

Conservare[®] H100 Consolidation Treatment

stone and masonry strengthener & water repellent

Of all materials currently and historically employed in construction, masonry is one of the most durable. What has become apparent in recent years, however, is that masonry materials are not as enduring as once believed.

Placed in contemporary urban environments, these “timeless” materials decay at an alarming rate. Some deterioration may be attributed to the masonry’s natural weathering process. The majority of the deterioration, however, is the result of oversights in use and maintenance of the masonry, and of the impact that industrialization has had on our environment, i.e. “acid deposition.”

The intent of all conservation treatments is to restore the structural integrity to crumbling, decaying masonry and/or provide a means of controlling future decay. The failure of many conservation treatments lies in their inherent dissimilarity to the masonry for which they are proposed as a preservative.

When selecting a conservation treatment, an important consideration is to identify those treatments which display physical and chemical characteristics most similar to the masonry itself.

Conservare[®] Consolidation Treatments are based on silicic ethyl esters. Their extremely small molecular structure enables them to penetrate deeply into deteriorated masonry surfaces, collecting at contact points between individual stone grains. An internal catalyst and atmospheric humidity then convert the liquid consolidant into a glass-like silicon dioxide (SiO₂) gel which binds the stone particles together.

Exhibiting chemical characteristics and thermal expansion/contraction characteristics which are virtually identical to that of natural stone, the newly deposited SiO₂ cementing matrix replaces the stone’s natural cement which has been lost due to weathering influences.

OVERVIEW

For badly deteriorated stone that requires consolidation and protection from water, Conservare[®] H100 is a combination consolidation/water-repellent treatment. This ethyl silicate/silane treatment, modified with a silane water repellent, replaces the natural binding materials while protecting the treated surface from water-related deterioration.

Conservare[®] H100 may be used on most types of sandstone, limestone, cast stone, stucco, brick and terra-cotta. All patching and pointing materials should be in place before application of Conservare[®] H100.

Conservare[®] H100 is effective on unpolished marble, travertine and limestone that has been treated with Conservare[®] HCT (Hydroxylating Conversion Treatment).

SPECIFICATIONS

For all PROSOCO product specifications visit www.prosoco.com and click on “SpecBuilder” or “Solution Finder.”

ADVANTAGES

- One component – easy-to-use.
- Low viscosity allows deep penetration. Will not form hardened surface crust.
- The new binder is mineral – similar to the original stone – no synthetic polymers.
- Rapid tack free drying – no dirt attraction.
- Forms no by-products harmful to the masonry.
- Good vapor permeability – the treated surface “breathes.”
- New binder is acid resistant – resists acid rain.

TYPICAL TECHNICAL DATA

FORM	Colorless to slight yellow
SPECIFIC GRAVITY	0.936
pH	Not applicable
WT/GAL	7.79 lbs
ACTIVE CONTENT	100%
TOTAL SOLIDS	47% ASTM D 5095
VOC CONTENT	>400 g/L
FLASH POINT	110°F (43°C) ASTM D 3278
FREEZE POINT	<-22°F (<-30°C)
SHELF LIFE	1 year in tightly sealed, unopened container

Limitations

- Effective consolidation requires thorough laboratory and field pretesting. Contact PROSOCO for information on the recommended test programs.
- Limited shelf life – remains storage-stable for 12 months in sealed containers. Treated areas may bond to silicone and polyurethane molds (frequently used for casting replacement stone). Use a release agent to prevent mold from adhering to the treated surface.
- Not suitable for some types of marble.
- Not suitable for use on polished marble, travertine, limestone or granite.
- Not for use on architectural concrete block.
- Will not prevent water penetration through structural cracks, defects or open joints.
- Not recommended for below-grade application.
- May not be suitable for sale in states and districts with more restrictive AIM VOC regulations. Available in regulation-exempt small container sizes. Call Customer Care at 800-255-4255 for assistance.

REGULATORY COMPLIANCE

VOC Compliance

Conserve[®] H100 Consolidation Treatment is compliant with the following national, state and district AIM VOC regulations

- US Environmental Protection Agency
- California Air Resources Board SCM Districts
- South Coast Air Quality Management District
- Maricopa County, AZ
- Northeast Ozone Transport Commission

Manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403).

THE IMPORTANCE OF PRETESTING

Since building materials differ in their nature and degree of deterioration, each conservation project poses unique problems and requirements. To gain a full understanding of the ongoing deterioration and determine necessary stabilization/conservation measures, a number of laboratory and field tests are required.

Laboratory Testing

- a. Evaluates the physical and chemical characteristics of the substrate(s) to confirm whether consolidation is possible.
- b. Identifies the cause(s) of deterioration and surface preparation procedures necessary for conservation treatment.
- c. Determines the most appropriate conservation agent(s) and field application procedures.

For more information on the recommended testing program, read the Conserve[®] Stone Testing Brochure and contact your PROSOCO representative to arrange a job-site visit.

On-Site Testing

Following lab testing, a test area should be cleaned and allowed to dry. An application of Conserve[®] H100 Consolidation Treatment (or Conserve[®] OH100) is made following specific recommendations provided by the laboratory analysis. The job site test area should be as large as possible and representative of the condition of the entire project.

The test area is necessary to confirm application procedures under job site conditions and allow calculation of the masonry's consumption rate. The on-site tests also provide a visible sample of the effects of the treatment on actual job surfaces. Additional core samples can be taken from the test area and tested to verify depth of penetration and proper application procedures.

