

AQUATHON

MASTER GUIDE SPECIFICATION

SECTION 07120

Advanced Acrylic Exterior Elastomeric Wall Waterproofing

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Cast-In-Place Concrete: Section 03300
- B. Precast Concrete: Section 03400
- C. Brick Masonry: Section 04210
- D. Concrete Unit Masonry: Section 04220
- E. Masonry Restoration & Cleaning: Section 04500
- F. Membrane Waterproofing: Section 07110
- G. Sealants: Section 07900
- H. Cement Plaster (Stucco): Section 09180
- I. Special Coatings: Section 09800
- J. Painting: Section 09900

1.02 QUALITY ASSURANCE.

- A. Qualifications of Applicator: Fluid-applied waterproofing shall be applied by a Manufacturer-certified Applicator with basic knowledge of the material and application procedures.
- B. Requirements of Regulatory Agencies: Formulation of the fluid-applied waterproofing shall conform to all local, State and Federal air quality control standards.
- C. Jobsite Mock-Up: After initial samples have been approved, apply primer (as required), block filler (as required) and one or two separate coats (per project requirements) of fluid-applied waterproofing to one side of the mock-up, located on the jobsite. Waterproofing coverage rates shall be as hereinafter specified, unless otherwise recommended by the Manufacturer in writing, to effectively waterproof the surface.
 - 1. Approval by the Architect shall serve as a standard of comparison with respect to color and overall appearance.
 - 2. General application to actual surfaces on the building shall not proceed until jobsite mock-up has been approved in writing by the Architect.

Delete paragraph C for projects not requiring jobsite mock-up.

1.03 SUBMITTALS

- A. Submit Manufacturer's literature, approved Contractor certificate, and samples to the Architect in accordance with requirements specified in General Conditions and Division 1, General Requirements.
- B. Manufacturer's Literature: Manufacturer's literature shall be submitted for review before work is started. Literature shall show material specifications, physical properties (including ASTM test methods utilized), Manufacturer's estimated application rate for each surface to which the waterproofing is to be applied, current application instructions of the Manufacturer, and Material Safety Data Sheets.

- C. Samples: After the initial color selection has been approved, submit two (2) full size concrete masonry units identical to those being used in the work, with block filler and fluid-applied waterproofing applied over entire surface (face side) in two (2) separate applications. The untreated concrete masonry units shall be furnished by the General Contractor. Fluid-applied waterproofing shall be of the type and color that will be used on the actual building. Samples shall be resubmitted as required until approved by the Architect. Approval by the Architect shall serve as a standard of comparison with respect to color and overall appearance.

*Modify above paragraph to meet project requirements with regard to substrate, primer and block filler.
If fluid-applied waterproofing is to be applied over precast concrete, samples shall be a minimum of 12 inches by 12 inches in size.*

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Type of material, batch number, and date of manufacture shall be clearly stated on the labels of each container.
- B. Store materials in an area where temperatures will not be less than 50°F (10°C) or more than 100°F (38°C) and in accordance with OSHA requirements.

1.05 JOB CONDITIONS

- A. Temperatures and relative humidity conditions during time of application shall be per Manufacturer's application instructions. Do not apply material under rainy conditions or within three (3) days after surfaces become wet from rainfall or other moisture. Do not apply when weather is foggy or overcast.
- B. Take precautions to ensure that workmen and work areas are adequately protected from any health hazards resulting from handling, mixing and application of material.
- C. Furnish all scaffolding and the necessary equipment to complete the work. Scaffolding shall comply with all State, Federal and local requirements as to safety.
- D. Provide drop cloths and other forms of protection necessary to protect all adjoining work and surfaces to render them completely free of overspray and splashes. Any surfaces that have been damaged or splattered shall be cleaned, restored, or replaced to the satisfaction of the Architect.

PART 2 - PRODUCTS

2.01 DESCRIPTION

A seamless, fluid-applied acrylic membrane waterproofing system designed for application over concrete, masonry, stucco and other appropriate building exteriors. Approved system shall be UNITED COATINGS' **AQUATHON** Exterior Elastomeric Wall Waterproofing consisting of **AQUATHON** advanced acrylic single-component elastomeric coating, **ACRYLEX 400 PRIMER**, **UNITED CLEANING CONCENTRATE (UCC)** and a quality block filler (as necessary).

