



Marshall
Waterproofing
Professional Solutions

SPECIFICATION
FOR
PROTECTO WRAP
AFM WM

BRANZ Appraisal Certificate # 449 (2005) External wet areas
BRANZ Appraisal Certificate # 461 (2005) Internal wet areas



AFM WM SPECIFICATION

PRODUCT DESCRIPTION

Anti Fracture Membrane (AFM WM) consists of a tough fabric reinforcement laminated to an aggressive adhesive membrane. AFM WM is tacky on the bottom providing for superior adhesion to concrete, steel and wood substrates. The fabric top makes an excellent bonding surface for latex modified thin set mortars and thin set tile adhesives.

The AFM WM system is made up of the following products.

- **#100 solvent based primer** for use in exterior applications over plywood, concrete, fibre cement sheeting and steel.

#100 primer can be used over PVC flanged drain droppers.

#100 primer is available in 4 litre and 20 litre pails .

- **#6000 water based primer** for use in interior applications over plywood, concrete and fibre cement sheeting and plasterboard.

#6000 water based primer can be used over PVC Flanged drain droppers.

#6000 primer is available in 4 litre bottles.

- **AFM 500 Detail Tape** is used to detail all internal and external corners and all drain droppers and protrusions before the installation of AFM WM. AFM 500 is available in 150mm wide by 15 metre long rolls.

- **AFM WM** is used for full floor/wall waterproofing and has a unique 50mm wide joining strip (zip strip). When the AFM WM is joined membrane to membrane a 100% cohesive bond is made which is impenetrable to water. AFM WM is available in 900mm wide by 23 metre long rolls.

- JS160 H mastic is a semi liquid form of the membrane and is used at all terminations of AFM WM. It is also used when there is no zip strip to join to and the membrane has to be overlapped.

JS160 H mastic is available in 310ml cartridges.

FEATURES /BENEFITS

- Flexible – accommodates normal building movement tolerances
- Resists exposure to cleaning chemicals and alkalis.
- Designed for tiling – compatible with most tile adhesives.
- Warranted tile adhesives .
- No drying time required –Tiling can commence as soon as AFM WM has been installed.

APPLICATION RANGE

Performance Levels

Commercial and residential

Location

Internal wet areas, balconies, decks and other areas that will be tiled.

Surfaces

Walls and floors.

STORAGE

Store all materials in a dry place at temperatures between 10° C and 32° C. Do not store in direct sunlight.

SHELF LIFE

The products have a shelf life of two years from date of manufacture. Materials must not be removed from the packaging until ready to use.

AFM-WM Specification



SAFETY PRECAUTIONS

Extra precautions must be taken when using #100 primer and JS160H mastic in areas where there is insufficient ventilation. Do not breathe fumes. Avoid contact with skin, wear eye /face protection.

Additional information on Protecto Wrap AFM WM is available in the Material Safety Data Sheets available on www.mwnz.com.

SURFACE PREPARATION

The surface to receive AFM WM must be clean, dry and free of any foreign matter that may adversely affect the adhesion of the membrane.

Do **not** use the products in the following situations;

- Areas subject to negative hydrostatic pressure or rising damp.
- When the substrate is wet.
- Where the AFM WM membrane will be left exposed to the weather or UV for more than four weeks.
- Where the surface temperature is below 10°C or above 35°C.

INTERIOR

SUBSTRATES

Construction must be in accordance with NZBC.

- **Plywood** must be a minimum 17mm thick structural grade treated to H3.2 (CCA treated). The Plywood must be supported by framing at a maximum span of 400mm in each directions. Plywood substrates must have moisture content less than 20% before AFM WM membrane can be installed.

NOTE: Treated plywood must be allowed to breath for a minimum of 7 days before installation of membrane. Fixing must be to manufacturers specifications.

LOSP treated plywood must not be used

- **Concrete** must have a smooth steel trowel finish and be allowed to cure for a minimum of 28 days prior to installation of the AFM WM. Any imperfections in the concrete must be removed and any voids filled with cementitious filler before installing the AFM WM. The relative humidity of the concrete surface must be 75% or less.
- **Fibre cement sheeting** shall be wet area grade and comply with the requirements of AS 2908.2 (refer to Sheet manufacturers details for correct fixing, thicknesses and sheet layout).
- **Plasterboard** must be manufactured to comply with AS/NZS 2588. AFM/WM is suitable for use over wet area plasterboard that has been stopped.

