Stoanz ltd

Technical Data Sheet

S-Protect BHN

Hydrophobizing impregnation for concrete, clinker masonry and ceramic tiles

Product Description

- clear, colourless, frost resistant liquid based on a monomeric alkylalkoxysilane
- solvent free, >98% active ingredient
- flash point 63°C
- low volatility
- not miscible with water

Intended Use

- is specially suited for the water-repellent impregnation of mineral construction materials in outdoor areas
- is highly reactive and resistant against alkali
- high penetration depth
- water-vapor-permeable, colourless impregnation treatment
- significantly reduces the uptake of water and soluble salts (eg. chlorides)
- protects hairline cracks of up to 0.3mm
- supplied ready to use
- recommended as waterproofing under coatings or other surface protection treatments

Application

S-Protect BHN is suitable for the waterproofing of mineral substrates, in particular low-porosity substrates, such as insitu or pre-cast concrete. The amount to be applied depends to a large extent on how absorbent the substrate is.

Suitable Substrates	Consumption Rate	Application
Concrete	minimum 150 g/m^2	low pressure pumping
Clinker Masonry	minimum 150 g/m^2	low pressure pumping
Ceramic tiles	approx. 100 g/m^2	low pressure pumping

A curing time of 28 days should be allowed for fresh concrete before S-Protect BHN is applied (maximum moisture content 18%). S-Protect BHN can also be used on old or carbonated concrete. Let S-Protect BHN cure for 5 days before an additional surface protection treatment such as S-Protect SP or S-Protect SC is applied.

The substrates to be treated should be air-dry and clean in order to ensure deep penetration of the active ingredients. Acceptable surface cleaning methods include honing, water blasting and chemical cleaners. During application the outside temperature and the temperature of the substrate should be within the range of 0°C and +40°C. S-Protect BHN should not come into contact with water before or during application and should not be applied if there is a strong wind or if rain is imminent.

S-Protect BHN must be applied in full flood coat. This is achieved by allowing it to flow without pressure against the surface to be treated. All delivery devices for liquids are suitable (airless spray, backpack sprayer for example). The material must not be atomized or applied with a brush.
A liquid film of S-Protect BHN must remain in contact with the substrate for several seconds. Horizontal surfaces should have a shiny, wet appearance for 3-5 seconds. Vertical surfaces should exhibit a 30-50 cm shiny curtain if liquid.
All equipment and containers must be clean and dry. After use they can to cleaned with any organic solvent (methylated spirit, petrol or thinners).

Non-absorbent substrates such as glass, wood, plastic and metal cannot be treated with S-Protect BHN. Glass, wood and metal are not attacked by S-Protect BHN, neither are most plastics used in construction though we recommend a test is carried out. Masking is recommended as product not absorbed by the substrate my react with atmospheric moisture to form a greasy, glossy silane resin film, that can be removed if cleaned immediately using conventional cleaning agents, or alcohol (check for compatibility of the solvent with the surface).
Plants in the vicinity of the substrate to be treated should be protected against contact with S-Protect BHN.
In addition S-Protect BHN should not come into contact with asphalt or bituminous surfaces as they will dissolve.

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Application cont.

S-Protect BHN react with the interfaces in pores and capillaries of the mineral surface and form invisible, water-repellent interfacial compounds. To determine the exact amount to be applied and to check whether previous of following treatments are compatible with the S-Protect BHN treatment it is recommended to do a small test patch first.

Technical Reports

Institute	Report No.	Date	Country	Language	Test Protocol
University of Leuven "Reyntjens Laboratory"	R/26983-91	28/10/91	B	English German	Tests on concrete Chloride penetration
Polymer Institute	Bauaufsichtliches Prüfzeugnis	09/05/05	FRG	German	Test according to TLOS
University of Gent "Magnel Laboratory"	91/0540	10/06/92	B	French	Tests on concrete Cabonation, water absorption
Taywood	1303-91-5054	25/03/91	GB	English	Tests on concrete Chloride penetration, water absorption, penetration depth
ENCO		1992	I	English	Combination of hydrophoblic treatment and acrylate - top-coating on concrete, Chloride penetration, Sulphate penetration, weight loss on subjecting to frost/road salt
Stockholm Gatukontor Byggnadsavdelingen	45619	20/11/92	S	English Swedish	Tests on concrete, Penetration depth, weight loss on subjecting to frost/ road salt, Chloride Penetration
Stockholm Konsult	2998188	1999	S	English	Chloride Penetration, water absorption, water vapour permeability, frost resistance
TNO-Bouw	96-BT-R1270	1996	NL	English	Tests on concrete water absorption, penetration depth, alkali resistance, water vapour diffusion, frost resistance
SP Provning Forskning	Bro2004 F507 584A	2005	Sweden	English	Frost resistance, vapour penetration resistance, penetration depth, liquid absorption, chloride content.
C.T.I. Consultants	C9134	1993	AUS	English	Tests on concrete, railway sleepers, protective measure against crack formation by alkali-silica-reaction.
WJE	900704	1995	USA	English	The effect of BHN application upon corrosion in reinforced concrete

Product Safety

Before application read the Material Safety Data Sheet thoroughly for safely and toxicological data as well as for information on proper transportation, storage and use. The Material Safety Data Sheet is available upon request from Stoanz Ltd.

Packaging, Storage and Handling

S-Protect BHN is supplied in ready-to-use 20 Litre container.
S-Protect BHN is not resistant to frost and should be stored at temperatures between -10°C and +40°C. S-Protect BHN has a shelf life of 12 months if stored in originally sealed containers.