PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes fluid applied, water-based, breathable, silicone one-component elastomer waterproofing for above-grade application to cast concrete surfaces.

B. Related sections:
1. Division 1 Section “Sustainable Design Requirements”.
2. Division 3 Section “Cast-in-Place Concrete” Concrete walls to receive waterproofing.

1.3 QUALITY ASSURANCE

A. The work of this section shall be performed by a company which specializes in the type of silicone water repellent work required for this Project, with a minimum of 5 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary crafts.
1. Work shall be performed in compliance with Owner's insurance underwriters' requirements and UL approvals and testing for materials, assemblies and procedures.

B. Manufacturer shall specialize in manufacturing the type of silicone water repellent specified in this section, with a minimum of 5 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.

C. Manufacturer’s identification tags or marks are not acceptable on surfaces which will remain exposed to view after installation.
1. Evidence of “patching” after removal of tags or marks is not acceptable.

1.4 ACTION SUBMITTALS

A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.

B. Provide in accordance with Division 1 Section “Submittal Procedures”:
1. Product data for silicone waterproofing, primer, and accessories. Include material safety data sheets (MSDSs) and certifications showing compliance with specified standards.
2. Manufacturer’s color chart for selections by Architect.
3. Manufacturer’s instructions for installation and maintenance.
4. Copy of warranty for review by Architect.

C. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.

D. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with General Conditions and Division 1 Section “Product Requirements”.

B. Deliver products in manufacturer’s original containers clearly labeled with product identification, date of manufacture, and shelf life.

C. Store materials in clean, cool, dry area at temperatures between 34 and 90 degrees F.

D. Do not use water repellent and primer after manufacturer’s stated shelf life.

1.6 PROJECT CONDITIONS

A. Do not install water repellent during inclement weather, strong winds, or when such conditions are expected. Allow wet surfaces to dry.

B. Do not apply when temperature is expected to fall below [**40 degrees F**] [**5 degrees C**] or humidity is expected to exceed 90 percent within next 24 hours.

1.7 WARRANTY

A. Comply with General Conditions and Division 1 Section “Product Requirements”.

B. Provide under provisions of Division 1 Section “Closeout Submittals”:
1. Manufacturer’s 10-year material warranty to cover water penetration for properly applied water repellent.

1.8 FIELD SAMPLE

A. In accordance with Division 1 Section “Quality Requirements”, apply silicone elastomeric coating to substrate of location to demonstrate performance and appearance.
1. Minimum size: 6 by 6 feet.
2. After 7 days, test sample for water penetration, according to ASTM E1105.
3. Accepted sample may remain as part of work and will be used as basis for acceptance of remaining sealant work. Unacceptable samples shall be removed.

B. Do not proceed with application of water repellent until test panel has been successfully tested and approved.

1.9 PRE-INSTALLATION CONFERENCE

A. In accordance with Division 1 Section “Project Management and Coordination”, convene a pre-installation conference at the site prior to applying water repellent.

B. Require attendance of entities directly concerned with exterior wall substrate and waterproofing.

C. Review:
1. Schedule for applying waterproofing.
2. Environmental regulations.
3. Substrate preparation and application of primer.
4. Protection of surrounding surfaces.
5. Approved mock-up to be used as a measure of acceptance.
6. Weather conditions forecast.
7. Other items related to successful execution of work.

PART 2 PRODUCTS

2.1 UNAUTHORIZED MATERIALS

A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

2.2 ACCEPTABLE MANUFACTURERS

A. Products of the manufacturers specified in this section establish the minimum functional, aesthetic and quality standards required for work of this section.

B. Basis of Design Manufacturer:
1. Use product specified by Dow Corning, or a similar product by one of the following:
   a. General Electric.
   b. BASF.

C. Substitutions: Comply with General Conditions using form in Division 1 Section “Substitution Request Form”.

2.3 SILICONE ELASTOMERIC COATING

A. Type: One-component, liquid, water-based, breathable, colored, silicone one-component elastomer waterproofing for above-grade to exterior cast-in-place concrete and concrete masonry unit walls and surfaces; *Dow Corning*® AllGuard Silicone Elastomeric Coating, as manufactured by Dow Corning Corporation.

