

AQUAFLEX WPU

Ready-to-use quick drying and flexible Class III water-based hybrid WPU polyurethane membrane for internal and external waterproofing applications



WHERE TO USE

Aquaflex WPU can be used on the following:

- Concrete, screed, render and masonry surfaces, fibre cement sheeting, wet area rated plasterboard and timber sheeting.
- For further information on suitable surfaces and substrates please contact Mapei Technical Services on Freecall 1800 652666.

Some application examples

- Internal wet areas, bathrooms, laundries and other tiled areas;
- Balconies, decks, podiums and terraces;
- Roofs, as an exposed membrane finish (light pedestrian traffic). Parapets and external areas exposed to constant weather;
- Roofs to be covered by screeds or toppings including tiles.

ADVANTAGES

- Highly flexible and elastic;
- Excellent adhesion;
- Solvent free, non-hazardous;
- Excellent UV / weather resistant properties;
- Non re-emulsifying; • Resistant to algal growth.

TECHNICAL CHARACTERISTICS

Aquaflex WPU is a versatile ready-to-use, solvent-free, single component, water-based hybrid polyurethane membrane. **Aquaflex WPU** has a thixotropic consistency that makes it easy to apply on horizontal and vertical surfaces for both interior and exterior applications.

Aquaflex WPU cures to form a highly flexible Class III membrane with excellent adhesion properties.

Aquaflex WPU complies with AS4858:2004 and AS4654.1:2012. **Aquaflex WPU** cures to a tack-free finish and permits light pedestrian service traffic. **Aquaflex WPU** provides excellent direct adhesion with Mapei's range of tile adhesives.

The over 400% elongation of **Aquaflex WPU** enables it to withstand normal expansion and contraction movements of the substrate due to temperature variations and vibrations.

Aquaflex WPU is resistant to limewater (pH > 12), water which contains mild chlorides and normal household detergents and cleaning products.

RECOMMENDATIONS

- DO NOT apply **Aquaflex WPU** if the temperature is lower than +5°C or above +35°C
- **Aquaflex WPU** should always be applied with a stable or falling ambient temperature.
- Always create sloping surfaces to drains where necessary to avoid the formation of water ponding.
- DO NOT apply **Aquaflex WPU** on damp cementitious substrates without first priming with Planiseal MR.
- DO NOT apply **Aquaflex WPU** on bitumen or asphalt membranes without firstly applying Primer for Aquaflex.
- DO NOT use **Aquaflex WPU** to cover cracks.

- DO NOT apply **Aquaflex WPU** on crumbly cementitious substrates, old floors which are not well bonded to the substrate or surface treatments which impede a good bond.
- **Aquaflex WPU** is suitable for light service foot traffic however it must be protected from abrasion caused by heavier traffic by installing ceramic tiles or other forms of protection.

APPLICATION PROCEDURE

Preparation of the substrate

Internal wet area installation must comply with the minimum requirements of AS 3740-2010. External installations must comply with the minimum requirements of AS 4654.2-2012. Substrates must be well-cured, sound, clean, dry and free of oil, grease, cement laitance, old paint and any other substance which could compromise the bond. Smoothing and levelling layers may be applied using **Planitop Fast 330** or **Adesilex P4**.

Expansion joints and junctions (e.g. floor-wall, wall-wall) can be locations of movement and as such, require special preparation. Mapei's highly flexible polymer band products **Mapeband** and **Mapeband SA** (self adhesive) have been developed to provide rapid installation and dependable in-service performance for treatment of these areas. Alternatively, for internal junction applications, a sealant bond breaker system can be used with **Mapeflex PU 45 FT**, in accordance with AS3740. Refer to specific datasheets for installation details.

Structural joints must be waterproofed with Mapeband TPE bonded to the substrate with **Adesilex PG4**. **Aquaflex WPU** does not require the use of a primer on properly prepared substrates with the following exceptions:

- For excessively porous substrates use **Planiseal MR** or **Primer 3296** to seal the surface.
- Metal and PVC fittings and trims must be primed with **Eco Prim Grip** to provide a good bond.
- For damp substrates of ceramic tiles or natural stone must be primed with **Eco Prim Grip**.
- Anhydrite or gypsum substrates must be perfectly dry (maximum residual humidity 0.5%), sanded and treated with a coat of **Primer G**.