2.02 MATERIALS

- A. Biodegradable Cleaner: **UNITED CLEANING CONCENTRATE (UCC)**, water-reducible non-phosphate cleaner as supplied by Coating Manufacturer for use in cleaning wall surfaces prior to coating.
- B. Block Filler: As necessary and/or specified, use a high quality, water-based, sprayable latex filler as supplied by the Certified Applicator for use in filling and sealing porous or textured substrates prior to coating.
- C. Fluid-Applied Waterproofing Membrane: **AQUATHON**, advanced acrylic coating as supplied by the Coatings Manufacturer to provide an elastomeric waterproof membrane over the substrate.
1. Solids by weight shall be a minimum of 68% [ASTM D2369]
 2. Solids by volume shall be a minimum of 55% [ASTM D2697]
 3. Dry time: 1½ hours at 20 wet mils, 75°F, 50% R.H. [ASTM D1640]
 4. Tensile strength: Minimum of 150 psi (±25) @ 75°F [ASTM D412]. Minimum of 400 psi (±25) @ 0°F [ASTM D412]
 5. Elongation: Minimum of 300% (±50) @ 75°F [ASTM D412]. Minimum of 400% (±50) @ 0°F [ASTM D412]
 6. Hardness: Minimum of 60 to 70 Shore A [ASTM D2240]
 7. Permeance: 7.7 perms at 15 mils [ASTM E96]
 8. Flexibility: 180° flex over 1/8" mandrel @ -30°F [Federal Test method #141a-6221]
 9. Temperature limits for service conditions: -30°F to 200°F (-34°C to 93°C)
 10. Materials shall meet performance requirements as specified in paragraph 2.04

2.03 COLORS

Color of the fluid-applied elastomeric waterproofing shall be _____, as selected by the Architect or Owner from Coating Manufacturer's standard colors.

Use above paragraph for standard colors

Color of the fluid-applied elastomeric waterproofing shall be a custom color as selected by the Architect or Owner. Color shall match color chip(s): _____.

Use above paragraph for custom colors

2.04 PERFORMANCE REQUIREMENTS

- A. Resistance to Accelerated Weathering: Treated specimen shall show no deleterious effects, no surface checking, cracking or delamination after 3,000 hours of testing in accordance with ASTM G23 in a QUV weathering cabinet.
- B. Resistance to Natural Sunlight: Test panels shall show no deleterious effects, no surface checking, cracking or delamination after 1 year exposure to concentrated natural sunlight as per ASTM G90.
- C. Resistance to Wind Driven Rain: After 40 hours of continuous testing, treated specimen shall show no apparent moisture penetration through the membrane. Test conducted in a pressurized test chamber producing 5" (12.7 cm) of water pressure, equivalent to 100 mph wind pressure (161 km/hr) as per Federal Specification RRC-555B.
- D. Resistance to Salt Spray: Treated sample shall show no deleterious effects, no surface checking, cracking or delamination following 500 hours of continuous exposure. Testing shall be in accordance with ASTM B117 in a Harshaw Salt Spray Cabinet. Test specimens shall be treated cement asbestos board or equal.
- E. Resistance to Mildew. After 14 days dry samples shall exhibit no fungus growth when tested in accordance with ASTM G21.
- F. Film Breathing Ability: At 15 dry mils coating shall have a perm rating of 7.7 perms, allowing moisture vapor within the building to pass through the coating while preventing penetration of mass water from the exterior.

PART 3 - EXECUTION

3.01 PREPARATION OF SURFACES

- A. All delaminated and/or spalled areas in the concrete, masonry or stucco shall be repaired prior to application of the primer, block filler or elastomeric membrane. Locations of delaminated concrete shall be determined in the field by tapping the concrete with a sounding rod or hammer.
- B. Bare concrete, brick, stucco or masonry shall be structurally sound, clean, dry, fully cured, and free from dust, efflorescence, curing agents or form release agents, scale or other foreign materials.
- C. On new precast or poured-in-place concrete, use a non-staining form release agent that is either easily removed or designed to be compatible with surface coatings.
- D. All cracks larger than hairline shall be considered as "moving" and shall be routed and caulked. Mark all cracks with chalk to provide visibility of the crack during routing. Rout out full length of crack to form a ¼" wide by ¼" deep (6 mm x 6 mm) joint centered on the crack. Thoroughly blow out the joint with compressed air or flush the joint with clean water to remove all grinding dust. Routed surface must be clean, sound and square.
- E. Remove all failed caulking material previously applied over cracks and clean thoroughly.
- F. Apply bondbreaker along entire length at the bottom of all routed joints, taking care to avoid applying bondbreaker to the sides of the joint. Fill the full length and depth of the joint with a high quality acrylic or urethane sealant. Tool the sealant as recommended by the Manufacturer to ensure bonding, consolidation and uniform appearance. The sealant must be completely cured prior to application of the block filler, primer or elastomeric membrane.
- G. On previously painted surfaces, all loosely adhering paint or coating shall be completely removed by scraping, pressure washing, blasting or other mechanical means. Paints that show failure due to alkalis and moisture, which is recognizable by flaking, peeling and white deposits, must be completely removed.
- H. Chalky, oxidized or other contaminated surfaces must be washed with **UNITED CLEANING CONCENTRATE (UCC)** or equal biodegradable cleaner. Apply UCC under low pressure, allow to sit for a minimum of 15 minutes, and thoroughly rinse from the surface with fresh water under high pressure using either airless spray or pressure washing equipment.
- I. Apply a sample application of **AQUATHON** to test for adhesion. If test indicates poor or marginal adhesion, surfaces shall be primed with **Acrylex 400** at the rate of 300 to 400 sq. ft. per gallon (7.3 to 9.7 m²/l), to lock down residual chalkiness.

