

Protectosil® 100 N

Silane water repellent for mineralbased building materials

Technical Data

Properties and test methods	Value	Unit	Method
Freezing point	-140	°C	-
Solvent	solvent-free	-	-
Strength (concentrate)	98 - 100	%	-
Odor	hardly perceptible	-	-
Flash Point	63	°C	DIN 51755
Density (20 °C)	approx. 0.88	g/cm ³	DIN 51757
Boiling point	approx. 186	°C	DIN 51751
Viscosity	0.95	mPa.s	-

Registration

Protectosil® 100 N

EINECS/ELINCS (EU):	Yes
AICS (Australia):	Yes
DSL/NDSL (Canada):	Yes
PICCS (Philippines):	Yes
TSCA (USA):	Yes
IECSC (P.R. China):	Yes
ENCS (Japan):	Yes
ECL (South Korea):	Yes

Protectosil® 100 N is a free-flowing, colorless, solvent-free liquid water repellent based on a monomeric silane, specially intended for the external waterproofing of mineral building materials.

Protectosil® 100 N may be used as a concentrate to manufacture diluted products and formulations.

Safety and Handling

Before considering the use of Protectosil® products please read its Safety Data sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available after registration on our website www.protectosil.com or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

Packaging and Storage

Protectosil® 100 N is available in 25 kg and 180 kg drums. The storage temperatures are between -10 °C and 40 °C. Protectosil® 100 N has a shelf life of at least 12 months if stored in originally sealed containers.

Properties and Use

Recommendations for use

As a water repellent for mineral building materials especially substrates with low porosity e.g.

- concrete (road bridges, port facilities and all marine concretes, concrete facings, exposed aggregate concrete)
- clinker brick
- ceramic tiles
- as a water repellent under topcoats

Application

Product Characteristics

- solvent-free
- very low volatility, no loss of active substance by evaporation
- water vapor permeable, colorless impregnating agent
- no formation of a sticky silicone film
- effective on micro cracks up to 0.3 mm
- greatly reduces the uptake of water and damaging water-borne salts (e.g. chlorides)
- high depth of penetration
- resistant to alkali
- protects against alkali-aggregate reaction in concrete
- meets TL/TP-OS of the ZTV SIB 90 standards set by the German Federal Transportation Ministry
- frost resistant

Formulation Recommendation

Protectosil® 100 N can also be applied in a diluted formulation. We recommend using a 40 % concentration of the active ingredient in anhydrous (absolute) ethanol.

Add four volumes of Protectosil® 100 N to a clean vessel followed by six volumes of anhydrous (absolute) ethanol. After mixing briefly the solution is ready for use.

The diluted solution is suitable for treating all absorbent mineral facing materials, e. g.

- brickwork
- clinker brick (slightly absorbent)
- prefabricated concrete units
- exposed aggregate concrete
- mineral rendering
- sand-lime brickwork
- ceramic tiles
- aerated concrete

Processing

Directions for use

The substrates to be treated should be air-dry and clean in order to ensure deep penetration of the active ingredient. During application the outside temperature and the temperature of the substrate should be within the range of 0 °C to 40 °C. The material should not be applied if there is strong wind or if it is raining. The material must not come into contact with water either before or during use.

Protectosil® 100 N must be applied by flowcoating to the saturation point. This is achieved by allowing it to flow without pressure against the surface to be treated. All liquid delivery devices are suitable (airless sprayguns, for example). The material must not be atomized or applied with a brush.

A liquid film of Protectosil® 100 N must remain in contact with the surface to be treated for several seconds. Horizontal areas must have a light-reflecting "wet" appearance for 3 to 5 seconds. Vertical surfaces should exhibit a 30 - 50 cm long, light-reflecting curtain marking the advance of the liquid.

All equipment and containers must be clean and dry. After use, they can be cleaned with any organic solvent (methylated spirit, petrol or thinners).

Non-absorbent substrates such as, for example, glass, wood, plastic and metal cannot be treated with Protectosil® 100 N. Glass, wood, and metal are not attacked by Protectosil® 100 N. Neither are most plastics used in construction. Therefore covering is normally not necessary. To make it sure we recommend to carry out a test. In the worst case, product not absorbed by the substrate may react with atmospheric moisture to form a greasy, glossy silicone resin film, which can easily be removed if cleaned immediately using conventional cleaning agents or alcohol.

Protectosil® 100 N reacts with the interfaces in pores and capillaries of the mineral surface and forms invisible, waterrepellent interfacial compounds. However, since it is frequently unknown whether the material has been previously treated, a test should always be performed on a small area to make sure that no undesired secondary phenomena occur.

Plants in the vicinity of the substrate to be treated are to be protected against contact with the waterproofing agent.

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