

**Product Data and Test Information**

# PROTECTOSIL® AQUA-TRETE® CONCENTRATE

**Water Repellent**
**PRODUCT DESCRIPTION**

**Protectosil® AQUA-TRETE® CONCENTRATE** is a clear, penetrating, breathable water repellent for use on concrete, brick, concrete masonry units and some natural stones. This product is an alkyltrialkoxysilane that is soluble in water and provides the high performance traditionally associated with alcohol carried systems. **Protectosil® AQUA-TRETE® CONCENTRATE** prevents water and waterborne contaminants from entering the substrate and causing premature deterioration, making it especially suited for imparting water repellency to substrates such as concrete, brick masonry and split-face block.

By preventing water and waterborne contaminants from entering the substrate, **Protectosil® AQUA-TRETE® CONCENTRATE** reduces such problems as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining and corrosion of reinforcing steel. Treated surfaces are fully breathable because the natural moisture vapor transmission is not effected, eliminating problems caused by entrapped moisture, including blushing of the sealer and freeze-thaw damage to the masonry.

**APPROPRIATE APPLICATIONS**

For use on brick masonry and concrete masonry units (split-face, fluted block) which can be treated to prevent moisture from entering and damaging interior walls, as well as ingress of wind-driven rain. For use on concrete that can be treated to impart freeze-thaw protection and reduce corrosion of reinforcing steel. **Protectosil® AQUA-TRETE® CONCENTRATE** keeps the substrate cleaner by reducing the amount of dirt and other pollutants that may absorb into the surface. Other substrates that can be protected include sandstone, terra-cotta, hand molded bricks and some natural stones.

**ADVANTAGES**

**Protectosil® AQUA-TRETE® CONCENTRATE** is a proprietary mixture of an alkyltrialkoxysilane with additives. This patented technology creates a waterborne silane that does not lose effectiveness on concrete, brick or concrete masonry. **Protectosil® AQUA-TRETE® CONCENTRATE** is designed to provide a high level of surface beading with penetration to protect against wind-driven rain. The silane components are unique because they chemically bond to the silica in the substrate to set up a hydrophobic layer of

protection. By incorporating **Protectosil® AQUA-TRETE® CONCENTRATE** into your integrated design, you can earn vital Leadership in Energy & Environmental Design (LEED) credits for both new and existing construction projects.

The main benefits of the product are:

- Excellent resistance to chloride ion ingress
- High resistance to wind-driven rain
- Reduced efflorescence
- Breathable system
- Good penetration into substrate
- High resistance to alkali attack
- Keeps substrates cleaner

**LIMITATIONS**

Not intended for below-grade waterproofing. Will leave a residue on nonporous materials such as glass, metal and painted surfaces. Keep away from asphalt and other bituminous materials. Shrubbery and plant life should be protected from overspray. Should not be applied if the surface temperature is below 40°F (5°C) or above 100°F (40°C), if rain is expected within 2 hours following application, or if high winds or other conditions prevent proper application. If rain has preceded the application, the surface should be allowed to dry for a minimum of 24 hours.

**TECHNICAL DATA**

**Protectosil® AQUA-TRETE® CONCENTRATE** is an alkyltrialkoxysilane. The product is diluted with water before application.

Color	clear
Active Substance	alkyltrialkoxysilane
Active Content	100%
Solvent	water
Flash Point (concentrate)	93°F
Flash Point (mixed)	200°F
Density	7.77 lb/gal
VOC (19:1)	45 g/l
VOC (9:1)	90 g/l

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## TEST DATA

ASTM E 514 "Water Leakage of Masonry"	
<b>Concrete Block Wall</b>	
Untreated leakage	12.6 l/h
Treated leakage	0.12 l/h
Improvement	99%
<b>Brick Wall</b>	
Untreated leakage	2.2 l/h
Treated leakage	0.0 l/h
Improvement	100%
<b>NCHRP #244 Series II</b>	
Reduction in water absorption	78%
Reduction in chloride ions	85%
<b>NCHRP #244 Series IV</b>	
Reduction in chloride ions	95%
<b>ASTM C 642 "Water Absorption of Concrete"</b>	
24 Hours	0.65%
48 Hours	0.88%
<b>ASTM C 140 "Concrete Masonry Units, Absorption"</b>	
24-hour submersion test	89% effective in reducing water intrusion
<b>ASTM C 67 "Sampling and Testing Brick and Structural Clay Tile, Part 7 Absorption"</b>	
24-hour submersion test	91% effective in reducing moisture intrusion
<b>Coatings</b>	
70 g/ft <sup>2</sup> /24 hour	95% breathability
<b>ASTM C 672 "Deicer Scaling of Concrete"</b>	
After 60 Cycles	0+

