



Building with conscience.

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**80217 StoColor® Lotusan
Acrylic-Based, Vertical Above-Grade Exterior Wall Coating
with Lotus-Effect® Technology for
New Concrete, Stucco, and Masonry Construction**

Section 099723
CONCRETE AND MASONRY COATINGS

This guide specification covers installation of a coating and primer over building code compliant 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.

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 specification should be modified where necessary to accommodate individual project conditions.

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PART 1 GENERAL

1.1 SUMMARY

- A. Provide acrylic-based primer and super-hydrophobic 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 033000, Cast-In-Place Concrete.
 - 2. Section 034000, Precast Concrete
 - 3. Section 042200, Concrete Unit Masonry
 - 4. Section 072400, Exterior Insulation and Finish Systems
 - 5. Section 092400, 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 D4541 Field Adhesion Tests
 - ASTM D6904 Resistance to Wind-driven Rain
 - ASTM D7234 Adhesion
 - ASTM E2485 Freeze/Thaw
 - ASTM G154 Accelerated Weathering
- B. South Coast Air Quality Management District (SCAQMD)
Rule 1113
- 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 9001:2015 certified quality system and ISO 14001:2015 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 100 sq. ft. (9.29 sq.m.) for evaluation and approval by the design professional, building owner, or owner's representative/quality assurance agent.
- 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 specimens 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:** Acrylic-based, tinted, high-pH compatible primer/sealer:
 - 1. 80805 StoPrime Hot, as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331.
- B. **Concrete masonry substrate primer:** Acrylic-based based, masonry block-filler/primer. Single component acrylic-based primer, containing acrylic polymer, and fine mineral fillers. Product shall comply with the following):
 - 1. 81520 StoPrime Block Surfacer HP as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331.
- C. **Finish Coating:** Single component acrylic-based coating, containing acrylic polymer, and colored pigments with Lotus-Effect® Technology. Product shall comply with the following:
 - 1. 80217 StoColor Lotusan, as manufactured by Sto Corp.

2. Product 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
Mold Resistance	ASTM 3273	28-day exposure	Pass, Rating =10, No growth at 28 days
Adhesion to Concrete psi (MPa)	ASTM D7234	> 50 (0.344)	265 (1.83)
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 (0.08 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 E96 Wet-cup method	1 coat	40 (2880)
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	Calculation	N/A	47%
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 clean, dry, sound, and free of frost and contamination such as mildew, dirt, grease, oils, salts, efflorescence and any other contamination that may affect adhesion. Use appropriate repair methods for the substrate to repair pitting, spalls, cracks, 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. Rinse thoroughly with clean water and allow a minimum of 24 hours to dry thoroughly before application of coating.

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. Apply primer to prepared substrate in accordance with written instructions presented on the Sto Product Bulletin for the primer product being used.
 2. Apply two coats of StoColor Lotusan at 5-7 wet mils, per coat, by brush, roller, or with proper spray equipment. Apply first coat directly to primed substrate and allow to dry completely before applying second coat. Final thickness of StoColor Lotusan shall be 2.4-3.3 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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