

Protectosil® WS 670

Aqueous emulsion based on organofunctional silanes for the water repellent impregnation of porous, mineral substrates

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- Milky white emulsion
- 40% active ingredient
- Low content of volatile organic compounds (VOC)

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

Protectosil® WS 670 is delivered in 25 l PE-containers, 200 l steel drums with inliner, and 1000 l IBCs.

Protectosil® WS 670 should only be diluted with demineralised water.

Protectosil® WS 670 is not frost resistant and should be stored at temperatures between +3 °C and +40 °C.

Protectosil® WS 670 has a shelf life of 12 months if properly stored in originally sealed containers.

Properties and Use

Protectosil® WS 670

- is suited for the water repellent impregnation of porous, mineral substrates
- shows very high reactivity and resistance against alkali
- penetrates deeply into porous, mineral substrates
- shows no formation of sticky silicone films
- gives invisible and water vapour permeable protection
- reduces significantly the uptake of water
- reduces the uptake of water soluble pollutants
- may be further diluted with water

For most applications a concentration from 5 % (1 part Protectosil® WS 670 + 7 parts of demineralised water) to 20% (1 part of Protectosil® WS 670 + 1 part of demineralised water) of the active ingredient is recommended. Demineralised water is recommended for diluting. Protectosil® WS 670 is best diluted just before application. The amount of Protectosil® WS 670 to be applied and the concentration to be used are highly dependent on the absorbivity of the substrate and the desired penetration depth. Very absorbent substrates may require up to 1 l/m² of Protectosil® WS 670.

Application Details

Substrate	Application rate - Mode
concrete, aerated concrete	min. 250 ml/m ² (dilution 1:1) - airless spraying
clinker masonry	min. 240 ml/m ² (dilution 1:1) - airless spraying
sand limestone	min. 400 ml/m ² (dilution 1:1) - airless spraying
mineral plaster	min. 200 ml/m ² (dilution 1:1) - airless spraying
mineral insulating materials	min. 200 ml/m ² (dilution 1:1) - airless spraying
roof tiles	min. 240 ml/m ² (dilution 1:1) - airless spraying

Application

The substrates to be treated should be dry and clean. Acceptable surface cleaning methods include sandblasting and water blasting.

During application outside temperatures and surfaces temperatures should be between +5 °C and +40 °C. Protectosil® WS 670 should not be applied during strong wind or rain.

Protectosil® WS 670 should be applied via wet-on-wet flow coating to the saturation point. The solution should be applied in 2 - 3 coats without drying in between coats. On vertical surfaces the solution should form of a clearly visible descending wet curtain. This is achieved by allowing the solution to flow against the surface of the building material without pressure. Most liquid delivery devices, e.g. airless pumping equipment, are suitable. The material should not be atomized or applied with a brush.

The water repellent effect of Protectosil® WS 670 can develop within minutes or require up to several days depending on the substrate and weather conditions. Therefore, the impregnation should be applied continuously and without a break to avoid overlapping. In some cases the full effect might only fully develop after a first heavy rain.

The impregnation of delaminations should not be done with Protectosil® WS 670.

Protectosil® BHN or Protectosil® 40 S are better suited for this purpose. A substrate which has already been made water-repellent no longer allows the penetration of any reapplied aqueous silane/siloxane emulsion.

Non-absorbent substrates such as window frames, window sills, plastic fittings, window glass, etc. should be covered before application. Surfaces which accidentally come into contact with Protectosil® WS 670 can be cleaned with alcohol (spirit) or aqueous soap solution. Cleaning should be carried out as quickly as possible (within a few hours), otherwise formation of a silicone resin film can make cleaning more difficult. Silicone resin films are best removed using ethanol (or spirit). Plant life should be protected from overspray.

Protectosil® WS 670 reacts with the interfaces in pores and capillaries of the mineral surface and forms invisible, water-repellent interfacial compounds. To determine the exact amount to be applied and to check weather previous or following treatments are compatible with the Protectosil® WS 670 treatment it is recommended to do a small test patch first.

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Europe / Middle-East / Africa / Row

Evonik Resource Efficiency GmbH

Business Line Silanes
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
PHONE +49 6181 59 13636
FAX +49 6181 59 713 915
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik (SEA) Pte. Ltd.

Business Line Silanes
3 Internatioanl Business Park
#07-18, Nordic European Centre
Singapore 609927
PHONE +65 6809 6899
FAX +65 6809 6699
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik Taiwan Ltd.

Business Line Silanes
Artist Construction Bldg
9F, No. 133
Min Sheng East Road, Sec 3
Taipei, 105 Taiwan, R.O.C.
Taiwan 10596
PHONE +886 227 17 1242
FAX +886 227 17 2106
protectosil@evonik.com
www.protectosil.com

North America

Evonik Corporation

Business Line Silanes
299 Jefferson Road
Parsippany, NJ 07054-0677
USA
PHONE (TOLL FREE) +1 800 828 0919
FAX +1 973 929 8503
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik (Shanghai) Co. Ltd.

Business Line Silanes
55, Chungdong Road
Shanghai 201108
P.R. China
PHONE +86 21 6119 1660
FAX +86 21 6119 1075
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik Japan Co. Ltd

Business Line Silanes
12th Floor Monolith Building
2-3-1, Nishi-Shinjuku-ku
Tokyo 163-0912
Japan
PHONE +81 353 23 7446
FAX +81 353 23 7397
protectosil@evonik.com
www.protectosil.com

Latin America

Evonik Brasil Ltda.

Business Line Silanes
Alameda Campinas, 579
01404-000 São Paulo-SP
Brazil
PHONE +55 11 3146 4123
FAX +55 11 3146 4148
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik Korea Ltd.

Business Line Silanes
94, Galsan 1-dong
Bupyeong-gu
Incheon, 403-081, Korea
PHONE +82 2320 4778
FAX +82 2783 2520
protectosil@evonik.com
www.protectosil.com

Asia / Pacific

Evonik India Pvt. Ltd.

Business Line Silanes
Krislon House
Saki Vihar Road, Andheri (E)
Mumbai - 400 072
India
PHONE +91 226 7238 809
FAX +91 226 7238 811
protectosil@evonik.com
www.protectosil.com