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NOTE TO EDITOR:
THESE SPECIFICATIONS APPLY TO EXISTING CONCRETE SWIMMING POOLS WHICH REQUIRE RE-COATING OF THE OLD CEMENTITIOUS COATING WITH A FLEXIBLE, WHITE CEMENTITIOUS MEMBRANE.

CONTACT MANUFACTURER FOR ASSISTANCE OR QUESTIONS AT TOLL FREE 1-866-AQUAFIN (410-392-3200); FAX (410) 392-2324.

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RE-SURFACING EXISTING CONCRETE SWIMMING POOL

SECTION 13157

WHITE, FLEXIBLE CEMENTITIOUS WATERPROOF MEMBRANE

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Note to Specifier: This specification applies to swimming pools with maximum water temperature 80 deg F (27 deg C). For higher water temperatures specify AQUAFIN-2KM/HT or AQUAFIN-1K.

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PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Cementitious Waterproof Lining to internal concrete walls and floor over existing cementitious swimming pool coating, as shown on drawings and as specified in this section.

B. Related Sections:
1. See section 03300 - Cast-in-Place Concrete
2. See section ..... - Thin set tile mortar and setting ceramic tiles

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:
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.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications:
1. Company specializing in manufacturing and/or marketing 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 and store in a dry area between 40 degF (5 degC) and 90 degF (32 degC). 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.

1.6 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.

1.7 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). Contact manufacturer for guidance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. 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.

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. Waterproof re-lining Material - Acrylic Modified Cement Waterproofing: Cementitious, two-component acrylic emulsion based, highly flexible, crack bridging waterproof membrane barrier with the following characteristics:

1. Product:	AQUAFIN-2K/M WHITE
2. Dry Component-A:	Precise blend of white cementitious material
3. Liquid Component-B:	White acrylic emulsion and admixtures
4. Working Time:	Approximately 45 minutes
5. Bond/Adhesion: (ASTM C-321)	215 psi (1.5 MPa) at 28 days
6. Tear Resistance:	190 psi (1.3 MPa) at 68°F (20°C)
7. Elongation - %:	4% at 23°F (-5°C); 40 % at 68°F (20°C)
8. Vapor Permeability: (US Perms)	1.2 (ASTM E-96)
9. Waterproofing:(CRD C-48-73 or DIN 1048)	Withstands 200 psi = 460 feet (14 bar = 140 m) hydrostatic pressure (positive side) at 3/32" (2.4 mm) thickness.

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Specifier note: Specify Accessory Materials as necessary.

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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)
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: 8" (200 mm)
4. Elongation: 600%
5. Tear resistance: 2,175 psi (15.0 MPa)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Protect adjacent surfaces not designated to receive waterproofing.

B. Substrate preparation:
1. Remove oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings by high-pressure water blasting (>1500 psi), or other mechanical means to produce sound surfaces suitable for application of waterproofing.
2. Follow manufacturer's instructions to clean and prepare surfaces and seal cracks, joints and voids.

C. Rinse surfaces to be waterproofed with clean water to saturated surface dry (SSD) condition, with no standing water on horizontal surfaces.

3.3 INSTALLATION

A. Mix waterproofing material in proportions recommended by manufacturer.

B. Cracks and construction Joints - Taping:
1. Apply waterproofing material by brush in a six to seven inch 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 waterproofinging material over the tape, smoothing out wrinkles and fishmouths.

B. Expansion Joints - Taping:
3. Backer rod installation and/or caulking of joint as per engineer’s instructions.
4. Apply waterproofing material by brush in a five to six inch wide strip coat on either side of all joints to be taped.
5. While this coat is still wet, unroll expansion joint sealing tape into the coating and apply a coat of waterproofing material over the tape, smoothing out wrinkles and fishmouths.

C. Coating/waterproofing pool:
1. Apply base coat of waterproofing material at 1/16-inch (60 mils = 1.6 mm) thickness, using a tampico brush, roller, or appropriate air-spray equipment. Apply in one or two coats, depending on environmental conditions, and type of equipment used.

2. Apply topcoat of waterproofing material at 1/32-inch (30 mils = 0.8 mm) thickness, using roller or appropriate air-spray equipment. Apply topcoat as soon as the underlying coat has sufficiently hardened or wait until next day.

3.4 CURING

A. Follow manufacturer's general instructions for curing and hardening of waterproofing material.

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: ..... (01/05)