B. Composition: Non-Pigmented, water-based, silicone elastomer.

C. Shelf life: 12 months.

D. Solids content: 58.6 percent by weight, tested in Accordance with ASTM D2369.

E. Viscosity: 60,000 cps, tested in accordance with D2196.

F. High-temperature stability with no change in viscosity: 28 days minimum, tested in accordance D1849.

G. Volatile organic compound (VOC) content: 55 grams/liter.

H. Cured properties after:
1. Hardness: 38-durometer hardness, Shore A, tested in accordance with ASTM D2240.
2. Tensile strength: 145 psi, tested in accordance with ASTM D412.
3. Elongation: 600 percent, tested in accordance with ASTM D412.
4. Permeance: 43.2 perms, tested in accordance with ASTM D1653.
5. Room temperature flexibility: Passes 1/8-inch mandrel test, in accordance with ASTM D1737.
6. Low temperature flexibility: Passes 1/4-inch mandrel test, in accordance with ASTM D1737.
7. Fungus resistance: Passes testing, in accordance with ASTM D3274.
8. Mold resistance: Passes testing, in accordance with ASTM D3273.

2.4 PRIMER

A. Substrate primer: Water-based silicone primer designed to promote adhesion of silicone elastomeric coating; *Dow Corning*® AllGuard Primer, as manufactured by Dow Corning Corporation or GE SilShield SEC 2400 silicone architectural coating as manufactured by General Electric.
1. Solids by weight: 20 percent.
2. Color: Milky white liquid appearance, which is transparent when cured but darkens substrate, and if not coated with water repellent, will develop yellow tint and haze.
3. Volatile organic compound (VOC) content: 30 grams per liter.
4. Shelf life: 18 months.

PART 3 EXECUTION

3.1 GENERAL

A. Prepare substrates and apply silicone sealant to surfaces indicated on drawings in accordance with manufacturer's instructions.

B. Handle, store, and apply materials in compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), volatile organic compound (VOC), and other regulations and manufacturer's material safety data sheets (MSDSs).

C. Do not apply silicone elastomeric coating to:
1. Below-grade applications.
2. Metal, wood, plastic, asphaltic materials, and tar-contaminated masonry.

3.2 PREPARATION

A. Inspect substrates to receive silicone sealant. Ensure surfaces are clean, dry, and free of frost, dust, dirt, grease, oil, curing compounds, form release agents, laitance, efflorescence, mildew, and other foreign material.

B. Clean substrates as required to remove contaminates and foreign material by pressure cleaning, wire brushing, grinding or other method recommended by manufacturer.

C. Repair deteriorated or damaged substrates, repair masonry joints, and fill cracks, voids, honeycomb, and other defects using materials as recommended by manufacturer. Allow patching materials to cure.

D. Protect adjacent surfaces not designated to receive water repellent. Provide protection for pedestrians, vehicles, landscaping, and surrounding areas to prevent contact with repellent materials.

E. Field adhesion test: Prior application of repellent, test each application condition to determine if primer is required to satisfactorily adhere repellent to substrate.

F. Primer: Apply primer to substrates determined by field adhesion test.
1. Use nap roller, nylon bristle brush, or airless sprayer.
2. Application rate: 300 square feet per gallon.
3. Allow to dry 30 to 120 minutes so surface is dry to touch.

3.3 APPLICATION

A. Apply water repellent as recommended by repellent manufacturer. Do not dilute.

B. Use nap roller, nylon bristle brush, or airless sprayer.

C. Apply from top to bottom. Work down vertical surface and cover rundown in process. Avoid excessive overlapping.

D. Inspect application. Verify that results compare with approved field sample Ensure substrates are adequately protected from water penetration.

E. Remove temporary coverings and protection. Clean and repair adjacent surfaces damaged by water repellent application.

3.4 SCHEDULE OF LOCATIONS

A. Exterior concrete walls at Penthouse.

B. Where indicated on drawings.

END OF SECTION