

BEECK NATURAL STONE HARDENER

Silicic acid ester preparation for solidifying porous natural stone and brick.
Available: water-repellent „H“ or non-water-repellent „OH“.



Ranges of Application:

BEECK NATURAL STONE HARDENER OH and H are suitable for solidifying porous, crumbly mineral building materials, especially natural stone and brick including still homogeneous mortar joints and sanding mineral plasters. Excellent penetration qualities and a controlled hardening process ensure strengthening from within without formation of incrustations or shells.

BEECK NATURAL STONE HARDENER H is hydrophobic and provides both solidification and highly effective water repellency, especially for delicate natural stone types. For use especially on sanding natural stone and brick.

BEECK NATURAL STONE HARDENER OH is non-water repellent and may be used universally. Perfect e.g. for solidifying crumbly stones that are subsequently color treated with BEECK silicate paints and finally provided a hydrophobic treatment with BEECK BS PLUS.

Always make samples first to determine material requirements and to check for suitability of BEECK NATURAL STONE HARDENER. For indoor use only appropriate if good ventilation is ensured.

Processing:

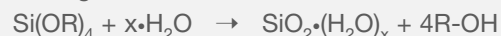
BEECK NATURAL STONE HARDENER is a deep-action product, applied repeatedly by flow coating to saturation, wet-in-wet, with a waiting time of 5 to 20 minutes between the coatings. Appropriate tools: mechanical or electrical low-pressure pumps, garden pump or pressure sprayer with a solvent-resistant hose. If necessary, remove nozzle. For smaller surfaces, repeated application to saturation using a brush may be acceptable. Application must be repeated until no considerable amount of hardener is taken up anymore. In order to avoid incrustations on the surface, always rewash 30 minutes after the last flow coating using a pure solvent (turpentine substitute). Work partial surfaces all in one day. Do not use on heated or wet surfaces. Protect from direct sunlight. Processing temperature: +10°C to +22°C air and surface. Check yield (see below) during processing.

Carefully cover all surfaces not to be painted in order to protect from splashes. Avoid paint flow to adjacent surfaces. Further treatment with BEECK BS PLUS no sooner than 10 days later. Use on carefully cleaned, dry surfaces only, see Surface and Pretreatment.

Allow at least 10 days before starting subsequent hydrophobing treatment with BEECK BS PLUS since stability build-up in the stone takes some time. The hardening of stone is a restoration measure that requires specific preliminary testing.

Technical Features:

Silicic acid ester based BEECK NATURAL STONE HARDENER provides solidification of the stone through controlled binder supply in terms of separated mineral silica gel.



As a byproduct, only highly volatile alcohol is being produced that evaporates together with the solvent.

Thanks to a high binder separation in terms of at least 35% gel formation, an ideal hardness of the stone is achieved. BEECK NATURAL STONE HARDENER H also provides the building materials' pores with a protective layer, thus making them water-repellent from within while maintaining the physical properties typical for stone:

Water absorption and water-vapor diffusion characteristics*):

W_{24} -value: < 0.05 kg/(m²h^{1/2})

$W \cdot s_d$ -value (H₂O): < 0.01 kg/(m²h^{1/2})

*) valid for BEECK NATURAL STONE HARDENER H

Physical/Technical Characteristics:

Density: 0.93-0.95 g/cm³

Dynam. viscosity: < 50 mPa

Color tone:

Slightly yellowish to clear-transparent. Check for possible color intensification by making samples.

Drying:

Gel formation will require approx. 12 to 20 days. In that time, protect surface from rain, humidity and bright sunlight, e.g. by using scaffold tarpaulin.

Further treatment with BEECK SILICATE SYSTEMS or hydrophobic treatment with BEECK BS PLUS no sooner than 10 days later.

Yield:

Depending on porosity and absorbency of the surface. It is indispensable to determine exact material requirements by making samples on the building to be treated. Average yield: 0.5 to 10 l per m².

Available Sizes:

5 l, 10 l, 28 l and 200 l.

BEECK NATURAL STONE HARDENER

Cleaning:

Clean appliances, tools and clothes with turpentine substitute immediately after use.

Storage:

Lasts at least 12 months when stored cool in the airtight sealed original container. Open containers should be used up as soon as possible.

Composition:

Combination of silicic acid esters (approx. 75%) in organic solvents. BEECK NATURAL STONE HARDENER H additionally contains hydrophobing alkylalkoxysilanes.

Surface and Pretreatment:

General Requirements:

The surface must be clean, dry, solid, coatable and free of ascending or retained humidity. Not for horizontal or weakly tilted surfaces.

Facade cleaning:

Prior to solidification the surface must be carefully and sensitively cleaned. Mechanically remove incrustations, efflorescences, loose coatings etc. Pore-deep removal of film forming old coatings using BEECK PAINT STRIPPER will be required. Make samples to determine best cleaning methods (chemical or mechanical cleaning, e.g. using low-pressure with/without abrasive). Wetting agent containing cleansers should be used very sparingly and rinsed off using plenty of clear water.

Suitable surfaces:

Natural stone, Brick, Mineral plasters, crumbly and superficially sanding:

Check for porosity, absorbency and efflorescences. If necessary, determine content of watersoluble salts that have a damaging effect on the building's substance. Only apply to coatable, morphologically homogeneous stones with an intact core. Not for „reattaching“ partly loosened peelings or incrustations.

Carefully clean and touch up joints and stones to match style and structure. Make samples to determine suitability, material requirements and color intensification, if any.

Subsequent hydrophobic treatment with BEECK BS PLUS is always recommended as it provides long-term protection from penetrating humidity, frost damages and new embedding of airborne pollutants.

Especially the hardening of natural stones requires a special procedure after preliminary testing. Unsuitable are completely rotten or extremely salt-laden stones; the same applies to surfaces that are clay based, non-porous or that have been treated to form film.

Effective renovation of salt-laden building materials, e.g. in the base of historical buildings, is only possible through comprehensive action such as horizontal insulation, drainage and the use of a renovation plaster system acc. to WTA¹⁾ guidelines.

¹⁾ WTA Scientific-Technical Association for Building Maintenance and Monument Preservation, non-profit organization.

Safety Instructions and Disposal:

► Hazard Class: Highly flammable (VbF Al) and irritating (Xi) !

When applying, keep away from any ignition source. If necessary use explosion-proof devices. Refrain from smoking and ensure proper ventilation. If required, use respiratory protection: gas mask and breathing equipment with filter A.

Always observe the professional associations' regulations for the prevention of accidents when handling building preservatives and solvents. Also refer to the corresponding EU Safety Data Sheets.

Carefully cover all surfaces not to be treated, especially lacquers, coatings, glass, ceramic and metal. In case of accidental contact, immediately rinse with plenty of solvent. Keep out of the reach unauthorized persons. Disposal of product remainders according to legal regulations.

► Waste Code: Product and Product Remainders (European Waste Code): 080199 (Coatings).

It is our objective to provide, through this technical information, advice based on our skills and practical experience. Any instructions given are non-binding and do not release the user from his or her liability to check for product suitability and application methods him/herself with regard to the surface used. Technical modifications may result from product development. Upon publication of a revised or new version, these instructions will automatically lose their validity. The details contained in the EU Safety Data Sheets in their current form dictate liability for classification in terms of the Hazardous Substances Regulation, disposal etc.