

BEECK Monocrystalline *fine*

Pure silica paint iaw. VOB/C DIN 18363 2.4.1, free of organic content, ready-to-use, single-component, fully hydrated incomparably durable, water-vapor-permeable and ecologically compatible. For opaque and glazed mineral coats for indoor and outdoor use. Ideal construction-physical properties iaw. EN 1062-1.

BEECK ASF®
Aktiv Silikat Formulierung

1. Product properties

Pure silica paint iaw. VOB/C DIN 18363 2.4.1, single-component mixture of pure potassium silicate and pure mineral-based, potassium silicate-resistant pigments and fillers. BEECK Monocrystalline is free of organic additives of any kind. Suited for water-wettable, porous substrates, such as lime and cement plaster, concrete, kiln bricks, and natural stone. For decades, pure silica paints have stood for maximum durability and timeless, mineral-based, cloth-matte visual appeal. Creates high curb appeal for historical building maintenance, just as much as for contemporary and sustainable architecture. BEECK Monocrystalline exclusively contains silicifying potassium silicate as binders. Silicification - the chemical reaction between the substrate, pigments, and potassium silicate - generates a permanent bond with the mineral-based substrate to form a composite unit. When used as a system, BEECK Monocrystalline can be essentially painted over limitlessly without resulting in chipping and cracking due to excessive film thickness on high-stress, blocking (organic) materials. Finish weathers with weak surface-chalking. Costly paint stripping or sand-blasting (prone to hazardous waste) is neither possible nor required. Pure silica paints quickly dry off after rain and have no thermoplastic properties. Their high alkalinity counteracts dirt buildup, and mold and algae infestations. With its depth of light and mineral-based, light-fast pigmentation, the cloth-matte, lively visual appeal of mineral paint increases the value of any facade for decades. Slurring base and intermediate coat with BEECK Monocrystalline *coarse* as needed.

1.1. Composition

- Single-component with pure mineral-based potassium silicate as binder
- Free of organic binders, cellulose-based thickeners, etc., organic content iaw. VOB/C DIN 18363 2.4.1: 0.00 %
- Mineral pigments: light-fast, highly alkaline-resistant, and of natural origin.
- Free of solvents, VOC/SVOCs, biocides, and preservatives

1.2. Technical properties

1.2.1. Overview

- For indoor and outdoor facade use.
- Pure silica paint iaw. VOB/C DIN 18363 2.4.1, free of organic content, ready-to-use
- Durable, highly weather-resistant
- Maximum silicification with high capillary activity, sorption capacity, vapor-permeable
- Ideal construction-physical properties
- Resistant to bleach, acids, and organic solvents
- Visual appeal and colour range appropriate for historical buildings, completely light-fast pigmentation, including for solid colours.
- Non-flammability as proof of incredible stability.
- Obtained from mineral-based raw materials with essentially unlimited availability; closed-loop material availability from natural sources.
- Purely mineral-based. Unlike cellulose-based thickening agents, does not create a nutrient-substrate for microorganisms.
- The natural alkalinity counteracts bacteria, algae, and mold

1.2.2. Important construction characteristic values

| Parameter | Value | Conformity |
|--|---|--------------------------|
| Density 20°C: | approx. 1.5 kg / L | |
| pH value _{20°C} : | 11 | |
| Dynam. viscosity 20°C: | < 500 mPas | |
| s _d value (H ₂ O): | < 0.01 m | EN ISO 7783-2 |
| W ₂₄ value: | > 0.5 kg / (m ² h ^{1/2}) | EN 1062-3 |
| W ₂₄ value with additional hydrophobization with BEECK SP Plus: < 0.07 kg / (m ² h ^{1/2}); EN 1062-3 | | |
| Grain: | fine | EN 13300 / EN ISO 787-18 |
| Organic content: | 0.0 % | VOB/C DIN 18363 2.4.1 |
| Colour fastness**: | Class A1 | BFS leaflet No. 26 |
| Flammability class: | A1 non-flammable | EN 13501-1, DIN 4102 |
| VOC content (max.): | 0.0 g / L | ChemVOCFarbV, cat. A / a |

