



Building with conscience.

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**80222 StoColor® Silcolastic
Silicone Enhanced Acrylic-Based Elastomeric
Vertical Above-Grade Exterior Wall Coating
for New Concrete, Stucco, and Masonry Construction**

**Section 099723
CONCRETE AND MASONRY COATINGS**

This guide specification covers installation of a coating and primer over new wall construction. It does not address air sealing, construction detailing, flashing and other important aspects of design and construction that must be taken into consideration to prevent water infiltration, to prevent condensation caused by air leakage or water vapor diffusion, and to comply with applicable fire safety requirements. Consult with a qualified design professional for overall design of the wall assembly and any remedial measures that may be necessary, including those needed to comply with the applicable building code.

For purposes of this specification, primer is optional depending on the condition of wall surfaces. Primer is generally necessary for high pH surfaces, or highly weathered and absorbent surfaces, and to enhance adhesion, durability, and aesthetics. Primer products are included in this specification for consideration by the design professional based on substrate conditions. Whether or not a primer is necessary should be based on mock-up construction and field adhesion tests.

Notes in italics, such as this one, are explanatory and intended to guide the design/construction professional and user in the proper selection and use of materials. This guide specification should be modified as necessary to accommodate individual project conditions.

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PART 1 GENERAL

1.1 SUMMARY

- A. Provide acrylic-based primer and silicone enhanced acrylic elastomeric finish coating for vertical, above-grade, new, uncoated concrete, stucco, and masonry walls.
- B. Related Sections: Other specification sections which relate directly to the work of this section include the following:
 - 1. Section 03 30 00, Cast-In-Place Concrete.
 - 2. Section 03 40 00, Precast Concrete
 - 3. Section 04 22 00, Concrete Unit Masonry
 - 4. Section 09 24 00, Portland Cement Plastering

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

1.3 REFERENCES

- A. ASTM International (ASTM)
 - ASTM B117 Salt Spray
 - ASTM D1653 Water Vapor Permeability
 - ASTM D2370 Tensile Strength and Elongation
 - ASTM D2697 Percent Solids
 - ASTM D3273 Mold Resistance
 - ASTM D4541 Field Adhesion Tests
 - ASTM D522 Mandrel Bend Flexibility
 - ASTM D6904 Resistance to Wind Driven Rain
 - ASTM D7234 Adhesion
 - ASTM E2485 Freeze/Thaw
 - ASTM E84 Flame Spread and Smoke Developed
 - ASTM G154 Accelerated Weathering
- B. South Coast Air Quality Management District (SCQAMD)
Rule 1113 VOC
- C. U.S. Environmental Protection Agency (USEPA)
EPA Method 24 VOC

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least thirty-five years of experience in manufacturing specialty coatings and regularly engaged in the manufacture and marketing of products specified

herein. The manufacturer shall have an ISO 9001 certified quality system and ISO 14001 certified environmental management system.

- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience. Contractor shall have at least 5 years experience in commercial coating application and shall have completed at least 3 projects of similar size and complexity. Contractor shall provide proof before commencement of work that he/she will maintain and supervise a qualified crew of applicators through the duration of the work. When requested Contractor shall provide a list of the last three comparable jobs including the name, location, and start and finish dates for the work.
- C. Mock-ups: The contractor shall install a mock-up using proposed application means and methods to a wall area of at least 25 sq. ft. (2.32 sq.m.) for evaluation and approval by the design professional, building owner, or owner's representative/quality assurance agent. Mock-up shall be sufficient size to adequately demonstrate proposed application means and methods.
- D. Field Quality Control Tests
 - 1. Conduct tests in accordance with ASTM D4541 on mock-up to verify adhesion of installed primer and top coat to prepared substrate. Test at least 3 areas and report results to design professional, building owner, or owner's representative/quality assurance agent.
 - 2. Conduct tests during coating installation as directed by design professional, building owner, or owner's representative/quality assurance agent to verify adhesion throughout the course of the installation.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number, and shelf life.
- B. Store products in a dry area with temperature maintained between 50 and 85 degrees F (10 and 29 degrees C). Protect from direct sunlight. Protect from freezing. Protect from extreme heat (>90 degrees F [32 degrees C]).
- C. Handle products in accordance with manufacturer's printed instructions.

