

Natural Stone Hardener OH

Colourless silicic acid ester preparation (mixture) for the consolidation and strengthening of porous natural stone and bricks in exterior areas. Without water repellency

1. Product Properties

Consolidation of open-pored mineral building materials with a healthy core, especially for weathered, leached natural stone, including mortar joints. Also for crumbling, internally firm mineral renders, stucco, frescoes and bricks. Try out on a sample area beforehand to determine material consumption and substrate suitability. This product is solely for commercial use. A final colourless long-term preservative coat with BEECK Silicone Plus protects the masonry durably against the rain and weathering.

1.1. Composition

- Silicic acid ester, reacts with moisture in building materials to form silica gel and volatile alcohol
- Free from solvents
- Active substance content 99 %

1.2. Technical properties

1.2.1. Overview

- Ready to use, One-pack
- Hardens and consolidates porous, crumbly building materials
- Mineral binder deposition (silica gel)
- Delays weathering
- Deep-action preparation (mixture) with outstanding penetrability
- Non vapour retarder, does not block pores
- Encourages neither dirt nor algae
- Without water repellency ("OH"")
- Optimum protection with long-term preservation BEECK Silicone Plus

1.2.2. Important building physics characteristics

Parameter	Value	Conformity
Density _{20°C} :	1.00 kg/L	
Active substance content:	99 %	
Gel deposition:	Aproxx. 30 %	
Dynamic viscosity _{20°C} :	< 5 mPas	
W ₂₄ value:	> 0.5 kg/(m ² h ^{1/2})	EN 1062-3
s _d value (H ₂ O):	< 0.08 m	EN 1062-1
Flash point:	40°C	ISO 2719

1.2.3. Colour

- Colourless-transparent to slightly yellowish. Test for possible deepening of colour on a sample area.

2. Use

2.1. Substrate requirements

- Preferred use on vertical surfaces of façades.
- Depending on the requirements, associated measures are required to dewater the masonry, for example, horizontal insulation, drainage or removal of defective water pipes. A rainproof clay tile, stone or metal covering is recommended to protect tops of walls.
- Horizontal or inclined exterior elements exposed to the weather, such as string courses, window sills, etc. can be hardened and consolidated with silicic acid ester preparations (mixtures); however, they are usually not durably protected against weathering, not even with subsequent treatment with BEECK Silicone Plus.
- The substrate must be clean, dry, with a firm and stable core and must be free from rising damp or high water table pressure. Can be used on household dry, porous substrates.
- Efflorescent substances such as water-soluble, structurally harmful and discolouring salts must be present in trace quantities only; in case of doubt check through laboratory analysis and testing on sample areas beforehand.
- Trying out on a test area of the original substrates on site in the specific property is indispensable to test the effective-



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ness, possible deepening of colour/efflorescence and to determine the application rate. Qualified trying out on a test area including cleaning is to be included in the specification and documented; the determined application rates are binding target specifications and the basis of the price estimating.

- Brush down dry crumbling surfaces, efflorescence and crusts. Remove sweepings. A suitable, cleaning or jetting method that does not harm the building materials must be determined as part of the preliminary test.
- Clean substrates by means of a dry method wherever possible; drenching results in salt transport. Use cleaning agents containing wetting agents sparingly; rewash with clean water. Remove biogenic crusts by mechanical methods. Treat algae infested surfaces with BEECK Fungicide according to the factory specifications.
- Check the masonry joints, remove defective material, clean and make good with suitable (e.g. trass lime) jointing mortar of the same type and texture. Stone replacement measures if required.
- If used for stone restoration work, follow listed building conservation specifications.

2.2. Brief information on the standard system

- Clean substrate and saturate by flow coating with BEECK Natural Stone Hardener OH according to factory specifications.
- Can be coated over after 3 to 4 weeks at the earliest, e.g. with BEECKsil or BEECK Concrete/Stone Glaze.
- Subsequent long-term preservation with BEECK Silicone as required. Saturated flow coat application of BEECK Silicone Plus, at least 2 weeks after stone hardening or coating.

2.3. Substrate and preparatory treatment

■ **Natural stone, brick; lime render (CSI - II), lime cement render, cement render, stucco, fresco:**

Check for porosity, absorbency and efflorescence, if suspected, determine the content of structurally damaging, water soluble salts. Use only on firm, morphologically homogeneous stones and substrates with a "healthy core". Do not use to "bond" already detached case hardened surfaces or crusts. Use suitable, gentle cleaning method and do not carry out stone hardening until after the substrates have dried pore-deep. Remove any lime sinter using BEECK Etching Fluid. Brush off old mineral coatings: Blast clean or strip film-forming synthetic resin and emulsion coatings pore-deep.

