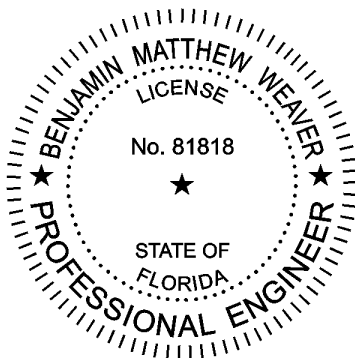


TECHNICAL SPECIAL PROVISION
FOR
SECTION T400
SILICONE ACRYLIC CONCRETE STAIN

FINANCIAL PROJECT ID: 436656-1-52-01

This item has been digitally signed and sealed by Benjamin M. Weaver, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies.

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SECTION T400

SILICONE ACRYLIC CONCRETE STAIN

T400-1 Description.

T400-1.1 General: Work specified in this Technical Special Provision consists of the application of a finish coating upon all concrete surfaces where the Structures Plans in the contract indicate a silicone acrylic concrete stain. Apply the finish coating after completion of the general surface preparation. Do not coat surfaces other than concrete, including finished metal surfaces, signs and labels. Supply all labor, materials transportation, equipment, and services necessary for the completion of all work as specified.

T400-1.2 Reference Standards: ASTM D1653 and ASTM D3960

T400-2 Materials.

Use the appropriate silicone acrylic concrete stain system as specified in the Plans and as described in this Technical Special Provision. Use materials from the Department's Approved Products List (APL) that meet the requirements of this Technical Special Provision unless otherwise approved by the Engineer. The colors shall be as indicated in the General Notes of the Structures Plans.

T400-3 Construction Requirements.

T400-3.1 Delivery and Storage: Deliver materials in sealed containers bearing the manufacturer's original labels. Labels shall be legible and include the following information at a minimum: manufacturer's name and brand designation, batch number, color, date of manufacture, shelf life, and application instructions. Store materials in weather protected, temperature-controlled enclosure in full conformance with the manufacturer's recommendations.

T400-3.2 Equipment: All application tools and equipment shall be clean, in good working order and suitable for proper applications.

T400-3.3 Environmental Conditions: Apply stain when environmental conditions are within ranges identified by the manufacturer. Do not apply over frozen or damp surfaces or when rain is imminent. Allow all wet surfaces at least 24 hours to dry before coating. Do not apply if rain is expected within 12 hours following the application. Under no circumstances shall any stain be applied when the dew point and the temperature are within five degrees Fahrenheit of each other or otherwise when surfaces are wet or contaminated in any way.

T400-3.4 Examination of Surfaces: Before starting any work, surfaces to receive stain finish shall be examined carefully for defects which cannot be corrected by the procedures specified herein under "Surface Preparation" and which might prevent satisfactory staining results. Should such conditions be encountered, the Engineer shall be notified immediately so that the extent of the problem and a solution can be identified. Commencing of work shall be construed as acceptance of the surfaces, and thereafter, the Contractor will be fully responsible for satisfactory work as required herein.

T400-3.5 Protection: Protect all surfaces not to be stained from surfaces preparation operations and contamination by sealing materials. Restore surfaces which are contaminated by sealing materials to their original condition. The Contractor is solely responsible for the complete containment of the materials in the handling, surface preparation and application of the materials described in this specification. Ensure that no materials involved in the surface

preparation operation, nor any mist or spatters fall on, blow on, or in any way whatsoever harms open water, vehicles, equipment, adjacent buildings, or personnel.

T400-3.6 Surface Preparation: All concrete surfaces receiving the finish shall be cured in accordance with FDOT Standard Specifications Section 400-16. Minimum curing time shall be in accordance with the manufacturer's recommendations. Fill surface cracks and voids larger than 1/4 inch in width and depth in accordance with FDOT Standard Specifications Section 400-15.2.6.3. All surfaces shall be clean, dry and free of grease, oil, paint, sealers, and coatings prior to application of silicone acrylic concrete stain. Surface preparation shall be hydro-silica blasted at the direction of the Engineer as follows:

1. Hydro-silica blasting shall be capable of pressures in excess of 2500 psi in order to effectively remove all existing applied finishes, sealers, curing compounds, and other surface residues. Dry sandblasting shall not be employed without express written approval of the Engineer.
2. Prior to blasting, use a manufacturer recommended de-greasing agent if required, following label directions, rinse thoroughly and allow the surface to dry. If mold, mildew, or fungus are present, kill and remove by cleaning with a manufacturer recommended solution.
3. If concrete surface feels like 120-grit sandpaper, the pores are open enough for stain to properly bond. If concrete does not have this texture, etch surface with a manufacturer recommended concrete etching solution following label instructions.
4. Prepared concrete shall have a pH between 7 and 10. If a high pH reading (11-13) is detected, neutralize the surface by acid etching the surface with a manufacturer recommended concrete etching solution following label instructions.
5. Application of the silicone acrylic concrete stain shall take place within three (3) Calendar days of the completion of the surface preparation.