Ensure that falls to the waste are min 1:50 Ensure outlet pipes are fixed securely and that the waste flange is recessed into the floor.

All floors must have adequate falls either built into the substrate or achieved with a sand/cement screed prior to the installation of AFM WM. Tiles should be direct bonded to the membrane.

APPLICATION

PRIMING INTERIOR

#6000 Primer is a water based primer used for interior applications. Shake the bottle well before tipping into a paint tray. The primer can be applied with either a brush or roller. Primer must be allowed to cure fully before installing the detail tape or AFM WM. Primer will feel tacky but will not come off the surface when fully cured. Do not install AFM WM over wet primer. Clean up with water

AFM-WM Specification



DETAILING INTERIOR

DRAINS (Interior)

Waste outlets shall incorporate a flange and the top surface shall be set flush with the surface to which the membrane is to be applied. (Fitting of the waste outlet is the responsibility of the builder or plumber).

- Apply #6000 Primer around the outlet in a 200mm circumference and allow to cure.
- Using several lengths of AFM 500 install tape over the outlet and 150mm past the outside edge of the flange.
- Cut the AFM 500 covering the outlet in a star fashion, remove the protective film and press/mould the AFM 500 down into the drain, run a bead of JS160 H mastic around the inner lip of the drain hole at the termination of the AFM 500 and spread smooth .

CORNERS (FLOOR, WALL)

- Prime all surfaces with #6000 primer and allow to cure.
- Cut required lengths of AFM 500 detail tape.
- Fold the 150mm wide tape in half along its length with the backing paper to the outside.
- Remove the backing paper from one half of the tape and apply along the floor or along one side of the corner and tightly into the junction
- . Remove the remaining backing paper and adhere the remaining half of the tape to the other side of the corner.

Care should be taken to press the detail tape tight into the corner, being sure to keep voids from occurring behind the detail tape.

When joining AFM 500 Detail Tape allow for a 100mm overlap. Do not remove the protective plastic film from the face of the detail tape until you are ready to lay the AFM WM.

AFM WM INSTALLATION (Interior)

- Prime all surfaces with #6000 primer and allow to cure.
- Roll out the AFM WM and cut to the measured length. Place the membrane into position and roll back on to itself to the half way point.
- Cut through the backing paper at this point, taking care not to cut membrane. Remove the release paper and smooth the exposed membrane onto the primed surface.

Smoothing the AFM WM on contact is essential to minimise air entrapment beneath the membrane.

Where the AFM WM crosses the detail tape remove the protective plastic film from the face of the detail tape before installing the AFM WM .

The floor sheets of AFM WM must extend up the wall at least 150mm. Make sure the AFM WM is laid tightly into all corners The wall sheets of AFM WM will overlap the 150mm upstand and must be adhered to the membranes fabric surface with JS160H mastic. AFM WM may be cut and folded to lessen the build up of membrane in corners.

- Measure and cut a new length of AFM WM and position 50mm over the joining strip on the installed AFM WM.
- Remove the protective film from the joining strip of the installed AFM WM and continue to install the new piece of membrane as detailed.

Firmly roll the two membrane sheets together, forming a cohesive bond at the overlap.

- To complete membrane installation apply a small bead of JS160h mastic at the overlap edge and trowel smooth.
- At the waste outlet install AFM WM membrane over the installed AFM 500. Star cut the AFM WM and fold down into the drain. Trowel smooth a bead of JS160H mastic around the inner lip of the drain at the termination of the AFM WM..

AFM-WM Specification



AFM WM INSTALLATION (Interior Continued)

- Apply the membrane 1800mm up the walls or to a height of 150mm above the shower rose. For unenclosed showers the AFM WM must extend a minimum of 1500mm out from the shower rose.

A trowelled bead of JS160H mastic should be placed at all AFM WM terminations, on internal corner seams and at vertical to horizontal transitions.