- **Unsuitable substrates** are, for example, horizontally installed, mechanically stressed building materials, in contact with the soil or exposed to standing water/high water table pressure/rising water, such as stone floors, stairs, planters, well surrounds or slope masonry walls. Cannot be used in case of hygroscopic moisture and high content of structurally harmful, water soluble salts. Can also not be used on solvent-swellable substrates and composites (ETICS) containing synthetic resin. Low porosity building materials are unsuitable, e.g. granite and glazed ceramics. Use the product in exterior areas only, with good ventilation; never use in closed rooms, basements or manholes.

2.4. Application instructions

2.4.1. General information

Check substrate suitability as described in the VOB (German construction contract procedures) (see 2.1 and 2.3). Pay particular attention to the porosity, absorbency, strength and texture of the substrate. Test if it is suspected that substrate contains structurally harmful salts. Ensure qualified substrate testing, trying out on a test area and use.

2.4.2. Application

- BEECK Natural Stone Hardener OH is a deep-action preparation (mixture) and is applied optimally by flow coating wet-in-wet several times within around 20 minutes. Electric pumps and pressure sprayers with low pressure and solvent-resistant hose are suitable. Do not atomise material, if necessary remove nozzle. Application with a brush is possible for small areas. Use a brush to spread surplus material in bearing joints and recesses and runs and sags.
- Repeat impregnation until practically no more material is absorbed by the building material. Spread surplus material with a brush, avoid running onto adjacent areas or into the soil.
- Always wash down surface 30 minutes after the last impregnation at the latest using pure solvent (e.g. BEECK Lacquer Thinner, white spirit, turpentine substitute) and dab off any surplus liquid, in order to avoid incrustations and bloom.
- Application temperature: 10°C to 25°C, relative humidity approx. 40 – 70 %.
- Do not use on heated surfaces, in wet conditions and in the blazing sun.
- After impregnating the masonry, leave for at least 2 – 3 weeks and use scaffolding sheeting to protect against rain, damp and intense sunshine.
- Determine the effectiveness and application rate beforehand by trying out on a test surface; see substrate and preparation. Check target application rate during use, e.g. coverage per container.
- Avoid contact with adjacent materials (plastic, joint sealant, glass, metal, ceramics, lacquer, bitumen, etc.). Cover areas well, wash off splashes immediately. Do not atomise material, caution is required in windy conditions!

3. Application Rate and Container Sizes

The application rate is highly dependent on the absorbency and pore volume of the substrate, from approx. 0.5L to 10L



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per m². Determine specific target application rates for the building concerned by trying out on a representative sample area beforehand and check during use (coverage per container).

Container sizes: 5 L / 30 L

4. Cleaning

Clean equipment, tools and soiled clothing with solvent immediately after use.

5. Storage

Stored cool and frost-free in the closed, airtight original container can be stored for at least 12 months.

6. Safety Instructions

- Comply with the EC Safety Data Sheet.
- Labelling (GHS): GHS02, GHS07 Signal word: Warning
- Hazardous component: Tetraethyl silicate
- Hazard statements:
 - H226 Flammable liquid and vapour.
 - H332 Harmful if inhaled.
 - H319 Causes serious eye irritation.
 - H335 May cause respiratory irritation.
- Safety Instructions (precautionary statements):
 - P101 If medical advice is needed, have product container or label at hand.
 - P102 Keep out of reach of children.
 - P103 Read label before use.
 - P210 Keep away from heat, sparks, open flame, hot surfaces. No smoking.
 - P233 Keep container tightly closed.
 - P337+P313 If eye irritation persists: Get medical advice/attention.
 - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
 - P312 Call a POISON CENTRE or doctor/physician if you feel unwell.
 - P403+P235 Store in a well-ventilated place. Keep cool.
 - P501 Disposal of the contents / container in accordance with the local/regional/national/international regulations.
- Use only in well-ventilated areas.
- The product is solely intended for commercial use. Deploy instructed, competent personnel only.
- Waste code (EWC): 080111.

7. Declaration

This technical information is offered as advice based on our knowledge and practical experience. All the information provided must be non-binding and does not release the user from their responsibility to check the product's suitability and application method for the specific substrate on which it is to be used. Subject to change without notice as part of our product development. Do not use any other, third party additives. 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 Safety Data Sheets is binding for classification according to the Hazardous Substances Regulations, disposal, etc.