



BEECK Pure Crystalline Finish

Pure silicate paint to VOB/C DIN 18363 2.4.1. without organic content. Unsurpassed in durability, water vapour permeability and ecological compatibility. For both opaque and for glazed mineral coatings in interiors and exterior areas

1. Product Properties

Two-pack silicate paint to VOB/C DIN 18363 2.4.1., consisting of BEECK Fixative (potassium water glass as binder) and BEECK Powdered Pigment, a purely mineral pigment and extender mixture. BEECK Pure Crystalline Finish is free from any kind of organic additives. Suitable for water-wettable, mineral substrates, such as lime and cement plaster or render, concrete, brick and porous natural stone. For decades, BEECK Pure Crystalline Finish has stood for pure silicate paints with maximum durability and timeless, mineral matt aesthetics; for representative listed buildings as well as for contemporary and sustainable architecture. BEECK Pure Crystalline Finish only contains silicifiable potassium water glass as a binder. Silicification, the chemical reaction between substrate, pigments and potassium water glass, produces uniform inseparable bonding with the mineral substrate without forming an excessive coat thickness on high-tension, sealing (organic) material with peelings and cracks, as is the case with film-forming emulsion and silicone resin paints. Real mineral paint bronzes due to weak surface chalking. Expensive stripping or blast cleaning, producing hazardous waste, is neither possible nor necessary. Pure silicate paints dry quickly after it has rained and are not thermoplastic. Their high natural alkalinity counteracts dirt, mould and algae growth. The matt, cheerful character of the mineral coating with its deep light and the pure mineral, lightfast pigmentation enhances any building for decades.

BEECK ASF®
Aktiv Silikat Formulierung

1.1. Composition

- Two-pack: BEECK Fixative, BEECK Powdered Pigment
- Pure mineral potassium water glass
- Organic content 0 % (VOB/C DIN 18363 2.4.1.)
- Mineral pigments: lightfast, highly alkali-resistant and of natural origin
- Free from solvents, VOC, biocides and preservatives

1.2. Technical properties

1.2.1. Overview

- For use on interior surfaces and façades
- Pure silicate paint to VOB/C DIN 18363 2.4.1.
- Durable and highly weather-proof
- Maximum silicification activity, therefore extremely capillary-active, sorbable and non-vapour retarding
- Ideal building physics properties
- Resistant to alkaline solutions (lyes), acids and organic solvents
- Look and feel and colour palette suitable for listed buildings
- Absolutely lightfast in all shades, including full colours
- Nonflammable, a proof for enormous stability!
- Obtained from raw materials with virtually unlimited availability; natural material cycle
- Pure mineral, no breeding ground for microorganisms
- The product's natural alkalinity helps to prevent bacteria, algae and mould

1.2.2. Important building physics characteristics*

Parameter	Value	Conformity
Density 20°C:	1.55 kg / L	
pH value 20°C:	11	
Dynamic viscosity 20°C:	< 500 mPas	
W ₂₄ value:	> 1.00 kg / (m ² h ^{1/2})	
With additional hydrophobing with BEECK SP Plus:		
W ₂₄ value:	< 0.07 kg/(m ² h ^{1/2})	
S _d value (H ₂ O):	< 0.01 m	
Colourfastness**:	Class A1	BFS Information Sheet No. 26
Flammability class:	A2 nonflammable	EN 13501-1, DIN 4102
VOC content (max.):	0 g / L	ChemVOCFarbV, Cat. A / c

* applicable to white | ** applicable to full coloured and tinted

1.2.3. Colour

- White and Off-White, ready-mixed and full coloured in all 200 colours of the BEECK Mineral Paint Colour Chart.
- Colour groups: I – IV



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- BEECK Powdered Pigment in White and Full Colours can be mixed together as required. Do not add any non-system tinting agents or pigments.

2. Use

2.1. Substrate requirements

- The substrate must be mineral, water-wettable, clean, dry, firm and stable and free from efflorescent and separating substances.
- Check drying and strength of new plaster or render.
- Carefully make good chipped surfaces and misses with the same type of material and the same texture.
- Use plaster to repair cracked substrates. Areas with hairline cracks and minor structural defects: precoat the whole surface with BEECK Quartz Filler.
- Clean pressure-sensitive surfaces carefully.
- Prepare algae infested façades with BEECK Fungicide according to the factory specifications.
- Ensure uniform substrates and careful application on high visual quality surfaces and in glancing light.
- Always try out on a test area of the paint system under on site conditions on critical and visually high-quality surfaces.
- For silicate glazing techniques on low wettability and synthetic-resin modified surfaces, e.g. ETICS: Use BEECK MBA-Fixative instead of BEECK Fixative.

