MAKPROOF 2K

TECHNICAL DATA SHEET

Water Based Two Component Cement Based Acrylic Modified Waterproofing Membrane System

Makproof 2K is a water based acrylic modified cement based waterproofing membrane system that meets the requirements of AS/NZ 3740 by complying with AS/NZ 4858.
Class 11 in accordance to AS 4858-2004
Class 1 in accordance to AS 4654.1-2012

Makproof 2K is a 2-coat system which is applied to primed porous and non-porous substrates. It is important to mix both Part A and Part B together before internal or external applications.

RECOMMENDED USES

- As a waterproofing membrane under tile to internal and external wet areas such as showers, bathrooms, kitchens, laundries, toilet areas, balconies and roof decks when installed to AS/NZ 3740
- As a waterproofing membrane under tile or other wearing surface systems to external balconies, rooftops & podium levels when installed to AS/NZ 4654.2
- Suitable for concrete, cement rendered masonry, FC sheeting, water resistant plasterboard and structural plywood
- **Makproof 2K** is suitable for use in constantly submerged applications such as swimming pools and spas
- Internal/External applications

FEATURES AND BENEFITS

- Fast Drying
- Recoat in 1-2 hours at 23°C & 50% RH
- Flood test after 24 hours at 23°C
- Can tile the next day in most conditions
- Excellent adhesion to concrete, rendered masonry, wet area plasterboard, FC sheet and plywood
- May be tiled directly using approved tile adhesive
- Can be applied to damp substrates (no free water)
- Brush, roller or trowel applied
- Waterproofing membrane for most applications
- Australian Made and Australian Owned

APPLICATION INSTRUCTIONS
SURFACE PREPARATION

The following instruction steps as detailed in this Technical Data Sheet may not be applicable in every application.

Read precautions prior to applying any component of the membrane system.

The information is provided as a guide to assist in meeting the installation requirements of AS/NZ 3740 and AS/NZ 4654.2

Wherever appropriate, the installation must comply with AS/NZ 3740 'Waterproofing of Internal Wet Areas in Residential Buildings' & AS/NZ 4654.2 "Waterproofing Membrane Systems for Exterior Use – Above Ground Level".

Makproof 2K membrane system has been developed for application on graded substrates that provide positive falls to drainage outlets. Overlaying tiling systems must comply with Guide to the Installation of Ceramic Tiles (AS 3958.1).

Ensure the surfaces of all substrates to be used are structurally sound, clean, dry or damp with

no free surface water. They must be smooth and free of voids and protrusions, grease, oils, curing compounds, coatings, adhesive residues and clear of preceding trade activities.

Check that all the composite substrates, such as wall and floor sheets are fully supported and installed to the manufacturer's instructions.

Where platform floor sheeting such as particleboard is installed review manufacturer's specifications for suitability in wet area applications and ensure that protective coatings do not impair membrane adhesion.

New concrete and render must have cured for a minimum of 4 weeks.

Sand and cement screeds and polymer modified renders must have cured for a minimum of 7 days.

Substrates that are not smooth or free of voids and protrusions must be ground and vacuum cleaned. Any voids must be repaired using **Maklevel Skim Coat**.

Makprime MP must be applied as a primer coat on all applications to porous substrates such as concrete, screeds, renders. Refer to **Makprime MP** Technical Data Sheet.

Two coats of Makproof Moisture Barrier must be used to seal concrete slabs subject to hydrostatic head of pressure from the negative side. **Makproof Moisture Barrier** must be clean, dry and smooth immediately prior to membrane application. Refer to **Makrete Makproof Moisture Barrier** Technical Data Sheet.

Makproof 2K should not be applied until all preparation steps have been completed.

CRACKS AND JOINT SEALING

Concrete and Masonry Substrates:-

Static cracks up to 2mm in width, i.e., cracks that do not move or continue to propagate, must be filled with **Maklevel Skim Coat** after priming with **Makprime MP** and prior to the first full coat of membrane.

