DOWSIL™ AllGuard Silicone Elastomeric Coating
Guide Specification (Full Length Version)

DOWSIL™ AllGuard Silicone Elastomeric Coating is a fluid applied, water-based, breathable, silicone one-component elastomeric protective coating for above-grade application to cast concrete, precast concrete, clay brick masonry, concrete unit masonry, synthetic stucco, exterior insulation and finish systems (EIFS), cement plaster (stucco), and other exterior surfaces. DOWSIL™ AllGuard Coating is available in 55 standard colors and a wide variety of custom colors. It requires no primer on many substrates and cures to form a flexible membrane that can handle the normal movements of seasonal thermal expansion-contraction, even on EIFS panels. Used in renovation projects when urethane and acrylic coatings, paints and penetrants have failed, it is also ideal for new construction projects. DOWSIL™ AllGuard Silicone Elastomeric Coating is available with a 10-year limited weathersealing warranty. For additional information, contact your Dow representative.

Dow provides a broad range of high-performance silicone sealants, preformed silicone seals, primers, and water-repellent silicone elastomeric coatings for the construction industry for both new and renovation projects.

To support the growing demand for innovative, high-performance and sustainable structures, Dow is continuously strengthening its suite of construction solutions and services for building professionals. Silicon-based sealants, coatings, water repellents and concrete admixtures by Dow are designed to protect, strengthen, and preserve building materials in new construction and renovation projects. For example, silicone construction sealants have a life expectancy that is typically three times longer than organic sealants used in the same applications. They waterproof, remain flexible, and resist the effects of ultraviolet (UV) light and common temperature extremes.

Dow provides industry professionals with product information, technical expertise, design tools and other resources to create total building system solutions, based on decades of construction industry expertise, technical service, support resources, and customized construction services. Dow offers:

- Information regarding using silicone to achieve LEED® credits
- Downloadable product selection guides and data sheets
- Application and technology development education
- Evaluations to ensure proposed applications meet Dow standards for warrantable performance
- AIA Continuing Education programs

Working with leading architects and contractors, Dow has contributed to innovative designs such as the Solano County Government Center in Fairfield, CA. Solano County's first LEED-certified building. The building incorporates significant sustainable design/build elements, including extensive use of solar electricity and an award-winning co-generation plant. Silicone sealants by Dow complement its energy-efficient technologies with contributions to its weatherproofing and life-cycle.

Dow provides performance-enhancing solutions to serve the diverse needs of more than 25,000 customers worldwide. A global leader in silicones, silicon-based technology and innovation, Dow offers more than 7,000 products and services via the company's DOWSIL™ and XIAMETER™ (xiameter.com) brands. More than half of Dow Consumer Solutions' annual sales are outside the United States.

We recommend you consult with your Dow construction technical representative, who can be contacted through:
The Dow Chemical Company, Midland MI; (877) SEALANT ((877) 732-5268); email: construction@dow.com;
dow.com/construction/.

Products from Dow appear in the following CSI Master Format specifications sections:

- Section 07 01 91 Joint Sealant Rehabilitation and Replacement
- Section 07 92 00 Joint Sealants
- Section 08 85 00 Glazing Sealants
- Section 09 96 53 Silicone Elastomeric Coatings
- Section 32 13 73 Concrete Paving Joint Sealants

Specifier: Below is alternate available Master Format classification.

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes substrate preparation and application of silicone elastomeric coatings to the following exterior substrates:

Specifier: Edit list below to correspond to project requirements.

1. Concrete.
2. Concrete unit masonry.
3. Brick masonry
4. Stucco
5. Exterior insulation finish system (EIFS).

B. Related Sections:

Specifier: If retaining optional Related Sections paragraph, edit below to correspond to Project sections.

1. Section 07 92 00 "Joint Sealants" for elastomeric joint sealants applied in conjunction with work of this section.
2. Section 09 91 13 "Exterior Painting" for special use paint and general field painting other than elastomeric coatings.
3. Section 09 96 00 "High Performance Coatings" for special use coatings and general field painting other than elastomeric coatings.

1.2 REFERENCE STANDARDS

Specifier: If retaining this optional References Article, edit to include only those references included in edited section.

A. ASTM International (ASTM): www.astm.org :

1. ASTM D 412 - Standard Test Method for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.
2. ASTM D 522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
3. ASTM D 711 - Standard Test Method for No-Pick-Up Time of Traffic Paint.
4. ASTM D 1653 - Standard Test Method for Water Vapor Transmission of Organic Coatings.
5. ASTM D 1737 - Method of Test for Elongation of Attached Organic Coatings with Cylindrical Mandrel Apparatus.
6. ASTM D 2240 - Rubber Property Durometer Hardness.
7. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
8. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
9. ASTM D 3274 - Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth of Soil and Dirt.

B. Federal Government Publications: www.epa.gov/nscep/

1. 40 CFR 59, Subpart D-200 - National Volatile Organic Compound Emission Standards for Architectural Coatings.

