

**ICC-ES Evaluation Report****ESR-1127**

Reissued December 1, 2011

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**DIVISION: 09 00 00—FINISHES****Section: 09 30 00—Tiling****REPORT HOLDER:****PROTECTO WRAP COMPANY**  
1955 SOUTH CHEROKEE STREET  
DENVER, COLORADO 80223  
(800) 759-9727  
[www.protectowrap.com](http://www.protectowrap.com)**EVALUATION SUBJECT:****AFM AND AFM-WM ANTI-FRACTURE MEMBRANES AND  
JIFFY SEAL 140/60 WATERPROOFING MEMBRANES****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2009, 2006 and 2003 *International Building Code*® (IBC)
- 2009, 2006 and 2003 *International Residential Code*® (IRC)
- 2009, 2006 and 2003 *International Plumbing Code*® (IPC)
- 1997 *Uniform Building Code*™ (UBC)

**Property evaluated:**

Waterproofing

**2.0 USES**

The AFM and AFM-WM Anti-fracture Membranes and Jiffy Seal 140/60 Membrane are waterproofing membranes used for bonded, thin-set mortar installations of ceramic tile and dimension stone on concrete, plywood and metal floor substrates.

**3.0 DESCRIPTION****3.1 General:**

All materials noted in Sections 3.2 through 3.8 shall be stored indoors, away from direct sunlight, in a dry space, at temperatures between 50°F and 90°F (10°C and 32°C). The products shall remain in the packaging until ready for use. The products have a shelf life of two years from the date of manufacture.

**3.2 AFM Anti-fracture Membrane:**

AFM Anti-fracture Membrane (AFM) is a self-adhering, 40-mil-thick (1.016 mm), peel-and-stick waterproofing membrane. AFM consists of a fabric reinforcement

laminated to a SBS modified rubberized asphalt adhesive membrane. A release film protects the adhesive surface, and is removed during installation. The membrane is available in 12-inch-by-25-foot, 12-inch-by-75-foot, and 36-inch-by-75-foot rolls (304 mm by 7.6 m, 304 mm by 22.8 m, and 914 mm by 22.8 m).

**3.3 AFM-WM Anti-fracture Membrane:**

AFM-WM is similar to AFM except that AFM-WM has a 2-inch (51 mm) peel-and-stick side-overlap strip that is used as the leading edge for membrane seams. The membrane is available in 36-inch-by-75-foot rolls (914 mm by 22.8 m).

**3.4 Jiffy Seal 140/60 Membrane:**

Jiffy Seal 140/60 membrane is a self-adhering, 60-mil-thick (1.524 mm), peel-and-stick waterproofing membrane. The membrane is manufactured from a layer of SBS modified rubberized asphalt, reinforced with an inert reinforcement, that is sandwiched between two layers of SBS modified rubberized asphalt. The membrane is tacky on both sides, and has a release film on the top surface to keep it from adhering to itself prior to application. The membrane has a 2-inch (51 mm) peel-and-stick side-overlap strip, and is available in 12-inch-by-50-foot, 30-inch-by-50-foot and 60-inch-by-50-foot rolls (304 mm by 15.24 m, 762 mm by 15.24 m and 1524 mm by 15.24 m).

**3.5 AFM500 Detail Tape:**

AFM500 Detail Tape is a 40-mil-thick (1.016 mm), unreinforced tape used for detailing inside corners, drains, posts, protrusions and any other area to which it is difficult for the membrane to conform, prior to installation of the membrane.

**3.6 #6000 Primer:**

The #6000 Primer is a water-based primer for use on indoor applications. It is used in its full, concentrated strength.

**3.7 #80 Primer:**

The #80 Primer is an exterior-grade primer. It contains solvents and is used in its full, concentrated strength.

**3.8 JS160H Mastic:**

JS160H Mastic is a rubberized, adhesive, liquid membrane used as a membrane sealant at membrane terminations and at end laps, for seam sealing and for membrane repairs. The JS160H Mastic shall not be used as a floor-leveling compound beneath membranes.