2.2. Brief information on the standard system

- Apply two opaque coats of BEECK Pure Crystalline Finish. An additional intermediate coat is advisable on exposed surfaces exposed to the weather and where there is no roof overhang, e.g. on church towers and noise barriers.
- Optimally adjust BEECK Pure Crystalline Finish to the substrate and use by adding fixative.
- Use BEECK Etching Fluid according to the factory specifications to remove sinter skin from new plaster or render.
- Preset absorbent and chalking substrates with BEECK Fixative, thinned with 2 parts water.
- Use BEECK Quartz Filler as a primer coat or additive on critical surfaces, see 2.5. Auxiliary products.
- Optional: subsequent hydrophobing and long-term preservation with BEECK SP Plus, see 2.5. Auxiliary products.

2.3. Substrate and preparatory treatment

- **Lime plaster/render (PI/CSII), lime-cement plaster/render (PII), cement plaster/render (PIII); porous, absorbent and without water repellency:**
Check drying and strength of plaster. Use BEECK Etching Fluid to remove sinter skin on solid plaster or render, or grind off. Do not etch thin coat plasters or renders and composite systems (e.g. ETICS). Prime absorbent plaster or render with BEECK Fixative, thinned with 2 parts water. To prepare plasters and renders whose surface is sanding, but which are still firm: repeatedly flow coat with 1 part BEECK Fixative and 5 parts water until saturated. In case of hairline cracks and structural defects, use BEECK Quartz Filler according to the factory specifications. Allow air-lime plasters and renders to carbonate sufficiently before coating and always try out on a test area on site due to the required minimum strength.
- **Concrete, fair-faced concrete:**
Use 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, and then rinse with plenty of clean water. Clean thoroughly in interior areas too; try out first by wetting a test area with sprayed on water! Preset with BEECK Fixative, thinned with 2 parts water. Alternatively, for glazing technique on fair-faced concrete: BEECK MBA-Fixative.
- **Brick, calcium silicate masonry, natural stone:**
Clean substrate properly. Check for efflorescence (e.g. salt edges, iron salts), moisture damage and absorbency. Make good defective joints and bricks. Preset with BEECK Fixative, thinned with 2 parts water. Do not use on glaze, clinker, ceramic and non-porous natural stone, e.g. granite.
- **Old silicate and lime-based coatings:** Check the firmness of existing coatings, clean thoroughly by high-pressure cleaning and / or brush off. Preset with BEECK Fixative, thinned with 2 parts water. Strip or blast clean surface to remove film-forming existing coatings.
- **Unsuitable substrates** are horizontal or sloping surfaces exposed to the weather, less stable, pore-free, efflorescent surfaces and non-alkali-resistant substrates such as wood-based materials (MDF, OSB), clay or loam, gypsum, and plastics as well as film-forming, non- firm and plasto-elastic coatings.
- **Defective substrates** require a differentiated approach. Apply renovation plaster or render to damp, salt contaminated surfaces, basement walls and base areas, then apply a primer coat of BEECK Quartz Filler to the whole surface.



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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. Try out on a test area before using on high quality and critical surfaces. Ensure that the product is used by qualified persons.

- 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.
- Before use, soak BEECK Pure Crystalline Finish according to the factory specifications. Before use, stir thoroughly with powered mixing paddle.
- Only use containers from the same production batch to coat self-contained areas.
- Especially when using tinted coatings, ensure sufficient qualified workers and a smooth, uninterrupted coating process.
- 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 per pass: at least 12 hours for opaque coat, at least 8 hours for silicate glaze
- Protect fresh coats from rain and the blazing sun; hang up scaffolding sheeting in front of the surface worked on.

2.4.2. Application

Opaque coat with BEECK Pure Crystalline Finish:

- **Preparation:**
 - Add 25 kg (8 kg, 4 kg) BEECK Powdered Pigment to 30 kg (10 kg, 5 kg) BEECK Fixative, stir thoroughly.
 - Soak for at least 2 hours, ideally over night.
 - Stir occasionally.
 - Close container airtight during breaks.
 - Use up soaked paint within 4 weeks.
- **Apply with BEECK Mineral Paint Brush:**
 - Avoid applying to areas that have started to dry.
 - Cut-in edges smoothly and seamlessly, wet-on-wet, together with the main area.
 - Apply on self-contained areas: quickly, smoothly and seamlessly, with no overlapping, uniformly and in one continuous pass.
 - Coats:
Primer coat: Depending on the weather and substrate, thin with additional BEECK Fixative until coatable, approx. 3 kg for a batch of 25 kg / 30 kg. If the coatability is optimally set, the coating neither fuses on the surface, nor does it run off the surface of, for example, plaster or render projections. Apply an additional Topcoat: Drying time: at least 12 hours per coat. If necessary, thin with a small amount of BEECK Fixative for optimally smooth coatability.

