



Premium Building Products
That Protect

AFM-WM® Anti Fracture Waterproof Membrane

PRODUCT DATA SHEET



1. PRODUCT NAME

AFM-WM Anti Fracture Waterproof
Membrane

2. MANUFACTURER

Protecto Wrap Co.
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3. PRODUCT DESCRIPTION

AFM-WM Membrane is a peel and stick sheet membrane specifically designed for interior use under ceramic tile, porcelain and natural stone as a waterproof, stress relieving material used in conjunction with thin set methods.

Accessory Materials

No. 6000 Primer - This high tack water based primer is ideal for use on indoor applications.

Protecto Universal Water Based Primer - High tack water based primer.

JS160H Mastic - A rubberized blend of premium grade bituminous and synthetic resins used for sealing detail cuts and membrane terminations and seam overlaps.

AFM500 Detail Tape - Unreinforced conformable tape used prior to installing AFM-WM for detailing inside corners, drains, posts, protrusions and floor-to wall transitions.

Protecto Deck LM - An interior and exterior waterproofing elastomeric latex compound used for floor to wall transitions, overlaps and end laps, posts and protrusions, inside and outside corners and at railings.

Protecto LM Fabric - Waterproofing membrane reinforcing fabric is used as a reinforcing layer at wall to floor transitions and at inside and outside corners.

Packaging

AFM-WM Anti Fracture Waterproof Membrane
36" x 75' roll (225 ft²)

Coverage

AFM-WM Anti Fracture Waterproof Membrane
Approximate 212 ft² (19.7 m²) with 2" overlap per roll.

Shelf Life

AFM-WM Anti Fracture Waterproof Membrane maintains optimum initial adhesion to substrates when used within one year from the date of manufacture.

Uses

- For interior waterproofing and crack isolation protection under thin set ceramic, porcelain and dimensional stone tile installations
- All interior wet areas including kitchens, bathrooms, shower pan liners and walls

Advantages

- Rated as a shower pan liner, meets ANSI 118.10 Standards for a waterproof membrane
- Has the flexibility and strength to withstand structural movement and concrete shrinkage cracks up to 3/8" without transferring stress load to finished tile
- Can be installed with radiant heat floor systems
- Provides an Extra Heavy Load Rating
- Anti-microbial coating

Suitable Substrates

- Exterior glue plywood
- Mortar beds
- Concrete
- Cement backer board
- Cement terrazzo
- Ceramic tile and dimensional stone
- Gypcrete
- Stained concrete
- Radiant heated subfloors
- Metal
- Portland based leveling and patching compounds

Limitations

- Do not install over wet primer.
- Not for use on concrete floors where hydrostatic pressure or moisture vapor transmission exceeds 4 lbs., (tested by

ASTM F1869, "Calcium Chloride Test" method), where constant water vapor transmission is present, or where an RH level of more than 75% of slab. These conditions must be mitigated prior to Protecto Wrap installation. See Technical letter, "Water Vapor Transmission Mitigation" at www.protectowrap.com for more information.

- Not recommended for use where horizontal floor movement is greater than 3/8" (9.5 mm).
- Cracks larger than 3/16" should be prepared with proper backing material and treated in accordance with TCNA F125.
- Do not use over cracks or control joints larger than 3/8". Joints that are designed to experience movement should be treated in accordance with TCNA EJ171.
- Do not use any solvent-based sealants on or around AFM-WM as they may deteriorate the product.
- Not recommended for use where vertical floor movement is present.
- Do not apply over marine-grade plywood, wood plank flooring, particle board, oriented strand board (OSB), Luan, Masonite or laminate surfaces.
- Not for use under gypsum or cement based self-leveling underlayments, agglomerate tile or decorative wear surfaces.
- When installing tile over AFM-WM, it is required to maintain a thin-set thickness of 3/8" (9.5 mm) or less after the tile is embedded, even if the mortar manufacturer allows for thicker installations. Thicker mortar beds can potentially provide sufficient moisture to cause some natural stones to warp or crown.

- Not recommended for vertical applications exceeding 8' (2.4 m) in height.
- For vertical exterior applications, contact Protecto Wrap to confirm design includes adequate mechanical fastening and movement joints for application.

4. TECHNICAL DATA

Property	Test method	Result
Color		Grey top/black adhesive
Thickness		40 mil
Application Temperature		45°F to 120°F (7°C to 49°C)
Operating Temperature		-20°F to 180°F (-29°C to 82°C)
Robinson Floor Test	ASTM C627	Extra Heavy
Waterproof	ANSI 118.10	Load bearing, bonded, waterproof membrane for thin set tile installations

5. INSTALLATION

Surface Preparation

Substrate must conform to ANSI A108.01 standards. Assemblies over which AFM-WM Membrane will be installed shall be in conformance with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications or applicable building codes. Flooring and membrane must acclimate to jobsite conditions before installation. Substrates must be dry, clean and free of dirt, grease, wax, paint, oil or loose foreign matter that would adversely affect adhesion of the AFM-WM Anti Fracture Waterproof Membrane. Check substrate for excessive moisture. Using

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete substrate using Anhydrous Calcium Chloride. If substrate moisture/vapor is beyond 4lb. emissions or an RH level of more than 75% of slab, these conditions must be mitigated prior to AFM-WM installation. See Technical letter, "Water Vapor Transmission Mitigation" at www.protectowrap.com for more information.

