

Protectosil® CHEM-TRETE® 40 D

WATER REPELLENT

Product Data and Test Information

PRODUCT NAME

Protectosil® CHEM-TRETE® 40 D

High performance water repellent for calcareous stone.

MANUFACTURER

Evonik Degussa Corporation
379 Interpace Parkway, P.O. Box 677
Parsippany, NJ 07054-0677
1 (800) 828-0919
info.protectosil@evonik.com
www.protectosil.com

PROTECTOSIL PRODUCTS ARE MANUFACTURED AT THE EVONIK DEGUSSA CORPORATION THEODORE, ALABAMA PLANT UNDER A QUALITY SYSTEM CERTIFIED TO ISO-9001 AND ISO-14001 REQUIREMENTS.

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. It 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 entering the substrate, **Protectosil CHEM-TRETE 40 D** reduces the intrusion of water carrying contaminants such as acid rain, dirt, and pollutants. Reduces the deteriorating effects of these contaminants such as spalling, deicer scaling, efflorescence, subflorescence, leaching and staining.

APPROPRIATE APPLICATIONS

To make limestone and marble water repellent and to act as a surface consolidant.

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

To reduce the damage that salt burst has on natural stone.

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

For use on concrete which 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-alkoxy silane 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 which have little or no natural silica. This provides the substrate with long lasting water repellent protection.

Protectosil CHEM-TRETE 40 D also will act as a surface consolidant for binding loose or powdery surfaces. The ethyl silicate will encapsulate the calcium carbonate in limestone and marble to form a denser material. Sandstone will also be hardened by the silicate bonding with the quartz grains. The **Protectosil CHEM-TRETE 40 VOC** can be incorporated into your integrated design to earn you vital Leadership in Energy & Environmental Design (LEED) credits for both new and existing construction projects.

The main benefits of the product are:

- Excellent resistance to water intrusion
- Excellent resistance to acid rain
- High resistance to wind-driven rain
- Consolidates
- Breathable system
- Deep penetration into the substrate
- No blushing, peeling or yellowing
- High resistance to alkali attack
- Reduced efflorescence
- Keeps substrate cleaner

LIMITATIONS

Will leave a residue on glass, metal and painted surfaces. These should be masked prior to application. May darken certain substrates, apply test patch before application. Not intended for below-grade waterproofing. Should not be applied if the surface temperature is below 20 °F (-10 °C) or above 100 °F (40 °C), if rain is expected within two 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 at least 24 hours. Caution should be taken with specialty coated glass, asphaltic materials or plastic windows. Check compatibility before application.

(Continued)

TECHNICAL DATA

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

Color	water white
Active Substance	isobutyltrialkoxo silane ethyl silicate
Active Content	40% by weight
Solvent	denatured ethyl alcohol
Flash Point	54 °F
Density	7.0 lbs/gal

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

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 a minimum of 28 days. All repointing must be completed and allowed to cure 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 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 chemical cleaners. Check with your Evonik Degussa Corporation 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 power roller with a 1" nap or by 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 to 125 ft²/gallon. Multiple applications may be needed for denser consolidation. Surfaces such as polished marble may have higher coverage rates. For warranty qualification your Evonik Degussa Corporation representative can give an exact coverage rate for your particular project. Please refer to "**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 or other sources of ignition. The **Protectosil CHEM-TRETE 40 D** containers should be kept closed when not in use and should be stored at temperatures between 0 °F (-20 °C) and 120 °F (50 °C) and 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 and 55 gallon drums to approved applicators F.O.B. to various warehouses throughout the United States. Contact Degussa Corporation at 1-800-828-0919 for the Sales Representative in your area for specific cost information.

TECHNICAL SERVICE

Technical service engineers and chemists are available to answer questions on product performance, application methods and compatibility with other building materials.

For more information, MSDS, the most updated product information and to find your local representative go to www.protectosil.com

Protectosil®, **CHEM-TRETE®** = registered trademarks of Evonik GmbH.

This information and all technical and other advice are based on Evonik Degussa Corp's ("Evonik") present knowledge and experience. However, Evonik assumes no liability for such information or advice, including the extent to which such information or advice may relate to third party intellectual property rights. Evonik reserves the right to make any changes to information or advice at any time, without prior or subsequent notice. EVONIK DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, AND SHALL HAVE NO LIABILITY FOR, MERCHANTABILITY OF THE PRODUCT OR ITS FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE), OR OTHERWISE. EVONIK SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. It is the customer's sole responsibility and obligation to arrange for inspection and testing of all products by qualified experts. Reference to trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used.