

Waterproofing Full Instructions

Preparation & Application

Surface Preparation

- Substrate design must be in accordance with BCA requirements.
- All surfaces must be installed to manufacturer's requirements, suitable for use and include sufficient falls to waste.
- All surfaces must be clean – all contaminants including dirt, dust, grease, oil, curing compounds, cement laitance, airborne pollutants, mildew, mould etc must be removed using a compatible chemical cleaning product and / or mechanical process. If surfaces are not clean, waterproofing membrane adhesion will be compromised. Poor surface adhesion may lead to delamination, flaking or peeling of the membrane.
- If surface has been ground – all dust and laitance must be removed by vacuum and pressure wash / wet vac. If dust is not removed, this may become incorporated into membrane during application, affect adhesion and may lead to delamination.
- If acid etching has taken place, acid must be neutralised before membrane is applied. If neutralisation does not take place, acid will continue to attack and weaken the substrate surface. This will compromise the adhesive strength of the membrane. Acid neutralisation may be achieved by treating the area with a 500g bicarbonate of soda: 9L water solution, followed by a pressure wash.
- All surfaces must be sound – the surface should have a light even texture. Masonry should be flush pointed and all defects in existing surfaces made good. Ensure all high points and protrusions are ground off. Blow-holes, areas of honeycombing, etc. to be filled and the surface brought back to an even profile with a suitable repair mortar modified with Crommelin High Performance Bonding Agent and towelled to a smooth even finish and allowed to cure.
- All surfaces must be dry – a moisture test is required 100% of the time to ascertain if the substrate is dry enough to waterproof. Electronic moisture meters are recommended. If membrane is applied to substrates that are not dry, blistering or bubbling of the coating may occur. Waterproof membranes must be protected from all forms of moisture during the curing phase.
- On surfaces subject to moisture coming from below (rising damp) or damp surfaces (no standing water) which won't dry out, apply a priming treatment of 2 coats of WB2K. Damp surfaces or negative hydrostatic pressure will compromise membrane adhesion.
- Install appropriate puddle flanges or similar correctly, appropriate coving and or sealant fillet to all wall to wall and wall to floor joints and around all details and intrusions, as applicable to the chosen class of membrane. These areas are often the source of leaks, so time should be taken to ensure all detail work is completed to a high standard.
- Ensure that applicable surface priming is conducted to maximise the quality of the surface to be waterproofed. Non-primed surfaces may lead to poor membrane adhesion or negatively affect cure rates.
- **For further advice contact Crommelin, 7 days a week 1800 655 711**

Waterproofing System Choice

- Correct membrane should be chosen that delivers the required performance and characteristics suitable to the substrate and any finished coating treatments.
- Ensure that correct membrane is chosen to accommodate positive or negative hydrostatic pressure. If a positive side membrane is applied in areas subject to negative hydrostatic pressure, the movement of moisture will lead to membrane delamination.
- Always consult the most recent product data sheet for up to date information.
- In areas subject to UV exposure such as roofs, always ensure that UV stable waterproofing membranes are applied.
- In areas being tiled a suitable membrane that will accept tile adhesives should be applied i.e. Wetite **NOT** Water Based Bitumen Paint.
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When to Waterproof

- Only when substrate is completely dry. If excessive moisture is in the substrate when membrane is applied, or during the curing phase, this may affect final adhesion and bubbles or blisters may form.
- Only when weather or environmental conditions are suitable and adequate air flow to assist curing is provided.
- It is recommended that membrane is applied late morning to early afternoon – after substrate moisture has been released and dew point has been exceeded.
- Do not waterproof if surface / ambient temperature is too high; membrane carrier solvents will evaporate too quickly and not allow resins / polymers to coalesce at the correct rate.
- Do not waterproof if rain is expected during cure time, or if humidity is too high, or likely to be during the initial cure phase. This may affect final adhesion to substrate, cause re-emulsification of the membrane and negatively affect waterproofing characteristics.
- Do not waterproof if surface / ambient temperature is too low, membrane carrier solvents will not evaporate and allow resins / polymers to coalesce at the correct rate.
- Weather details may be checked at: <http://www.bom.gov.au/climate/data/index.shtml?>
- **For further advice contact Crommelin, 7 days a week 1800 655 711**

Waterproofing Membrane Application

- Ensure substrate is completely dry before membrane application. (Refer to “When to waterproof” section)
- Due to the wide variety of substrates available, a trial patch is always recommended to ensure adhesion characteristics are as required. If this is not conducted and final finish is not as desired, removal of membrane may be a difficult and expensive process.