End joints must be lapped a minimum of 150mm and sealed using JS 160H Mastic.

For maximum performance, 100% contact of the membrane to the primed surface must be achieved by lightly rolling the membrane.

It is recommended that the entire floor in the wet area be covered with the membrane .

NOTE: It is advisable to conduct a flood test before tiling commences.

NOTE: Silicones must not come into direct contact with AFM WM membrane. A bond breaker tape or bond breaker sealant must be in place under all silicone joints as per Tiling Best Practice Guidelines.

EXTERIOR

SUBSTRATES

Construction must be in accordance with the NZBC.

Ensure that the deck or balcony is constructed with a minimum fall to the outlet of 1:60. Falls can be achieved with a sand cement screed. Ensure outlet pipes are fixed securely and that the waste flange is recessed into the floor.

NOTE: Down pipes must terminate into a flanged drain dropper. Under no circumstance is a down pipe to run continually through a deck substrate .

Tiles should be direct bonded to the membrane.

Ensure all surfaces are structurally sound, dry and free of any contaminating materials. Treat any sharp edges or surface defects prior to installing the membrane.

Where cracks or joins are over 5mm they must be prepared and filled with an appropriate backing compound.

Control joints must be installed as specified and a bond breaker tape must be installed over the control joint to stop the flexible sealant adhering to the membrane.

Ensure a minimum step down of 100mm from the finished floor level to the top of the tiles.

- **Plywood** must be a minimum 17mm thick structural grade treated to H3.2 (CCA treated). The Plywood must be supported by framing at a maximum span of 400mm in each directions. Plywood substrates must have moisture content less than 20% before AFM WM membrane can be installed. **NOTE:** Treated plywood must be allowed to breath for a minimum of 7 days before installation of membrane. Fixing must be to manufacturers specifications. **LOSP treated plywood must not be used**

- **Concrete** must have a smooth steel trowel finish and be allowed to cure for a minimum of 28 days prior to installation of the AFM WM. Any imperfections in the concrete must be removed and any voids filled with cementitious filler before installing the AFM WM. The relative humidity of the concrete surface must be 75% or less.

- **Fibre cement sheeting** shall be wet area grade and comply with the requirements of AS 2908.2 (refer to Sheet manufacturers details for correct fixing, thicknesses and sheet layout)

AFM-WM Specification

APPLICATION

PRIMING (Exterior)

#100 primer is a solvent based primer used for exterior applications. Mix the contents of the can well before use. The primer can be applied with either a brush or roller. The primer must be allowed to cure fully before installing the detail tape or AFM WM. Primer will feel dry to the touch when fully cured. Do not install AFM WM or detail tape over wet primer. Clean up with thinners.

NB: Only prime as much area as can be installed over in half a day. Where the primer has been exposed for more than half a day it must be re-applied.

DETAILING (Exterior)

DRAINS

Waste outlets shall incorporate a flange and the top surface shall be set flush with the surface to which the membrane is to be applied. (Fitting of the waste outlet is the responsibility of the builder or plumber).

- Apply #100 Primer around the outlet in a 200mm circumference and allow to cure.
- Using several lengths of AFM 500 install tape over the outlet and 150mm past the outside edge of the flange.
- Cut the AFM 500 covering the outlet in a star fashion, remove the protective film and press/mould the AFM 500 down into the drain, run a bead of JS160 H mastic around the inner lip of the drain hole at the termination of the AFM 500 and spread smooth .

CORNERS

- Prime all surfaces with #100 primer and allow to cure.
- Cut required lengths of AFM 500 detail tape. Fold the 150mm wide tape in half along its length with the backing paper to the outside. Remove the backing paper from one half of the tape and apply along the floor or along one side of the corner and tightly into the junction. Remove the remaining backing paper and adhere the remaining half of the tape to the other side of the corner.

- Care should be taken to press the detail tape tight into the corner, being sure to keep voids from occurring behind the detail tape. When joining AFM 500 Detail Tape allow for a 100mm overlap. Do not remove the protective plastic film from the face of the detail tape until you are ready to lay the AFM WM.

