

Protectosil® AQUA-TRETE® 20

WATER REPELLENT

Product Data and Test Information



PRODUCT NAME

Protectosil® AQUA-TRETE® 20

Concrete and Masonry Sealer

MANUFACTURER

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

PRODUCT DESCRIPTION

A clear penetrating, water-borne, breathable, water repellent for use on concrete and masonry. Ready-to-use, low VOC, silane emulsion. Reduces the ingress of water and water-borne contaminants from entering the substrate and causing premature deterioration. 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 applications in which solvent-borne products are not acceptable, such as states that have VOC regulations for AIM coatings. **Protectosil AQUA-TRETE 20** meets all National and State VOC regulations.

By reducing water and water-borne contaminants from entering the substrate, problems such as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining, corrosion of reinforcing steel, and mildew will be reduced. 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 effect of water, deicing salts and other water-borne chemicals.

To protect precast concrete (including GFRC) from the damaging effects of acid rain and freeze-thaw cycles. In addition, to keep the concrete clean by reducing the amount of dirt and other pollutants which may absorb into the concrete.

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

Other substrates which may be protected include brick masonry, sandstone, terra cotta, handmolded bricks, and some natural stones.

ADVANTAGES

Protectosil AQUA-TRETE 20 is an alkyltrialkoxysilane 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 some 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. The Protectosil CHEM-TRETE 40 VOC can be incorporated into your integrated design to earn you vital Leadership in Energy & Environmental Design (LEED) credits for both new and existing construction projects.

The main benefits of the product are:

- VOC compliant
- Breathable system
- Penetrates into the substrate
- Excellent resistance to UV
- Excellent resistance to chloride ion ingress
- Reduces efflorescence
- Will not blush, peel or yellow
- Resistance to alkali attack
- Keeps building cleaner

LIMITATIONS

Not intended for below-grade waterproofing. Will leave a residue on non-porous 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 temperatures are below 40 °F (5 °C) or above 100 °F (40 °C), if rain is expected within eight 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 at least 48 hours.

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TECHNICAL DATA

Protectosil AQUA-TRETE 20 is a clear, colorless liquid composed of alkyltrialkoxysilane resins in water.

Color	milky white
Active Substance	silane
Active Content	20%
Solvent	water
Flash Point	none
Density	7.8 lbs/gal
VOC	90 g/l

TEST DATA

AASHTO T 259 "90 Day Salt Ponding"
(150 sq. ft./gallon coverage rate)

0-0.5 inch depth	93% Reduction
0.5-1.0 inch depth	86% Reduction

NCHRP #244 (@ 150 ft²/gallon)

Series II	80% Reduction in water absorption
Series II	84% Reduction in chloride absorption
Series IV	96% Reduction in chloride absorption

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/ft²/24 hours, 93% breathability

INSTALLATION

Concrete must be allowed to cure a minimum of 28 days. All repointing must be completed and allowed to cure 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 chemical cleaners. Check with your Evonik Degussa Corporation 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 power roller with a 1" nap or by brush. Do not alter or dilute the material.

Do not apply to a wet or damp substrate. Mix or stir the material immediately prior to using 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 temperature 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 the **Protectosil AQUA-TRETE 20** in a flooding application, from the bottom 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 concrete surfaces are between 125 to 200 ft²/gallon. Coverage rates on concrete masonry surfaces depend on the type of material to be treated. On horizontal surfaces the liquid material should pond on the surface at least 10 seconds before being absorbed. For parking structures consult the engineer's specification for the required application rate. Your Evonik Degussa Corporation representative can give an exact coverage rate for 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, 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: The **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) and 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 to approved applicators F.O.B. to various warehouses throughout the United States. Contact Evonik Degussa Corporation at (800) 828-0919 for the Sales Representative in your area for specific cost information.

TECHNICAL SERVICE

Technical service engineers and chemists are available to answer questions on product performance, application methods and compatibility with other building materials. Call (800) 828-0919 for prompt service.

For more information, MSDS, the most updated product information and to find your local representative go to www.protectosil.com

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