength, tensile strength, parts that do not adhere well, ...) must be treated or removed and repaired using a correct method and with products that are complementary to the substrate and to the synthetic resin system to be applied.

PREPARATION OF THE PRODUCT

Create the binder:
Take one part resin (A-Component) and add one part hardener (B-Component). To achieve a homogeneous consistency, the components must be mixed mechanically and without streaks for at least 2 minutes. A slow-speed (300 rpm) power-driven agitator should be used. The size of the mixing tool should always match the size of the mixing container.
Binder for stone carpet:
Mix 5 to 8% prepared EPISOL® STONE DESIGN PU (weight percentage mix components A + B) with quartz or marble granules and mix to a homogeneous mixture. For stone and marble carpet floors, EPISOL® STONE DESIGN PU is intensively mixed with the aggregate material in the desired ratio.

PREPARATION OF THE EQUIPMENT

Always work with clean mixing containers and application material.

APPLICATION

Apply and spread the mixture of binder and fillers on the primer or leveling layer with a trowel and smooth and level the surface with a trowel or squeegee.

FINISHING

To seal the pores, the stone carpet can be finished, after drying, with a transparent sealing layer or sealer EPISOL® STONE DESIGN S based on a water-based acrylic copolymer with a very low VOC, or the fast-drying EPISOL® STONE DESIGN RS based on polyurethane acrylic copolymer. See the separately available product sheets.

APPLICATION CONDITIONS

Conditions during the application and curing of the products. The recommended processing temperature for substrate, environment, material and products is between +15 °C and +30 °C.
Relative humidity: Max. 85%
Dew point: The temperature of the substrate and of the not fully cured product must be at least 3 °C higher than the dew point. Avoid condensation on the surface from the
Moment that the preparations start until the complete curing of the products. Ensure adequate ventilation and a low relative humidity during curing.

CLEANING AND MAINTENANCE

Clean the used tools with SOLVENT MEK or ethyl acetate before the curing of EPISOL® STONE DESIGN PU. Cured products residues must be removed mechanically.
For cleaning and maintenance of the installed synthetic resin systems please refer to the information sheets:
Cleaning and maintenance of synthetic resin floor systems - INDUSTRY
Cleaning and maintenance of synthetic resin floor systems - PUBLIC AND PRIVATE BUILDINGS.

COMPLIMENTARY PRODUCTS

- Dry filler, quartz or marble granules
- Cleaning solvent for tools: SOLVENT MEK
- Pore sealing layer (optional):
  - EPISOL® STONE DESIGN S
  - EPISOL® STONE DESIGN RS

ADVICE

EPISOL® STONE DESIGN PU must not be diluted. When treating a new concrete surface with EPISOL® STONE DESIGN PU, it should be at least 28 days old.

TECHNICAL DATA

APPEARANCE - COMPOSITION

Colour	Light amber transparent

REACTION TIMES

Processing time ± 60 minutes
Walkable: after 1 day
Full mechanical resistance: after 7 days
Full chemical resistance: after 7 days
Times measured at 20 °C; lower temperatures extend the curing time.

CONSUMPTION

Stone carpet:
+/- 5 – 8% (% by weight of additive material).
Always to be tested first, in function of the additive material used.

TECHNICAL DATA

Mixing ratio Comp A : Comp B	1 : 1
Density (at 23 °C and RH 50%)	±1.1 kg/dm³
Viscosity at 25 °C	1500 - 2500 mPa.s
Processing time (for 100 g at 20 °C and RH 50%)	60 min
Shore D hardness after 28 days	45

CE MARKING

CE

KORACHEM NV, Gulkenrodestraat 3, 2160 Wommelgem, Belgium	
23	
EN 13813	
Synthetic resin floor/coating for indoor use in buildings	
Release of corrosive substances	SR
Abrasion resistance	<10 mg (CS10-1000tr-1 kg)
Bond strength	≥ B1.5
Reaction to fire	E_{fl}

REFERENCE DOCUMENTS

bsi. ISO 9001:2015 Quality Management FM 78518
bsi. ISO 14001:2015 Environmental Management EMS 716699
COMPLIANT REACH COMPLIANT

PACKAGING

EPISOL® STONE DESIGN PU	COMP. A	COMP. B
Set 10 kg	5 kg	5 kg
Set 25 kg	12.5 kg	12.5 kg

STORAGE AND SHELF LIFE

Store EPISOL® STONE DESIGN PU in a dry, well-ventilated storage area between +15 and +25 °C.
Shelf life: 12 months after production date.
In case of doubt, please contact KORACHEM NV and state the batch number on the packaging. Do not discharge into groundwater, surface water of sewers. Dispose of contaminated packaging and residues in accordance with the applicable legal requirements.

SAFETY PRECAUTIONS

Carefully read the safety data sheets before using EPISOL® STONE DESIGN PU. Ensure adequate ventilation, keep away from sources of ignition and do not smoke. Avoid skin contact. Eye irritation and/or hypersensitivity may occur with severe vapour concentration, inhalation and/or skin contact. Do not store food, drinks in the same workspace. Always wear personal safety equipment in accordance with the applicable local guidelines and legislation. Gloves and safety glasses are mandatory. Safety measures for working with isocyanates must be strictly observed.

The above information is provided in good faith, but without any guarantees. The application, use and processing of the products are beyond our control and are, as such, the sole responsibility of the user/processor. In the event that Korachem NV is still held liable for damages, then the claim will still be limited to the value of the goods delivered. We always aim to deliver consistently high quality goods. All values on this technical sheet are average values that result from tests carried out under laboratory conditions (20 °C and 50% RH). Values that are measured on the construction site may show a slight deviation since the environmental conditions, the application, and the way of processing our products are beyond our control. Do not add any products other than those indicated on the technical documentation. This version replaces all previous versions. Version 2.0 Date: 4 August 2025 11:38 am

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