

# Protectosil® 166

## Siloxane based water-repellent for mineral-based construction materials

### Technical Data

Properties and test methods	Value	Unit	Method
Appearance	clear, colorless liquid	-	-
Active ingredient	oligomeric alkyl siloxane	-	-
Solvent	solvent-free	-	-
Flash point	> 23	°C	DIN 51755
Density (20 °C)	1.0	g/cm <sup>3</sup>	DIN 51757
Viscosity	4	mPa.s	DIN 53015
Refractive index	1.414	-	DIN 51423

### Registration

#### Protectosil® 166

EINECS/ELINCS (EU):	Yes
AICS (Australia):	No
DSL/NDSL (Canada):	No
PICCS (Philippines):	No
TSCA (USA):	No
IECS (P.R. China):	No
ENCS (Japan):	Yes
ECL (South Korea):	No

Protectosil® 166 is a colorless, solvent-free liquid based on a reactive, oligomeric alkyl siloxane. The diluted solution of Protectosil® 166 is intended for the water-repellent impregnation of absorbent mineral facade construction materials.

### 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](http://www.protectosil.com) or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL [sds-hu@evonik.com](mailto:sds-hu@evonik.com).

### Packaging and Storage

Protectosil® 166 is supplied in 25 l and 180 l container. Protectosil® 166 has a shelf life of at least 12 months if stored in originally sealed containers. Containers must be kept tightly sealed and protected from moisture.

## Properties and Use

### Areas of application:

For waterproofing absorbent mineral facade construction materials such as:

- plaster facades
- sand-lime brickwork
- brickwork
- autoclaved aerated concrete
- cement fiber board

### Application rate:

We recommend using a 10% solution of the active ingredient in an aliphatic hydrocarbon solvent (such as e.g. Shellsol D 40). The amount to be applied depends to a large extent on how absorbent the substrate is. Empirical values are, for example,

- approx. 0.5 - 1.0 l/m<sup>2</sup> for mineral plaster facades,
- approx. 0.4 - 0.7 l/m<sup>2</sup> for sand-lime brickwork,
- approx. 0.4 - 2.0 l/m<sup>2</sup> for brickwork,
- approx. 0.5 - 2.0 l/m<sup>2</sup> for autoclaved aerated concrete
- and approx. 0.1 - 0.3 l/m<sup>2</sup> for cement fiber board.

The exact amount to be applied must be determined by a trial application.

### Product Characteristics:

- water-vapor-permeable, colorless impregnation
- not film-forming effective
- on hairline cracks up to 0.3 mm
- good reduction of the water absorption
- good penetration
- high alkali resistance
- suitable as a primer for facade topcoats
- frost resistant

## Processing

### Directions for use

The substrates to be treated should be air-dry and clean in order to ensure deep penetration of the active ingredient. During application the outside temperature and the temperature of the substrate should be within the range from 0 °C 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. The prepared solution of Protectosil® 166 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 liquid delivery devices are suitable (airless sprayguns, for example). The material must not be atomized or applied with a brush.

The prepared solution of Protectosil® 166 must remain in contact with the substrate for several seconds as a liquid film. 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 glass, wood, plastic, and metal cannot be treated with the prepared solution of Protectosil® 166. In the worst case, the product not absorbed by the substrate may react with atmospheric moisture to form a greasy, glossy silicone resin film. Substrates such as mentioned above should be covered before application. If they become contaminated, the resulting film can be easily removed if cleaned immediately using conventional cleaning agents, or alcohol (spirit of soap) in difficult cases.

Glass, wood, and metal are not attacked by the prepared solution of Protectosil® 166. Neither are most plastics used in construction. If in doubt, carry out a preliminary test. Plants in the vicinity of the substrate to be treated should be protected against contact with the solution.

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

**Europe / Middle-East / Africa**

**Evonik Operations GmbH**

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

**Asia / Pacific**

**Evonik (SEA) Pte. Ltd.**

Silanes Business Line  
3 Internatioanl Business Park  
#07-18, Nordic European Centre  
Singapore 609927  
PHONE +65 6809 6906  
FAX +65 6809 6699  
protectosil@evonik.com  
www.protectosil.com

**Asia / Pacific**

**Evonik Taiwan Ltd.**

Silanes Business Line  
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 #247  
FAX +886 227 17 2106  
protectosil@evonik.com  
www.protectosil.com

**North America**

**Evonik Corporation**

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

**Asia / Pacific**

**Evonik (Shanghai) Co. Ltd.**

Silanes Business Line  
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**

Silanes Business Line  
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

**Region Central and South America**

**Evonik Brasil Ltda.**

Silanes Business Line  
Rua Arquiteto Olavo Redig de Campos, 105  
Torre A - 04711-904 São Paulo- SP  
Brazil  
PHONE +55 11 3146 9627  
protectosil@evonik.com  
www.protectosil.com

**Asia / Pacific**

**Evonik Korea Ltd.**

Silanes Business Line  
3F (Nongshim Sungmookwan B/D)  
112 Yeouidaebang-Ro  
Dongjak-Gu  
Seoul, 07057  
Korea  
PHONE +82 2320 4778  
FAX +82 2783 2520  
protectosil@evonik.com  
www.protectosil.com

**Asia / Pacific**

**Evonik India Pvt. Ltd.**

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