

**SECTION 07190  
WATER REPELLENTS**

This guide specification has been prepared to assist design professionals in the preparation of a specification section covering clear water repellent coatings for concrete unit masonry. It may be used as the basis for developing either a project specification or an office master specification.

**PART 1 - GENERAL**

**1.01 SUMMARY**

**A. Section Includes:**

1. Exterior water repellent coatings for:
  - a. Concrete Unit Masonry.
  3. Extended written warranty.

**B. Related Items:**

1. Admixture for concrete block units: Refer to Section 04200

**1.02 SUBMITTALS**

- A. Comply with Section 01300, unless otherwise indicated. Substitution requests must be submitted 14 days prior to bid date.

**B. Product Data: Manufacturer's specifications and technical data including the following:**

1. Detailed specification of construction and fabrication.
2. Manufacturer's installation instructions.
3. Certified test reports indicating compliance with performance requirements specified herein.
4. Certification by water repellent manufacturer that product supplied comply with local regulations controlling use of volatile organic compounds (VOC).
5. Corporate Letter of Compliance to section 1.03 C Product Performance Characteristics

**C. Quality Control Submittals:**

1. Statement of qualifications.
2. Statement of compliance with Regulatory Requirements.
3. Field Quality Control Submittals as specified in Part 3.
4. Manufacturer's field reports.

**1.03 QUALITY ASSURANCE**

- A. **Manufacturer's Qualification:** Not less than 5 years experience in the actual production of specified products, plus the following:
1. Manufacturing facility has achieved ISO 9001 Quality and ISO 14001 Environmental certifications.

B. **Installer's Qualifications:** Firm experienced in installation or application of systems similar in complexity to those required for this Project, plus the following:

1. Acceptable to or licensed by manufacturer.
2. Not less than 3 years experience with systems.
3. Successfully completed not less than 5 comparable scale projects using this system.
4. Project Mockup: Test water repellent on a mockup. Comply with installation requirements of this Section. After application, inspect mockup for signs of reactions with the surface, streaks, discoloration, insufficient penetration and improper waterproofing.

### C. Product Performance Qualifications:

Comply with the provisions of the following standards for Concrete Masonry Units

1. Surface Appearance - No change in the surface appearance or texture.
  2. ASTM E 514 "Water Permeance of Masonry"  
100% reduction in the leakage rate over the control  
Control wall must have a leakage rate of at least 6.0 liters/hour
  3. ASTM C 140 "Concrete Masonry Units" 24 hour water soak  
99.6% reduction in water absorption  
Control should absorb at least 5% water
  4. ASTM D 6490 "Water Vapor Transmission of Non Film forming Treatments on Cementitious Panels  
100% Breathable
  5. Penetration - visual penetration into CMU - 0.25 inches average
- D. **Regulatory Requirements:** Products shall comply with State and local regulations concerning AIM (Architectural, Industrial and Maintenance) coatings regarding Volatile Organic Content (VOC).
1. The use of 1,1,1 trichloroethane shall not be allowed.

#### 1.04 DELIVERY STORAGE AND HANDLING

- A. Packing and Shipping: Deliver products in original unopened packaging with legible manufacturer's identification.
- B. Storage and Protection: Comply with manufacturer's recommendations.

#### 1.05 PROJECT CONDITIONS

- A. Environmental Requirements:
  1. Maintain ambient temperature above 20 degrees F during and 24 hours after installation.
  2. Do not proceed with application on materials if ice or frost is covering the substrate.
  3. Do not proceed with application if ambient temperature of surface exceeds 100 degree F.
  4. Do not proceed with the application of materials in rainy conditions or if heavy rain is anticipated with 4 hours after application.
- B. Sealer Coordination:
  1. Verify compatibility with curing compounds, patching materials, repair mortar, paints, sealants, etc. to be used on concrete surfaces to ensure compatibility with the water repellent.

