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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition*.

This section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

Section numbers are from *MasterFormat 2010 Update*.

SECTION 07 19 16

SILANE WATER REPELLENTS

Specifier Notes: This section covers the following Nox-Crete Products Group water repellent silane sealer for the protection of vertical precast and cast-in-place concrete, concrete masonry, and brick from the absorption of wind-driven rain and freeze/thaw-related scaling damage:
“Stifel VC”: For vertical surfaces.

Consult Nox-Crete Products Group for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Silane water repellents.

1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as required. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

- A. Section 03 30 00 – Cast-in-Place Concrete: Vertical or architectural concrete.
- B. Section 03 40 00 – Precast Concrete: Vertical or architectural concrete.
- C. Section 04 20 00 – Unit Masonry.

1.3 REFERENCE STANDARDS

Specifier Notes: List standards referenced in this section, complete with designations and titles. Delete standards not included in the edited section. Including a standard here does not require compliance with that standard.

- A. ASTM C 642 – Standard Test Method for Density, Absorption, and Voids in Hardened Concrete.
- B. ASTM D 6489 – Standard Test Method for Determining the Water Absorption of Hardened Concrete Treated With a Water Repellent Coating.
- C. RILEM Test Method 11.4 – Water Absorption Tube Test.

1.4 SUBMITTALS

Specifier Notes: Edit submittal requirements as required. Delete submittals not required.

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including surface preparation and application instructions.
- C. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- D. Manufacturer's Project References: Submit manufacturer's list of successfully completed silane water repellent projects, including project name and location, name of architect, and type and quantity of silane water repellents furnished.
- E. Warranty Documentation: Submit manufacturer's standard and extended warranties.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer regularly engaged, for past 5 years, in manufacture of silane water repellents of similar type to that specified.

Specifier Notes: Edit site test application as required. Delete site test application if not required.

- B. Site Test Application: Construct site test application of silane water repellents for evaluation of surface preparation techniques and application workmanship.
 - 1. Construct site test application using same materials for use in the Work.
 - 2. Construct site test application at locations determined by Architect.
 - 3. Do not proceed until workmanship of site test application is approved by Architect.
 - 4. Approved Site Test Application: Standard for workmanship of silane water repellents.

Specifier Notes: Edit preinstallation meeting as required. Delete meeting if not required.

- C. Preinstallation Meeting:
 - 1. Convene preinstallation meeting 2 weeks before start of application of silane water repellents.
 - 2. Require attendance of parties directly affecting work of this section, including Contractor, Architect, applicator, and manufacturer's representative.
 - 3. Review surface preparation, mixing, application, protection, and coordination with other work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until application.
 - 3. Store silane water repellents between 40 and 100 degrees F (4 and 38 degrees C).
 - 4. Store materials in clean, dry area indoors, out of direct sunlight.
 - 5. Protect materials from freezing.
 - 6. Protect materials during storage, handling, and application to prevent contamination or damage.

1.7 WARRANTY

Specifier Notes: Specify warranty type. Consult Nox-Crete Products Group for information regarding extended warranties.

- A. Manufacturer's Warranty: [Standard] [3-year extended] [5-year extended] [10-year extended].

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Nox-Crete Products Group, 1444 South 20th Street, PO Box 8102, Omaha, Nebraska 68108. Toll Free 800-669-2738. Phone 402-341-1976. Fax 800-329-6733. www.nox-crete.com. customerservice@nox-crete.com.

2.2 MATERIALS

- A. Silane Water Repellents: “Stifel VC”.
 - 1. Description: Single-component, water-based, silane water repellent for exterior vertical concrete and masonry surfaces.
 - 2. Odor: Mild.
 - 3. Freeze Point: 32 degrees F (0 degrees C).
 - 4. Flash Point, Penske Martin Closed Cup Test: Greater than 212 degrees F (100 degrees C).
 - 5. Vapor Pressure: Less than 17.5 mm Hg at 20 degrees C.
 - 6. VOC: Less than 400 g/L.
 - 7. Active Solids: 7.5 percent.
 - 8. Water Absorption of Hardened Concrete:
 - a. ASTM C 642: 86.3 percent reduction.
 - b. ASTM D 6489:
 - 1) 24 Hours: 91.6 percent reduction.
 - 2) 48 Hours: 90.4 percent reduction.
 - 9. RILEM Test Method 11.4, Water Absorption Tube Test (simulates wind-driven rain at 88 mph):
 - a. 240 Minutes: 94 percent reduction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine concrete and masonry surfaces to receive silane water repellents.
- B. Notify Architect of conditions that would adversely affect application.
- C. Do not begin surface preparation or application until unacceptable conditions are corrected.

3.2 PREPARATION

- A. Protection of In-Place Conditions: Protect adjacent surfaces, glass, glazed tile, painted surfaces, and vegetation from contact with silane water repellents.
- B. Surface Preparation:
 - 1. Prepare surfaces in accordance with manufacturer’s instructions.
 - 2. Clean surfaces of dirt, dust, debris, oil, grease, rubber tire residue, curing compounds, bond breaking membrane, sealers, laitance, paint, and other contaminants which could adversely affect silane water repellents application.
- C. Concrete:
 - 1. New Concrete: Cure concrete a minimum of 28 days before application of silane water repellents.
 - 2. Existing Concrete: Remove surface contaminants and open substrate for maximum silane water repellent penetration in accordance with manufacturer’s instructions.
- D. Masonry:

1. New Masonry: Ensure masonry is a minimum of 28 days old before application of silane water repellents.
 2. Existing Masonry:
 - a. Repair unsound and cracked mortar joints.
 - b. Clean, prime, and seal cracks and unsound soft mortar joints.
 - c. Seal sources of moisture entry in walls.
 - d. Clean walls with suitable masonry cleaner to remove efflorescence, mortar residue, and laitance.
- E. Apply joint sealants before silane water repellent application.
- F. Allow cleaned surfaces to dry for a minimum of 48 hours before application.

3.3 MIXING

- A. Mix materials in accordance with manufacturer's instructions.

3.4 APPLICATION

- A. Apply silane water repellents in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Apply silane water repellents to clean and dry substrates.
- C. Uniformly apply silane water repellents at application rate in accordance with manufacturer's instructions.
- D. Do not apply silane water repellents to the following:
 1. Frost covered or permeated surfaces.
 2. Bituminous or other organic solvent-soluble joint sealants, membranes, coatings, or toppings.
 3. Incompletely cured joint sealants.

3.5 PROTECTION

- A. Protect applied silane water repellents from damage during construction.

END OF SECTION