

SECTION 09699

WATER-PROOF FLOORING ADHESIVE FOR CONCRETE SLABS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Application of systems for installation of flooring materials for interior concrete slabs scheduled for varied floor finishes to include VCT, vinyl flooring, rubber flooring, wood and carpet systems.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In Place Concrete: Installation and curing requirements according to ACI 302.
- B. Section 09620 – Resilient Sheet Flooring: Installation requirement.
- C. Section 09650 - Resilient Flooring: Rubber sheet and vinyl tile installation requirements.
- D. Section 09652 – Vinyl Sheet Flooring.
- E. Section 09680 - Carpet: Installation requirements.
- F. Section 09681 – Carpet Tile: Installation requirements.

1.3 REFERENCES

- A. American Society of Testing and Materials (ASTM):
 - 1. C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens).
 - 2. C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
 - 3. F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
 - 4. F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
 - 5. F3191 - Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring.
- B. International Concrete Repair Institute (ICRI) Guideline No. 310.2-1997 (formerly 03732): Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Manufacturer's specification.
 - 2. Installation instructions.
 - 3. Independent test data.
 - 4. Certification requirements.
 - 5. Warranty information.

- C. Pre-Construction Testing: Not required.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns. Submitted for bond testing to:

Aquaflex
1790 Boyd St
Santa Ana, CA 92705
800.359.3201
www.aquaflexinc.com

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. The Aquaflex Acoustic Waterproof Installation System shall be specifically formulated and marketed for total water vapor and alkalinity resistance. System design shall provide warranted adhesive bond suitable to 100% in situ relative humidity per ASTM F2170 and/or UNLIMITED.
- B. Installer Qualifications:
 - 1. Applicator shall be approved by the manufacturer, experienced in surface preparation and application of the material and shall be subject to inspection and control by the manufacturer.
 - 2. Installer shall have no less than five years experience installing resilient flooring materials.
- C. Mock-up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to the job site in their original unopened containers, clearly labeled with the manufacturer's name and brand designation.
- B. Store products in an approved ventilated dry area; protect from dampness, freezing, and direct sun light. Product should not be stored in areas with temperatures in excess of 90 degrees F (32 degrees C) or below 50 degrees F (10 degrees C).
- C. Handle product in a manner that will prevent breakage of containers and damage products.

1.7 PROJECT CONDITIONS

- A. The Owner shall select a floor covering system scheduled for the treated concrete substrate having the ability to withstand the potential moisture exposures documented by ASTM F2170.
- B. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
 - 1. Do not apply Aquaflex Acoustic Waterproof Installation System to surfaces when standing water is accumulated on the surface of the concrete.

2. Do not apply Aquaflex Acoustic Waterproof Installation System when temperature is lower than 50 degrees F (10 degrees C) or expected to fall below this temperature within 24 hours from time of application.
3. Allow continuous ventilation and indirect air movement at all times during application and curing process of the Aquaflex Acoustic Waterproof Installation System .

1.8 SCHEDULING

- A. Before installation of flooring over interior concrete slabs, site inspection of existing floor, concrete surface, concrete condition must be performed and/or approved by the Owner to determine the degree of substrate preparation, concrete profiling and overall installation strategy.
- B. The Owner will coordinate the scheduling of the Aquaflex Acoustic Waterproof Installation System mock-up (if requested), allowing adequate time to apply and review results.

1.9 WARRANTY

- A. Manufacturer shall provide the Owner with a system warranty including adhesives and surface preparation products for the "LIFE" of the floor at no additional cost.
- B. Installer of Aquaflex Acoustic Waterproof Installation System shall provide standard installation warranty for workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer:

Aquaflex
1790 Boyd St
Santa Ana, CA 92705
800.359.3201
www.aquaflexinc.com

- B. Substitutions: None. (Aquaflex Acoustic Waterproof Installation System represents an improved installation system. Standard installation products have varying degrees of moisture tolerance. Aquaflex is an adhesive with simply an unlimited tolerance.)