* valid for white | ** valid for solid colour and tinted

1.2.3. Colour hue

- White, factory tinted, and solid colour in all 200 colours as per BEECK mineral colour chart. Colour groups: I – IV



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2. Processing

2.1. Substrate requirements

- Inspect new plaster for dryness and strength. Carefully repair breakouts and defects with the same material and texture. Seal all breakouts by applying plaster, even on slurring base and intermediate coats.
- Repair cracked substrates with plaster, even on slurring base and intermediate coats. Apply a slurring coat over the entire area of surfaces with individual hairline cracks or minor texture defects with BEECK Monocrystalline *coarse*.
- Clean pressure-sensitive surfaces with care.
- Treat algae-infested facades with BEECK Fungicide as per manufacturer's instructions.
- Ensure uniform substrates and careful processing on demanding surfaces and in side lighting.
- Test coating structure on critical and visually demanding surfaces under on-site building conditions.

2.2. Abbreviated information for standard application

- Two solid coats with BEECK Monocrystalline. An additional intermediate coat is recommended on exposed weather sides and if there is no roof overhang, e.g. on bell towers and noise barrier walls.
- Optimize application of BEECK Monocrystalline for substrate and processing by adding fixative.
- Remove sinter skin from new plaster with BEECK Etching Fluid as per manufacturer's instructions.
- Fix absorbent and chalking substrates with BEECK Fixative, diluted with 2 parts water.
- Apply BEECK Monocrystalline *coarse* as slurring base and intermediate coat on surfaces with hairline cracks.
- Optional: subsequent hydrophobization and long-term preservation with BEECK SP Plus.

2.3. Substrate and pretreatment

- **Lime plaster (PI/CSII), lime-cement plaster (PII), cement plaster (PIII); porous, absorbent, and without water repellency:**
Test plaster for dryness, water wettability, and strength. Grind off or remove sinter skin on solid plaster with BEECK Etching Fluid. Do not etch thin film plaster and composite systems. Primer absorbent plaster with BEECK Fixative, diluted with 2 parts water. Saturate surface-sanding but bonding plaster several times with 1 part BEECK Fixative and 5 parts water. Apply a slurring coat on hairline cracks and texture defects with BEECK Monocrystalline *coarse*. Allow air-hardening lime plaster to cure before painting. The required minimum strength mandates testing on-site under building conditions; observe manufacturer's instructions.
- **Concrete, exposed concrete:**
Clean concrete down to pores with high-pressure cleaner and BEECK Form Oil Remover as per manufacturer's instructions. Remove all residual release agent, then rinse with plenty of clear water. Also clean thoroughly in indoor areas; perform wetting test by spraying on water. Before painting, fix with BEECK Fixative, diluted with 2 parts water.
- **Kiln brick, lime-sandstone, natural stone**
Clean substrate professionally. Check for leaching (e.g. salt stains, iron salts), moisture damage, and absorption capacity. Repair defective seams and stones. Before painting, fix with BEECK Fixative, diluted with 2 parts water. Do not use on glazing, clinker brick, ceramics, and on pore-free natural stone, e.g. granite.
- **Old paint** based on silica and lime must be checked for bonding capacity, pressure clean thoroughly, brush off chalking. Before painting, fix with BEECK Fixative, diluted with 2 parts water. Etch off or blast off film-forming old paint.
- **Unsuited substrates** include horizontal or low pitch, weather-exposed, low-adhesion, leaching, and not alkaline-resistant substrates, such as engineered woods, clay, lime, and plastics, and non-bonding, film-forming, plasto-elastic old paint or pore-free substrates.
- **Deficient substrates** call for a differentiated approach. Apply a repair plaster layer on salt and moisture-exposed surfaces, basement walls, and footer areas.

