

Protectosil® 800

Water repellent silane system

Technical Data

Properties and test methods	Value	Unit	Method
Boiling point (1013 hPa)	265/ 509	°C/ °F	DIN 51751
Density (20 °C / 68 °F)	0.88	g/cm ³	DIN 51757
Viscosity (20 °C / 68 °F)	2	mPa•s	DIN 53015
Flash point	109/ 228	°C/ °F	DIN 51758

Registration

Protectosil® 800

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® 800 is a free-flowing, colorless, solvent-free liquid based on a monomeric alkylalkoxysilane. It is specifically intended for the water-repellent impregnation of mineral construction materials in outdoor areas.

Protectosil® 800 is supplied ready to use. It is low volatility and viscosity make Protectosil® 800 an easy-to-handle additive. During the hydrolysis reaction between water and Protectosil® 800 a certain amount of ethanol (VOC) is released. Protectosil® 800 is soluble in common non-polar organic solvents (e.g. petroleum ether, toluene).

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 Resource Efficiency GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

Packaging and Storage

Provided that moisture is excluded, Protectosil® 800 has a shelf life of at least 12 months. Protectosil® 800 is supplied in 25 kg, 175 kg steel drums and 870 kg non-returnable IBC totes (net weight). The material should be stored at temperatures between -10° C and 40° C (best between 0° C and 30° C).

Properties and Use

Because of its unique structure, Protectosil® 800 exhibits superior hydrophobicity on substrates and forms weather- and moisture-resistant bonds to substrates as well.

- pure, solvent-free product
- low volatility
- watervaporpermeable, colorless impregnation
- not film-forming
- seals hairline cracks up to 0.3 mm
- significantly reduces absorption of water and damaging water-borne salts (e.g. chlorides)
- very good penetration
- very high alkali resistance
- frost resistant
- stops alkali/silica reactions in concrete

For the waterproofing of mineral substrates, in particular low-porosity substrates such as:

- concrete (road bridges, port installations and all marine concrete structures, concrete facades, exposed aggregate concrete)
- clinker masonry

Protectosil® 800 is suited for the water repellent impregnation of concrete and other mineral substrates.

Application rate: The amount to be applied depends to a large extent on how absorbent the substrate is. In practice, it has to be determined in a trial impregnation. In the case of concrete at least 150 g/m² should be applied.

Directions for use: The substrates to be treated should be air-dry and clean (high pressure water cleaning or steam cleaning is recommended) in order to ensure deep penetration of the active ingredient.

Application

During application the outside temperature and the temperature of the substrate should be within the range of 5 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® 800 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 delivery devices for liquids are suitable (airless sprayguns, for example). The material must not be atomized or applied with a brush. A liquid film of Protectosil® 800 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 of 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® 800. Glass, wood and metal are not attacked by Protectosil® 800. 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. Plants in the vicinity of the substrate to be treated should be protected against contact with Protectosil® 800.

Processing

Protectosil® 800 reacts with the boundary surfaces in pores and capillaries of the mineral surface and forms an invisible, water-repellent boundary surface compound. As possible previous treatments of the substrate might be unknown, it is always advisable to carry out a test to make sure that there are no undesirable accompanying effects.

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