C. Sealant, Waterproofing, and Restoration Institute (SWRI): www.swrionline.org

1. SWRI Validation Program.

D. U. S. Environmental Protection Agency (EPA): www.epa.gov

1. *40 CFR 59, Subpart D: National Volatile Organic Compound Emission Standards for Architectural Coatings.*

E. US Green Building Council (USGBC): www.usgbc.org

1. *Leadership in Energy and Environmental Design (LEED) Green Building Rating System*.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For specified products, including:

1. Preparation instructions and recommendations.
2. Recommended primers and accessories.

B. Samples for initial selection.

C. Samples for Verification: For each elastomeric coating indicated, for each color and texture required. Submit on step-coated sample cards with each coat labeled.

D. Product Schedule: For each product, color, and finish indicated. Provide cross reference to application areas, utilizing designations indicated on Drawings and in specifications.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified applicator.

B. Preconstruction compatibility and adhesion test reports.

C. Manufacturer's instructions for installation and field quality control testing.

D. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each coating specified to be validated by SWRI's Coating Validation Program.

E. Field quality control adhesion test reports.

F. Warranty: Sample of special warranty.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials packaged for storage in unopened containers labeled with product name, color and texture information, and local source contact information.

1. Provide [one] gallon of each type of product.

1.7 QUALITY ASSURANCE

Specifier: Retain paragraph below when applicable to products specified in Part 2. Approved extrusion coating applicator may be able to provide enhanced warranties listed in Warranty Article below.

A. Applicator Qualifications: Employer of experienced applicators equipped and trained for application of elastomeric coatings required for this Project with record of successful completion of projects of similar scope.

B. Single Source Responsibility: Provide elastomeric coatings and related silicone joint sealants by a single manufacturer through a single source.

C. Mockups: Provide mockup of each coating system, color, and texture selected for approval by [Architect] [Owner]. Locate as indicated or as directed. Final approval of color and texture selections will be based upon mockups. Approved mockups may remain as part of finished work.

1.8 PROJECT CONDITIONS

A. Do not install elastomeric coatings during inclement weather or when such conditions are expected. Allow wet surfaces to dry.

B. Do not install elastomeric coatings when temperature is above 100 deg F (38 deg C) or below 20 deg F (-6 deg C).

1.9 WARRANTY

Specifier: Dow will furnish up to 10 year project-specific material warranty for commercial applications of DOWSIL™ AllGuard Silicone Elastomeric Coating when properly applied by an experienced applicator in accordance with Dow's written instructions.

A. Special Warranty, General: Manufacturer's standard project-specific form in which manufacturer agrees to repair or replace elastomeric coating that demonstrates deterioration or failure within warranty period specified due to material failure under normal use. Failure include water penetration through coating.

1. Warranty Period: [Ten] years from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURER

Specifier: Retain option for substitutions below when required for Project.

A. Basis-of-Design Product: Provide elastomeric coatings manufactured by Dow Chemical Company., Midland MI; (877) SEALANT, (877) 732-5268; email: construction@dow.com; website: dow.com/construction , [or comparable products of other manufacturer approved by [Architect] [Owner] in accordance with Instructions to Bidders and Division 01 General Requirements].

2.2 EXTERIOR FLAT WATERBORNE, PIGMENTED SILICONE ELASTOMERIC COATINGS

Specifier: **DOWSIL™ AllGuard Silicone Elastomeric Coating** fluid applied, water-based, breathable, silicone one-component elastomeric waterproofing for above-grade application to cast concrete, precast concrete, clay brick masonry, concrete unit masonry, synthetic stucco, exterior insulation and finish systems (EIFS), cement plaster (stucco), and other exterior surfaces.

A. Silicone Elastomeric Coating: Single-component, fluid-applied, water-based, pigmented silicone elastomer.

1. Basis of Design Product: **DOWSIL™ AllGuard Silicone Elastomeric Coating**.
2. Color: [As selected by Architect from manufacturer's full line] [Match Architect's custom color] for number of colors indicated.
3. Surface Profile: [Smooth surface] [Fine textured].
4. Volatile Organic Compound (VOC) Content: 4 g/L maximum.

Specifier: Below are detailed product data describing properties of **DOWSIL™ AllGuard Silicone Elastomeric Coating**. If required, retain selected characteristics from the following and modify for minimum acceptable criteria:

5. Moisture-Vapor Transmission, ASTM D 1653: 43 perms, minimum.
6. Hardness, ASTM D 2240: 38 durometer Shore A.
7. Tensile Strength, ASTM D 412: 145 lbf/sq. in. (1.0 MPa), minimum.
8. Elongation, ASTM D 412: 600 percent, minimum.
9. Room Temperature Flexibility, ASTM D 522: 1/8 inch mandrel test; pass.
10. Low Temperature Flexibility, ASTM D 711: 1/4 inch mandrel test; pass.
11. Fungus Resistance, ASTM D 3274: No growth.
12. Mold Resistance, ASTM D 3273: No growth.
13. Solids Content, ASTM D 2369: Not less than 55 percent by weight.

