Concrete Slab, Concrete Tile or Stone Tile Membrane Installation

This application suitable for surfaces that are tiles made from either Stone, Concrete or Concrete slab; the membrane is applied directly over all these surfaces.

Please ensure all required Personal Protective Equipment (PPE) is worn and used as outlined from the Material Safety Data Sheet (MSDS).

INVENTORY

CLEANING	MEMBRANE APPLICATION	CAULKING & ON-TOP EXPANSION JOINTS
• Pressure Washer • Chlorine • Detergent • PPE	• CWM Part 1 • CWM Part 2 • Slip Resistant Aggregate • Rollers small & large • Poles • Matting paste *(depending on finish required)*	• Recommended Joint Adhesive • Caulking Gun • 75mm plastic scraper
GROUTING (if required)	**SEALING**	**PPE INCLUDES**
• Bucket • Grout • Grout Float • Mixing trowel	• Part 1 Clear Waterproofing Membrane • Water • Mixing paddle • Roller large and small • Bucket	• Goggles • Gloves • Protective Waterproof Suit • Gum Boots • Vapour Mask

Throughout this guide you will see videos highlighted, they will provide examples of how to go about attending to the items discussed in the paragraph, all videos can be viewed via: https://www.remedialmembranes.com.au/downloads/

Step 1: Identify where the possible leaks are coming from **Videos 8 & 17**

PRE-CLEAN PREPARATION

Step 2: If you are applying The Clear Waterproofing Membrane (CWM) to concrete tiles, check to see if there are any loose material or substances. Loose tile fragments or grout may weaken and diminish adhesion to the area you are going to apply Remedial Membranes Clear Waterproofing Membrane.

If you identify some loose tiles, you can adhere these to the sub straight with Recommended Joint Adhesive as this is a neutral cure adhesive and it will not need to fully cure before application of the Clear Waterproofing Membrane (CWM)
Video 15

Please note: Any time you remove a tile and the sub straight is soft to touch like a sponge, you may require a specialist to investigate. Your water damage may have gone into the building materials and require additional repair before membrane application.

If your application is to a concrete slab, check to see if you have any drummy concrete that needs repairing before the membrane application. For bad concrete surfaces remove any loose fragments or any areas that are drummy and cracking then prime and repair with cementitious self-leveller. The section you repair will not match the original concrete so you may need to apply a thin coat of self-leveller across the entire surface if you are looking for a homogeneous or uniform finish across the entire floor. After curing this can be ground down or you can sand the high points to make a textural effect. Please contact technical assistance if you need help on how to achieve this.

CLEAN

Step 3: Clean the entire surface to be free from grease, grime, mould, fungi and dust. The easiest way to rid your surface from all of these nasties is with a high-pressure water cleaner and appropriate chemicals. I.e., for mould and fungi: chlorine works best; for grease: detergent works best. Efflorescence: Hydrochloric Acid is preferred. Follow Personal Protective Equipment (PPE) listed on the label of the chemical to be used. **Video 19.** Surfaces should be thoroughly cleaned and flushed to remove detergent residues and

PREPARATION

Step 4: If any grout is missing replace the missing grout with as close a match as you can find and allow it to cure. **Video 14**

Step 5: Cut in expansion joints if there are not any installed or if there are not enough. Anytime you see a crack that begins from one side and continues to the other, you should install an in-joint expansion joint **(Video 13).** In general, we look for expansion

joints to be installed every 4.5 lineal meters. With one exception; if the tiled balcony is on a concrete slab that has been down for more than seven (7) years and there are no cracks, then you are not required to install any as the slab has already gone through its movement stage and cutting in expansion joints could result in tiles popping.

Step 6: Allow the surface to completely dry. DO NOT APPLY CWM SEALER OR MEMBRANE IF THE ENTIRE OR WHOLE SURFACE IS NOT COMPLETELY DRY. **Video 20**

Step 7: Remove the waste grate (if possible), clean inside the pipe, remove any efflorescence found by putting a sponge further down the drain to collect debris and use a hammer and screwdriver to clean it back.

