BEECK Concrete/Stone Glaze

One-pack silicate glaze system to VOB/C DIN 18363 2.4.1.
Silicification active and UV resistant

1. Product Properties

Glazing silicate emulsion paint to VOB/C DIN 18363 2.4.1., for interior and exterior. BEECK Concrete/Stone Glaze enables free design options through its opaque basic setting, which can be diluted to an almost unlimited transparency and glazing effect: mottled to homogeneous application in monochrome and polychrome colouring. Suitable on fair-faced concrete, ETICS and mineral plaster and render. Visually expressive substrates such as rough-sawn fair-faced concrete formwork or cleanly pointed fair-faced masonry can be integrated fair-faced as a glaze primer. Also ideally suited for colourful freshening up and retouching of brick and natural stone, for example, for stone restoration work on listed buildings. Silicification, the chemical reaction between mineral substrate, pigments and potassium water glass does not create a surface film, but instead produces a microporous, inseparable unit of substrate and glaze coating.

1.1. Composition

- Pure mineral potassium water glass
- Mineral pigments: lightfast and alkali resistant
- Organic content < 5 % (VOB/C DIN 18363 2.4.1.)
- Free from solvents

1.2. Technical properties

1.2.1. Overview

- For use on interior surfaces and façades
- BEECK ASF® Active Silicate Formulation
- High yielding and intensely coloured
- Non film-forming, can be over glazed virtually unlimited
- Lightfast and UV resistant
- Shading suitable for listed buildings
- Bronzing due to weak surface chalking
- Nonflammable
- Natural alkalinity helps to prevent algae and mould

1.2.2. Important building physics characteristics

Parameter	*Value*	*Conformity*
Density $_{20°C}$:	1.35 – 1.5 kg / L	
pH value $_{20°C}$:	11	
Dynamic viscosity $_{20°C}$:	approx. 2,000 mPas	
W_{24} value:	0.3 kg / ($m^2h^{1/2}$)	
s_d value (H_2O):	0.01 m	
Colour fastness*:	Class A1	BFS Information Sheet No. 26
Grain size:	fine	EN 13300
Gloss level at 85°:	dull matt	EN ISO 2813
Flammability class:	A2 nonflammable	EN 13501-1, DIN 4102
VOC content (max.):	4 g / L	ChemVOCFarbV Cat. A / c

* applicable to full coloured and tinted

1.2.3. Colour

- Lime white, Off-White and factory tinted in 200 ready-mixed colours according to BEECK Mineral Paint Colour Chart, inclusive full tone colours. Clear-transparent is not possible, see BEECK MBA-Fixative/BEECK SP Plus.
- Colour groups: I – IV. Tintable with BEECK Full Colour Silicate Paint.
- Use pastel coloured glazing only on ETICS due to heating effect (LV > 40).

2. Use

2.1. Substrate requirements

- Only suitable for vertical surfaces, not for horizontal or sloping building elements exposed to weathering or mechanical stresses such as screeds, stairs, benches, handrails, spandrel walls and tops of walls.
- The substrate must be clean, dry, firm and stable and must be free from efflorescent and separating substances.
- Test new render or plaster for drying and strength.

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- Carefully make good chipped surfaces, cracks and misses with the same type of material and the same texture.
- Use render or plaster to repair cracked substrates. Precoat all over surfaces with hairline cracks, minor structural defects or different absorbencies with BEECK Quartz Filler. This also generally applies to ETICS, mineral and coloured render/plaster with only a visually homogeneous surface. Use BEECK Silicate Filler with embedded fabric for facades with structural defects and cracks.
- Clean pressure-sensitive surfaces carefully.
- Prepare algae infested façades with BEECK Fungicide according to the factory specifications.
- Ensure uniform substrates and careful application on visually high-quality surfaces and in glancing light.

