



# BEECK Concrete/Stone Glaze Mineral Silicate Stain Exterior/Interior

Silicate Lasur/Glaze/Stain system manufactured to VOB/C DIN 18363 2.4.1 standard. This pigmented mineral stain, for use on stone, brick, concrete and other masonry or mineral substrates, is a thin layer mineral staining system offering application design flexibility from completely opaque to almost transparent finishes. This product produces a natural looking mineral finish which can be used to blend colors or change colors without making the surface appear painted or coated. It is also commonly used to create a tone on tone decorative old world mottled finish. The possibilities are almost limitless. Silicate mineral bonding in combination with pure mineral pigments provides a long lasting UV stable color that truly stands the test of time.



## 1. Product Properties

Silicate mineral pigmented stain/glaze finish manufactured to VOB/C DIN 18363 2.4.1 standard, for exterior and interior applications. BEECK Concrete/Stone Glaze provides unlimited design options through its opaque basic system, which can be diluted to an almost unlimited transparency and glazing effect: mottled to homogeneous application in monochrome and polychrome coloring. A perfect solution for fair-faced concrete, ETICS/EIFS and cement or lime stucco, plaster or render. Visually expressive substrates such as rough-sawn fair-faced concrete formwork or cleanly pointed fair-faced masonry can be integrated/blended visually with its surroundings. This product is also ideally suited for recoloring or freshening up and retouching of brick and natural stone as part of restoration or repair work on historic listed buildings. When applied, a chemical reaction called silicification takes place between the mineral substrate and the potassium water glass, producing a uniform and inseparable bond. The pigments and potassium water glass do not produce a surface film, instead creating a microporous inseparable single unit of substrate and glaze coating.

### 1.1. Composition

- Pure mineral potassium water glass, produces the best breathability properties
- Inorganic pure mineral pigments: lightfast, non-fading even in the most extreme conditions
- Organic content < 5%, complies with silicate paint standard (VOB/C DIN 18363 2.4.1.)
- Solvent free, extremely low VOC's

### 1.2. Technical properties

#### 1.2.1. Overview

- For use on exterior or interior surfaces and façades
- BEECK ASF® Active Silicate Formulation – This BEECK exclusive formulation gives you the best silicate bonding properties and the most durable finish.
- Extremely high water vapor permeability and valuable building physics properties
- Suitable for listed historic buildings
- Non-film-forming – surface remains breathable
- Environmentally responsible, sustainable, extremely low VOC product containing no solvents
- Mineral finish stays clean longer and is easy to clean when necessary
- Maximum colorfastness A1 (BFS leaflet No. 26) - best possible - No fading, UV stable
- Natural alkalinity helps to prevent algae and mold
- Full range of natural mineral colors – create complex color schemes by layering
- Natural mineral matte finish
- Nonflammable – will not burn
- Pollution and acid rain resistant
- Virtually no limit to over glazing and layering
- Exceeds the strictest air quality regulations, can be applied anywhere
- Contributes to LEED

#### 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 <sub>24</sub> value:	0.3 kg / (m <sup>2</sup> h <sup>1/2</sup> )	
Vapor permeability (H <sub>2</sub> O):	(Best in Class) <0.01 m S <sub>d</sub> value/class V1	EN 1062-1
	75-85 Perms	ASTM E96
V value: Water vapor transmission rate	≥ 2200 (g/m <sup>2</sup> d)	EN 1062-1
Color fastness*:	(Best in Class) A1	BFS Information Sheet No. 26
Grain size:	fine	EN 13300
Gloss level at 85°:	dull matte	EN ISO 2813
Flammability class:	A2 nonflammable	EN 13501-1, DIN 4102
VOC content (max.): White or tinted	≤ 4 g / L	ChemVOCFarbV Cat. A / c
Accelerated Weathering	pass	ASTM G154
Thermal Expansion	Matches the masonry surface	

\* applicable to full colored and tinted



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## 1.2.3. Color

- White, Lime white, Off-white and all 200 colors in the BEECK Mineral Paint Color Chart
- Color groups: I – IV on the BEECK color charts
- Monochrome color shades: C-651, C-652, C-653, C-654, C-655, C-656, C-657, C-658, C-659, C-660 and C-661
- Custom color matching available. Contact BEECK about getting your color matched
- Due to thermal effects of the substrate it is recommended to only use light colors (LV > 40) on ETICS/EIFS

## 2. Use

### 2.1. Substrate requirements

- The substrate must be clean, dry, sound, and stable. It must be free from efflorescent, salts, oils and other incompatible substances.
- Suitable substrates are: mineral, porous, absorbent and or partially water repellent as well as organically bonded surfaces with at least some mineral character.
- All new plaster, stucco, render, concrete or masonry must be properly cured before painting.
- Carefully patch areas needing repair with material of the same type and texture.
- Use mortar or plaster to repair large cracked substrates. Pretreat surfaces that have small or hairline cracks all over with BEECK Quartz Filler or BEECK Bonding Coat Coarse, alternatively with Beecko-SOL Coarse in cases of minor surface defects.
- Uniform substrates and application is important for appearance on high visual quality surfaces and in glancing light.
- Horizontal and slightly sloping surfaces, like sills and the tops of walls, traditionally weather faster than vertical walls and may require more frequent maintenance.
- Remove, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.

