

SECTION 07900

JOINT SEALERS AND WATER REPELLENT COATING

• PART 1.0 GENERAL

1.1 Description

- a. Provide all materials, equipment and labor necessary to prepare surfaces and applied new sealants and water repellent coating to exterior masonry & concrete surfaces and metal & glass window/skylight frames, as specified on all related Contract Documents.
- b. The requirements of the General and Special Conditions shall govern work in this section.
- c. Weather Conditions: Do not proceed with application of sealants and coatings when conditions are outside range recommended by manufacturer.
- d. Applied coating to exhibit ability to permit 0.0 percent maximum moisture absorption in material treated.

1.2 Submittals

- a. Product Data: Provide details of product description (including manufacturer's data sheets & standard color charts), field quality control test procedures for each coating, sealant and primer to be used, limitations to coating, cautionary procedures required during application and chemical properties, including percentage of solids.
- b. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.
- c. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.3 Qualifications

- a. Manufacturer: Company must have a minimum of three (3) years documented experience in manufacturing the products specified on this section.

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- b. Applicator: Contractor and job foreman specialized in performing work described on this section must have a minimum of five (5) years experience applying/installing silicone sealants and water repellent coatings.

1.4 Quality Assurance

- a. Compatibility and Adhesion Tests: Contractor shall be responsible for verifying with the product manufacturer that all sealants and coatings to be used are compatible with and will satisfactorily adhere to all substrates. Tests are to be conducted in the field or by submission of representative substrate samples to sealant/coating manufacturer's laboratory.
- b. Overall Application: Contractor shall apply material in strict compliance with manufacturer's latest published literature and specifications.

1.5 Mock-Up

- a. If requested by the PBA designated representative, the Contractor shall apply/install, on 36" x 36" prepared surface, a sealant/coating mock-up to demonstrate appearance and workmanship technique.
- b. Mock-Up shall be done by those personnel who will assign to the project.
- c. Mock-Up may not remain as part of the Work.

1.6 Delivery, Storage and Handling

- a. Delivery: Deliver materials to job site in original tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, product identification and lot numbers.
- b. Storage: Store materials out of the weather in their original tightly sealed containers, in accordance with manufacturer's requirements.

1.7 Warranty

- a. Upon job completion, provide manufacturer's above-mentioned standard product whether-seal warranty.

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- b. Upon completion of the job, provide contractor's five (5) year workmanship warranty.
- c. All warranties shall be from a single manufacturer, providing single recourse for this project's joint sealers and water repellent coating.

• PART 2.0 PRODUCTS

2.1 Materials

- a. Coating: Allguard Elastomeric Coating or FS SS-W-110, silicone resin, colorless, with twenty-eight percent (28 %) minimum solids.
- b. Sealant: DOW CORNING 791 or 795 Silicone Building Sealant for various substrates, including but not restricted to **metal window frames, glass, stone, concrete, masonry, metal, EIFS, etc.**
- c. Performed Seal: DOW CORNING 123 Silicone Seal. Color to be selected by PBA designated representative.
- d. Primer: DOW CORNING 1200 or 1593 Primer Coat. Type recommended by sealant manufacturer and/or based on field mock-up results.
- e. Backer Rod: Open cell polyurethane, closed cell polyethylene or Sof-Rod. Use type recommended by sealant manufacturer for each application.
- f. Bond Breaker Tape: Pressure sensitive adhesive polyethylene, TEFLON or polyurethane foam tape.

• PART 3.0 EXECUTION

3.1 WATER REPELLENT COATING

3.1.1 Examination

- a. Verify joint sealants are installed and cured.
- b. Verify surfaces to be coated are dry, clean and free of efflorescence, oil, or other matter detrimental to application of coating.

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3.1.2 Preparation

- a. Delay work until concrete substrate is cured a minimum of sixty (60) days.
- b. Remove loose particles and foreign matter.
- c. Remove oil or foreign substance with a chemical solvent which will not affect coating.
- d. Scrub and rinse surfaces with water and let dry.

3.1.3 Application

- a. Apply coating in accordance with manufacturer's instructions.
- b. Apply at a rate of 250-300 sq. ft. / gal. airless spray.
- c. Apply in one continuous, uniform coat.
- d. Do not apply coating when surface temperature is lower than sixty-five (65) F degrees (19 C degrees) or higher than 100 F degrees (38 C degrees).