2.4. Processing instructions

2.4.1. General instructions

- Verify substrate suitability. Note absorption capacity, strength, and texture of the relevant substrate. Test demanding and critical surfaces. Supply personal protective gear. Supply sufficient qualified labor and ensure smooth workflow, specifically for tinted paints.
- Carefully cover and protect untreated surfaces, in particular glass, ceramics, windowsills, expansion joints, paint coats and anodized finishes against overspray.
- Before and during processing, thoroughly stir BEECK Monocrystalline with an electrical mixer.
- Paint self-contained surfaces exclusively with containers from the same manufacturing batch.
- Do not process when wet, risk of frost, on heated surface or in full sun.
- Minimum processing temperature: +8°C
- Drying time per pass: at least 12 hours for opaque coat, 8 hours for silica glaze.
- Protect fresh coats against rain, water runoff, and full sun; prehang scaffolding screen.

2.4.2. Processing



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- **Opaque coat with BEECK Monocrystalline fine:**

- Thoroughly mix BEECK Monocrystalline fine with electrical mixer. During work breaks, seal container airtight; use up within 3 months (note date of manufacture).
- Apply with BEECK mineral paint brush or oval brush; alternatively with airless spray method. Do not allow areas to dry out. Blend in with the surface by feathering edges wet-on-wet. On self-contained surfaces, apply expeditiously as a uniform film without overlap in a single pass.
- Coats:
Base coat and interim coat (if needed): Depending on weathering and substrate, dilute to optimum brushability by adding BEECK Fixative; about 2 kg per 12.5-liter bucket. If adjusted properly, the coat neither burns in nor runs, e.g. from protruding plaster texture.
- *Topcoat:* wait at least 12 hours. If needed, dilute with about 1 kg of BEECK Fixative per 12.5 l bucket for optimum, expeditious brushability.

- **Glaze coat with BEECK Monocrystalline fine:**

Test glaze thickness, processing technique, and substrate suitability on test surface. Suited only for porous, water-wettable substrates.

Preparation:

- Dilute 1 kg BEECK Fixative with 1 kg of water.
- Depending on the desired glaze effect, add about 0.5 – 1 kg of this mixture to BEECK Monocrystalline *fine*.
- Glazing effect is achieved in 2 – 3 glazing passes with the BEECK mineral paint brush or the BEECK oval glaze brush. 3 glazing passes are required in exterior areas with full weather exposure. Apply a thin, overlap-free coat, blending in the material. Drying time: at least 8 hours per glaze pass.

Long-term preservation with BEECK SP Plus recommended for: facades with high curb appeal and for no roof overhang, and high dirt and rain load exposure. Due to silicification, wait at least 10 days after silica glaze before applying BEECK SP Plus.

2.5. Support products

- BEECK Monocrystalline *coarse* for slurring base and intermediate coats on uneven or hairline-cracked substrates. Same colour topcoat with BEECK Monocrystalline *fine*, or apply with glazing technique.
- BEECK Fixative, thinner and primer. Dilute as primer with 2 parts of water.

3. Yield and container sizes

Yields about 0.12 – 0.18 l of BEECK Monocrystalline *fine* per m² and pass. Determine substrate-related yield differences on test surface in the building, e.g. on textured plaster or for glazing techniques.

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

When stored in a cool, frost-free area with the container sealed airtight, BEECK Monocrystalline has a shelf life of 3 months; see manufacturing date on container. Do not use after the indicated date.

6. Hazard notices, safety instructions, and disposal

Note EC Safety Data Sheet. Safety Data Sheet available on request. Keep out of reach of children. Do not get in eyes, on skin, or on clothing. The product is alkaline. Carefully cover surrounding areas, immediately wash off overspray with water. Dispose in compliance with statutory regulations.

- Waste code for residual product: 080112

7. Declaration

This technical information is intended to advise you based on our findings and practical experience. All notices are non-binding. They do not relieve the user from performing their own substrate-dependent tests for product suitability and processing method. Technical changes due to product development made without notice. Third-party additives for tinting, diluting, etc. are not approved. Test colour prior to processing. This leaflet automatically expires when a revised edition is published. The details in the EC Safety Data Sheets in their current version are binding for the classification as per hazmat directive, disposal, etc.