Leveling cements must be completely dry before installing membrane.

Priming

Apply Protecto Wrap #6000 Primer or Protecto Universal Water Based Primer to the substrate and allow to dry (approximately 30 minutes) before installing the AFM-WM Membrane to ensure a good bond.

Detailing Options

Option 1 – Traditional Method using:

- **AFM 500 Detail Tape**
Use before AFM-WM installed
- **JS160H Mastic**
Use after AFM-WM installed

Floor to Wall Transitions and Inside Corners - After priming the floor and wall, apply a 6" strip of AFM 500 Detail Tape tightly at all floor-to-wall transitions and into the corners. Remove the release paper and install the Detail Tape 3" on the floor and 3" up the wall. Press the Detail Tape tightly into the corner and be sure to keep any voids from occurring behind the Detail Tape. Remove the release film from the face of the Detail Tape prior to installing the AFM-WM Membrane.

Areas around pipes, conduits or any protrusions through the substrate should be primed and taped with a 6" piece of AFM 500 Detail Tape. Force and form the Detail Tape to fit tightly to the protrusion and the substrate.

At drain openings, apply a light coat of primer and allow it to fully cure. Cover drain at least 6" past all perimeters with AFM 500 Detail Tape. Remove the release paper, apply membrane over the drain hole, cut an X in the center of the hole and form the Detail Tape into the drain. Be sure the membrane has 100% contact with the primed drain surface. Remove the top release film. Double ply with a full sheet of AFM-WM over the Detail Tape, then cut and form it around or into the protrusion or drain. Apply a troweled bead of JS160H mastic at the membrane terminations. Secure the drain clamping ring tightly over the AFM-WM Membrane.

Applying JS160H Mastic – After AFM-WM Installed

Use a troweled bead of JS160H Mastic on all termination edges, bent seams and detail cuts the same day of application.

End Laps, Corner Laps and Non-Factory Overlaps

End laps, corner overlaps and non-factory overlaps must be a minimum of 6" and sealed using JS160H Mastic using the following steps:

- Place two 1" troweled beads of JS160H Mastic 1" apart beneath all overlaps and firmly roll the seam.
- Trowel a 1" bead of JS160H Mastic onto the edge of the overlap, extending 1/2" on both layers of AFM-WM.
- Allow to cure prior to flood testing.

Option 2 – Liquid Method using:

- **Protecto LM Liquid**
- **Protecto LM Fabric**

Use both after AFM-WM installed

Protecto LM Liquid Membrane – is an elastomeric latex compound that is pre-mixed and ready to use.

Protecto LM Liquid Membrane may be applied by brush or roller and should be applied at a minimum wet thickness of 60 mils directly to the AFM-WM membrane and the adjoining substrate.

Apply AFM-WM to the primed substrate and detail using the following steps:

1. Apply a generous coat of Protecto LM Liquid Membrane 4" onto the AFM-WM membrane and 6" min up shower walls.
2. While the base coat is still wet, embed the 7 1/2" wide Protecto LM Reinforcing Fabric into the center of the wet liquid so that half of the fabric is on the membrane and the adjoining vertical surface.
3. Use a roller or brush to smooth out any wrinkles in the fabric and force it into the wet Protecto LM Liquid Membrane so that it bleeds through fabric.
4. On long runs or at inside and outside corners or where the fabric must be cut, the fabric must be overlapped by at least 2".
5. Apply another generous coat of Protecto LM Liquid Membrane on top of fabric so that fabric is completely covered while base coat is still wet.
6. Apply a generous coat of Protecto LM Liquid Membrane approximately 4" wide over all factory over lap seams and terminations of the AFM-WM membrane.
7. Once dry, visually inspect the transition areas, if there are any areas that the fabric is exposed through the Protecto LM Liquid Membrane or that appear to be sparsely coated, re-apply a coat to completely cover the areas.

End Laps and Non-Factory Overlaps

End laps and non-factory overlaps must be a minimum of 6" and sealed with Protecto LM Liquid Membrane using the following steps:

- Coat the fabric surface of the base layer of AFM-WM with a 12" wide

strip of Protecto LM Liquid Membrane and allow to cure.

- Once the LM Liquid has cured (turned to dark gray color), apply primer and allow to cure prior to installing the top layer of AFM-WM membrane in a 6" wide shingling overlap fashion.
- Coat around the perimeter of the overlap with a 12" wide strip of Protecto LM Liquid, extending 6" on both layers of AFM-WM.
- While the base coat is still wet, lay in and saturate the Protecto LM Fabric and apply a top coat of the Protecto LM Liquid.
- Allow to cure prior to flood testing.