#### 1.06 SPECIAL WARRANTIES

The system manufacturer shall furnish the Owner a written single source performance warranty that the Concrete Penetrating Sealer System will be free of defects related to workmanship or material deficiency for a ten (10) year period from the date of completion of the work provided under this section of the specification. The following performance standards shall be specifically covered under the warranty:

1. Loss of water repellency: 1.0 mil/20 minutes or greater (70 mph wind driven rain equivalent).
2. All defective areas shall be retreated by the system manufacturer as determined by the Engineer.
3. The Sealer Manufacturer shall be responsible for providing labor and material to reseal areas of the concrete where sealer effectiveness does not meet the specified limits

## **PART 2 - PRODUCTS**

### 2.01 MANUFACTURER

- A. Acceptable manufacturers and products
  1. Protectosil® Chem-Trete® PB 100; 299 Jefferson RD; Parsippany NJ 07054; 800-282-0919

2. Others as they provide a Corporate Letter stating that they comply with all the requirements of Section 1.03 C. Product Performance Qualifications.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions that may be detrimental to proper or timely completion.
  1. Do not proceed until unsatisfactory conditions have been corrected.

#### **3.02 PREPARATION**

- A. Protection: Install coverings to protect adjacent surfaces.
- B. Surface Preparation:
  1. Remove dirt, dust and materials that will interfere with the proper and effective application of the penetrating sealer. It is the responsibility of the Contractor to prepare the surfaces of the concrete as recommended by the Water Repellent Manufacturer and acceptable to the Engineer.
  2. Sealants, patching materials, and expansion joints shall have been installed and approved by the Engineer.

#### **3.03 FIELD QUALITY CONTROL**

- A. Spray Test: After water repellent has dried, spray coated surfaces with water.
  1. After surfaces have adequately dried, recoat surfaces that show water absorption.
- B. Manufacturer's Field Services:
  1. Furnish written certification that surface preparation method and final condition has manufacturer's approval and comply with the warranty.
  2. Test area: Furnish results of test area absorption on each type of substrate. Test results shall determine application rate.
- C. Test Area:
  1. Before a sealer application the following field evaluation will be done. The cost of the field testing will be the responsibility of the Water Repellent Manufacturer.
  2. Prepare a three feet by three feet area to be sprayed with the water repellent. The area will be determined by the Owner. Apply the water repellent in a flooding application, from the bottom up to produce a 6 to 8 inch rundown below the spray pattern.
  3. Allow five days for the sample to cure run a RILEM uptake test on the treated area. Place one tube on the concrete. Owner must be present for the application of the water repellent and the test.
  4. Acceptable minimum results are as stated in the warranty provisions. Coverage rate used to pass this test section must be used on entire project.

#### **3.04 APPLICATION**

- A. Product shall be applied as supplied by the manufacturer without dilution or alteration.
- B. Apply with a low-pressure (15 psi) airless spray equipment with a fan spray coarse nozzle, flooding the surface to obtain uniform coverage unless otherwise recommended by the manufacturer.
- C. Apply at a rate of not less than 75 square foot/gallon (or use guidelines for substrate or test patch data) unless the field tests determine that a heavier rate of application is necessary to meet the performance requirements.
- D. Apply at temperature and weather conditions recommended by the manufacturer or written in this specification.

- E. Follow manufacturer's recommendations concerning protection of glass, metal and other non-porous substrates. Contractor will be responsible to clean all surfaces that are contaminated by the water repellent.
- F. Follow manufacturer's recommendation concerning protection of plants, grass and other vegetation. Contractor will be responsible for replacing all plants, grass or vegetation damaged by the water repellent.
- G. Brush apply water repellent only at locations where overspray would affect adjacent materials and where not practicable for spray application.

### **3.05 CLEANING**

- A. While Work Progresses: Clean spillage and overspray from adjacent surfaces using materials and methods as recommended by water repellent manufacturer.
- B. Remove and dispose of all materials used to protect surrounding areas and nonmasonry surfaces, following completion of the work of this section.
- C. Clean site of all unused water repellents, residues, rinse water, wastes, and effluents in accordance with environmental regulations.
- D. Repair, restore, or replace to the satisfaction of the Architect, all materials, landscaping, and nonmasonry surfaces damaged by exposure to water repellents.

### **3.06 COMPLETION**

- A. Work that does not conform to specified requirements shall be corrected and/or replaced as directed by the Owners Representative at contractor's expense without extension of time.

**END OF SECTION**