

Product Data and Test Information

PROTECTOSIL® AQUA-TRETE® 40

Water Repellent

PRODUCT DESCRIPTION

Protectosil® AQUA-TRETE® 40 is a clear, breathable, penetrating water repellent intended for use on concrete. As a ready-to-use, low-VOC silane emulsion, this product reduces and prevents the ingress of water and waterborne contaminants by chemically bonding with silica, within a substrate, to form a permanent attachment of the water repellent.

By preventing water and waterborne contaminants from entering the substrate, **Protectosil® AQUA-TRETE® 40** reduces problems such as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining, alkali attack, corrosion of reinforcing steel and mildew. Treated surfaces continue to be fully breathable as 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.

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.

APPROPRIATE APPLICATIONS

Protects concrete (including GFRC) from the damaging effects of acid rain, deicer scaling, freeze-thaw cycles, and freeze-thaw related damage. Keeps concrete clean by reducing the amount of dirt and other pollutants that may absorb into the substrate. Prevents corrosion on reinforcing steel from water, deicing salts, and other waterborne chemicals. 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 on 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
VOC	< 250 g/L

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TEST DATA

AASHTO T 259 "90-Day Salt Ponding" (200 ft ² /gal [4.9m ² /l] coverage rate)	
0.0 - 0.5" depth	92% reduction or 0.20 lbs/yd ³ (criteria of 1.5)
0.5 - 1.0" depth	95% reduction or 0.00 lbs/yd ³ (criteria of 0.75)
1.0 - 1.5" depth	85% reduction
NCHRP #244 (@ 200ft ² /gal or 4.9 m ² /l)	
Series II	85% reduction in water absorption
Series II	87% reduction in chloride absorption
Series IV	98% reduction in chloride absorption
ASTM C642 "Water Absorption of Concrete"	
24 hours	0.25%
48 hours	0.48%
50 Days	1.2%
ASTM C672 "Deicer Scaling"	
100 cycles	(non-air-entrained concrete) 0 rating
ASTM D 1653 "Moisture Vapor Permeability of Organic Coatings"	
64 g/ft ² /24 hrs	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 should 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.

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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 silanes.evonik.com/en

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