Static cracks greater than 2mm but less than 4 mm in width, i.e., cracks that do not move or continue to propagate, must be filled with **Maklevel Skim Coat** or **Maklevel Rapid Patch** after priming with **Makprime MP** and prior to the first full coat of membrane. Static cracks greater than 5mm must be filled with **Maklevel Rapid Patch**.

Cracks greater than 2mm that are subject to movement or propagation must be referred to the builder or engineer for structural assessment and method of rectification to perform as an expansion joint.

Expansion joints must be a minimum 6mm in width and require a backer rod installed prior to the installation of **Makseal Hybrid LM** at a width: depth ratio of 2:1.

Floor and Wall Sheet Junction:

All floor and wall sheets must be installed to sheet manufacturer's specification and primed with **Makprime MP**.

Internal or external sheet floor systems, suitable for wet area applications, require sealant/adhesive application to seal sheet joints at the time of installation to comply with manufacturer's instructions. Where appropriate, the user must confirm that the sealant used is compatible with **Makproof 2K** membrane.

Floor sheet joints that use Polyurethane sealants at installation must be cured for a minimum 7 days prior to the application of the membrane.

All sheet joints must be isolated from the membrane by a min 35mm, (75mm for external applications) wide bond breaker tape that covers the entire width & length of the sheet join.

Expansion Joints:

All expansion joints must be isolated from the membrane by a minimum 35mm, (75mm for external applications) wide bond breaker tape that covers the entire width & length of the joint.

An extra 1000-micron (1.0 mm) wet coat extending a minimum 35mm either side of the bond breaker tape must be applied as an extra coat. A further 2 full coats, at 1000 microns wet coat each, is required to the entire area to be waterproofed.

PRIMING

Porous Substrate:

A porous or absorbent substrate will allow a bead of water to easily soak into and wet out the surface of the substrate.

Makprime MP must be used prior to the application of the membrane to avoid pinholes.

Makprime MP must be stirred and not shaken if colour separation is evident. Colour separation will not affect the performance of **Makprime MP**. **Dilute Makprime MP** 2:1(2-part primer and 1 part water).

Makprime MP must be applied as a primer coat on all applications to porous substrates.

Refer to **Makprime MP** Technical Data Sheet

Non-Porous Substrate:

A non-porous or impervious substrate will cause a bead of water to be retained on the surface of the substrate as a raised droplet. The droplet does not easily soak into the surface of the substrate.

Concrete that is overworked or burnished at the time of placement can become non-porous when cured. Mechanical abrasion, such as captive shot blasting or vacuumed grinding is required to open substrate pores prior to the application of **Makprime MP**. Use **Makprime MP** undiluted.

MIXING

Makproof 2K is a 2-part waterproofing membrane. It must be mixed prior to application.

The 40kg kit – 20kg powder Part A (2 x 10kg bags powder) and requires 20 litres of Part B liquid.

Stir Part B liquid component to ensure uniform consistency before adding Part A powder. Slowly add powder to liquid, mixing uniformly, then continue adding rest of the powder until fully mixed.

The mixing ratio is 1:1 weight.

Adding powder into the liquid to avoid lumps and incomplete mixing.

Continue mixing until uniform and lump free is achieved.

DO NOT MIX BY HAND.

APPLICATION

Makproof 2K is a 2-coat system.
It can be applied by brush, roller or trowel to both small and large areas.

Each coat must be applied at a uniform thickness of 1.0mm (minimum). 2 coats will achieve a total wet film thickness of 2.0mm. It should not be applied more than 2.0mm thick per coat.

A wet film gauge should be used to regulate adequate coverage of each coat.

A wet film gauge must be used regularly to ensure that minimum wet film builds are achieved for each coat.

All vertical terminations, including perimeter walls, hobs etc, must be of adequate height to

satisfy AS/NZ 3740 for internal applications and AS/NZ 4654.2 for external applications.

The minimum film build requirements for vertical surfaces are identical for horizontal applications and must be applied without slump or deformation when cured.

Apply **Makseal Industrial Grade Silicone** or **Makseal Hybrid LM** as a bond breaker to all horizontal/vertical junctions, e.g. wall/floor, wall/wall, hob/floor, hob/wall & shower set downs etc., prior to all membrane applications.