2.2 SYSTEM

- A. Aquaflex Acoustic Waterproof Installation System having the performance profile to withstand UNLIMITED elevated alkaline moisture identified per ASTM F2170. The adhesive selection shall have a warranty for bond to include replacement of flooring and labor for the "LIFE" of the floor. This warranty will replace and supercede the manufacturer's recommended adhesive warranty for bond and will not affect the manufacturer's warranty of construction or wear.
 1. Product: Aquaflex Acoustic Waterproof Installation System. Suitable for application to prepared concrete exhibiting in situ relative humidity reading <90%RH.
 2. Product: Aquaflex Acoustic Waterproof Installation System. Suitable for application to prepared concrete exhibiting in situ relative humidity reading >90%RH (UNLIMITED).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared per ASTM F710.
- B. Do not begin installation until substrates have been properly evaluated per ASTM F3191.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Review inspected surfaces with manufacturer's representative to determine its suitability to receive the Aquaflex Acoustic Waterproof Installation System . Provide a SMOOTH, POROUS and CLEAN concrete surface substrate.
- B. Clean surfaces to receive Aquaflex Acoustic Waterproof Installation System by removing defective materials, and foreign matter such as dust, adhesives, leveling compounds, paint, dirt, floor hardeners, bond breakers, oil, grease, curing agents, form release agents, efflorescence, laitance, etc per ASTM F-710. Mechanically prepare surface to achieve concrete porosity per ASTM F-3191.
 - 1. Use Aquaflex Patch & Skim (polymer modified cementitious mortar) for concrete surface repair. Aquaflex Patch & Skim is formulated as part of the Aquaflex Acoustic Waterproof Installation System. Aquaflex Patch & Skim is waterproof, pH resistant and SILICA-FREE. Finish sanding of the Aquaflex Patch & Skim will NOT create hazardous Respirable Crystalline Silica (RCS). Vacuum after sanding.
 - 2. Clean concrete surface immediately prior to application of the Aquaflex adhesive by mopping the surface with clean water only.
 - 3. Do not use sweeping compounds.
 - 4. Use appropriate crack repair, if cracks appear greater than 1/4". Force mixture into cracks and joints with a trowel or putty knife. Comply with requirements listed in manufacturer's technical data information. No exceptions. Consult with manufacturer.
- C. Do not ACID ETCH surface.
- D. Do not SHOT-BLAST or BEAD-BLAST concrete surfaces.
- E. Verify that the substrate surface does not deteriorate due to the presence of sulphurous compounds, fly ash or alkaline aggregate/silica reaction encountered in certain areas.
 - 1. Consult with installation system manufacturer prior to application.
 - 2. Testing for concrete deficiencies/contamination such as alkaline silica reaction, untreated silicates, organic residue, etc. is the responsibility of the Owner.
- F. The surface substrate shall remain uncontaminated, absorptive, and sound prior to receiving Aquaflex Acoustic Waterproof Installation System. Comply with all requirements as listed in manufacturer's technical data information. No exceptions.

3.3 APPLICATION

- A. Adhesive Application:
 - 1. The coverage rates for the Aquaflex Acoustic Waterproof Installation System are dependant on the surface texture and porosity of the substrate.
 - 2. Apply adhesive with the supplied trowel, Gundlach Versa-Blade CBD notch, (1/32" x 1/16" x 9/64").
 - 3. Product selection and required application rate relative to existing levels of moisture per ASTM F2170:
 - a. <90%RH use Aquaflex Acoustic Waterproof Installation System.
 - b. >90%RH use Aquaflex Acoustic Waterproof Installation System.

3.4 TESTING

- A. Initial Tests:
 - 1. ASTM F2170, insitu relative humidity testing is not necessary for warranty consideration.
 - 2. ASTM F710, testing for concrete surface pH is not necessary for warranty consideration.
 - 4. Installer shall provide a marked up floor finish plan with installation strategy. Owner shall provide a written clarification on status of the ambient air temperature and humidity before and during installation.
- B. Post-Treatment / Pre-Flooring Tests:
 - 1. Before installation of flooring materials and after mechanical preparation of concrete surface, conduct a porosity test per ASTM F-3191.
 - 2. The installer shall provide test results of the level of absorption of the concrete slab to all parties involved. The flooring manufacturer and installer shall accept the floor condition and certify that the flooring application materials and methods are compatible with the test results and floor condition.
- C. Adhesion
 - 1. The flooring installer shall verify the usage of Aquaflex cementitious materials prior to the repair of the concrete surface.
 - 2. The flooring installer will consult the manufacturer 72hrs prior to adhesive application concerning installation strategy and technique.

3.5 CLEANING

- A. Remove all debris resulting from installation from project site. Insure excess adhesive is cleaned and removed from tile seams.
 - 1. Use the supplied Aquaflex Remover Kit to remove excess adhesive that may be left at the seams or tracked upon the flooring surface. Follow instructions carefully.

3.6 PROTECTION

- A. Protect applied adhesive during specified cure period from any kind of traffic, point loading and contaminants.

END OF SECTION