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INTERIM GENERAL MANAGER

AVM Industries, LLC
8245 Remmet Avenue
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Attn: Amir Rudyan
(818) 888-0050

RESEARCH REPORT: RR 25431
(CSI # 09308)

BASED UPON ICC EVALUATION SERVICE
REPORT NO. ESR-2662

Expires: December 1, 2011
Issued: March 1, 2009
Code: 2008 LABC

GENERAL APPROVAL – Reevaluation-AVM System 700 Waterproof Membrane.

DETAILS

The above assemblies and/or products is approved when in compliance with the description, use, identification and findings of Report No. ESR-2662 dated March 1, 2008, of the ICC Evaluation Service, Incorporated. The Report in its entirety, is attached and made part of this general approval.

The parts of Report No. ESR-2662 marked by the asterisks have been removed by the Los Angeles Building Department from this approval.

The approval is subject to the following conditions:

1. Store all materials at temperatures between 50°F and 90°F. Do not store materials in direct sunlight or where they may be damaged by water or rain. Bags must be kept dry.
2. The materials for the system shall be delivered to the jobsite in sealed containers identified by the manufacturer's name product name and shelf life.
3. Installation of AVM System 700 shall be in accordance with the manufacturer's instructions, a copy of which shall be available at each jobsite.

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Page 1 of 2

AVM INDUSTRIES INC.

RE: AVM System 700 Waterproof Membrane

4. Surfaces to be covered shall be sound, clean and free of laitance, oil, wax or grease. Cement substrates shall be troweled semi smooth or finished with light broom surface texture.
5. After the membrane has cured, carefully inspect the surface for bubbles blotches, clumps or other imperfections at the fabric joints or within the field areas.
6. The coating system shall not be applied at temperatures below 40° F

DISCUSSION

The approval is based on tests in accordance with the ICC-ES Acceptance Criteria for Waterproof Membrane used as ceramic Tile Underlayment (AC115), dated June 2003 (editorially revised April 2005).

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval will remain effective provided the Evaluation Report is maintained valid and unrevised with the issuing organization. Any revisions to the report must be submitted to this Department, with appropriate fee, for review in order to continue the approval of the revised report.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.



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Attachment: ICC ES Report No. ESR-2662 (3 Pages)

ICC Evaluation Service, Inc.
www.icc-es.org

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DIVISION: 09--FINISHES
Section: 09308--Tile Underlayment and Waterproofing

REPORT HOLDER:

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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)~~
- Other Codes (See Section 8.0)

Properties 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 gm²) 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

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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.

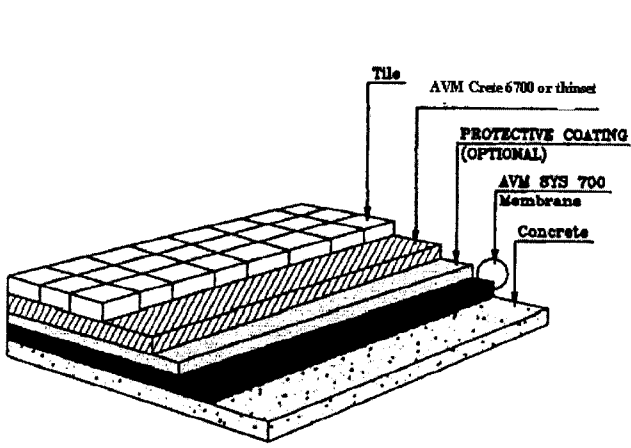
6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Waterproof Membranes Used as Ceramic Tile Underlayment (AC115), dated June 2003 (editorially revised April 2005).

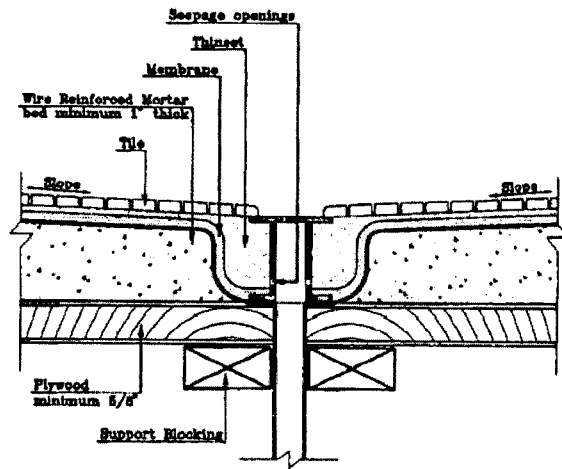
7.0 IDENTIFICATION:

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).

