

Protectosil® SC 60

"Easy-to-clean" protection for porous mineral building materials; not for North America

Technical Data

Properties and test methods	Value	Unit	Method
Appearance	Yellowish, slightly cloudy liquid	-	-
Density	approx. 1.008	g/cm ³	DIN 51757
Viscosity	approx. 1	mPa.s	DIN 53015
pH (20 °C, 1:1 in H ₂ O)	4	-	-
Flash Point	> 90	°C	EN 22719

Registration

Protectosil® SC 60

EINECS/ELINCS (EU):	Yes
AICS (Australia):	*
DSL/NDSL (Canada):	No
PICCS (Philippines):	No
TSCA (USA):	Yes, no spray application
IECSC (P.R. China):	Yes
ENCS (Japan):	*
ECL (South Korea):	*
* = available on request	

"Easy-to-clean" protection for porous mineral building materials

Protectosil® SC 30, Protectosil® SC 60 and Protectosil® SC 100 are aqueous silane-based systems intended to render porous mineral substrates hydro- and oleophobic, making them easy-to-clean. They are practically free from volatile organic components (VOC).

Safety and Handling

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

Packaging and Storage

Protectosil® SC 30, Protectosil® SC 60 and Protectosil® SC 100:

- have a shelf life of more than twelve months
- Containers must be kept tightly sealed.
- The products should be stored at temperatures between 3 °C and 40 °C.
- The products are supplied in 25 l and 200 l plastic lined steel drums.

Properties and Use

Protectosil® SC 30, **Protectosil® SC 60** and **Protectosil® SC 100** can be used to create an easy-to-clean surface on many porous, non-painted mineral-based building materials. Some examples include:

- Sand limestone masonry
- Sandstone masonry
- Brick masonry
- Concrete
- Marble and granite (only rough surfaces and **Protectosil® SC 30** suitable)

Protectosil® SC 30, **Protectosil® SC 60** and **Protectosil® SC 100**

- are aqueous silane-based systems intended to render porous mineral substrates hydro- and oleophobic, making them easy to clean
- make stains caused by common liquids (coffee, coke, oils, ...) easily removable
- treated facades remain clean longer and are less susceptible to the growth of microorganisms such as mold and algae
- treated facades show no unsightly dark water streaks
- show high reactivity and are alkaline resistant
- form invisible and fully water vapor permeable impregnations
- show no formation of sticky silicone films
- give very good beading effects with water and oily substances on porous mineral substrates
- are supplied ready-to-use
- can be diluted with demineralized water if wanted

Treated facades remain clean longer, show no unsightly dark water streaks and are less susceptible to the growth of microorganisms such as mold and algae. Stains caused by common liquids coffee, cola and oils, dark liquids that are easily absorbed by untreated surfaces leaving permanent stains, can be easily removed from treated surfaces if cleaning is carried out short time after the staining. The durability of the easy-to-clean effect differs in dependence on the kind of mineral substrate and the amount of applied material. The durability lasts between half a year and 5 years. For the same kind of substrate and equal consumption rates the performance of **Protectosil® SC 30** in terms of the water and oil beading effect lasts longer than **Protectosil® SC 60** or even **Protectosil® SC 100**. It is necessary to do a test patch before each application to determinate the exact consumption and to check the compatibility with the substrate. As a rule of thumb **Protectosil® SC 30** has consumption rates of 50-280 g/m². The product consumption of **Protectosil® SC 100** is about 20 g/m² higher than the one of **Protectosil® SC 30**.

Application

The facade to be treated must be clean and the surface dry. Dirt, grime, efflorescence, algae and moss must be removed. Water jet or steam cleaners are suitable. Water absorbed during cleaning must be allowed to dry so that the surface is dry before application begins. Imperfections such as cracks, cracked joints or defective seams must be repaired using appropriate methods. Mortar used for repairs must be fully cured and surface dry. During application the temperatures of the air and the substrate should be between 10°C and 40 °C. **Protectosil® SC 30**, **Protectosil® SC 60** und **Protectosil® SC 100** should not be applied during strong wind or rain. A minimum drying time of 24 hours should be allowed after applying **Protectosil® SC 30**, **Protectosil® SC 60** or **Protectosil® SC 100**. In the case that a water repellent agent such as **Protectosil® BHN** or a corrosion inhibitor such as **Protectosil® CIT** have been applied to the substrate, it is recommended to wait at least 5 days before **Protectosil® SC 30**, **Protectosil® SC 60** or **Protectosil® SC 100** are applied. If the second system has to be applied sooner a test patch should be done first. The exact consumption rate as well as the concentration to be used are depending on the porosity of the substrate and earlier applied water repellent impregnations (e.g. with **Protectosil® BHN** or **Protectosil® WS 405**). Porous, absorbing substrates may need more than 300 ml of the solution per m². The exact consumption rate and the best concentration to be used should be tested on a small test patch. Only **Protectosil® SC 30** or **Protectosil® SC CONCENTRATE** should be applied in the case of polished, weakly absorbing substrates. In such cases it is recommended to polish **Protectosil® SC 30** or **Protectosil® SC CONCENTRATE** on the surface using a cloth or microfiber glove. Consumption rates on polished surfaces are considerable less than on coarse surfaces.

Processing

Protectosil® SC 30, **Protectosil® SC 60** and **Protectosil® SC 100** are best applied using HVLP (High Volume Low Pressure) equipment. Product application using airless sprayers (low pressure, so-called "flooding" method) is possible if the substrate is sufficiently absorbent. The ready-to-use solutions are best applied starting from the bottom and going up the wall. This avoids pre-treating the substrate with run-off from above. Avoid using dirty application equipment which can contaminate the product. The easy-to-clean effect may be in many cases (especially on very coarse and very porous substrates) enhanced by additional treatments. The amount of product required for the second and all subsequent treatments is considerably less. Droplets should be evenly distributed using a brush or a roller. In most cases the hydro- and oleophobic effect forms within just a few minutes (especially in warm, dry weather). Some substrates, such as limestone, are less reactive. In such cases the effectiveness may take some days to fully develop. The application should be continuous and uninterrupted so that no overlapping occurs. The aqueous solutions of **Protectosil® SC 30**, **Protectosil® SC 60** or **Protectosil® SC 100** cannot penetrate a previously treated section. Resulting droplets can cause mottling if not evenly distributed with a brush.

Non-absorbent substrates such as, for example, glass, wood, plastic, and metal cannot be treated with **Protectosil® SC 30**, **Protectosil® SC 60**, and **Protectosil® SC 100**. Glass, wood, and metal are not attacked by **Protectosil® SC 30**, **Protectosil® SC 60**, and **Protectosil® SC 100**. Neither are most plastics used in construction. Therefore, covering is normally not necessary. To make 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 (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 **Protectosil® SC 30**, **Protectosil® SC 60**, and **Protectosil® SC 100**. **Protectosil® SC 30**, **Protectosil® SC 60**, and **Protectosil® SC 100** react with the interfaces in pores and capillaries of the mineral surface and form invisible, easy-to-clean protection. To determine the exact amount to be applied and to check whether previous or following treatments are compatible with the **Protectosil® SC 30**, **Protectosil® SC 60**, and **Protectosil® SC 100** treatment it is recommended to do a small test patch first.

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