Glaze coat with BEECK Pure Crystalline Finish:

- Check glaze technique and substrate suitability on test area on site. Use BEECK MBA-Fixative instead of BEECK Fixative on low wettability substrates and on BEECK Quartz Filler.
- **Preparation:**
 - Thin 1 kg BEECK Fixative with 1 kg water.
 - Add approx. 200 g – 500 g BEECK Powdered Pigment, depending on the required colour strength.
 - If using BEECK MBA-Fixative: Mix 1 L MBA-Fixative and 1 L water. Add approx. 200 g – 500 g BEECK Powdered Pigment.
- **Use:**
 - Apply watercolour-like in 2 – 3 glaze coats using the BEECK Mineral Paint Brush or BEECK Oval Brush. 3 glaze coats are required in exposed outdoor areas.
 - Apply thin coats, smoothly, seamlessly and without overlapping.
 - Drying time: at least 8 hours per glaze coat
- **Long-term preservation with BEECK SP Plus recommended for:** Representative façades and buildings without roof overhang as well as on noise barriers with high exposure to dirt and rain. Due to silicification, wait at least 10 days before applying BEECK SP Plus on the silicate glaze.

2.5. Auxiliary products

- BEECK Etching Fluid for removing sinter skin on solid new plaster or render. Do not etch thin coat renders or plasters or composite material (e.g. ETICS).
- BEECK Fungicide, against algae growth according to the factory specifications. Determine effectiveness on specific property by trying out on a test area on site exposed to long-term weathering.



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- BEECK Quartz Filler P, fibre-reinforced slurry additive (powder) for primer and intermediate coat on substrates with, for example, individual hairline cracks. Primer coat: Add 25 kg BEECK Powdered Pigment and 50 kg BEECK Quartz Filler P to 30 kg BEECK Fixative and leave to soak overnight. Adjust by adding approx. 10 kg BEECK Fixative.
Intermediate coat: Soak 25 kg BEECK Powdered Pigment and 25 kg BEECK Quartz Filler P in 30 kg BEECK Fixative.
Adjust by adding approx. 5 kg BEECK Fixative. Apply with BEECK Mineral Paint Brush, smoothly and seamlessly and without grain pockets. Apply topcoat in same colour with BEECK Pure Crystalline Finish without adding BEECK Quartz Filler P.
- BEECK Quartz Filler, fibre reinforced, slurry priming coat as all over glaze primer for durable silicate glazes. Covers hairline cracks, minor render, plaster and structural defects and creates a uniformly absorbent, optimally silicifiable, natural white glaze primer. Apply over whole surface with the brush. Subsequent intermediate coat: Soak 25 kg BEECK Powdered Pigment and 20 kg BEECK Quartz Filler in 30 kg BEECK Fixative. Adjust by adding approx. 5 kg BEECK Fixative. Apply with BEECK Mineral Paint Brush, smoothly and seamlessly and without grain pockets. Apply topcoat in same colour with BEECK Pure Crystalline Finish without adding BEECK Quartz Filler.
- BEECK MBA-Fixative, special fixative for low wettability, water-repellent substrates and silicate glazing technique, e.g. on BEECK Quartz Filler, ETICS and fair-faced concrete.
- BEECK Fixative, as thinner and for presetting. Thin BEECK Fixative with water according to factory specifications.
- BEECK SP Plus, for long-term preservation on representative façades, screens and noise barriers exposed to heavy rain and dirt. Effective deep-action and long-term reduction of water and contaminant absorption while retaining the diffusivity [$W \cdot sd < 0.003 \text{ kg}/(\text{mh}^{1/2})$]. Protects against moisture damage and building material corrosion, extends the renovation intervals, reduces tendency to soil and the risk of algae growth. Saturate fresh silicate coats by flow coating with BEECK SP Plus according to factory specifications after at least 10 days. Cannot be used on ETICS.

3. Application Rate and Container Sizes

The application rate, i.e. the quantity required is approx. 0.18 kg BEECK Fixative and 0.15 kg BEECK Powdered Pigment per m² and coating. Determine any substrate-related application rate difference by way of a sample area on site, e.g. on roughcast plaster or render or if using a glazing technique.

Container sizes: BEECK Fixative: 5 kg / 10 kg / 30 kg

BEECK Powdered Pigment: 4 kg / 8 kg / 25 kg

4. Cleaning

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

5. Storage

Stored cool and frost-free, BEECK Fixative can be kept for at least 18 months. Soaked with BEECK Powdered Pigment, close container airtight and use within 4 weeks. Stored in a dry place, BEECK Powdered Pigment can be kept practically indefinitely.

6. Hazard notes, safety instructions and disposal

Comply with the EC Safety Data Sheet (BEECK Fixative, BEECK Powdered Pigment). Safety data sheet available on request.

Precautionary statements: Keep out of reach of children. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear eye/face protection. The product is alkaline. 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

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.