PROTRUSIONS

- Prime surfaces with #100 primer and allow to cure.
- Apply AFM 500 Detail tape 75mm onto the floor and 75mm up the post/protrusion. Stretch and mould the detail tape all the way around the post/protrusion.
- Install AFM WM membrane to the floor.
- Wrap the base of the post/protrusion with 150mm wide strip of AFM WM.
- Apply a generous bead of JS160 H Mastic at the base joint and trowel smooth.

Posts/protrusions must be clad and finished as per manufactures specifications. **AFM WM is not UV stable and must be covered within 6 weeks of installation.**

AFM WM INSTALLATION (Exterior)

Apply membrane to the step down and 100mm up behind the wall cladding. Apply membrane to the floor and 150mm up the sides of any opening prior to the installation of the joinery. If required an intermediate strip of AFM WM finishing 150mm out onto the deck floor can be applied and joined into once the construction has been completed . Ensure all weep holes remain open or are above the membrane application area.

- Prime all surfaces with #100 primer and allow to cure.
- Roll out the AFM WM and cut to the measured length.
- Place the membrane into position and roll back on to itself to the half way point.
- Cut through the backing paper at this point, taking care not to cut membrane.



AFM WM INSTALLATION (Exterior continued)

- Progressively remove the release paper and smooth the exposed membrane onto the primed surface.

Smoothing the AFM WM on contact is essential to minimise air entrapment beneath the membrane.

Where the AFM WM crosses the detail tape remove the protective plastic film from the face of the detail tape before installing the AFM WM .

The AFM WM must extend up the wall at least 150mm. Make sure the AFM WM is laid tightly into all corners. The membrane may be cut and folded to lessen the build up in corners. Seal all joints with JS160H mastic.

- Measure and cut a new length of AFM WM and position 50mm over the joining strip on the installed AFM WM.
- Remove the protective film from the joining strip of the installed AFM WM and continue to install the new piece of membrane as detailed.

Firmly roll the two membrane sheets together, forming a cohesive bond at the overlap.

- At the drainage outlet install AFM WM membrane over the installed AFM 500. Star cut the AFM WM and fold down into the drain. Trowel smooth a bead of JS160H mastic around the inner lip of the drain at the termination of the AFM WM.

For maximum performance, 100% contact of the membrane to the primed surface must be achieved by lightly rolling the membrane.

A trowelled bead of JS160H mastic should be placed at all AFM WM terminations, on internal corner seams and at vertical to horizontal transitions.

End joints must be lapped a minimum of 150mm and sealed using JS 160H Mastic.

NOTE: It is advisable to conduct a flood test before tiling commences.

REPAIRS

TRAPPED AIR

Should air become trapped under the membrane during installation, puncture with a sharp instrument and press flat expelling all air.

- Prime the area at least 150mm beyond the damaged area and allow to dry.
- Cut a patch of AFM WM as big as the primed area.
- Press on the patch and roll firmly.
- Trowel smooth a bead of JS160 H mastic around the joining edge.

NOTES:

AFM WM is not UV stable and must be covered with a suitable wearing course within 6 weeks of installation.

AFM WM is not suitable as a trafficable surface.

AFM WM is compatible with under tile heating systems (wires must be laid on top of the membrane).

It is the responsibility of the main building contractor to ensure all sub-trades likely to be working in the vicinity of the membrane are aware that a waterproofing membrane has been installed and all care must be taken to protect the membrane from damage.

The tiler must lay tiles in accordance with best practice guidelines.

A list of tile adhesives warranted for use over AFM/WM is available on www.mwnz.com or by phoning Marshall Waterproofing 0800 776 9727.



CONTROL JOINTS and AFM WM

Control joints must be installed as specified.

NOTE: Silicones must not come into direct contact with AFM WM membrane. A bond breaker tape or bond breaker sealant must be in place under all silicone joints as per Tiling Best Practice Guidelines.

AFM WM has the flexibility and strength to withstand structural movement and natural concrete shrinkage cracks up to 7mm without transferring the stress load to the finished tile topping.

WARRANTY

AFM WM is warranted to be free of defects in manufacture for a period of 15 years. This warranty is limited to replacement of the Protecto Wrap material.

AFM-WM Specification