Waterproofing Membrane Application - Continued

- Membrane should only be applied as per recommended coverage rates and film builds. Not enough membrane and performance will be compromised allowing leaks and blisters to occur. Too much membrane per coat and non-curing or cracking of the membrane may be experienced.
- Do not thin membrane with anything unless it is to be used as a prime coat and stipulated by Crommelin.
- Always ensure sufficient airflow is provided for optimum curing conditions.
- Membrane must be protected from moisture during the cure phase.
- Ensure that membrane is inspected for damage prior to over coating.
- If pond testing is required, ensure that this is conducted as per the manufacturer's specifications and all ponding water is removed and the surface dried after the completion of the test.
- If membrane is to be back filled against, ensure that protection board or similar is installed.
- Ensure that membrane is inspected upon completion of after trades, to ensure that any penetrations are waterproofed or any damage repaired.
- Exposed membranes should be inspected on a regular basis, cleaned and contaminants removed and any areas of damage recoated. A maintenance schedule is vital to ensure membrane longevity and manufacturer's warranty.
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Moisture Related Issues

- **Membrane bubbles / blisters** – if excessive substrate moisture is present, this will try and leave the surface as increasing atmospheric temperatures open substrate pores and draws moisture up. Moisture will be trapped under the coating and expand causing blisters.
- **Waterproofer delamination** – contaminants / laitance on the surface will retard waterproofing membrane's ability to bond to the surface. As the membrane cures, delamination may occur. This may be identified by a dusty type feel and appearance on the underside of the membrane with blistering / flaking / peeling.
- Refer to the "Common Waterproofing Problems and Solutions" section for more details.
- **If any of the above issues are experienced, contact Crommelin, 7 days a week 1800 655 711, for further advice**

Glossary of Terms

- **Contaminants** – unwanted constituent or impurity in a material, physical body, natural environment etc.
- **Laitance** – accumulation of fine particles on the surface of fresh concrete due to an upward movement of water.
- **Initial cure phase** – period between application and film forming.
- **Carrier Solvent** – a liquid in which a solute is dissolved.
- **Friable Substrate** - easily crumbled, powdery, dusty, chalky or soft.

Common Waterproofing Problems and Solutions

Problem	Solution
Bubbles/blisters	<p>Usually occurs when moisture is present in substrate during membrane application, or when exposed to moisture before full cure has been achieved.</p> <p>Allow surface to dry, the majority of blisters may disappear.</p> <p>If not, cut out and remove blisters. Allow surface to completely dry and re-apply membrane as per recommended coverage rates.</p>
Delamination in between coats	<p>Usually caused by application of membrane over a non-compatible existing coating, or contamination between coats by dust, moisture etc.</p> <p>Remove membrane totally, remove surface contaminates and re-apply membrane as per recommended coverage rates.</p>
Delamination from substrate	<p>Usually caused by poor surface preparation, or when moisture is present in substrate during membrane application.</p> <p>May also be caused if the substrate is in a poor condition / friable. A densifier may be required before re-application.</p> <p>Remove membrane totally, repair and clean substrate then re-apply.</p>
Cracking	<p>May be caused by under or over application.</p> <p>If cracking is significant, remove these areas and re-apply membrane as per recommended coverage rates.</p> <p>If cracking is minor, allow area to dry and re-apply membrane to cracks as per recommended coverage rates.</p>
Disintegration of exposed membrane	<p>Incorrect, non-UV stable membrane applied.</p> <p>Remove membrane totally, repair and clean substrate, then re-apply.</p>
Poor tile adhesive bond	<p>Incorrect membrane applied or adhesive is not compatible. (particularly the case with ready to use liquid adhesives)</p> <p>Remove membrane totally, repair and clean substrate, then re-apply.</p>

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