WATERPROOFING SHOWERS WITH AFM-WM

After installing AFM-WM to shower pan, apply a generous coat of Protecto LM approximately (4") on each side of wall corners, coves and seams. Embed a (7 ½") sheet of reinforcing fabric into the wet liquid so that it bleeds through fabric. Next, apply another coat on top of fabric so that fabric is completely covered. Allow to dry to the touch. Apply Protecto LM to the entire wall surface, including pre-treated joints, corners and coves membrane overlaps. Each coat may be applied by brush or heavy nap paint roller to a 24MIL thickness (wet) and allow to dry to the touch, apply final coat of Protecto LM to entire surface within 24 hours to seal the installation.

Applying AFM-WM Membrane

Always apply AFM-WM Membrane with the Zip Strip overlap guide as the leading edge for the proper seam. Roll out the AFM-WM Membrane (do not remove the release paper at this point) and cut to the appropriate length. Pull one half of the membrane on top of the other half. Lightly score the paper at the halfway point. Do not cut through the adhesive. Begin pulling the release paper off the upper section and apply

the exposed adhesive bottom to the primed surface. Smooth out the membrane as the adhesive comes into contact with the surface. This is essential to minimize air beneath the membrane. Once completed, pull the other half of the AFM-WM Membrane on top of the applied AFM-WM Membrane. Pull the remaining release paper off the membrane while smoothing the AFM-WM into place. Pre-cut a new sheet of AFM-WM and align the new membrane 2" over the overlap guide on the installed AFM-WM Membrane. Remove the overlap release film from the installed AFM-WM Membrane 2" past the overlap guide. Continue to install the new membrane sheet as described above. Firmly roll the two membrane sheets together, forming a cohesive bond at the overlap. For maximum performance, 100% surface contact to the primed substrate must be achieved. Note - Should air get trapped beneath the membrane, puncture it with a sharp instrument and press the sheet flat. Repair any punctures per guidelines cited in Repairs section.

Application

Pull release liner away from membrane where scored. As the release liner is pulled away, hand-smooth the membrane to contact the primed substrate. Keep the release liner material close to the floor while pulling away; this will allow for a more controlled application of the membrane.

Note - There will be an immediate and aggressive bond of the membrane to the primed substrate. Realignment of the membrane can be difficult once adherence to the substrate begins.

Repairs

Carefully inspect the applied membrane before flood testing to ensure that it is free of large blisters, fishmouths or any damage. If membrane is damaged and requires repair,

clean the affected area at least 12" beyond the area of damage to prepare for patching. Cut an AFM-WM membrane patch large enough to cover the damaged area at least 6" on all sides. Apply the patch to the membrane by using accessory materials described for either detailing option shown below and apply patch using the same method described for end lap conditions:

- Detailing Option 1 – Traditional Method
- Detailing Option 2 – Liquid Applied Method

FLOOD TESTING

AFM-WM system must be installed at least 24 hours prior to flood testing. Protecto Wrap Company recommends following ASTM D5957 testing protocol when performing a flood test. Perform flood test with a minimum of 2" and a maximum of 4" of water for 24 hours. Drains should be plugged and barriers placed to contain the water. All leaks shall be located and repaired (see "Repairs") prior to covering the membrane. There shall be a minimum 24 hour wait period after repairs are made prior to re-testing AFM-WM system. The mastic must cure at least 24 hours prior to flood testing (48 hours prior to flood testing on all planter boxes). Perform a flood test with a minimum of 2" and a maximum of 4" of water for 24 hours. Plug all drains and position barriers to contain the water. Repair any leaks prior to covering the membrane. Upon completion of repairs, reflood the affected area to ensure that repaired leaks are sound.

After AFM-WM is installed, ceramic or stone tiles can be installed in 3/8" or less bed of mortar that meets the ANSI 118.4 standards.

Continue to follow the TCNA and ANSI installation requirements through the remainder of the installation.

6. AVAILABILITY AND COST

AFM-WM is manufactured in Denver, CO; it is competitively priced and available worldwide through a network of Protecto Wrap distributors. For detailed product information or to find a local representative or distributor, contact Protecto Wrap Company corporate office for information at 1-800-759-9727.

7. WARRANTY

AFM-WM is warranted to be free of defects in manufacture for a period of 10 years. Protecto Wrap assumes no warranty as to the installation of its products.

8. MAINTENANCE

None required. If installed in accordance with manufacturer's recommendations, AFM-WM should last the life of the structure.

9. TECHNICAL SERVICES

Complete technical assistance and information are available from Protecto Wrap.

10. FILING SYSTEM

Additional product information is available on our website at protectowrap.com or contacting our corporate office at 1-800-759-9727