\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*GUIDE SPECIFICATION IS PROVIDED BY PROSOCO, INC. AS A SERVICE AND IS INTENDED TO BE USED AS A PROJECT SPECIFIC SPECIFICATION SECTION. This guide specification is written around the Construction Specifications Institute (CSI), FormatS AND GUIDING TECHNICAL PRINCIPALS and therefore may be used with most master specification systems. For specification assistance on specific product applications, please contact our offices AT (800) 255-4255 or our local product representatives.

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**TIPS:**

To view non-printing **Editor's Notes** that provide guidance for editing, click on the Show/Hide button or Word 2010 offers a convenient keyboard shortcut; press the Ctrl+\* keystroke to toggle on/off. (Press the Ctrl key, Shift key, and the number 8 simultaneously).

# SECTION 07 19 00–Water Repellents

## GENERAL

### SUMMARY

#### Section Includes:

##### Retain subparagraphs below to suit the project.

##### Water Repellent Treatment Applied to Exterior Exposed [Masonry Unit] [Precast Concrete] [Walls][Floors].

#### Related Sections:

##### Retain subparagraphs below to suit the project.

##### Section 01 33 00 - Submittal Procedures.

##### Section 03 01 40.51- Cleaning of Precast Concrete.

##### Section 03 40 00- Precast Concrete.

##### Section 04 01 10- Unit Masonry Cleaning.

##### Section 04 20 00- Unit Masonry.

### References

#### Definitions:

##### Wet-on-Wet Application: Wet-on-wet is a technique in which the water-repellent is applied to the previously applied, still wet, application of the water repellent.

#### Reference Standards:

##### The date of the standard is that in effect as the date of receipt of bids for the project.

##### ASTM International (ASTM):

###### C67- Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.

###### C97- Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.

###### C140- Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.

###### D2369- Standard Test Method for Volatile Content of Coatings.

###### D6490- Standard Test Method for Water Vapor Transmission of Non-Film Forming Treatments Used on Cementitious Panels.

###### D6532- Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens.

###### E96- Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.

###### E514- Standard Test Method for Water Penetration and Leakage Through Masonry.

### SUBMITTALS

#### General: Submit the following according to the Conditions of the Contract and Division 01 General Requirements specification sections.

##### Submit product data including detailed test results of materials applied to surfaces similar to requirements of this Section.

##### Submit manufacturer's instructions for methods and application procedures.

##### Submit manufacturer's certification indicating water repellent treatment conforms to or exceeds requirements stated herein.

### QUALITY ASSURANCE

#### The Contractors involved with work covered by this Section shall have had a minimum of five years experience using specified techniques for water repellent treatment application.

#### Tradesman must be competent and experienced and shall demonstrate reasonable care during performance of operations described in this Section.

#### Tests and Approvals:

##### Sample Area:

###### Contractor shall apply a test area of wall surface from four square feet in size for inspection and approval by the Owner’s Representative after treatment has cured. Test area shall be available for comparison during the specified scope of work.

###### Samples of adjacent materials shall be tested for possible reaction with the water repellent treatment. Such samples shall be available for inspection by the Owner’s Representative.

##### If any part of this work shall be found defective (because of improper preparation of surfaces or application of water repellent treatment) at any time before the final acceptance of the item, the Contractor shall, at his own expense, make good such defect to the satisfaction of the A/E.

### PROJECT CONDITIONS

#### Protection:

##### Contractor shall provide, at all times, covered access to premises and necessary utilities, space for storage of material and equipment, etc.

##### All activities shall be in compliance with local and governmental regulations and codes.

##### The surface and atmospheric temperature should be at least 40 degrees F. and rising during application and for eight hours following. Surface and air temperatures should not exceed 90 degrees F.

##### Surfaces should be dry.

##### Apply only in well ventilated areas.

##### All caulking (sealants) should be applied a minimum of 24 hours prior to application, or as required by sealant manufacturer, whichever is greater, before application of water repellent treatment.

##### The Contractor shall require applicators to observe safety precautions as outlined on containers and labels. It is the responsibility of the Contractor to provide well ventilated areas for all workmen as well as to observe safety precautions as stipulated on labels and instructions of all materials used, and as required by governing authorities during application and drying.

## PRODUCTS

### MANUFACTURERS

Retain the paragraph below if a water-based, silane/siloxane water-repellent is required. Applicable Substrates: Architectural Concrete Block, Concrete, Fired Clay, Unpolished Sandstone, and Cementitious Stucco. The product will not darken, produce a surface film or impair the natural breathing characteristics of treated surfaces.

#### Water-Based Silane/Siloxane Water Repellent Treatment:

##### Use water-based silane/siloxane water repellent for dense or porous concrete, masonry, brick, unpolished sandstone, and cementitious stucco surfaces to protect them from water penetration without altering the natural appearance.

##### Physical and Performance Properties:

###### Comply with national, state, and district AIM VOC regulations.

###### Validated and certified to comply with the Sealant-Waterproofing & Restoration Institute’s (SWRI) Clear Penetrating Vertical Water Repellent Validation Program.

###### Water Absorption, Wall Assembly per ASTM E514 at 4 hours:

Brick: Greater than 86 percent effectiveness.