2.2. Brief information on the standard system

- 2 to 3 glaze coats with BEECK Concrete/Stone Glaze. Determine required visual finish by trying out on a test area first. Three glaze coats are required on exposed façades and walls if there is no roof overhang.
- Coat the whole surface with a primer coat of BEECK Quartz Filler, with the exception of: glazed finish with visible substrate is required, e.g. on intact fair-faced concrete or natural stone.
- Dilute BEECK Concrete/Stone Glaze with BEECK Base V and water, previously mixed 1:1, to achieve an optimal glazing effect. Mixing ratios of approx. 1:5 to 1:20 are well proven and in step with actual practice.
- Silicate glazing technique produces a high-quality visual finish. Ensure qualified use and preparatory treatment.
- Try out colouration, dilution ratio and application technique on test area under on site conditions.
- Final long-term preservation with BEECK SP Plus increases durability on weathered solid rendered façades.

2.3. Substrate and preparatory treatment

- ***Lime render/plaster (PI/CSII), lime-cement render/plaster (PII), cement render/plaster (PIII):***
  Test render/plaster for drying and strength. Use BEECK Etching Fluid to remove sinter skin on solid render or plaster, or grind off. Do not etch thin coat renders or plasters and composite systems (for example, ETICS). Prime absorbent render or plaster with BEECK Base V, thinned with 2 parts water. To prepare plasters and renders whose surface is sanding, but which are still firm: flow coat with 1 part BEECK Base V and 5 parts water until they are saturated. Always apply slurry priming coat over whole surface with BEECK Quartz Filler.
- ***Concrete, fair-faced concrete:***
  Use high-pressure cleaner and BEECK Formwork Oil Remover to clean concrete pore-deep and to remove any residual release agent, and then rinse with plenty of clean water. Clean thoroughly in interior areas too by using BEECK Formwork Oil Remover. Preset absorbent substrates with BEECK Base V, thinned with 2 parts water. Apply slurry primer coat over whole surface, using BEECK Quartz Filler as required.
- ***Natural stone, brick, calcium silicate masonry:***
  Clean thoroughly, check for moisture damage, salt edges and efflorescence, make good defective joints and bricks. Preset absorbent substrates with BEECK Base V, thinned with 2 parts water. Flow coat weakly efflorescent and highly absorbent substrates with BEECK Silane Primer according to factory specifications. Apply slurry priming coat with BEECK Quartz Filler, except for deliberate fair-faced glazing.
- ***Existing coats, synthetic resin plaster/render, external thermal insulation composite systems (ETICS):***
  Thoroughly clean and brush off old mineral coatings. Remove cracked, less adherent and film-forming old coats, where possible pore-deep. Check the adhesion and firmness of remaining coats. Clean firmly adhering, matt coatings and plasters or renders. Use BEECK Fungicide according to the factory specifications to prepare facades infested with algae. Prime absorbent, chalking and crumbling surfaces with BEECK Base V, thinned with 2 parts water. Apply a slurry priming coat of BEECK Quartz Filler to the whole surface. Use only light colours (lightness value LV > 40) on ETICS.
- ***Unsuitable substrates*** are horizontal and sloped substrates exposed to weather and mechanically strained, less stable, efflorescent substrates containing gypsum or clay or loam and non-firm and plasto-elastic coatings.
- ***Defective substrates*** require a differentiated approach. Apply renovation render to damp, salt-contaminated surfaces, basement walls and areas. Apply subsequent BEECK Quartz Filler over whole surface.

2.4. Application instructions

2.4.1. General information

Check substrate suitability as required (see 2.1 and 2.3). Pay particular attention to the absorbency, strength, structure and texture of the respective substrate and its suitability for glazing. Try out on a test area before using on high quality and critical surfaces. Ensure that the product is used by qualified persons only.

- Carefully cover surfaces which are not to be treated – especially glass, ceramics, window sills, expansion joints, lacquer and anodic coatings – and protect them from splashes.
- Provide personal protective equipment.
- Only use containers from the same production batch to coat self-contained areas.

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- Ensure sufficient qualified workers and smooth, uninterrupted coating process.
- Before use, stir BEECK Concrete/Stone Glaze thoroughly with a powered mixing paddle and thin with a 1:1 mixture of water and BEECK Base V as required to produce a proper glazing effect (approx. 1:5 to 1:20).
- Do not use in wet conditions, if there is a risk of frost, on hot surfaces or in the blazing sun.
- Minimum application temperature: +8°C
- Drying time: at least 12 hours per glaze coat
- Protect fresh coats from rain and blazing sun; hang up scaffolding sheeting in front of the surface worked on.

