

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 07180

WATER REPELLENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Exterior water repellent coating for Concrete Unit Masonry and New and Existing Brick and Concrete Masonry Exterior Finishes.
 - 2. Extended written warranty.
- B. Related Items:
 - 1. 01001 Basic Requirements.
 - 2. 04100 Mortar for New Masonry
 - 3. 04300 Unit Masonry Systems.

1.02 SUBMITTALS

- A. Comply with Section 01001, unless otherwise indicated.
- 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.
- 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. ISO 9002 certified
- 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.
- C. Product Qualifications:
 - 1. Comply with the provisions of the following standards for concrete masonry.
 - a. No change in surface texture, no blotchy appearance
 - b. ASTM E514 "Water Permeance of Masonry"
 - 95% reduction in leakage rate over the control wall
 - Control wall must have a leakage rate of at least 6.0 liters/hours
 - c. ASTM C140 "Concrete Masonry Units" 24 hour water soak
 - 90% reduction in water absorption

- Control should absorb at least 5% water
- d. Penetration - 0.25 inches average
- e. ASTM C 67 for Clay bricks or Structural Clay Tile
- f. ASTM C 97 for absorption properties of all types stone

1.04 DELIVERY STORAGE AND HANDLING

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

1.05 PROJECT CONDITIONS

- A. Environmental Requirements
 - 1. Maintain ambient temperature above 40 degrees F during and 24 hours after installation.
 - 2. Do not proceed with application on materials if ice or frost are covering the substrate.
 - 3. Do not proceed with application of materials in rainy conditions or if heavy rain is anticipated within 4 hours after application.

1.06 SPECIAL WARRANTIES

- A. Manufacturer shall stand behind installed system for a period of 20 years from Date of Substantial Completion against all the conditions indicated below. When notified in writing from Owner, Manufacturer shall promptly and without inconvenience and cost to Owner correct said deficiencies:
 - 1. Loss of water repellency:
 - a. Concrete Masonry: 1.0 ml/20 minutes or greater (80 mph wind-driven rain equivalent).
 - 2. Clay Brick Masonry: ASTM E 514 Water Permeance Masonry

PART 2 - EXECUTION

2.01 MATERIALS

- A. Acceptable manufacturers and products for Concrete Substrates, minimum 40% solids:
 - 1. Evonik Industries: Chem-Trete® 40 VOC, BSM – 400 VOC, 800-828-0919
 - 2. Dow Corning: Silane 100%
 - 3. DRE Industries: DRE 100%

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions 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. Verify masonry joints found to be unsound, hollow, or otherwise defective, have been raked out to a depth of 3/4 inch and pointed with mortar.
 - 2. Verify cracks that exceed 1/64 inch wide have been filled with pointing mortar.
 - 3. Verify concrete masonry unit surfaces with pores greater than 1/64 inch wide have been filled with block filler and cured for 3 days before applying water repellents.

3.03 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 1 coat at a rate of not more than 100 square feet/gallon per coat.
- 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.

3.04 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 methods and final condition have 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 areas to be sprayed will be determined by the Architect.
 - 3. After allowing five days for the sample to cure run a RILEM uptake test on the treated area. Place one tube on the brick and on tube on a mortar joint. Owner must be present for the application of the water repellent and the test.
 - 4. Acceptable minimum results area as stated in the warranty provisions. Coverage rate used to pass this test section must be used on entire project.

3.05 CLEANING

- A. As Work Progresses: Clean spillage and overspray from adjacent surfaces using materials and methods as recommended by water repellent manufacturer.
- B. Remove protective coverings from adjacent surfaces when no longer needed.

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 – 07180