

## Product Data and Test Information

# PROTECTOSIL® AQUA-TRETE® EM

Water Repellent

## PRODUCT DESCRIPTION

**Protectosil® AQUA-TRETE® EM** is a penetrating, waterborne, vapor-permeable water repellent for use on concrete, brick, concrete masonry units and some natural stones. As a ready-to-use, low-VOC, silane/siloxane emulsion, this product reduces the ingress of water and waterborne contaminants by chemically bonding with siliceous materials within a substrate to form a permanent attachment to the water repellent molecule. This can prevent premature deterioration among other things.

By reducing the ingress of water and waterborne contaminants into the substrate, **Protectosil® AQUA-TRETE® EM** reduces such problems as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining, corrosion of reinforcing steel and mildew. Treated surfaces are fully breathable because their natural moisture-vapor transmission is not affected. This will reduce problems that entrapped moisture can cause, including blushing of the sealer and freeze-thaw damage to the masonry.

**Protectosil® AQUA-TRETE® EM** water repellent is especially suited for applications where solvent-borne products are not acceptable, such as states that have VOC regulations for AIM coatings. **Protectosil® AQUA-TRETE® EM** is VOC compliant in all 50 states, including California's SCAQMD.

## APPROPRIATE APPLICATIONS

Protects concrete from the effects of water, deicing salts and other waterborne chemicals. Keeps concrete and other substrates, including stucco, sandstone, terra-cotta, hand molded bricks and some natural stones, clean by reducing the amount of dirt and other pollutants that may be absorbed. Prevents moisture absorption in brick masonry, especially single wythe wall construction. Protects concrete masonry units (medium- to normal-weight split-face, fluted or ground faced blocks) from the ingress of wind-driven rain.

## ADVANTAGES

**Protectosil® AQUA-TRETE® EM** is a silane/siloxane mixture in a proprietary emulsion system. Unlike some other silane or siloxane emulsion systems, **Protectosil® AQUA-TRETE® EM** is ready to use and is suitable for brick and concrete, without the need to blend oils, silicones, stearates or acrylates into the system. **Protectosil® AQUA-TRETE® EM** is designed to provide a high level of surface beading with

penetration to protect against wind-driven rain. The active components are unique because they chemically bond to the silica in the substrate and set up a hydrophobic layer of protection. Because of this unique chemistry, **Protectosil® AQUA-TRETE® EM** has a long service life. By incorporating **Protectosil® AQUA-TRETE® EM** 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:

- Non flammable
- 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. 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 4 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 at least 24 hours.

## TECHNICAL DATA

**Protectosil® AQUA-TRETE® EM** is composed of a silane/siloxane emulsion in water.

Color	milky white
Active Substance	silane/siloxane
Active Content	10%
Solvent	water
Flash point	>200°F
Density	8.34 lb/gal
VOC	90 g/l max

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## TEST DATA

ASTM C140 "Water Absorption Concrete Masonry Units"	
24- hr submersion test	97.3% effective in reducing water intrusion
ASTM C67 "Sampling and Testing Brick and Structural Clay Tile, Part 7 Absorption"	
24- hr submersion test	98.1% effective in reducing moisture intrusion
ASTM C642 "Water Absorption of Concrete"	
24 hours	0.49%
48 hours	0.68%
ASTM C672 "Deicer Scaling"	
60 cycles	(non-air-entrained concrete) 0 rating
TT-C-555B "2500 hours of Accelerated Weathering"	
No Change	
ASTM D 1653 "Moisture Vapor Permeability of Organic Coatings"	
64 g/ft <sup>2</sup> /24 hours	92% water vapor transmission
ASTM E514 "Water permeance of Masonry"	
Untreated leakage	5.50 l/hr
Treated leakage	0.0 l/hr
Reduction in leakage	100%

## INSTALLATION

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. Concrete repair and replacement must be completed prior to application of **Protectosil® AQUA-TRETE® EM**. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil® AQUA-TRETE® EM**.

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® EM** should be applied using low-pressure (15 to 25 psi) pumping equipment with a wet fan type spray nozzle. Alternate methods include using a

power roller with a 1" nap or a brush. Do not alter or dilute the material. Do not apply to a wet or damp substrate. A test patch should be applied to the substrate to verify coverage rate, desired results and application conditions.

Substrate, air and product temperatures should be between 40°F and 100°F (5°C and 40°C) during application. Do not apply product if temperatures are expected to fall below 40°F (5°C) within 12 hours after application. Do not apply material if rain is predicted within 4 hours after application. On vertical surfaces, apply the **Protectosil® AQUA-TRETE® EM** using a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. On horizontal surfaces, the liquid material should pond on the surface for at least 5 seconds before being absorbed. Coverage rates on masonry surfaces depend on the type of material to be treated. Your Protectosil® representative can give an exact coverage rate for your particular project.

Protect glass, metal, plastic and other nonporous substrates from overspray. **Protectosil® AQUA-TRETE® EM** will not etch glass but will leave a residue on nonporous surfaces. **Protectosil® AQUA-TRETE® EM** should not darken or discolor the substrate if used at the recommended coverage rates, but due to variations in substrate porosity and environmental conditions, applying a test patch is advised to verify desired results.

**Precautions: Protectosil® AQUA-TRETE® EM** product containers should be kept closed when not in use and should be stored at temperatures between 40°F and 110°F (5°C and 45°C), away from rain and standing water. Please read the material safety data sheet for more detailed information.

## AVAILABILITY

**Protectosil® AQUA-TRETE® EM** is available in 5-gallon pails and 55-gallon drums. 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.

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## 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](https://silanes.evonik.com/en)**

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