<p>8.0 Other Codes:</p> <p>8.1 Evaluation Scope: The product in this report was also evaluated for compliance with the requirements of 1997 <i>Uniform Building Code</i>™ (UBC).</p> <p>8.2 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. The membrane is also used as a shower sub-pan lining material in accordance with the UBC.</p> <p>8.3 Description: See Section 3.0.</p> <p>8.4 Installation: See Section 4.0.</p> <p>8.5 Conditions of Use: See Section 5.0.</p> <p>8.6 Evidence Submitted: See Section 6.0.</p> <p>8.7 Identification: See Section 7.0.</p>
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AVM System 700 Under Tile Waterproofing Membrane / Anti-Fracture Membrane



AVM System 700, Under Tile or Shower Drain

FIGURE 1—TYPICAL INSTALLATION DETAILS

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Models:

AVM SYSTEM 700

File Number: M-050065

Effective Date: 10/01/2009

Expiration Date: 10/01/2010

Manufacturer: AVM INDUSTRIES, INC.

Item: WATERPROOF MEMBRANE

PLEASE REFER TO THE APPLICATION NUMBER ON ALL CORRESPONDENCE, PHONE CALLS & SAMPLES

The item processed under the above file number has been tested, examined and found to comply with applicable Los Angeles Plumbing Code (LAPC) and/or Los Angeles Mechanical Code (LAMC) and is hereby approved unless revoked for cause.

This letter or the letterhead copy may not be reproduced for use in labeling or advertising, but copies of this letter may be used within your organization and shown as evidence of approval.

CONDITIONS OF APPROVAL:

See attached.

Each item shall have the name or trademark of manufacturer and model number where it will be visible for inspection.

In order to renew this approval, an application and reexamination fee must be submitted on or before the expiration date shown above. Arrangement shall be made to remove any test samples remaining in the Laboratory. Samples remaining after 21 days from the date of this notice will be shipped collect by the most convenient carrier or disposed of in accordance with applicable regulation.

Yogen R Thakar
Mechanical Testing Laboratory, Test Engineer

For **Michael Tharpe, Chief**
Plumbing / Mechanical Inspection
Inspection Bureau

09/30/09

AVM Industries, Inc.

Waterproof Membrane

Application Number: M-050065

Conditions of Approval

1. The AVM System 700 may be installed as a substitute for the following:
 - a. The built-up shower pan liner required by section 94.411.8 of the Los Angeles Plumbing Code, 2008 Edition.
 - b. The waterproof membrane required beneath the mortar bed of a Roman tub by IAPMO IS 2-2003.

NOTE: No layers of standard grade 15-pound tar or asphalt-impregnated roofing felt are required.

2. The AVM liner shall be secured between the flanges of the sub-drain. All weep holes of the sub-drain shall be left open.
3. New concrete shall be allowed to dry a minimum of 28 days before the AVM may be applied.
4. The applied dry thickness of the coatings shall be minimum 30 mil.
5. The liner shall be subjected to a 24-hour water leakage test. The sump drain opening shall remain unconnected (open) so that any visible water leakage can be seen. Verification of the water levels at the completion of the test shall be witnessed by an Inspector from the Plumbing Inspection Division of the Department of Building and Safety, City of Los Angeles.
6. The temperature limitations for this product are 130 °F maximum for continuous exposure and 175 °F for intermittent exposure.
7. Repairs to the liner shall be made with only AVM material.
8. Installation shall be per manufacturer's instruction and The Los Angeles Plumbing Code, 2008 Edition.
9. Each installation shall be identified with a permanent machine-made label showing the installer's name, a list of the installed liner materials, liner thickness, and date of liner installation where visible for inspection purposes.
10. For shower pan, AVM System 700 shall seal all seams, cracks and corners of the shower area.