Allow 24 hours at 22°C/50% RH before flood testing the installed system. Ensure that the joints or other critical areas have been fully dried prior to flood testing.

Critical areas where the membrane is applied greater than 1mm wet film or over bond breakers and other impermeable substrates require longer drying times.

Moist or Damp Surfaces:

Makprime MP can be applied to damp porous substrates, i.e. with no free water on the surface.

Makproof 2K is not a vapour barrier and is not designed to stop a negative hydrostatic head of pressure. Where a substrate is subjected to a hydrostatic head of pressure from the negative side, **Makproof Moisture Barrier** must be applied and be allowed to fully cure before the membrane application. Refer to **Makrete Makproof Moisture Barrier** Technical Data Sheet.

Bond Breaker & Membrane Installation:

Internal wet area installation must comply with the minimum requirements of AS/NZ 3740.

External wet area installation must comply with the minimum requirements of AS/NZ 4654.2.

Makseal Industrial Grade Silicone or **Makseal Hybrid LM** is to be installed over the dry primer coat where a bond breaker joint is required, e.g., to internal corners and changes in direction of substrate plane, such as wall/floor; wall/wall; hob/wall junctions, pipe penetrations, tap bodies, water stops, drainage outlets and the like.

Bond breaker joints must be a minimum 12mm x 12mm coved bead of sealant applied by caulking gun continuously into all changes of substrate plane, such as, wall/floor, hob/floor, hob/wall and wall/wall corners to the minimum termination height required by AS/NZ 3740 or AS/NZ 4654.2 as applicable.

The sealant must bridge all gaps and holes with a minimum 6mm contact onto the adjacent substrates.

All bond breaker joint sealant profiles must be a minimum 6mm in depth at the mid-point of the joint.

Substrate gaps at drainage outlets, flashings, and water stops, nail/screw holes etc. must also be sealed using **Makseal Industrial Grade Silicone** or **Makseal Hybrid LM** sealant prior to **Makproof 2K** application.

Where applied, **Makseal Industrial Grade Silicone** or **Makseal Hybrid LM** must be spatula tooled smooth around fittings and at all changes of substrate plane to a minimum required coved joint. The sealant must be a minimum 6mm in depth at the mid-point of the bond breaker joint and extend a minimum 6mm on either side of the joint or gap.

Apply **Makproof 2K** as soon as the bond breaker joint can be over coated without deformation of the coved sealant profile.

Membrane Protection:

Membrane should be protected throughout the application process and during the initial 24-hour cure period by the placement of signs and barriers to deny access to next trades.

Further temporary protection sheets must be installed securely, to protect the cured dry film from damage by following trades, until a protective screed or finished floor system is installed.

Membrane Recoating and/or Repair Recoating:

The surface must be cleaned free of all tile adhesive residue, surface dust and any form of contamination or substrate irregularity.

The membrane surface must be washed down with diluted sugar soap, thoroughly rinsed and allowed to dry.

Repairing:

The adjacent membrane must be sound with minimum dry film thickness of 1.0mm that is fully adhered to the substrate.

Membrane must be thoroughly cleaned of all foreign material and left free of all cleaning agent residue, dust or contamination.

Ensure that any exposed porous and non-porous substrates are correctly prepared, primed and sealed.

Apply 2 coats of **Makproof 2K** waterproofing membrane as per "Coverage" instructions.

Ensure that the membrane repair overlaps the existing membrane by a minimum 100mm.

A consistent minimum 1.0mm dry film thickness is required over both previously coated and uncoated repair areas. (Refer to "Coverage" table).

COVERAGE:

This will vary with the porosity of the substrates.

Two coats of **Makproof 2K** are recommended to get the optimum performance.

Floors

A minimum dry film thickness of 1.0 mm is required. A 20 Litre and 20kg kit will cover approximately 25m^2 (based on two coats).

Walls

A minimum dry film thickness of 0.8mm is required. A 20 Litre and 20kg kit will cover approximately 25m^2 (based on two coats).