- J. Prior to application over masonry block or other porous and/or highly textured surfaces, approved acrylic block filler must be utilized to fill the pores and achieve a pinhole-free surface. The amount of block filler required to uniformly fill or surface a given substrate will depend upon the texture and porosity of the surface. Block filler should be applied at a rate sufficient to fill the porosity of the substrate. Typical application rate will be 2 to 2½ gallons per 100 sq. ft. (.8 to 1.0 l/m²). If spray applied, the block filler shall be back-rolled into the surface.

3.02 ELASTOMERIC COATING APPLICATION

- A. All containers shall be thoroughly mixed prior to application in accordance with the Manufacturer's directions using a power mixer capable of mixing the entire container. **Do not thin the material.**
- B. **AQUATHON** may be applied by roller as well as conventional or airless spray equipment. Airless spray and roller are the most effective methods for obtaining uniform film build.
- C. All surfaces must be coated with multi-directional passes to assure positive coverage. Apply subsequent coats in a direction perpendicular to the previous coat after it has dried.
- D. The entire wall surface shall receive **AQUATHON** advanced acrylic elastomer coating applied as follows:
For issuance of a 5-Year Waterproofing Warranty, one or two coats of fluid-applied waterproofing shall be applied at a nominal thickness of 13 dry mils (330 microns) with a minimum thickness of 10 dry mils (254 microns) at any location.

or

For issuance of a 10-year waterproofing warranty, two or three separate coats of fluid-applied waterproofing shall be applied at a nominal thickness of 19 dry mils (483 microns) with a minimum thickness of 15 dry mils (381 microns) at any location.

Use either paragraph 1 or 2 to meet project requirements.

The following estimated coverage rates should be used as a guide in figuring fluid-applied waterproofing material requirements for the appropriate 5 or 10 year warranty:

<u>Substrate</u>	<u>Gallons/100 sq. ft. 5-Year Warranty</u>	<u>Gallons/100 sq. ft. 10-Year Warranty</u>
Concrete (smooth)	1.75 (.7 l/m ²) in 1 or 2 coats	2.6 (1.4 l/m ²) in 2 coats
Concrete Block, Brick	2.4 (1.0 l/m ²) in 2 coats	3.2 (1.3 l/m ²) in 2 coats
Lightweight Pumice Block	3.0 (1.2 l/m ²) in 2 coats	3.8 (1.5 l/m ²) in 2 or 3 coats
Split Face, Stucco or Coarse Textured Surfaces	3.5 (1.4 l/m ²) in 2 or 3 coats	4.4 (1.8 l/m ²) in 3 coats

*Choose appropriate recommended coverage rate as per substrate and warranty requirements.
Allow 15 to 30% more material for structures with grooved design or recessed mortar joints.*

- E. The applicator must periodically check the number of gallons (liters) used and compare to square feet (meters) coated. If adequate material has not been used, adjust and apply additional material to previously coated areas.
- F. When applying dark colors under high heat conditions, avoid application in direct sunlight. Apply **AQUATHON** in thin passes in the morning or late afternoon.
- G. **AQUATHON** shall not be applied; if ambient and/or surface temperatures are below 45°F (7°C); if the relative humidity is in excess of 95%; if there is a threat of rain or freezing temperatures within 4 hours of application; or if the dew point is less than 5°F (3°C) above the surface temperature.

3.04 CLEANUP

- A. Maintain work and work areas in a clean, safe condition at all times during coating installation. Remove excess materials, trash and debris from the jobsite daily.
- B. At the completion of the project, clean area of any spills and containers, and clean up all debris, leaving jobsite in a clean and orderly condition.

3.05 WARRANTY

- A. Upon completion of the coating system, the Coating Manufacturer's Representative, Owner's Representative, Architect and Applicator shall make a final inspection to determine the dry film thickness of the fluid-applied acrylic membrane and to verify that the system meets the Manufacturer's requirements for warranty. The Contractor shall notify all interested parties in advance of said inspection.
- B. As a condition of the project completion and acceptance, deliver to the Owner a copy of the fully executed Warranty from the Coating Manufacturer, as per project specifications.



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