### 2.2. Brief information on the standard system

- 2 to 3 glaze coats are common with BEECK Concrete/Stone Glaze. Determine required visual finish by trial on a test area first. Three glaze coats are recommended on exposed façades and walls where there is no roof overhang.
- For a uniform application it is recommended to coat the whole surface with a primer coat of BEECK Quartz Filler, with the exception of: glazed finish where visible substrate is required, e.g. on intact fair-faced concrete, natural stone or other masonry.
- Dilute BEECK Concrete/Stone Glaze with BEECK Base V and water mixture, (mixture 1:1, 1 part Base V and 1 part water), to achieve an optimal glazing effect. Dilution ratios of Glaze and Base V mixture from 1:3 to 1:20 are common and well proven in actual practice.
- Silicate glazing technique produces a high-quality visual finish. To ensure uniform application results, use a qualified applicator and follow all preparatory treatment.
- To determine coloration, dilution ratio and application technique, an onsite test area under normal conditions is recommended.
- Optional treatment with BEECK SP Plus for added water repellency and durability.

### 2.3. Substrate and preparatory treatment

- **Lime, lime-cement and cement stucco/render/plaster:**
  - Allow proper drying and curing of newly installed surfaces.
  - Use an etching fluid to remove sinter skin on solid new mortar, plaster/stucco/render. Do not etch thin coat renders and composite materials (for example, ETICS/EIFS).
  - Clean, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.
  - Prime highly absorbent surfaces with BEECK Base V, thinned with 2 parts water.
  - For sanding surfaces, flow coat several times with the following mixture, 1 part BEECK Base V and 5 parts water, until completely saturated.
  - It is recommended for the best uniform results to apply a slurry coat of BEECK Quartz Filler over the entire surface as a primer.
- **Concrete, fair-faced and architectural concrete:**
  - Allow proper drying and curing of newly installed surfaces.
  - Use a high-pressure cleaner and BEECK Formwork Oil Remover according to the factory specifications to clean concrete pore-deep and to remove any residual release agent, then rinse with plenty of clean water. Thoroughly clean interior surfaces also using BEECK Formwork Oil Remover.
  - Use an etching fluid to remove sinter skin on solid new surfaces
  - Clean, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.
  - Prime highly absorbent surfaces with BEECK Base V, thinned with 2 parts water.
  - For sanding surfaces, flow coat several times with the following mixture, 1 part BEECK Base V and 5 parts water, until completely saturated.
  - Optional treatment, apply a slurry coat of BEECK Quartz Filler over the entire surface as a primer.
- **Natural stone, brick, terra cotta, CMU and other masonry:**
  - Allow proper drying and curing of newly installed masonry.
  - Clean thoroughly, check for moisture damage and efflorescence (e.g. salt edges, iron salts) and repair all defective joints and bricks/masonry.
  - Clean, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.
  - Prime highly absorbent or repaired surfaces with BEECK Base V, thinned with 2 parts water.



# BEECK Concrete/Stone Glaze

Mineral Silicate Stain Exterior/Interior

- For sanding surfaces, flow coat several times with the following mixture, 1 part BEECK Base V and 5 parts water, until completely saturated.
- For CMU apply a slurry coat of BEECK Quartz Filler over the entire surface as a primer to fill small holes or voids if desired. Perform trials on site to determine the best application for your needs.
- **Old film-forming coatings, synthetic resin renders/stucco, external thermal insulation composite systems (ETICS/EIFS):**
  - Remove all cracked or loosely bonded old coatings.
  - Check the adhesion and soundness of all remaining coats.
  - Thoroughly clean tightly bonded coatings and renders/stuccos.
  - Clean, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.
  - Make repairs with proper mortar matching existing surface texture.
  - Prime highly absorbent or crumbling surfaces with BEECK Base V, thinned with 2 parts water.
  - Note regarding façade cleaning: synthetic resin renders/stuccos swell when they absorb water and are slow to dry, allow for sufficiently long drying periods between cleaning and coating. Clean composite systems, insulating renders and similar pressure-sensitive surfaces gently, without damaging the material.
  - Apply a slurry coat of BEECK Quartz Filler over the entire surface as a primer.
  - Use only light colors (lightness value LV > 40) on ETICS/EIFS
- **If your substrate was not listed or if you have questions contact your BEECK representative for recommended application and surface prep.**
- **Unsuitable substrates** are large horizontal or slightly sloping surfaces exposed to the weather, walking surfaces, unstable substrates, efflorescent surfaces containing salts and non-alkali-resistant substrates such as wood-based materials (MDF, OSB), many old oil based coatings, loam, gypsum, and plastics as well as non-firm and plasto-elastomeric coatings.
- **Defective substrates** require specific approaches. Contact your BEECK representative regarding recommended application and surface prep for your specific condition.
  - Clean, treat and rinse all algae and fungi infested surfaces with a biological cleaner and a fungicidal treatment.

