

Protectosil® CHEM-TRETE® BSM 400

WATER REPELLENT

Product Data and Test Information



PRODUCT DESCRIPTION

Protectosil CHEM-TRETE BSM 400 brings you the next generation in silane technology. Our chemists have developed a pure silane that yields a water repellent with the longest service life available, unsurpassed performance on brick masonry and the lowest possible levels of volatile organic compounds. **Protectosil CHEM-TRETE BSM 400** can be applied in the most extreme temperature conditions without changing the surface appearance of the substrate.

By penetrating the surface and creating a chemical bond, **Protectosil CHEM-TRETE BSM 400** permanently attaches to the substrate. It is ideal for use on exterior above-grade brick masonry, concrete and most natural stones.

By reducing the amount of water entering the substrate, **Protectosil CHEM-TRETE BSM 400** reduces the intrusion of waterborne contaminants such as acid rain, salt and dirt, and reduces the deteriorating effects of these contaminants, including spalling, scaling, efflorescence, leaching and staining.

APPROPRIATE APPLICATIONS

For use on brick masonry, to protect against the ingress of wind-driven rain. For use on vertical concrete structures, to protect the reinforcing steel from corrosion due to the effects of water and other waterborne contaminants.

Reduces the effects of mildew, efflorescence, and stains on vertical concrete and masonry buildings. Imparts water repellency to a substrate for an extended time.

Provides resistance against acid rain, alkali attack and other atmospheric pollutants.

ADVANTAGES

Protectosil CHEM-TRETE BSM 400 is composed of pure alkyltrialkoxysilane. **Protectosil CHEM-TRETE BSM 400** is designed to penetrate deep into the substrate and impart a high level of water and chloride ion screening. This provides the substrate with long-lasting protection. Because of the purity of **Protectosil CHEM-TRETE BSM 400**, it will not leave a residue on nonporous substrates such as glass windows, metal frames or painted surfaces.

Protectosil CHEM-TRETE BSM 400 complies with almost all state and federal volatile organic content regulations. In addition, **Protectosil CHEM-TRETE BSM 400** does not contain exempt solvents (such as 1,1,1 trichloroethane) that may be hazardous. For the proper VOC regulations in your specific location, contact your Protectosil representative or

reference our brochure on VOC regulations, which is available at www.protectosil.com.

The **Protectosil** product line has an unprecedented track record in protecting brick masonry, concrete and natural stone structures from deterioration due to water and waterborne contaminants. Structures treated in the 1970s are still protected, and these results are documented by state, federal and private agencies. By incorporating **Protectosil CHEM-TRETE BSM 400** 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
- No masking of windows necessary
- High resistance to alkali attack
- Long service life
- Substrates already treated with **Protectosil CHEM-TRETE BSM 400** can be painted over
- Keeps substrates cleaner

LIMITATIONS

Not intended for below-grade waterproofing. 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. Protect from spillage or overspray with specialty coated glass, plastic windows, bituminous roofing products and asphalt. Check compatibility before application.

TECHNICAL DATA

Protectosil CHEM-TRETE BSM 400 is a clear, colorless liquid containing pure alkyltrialkoxysilanes.

Color	water white
Active Substance	pure silane
Active Content	100% by weight
Solvent	None
Flash Point	145°F
Density	7.3 lb/gal
VOC	383 g/l

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TEST DATA

NHCRP #244 (@200 ft²/gal)

Series II	85% reduction in water absorption
Series II	86% reduction in chloride absorption
Series IV	99% reduction in chloride absorption

ASTM E 514 "Water Permeance of Masonry"

Reduction in leakage	100%
Reduction in dampness	100%

ASTM G 53 "Accelerated Weathering" (2500 hours)

>99% water repellency

ASTM D 1653 "Water Vapor Transmission"

72.5 g/ft²/24 hours, 100% breathable

ASTM C 67 "Brick and Structural Clay Tile Part 7 Water Absorption"

98% reduction in water absorption

INSTALLATION

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 local representative to verify that surface preparation is adequate.

New masonry and 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 prior to application of **Protectosil CHEM-TRETE BSM 400**. Precast concrete may be treated sooner; please contact a Protectosil representative for details.

Protectosil CHEM-TRETE BSM 400 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. A test patch should be applied to the substrate to verify coverage rate, application conditions and desired results.

On vertical surfaces, apply **Protectosil CHEM-TRETE BSM 400** in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. Using this method, coverage rates on vertical surfaces will depend on the type of material to be treated. Your Protectosil representative can give an exact coverage rate for your particular project. Please refer to the "**Protectosil CHEM-TRETE BSM 400** Application Instructions" for more detailed information.

Precautions: Protectosil CHEM-TRETE BSM 400 is a combustible liquid and should be kept away from heat, sparks, open flame and other sources of ignition. **Protectosil CHEM-TRETE BSM 400** containers should be kept closed when not in use and should be stored at temperatures between 0°F (-18°C) and 120°F (50°C), away from rain and standing water. When working in an enclosed area, an air respirator should be used. Please refer to the material safety data sheet for more detailed information.

AVAILABILITY

Protectosil CHEM-TRETE BSM 400 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, MSDS and the most updated product information, and to find your local representative, go to www.protectosil.com

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