## 4.0 INSTALLATION

### 4.1 AFM Anti-fracture Membrane:

**4.1.1 Installation over Concrete Substrate:** Concrete surfaces shall be clean and free of all oils, greases and other contaminants. Dry or dusty surfaces shall be dampened and swept off. All voids, cracks, joints, holes and excessively rough areas shall be filled with a cementitious material to achieve a smooth and uniform surface. Concrete surfaces shall cure at least seven days before application of the membrane. The ambient and substrate temperatures shall be between 45°F and 120°F (7°C and 49°C).

The #6000 water-based primer for interior application or the #80 primer for exterior application is applied to the concrete surface, using a brush or roller, at an application rate of 200 square feet per gallon (4.91 m<sup>2</sup>/L) and shall be allowed to dry fully before installation of the membrane. When fully cured, the primer is tacky to the touch and will not come off the surface.

After preparation of the substrate, the membrane shall be cut to the appropriate length, and the release paper shall be carefully removed from half of the membrane. The membrane shall then be aligned and pressed into place onto the substrate. The remaining release paper shall be continuously removed, exposing the adhesive bottom, while the membrane is smoothed onto the primed surface. Continuous smoothing of the membrane as it comes into contact with the primer is essential to achieving adhesion and to preventing the trapping of air beneath the membrane. If the membrane becomes misaligned, the rolls shall be cut and restarted. The membrane shall be installed with a minimum overlap of 2 inches (50.8 mm) at the side and 6 inches (152 mm) at the end.

After application, the membrane shall be inspected, and any defects repaired. If the membrane is damaged or requires repair, the area is cleaned and lightly primed with #6000 Primer or #80 Primer to 6 inches (152 mm) beyond the damaged area. A membrane patch is cut and rolled on firmly. A troweled bead of JS160H Mastic shall be applied to the edges of the patch.

Flashing around protrusions or metal lip edges shall be under the membrane to prevent water buildup. Primed surfaces shall be covered with the membrane on the same day that the primer is applied, or they shall be reprimed.

Areas around pipes, conduits and any other protrusions through the subfloor shall be primed and taped with a 6-inch (152 mm) piece of AFM 500 Detail Tape. The detail tape is forced and formed to fit tightly to the protrusions and the subfloor. At drain openings, a light coat of #6000 or #80 Primer is applied and allowed to fully cure. Drains shall be covered to at least 6 inches (152 mm) beyond all perimeters with AFM 500 Detail Tape. Typical installation details are shown in Figure 1.

The ceramic tiles, complying with ANSI A137.1, or dimension stones shall be installed over the membrane using a latex-modified thinset mortar as defined in ANSI A118.10.

**4.1.2 Application over Plywood and Metal Substrates:** Installation over plywood and galvanized, No. 20 gage [0.036-inch (0.91 mm)] sheet metal substrates is limited to exterior applications. Substrates shall be clean and free of all oils, greases and other contaminants. Dry or dusty surfaces shall be dampened and swept off. The ambient and substrate temperatures shall be between 45°F and 120°F (7°C and 49°C).

The #80 primer is applied to the substrate, using a brush or roller, at an application rate of 200 square feet per

gallon (4.91 m<sup>2</sup>/L) and shall be allowed to dry fully before installation of the membrane. When fully cured, the primer is tacky to the touch and will not come off the surface.

Membrane sections, cut to the length necessary to extend 6 inches (152 mm) beyond the length (on each side) of the area to be covered, shall be applied to substrate corners, voids and joints.

After preparation of the substrate, the membrane shall be cut to the appropriate length, and the release paper shall be carefully removed from half of the membrane. The membrane shall then be aligned and pressed into place onto the substrate. The remaining release paper shall be continuously removed, exposing the adhesive bottom, while the membrane is smoothed onto the primed surface. Continuous smoothing of the membrane as it comes into contact with the primer is essential to achieving adhesion and to preventing the trapping of air beneath the membrane. If the membrane becomes misaligned, the rolls shall be cut and restarted. The membrane shall be installed with a minimum overlap of 2 inches (50.8 mm) at the side and 6 inches (152 mm) at the end.

After application, the membrane shall be inspected, and any defects repaired. If the membrane is damaged or requires repair, the area is cleaned and lightly primed with #80 Primer to 6 inches (152 mm) beyond the damaged area. A membrane patch is cut and rolled on firmly. A troweled bead of JS160H Mastic shall be applied to the edges of the patch.