Step 8: Check the weather conditions to ensure the forecast is for a sunny day. Concrete dries very quickly; sometimes the surface can be ready for the CWM Penetrating Sealer the day after cleaning; this is usually the case if the balcony is in direct sun in a Summer month. (If concerned about the weather, cover with tarp). If your installation occurs in the cooler months and does not get direct sunlight, we recommend mechanically drying to ensure excess water is removed from the sub straight. Purchase some cheap halogen lights/lamps from the local hardware usually around $10ea and position them over the area for the two days drying time.

SEALING THE CONCRETE

Step 9: Vacuum the surface and remove shoes.

Combine equal amounts of water : CWM Part 1 then add in 10% CWM Part 2 creating CWM Penetrating Sealer. A 10L or 2.6 Gallon kit CWM Penetrating Sealer has a coverage of up to 120m2. Highly porous surfaces will require a minimum of 2 coat coverage.

Put the roller directly in the bucket and apply to the surface working from the furthest point back to the door. Don't leave extra sealer on the surface in a puddle.

The membrane will soak in quickly once the surface goes from wet to dry and back to a natural finish the second coat can be applied.

Upon completion, the rollers can be washed out in water. If you have extra sealer made up, this will last in the bucket for up to 12 months if properly sealed and stored.

Once the sealer has gone back to a natural finish, you can apply your first coat of membrane. (**Video 21**)

APPLICATION

Finish	Gloss	Satin / Matte
1st Coat	Part 1 + Part 2	Part 1 + Part 2
2nd Coat	Part 1 + Part 2 + Aggregate	Part 1 + Paste + Aggregate **NO Part 2**

Step 10: **Please Note:** if you are doing a Satin or Matte finish then you will need to mix the first coat and second coat separately. The second coat will not include part 2 so please measure out how much membrane you will need for the first coat. 1l of part 1 & 100ml Part 2 will do up to 6m2 (single coat).

Externally, Mix CWM2 liquid slowly into CWM1 liquid mechanically stirring to ensure proper combining of the two parts. Balconies are installed at a 1:10 ratio Part 2:Part1. Always add CWM 2 to CWM1. Allow the mix to stand for 5 mins prior to use. Once mixed, the membrane has a cure time of 36 hours (weather dependent) so only mix up what you will use each time. We recommend installing both coats in one day depending on the environment, taking all care to avoid streaking. **Video 22**

Dry film thickness should never drop below 125microns (.125mm) in areas 100mm directly adjacent to junctions between wall and floor and any area that is prone to movement; like cracks and expansion joints, product dry thickness should be increased to 500 microns (.5mm) and applied over the joint adhesive

To prevent streaking; In Tropical areas don't install the membrane in direct sun, in other regions, ensure the surface temperature is around 26C or 79F. If necessary, install the membrane outside of business hours to ensure streaking does not occur. **Video 23**

Step 11: Apply the CWM in all the junctions between the wall and the floor using a paintbrush or small roller as high as required, but at least 100mm or 4inches high, and 100mm (4 inches) in from the floor perimeter. (**Video 4 in part**)

Please note: The underside of a doorsill is a known weakness, apply recommended Joint adhesive at the point where the wall meets the flashing and waterproofing to the Joint Adhesive and put flashing over.

If walls are weatherboard, remove (if possible) the last weatherboard sheeting to apply product up to the underside and refix.

Step 12: Apply a large amount of CWM to the paint roller and move around the surface in one direction ensure complete coverage but do not leave puddles of the product. (Check additional information video for the method of applying the membrane.)

Step 13: Ensure the *first coat has completely cured* and is fully transparent, ensure that there is no visible whitening, especially in the junctions between wall and floor.

