

***AQUAFIN-1K***

***One-Component Cementitious Waterproofing  
AQUAFIN, Inc.***

***GUIDE SPECIFICATION***

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SECTION 071613

POLYMER MODIFIED CEMENT WATERPROOFING

**PART 1 - GENERAL**

1.1 SECTION INCLUDES

- A. Cementitious Waterproof Lining to internal or external concrete, masonry and brick substrates as shown on drawings and as specified in this section.
- B. Related Sections:
  - 1. See section 03300 - Cast-in-Place Concrete

1.2 REFERENCES

- A. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
- B. ASTM C 348 - Standard Test Method for Flexural Strength of Hydraulic Cement Mortars.
- C. ASTM C 321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars.
- D. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.
- E. COE CRD-C 48 - Method of Test for Water Permeability of Concrete; U.S. Army Corps of Engineers or similar.
- F. NSF – ANSI/NSF 61 Drinking Water System Components – Health Effects (for use of waterproofing material on structures holding potable water).

1.3 SUBMITTALS

- A. General:

Submit manufacturer's certification that proposed materials, details and systems as indicated and specified fully comply with manufacturer's details and specifications. If any portion of Contract Documents do not conform to manufacturer's standard recommendations, submit notification of portions of design that are at variance with manufacturer's specifications.
- B. Product Data:
  - 1. Submit manufacturer's descriptive literature and product specifications for each product.
  - 2. Submit laboratory tests or data that validate product compliance with the performance criteria specified.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Company specializing in manufacturing Products specified in this Section with minimum 10 years documented experience.
- B. Installer Qualifications:

1. Acceptable to manufacturer with documented experience on at least 2 projects of similar nature in past 2 years and/or training provided by the product manufacturer.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store off the ground and covered, handle and protect products from moisture in accordance with manufacturer's instructions.
- B. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class and all other qualifying information. Provide Material Safety Data Sheets for each product.
- C. Take necessary precautions to keep products clean, dry and free of damage.

#### 1.6 WARRANTY

- A. Comply with provisions of Section 01780.

#### 1.7 SYSTEM REQUIREMENTS

- A. Coordinate waterproofing/lining work with work of other trades.
- B. Provide materials and accessories in timely manner so as not to delay the Work.

#### 1.8 PROJECT CONDITIONS

- A. Maintain surfaces to be waterproofed/lined and surrounding air temperature at not less than 40°F (5°C) for at least 48 hours before, during and after application of waterproofing.
- B. Do not apply materials to frozen or frost-filled surfaces.
- C. Exercise caution when temperatures exceed 86°F (30°C). It may be necessary to apply waterproofing/lining during times when the sun is not at its strongest (i.e. early morning, evening or night).

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Provide products of AQUAFIN, Inc. 505 Blue Ball Road, #160, Elkton, MD, 21921. Phone (800) 394-1410, or (410) 392-2300, Fax (410) 392-2324; e-mail [info@aquafin.net](mailto:info@aquafin.net).
- B. Requests for substitutions will be considered only if submitted to the architect/engineer in writing and must include substantiation of product performance, 10 days prior to the original bid date.

#### 2.2 MATERIALS

- A. Cementitious, 1-component, polymer enhanced, ready-mixed, efflorescence-free surface waterproofer/liner with hydrophobic properties, that requires just the addition of water, resistant to water and moisture.
  1. Product: AQUAFIN-1K
  2. Color: Gray / White (*choose color*)
  3. Aggregate: Powder
  4. Compressive Strength:(ASTM C-109) 5000 psi (35 MPa) @ 28 days (gray)
  5. Flexural Strength: (ASTM C-348) 725 psi (5 MPa) @ 28 days (gray)

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|----|---------------------------------|---------------------------------------------------------------------------------------------------|
| 6. | Bond/Adhesion: (ASTM C-321)     | 220 psi (1.5 MPa)                                                                                 |
| 7. | Vapor Permeability: (ASTM E-96) | 17 US perms                                                                                       |
| 8. | Microbiological growth:         | Not supported                                                                                     |
| 9. | Potable water: (ANSI/NSF 61)    | Certification for potable water as per NSF 61                                                     |
| 9. | Permeability (CRD C-48-73)      | Withstands 100 psi = 234 ft. 7 bar = 70 m)<br>hydrostatic pressure at 1/10" (2.5 mm)<br>thickness |