CMU: Greater than 97 percent effectiveness.

###### Water Absorption Reduction (Brick) per ASTM C 67: Greater than 96 percent.

###### Water Absorption Reduction (Sandstone) per ASTM C97: Greater than 85 percent.

###### Water Absorption Reduction (Mortar) per ASTM D6532: Greater than 98 percent.

###### Water Absorption Reduction per ASTM C 140:

Concrete: Greater than 93 percent.

Precast Concrete (Sandblast Finish): Greater than 94 percent.

Medium Weight CMU: Greater than 93 percent.

Split Face CMU: Greater than 95 percent.

###### Water Vapor Transmission per ASTM E96:

Sandstone: Greater than 78 percent.

Medium Weight CMU: Greater than 90 percent.

Heavy Weight Smooth-Face CMU: Greater than 100 percent.

Brick: Greater than 100 percent.

Precast Concrete: Greater than 84 percent.

###### Water Vapor Transmission WVT per ASTM D 6490: Minimum 96 percent retention.

##### Approved Products:

###### "[Sure Klean Weather Seal Siloxane WB Concentrate](https://prosoco.com/product/siloxane-wb-concentrate/) "; [PROSOCO, Inc.](http://www.prosoco.com/) (800-255-4255) (Basis of Design).

## EXECUTION

### PREPARATION

#### Verify surfaces to receive water repellent treatment are clean, free of efflorescence, oil, grease, or other foreign matter detrimental to application.

#### Remove loose particles and foreign matter. Remove grease or oil with a solvent, effective alkaline cleaner, or detergent as instructed by water repellent manufacturer. Scrub surfaces with water.

#### Allow surfaces to dry prior to application.

#### Protect all surrounding areas as recommended by the manufacturer or as directed by the Architect.

##### Windows: Windows shall be protected from contact with materials by masking with polyethylene or other approved techniques.

##### All polished stone, metal, or non-masonry surfaces shall be protected from contact with the material by masking with polyethylene.

##### Masonry surfaces must be in good repair. All new construction or repointed surfaces must be allowed to cure for a minimum of 28 days prior to application. Surfaces must be completely dry.

#### Verify all windows, exterior intakes and air conditioning vents are covered and air handling equipment is shut down during application and until vapors have dissipated.

#### Coordination with Sealants: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.

Retain the Article below for vertical application.

### WATER- Based Silane/Siloxane Water Repellent Treatment APPLICATION (VERTICAL APPLICATION)

#### Test each surface and/or material to be treated to ensure compatibility and water repellent treatment results. The surface to be treated must be clean and free of all foreign matter and as dry as possible to ensure proper penetration of water repellent treatment.

#### Dilute water repellent based on mock-up testing and manufacturer’s recommendations.

#### Proceed with application of diluted water repellent treatment in an orderly manner once application rate has been tested; work from bottom to top of each scaffold width and from one end of each elevation to the other.

#### Apply diluted water repellent treatment wet-on-wet to visibly dry and absorbent vertical surfaces and comply with manufacturer's written instructions; use a brush or spray application methods, at the Contractor's option.

#### Preferred method of application is with high volume, low pressure, airless diaphragm-type spray equipment. Fan spray tips are recommended to avoid atomization. Do not spray apply at pressures exceeding 50 psi.

##### Apply with a roller or brush for small-scale applications or when spray application is not appropriate.

#### Spray Application:

##### Apply diluted water repellent treatment per manufacturer’s published written instructions, from bottom- up using a wet-on-wet application, creating a 4 to 8 inch rundown below the spray contact point. Let the first application penetrate for 2 to 3 minutes then reapply. Apply in accordance with manufacturer recommendation.

#### Roller or Brush Application:

##### Thoroughly saturate the surface uniformly with water repellent treatment for 2 to 3 minutes. Avoid excessive overlapping. Back roll or brush out heavy runs and drips that do not penetrate.

Retain the Article below for Horizontal Application.

### WATER- Based Silane/Siloxane Water Repellent Treatment APPLICATION (HORIZONTAL APPLICATION)

#### Test each surface and/or material to be treated to ensure compatibility and water repellent treatment results. The surface to be treated must be clean and free of all foreign matter and as dry as possible to ensure proper penetration of water repellent treatment.

#### Dilute water repellent based on mock-up testing and manufacturer’s recommendations.

#### Proceed with application of the diluted water repellent treatment in an orderly manner once application rate has been tested.

#### Apply the diluted water repellent treatment to horizontal surfaces and comply with manufacturer's written instructions; use brush or spray application methods, at Contractor's option.

#### Apply diluted water repellent treatment in a single application. Use enough to keep the surface wet for 2 to 3 minutes before penetration. Broom out puddles until they penetrate the surface.

### PROTECTION

#### Protect adjacent surfaces not scheduled to receive water repellent treatment. If applied on unscheduled surfaces, remove immediately, by manufacturer-approved method.

#### Protect from foot and vehicle traffic until visibly dry.

#### Protect treated surfaces from rain for four (4) hours.

#### Correct damage by cleaning, repairing or replacing, and repainting, as approved by A/E.

END OF SECTIOn 07 19 00