

SPEC NOTE: 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.

PART 1 GENERAL

1.1 SUMMARY

- .1 Provide acrylic-based primer and finish coating for vertical, above-grade, new, uncoated concrete, stucco, and masonry walls.

SPEC NOTE: IMPORTANT: This guide specification is intended for application of a Sto coating 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.

- .2 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

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

1.3 REFERENCES

- .1 ASTM International (ASTM)
 - .1 ASTM B117 Salt Spray
 - .2 ASTM D1308 Alkali Resistance
 - .3 ASTM D1653 Water Vapor Permeability
 - .4 ASTM D2370 Tensile Strength
 - .5 ASTM D2485 Freeze Thaw Resistance
 - .6 ASTM D2697 Percent Solids
 - .7 ASTM D3273 Mould Resistance
 - .8 ASTM D4541 Direct Tensile Bond
 - .9 ASTM D522 Mandrel Bend Flexibility
 - .10 ASTM D6904 Resistance to Wind Driven Rain

**Sto Canada Master Specification
StoColor® Acryl Plus**

July 2020_003
No. CA-80648

**Acrylic-Based, Vertical Above-Grade Exterior
Wall Coating for
New Concrete, Stucco, and Masonry
Construction**

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- .11 ASTM D7234 Adhesion
- .12 ASTM E2485 Freeze/Thaw
- .13 ASTM E84 Flame Spread and Smoke Developed
- .14 ASTM G154 Accelerated Weathering
- .2 South Coast Air Quality Management District (SCAQMD)
 - .1 Rule 1113 - VOC
- .3 European Standards
 - .1 EN 1062-6 CO2 Diffusion Resistance
- .4 National Cooperative Highway Research Program (NCHRP)
 - .1 NCHRP 244 Series 1 - Chloride Ion Penetration

1.4 QUALITY ASSURANCE

- .1 **Manufacturer's Qualifications:** The manufacturer shall be a company with at least forty 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.
- .2 **Installer's Qualifications:** The contractor shall be qualified to perform the work specified by reason of experience. Contractor shall have at least 5 years of 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.
- .3 **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. Mock-up shall be of sufficient size to adequately demonstrate proposed application means and methods.
- .4 **Field Quality Control Tests**
 - .1 Conduct tests in accordance with ASTM D 4541 on mock-up to verify adhesion of installed primer and topcoat 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

- .1 Deliver products in original unopened packaging, labeled with product identification, manufacturer, batch number, and shelf life.

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- .2 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]).
- .3 Handle products in accordance with manufacturer's printed instructions.

1.6 WARRANTY

- .1 Provide manufacturer's standard limited warranty.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Concrete and stucco substrate primer: Acrylic-based, tinted, high-pH compatible primer/sealer:
 - .1 81520 StoPrime Hot, as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331.
- .2 Concrete masonry substrate primer: Acrylic-based based, masonry block-filler/primer. Single component acrylic-based primer, containing acrylic polymer, and fine mineral fillers:
 - .1 81520 StoPrime Block Surfacer HP as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331.
- .3 Finish Coating: Single component acrylic-based coating, containing acrylic polymer, and coloured pigments. Product shall comply with the following:
 - .1 80648 StoColor Acryl Plus, as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331.
 - .2 Testing Requirements: meets or exceed the following test results:

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	2 coats at 10 WFT each	932 (6.42)
Flexibility, Mandrel Bend	ASTM D522	at 70°F (21°C) at -14°F (-26°C)	No cracking No cracking
Mold Resistance	ASTM D3273	28-day exposure	Rating=10, No growth at 90 days
Efflorescence Blocking	ASTM D7072	48 hours in humidity cabinet at 100°F (39°C)	No efflorescence observed
Adhesion to Concrete psi (MPa)	ASTM D7234	> 50 (0.344)	296 (2.04)
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: -2 coats (0.02 lbs. gain) -1 coat over StoPrime Hot (0.04 lbs. gain) -1 coat over StoPrime Block Surfacer HP (0.08 lbs gains)
Surface Burning	ASTM E84	Flame Spread: ≤ 25 Smoke Develop: ≤ 450	FS: 0 SD: 0
Water Vapor Permeability	ASTM D1653** Wet-cup method	Unprimed	2 coats: 20.6 (1178)

Perms (ng/Pa·s·m ²)			
Water Vapor Permeability (w primer) Perms (ng/Pa·s·m ²)	ASTM D1653** Wet-cup method	StoPrime Block Surfacers HP w 1 and 2 topcoats StoPrime Hot w 1 and 2 topcoats	1 topcoat: 22 (1259) 2 topcoats: 20 (1144) 1 topcoat: 16 (915) 2 topcoats: 13 (744)
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
CO ₂ Diffusion Resistance	PR EN 1062-6	Measure 2 coats at 8-10 WFT each	SD = 150 m
Chloride Ion Penetration	NCHRP 244 Series 1	Measure percent change 2 coats at 8-10 WFT each	64% less chloride ion content on average compared to uncoated test specimens
% Solids by Volume	ASTM D2697	N/A	41%
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. **D1653 results are estimates based on E96 wet cup method			

PART 3 EXECUTION

3.1 INSTALLATION

.1 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, 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 mould, algae, and mildew removal, treat surfaces with a compatible 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 or 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.

.2 Mixing

- .1 Mix Sto products in accordance with published literature for the product. Mix for up to 3 minutes using a slow-speed drill and paddle to a uniform consistency. Avoid entrapping air in the liquid during mixing.

.3 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 Acryl Plus at 8--10 wet mils, per coat, by brush, roller, or appropriate spray equipment. Apply first coat directly to primed substrate and allow to dry completely before applying second coat. Final thickness of StoColor Acryl Plus shall be 3.3 – 4.1 dry mils, per coat.
- .4 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 09 91 13

ATTENTION

Sto products are intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. They should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the non-performance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of Sto products or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to Sto products, and to the structure of the building or its components. **STO CORP. DISCLAIMS ALL WARRANTIES EXPRESS OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME.** For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, www.stocorp.com.