Protectosil®

Product Data and Test Information

PROTECTOSIL® CHEM-TRETE® PB VOC

Water Repellent

PRODUCT DESCRIPTION

Protectosil® CHEM-TRETE® PB VOC is a clear, penetrating, breathable water repellent for use on concrete, brick, concrete masonry units and some natural stones. It is especially suited for making porous substrates, such as split-face block, water repellent in order to stand up against wind-driven rain. By penetrating into the substrate and chemically bonding with silica to form a permanent attachment of the water repellent molecule, **Protectosil® CHEM-TRETE® PB VOC** prevents water and waterborne contaminants from entering the substrate and causing premature deterioration. It also reduces problems such as efflorescence, leaching, acid rain deterioration, scaling, dirt buildup, staining, the corrosion of reinforcing steel and mildew.

Protectosil® CHEM-TRETE® PB VOC will not cause adverse surface appearance of the substrate. Treated surfaces are fully breathable because the natural moisture vapor transmission is not affected. This will eliminate problems caused by entrapped moisture, including blushing of the sealer and freeze-thaw damage to the masonry.

APPROPRIATE APPLICATIONS

Materials such as concrete masonry units (split-face, fluted or ground-faced blocks) can be protected from the ingress of wind-driven rain. Brick masonry, especially single-wythe wall construction, can be treated to prevent moisture from entering and damaging interior walls. **Protectosil® CHEM-TRETE® PB VOC** provides resistance against water and waterborne contaminants to reduce staining. Other substrates that can be protected include sandstone, terra-cotta, hand-molded bricks and natural stones.

ADVANTAGES

Protectosil® CHEM-TRETE® PB VOC is a proprietary mixture of alkyltrialkoxysilanes in a special carrier system. It is designed to provide a high level of surface beading with penetration, to protect against wind-driven rain. The silane components are unique because they chemically bond to the silica in the substrate and set up a hydrophobic layer of protection. Because of the silane's unique chemistry, a long service life is possible. By incorporating **Protectosil® CHEM-TRETE® PB VOC** 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:

- High resistance to wind-driven rain
- Excellent resistance to chloride ion ingress
- Reduced efflorescence
- Breathable system
- Deep penetration into substrate
- No change in surface appearance
- High resistance to alkali attack
- Long service life
- Substrates already treated with **Protectosil® CHEM-TRETE® PB VOC** 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. Asphalt-based materials such as roofing materials and plastic products, shrubbery, and plant life should be protected from overspray.

Should not be applied if the surface temperature is below 20°F (-7°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® CHEM-TRETE® 40 VOC is a clear, colorless liquid containing isobutyltrialkoxysilane in alcohol.

Color	water white
Active Substance	alkyltrialkoxysilane
Active Content	>40%
Solvent	denatured ethyl alcohol
Flash Point	54°F
Density	6.7 lb/gal
VOC	580 g/l

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TEST DATA

ASTM C 140 "Sampling and Testing Concrete Masonry Units, Absorption"	
24-hour submersion test	99.4% effective in reducing water intrusion
ASTM C 67 "Sampling and Testing Brick and Structural Clay Tile, Part 7 Absorption"	
24-hour submersion test	99.8% effective in reducing moisture intrusion
ASTM C 642 "Specific Gravity, Absorption and Voids in Hardened Concrete"	
24-hour immersion	97.5% effective
ASTM D 1653 "Moisture Vapor Permeability of Organic Coatings"	
68 g/ft²/24 hours	97% breathability
ASTM E 514 "Water Permeance of Masonry" Concrete Block Wall	
Untreated leakage	6.47 l/hr
Treated leakage	0 l/hr
Reduction in leakage	100%
Brick Wall	
Untreated leakage	l.00 l/hr
Treated leakage	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® CHEM-TRETE® PB VOC.** Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil® CHEM-TRETE® PB VOC.**

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® CHEM-TRETE® PB VOC 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.

A test patch should be applied to the substrate to verify coverage rate, application conditions and desired results.

On vertical surfaces, apply the **Protectosil® CHEM-TRETE® PB VOC** in 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 vertical surfaces depend on the type of material to be treated. Typical application rates are from 50 to 125 ft²/gal. Your Protectosil® representative can give an exact coverage rate for your particular project.

Protect glass, metal, plastic, asphalt materials and nonporous substrates from overspray. **Protectosil® CHEM-TRETE® PB VOC** will not etch glass but will leave a residue on nonporous surfaces. Check that pump equipment is clean and has no water in lines, nozzles or pump. Please refer to the "**Protectosil® CHEM-TRETE® PB VOC** Application Instructions" for more detailed information.

Precautions: Protectosil® CHEM-TRETE® PB VOC is a flammable liquid and should be kept away from heat, sparks, open flame and other sources of ignition. **Protectosil® CHEM-TRETE® PB VOC** containers should be kept closed when not in use and should be stored at temperatures between 0°F and 120°F (-18°C and 50°C), away from rain and standing water. When working in an enclosed area, an air respirator should be used. Please refer to material safety data sheet for more detailed information.

AVAILABILITY

Protectosil® CHEM-TRETE® PB VOC 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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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

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