

ICC-ES Evaluation Report

ESR-2662

Reissued March 1, 2010

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DIVISION: 09--FINISHES
Section: 09308--Tile Underlayment and Waterproofing**REPORT HOLDER:****AVM INDUSTRIES, INC.**
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amir@avmindustries.com**EVALUATION SUBJECT:****AVM SYSTEM 700 WATERPROOF MEMBRANE****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 2006 *International Plumbing Code*® (IPC)
- 2006 *IAPMO Uniform Plumbing Code*® (UPC)

Property evaluated:

Water resistance

2.0 USES

The AVM System 700 is used on concrete or plywood floors as a barrier to liquid water migration in bonded thin-set installations of ceramic tiles and dimension stone under the IBC and IRC. The membrane is also used as a shower sub-pan lining material in accordance with the IPC and the UPC.

3.0 DESCRIPTION**3.1 General:**

The AVM System 700 is a liquid-applied, reinforced waterproofing membrane that cures to a monolithic, elastomeric membrane.

3.2 Materials:

3.2.1 AVM Paste 700: AVM Paste 700 (liquid) is a ready-to-use, water-based acrylic latex, packaged in 5-gallon (18.9 L) pails. Shelf life is one year from the date of manufacture when stored unopened at temperatures between 50°F and 90°F (10°C and 32°C). The liquid material must not be allowed to freeze.

3.2.2 AVM Mat 800 Fabric Reinforcement: AVM Mat 800 reinforcing fabric is a 3.0-ounce-per-square-yard (101.7 g/m²) fabric for use as a reinforcement in the AVM System 700 membrane. The fabric is provided in 40-inch-

wide-by 324-inch-long (1016 mm by 98 755 mm), 1080-square-foot (99.3 m²) rolls.

3.2.3 AVM Mat 800 Reinforcing Tape: AVM Mat 800 reinforcing tape is a 3.0-ounce-per-square-yard (101.7 g/m²) fabric for use in preparing joints, cracks and corners in the substrate before application of the AVM System 700 membrane. The tape is provided in 6-inch-wide-by-300-foot-long (152 mm by 91.4 m) rolls.

3.2.4 AVM Crete 6700: AVM Crete 6700 is a field-mixed cementitious product composed of AVM Aggregate 200 mixed with the AVM Additive 7700.

3.2.5 AVM Additive 7700: AVM Additive 7700 (liquid) is a ready-to use, water-based acrylic latex packaged in 5-gallon (18.9 L) pails. Shelf life for the AVM Additive 7700 is one year from the date of manufacture when stored unopened at temperatures between 50°F and 90°F (10°C and 32°C). The liquid material must not be allowed to freeze.

3.2.6 AVM Aggregate 200: AVM Aggregate 200 is a proprietary mix of cement and sand aggregates, packaged in 50-pound (22.7 kg) bags.

4.0 INSTALLATION**4.1 General:**

Installation of the AVM System 700 membrane must comply with this report and the manufacturer's published installation instructions. The manufacturer's installation instructions must be available at the jobsite at all times during installation.

4.2 Surface Preparation:

Substrates must be clean and free of all oils, greases and other contaminants. Dry and dusty surfaces must be dampened and swept off. All cracks, joints and corners are treated by covering them with the AVM Mat 800 reinforcing tape embedded into AVM Paste 700. A second layer of AVM 700 reinforcing tape is applied to critical areas subjected to stress or movement. All existing surfaces must be flat or leveled with a minimum slope of one-fourth unit vertical in 12 units horizontal (2 percent slope), and all defects repaired. Newly prepared concrete must be cured 28 days prior to application of the AVM System 700, and the surface must be troweled smooth then textured to a fine broom finish.

4.3 Application over Concrete Substrate:

After preparation of the concrete substrate, AVM Paste 700 is applied to the concrete in three coats with a brush or roller. The first coat is applied at a coverage rate of 1 gallon per 100 square feet (0.41 L/m²). While the surface is wet, AVM Mat 800 reinforcing fabric is embedded into the liquid. The fabric must be overlapped 2 inches (51 mm) at

edges and ends. The second coat of paste is then spread over the fabric at a coverage rate of 1 gallon per 100 square feet (0.41 L/m²). The second coat must dry a minimum of two hours (until dry to the touch) before application of the third coat. The third coat of paste is applied at a coverage rate of 0.5 gallon per 100 square feet (0.20 L/m²), and must be allowed to dry a minimum of 12 hours before application of ceramic tile or dimension stone. Membrane dry thickness is approximately 25 mils [0.025 inch (0.635 mm)].

The AVM Crete 6700 protective coating is optional when the membrane is applied over concrete substrates. The protective coating, consisting of Aggregate 200, is field-mixed with 1.0 to 1.25 gallons (3.8 to 4.7 L) of AVM Additive 7700, and is applied to the prepared substrate using a trowel. The protective coating must cure a minimum of 24 hours before application of ceramic tile or dimension stone.

