

## PRODUCT INFORMATION

### PROTECTASILANE 100

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Manufacturer's Code: RPPS100

Updated: 22/09/2014

**Product Name:** PROTECTASILANE 100

**Description:** PROTECTASILANE 100 is 100% octyltriethoxysilane used as a water repellent impregnant for concrete protection. It can deeply penetrate into the capillaries of concrete and render the substrate water repellent. This water repellent zone significantly reduces the absorption of water or efflorescence or other harmful salts such as chloride ions which are responsible for the bulk of the deterioration in reinforced concrete. The treatment will not significantly change the appearance of the concrete and the vapour permeability. However, a slight darkening of the surface may occur for some substrates.

**Recommended Uses:** PROTECTASILANE 100 is recommended as a water repellent sealer for reinforced concrete or other concrete for concrete protection. Some of the important features of PROTECTASILANE 100 include:

- 100% active with no hydrocarbon solvent used.
- Ability to deeply penetrates into dense concrete.
- Permanently bonds to the concrete with no peel or blister.
- Forms UV, alkali stable and durable siloxane structure within concrete matrix.
- Reduces water penetration, efflorescence and harmful salts such as chloride ions.
- Does not significantly change the surface appearance and vapour permeability.

As concrete masonry varies significantly, a test MUST be carried out prior to application to find out the suitability of this product for the purpose.

**Use Instructions:** Application

Please read the product information for the correct application and safe handling. Do not apply if rain or extreme weather conditions are expected. The surface to be treated should be dry, firm and free from grime, oil and any previous coatings/sealers. If necessary, the surface should be washed with a suitable detergent in water and allowed to dry. All cracks should be filled with proper grouting materials and allowed to cure before application. A test prior to application is strongly recommended to determine of the number of coats required and suitable consumption rate.

PROTECTASILANE 100 can be applied using brush, roller or spray. However, the product is preferably applied by saturation flooding using a hand pressure spray or airless spray equipment. Enough materials should be applied onto the surface. For the vertical surface, the product should be applied as a liquid thin film stream which runs down the surface approximately 30-40cm. A second application should follow immediately after the first coat is absorbed by the surface. This is termed a "wet-in-wet" application. The object is to saturate the surface to allow a better penetration.

For horizontal surfaces, the product should be applied by flooding the surface for about 10 minutes to ensure the penetration of product into the surface. If the sealer is quickly absorbed by the substrate after the first application, a second coat may be required immediately. Any remaining liquid on the surface which has not been absorbed by the surface for 10 minutes should be removed to avoid any excessive accumulation of the sealer in surface areas which may cause an uneven finish.

The number of applications depends on the permeability of the substrate and penetration depth required. Two coats are generally recommended for required penetration depth to achieve satisfactory concrete protection. However, if high penetration depth is required, more coats "wet-in-wet" should be applied.

Do not splash or spray the product onto any area you do not wish to treat. If splashing occurs the product should be removed with a cloth damped in a hydrocarbon solvent such as mineral turpentine immediately.

#### Consumption rate

The consumption of PROTECTASILANE 100 varies significantly depending on the permeability of the concrete and penetration depth required. It may be of the order of 2-5 m<sup>2</sup> per litre per coat or could be out of this range significantly. In order to ensure the high penetration depth, enough silane should be delivered on to the surface. If the concrete is of high density, the application rate per coat should be reduced but more applications may be required in order to avoid excessive silane running off the surface.

#### After application

The initial water repellency will develop after the surface is dry. Full curing may take 24 hours or up to 7 days. Avoid heavy traffic or any staining for at least 24 hours. The equipment can be washed in a hydrocarbon solvent such as mineral turpentine.

#### Pilot testing and quality control

Due to the variation of concrete masonry, it is strongly recommended that a pilot test on a small area on site should be conducted prior to application to find out the correct application method, number of applications and suitable consumption rate required. The quality control should be conducted after the application to ensure the correct penetration depth is obtained. Please refer to the USE SPECIFICATION for details if required.

<b>Typical Data:</b>	Appearance:	Colourless liquid
	Active ingredient:	100% octyltriethoxysilane
	Specific Gravity:	0.87 g/ml at 20 °C
	pH value:	Not allocated
	Solubility in water:	Insoluble in water
	Flash point:	>61°C

**Important Note:** PROTECTASILANE 100 penetrates into the capillaries and renders the concrete surface water repellent while still leaving most of the capillaries open to allow water vapour to pass through. It reduces water absorption by capillary action. However, it has a limited resistance to water penetration particularly under prolonged contact or hydrostatic pressure. Therefore, in some cases where the concrete is very permeable or there is extreme wind driven rain, resistance to water penetration or harmful salts such as chloride ions may not be adequate.

**Handling & Storage:** PROTECTASILANE 100 is a hazardous and combustible material. Refer to the material safety data sheet for safe handling. Follow good industrial hygiene procedures when using this product. Vapour inhalation and skin or eye contact should be avoided by wearing proper protection. Wear an air-purifying respirator if there is a risk of exposure to high vapour concentrations. Wash hands after handling. The product should be stored in closed containers in a cool dry place away from any fire and ignition sources. The product has a shelf life of 12 months in a sealed original container under 25°C.

**Use under sufficient ventilation away from any fire or ignition sources!  
Keep out of reach of children!**

**Packaging:** PROTECTASILANE 100 is available in 20 or 200 litre metal drums.

#### **Disclaimer:**

The information given in this data sheet is based on many years of experience and is correct to the best of our knowledge. As the storage, handling and application of this material are beyond our control; we can only be responsible for the quality of our product at the time of dispatch. We reserve the right to alter certain product parameters within the spectrum of properties in order to keep abreast of technical advances. It is the responsibility of the end user to determine the suitability of this material for any particular application.