3.1.4 Protection to Finished and Adjacent Work

- a. Protect adjacent surfaces not scheduled to receive coating.
- b. Protect landscaping, property and vehicles.
- c. If applied to unscheduled surfaces, remove immediately by a method instructed by coating manufacturer.

3.2 JOINT SEALERS: JOINT REMOVAL & REPLACEMENT

Use Section 3.2 for joints containing failed organic sealant which is sufficiently hardened to grind out without degrading the grinding wheel.

3.2.1 Preparation

- a. Cut away the old sealant. Grind with a grinding wheel the failed sealant that new, uncontaminated substrate of the original joint's sidewall is visible to a depth of about ½" to ¾".

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- b. Blow out all dirt, dust, residue, old sealant, old backer rod, etc., using oil-free and moisture-free compressed air.
- c. Mask if necessary.

3.2.2 Examination

- a. Contractor shall verify that all joint surfaces are clean, sound, free of defects and that dimensions are within sealant manufacturer's size requirements.
- b. Commencement of sealant installation shall be evidence that Contractor has verified compliance of existing conditions.

3.23 Installation

- a. If required, apply primer according to manufacturer's instructions.
- b. Install appropriate backer rod using blunt or rounded tools to assure uniform depth ($\frac{1}{2}'' \pm \frac{1}{4}''$) without puncturing or twisting. Rod shall be a minimum twenty-five percent (25%) oversized. Install bond breaker tape in shallow joints.
- c. To obtain full adhesion, sealants require a clean, dry, frost-free surface. Although silicone sealants have excellent wide temperature gunnability, the practical application temperature can be dictated by frost formation on the joint edges, which can begin to occur below 40° F. To assist in the drying of a frost-containing joint, a water soluble solvent such as MKE or IPA should be used.
- d. Apply the sealant in a continuous operation using a caulking gun or pump. A positive pressure, adequate to fill the entire joint width, should be used. This can be accomplished by- "pushing" the sealant ahead of the application nozzle. Care must be taken to ensure complete fill of the sealant cavity.
- e. Tool the sealant with light pressure before a skin begins to form (typically 10 to 20 minutes). Tooling forces the sealant against the back-up material and the side walls of the joint surfaces. **Do not use liquid tooling aids such as water, soap or alcohol; i.e. isopropyl alcohol (IPA).** These materials may interfere with sealant cure and adhesion and create aesthetic issues.

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- f. Remove the masking tape before the sealant skins over (within about 15 minutes of tooling).
- g. Check adhesion after sealant has cured for 7-14 days (see Quality Assurance).

3.24 Clean-Up

- a. Clean adjacent surfaces as work progresses. Leave finished work in neat, clean condition with no evidence of spills onto adjacent surfaces.

3.3 JOINT SEALERS JOINT OVERLAY SEAL

Use this section as guidance where failed joint sealers area reverted or gummy-as in the case of urethanes or butyl caulks-and/or where substrates are likely to be degraded by cutting or grinding-as is EIFS, exterior insulated finish systems.

3.31 Preparation

- a. Clean and condition the substrate to assure adhesion. If power washing is not possible, use stiff nylon brush (like a toothbrush) and scrub substrate with a 50/50 blend of clean cloth containing IPI and water (in the case of EIFS) or a more aggressive solvent like xylene (on more resilient substrates) to remove residues of the old caulk and other contaminants. Dry with another dry cloth. Let conditioned substrate air dry for 1-2 hours.
- b. Mask if necessary.

3.32 Examination

- a. Contractor shall verify that all joint surfaces area clean, sound, free of contamination and the dimensions are within manufacturer's size requirements.
- b. Commencement of sealant installation shall be evidence that Contractor has verified compliance of existing conditions.

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3.33 Installation

- a. Prime according to manufacturer's instructions, if proven necessary in mock-up.
- b. When installing silicone seal, select a width that will allow a minimum of 3/8" bond on each side of the joint. Apply silicone building sealant out in approximately 1/4" diameter beads on each side of the joint. Press the extrusion lightly onto the sealant using a roller or block to provide consistent pressure and ensure uniform and continuous contact. Remove masking tape and excess sealant. Apply second bead along each edge and tool into place to adhere edges of silicone seal and soften the edge relief slightly.
- c. Coating can be applied directly onto any silicone seal once sealants are cured.
- d. Adhesion testing should be performed in about 7-14 days to verify adhesion of sealant and silicone seal to the existing EIFS.

3.34 Clean-Up

- a. Clean adjacent surfaces as work progresses. Leave finished work in neat, clean condition with no evidence of spills onto adjacent surfaces.