The membrane must not be exposed to direct sunlight for more than 30 days. Ceramic tile must comply with ANSI A137.1. Typical installation details are shown in Figure 1.

4.4 Application over Plywood Substrate:

After preparation of the plywood substrate, when the AVM System 700 is applied directly over plywood, the first coat is applied at a coverage rate of 1 gallon per 100 square feet (0.41 L/m²). While the surface is wet, AVM Mat 800 reinforcing fabric is embedded into the liquid. The fabric must overlap 2 inches (51 mm) at edges and ends. When the surface of the first coat is dry to the touch, a second coat of the AVM Paste 700 is then applied over the top of the fabric. The second coat is applied at a coverage rate of 1 gallon per 100 square feet (0.41 L/m²). The second coat of AVM Paste 700 must dry a minimum of two hours before the membrane is applied to the substrate with three coats of paste and one layer of reinforcing fabric. The third coat of paste is applied at a coverage rate of 0.5 gallon per 100 square feet (0.20 L/m²), and must be allowed to dry a minimum of 12 hours before application of ceramic tile or dimension stone.

When the AVM System 700 is applied directly to horizontal plywood substrates, AVM Crete 6700 (protective coating) must be applied over the cured membrane to a minimum thickness of 1/16 inch (1.6 mm). The protective

coating, consisting of Aggregate 200, is field-mixed with 1.0 to 1.25 gallons (3.8 to 4.7 L) of AVM Additive 7700 and is applied to the prepared substrate using a trowel. The protective coating must cure a minimum of 24 hours before application of ceramic tile or dimension stone.

4.5 Method of Repair

The membrane in the area requiring repair must be removed and cleaned, allowing for a minimum 2-inch (51 mm) overlap. The membrane and protective coating (if needed) are applied as described in Sections 4.3 and 4.4.

5.0 CONDITIONS OF USE

The AVM System 700 Waterproof Membrane described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

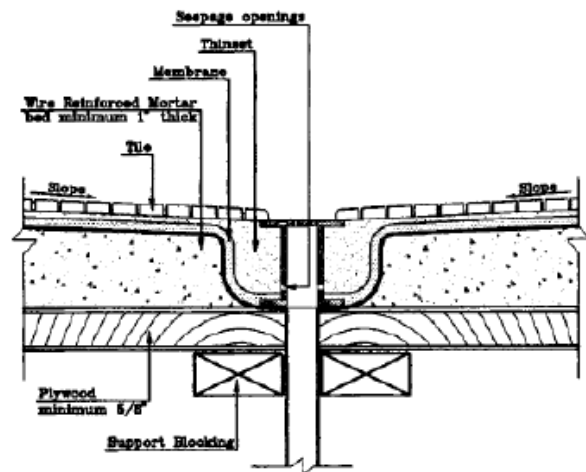
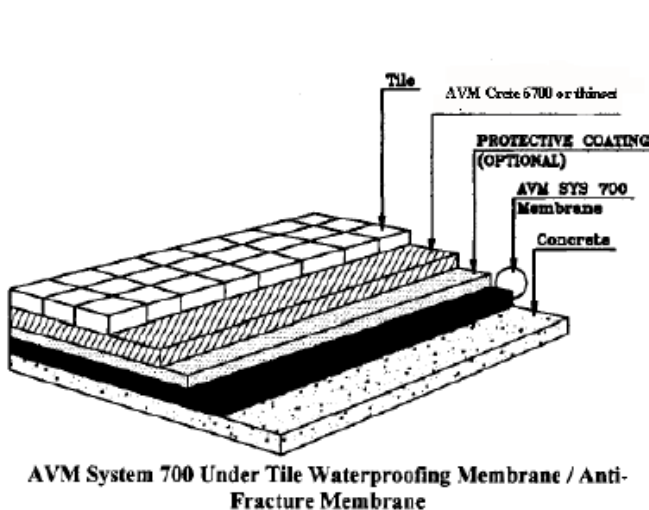
- 5.1 The materials are applied in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this report, this report governs.
- 5.2 Application is limited to ceramic tile and dimension stone installation on floors, and to use as a shower pan lining.
- 5.3 Application over expansion joints is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Waterproof Membranes Used as Ceramic Tile Underlayment (AC115), dated June 2003 (editorially revised August 2008).

7.0 IDENTIFICATION:

Each container of AVM Paste 700 and AVM Additive 7700, and each bag of AVM Aggregate 200, bears a label with the AVM Industries, Inc., name and address, the product name, the date of manufacture and the evaluation report number (ESR-2662). The AVM Aggregate 200 label specifies a batch number instead of a date of manufacture. The fabric reinforcement is identified with the AVM Industries, Inc., name, the words "AVM MAT 800," and the evaluation report number (ESR-2662).



AVM System 700, Under Tile or Shower Drain

FIGURE 1—TYPICAL INSTALLATION DETAILS