T400-3.7 Application: Two (2) coats of silicone acrylic concrete stain shall be applied on the prepared surfaces following manufacturer's recommendations.

T400-3.8 Cleanup: Clean spills and spatters and tools immediately with a manufacturer recommended solvent. Follow manufacturer's instructions and safety recommendations when using any solvent.

T400-3.9 Field Quality Control: Arrange to have silicone acrylic concrete stain manufacturer's representative inspect and approve prepared (unstained) surface and, prior to commence of initial application, each succeeding coat.

T400-4 Quality Assurance.

T400-4.1 Applicator Compliance with Manufacturer's Recommendation: The coating and the application of each coat must be in compliance with the manufacturer's recommendations for installation.

T400-4.2 Applicator's Qualifications: Application of the silicone acrylic concrete stain shall be accomplished by firms or persons possessing the experience set forth herein.

T400-4.3 Compliance with Specification Requirements: Surface preparation and silicone acrylic concrete stain application shall be made in strict compliance to this Technical Special Provision and to the manufacturer's printed instructions on the labels and data sheets.

T400-4.4 Source Limitations: Obtain all materials and components used in the silicone acrylic concrete stain system from the same manufacturer.

T400-4.5 Field Area “Sample”: Provide a full two-coat “sample” at the Field Sample Area using type of stain proposed for use on this Project. Coordinate with the Engineer to select “sample” section of the Structure that represents substrates to be sealed and conditions for stain to be applied. For MSE walls, included a minimum of two (2) panels cast and stained to represent surfaces.

T400-5 Submittals.

T400-5.1 Certificates of Compliance: Submit certificates of compliance from the manufacturer stating that the previously manufactured materials have been tested by an independent laboratory showing that the product meets the following properties:

6. Water Vapor Transmission (WVT) ≥ 5 perms (ASTM D1653; Method B, Condition C)
7. Volatile Organic Compounds (VOC) < 3.5 pounds per gallon (ASTM D3960)

T400-5.2 Product Data: Submit the following product data:

1. Material List – Provide an inclusive list of required materials. Identify each material and cross-reference specific system and application.
2. Manufacturer’s Information – Provide the manufacturer’s technical information, including label analysis and instructions for handling, storing and applying each material proposed for use.

T400-5.3 Samples for Initial Selection: Submit manufacturer’s color charts showing the full range of colors available for type of material indicated.

T400-5.4 Samples for Verification: Submit samples of the color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate. Provide stepped samples, defining each separate coat. Use representative colors when preparing samples for review. Resubmit until required sheen, color and texture are achieved. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application. Provide two 4-inch square samples for each stepped sample.

T400-5.5 Approval of Materials: Final approval of silicone acrylic concrete stain system will be from Field Sample Area. Approved Field Sample Area will become basis of comparison for all silicone acrylic concrete stain work. Do not apply any stain before required test reports and certificates have been submitted and the respective material approved.

T400-5.6 Pollution Control Plan: Submit a Pollution Control Plan detailing conformance with all Federal, State and local regulations for the testing, collection, and deposition of all project residues and classified hazardous waste for approval prior to construction activities.

T400-5.7 Qualified Applicator: Submit a Plan detailing the qualified staff that will be utilized in completing the silicone acrylic concrete stain application. The plan shall indicate that the Contractor has successfully applied sealer by the method specified herein or has a firm contractual agreement with a subcontractor having such required experience. The data shall include the names and locations of not less than two sites where the Contractor or subcontractor referred to herein has applied sealer by the method specified. Indicate the type and design of the equipment, including safety devices, and indicate that the method of applying sealer has been performed satisfactorily. Also include the names and locations of at least two (2) sites where the proposed project superintendent has applied sealer.

T400-6 Basis of Payment.

No separate payment will be made for the work specified in this Technical Special Provision. The cost of furnishing and applying the silicone acrylic concrete stain will be included in the Contract price for the items to which it is incidental.