Flashing around protrusions or metal lip edges shall be under the membrane to prevent water buildup. Primed surfaces shall be covered with the membrane on the same day that the primer is applied, or they shall be reprimed.

Areas around pipes, conduits and any other protrusions through the subfloor should be primed and taped with a 6-inch (152 mm) piece of AFM 500 Detail Tape. The detail tape is forced and formed to fit tightly to the protrusions and the subfloor. At drain openings, a light coat of #80 Primer is applied and allowed to fully cure. Drains shall be covered to at least 6 inches (152 mm) beyond all perimeters with AFM 500 Detail Tape. Typical installation details are shown in Figure 1.

The ceramic tiles, complying with ANSI A137.1, or dimension stones shall be installed over the membrane using a latex-modified thinset mortar as defined in ANSI A118.10.

### 4.2 AFM-WM Anti-fracture Membrane and Jiffy Seal 140/60 Membrane:

The AFM-WM and Jiffy Seal 140/60 membranes shall be applied over concrete, plywood and galvanized No. 20 gage [0.036 inch (0.91 mm)] sheet metal substrates in a manner similar to that for AFM, with the exception that the 2-inch (51 mm) peel-and-stick strip (zip-strip), side overlap guide shall be removed prior to application of membrane layers.

## 5.0 CONDITIONS OF USE

The AFM and AFM-WM Anti-fracture membranes and Jiffy Seal 140/60 membranes described in this report comply with, or are acceptable alternatives to what is specified in, the codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** Installation complies with this report and the manufacturer's instructions.

**5.2** Installation of the membranes is limited to use in ceramic tile and dimension stone installations on concrete, plywood and galvanized No. 20 gage [0.036 inch (0.91 mm)] sheet metal floor substrates.

- 5.3 The membrane shall not be used to bridge substrate expansion joints.
- 5.4 When installed under the 2009 IRC and 2009 IPC, the completed shower liner installation must be tested in accordance with Section P2503.6 of the 2009 IRC and Section 312.9 of the 2009 IPC.

**6.0 EVIDENCE SUBMITTED**

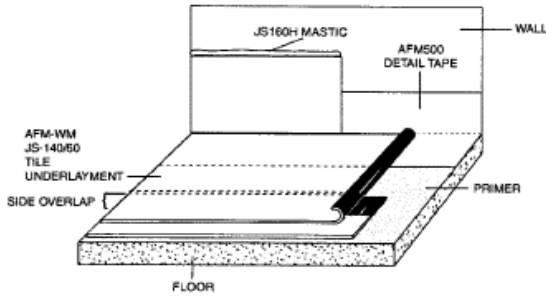
Data in accordance with the ICC-ES Acceptance Criteria for Waterproof Membranes for Flooring and Shower Liners (AC115), dated June 2003 (editorially revised September 2011).

**7.0 IDENTIFICATION**

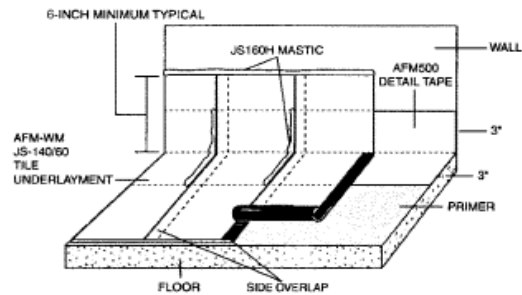
Each roll of AFM and AFM-WM Anti-fracture Membrane and Jiffy Seal 140/60 Membrane shall bear a label noting the Protecto Wrap Company name and address, the product name, the date of manufacture, and the evaluation report number (ESR-1127).

Each container of AFM 500 Detail Tape, #80 Primer, #6000 Primer and JS160H Mastic bears a label noting the Protecto Wrap Company name and address, the product name and the date of manufacture.

