

## 1. Product Description

**StenSilan® M PLUS** is a single-component, silane-based, water and oil repellent impregnation agent for natural stone and marble surfaces. **StenSilan® M PLUS** is chemically bound to mineral surfaces like natural stone, concrete, plaster and makes these surfaces hydrophobic (water-repellent) and oleophobic (oil repellent). Surfaces processed by **StenSilan® M PLUS** do not get wet or soiled with water, oil and many similar liquids.

It is a very low viscosity transparent liquid; it has high surface covering and diffusion properties. It provides hydrophobic and oleophobic properties to the material it is applied on without forming a separate layer. Consequently, hydrophobic and oleophobic properties remain until the upper surface of the stone is completely worn out, and there is no danger of the coating peeling, separating, becoming brittle or slippery over time, as encountered in other impregnation-type materials.

## 2. Uses

**StenSilan® M PLUS** prevents marble, granite, limestone, slate and similar surfaces from absorbing water and oil. It chemically bonds to these materials and diffuses inside the surface, forming hydrophobic and oleophobic structures including on hairline crack surfaces that prevent liquids such as coffee, tea, wine, carbonated drinks, lemon juice, olive oil and similar from entering the structure. Liquids left on the surface can be easily cleaned by wiping and leave no stain.

It is ideal for frequently cleaned, traffic-bearing natural stone floors in tourist facilities, restaurants, shopping malls and similar venues. It is preferred for high-performance applications such as exterior facades, kitchen countertops and floors subject to heavy foot traffic. Since **StenSilan® M PLUS** does not clog capillary canals, it does not impede the stone's ability to breathe or transmit gases.

It considerably prolongs the coating life by preventing water absorbed in capillary cracks from freezing, expanding and deforming the surface. Since the heat transfer coefficient of water-absorbing materials increases when they absorb water, it also indirectly contributes to thermal insulation. Natural appearance of the surfaces does not change when **StenSilan® M PLUS** is applied, but it may give a wet look effect on some kind of stones.

It does not form a hydrophobic coating that may separate from the surface. **StenSilan® M PLUS** is also used, due to these properties, in protection of all kinds of natural stone, mineral, or fired stone surfaces exposed to atmospheric conditions and to the wetting effect of rain water or water from other sources. **StenSilan® M PLUS** maintains its hydrophobic and oleophobic properties for 5-20 years depending on the penetration depth and surface abrasion.

At the end of these periods, **StenSilan® M PLUS** application must be repeated.

## High-Performance Silane Water and Oil Repellent for Mineral Surfaces

### Highlights

- Single-component, silane-based
- Low viscosity transparent fluid
- Allows the surface to breathe and preserves its natural appearance
- Suitable for many different types of natural stone
- Effective solution for difficult surfaces
- Impregnates the surface; creates deep hydrophobic and oleophobic structure without film layer
- Liquids on the surface can be easily cleaned by wiping and leave no stain
- Resistant to UV radiation
- Prevents salt efflorescence on absorptive surfaces during drying
- Sprayable



### 3. Application

Surface cleaning is required before the application. Contaminants such as fuel, oil, chemicals must be removed. It is advised to make a preliminary test prior to full application and note the exact consumption.

To test; 24 hours after application drop some pollutants such as water, coffee, olive oil and leave it for 2 hours on substrate and clean by wiping. With correct application on compatible substrates, no mark will remain on the surface. Unlike other water-repellents, this product does not have a beading effect, so it is important not to judge effectiveness by the beading effect of pollutants on substrates.

Application can be carried out on moist or dry surfaces. However, it is required to protect the material from water contact and rain until the applied material cures. It is applied via brush and roller.

It is sufficient if the surface is wetted with **StenSilan® M PLUS** during the application. The consumption is 4 to 20 m<sup>2</sup>/l depending on the surface properties and desired protection level. If a wet look is not desired, material in excess of what the stone can absorb must not be applied.

On highly absorbent substrates a second application might be necessary. In such circumstances first layer must be still wet prior to subsequent application. The depth of the water-repellent layer can be increased by using more material, but this may slightly change the visual appearance of the surface.

Opened packages must be consumed as soon as possible. If the whole package will not be used, sufficient amount must be taken to another container and the container must be closed again tightly. Tools used must be cleaned at the end of the job.

Since the material may adhere to all materials including glass, it must not get onto unintended surfaces. In indoor applications, application must be carried out after the goods and plants are covered. Turbid and settled, partially cured materials must not be used.

### 4. Cleaning

Equipment used can be cleaned with water at the end of the job.

### 5. Safety

Applicators and supervisors must read the Material Safety Data Sheet (SDS) carefully and follow the instructions provided. Emptied packages must be handled in compliance with relevant regulations and laws. The application must be carried out by skilled workers under supervision of experts and the applicators must use all kinds of protective equipment required for the worksite and the task such as goggles, mask and gloves.

### 6. Storage

Packages must not be exposed to direct sunlight. It must be stored away from open flame and sources of ignition. Storage temperature must be between 5 and 30 °C.

Under these conditions, the material will retain its properties in unopened containers for 6 months from the production date. The material is flammable. The product must be stirred thoroughly before use after prolonged storage.

### 7. Disclaimer

This document is provided for general information and reflects **Stenkim®**'s laboratory data and field experience at the time of publication. **Stenkim®** reserves the right to revise this information at any time without notice.



**Stenkim®** warrants that its products conform to the stated specifications on delivery. The buyer is responsible for determining the product's suitability for the intended application and for all conditions of transport, storage, handling, and use. **Stenkim®** accepts no liability for results obtained under conditions outside its control. **Stenkim®**'s liability under this warranty is limited to replacement of non-conforming product and excludes any consequential or indirect damages.

## 8. Technical Data

| Property    | Method        | Result                        |
|-------------|---------------|-------------------------------|
| Consumption |               | 0.05-0.25 l/m <sup>2</sup>    |
| Density     | EN ISO 2811-2 | 0.85 ± 0.05 g/cm <sup>3</sup> |
| Shelf Life  |               | 6 months                      |
| Packaging   |               | 10 liter packages             |

**Stenkim®** reserves the right to make changes to the values in this table at any time.