1.6 WARRANTY

- A. Provide manufacturer's standard limited warranty.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Concrete and stucco substrate primer
 - 1. 80805 StoPrime Hot: Acrylic-based, tinted, high-pH compatible primer/sealer
- B. Concrete masonry substrate primer
 - 1. 81520 StoPrime Block Surfacer HP: Acrylic-based based concrete masonry primer/high build filler.
- C. Finish Coating
 - 1. 80222 StoColor Silcolastic: Single component silicone enhanced acrylic, tinted, elastomeric coating

2. Finish coating shall meet or exceed the following test results when tested by an independent laboratory:

REPORT	TEST METHOD	TEST CRITERIA	TEST RESULT*
Salt Spray	ASTM B117	300 hours	No deleterious effects at 1000 hours
Tensile Strength psi (MPa)	ASTM D2370	Measure	67 (0.46)
Elongation and Recovery	ASTM D2370	2 coats at 14 mils WFT ea.	205%
Flexibility, Mandrel Bend	ASTM D522	at 120°F (49°C) at -14°F (-26°C)	No cracking No cracking
Mold Resistance	ASTM D3273	28-day exposure	Rating=10, No growth at 90 days
Adhesion to Concrete psi (MPa)	ASTM D7234	> 50 (0.34)	261 (1.80)
Resistance to Wind Driven Rain	ASTM D6904	No visible water leaks after 24-hour water spray with 98 mph (158 km/h) equivalent wind speed	No visible water leaks when applied in 2 coats (0.02 lbs. gain)
Surface Burning	ASTM E84	Flame Spread: ≤ 25 Smoke Develop: ≤ 450	FS: 0 SD: 0
Water Vapor Permeability Perms (ng/Pa·s·m ²)	ASTM D1653 Wet-cup method	2 coats at 14 WFT each	12 perms (686)
Freeze Thaw Resistance	ASTM E2485	60 cycles	Pass, no deleterious effects at 90 cycles when viewed under 5X magnification
Accelerated Weathering	ASTM G154	2000 hours	No deleterious effects at 5000 hours
% Solids by Volume	ASTM D2697	NA	56%
VOC (g/L)	This product complies with US EPA (40 CFR 59) and South Coast AQMD (Rule 1113) VOC emission standards for architectural coatings. VOC less than 50 g/L.		

* Results are based on lab testing under controlled conditions. Results can vary between labs or from field tests.

PART 3 EXECUTION

3.1 INSTALLATION

A. Surface Preparation

1. All surfaces must be structurally sound, clean, dry, and free of frost and surface contamination such as dust, dirt, salts, grease, oils, efflorescence, mold, algae, mildew, or any other condition that may affect adhesion. Use appropriate repair methods for the substrate to repair pitting, spalls, cracks, peeling, blistering, delamination, weak surface conditions such as laitance, water damage, or other defects that may exist.
2. If pressure washing, follow necessary safety precautions and adjust pressure to avoid damage to the underlying substrate. For mold, algae, and mildew removal, treat surfaces with a commercial mildew removal and/or wash product, carefully following manufacturer's application and safety directions for use and handling, including any special requirements when used in preparation for application of paints and coatings.

3. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing, handling, and installation of materials.
- B. Mixing
1. Mix Sto products in accordance with published literature for the product. Mix for approximately 3 minutes using a slow-speed drill and paddle to a uniform consistency. Avoid entrapping air in the liquid during mixing.
- C. Application
1. Primer: Apply uniformly with brush, roller, or proper spray equipment to prepared substrate in accordance with written instructions presented on the Sto Product Bulletin for the primer product being used.
 2. Apply two uniform coats of 80222 StoColor Silcolastic, 12-14 wet mils, per coat, by brush, roller or with proper spray equipment to prepared primed surface. Allow first coat to dry completely before applying second coat. Final thickness of StoColor Silcolastic shall be 6.7-7.8 dry mils, per coat.
- D. Protection
1. Provide protection of installed materials from water infiltration into or behind them.
 2. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
 3. Provide coping and/or flashing at sills, projecting features, deck attachments, roof/wall intersections, parapets and similar construction details to prevent water entry into wall assembly or into and behind the finish system. Seal penetrations through the finished wall surface with backer rod and sealant or other appropriate means to provide a watertight condition.

END OF SECTION

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