THICKNESS PER COAT			
Application	**Wet Film Thickness**	**Dry Film Thickness**	**Total Dry Film Thickness 2 coats**
FLOORS	0.75mm	0.50mm	1.00mm
WALLS	0.60mm	0.40mm	0.80mm

YIELD			
THEORETICAL COVERAGE	Per coat	2 coats	Per Unit
FLOORS	40 m^2	20 m^2	20Litre + 20kg kit
WALLS	50 m^2	25 m^2	20Litre + 20kg kit

Precaution:

This is a two-part system and neither component is permitted to be substituted or diluted.

Must not be installed directly on wet (standing water), contaminated, or friable substrates.

Minimum dry film thickness after 2 coats is 0.80mm (for walls).

Regular checks with a wet film gauge during the application of each coat are advised.

Cold damp conditions will adversely affect application properties and slow rate of curing.

Do not apply **Makproof 2K** when air and substrate temperature is greater than 35°C or below 5°C.

When used in areas subject to ambient conditions below freezing, special installation precautions must be taken.

Membrane is suitable for use as an exposed finish or as top coating exterior membrane on applications that are subject to light pedestrian maintenance traffic only.

All AS 4654.2 external membrane applications covered with a reinforced tile bed or screed must be separated from the membrane by a minimum one layer of 200-micron plastic sheet as a separation layer in accordance with AS 3958.1 - 3.3.2.3.

The installation of protection board and ballast, such as river pebbles or similar loose laid unbound coverings, must be isolated from the membrane by a compatible drainage cell and filter fabric system.

Makproof 2K must not be applied directly over lightweight concrete. Hobs constructed of autoclaved aerated blocks, e.g. Hebel, must be saturated with 2 coats of **Makprime MP** to consolidate and seal the substrate. This is to prevent pin holing of the membrane and provide enough strength to support tiling of the hob.

Autoclaved aerated block walls must be rendered prior to the application of the membrane system.
Makproof 2K can be used in constantly submerged applications such as swimming pools, ponds and spas. Use **Makproof 2 Part** cementitious membrane.
Makproof 2K waterproofing membrane is not designed to withstand negative side substrate head of pressure. Use **Makproof Moisture Barrier**.

Makrete recommend using approved proprietary tile adhesives. Contact **Makrete** for additional information and recommendations.

PAINTABILITY:

Makproof 2K is paintable. Refer to paint supplier's recommendations.

STORAGE AND SHELF LIFE

Makproof 2K has a 12-month shelf life when stored unopened between 5°C to 30°C.
Protect from excessive heat, direct sunlight, moisture and freeze/thaw.

CLEAN UP

Makproof 2K should be removed with warm soapy water from tools and equipment prior to full cure.

HEALTH AND SAFETY INFORMATION

Please refer to full Safety Data Sheet for this product, which is available from **Makrete Building Solutions**

PRODUCT CHARACTERISTICS	
Colour	White Liquid & Cementitious Grey Powder
Appearance	Smooth, Brush/Roller Grade Cement Grey Paste
Pot Life	1 hour @ 22°C and 50% RH
Yield	20-25 m^2 for 2 coats (20L + 20kg kit)
Specific Gravity	Approx 1.5kg/cm3 when mixed
Weight Solids	Approx. 80%
2mm Crack Bridging	Pass
Membrane Rating	Class I and Class II
Drying Time Per Coat	1-2 hours @ 22°C and 50% RH (minimum of 2 coats)
Final Drying Time following Trades	4 hours @ 22°C and 50% RH (after last coat)
Shore "A" Hardness	Approx. 80
Moisture Vapour Transmission Rate	2.8 grams / m^2/ 24hours
Water Absorption	1.7%
Tensile Strength	>1.5 MPa
Elongation	>300%
Mix Ratio by Weight	1 part powder to 1 part liquid
Dry Film Thickness	0.80mm (walls) and 1.0mm (floors) after 2 coats
Packaging	2 x 10 kg bags powder (Part A) pail 1 x 20L pail (Part B)
Flammability	Non flammable

Product	**MAKPROOF 2K**
Issue Date	**AUG 2022**
Issue No:	**1**
Item Code	**MAKW12**
Size	**20 Litre Container** **20 Kg Powder (Kit)**

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