

Protectosil® CHEM-TRETE® 40 D

WATER REPELLENT Product Data and Test Information



PRODUCT DESCRIPTION

A clear, penetrating, breathable water repellent and consolidant for use on exterior above-grade calcareous stone such as limestone and marble, brick masonry and natural stones. Penetrates the surface and bonds chemically to the substrate, resulting in permanent attachment of the water repellent molecule. **Protectosil CHEM-TRETE 40 D** is not a coating and as a result will not change the surface appearance of the substrate.

By reducing the amount of water that enters the substrate, **Protectosil CHEM-TRETE 40 D** reduces the intrusion of waterborne contaminants such as acid rain, dirt and pollutants. Also reduces the deteriorating effects of these contaminants, such as spalling, deicer scaling, efflorescence, subflorescence, leaching and staining.

APPROPRIATE APPLICATIONS

Makes limestone and marble water repellent, and acts as a surface consolidant.

For use on brick masonry, to protect against the ingress of wind-driven rain and to harden soft bricks.

Reduces the damage that salt burst has on natural stone.

Reduces the effects of mildew, efflorescence and stains on vertical concrete and masonry buildings.

For use on concrete that has a high percentage of limestone or coral aggregate, to consolidate and make water repellent.

ADVANTAGES

Protectosil CHEM-TRETE 40 D is a mixture of isobutyltri-alkoxysilane and ethyl silicate in an alcohol carrier. The silane/silicate mixture is designed to penetrate deep into the substrate and impart a high degree of water repellency. The silicate allows the silane to chemically bond to substrates that have little or no natural silica. This provides the substrate with long-lasting water repellent protection.

Protectosil CHEM-TRETE 40 D also acts as a surface consolidant for binding loose or powdery surfaces. The ethyl silicate encapsulates the calcium carbonate in limestone and marble to form a denser material. Sandstone also is hardened when the silicate bonds with the quartz grains. By incorporating **Protectosil CHEM-TRETE 40 D** 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
- Excellent resistance to acid rain
- Consolidates
- Reduced efflorescence
- Breathable system
- Deep penetration into substrate
- High resistance to alkali attack
- Keeps substrates cleaner

LIMITATIONS

Will leave a residue on glass, metal and painted surfaces. These surfaces should be masked prior to application. **Protectosil CHEM-TRETE 40 D** may darken certain substrates, therefore a test patch should be applied before main application. 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 2 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. Caution should be taken with specialty coated glass, asphaltic materials and plastic windows. Check compatibility before application.

TECHNICAL DATA

Protectosil CHEM-TRETE 40 D is a clear, colorless liquid containing 40% isobutyltri-alkoxysilane and ethyl silicate in alcohol.

Color water	white
Active Substance	isobutyltri-alkoxysilane ethyl silicate
Active Content	40% by weight
Solvent	denatured ethyl alcohol
Flash Point	54°F
Density	7.0 lb/gal
VOC	600 g/L

TEST DATA

ASTM C 97 "Absorption of Natural Building Stone"

83% effective in reducing water absorption

ASTM C 88 "Sulfate Soundness Test"

No weight loss after treatment

(Continued)

Federal Specification SSW-110C

"Breathability of Coatings"

98.5% moisture vapor transmission

ASTM C 67 "Testing Bricks for Absorption"

92% effective in reducing water intrusion

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 40 D**. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil CHEM-TRETE 40 D**.

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 40 D 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, desired results and application conditions.

On vertical surfaces, apply **Protectosil CHEM-TRETE 40 D** in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. Coverage rates on limestone surfaces are between 75 and 125 ft²/gal. Multiple applications may be needed for denser consolidation. Surfaces such as polished marble may have higher coverage rates. For warranty qualification, your Protectosil representative can give an exact coverage rate for your particular project. Please refer to the "**Protectosil CHEM-TRETE 40 D** Application Instructions" for more detailed information.

Precautions: Protectosil CHEM-TRETE 40 D is a flammable liquid and should be kept away from heat, sparks, open flame and other sources of ignition. **Protectosil CHEM-TRETE 40 D** 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 40 D is available in 5-gallon pails and 55-gallon drums. Shipped F.O.B. throughout the United States. 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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