2.3 ACCESSORY MATERIALS

A. General: VOC content of primers and fillers, 107 g/L or less.

B. Crack Fillers: Elastomeric coating manufacturer's recommended, factory-formulated crack fillers or sealants compatible with substrate and other materials.

Specifier: Typically retain one or both paragraphs below based upon Project requirements. Requirement for primer will be determined based upon on-site testing of substrate. Block filler is typically required for concrete masonry units.

C. Primer: Elastomeric coating manufacturer's recommended, factory-formulated, alkali-resistant primer compatible with substrate and other materials indicated.

D. Concrete Unit Masonry Block Filler: factory-formulated, high-performance latex block filler compatible with substrate and other materials indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates to determine if work is ready to receive elastomeric coatings. Verity that surfaces are clean, dry, and free of frost, dust, dirt, grease, oil, curing compounds, form release agents, laitance, efflorescence, mildew, excess alkalinity, and other conditions affecting performance of work.

1. Verify that new concrete and mortar to receive coating application has cured adequately in accordance with substrate and coating manufacturer's instructions.

DOWSIL™ AllGuard Silicone Elastomeric Coating was developed to obtain good adhesion without primer. Depending on substrate, primer may be required to promote adhesion. Testing should be conducted to determine if primer is required. Field adhesion test is required for manufacturer’s water repellent warranty.

B. Preinstallation Testing: Prior to application of elastomeric coatings, perform the following tests to verify condition of substrate in accordance with manufacturer’s instructions:

1. Adhesion: Perform substrate field adhesion tests on each substrate to determine if primer is required to satisfactorily adhere elastomeric coatings to substrates.
2. Alkalinity: Verify substrate is within alkalinity range acceptable to manufacturer.
3. Moisture Level: Verify substrate moisture content is acceptable to manufacturer.

C. Proceed with coating work once conditions meet elastomeric coating manufacturer's recommendations.

3.2 PREPARATION

A. General: Comply with elastomeric coating manufacturer's written instructions for preparation of substrates.

B. Hardware Removal: Remove hardware, accessories, plates, fixtures, and similar items that are not to be coated. If removal is not practical, provide protection for installed items prior to cleaning and preparation activities.

C. Cleaning: Clean substrates to remove contaminates and foreign material by pressure cleaning, wire brushing, grinding or other method recommended by elastomeric coatings manufacturer.

D. Substrate Repair: 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.

E. Protection: Protect adjacent surfaces not designated to receive coatings. Provide protection for pedestrians, vehicles, landscaping, and surrounding areas to prevent contact with coating materials.

3.3 APPLICATION

A. Primer: Apply primer to substrates where required based upon preinstallation testing and elastomeric coating manufacturer's recommendations, using application methods and rate of application recommended by manufacturer. Allow to dry prior to application of elastomeric coating.

1. Apply block filler as primer on concrete masonry unit substrates where required to fill pores and provide smooth, continuous water-resistant finish coat(s).

B. Elastomeric Coating: Apply elastomeric coating using application methods and rate of application recommended by manufacturer. Apply using nap roller, nylon brush, or airless sprayer, as allowed by authorities having jurisdiction.

1. Apply elastomeric coating from top to bottom of substrate. Work down vertical surface and cover rundown in process. Avoid excessive overlapping.
2. Apply coating free of cloudiness, spotting, laps, brush marks, roller tracks, and other surface imperfections. Cut in color breaks and terminations with sharp lines.
3. Apply additional coats as required to provide cured film with uniform finish, color, and appearance.
4. Provide a minimum of two coats of not less than 20 mil total wet film thickness (10 mil wet film thickness per coat) to provide finished dry film thickness of not less than 10 mils.

C. Cleaning: Remove overspray and excess material using materials and methods approved by manufacturer that will not damage adjacent materials.

D. Curing and Protection: Allow coatings to cure before exposure to traffic. Use test specimens formed at time of coating application to verify curing time. Prevent damage to coatings resulting from construction operations or other causes. Replace damaged coatings at time of Substantial Completion.

3.4 FIELD QUALITY CONTROL

A. Owner may retain testing agency to perform the following tests:

1. Verification that substrate preparation meets requirements.
2. Testing and certification that coating materials comply with requirements.
3. Testing of application for compliance with adhesion and film thickness requirements.

B. If testing indicates products or work do not meet requirements, Owner may stop work and require Contractor to remove non-complying materials and materials applied over non-complying substrates, and correct application.

3.5 CLEANING AND PROTECTION

A. Protect work of other trades against damage from application of elastomeric coatings.
B. Remove rubbish and discarded materials from Project site daily. Clean overspray from adjacent surfaces as work progresses, using methods recommended by manufacturer.

C. Remove temporary coverings and protection upon completion. Clean and repair adjacent surfaces damaged by water repellent application.
D. Prior to substantial completion, touch up and restore damaged or defaced coated surface

END OF SECTION