

AQUAFIN-2K/M

Two-Component Cement-based (flexible) Acrylic latex coating system
GUIDE SPECIFICATION AQUAFIN, Inc.

SECTION 096700

WATERPROOF MECHANICAL EQUIPMENT FLOORING

Specifier note: This specification applies to concrete or masonry surfaces – new or existing.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Furnish all labor, materials, tools and equipment as necessary to perform installation of waterproof Cementitious Acrylic Latex Flooring System on new and/or existing mechanical room concrete over occupied space as shown on drawings and as specified in this section.
- B. Related Sections:
 - 1. See section 033000 - Cast-in-Place Concrete

1.2 REFERENCES

- A. ASTM C 321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars.
- B. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.
- C. COE CRD-C 48 - Method of Test for Water Permeability of Concrete; U.S. Army Corps of Engineers.

1.3 SUBMITTALS

- A. General:
 - 1. 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 literature and installation instructions for each product, including Material Safety Data Sheet.
 - 2. Submit color charts showing full range of colors available.
- C. Contractor certification:
 - 1. Submit letter of certification from the waterproofing manufacturer.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Company specializing in marketing or 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 5 projects of similar nature in past 5 years and/or training provided by the product manufacturer.
- C. Single-Source Responsibility:
 - 1. Obtain all waterproof flooring and repair materials from a single manufacturer to ensure single source responsibility.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store in a dry area between 40°F (5°C) and 90°F (32°C). Handle and protect from freezing and direct sun light 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.
- D. Ventilation: General room ventilation is satisfactory.

1.6 SYSTEM REQUIREMENTS

- A. Coordinate waterproof flooring installation with other trades.
- B. Provide materials and accessories in timely manner so as not to delay Work.

1.7 PROJECT CONDITIONS

- A. Maintain surfaces to be waterproofed and surrounding air temperature at not less than 40°F (5°C). Apply only when temperatures are steady or rising.
- B. Do not apply materials to frozen or frost-filled surfaces.
- C. Exercise caution when temperatures exceed 90°F (32°C).

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- 3. Approved Manufacturers: 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.
- 4. 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. Waterproof Flooring Material:
 - Cementitious, two-component, acrylic latex emulsion based, flexible, waterproof membrane barrier with the following characteristics:
 - 1. Product: AQUAFIN-2K/M
 - 2. Color: Gray *or as per color chart (specify)*
 - 3. Dry Component-A: Precise blend of cementitious material

4. Liquid Component-B:	White acrylic emulsion and admixtures
5. Working Time:	Approximately 45 minutes
6. Shore A Hardness:	> 90
7. Bond/Adhesion: (ASTM C-321)	215 psi (1.5 Mpa) @ 28 days
8. Tear Resistance:	190 psi (1.3 Mpa) at 68°F (20°C)
9. Elongation: (%)	60 (gray) at 68°F (20°C)
10. Vapor Permeability: (US Perms)	1.2
11. Flammability:	Cementitious - none
11. Waterproofing: (CRD-C 48-92)	Withstands 200 psi = 460 feet (14 bar = 140 m) hydrostatic pressure (positive side) at 3/32" (2.4 mm) thickness.

