



Protectosil® Stone Consolidation Treatment

Consolidation Treatment for Mineral substrates
Product Data and Test Information



PRODUCT DESCRIPTION

A clear, penetrating, breathable consolidation treatment for use on exterior above-grade stone such as sandstone, flag stone, limestone and marble, brick masonry as well as other natural stones. **Protectosil Stone Consolidation Treatment** meets the requirements of ASTM E2167, "Standard Guide for Selection and Use of Stone Consolidants". **Protectosil Stone Consolidation Treatment** penetrates the surface and reinforces natural mineral binders, thus preventing degradation due to weathering, freezing and thawing as well as other natural degradation processes. **Protectosil Stone Consolidation Treatment** is not a coating and as a result will not change the surface appearance of the substrate, nor will it change the water vapor permeability.

By reducing the amount of water that enters the substrate, **Protectosil Stone Consolidation Treatment** 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

For use on stone substrates to repair historical structures that have been damaged by weathering or other mechanisms of decay.

Will make 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 Stone Consolidation Treatment is a silicate/siliconate mixture in a water carrier. The silicate/siliconate mixture is designed to chemically bond to the mineral substrate and crosslink with other silicate/siliconate molecules, creating a protection matrix against water intrusion. **Protectosil Stone Consolidation Treatment** will also act as a surface consolidant for binding loose or powdery surfaces. The mixture fills in the calcium carbonate in limestone and marble to form

a denser material. Sandstone is also hardened when the silicate bonds with the quartz grains. By incorporating **Protectosil Stone Consolidation Treatment** into your integrated design, you can earn Leadership in Energy & Environmental Design (LEED) credits for both new construction and major renovation projects.

The main benefits of the product are:

- Water based, VOC free formulation
- Deep penetration into substrate
- Increased compressive and flexural strengths
- Excellent abrasion resistance
- Reduced water absorption
- Breathable system
- Resistance to salt damage
- No change in appearance
- High resistance to wind-driven rain
- 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 Stone Consolidation Treatment** 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 40°F (5°C) or above 100°F (40°C) 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 Stone Consolidation Treatment is a clear, colorless liquid containing a silicate/siliconate mixture in water carrier.

Color:	water white
Active Substance	silicate/siliconate
Solvent	Water
Flash Point	> 200°F
Density	9.8 lb/gal
VOC	0 g/L
Shelf Life	1 Year

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TEST DATA

ASTM C 97 "Absorption of Natural Building Stone"

97% effective in reducing water absorption

ASTM C 1353 "Tabor Abraser for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic"

87% improvement compared to untreated control

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 Protectosil representative to verify that surface preparation is adequate.

Protectosil Stone Consolidation Treatment 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 Stone Consolidation Treatment** 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 Stone Consolidation Treatment** Application Instructions" for more detailed information.

Precautions: Protectosil Stone Consolidation Treatment containers should be kept closed when not in use and should be stored at temperatures between 40°F (5°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 Stone Consolidation Treatment 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 and samples. 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.

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 www.protectosil.com

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