ALWAYS TEST

ALWAYS TEST a small area of each surface to confirm suitability and desired results before starting overall application. Test with the same equipment, recommended surface preparation and application procedures planned for general application.

PREPARATION

Following lab and on-site testing, clean the building with the appropriate Sure Klean[®] cleaner. In most cases, surface contaminants such as carbon crust, salts, pigeon droppings, mildew and atmospheric stains must be completely removed to assure thorough penetration of the Conserve[®] H100. (See "NOTE" below.) In addition, surface sealers and repellents which may have been applied must be thoroughly removed. Contact Customer Care at 800-255-4255 for additional cleaning recommendations.

NOTE: If preconsolidation is necessary, further evaluation will be required to ensure that no undesirable reactions take place between the consolidation treatment and the surface contaminants which may interfere with further conservation measures, i.e. subsequent cleaning, general consolidation, patching/repair, etc.

Protect people, vehicles, property, metal, glass, plants, painted and all non masonry surfaces from product, splash, fumes and wind drift. Protect and/or divert pedestrian and auto traffic.

Ensure fresh air entry and cross ventilation during application and drying. Extinguish all flames, pilot lights and other potential sources of ignition during use and until all vapors are gone. When applying to exteriors of occupied buildings, make sure all windows, exterior intakes and air conditioning vents are covered and air handling equipment is shut down during application and until all vapors have dissipated.

Surface and Air Temperatures

Protect surface to be treated from direct sunlight for several hours before application. If possible, start treatment when surfaces are shaded. Keep surface temperature relatively cool to prevent too rapid evaporation of Conservare® H100 and to ensure proper penetration. Do not apply during rain, to wet surfaces or when there is a chance of rain. Protect from rain for two days following application. Surface and air temperatures should be between 50-90°F (10-32°C) during application.

Equipment

Apply by low-pressure spray, brush or dipping. Larger surfaces should be treated using low pressure spray equipment, small areas with spray tanks. Mobile objects such as sculptures may be treated indoors by dipping or with the use of compresses. Contact Customer Care or your local PROSOCO sales manager for additional information.

Storage and Handling

Store in a cool, dry place away from potential ignition sources. Keep tightly closed when not dispensing. Published shelf life assumes upright storage of factory-sealed containers in a dry place. Maintain temperature of 45–100°F (7–38°C). Do not double stack pallets. Dispose of unused product and container in accordance with local, state and federal regulations.

APPLICATION

Before use, read "Preparation" and "Safety Information."

Dilution

Use in concentrate. Do not dilute or alter. Stir or mix well before use.

Coverage Rates

Coverage rates vary depending on the substrate and deterioration conditions. Laboratory and field testing are necessary to confirm desired results and application procedures.

Application Instructions

Ensure proper penetration and prevent crust formations by applying Conservare® H100 in repeated applications referred to as "cycles." A cycle consists of three successive saturating applications at 5–15 minute intervals. Typical treatments involve two or three cycles (6–9 separate applications). Allow 20 to 60 minutes between cycles. Laboratory testing will determine the optimum delay between applications and between cycles. Additional material should be applied until excess material remains visible on the surface for 60 minutes following the last application. Once this degree of saturation is achieved over the entire surface, the first treatment is complete.

Immediately flush excess surface materials using industrial grade MEK (methyl ethyl ketone) or mineral spirits. If a second treatment is necessary, allow two to three weeks curing time following first treatment.

NOTE: Laboratory testing will determine the absorption profile and conservation capacity of the substrate(s). From this information, the optimal delay between saturating coats, and dwell time between cycles will be prescribed. The work area should be limited to a size that can be treated within the prescribed time periods.

Proper timing of the application process will maximize penetration of the consolidation treatment. Deep penetration is critical to the long term benefits of any consolidation treatment.

Cleanup

Clean tools and equipment immediately with mineral spirits, denatured alcohol or an equivalent cleaning solvent. Remove over spray and spills as soon as possible.

Post-Treatment

Excess material should be removed before application of repair materials. Areas properly treated with Conservare® H100 can receive PROSOCO's BMC® silicone emulsion paints after the consolidation procedures have been completed.

BEST PRACTICES

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Never go it alone. If you have problems or questions, contact your local PROSOCO distributor or field representative. Or call PROSOCO technical Customer Care, toll-free, at 800-255-4255.

SAFETY INFORMATION

Conservare® H100 Consolidation Treatment is a solvent carried product and may cause symptoms typical with organic solvent exposures. This is a combustible material. Use appropriate ventilation, safety equipment and job site controls during application and handling. Read the full label and MSDS for precautionary instructions before use.

First Aid

Ingestion: Do not induce vomiting. Call a physician, emergency room or poison control center immediately.

Eye Contact: Rinse thoroughly for 15 minutes. Get immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash thoroughly with soap and water. Seek medical assistance if persistent irritation develops. Launder contaminated clothing before reuse.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

24-Hour Emergency Information:
INFOTRAC at 800-535-5053

WARRANTY

The information and recommendations made are based on our own research and the research of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of our products, nor anticipate every variation encountered in masonry surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose.

PROSOCO, Inc. warrants this product to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose. PROSOCO's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which defective product has

been applied. Acceptance and use of this product absolves PROSOCO from any other liability, from whatever source, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of PROSOCO, its distributors or dealers.

CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care - technical support.

Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our web site at www.prosoco.com, to find the name of the Conservare® representative in your area.