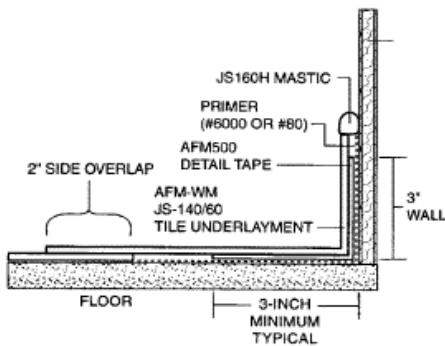
**FRONT VIEW #1**



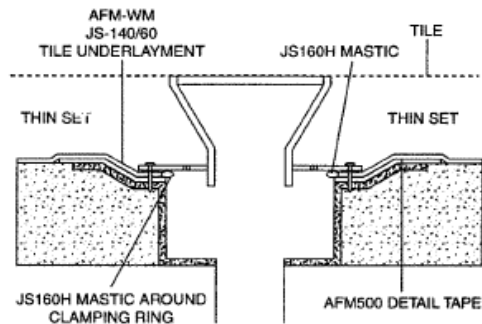
**FRONT VIEW #2**



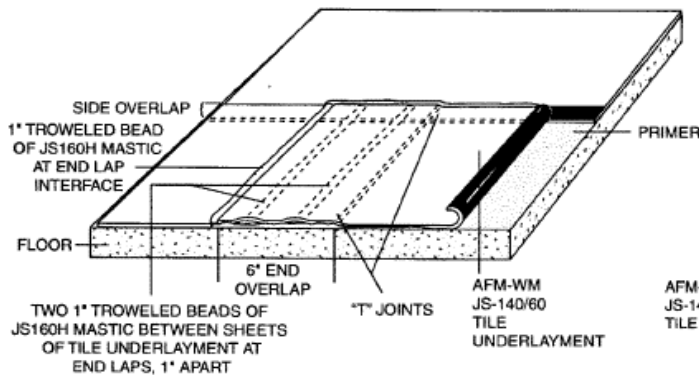
**INSIDE CORNER (SIDE VIEW)**



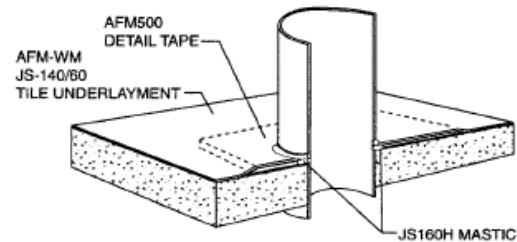
**DRAIN DETAIL**



**END LAP/T-JOINT**



**POST & PROTRUSION**



Primer and JS160H Mastic bears a label noting the Protecto Wrap Company name and address, the product name and the date of manufacture.

**FIGURE 1—TYPICAL INSTALLATION DETAILS**

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[www.protectowrap.com](http://www.protectowrap.com)****EVALUATION SUBJECT:****AFM AND AFM-WM ANTI-FRACTURE MEMBRANES AND JIFFY SEAL 140/60 WATERPROOFING MEMBRANES****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2007 Florida Building Code-Building
- 2007 Florida Building Code-Residential
- 2007 Florida Building Code-Plumbing

**Property Evaluated:**

Waterproofing

**2.0 USE AND INSTALLATION**

The AFM and AFM-WM Anti-fracture Membranes and Jiffy Seal 140/60 Waterproofing Membranes described in the master report, ESR-1127, may be used where shower linings are installed in accordance with Section P2702.2 of the Florida Building Code-Residential or Section 417.5 of the Florida Building Code-Plumbing and the master report.

Use of the AFM AND AFM-WM ANTI-FRACTURE MEMBRANES AND JIFFY SEAL 140/60 WATERPROOFING MEMBRANES described in the master evaluation report for compliance with the High-Velocity Hurricane Zone provisions of the 2007 Florida Building Code-Building, Florida Building Code-Residential and Florida Building Code-Plumbing has not been evaluated, and is outside the scope of this supplement.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report reissued December 1, 2011.

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- 2010 *California Building Code* (CBC)
- 2010 *California Residential Code* (CRC), Part VII – Plumbing
- 2010 *California Plumbing Code* (CPC), Title 24, Part 5

**Property evaluated:**

Waterproofing

**2.0 USE AND INSTALLATION:**

The AFM and AFM-WM Anti-fracture Membranes and Jiffy Seal 140/60 Waterproofing Membranes described in the master report, ESR-1127, may be used where nonmetallic shower linings complying with Section 411.8 of the CPC, Title 24, Part 5, are required, provided installation is in accordance with the master report, the additional requirements of CPC Section 411.8 and testing of the completed shower liner installation is in accordance with CPC Section 411.8.1.

This supplement expires concurrently with the master report reissued on December 1, 2011.