2.3 ACCESSORY MATERIALS

- A. Crack and joint sealing tape: Elastomeric, tear resistant, breathable waterproofing tape.
- | | |
|-------------------|--|
| 1. Product: | AQUAFIN JOINT SEALING TAPE-2000 |
| 2. Thickness: | approx. 14 mils (0.35 mm) |
| 3. Width: | 4.75" (120 mm) or 8" (200 mm) (<i>specify</i>) |
| 4. Elongation: | 60% |
| 5. Tear strength: | 725 psi (5.0 MPa) |
- B. Expansion joint sealing tape: Elastomeric, tear resistant, breathable waterproofing tape.
- | | |
|---------------------|--|
| 1. Product: | AQUAFIN JOINT SEALING TAPE-2000-S |
| 2. Thickness: | approx. 16 mils (0.4 mm) |
| 3. Width: | 4.75" (120 mm) or 8" (200 mm) (<i>specify</i>) |
| 4. Elongation: | 600% |
| 5. Tear resistance: | 2,175 psi (15.0 Mpa) |
- C. Reinforcement fabric: Polypropylene non-woven fleece, reinforces tear resistance of waterproof flooring material, for zones posed to cracking.
- | | |
|-------------------|--|
| 1. Product: | AQUAFIN-2K-FABRIC |
| 2. Thickness: | 8 mils (0.2 mm) |
| 3. Tear strength: | longitudinal 18 lbs (8.2 kg)
diagonal 20 lbs (9.1 kg) |
- D. Sealing Gasket for PVC pipe and other penetrations: Elastomeric, tear resistant, breathable waterproofing sealing gasket.
- | | |
|---------------|-----------------------------------|
| 1. Product: | AQUAFIN-GASKET 18/18 |
| 2. Thickness: | approx. 1/64" (0.4 mm) |
| 3. Color: | White |
| 3. Size: | approx. 18" x 18" (45 cm x 45 cm) |

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine all construction substrates and conditions under which waterproof flooring materials are to be installed. Do not proceed with the waterproofing application until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Protect adjacent surfaces not designated to receive waterproof flooring material.
- B. Substrate preparation:

1. Remove oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings by steel shot-blasting, wet or dry sand blasting, or other mechanical means to produce surfaces suitable for maximum bond of waterproof flooring material to concrete.
 2. Follow manufacturer's instructions to clean and prepare surfaces, cracks and joints.
 3. Repair damaged and deteriorated concrete to acceptable condition using compatible products.
 4. Mask off all adjoining areas that are not to receive the waterproof flooring material.
- C. Rinse surfaces to be waterproofed (excluding drywall or similar) with clean water to saturated surface dry (SSD) condition, with no standing water on horizontal surfaces.

3.3 INSTALLATION

- A. Mix waterproof flooring material in proportions recommended by manufacturer.
- B. Apply waterproof flooring material in quantities as per manufacturer's specifications and recommendations.
- C. Taping:
1. Apply waterproof flooring material by brush in a six to seven inch (15 – 18 cm) wide strip coat centered over all joints, cracks, penetrations and changes of plane to be taped.
 2. While this coat is still wet, unroll joint sealing tape into the coating and apply a coat of waterproofing flooring material over the tape, smoothing out wrinkles and fishmouths.
- D. Sealing around PVC pipe penetrations:
1. Place sealing gasket over pipe and mark size of penetration, then cut out necessary opening (penetration).
 2. Apply one prime coat two-component waterproofing material over concrete and exposed PVC pipe.
 3. While this coat is still wet, place and firmly press sealing gasket into the coating and cover it with a top coat of two-component waterproofing material.
- E. Base Coat:
1. Apply waterproof flooring material by trowel, squeegee or roller at rate of 250 SF/77 lb unit (23.2 m²/35 kg unit) (approx. 40 mils (1.0 mm) wet film thickness).
 2. Color: Standard gray or color as specified by the Architect.
 3. While this coat is still wet, immediately place and firmly embed reinforcement fabric into the wet coating.
- F. Top Coat/Wear Course:
- Allow base coat to sufficiently dry
1. Apply waterproof flooring material by roller at rate of 250 SF/77 lb unit (23.2 m²/35 kg unit) (approx. 40 mils (1.0 mm) wet film thickness).
 2. Color: As specified by the Architect.

3.4 CURING

- A. Follow manufacturer's general instructions for curing and hardening of waterproof flooring material. Do not use water for curing. Waterproof flooring material is self-curing.

3.5 FIELD QUALITY CONTROL

- A. Thickness:
Total approximate thickness of waterproof flooring material shall be 60 mils (1.5 mm) dry film.
- B. Do not overcoat waterproof flooring material with solvent-based materials.

- C. Prime and protect alkali sensitive metals such as copper, aluminum, galvanized or zinc treated metal first with a primer, before over-coating with waterproof flooring material. Follow manufacturer's recommendations for primer material.
- D. Where a uniform color is desired, application of an elastomeric paint or water based acrylic stain is recommended.

3.6 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: (11/05)