## 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 and texture of the respective substrate. Prepare a trial or test area before using on high visibility and critical surfaces. Ensure that the product is applied by a qualified person.

- Carefully cover surfaces which are not to be treated – especially glass, ceramics, window sills, expansion joints, lacquer and anodic coatings – protect them from splashes, drips or splatters.
- Provide personal protective equipment.
- Only use containers from the same production batch to coat self-contained or continuous surface areas
- Premix enough Base V and water for diluting the BEECK Concrete/Stone Glaze.
- Before use, stir BEECK Concrete/Stone Glaze thoroughly with a power mixer. Take care not to incorporate air into the product.
- Using power mixer, dilute the BEECK Concrete/Stone Glaze with the 1:1 mixture of water and Base V as required to produce the desired glazing effect (Common ratios are from 1:3 to 1:20).
- Do not apply in wet conditions, if there is a risk of frost, on hot surfaces or in the blazing sun.
- Application surface and drying temperature: +40°F – +86°F (+4°C - +30°C)
- Drying time: at least 12 hours per coat
- Protect freshly coated areas from the rain; hang up scaffolding sheeting in front of the surface being worked on.

### 2.4.2. Application

A watercolor-like coating method is achieved using classic silicate glazing techniques with BEECK Mineral Paint Brushes or Oval Glaze Brushes. Rollers or airless spraying can also be used for a more uniform efficient application. After applying, immediately brush wet-on-wet, or back roll for an even thin smooth coat, resulting in a seamless finish.

- Glaze self-contained surfaces evenly, quickly and in one continuous pass.
- Test technique and glaze dilution on original substrate, it is recommended that you practice before starting the actual application.
- **Preparation:**
  - Dilute BEECK Concrete/Stone Glaze with a pre-mixture of: 1 part water and 1 part BEECK Base V from 1:3 to 1:20, so that the required glaze effect and color strength is achieved. A higher dilution rate produces a thinner glazing effect with reduced durability.
- **Aquarelle application method:**
  - Apply 2 – 3 glaze coats in thin coat and smooth, seamless finish, in a circular motion.
  - Allow minimum drying time of 12 hours between glaze coats.
  - Avoid roller edges, ridges, overlapping and coating over previous 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. Optionally lay-off with a roller creating a uniform appearance.



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Mineral Silicate Stain Exterior/Interior

## 2.5. Auxiliary products

- BEECK Etching Fluid for removing sinter layers on solid new plaster. Do not etch thin coat renders or ETICS/EIFS.
- BEECK Base V, silicate primer and Thinner. Thin with water according to manufacturer's specifications.
- BEECK Silane Primer, water-repellent primer for reducing moisture transport and salt efflorescence.
- BEECK Quartz Filler, fiber 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 bonding surface, natural white primer. Apply over entire surface by brush. May be tinted in a limited color range.
- BEECK SP Plus, for long-term protection of 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 manufacturer's specifications after at least 10 days drying time.

## 3. Application Rate and Container Sizes

The application rate (i.e. the quantity required for smooth, normally absorbent substrates) is approx. 325-400 sq.ft. / gallon (0.10 L/m<sup>2</sup>) diluted ready-to-apply product, per coat. It is recommended to determine application rate on a trial area on site taking into account substrate-related differences.

Container sizes: 1 Gal / 4 Gal pails

## 4. Cleaning

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

## 5. Storage

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

## 6. Hazard notes, safety instructions and disposal

Comply with the 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 vapors, spray-mist and dust. Carefully protect the area surrounding the surface to be coated, wash off splashes immediately with water. Dispose of product and containers in accordance with the official regulations. Waste disposal number: 080112

## 7. Declaration

This technical information is offered as advice based on our knowledge and 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 the product is to be used. All information is subject to change without notice as part of our ongoing product development. Non-system additives for tinting, thinning, etc. are not permitted. Check the colors before use. This information sheet automatically becomes invalid when a new edition is issued. The information in the current version of the Safety Data Sheets is binding for classification according to the Hazards identifications, disposal considerations, etc.