## INSTALLATION

Masonry and concrete must be allowed to cure for a minimum of 28 days. All repointing must be completed and allowed to cure for at least 3 days. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil® AQUA-TRETE® CONCENTRATE**. All surfaces must be cleaned to remove all traces of dirt, dust, efflorescence, mold, salt, grease, oil, asphalt, laitance, curing compounds, paint, coatings and other foreign materials. Acceptable surface cleaning methods include shotblasting, sandblasting, waterblasting and using

chemical cleaners.

Check with your Protectosil® representative to verify that surface preparation is adequate. **Protectosil® AQUA-TRETE® CONCENTRATE** is supplied in concentrated form and must be mixed with potable water prior to application. Make sure mixing vessel is clean and dry prior to use.

Recommended mixing concentrations are as follows:

For brick masonry: 14 parts water to 1 part **Protectosil® AQUA-TRETE® CONCENTRATE**.

For concrete masonry units: 9 parts water to 1 part: **Protectosil® AQUA-TRETE® CONCENTRATE**.

For concrete: 19 parts water to 1 part **Protectosil® AQUA-TRETE® CONCENTRATE**

The concentration of **Protectosil® AQUA-TRETE® CONCENTRATE** depends on the substrate to be treated and the performance level required. Contact your Protectosil® representative for recommendations. Calculate the amount of water and **Protectosil® AQUA-TRETE® CONCENTRATE** needed for the batch. Measure the water into a clean vessel and add the **Protectosil® AQUA-TRETE® CONCENTRATE**. Stir the mixture with a power paddle mixer (as used to mix paints) or a recirculation pump; try not to trap air in the solution. The solution initially turns cloudy and then clarifies. Typical mixing time is 5 minutes. The solution has a pot life of 2 to 4 hours, depending on water quality and temperature. When solution becomes cloudy again, do not use.

**Protectosil® AQUA-TRETE® CONCENTRATE** should be applied using low-pressure (15 to 25 psi) pumping equipment with a wet fan type spray nozzle. Alternate methods include using either a power roller with a 1" nap or a brush. Do not apply to a wet or damp substrate. On vertical surfaces, apply the **Protectosil® AQUA-TRETE® CONCENTRATE** in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. Always keep a wet edge to minimize lap marks and curtaining. Do not apply if the surface temperatures exceed 90°F (32°C), or darkening may occur. On horizontal surfaces, the liquid material should pond on the surface for at least 5 seconds before being absorbed. Broom or roll out excess material to minimize darkening. A test patch should be applied to the substrate to verify coverage rate, desired results and application conditions.

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Protect glass, metal, plastic and other nonporous substrates from overspray. **Protectosil® AQUA-TRETE® CONCENTRATE** will not etch glass but will leave a residue on nonporous surfaces. Please refer to “**Protectosil® AQUA-TRETE® CONCENTRATE** Application Instructions” for more detailed information.

**Precautions: Protectosil® AQUA-TRETE CONCENTRATE** is a flammable liquid and should be kept away from heat, sparks, open flame and other sources of ignition. The containers should be kept closed when not in use and should be stored at temperatures between 0°F and 120°F (-18°C and 50°C), away from rain and standing water. Please refer to the material safety data sheet for more detailed information.

#### AVAILABILITY

**Protectosil® AQUA-TRETE® CONCENTRATE** is available in 1 gallon containers packed in a 4 pack case. Shipped F.O.B. throughout the United States and Canada. Contact your local Protectosil® representative or your regional manager for specific cost information. You can obtain their contact information on our website, [www.protectosil.com](http://www.protectosil.com), or by calling us at 1 (800) 828-0919.

#### TECHNICAL SERVICE

Technical service engineers and scientists are available to answer questions about product performance, application methods and compatibility with other building materials. You can speak to one of our engineers or scientists directly by calling our toll-free number, 1 (800) 828-0919, and selecting option 1.

#### MANUFACTURER

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**PROTECTOSIL® PRODUCTS ARE MANUFACTURED AT THE EVONIK CORPORATION THEODORE, ALABAMA, PLANT UNDER A QUALITY SYSTEM CERTIFIED TO ISO-9001 AND ISO-14001 REQUIREMENTS.**

**For more information, SDS and the most updated product information, and to find your local representative, go to [silanes.evonik.com/en](http://silanes.evonik.com/en)**

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