

SECTION 07 15 00
WATER REPELLENT (CLEAR)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies clear water repellent for all exposed brick masonry on the building.

1.2 RELATED WORK

- A. Brick Masonry: Section 04 20 00, UNIT MASONRY.

1.3 APPLICABLE PUBLICATIONS

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.
- B. American Society for Testing and Materials (ASTM):
- C67-91.....Test Methods of Sampling and Testing Brick and Structural Clay Tile
- C97-90.....Standard test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
- C140-91.....Test Methods of Sampling and Testing Concrete Masonry Units
- E514-90.....Test Method for Water Penetration and Leakage Through Masonry
- C642.....Standard Test Methods for Water Absorption
- G53-88.....Practice for Operating Light-and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials
- C. Chloride Absorption Reduction Percentage, AASHTO T259/T260.
- D. Environmental Protection Agency (EPA) Method 24 (7/1/91) - Determination of Volatile Matter Content.
- E. Federal Specification (FS) SS-W-110C (Feb 7, 1963) - Water-Repellent, Colorless, Silicone Resin Base.

1.4 SUBMITTALS

- A. Provide manufacturer's catalogue information for approval in accordance with Section 01 33 23, SAMPLES AND SHOP DRAWINGS.

1.5 GUARANTEE

- A. Upon completion and acceptance of work, manufacturer shall provide a written full guarantee that the surface shall retain its water-repellent effect for a minimum five (5) year period.

1.6 TEST PANEL

- A. Apply water repellent to one half of the sample brick panel at the rate specified for approval prior to installation on building brick.

PART 2 - PRODUCTS

2.1 MATERIAL

A. Water Repellent:

- 1. Description: Water-borne silane modified siloxane solution.
- 2. Approximately 7.5 percent solids.
- 3. Performance attributes.
 - a. Water repellency, test brick: Minimum 96.9 percent, ASTM C67, Section 7. Result = 96.9%.
 - b. Water repellency, test mortar: 0.59 percent average absorption, immersed for 72 hours, FS SS-W-110C. Result = 0.348%.
 - c. Reduction in water absorption on 3000 psi (21 MPa) concrete, immersed in water for 24 hours, ASTM C140, Section 6. Result = 91.29%.
 - d. Reduction in water absorption on Indiana limestone, immersed in water 48 hours, ASTM C97. Result = 81.7%.
 - e. Vapor transmission: Minimum 100 percent, OHD-L-35. Result = 100%.
 - f. Resistance to efflorescence, ASTM C67, Section 10. Result = Excellent, No efflorescence on treated specimens.
 - g. Accelerated weathering, Tested for 3000 hours, ASTM G53. Result = No loss in water repellency.
 - h. Water permeance of masonry, % Reduction of leakage through masonry walls, University of Wyoming, ASTM E514. Result = 99.9% improvement.
 - i. Volatile organic content (VOC): Less than 55 g/L, EPA Method 24.
 - j. Penetration: .25" (1.5 to 6 mm) depending on substrate.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Examine surfaces to receive water repellent and report any unfavorable condition to the Resident Engineer.
- B. Surfaces: Must be dry, clean, free of stains and efflorescence. Grout to cure for 30 days minimum. Do not apply water-repellent material on surfaces which have been wet or rained upon during the four preceding days or if rain is anticipated within six hours after application.
- C. Protect all glass, vinyl or aluminum from contact with water repellent.

D. Start of work implies acceptance by the applicator.

3.2 APPLICATION

A. Apply two coats. First coat is a light mist coat to break the surface tension. Second coat follows immediately and is a uniform flood coat so that there is a rundown of about 5 inches from the contact point. Application to be made in an overlapping pattern and coverage controlled to match the approved test panel. Low-pressure spray applications are preferred, but brushing is accepted. Do not use high-pressure spray. Allow 24 hours between coats. Coverage shall be approximately 1 gallon per 100 square feet.

B. Do not apply if ambient temperature is, or is expected to be less than 40°F.

3.3 SPECIAL NOTE

A. Containers shall be inspected before and after completion of the work. Do not remove containers from job site until authorized by the Architect. Manufacturer's representative shall be notified prior to commencing application and be present on job site during application.

3.4 LOCATIONS

A. All exterior and exposed interior clay masonry locations.

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