2.4.2. Application
Watercolour-like coating method using classic silicate glazing techniques with BEECK Mineral Paint Brushes or Oval Glaze Brushes. Rollers or airless spraying can also be used for efficient application. After applying, immediately brush wet-on-wet, with thin coat and smooth, seamless finish.

- Glaze self-contained surfaces evenly, quickly and in one continuous pass.
- Test technique and glaze adjustment on original substrate, if necessary train.
- ***Preparation:***
  - Thin BEECK Concrete/Stone Glaze with a pre-mixture of: 1 part water and 1 part BEECK Base V approx. 1:5 to 1:20, so that the required glaze effect and colour strength is achieved. Higher dilution rates produces a weak glazing effect with significant reduced durability on facades exposed to the elements.
- ***Aquarelle application method:***
  - Apply 2 – 3 glaze coats in thin coat and smooth, seamless finish, in a circular motion.
  - Allow for drying time of 12 hours per glaze coat.
  - Avoid roller edges, ridges, overlapping and overcoating coats that have already begun to dry, especially in scaffold working areas. Cut-in edges smoothly and seamlessly, wet-on-wet, together with the main area.
- ***Spraying method (airless):***
  - Nozzle: 0.79 mm / 0.031 inch
  - Always sieve product before use. Brush over carefully, with thin coat and uniform wet-on-wet method.

2.5. Auxiliary products

- BEECK Etching Fluid for removing sinter layers on solid new plaster. Do not etch thin coat renders or ETICS.
- BEECK Fungicide against algae growth. Determine effectiveness on site exposed to long-term weathering.
- BEECK Base V, silicate primer and Thinner. Thin with water beforehand according to factory specifications.
- BEECK Silane Primer, reduces moisture transport and salt efflorescence on façades.
- BEECK Quartz Filler, fibre reinforced, slurry priming coat as all over glaze primer for durable silicate glazes. Covers hairline cracks and minor structural defects and creates a uniformly absorbent, optimally silicifiable, natural white primer. Apply over whole surface by brush. May be tinted with BEECK Full Colour Silicate Paint.
- BEECK SP Plus, for long-term preservation, e.g. for representative façades exposed to heavy rain and dirt. Protects against moisture damage and building material corrosion and extends renovation intervals. Saturate fresh silicate glazes by flow coating with BEECK SP Plus according to factory specifications after at least 10 days. Cannot be used on ETICS or concrete.

3. Application Rate and Container Sizes
The application rate is approx. 0.10 L ready-to-use thinned (!) BEECK Concrete/Stone Glaze per m² and pass. Determine application rate on a test area on site, especially when applying to smooth substrates.
Container sizes: 1 L / 5 L / 12.5 L

4. Cleaning
Thoroughly clean equipment, tools and soiled clothing with water immediately after use.

5. Storage
Stored cool and frost-free, Concrete/Stone Glaze can be kept for at least 12 months.

6. Hazard notes, safety instructions and disposal
Comply with the EC Safety Data Sheet. Safety data sheet available on request.
Precautionary statements: Keep out of reach of children. Do not get in eyes, on skin, or on clothing. Wear eye/face protection. The product is alkaline. Do not breathe vapours, spray-mist and dust. Carefully protect the area surrounding the surface to be coated, wash off splashes immediately with water. Disposal in accordance with the official regulations. Waste disposal number: 080112

7. Declaration

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This technical information is offered as advice based on our knowledge and practical experience. All information is provided without guarantee. It does not release the user from their responsibility to check the product suitability and application for the specific substrate on which it is to be used. Subject to change without notice as part of our product development. Non-system additives for tinting, thinning, etc. are not permitted. Check the colours before use. This information sheet automatically becomes invalid when a new edition is issued. The information in the current version of the EC Safety Data Sheets is binding for classification according to the Hazards identifications, disposal considerations, etc.

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