Step 14: Caulk all the junctions (**Video 18**) in between the walls and the floor and above the skirting tile if there is one. Try and identify where the leak/s may be coming from, look for cracks in junctions between the wall and the floor and cracks through the floor where expansion might have occurred over time. Fill these cracks and all existing silicon joints with recommended Joint Adhesive (this is not required to cure before CWM application).

Step 15: **Framed Substrates** - all applications that <u>are not</u> a poured solid concrete slab.

Framed sub-straights move continuously and all over the surface, so intermittent control joints are not sufficient, we will use the recommended joint adhesive and install clear control joints over all the existing grout joints.

Squeeze the recommended joint adhesive over the grout joint, use a 75mm or 3-inch plastic scraper and at a 90-degree right angle scrape the Clear Joint Adhesive over the grout joint making sure not to leave any raised profiles as these will be seen after membrane application. By installing these over the existing grout joint, you will end up with a control joint that is thinner than it is wider, providing maximum lateral flexibility. This will flex with the ongoing movement of the framed sub straight and if installed correctly, will be unnoticeable after the membrane is applied. **Video 10 & 11**

If you have a concrete slab construction **Video 12**

Step 16: **Sealing the waste grate**; use the Recommended Joint Adhesive, join the underside of the waste grate to the plumbing pipe then waterproof to prevent water that goes down the drain being reabsorbed in the screed when it goes down the drain.

Step 17: **Apply the second coat of CWM** in all the junctions between the wall and floor with the paintbrush as high as the previous coat, and 100mm (4-inches) in from the floor perimeter. (If you are doing a Satin or Matte finish you will mix only CWM Part 1 & Satin or Matte Paste for the perimeter as you don't need the aggregate in the vertical application. Be sure to mix the paste to be thoroughly combined before adding it to the CWM Part 1. <u>No CWM Part 2 is to be used in the second coat unless you are doing a gloss finish</u>.)

Step 18: Mix in anti-slip aggregate into remaining membrane.

Step 19: Apply the second coat in a diagonal direction to the first coat. Each time you put your roller in the tray, push the roller to the bottom to constantly mix the aggregate through evenly.

Each time you pour the membrane from the pail to the tray, remix as the aggregate is heavy and will settle on the bottom. Please ensure you have adequate dry-time prior to the temperature dropping at night as dew is water and cannot sit on the product until it has completely cured (If necessary, use fans to dry surface quickly).

Step 20: Check the outside returns of the balcony to see if the membrane needs to be wrapped over the edge and down the face to prevent water running off the edge gaining access to the substrate.

Step 21: Twenty-four (24) Hours after the application, the membrane is now trafficable, however, DO NOT add pots or outdoor furniture for seven (7) days to allow complete curing of the product.

Step 22: Always follow the customer care instructions.

BLUESTONE TILES, CONCRETE SLAB & CONCRETE TILES

The above surfaces need to have the first coat of membrane installed the day before using the recommended joint adhesive as the two products, although clear and transparent, react differently. Please contact technical assistance if you would like more information.

Air pressure during installation can cause tiny pin picks to pop during the membrane application. If after membrane application you find water is still finding its way through these tiny holes, the sealer can be reapplied to the surface to locate these areas and seal them up.

CRACK TREATMENT IN CONCRETE SLABS

It is well documented that concrete slabs can crack in the first few years after having been poured. Please be aware that no direct fix liquid membrane that you may apply will be able to prevent this cracking from occurring.

The advantage and benefit of the Clear Waterproofing Membrane is that being a topical membrane, if cracks do appear, they will be noticeable, so easy to patch repair.

Follow these simple steps: -

1. Apply some duct tape over the crack for up to a month and allow the crack to open fully.
2. Remove the tape, prepare the surface by removing any debris.
3. Grout the crack in matching colour grout.
4. Once fully cured, apply an on-top expansion joint over the section.
5. Apply two (2) coats of the membrane.

There is no need to recoat the entire surface just treat the affected area.