

Protectosil® AQUA-TRETE® 40

WATER REPELLENT

Product Data and Test Information



PRODUCT DESCRIPTION

A clear, penetrating, waterborne, breathable water repellent for use on concrete. A 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 40 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 40 meets most national and state VOC regulations.

By preventing water and waterborne contaminants from entering the substrate, Protectosil AQUA-TRETE 40 reduces such problems such as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining, alkali attack, 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 concrete.

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 concrete from deicer scaling and freeze-thaw-related damage.

Protects 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 that may absorb into the concrete.

Provides resistance against water, alkalis, acid rain, UV and staining.

ADVANTAGES

Protectosil AQUA-TRETE 40 is a silane in a proprietary emulsion system. Unlike other silane or siloxane emulsion systems, Protectosil AQUA-TRETE 40 is ready to use and is suitable for concrete, without the need to blend oils, silicones, stearates or acrylates into the system. Protectosil AQUA-TRETE 40 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. By incorporating Protectosil AQUA-TRETE 40 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
- Dry time of 4 hours at 70°F
- 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 temperatures are below 40°F or above 110°F (5°C or above 43°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 40 is a silane emulsion in water.

Color	milky	white
Active Substance	silane	
Active Content		40%
Solvent		water
Flash Point		> 200°F
Density		8.14 lb/gal (s.g. 0.93)
VOC		260 g/l

TEST DATA

AASHTO T 259 "90-Day Salt Ponding"

(200 ft²/gal[4.9m²/l] coverage rate)

0.0-0.5" depth 92% reduction or 0.20lbs/yd³ (criteria of 1.5)

0.5-1.0" depth 95% reduction or 0.00lbs/yd³(criteria of 0.75)

1.0-1.5" depth 85% reduction

NCHRP #244 (@ 200 ft²/gallon or 4.9m²/l)

Series II 85% reduction in water absorption

Series II 87% reduction in chloride absorption

Series IV 98% reduction in chloride absorption

(continued)

ASTM C 642 "Water Absorption of Concrete"

24 hours 0.25%

48 hours 0.48%

50 Days 1.2%

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

ASTM E303 "Skid Resistance"

Dry surface No change

Wet Surface No change

INSTALLATION

Substrate must be properly cured. Concrete should be cured to 80% of its design strength, which typically occurs within 14-20 days. All patching must be completed and allowed to cure for at least 7 days. Concrete repair and replacement must be completed prior to application of Protectosil AQUA-TRETE 40. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying Protectosil AQUA-TRETE 40.

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 40 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 using a powered drum mixer or recirculating pump. A test patch should be applied to the substrate to verify coverage rate and application conditions.

Substrate, air and product temperatures shall be between 40°F and 110°F (5°C and 43°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 Protectosil AQUA-TRETE 40 using a flooding application, from the bottom up so the material runs down 4 to 6 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 175 and 250 ft²/gal. 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 the required application rate. 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 40 will not etch glass but will leave a residue on nonporous surfaces. Protectosil AQUA-TRETE 40 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. Spray equipment and hoses can be cleaned with soap and water. Do not allow product to dry in spray equipment or hoses. Spray equipment and hoses should be clean and dry prior to application. For more detailed information on applying Protectosil AQUA-TRETE 40 read "Protectosil AQUA-TRETE Application Instructions."

Precautions: Protectosil AQUA-TRETE 40 product containers should be kept closed when not in use and should be stored at temperatures between 35°F and 110°F (2°C and 43°C), away from rain and standing water. Protect product from freezing. Keep off asphalt and bituminous materials. Please read the material safety data sheet for more detailed information.

AVAILABILITY

Protectosil AQUA-TRETE 40 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, 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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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 www.protectosil.com

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