APPLICATION OF THE PRODUCT

Aquaflex WPU can be applied by brush or roller. It must be applied in two even coats to achieve a final dry film thickness (DFT) of 1mm. This equates to 750 microns (0.75mm) wet film thickness (WFT) per coat. Wait until the first coat is dry before applying the second coat diagonally to the first (approximately 2-4 hours at 23°C and 50% relative humidity. Note that low temperatures and/or high humidity can extend dry times). For roof and exposed applications 3 coats are required to achieve a DFT of at least 1.3mm. Make sure there are no interruptions in the film caused by imperfections in the substrate. If **Aquaflex WPU** is applied to form an anti-fracture membrane on cracked substrates, we recommend inserting **Mapetex Sel** or **Mapetex 50** reinforcement into the first coat while it is still fresh, avoiding air bubbles or voids. Wait until the first coat is dry then apply the second coat in order to completely embed **Mapetex** reinforcement. Drying times may increase as **Mapetex** insertion increases the final thickness of the applied film.

In bathrooms, on balconies or in saunas, a water-tightness test may be carried out 72 hours after applying the final coat of **Aquaflex WPU**. Ceramic, stone and mosaic tiles may be installed 24 - 48 hours after applying the final coat (at +23°C and 50% relative humidity) using a C2-class MAPEI adhesive according to ISO 13007 standards, to be selected according to the final use of the floor or coating. For example, on balconies use **Keraflex Maxi S1** (Class C2TE S1). For the rapid installation of tiles use **Granirapid** (Class C2F S1) and for laying all types of mosaic use **Kerabond Plus + Isolastic 50** (Class C2T S1). Grout tile joints with a special cementitious grout such as **Ultracolor Plus**, **Keracolor FF**, **Keracolor GG** mixed with **Fugolastic** or epoxy grout such as **Kerapoxy** or **Kerapoxy Design**. Seal expansion joints with a special MAPEI sealant (such as **Mapesil AC**, **Mapeflex PU40** or **Mapeflex PU45FT** according to requirements). Before installing the tiles, carefully check the surface of **Aquaflex WPU** to make sure it is continuous and that there are no pin-hole or small craters. If there are such defects, apply a further coat where they are located.

Cleaning

Aquaflex WPU may be easily removed while still fresh from tools and surfaces with water. Once hardened, it can only be mechanically removed.

CONSUMPTION

The consumption of **Aquaflex WPU** is approximately 750ml / m² / coat or 1.5 ltr/m² per mm of thickness.

1 x 15 litre pail will cover 10m² @ 1mm DFT (2 coats)

For exposed flat roof applications, it is recommended to apply 3 coats to achieve a 1.3mm DFT>

1 15 litre pail will cover 7.5m² @ 1.3mm DFT (3 coats)

PACKAGING

Aquaflex WPU is available in 15 litre buckets.

STORAGE

Aquaflex WPU may be stored for up to 24 months in its original packaging in a dry place. Protect from frost.



Applying Aquaflex WPU on a wall with a roller



Bathroom wall waterproofed with Aquaflex WPU and Mapeband



Spreading Aquaflex WPU around the drain in a shower cubicle



Positioning the special piece of Mapeband over Aquaflex WPU



The special piece of Mapeband embedded in the Aquaflex WPU



End result of a waterproofing treatment using Aquaflex WPU and Mapeband

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Consistency:	thixotropic liquid
Colour:	light grey
Density (g/cm ³):	1.3
pH:	8.5
Dry solids content (%):	65%
Shore A hardness (ASTM D2240-97)	60
Application temperature range:	from +5°C to +35°C
Tack free time at +23°C 50% RH	1-2 hours
Re-coat time at +23°C 50% RH	2-4 hours
Waiting time before tiling or topping over	24 - 48 hours
FINAL PERFORMANCES	
Resistance to ageing - (ISO 105-A02 Grey Scale Test)	Excellent
Elongation classification (AS4858-2004)	>400% - Class III
Tensile strength (ASTM45.3-1989) (N/mm ²)	1.9
Water immersion test - 56 days	Pass
Bleach immersion Test - 56 days	Pass
Detergent immersion test - 56 days	Pass
Heat ageing	Pass
Cyclic movement test	Pass
Water absorption test	Pass
Vapour transmission test (ASTM E96)	0.7g/m ² /24h

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Aquaflex WPU is not considered hazardous according to current norms and guidelines regarding the classification of mixture. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet available from our website. at www.mapei.com.au

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

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The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.au

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