B. Water: Clean, clear, non alkaline and free of salts and other harmful elements; potable.

### 2.3 ACCESSORY MATERIALS

- A. Patching Compound: Pre-blended, cementitious repair mortar recommended or approved by waterproofing manufacturer for patching, honeycombs, seal strips (coves, reglets), etc.
- |    |                                    |                               |
|----|------------------------------------|-------------------------------|
| 1. | Product:                           | AQUAFIN MORTAR-LN             |
| 2. | Color:                             | Gray                          |
| 3. | Aggregate:                         | Powder                        |
| 4. | Compressive Strength: (ASTM C-109) | 6000 psi (41.3 MPa) @ 28 days |
| 5. | Flexural Strength: (ASTM C-348)    | 1160 psi (8.0 MPa) @ 28 days  |

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and adjoining construction, and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.
- B. Verify the following substrate conditions before application of waterproof lining:
1. That substrate condition is satisfactory and in accordance with manufacturer's instructions.
  2. That concrete surfaces have open pores and wood float finish on horizontal surfaces.
  3. That concrete surfaces are free of voids, spalled areas, loose aggregate and sharp protrusions, and with no coarse aggregate visible.
  4. That curing compounds or surface hardeners incompatible with waterproof lining have not been used on concrete.

### 3.2 PREPARATION

- A. Protect adjacent surfaces not designated to receive waterproof lining.
- B. Substrate preparation:
1. Remove remaining concrete fins and projections, and general surface dirt.
  2. Remove grease, oil and other contaminants. Use high-pressure water blasting, wet or dry sand blasting, or other methods recommended by waterproofing manufacturer to produce surfaces suitable for application of waterproofing.
  3. Follow manufacturer's instructions to clean and prepare surfaces.
  4. Repair cracks, honeycombs, unsound concrete and weak mortar joints.
  5. Roughen form tie holes.
- C. Rinse surfaces to be lined/waterproofed several times so that the concrete is thoroughly saturated. Surfaces shall be moist but not wet when waterproofing system is applied. Remove any surface water on horizontal surfaces.

### 3.3 INSTALLATION

- A. Mix waterproof lining material in proportions recommended by manufacturer.

- B. Apply waterproof lining material in quantities as per manufacturer's specifications and recommendations.
- C. Cavity Fill:
  - 1. At cleaned and prepared faulty construction joints, cracks, form tie, nail and bug holes, fill voids with patching compound in mortar consistency flush to surface. Leave rough surface finish for subsequent waterproofing material to bond.
- D. Floor/wall and corner joints:
  - 1. Install (rounded) coves 2" x 2" (5 cm x 5 cm) with patching compound in mortar consistency. Leave rough surface finish for subsequent waterproof lining material to bond.
- E. Horizontal and vertical surfaces - Damp proofing:
  - 1. Apply 1st coat of waterproof lining material at 40 mils (1.0 mm) thickness (145 SF/50 lb (13.6 m<sup>2</sup>/22.7 kg) bag). Apply by masonry brush, steel trowel or appropriate compressed-air spray equipment. Back-trowel application to uniform thickness if applied with spray equipment.
  - 2. Apply 2nd coat of waterproof lining material at 20 mils (0.5 mm) thickness (295 SF/50 lb (27.3 m<sup>2</sup>/22.7 kg) bag) after 1st coat has sufficiently hardened (approximately 2 to 4 hrs) to total 60 mils = 1/16" (1.5 mm) wet film thickness. Apply by masonry brush, steel trowel or appropriate air spray equipment. Surface finish shall be troweled smooth, or dense, glazed appearance if sprayed, showing little indentations from air pressure (orange skin).
- F. Horizontal and vertical surfaces – Waterproofing (subject to hydrostatic pressure):
  - 1. Apply 1st coat of waterproof lining material at 50 mils (1.25 mm) thickness (120 SF/50 lb (11.2 m<sup>2</sup>/22.7 kg) bag). Apply by steel trowel or appropriate compressed-air spray equipment. Back-trowel application to uniform thickness if applied with spray equipment.
  - 2. Apply 2nd coat of waterproof lining material at 50 mils (1.25 mm) thickness (120 SF/50 lb (11.2 m<sup>2</sup>/22.7 kg) bag) after 1st coat has sufficiently hardened (approximately 2 to 4 hrs) to total 100 mils = 1/10" (2.5 mm) wet film thickness. Apply by steel trowel or appropriate air spray equipment. Surface finish shall be troweled smooth, or dense, glazed appearance if sprayed, showing little indentations from air pressure (orange skin).

### 3.4 CURING

- A. Protect exposed waterproofed/lined surfaces from premature drying out with polyethylene sheeting. Do not use burlap as this may stain the white surface.
- B. Moisture cure exposed waterproofed/lined surfaces as per manufacturer's instructions.

### 3.5 ACCEPTANCE

- A. Remove left over materials and any foreign material resulting from the work from the site.
- B. Clean adjacent surfaces and materials.

END OF SECTION

Project: ..... (08/05)