

# Protectosil® AQUA-TRETE® 20

## WATER REPELLENT Product Data and Test Information



### PRODUCT DESCRIPTION

A clear, penetrating, waterborne, breathable water repellent for use on concrete and masonry. Ready-to-use, low-VOC, silane emulsion. Reduces the ingress of water and waterborne contaminants that cause premature deterioration of the substrate. Penetrates the substrate and chemically bonds with silica to form a permanent attachment of the water repellent molecule. **Protectosil AQUA-TRETE 20** water repellent is especially suited for application when solvent-borne products are not acceptable, as in states that have VOC regulations for AIM coatings. **Protectosil AQUA-TRETE 20** meets all national and state VOC regulations.

By preventing water and waterborne contaminants from entering the substrate, **Protectosil AQUA-TRETE 20** 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.

### APPROPRIATE APPLICATIONS

For use on concrete to protect the reinforcing steel from corrosion due to the effects of water, deicing salts and other waterborne chemicals.

Protects precast concrete (including GFRC) from the damaging effects of acid rain and freeze-thaw cycles. Keeps concrete clean by reducing the amount of dirt and other pollutants that it may absorb.

Some denser concrete masonry units (split-face, fluted or ground-face blocks) and pavers can also be protected from water absorption.

Other suitable substrates include brick masonry, sandstone, terra-cotta, hand molded bricks and some natural stones.

### ADVANTAGES

**Protectosil AQUA-TRETE 20** is a silane/siloxane blend in a proprietary emulsion system. Unlike other silane or siloxane emulsion systems, **Protectosil AQUA-TRETE 20** is ready to use and is suitable for concrete and brick masonry, without the need to blend oils, silicones, stearates or acrylates into the system. **Protectosil AQUA-TRETE 20** is designed to provide a high level of repellency with penetration. The active components are unique because they chemically bond to the silica in the substrate and set up a hydrophobic layer of protection. By incorporating **Protectosil AQUA-TRETE 20** 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
- Excellent resistance to chloride ion ingress
- Reduced efflorescence
- Breathable system
- Good penetration into substrate
- No change in surface appearance
- High resistance to alkali attack
- Long service life
- Substrates already treated with **Protectosil AQUA-TRETE 20** can be painted over
- 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. Keep away from asphalt and bituminous materials.

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 8 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 20** is an emulsion composed of alkyltrialkoxysilane resins in water.

|                  |                 |
|------------------|-----------------|
| Color            | emulsion        |
| Active Substance | silane/siloxane |
| Active Content   | 20%             |
| Solvent          | water           |
| Flash Point      | > 200°F         |
| Density          | 8.3 lb/gal      |
| VOC              | 90 g/l          |

### TEST DATA

#### AASHTO T 259 "90-Day Salt Ponding"

(150 ft<sup>2</sup>/gal coverage rate)

0-0.5 inch depth 93% reduction

0.5-1.0 inch depth 86% reduction

#### NCHRP #244 (@150 ft<sup>2</sup>/gal)

Series II 80% reduction in water absorption

Series II 84% reduction in chloride absorption

Series IV 96% reduction in chloride absorption

(continued)

#### **ASTM C 642 "Water Absorption of Concrete"**

24 hours 0.49%

48 hours 0.68%

#### **ASTM C 672 "Deicer Scaling"**

100 cycles – 0 rating

(non-air-entrained Concrete)

#### **ASTM D 1653 "Moisture Vapor Permeability of Organic Coatings"**

64 grams/ft<sup>2</sup>/24 hours, 93% breathability

### **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 20**. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil AQUA-TRETE 20**.

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 20** 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 alter or dilute the material.

Do not apply to a wet or damp substrate. Immediately prior to using, mix or stir the material with a powered drum mixer or recirculating pump. A test patch should be applied to the substrate to verify coverage rate, application conditions and desired results.

Substrate, air and product temperatures shall be between 40°F and 100°F (5°C and 38°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 or other precipitation is expected within 8 hours.

On vertical surfaces, apply **Protectosil AQUA-TRETE 20** using a flooding application starting at the bottom and working your way up, so the material runs down 6 to 8 inches below the spray pattern. For certain substrates, it may be necessary to apply a light fog coat to break the substrate's surface tension before the flood coat. Coverage rates on vertical surfaces can vary and depend on the type of material to be treated. On horizontal surfaces, the liquid material should pond on the surface for at least 5 seconds before being absorbed. For parking structures, consult the engineer's

specification for their required application rate. For all other projects you should consult your Protectosil representative for the exact coverage rate on your particular project.

Protect glass, metal, plastic and other nonporous substrates from overspray. **Protectosil AQUA-TRETE 20** will not etch glass but will leave a residue on nonporous surfaces.

**Protectosil AQUA-TRETE 20** 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 compatibility. For more detailed information on applying **Protectosil AQUA-TRETE 20**, read "AQUA-TRETE Weatherproofing Application Instructions."

**Precautions: Protectosil AQUA-TRETE 20** product containers should be kept closed when not in use and should be stored at temperatures between 35°F (2°C) and 100°F (40°C), away from rain and standing water. Protect product from freezing. Please read the material safety data sheet for more detailed information.

### **AVAILABILITY**

**Protectosil AQUA-TRETE 20** is available in 5- 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.

### **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, MSDS and the most updated product information, and to find your local representative, go to [www.protectosil.com](http://www.protectosil.com)

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