



MAPEI



Aquaflex Roof Premium

**Ready-to-use
water-based polyurethane
waterproofing membrane,
suitable for pedestrian
traffic and resistant to
ponding water, no VOC**



WHERE TO USE

For waterproofing:

- flat, sloping and curved roofs and roofs with a complex shapes;
- new and existing roofs;
- terraces, balconies, walkways and walkable areas in general.

Aquaflex Roof Premium may be applied on:

- concrete;
- cementitious screeds and screeds made using special binders (**Topcem** or **Topcem Pronto**);
- ceramic and stone tiles;
- fibre cement slabs;
- existing bituminous membranes;
- galvanized sheet, copper, aluminium, steel and iron.

ADVANTAGES

- Technologically innovative water-based polyurethane waterproofing product.
- Solvent-free and no VOC.
- Rapid-drying.
- Ready-to-use, easy to apply thanks to its high stretching capacity.
- Product directly suitable for foot traffic.

- Available in white with high SRI (Solar Reflectance Index) of 103.
- CE marking in compliance with EN 1504-2.
- Resistant to root penetration in compliance with UNI CEN/TS 14416.
- The HR version has an SRI value which helps obtain a "Heat Island Reduction" credit in the SS (Sustainable Sites) category of the LEED V4 protocol.

TECHNICAL CHARACTERISTICS

Aquaflex Roof Premium is a ready-to-use liquid waterproofing membrane, solvent-free and without VOC, formulated by the MAPEI R&D laboratories. Once applied, **Aquaflex Roof Premium** forms a seamless membrane with 400% elongation capacity that is resistant to atmospheric agents, UV rays and ponding water.

Also, thanks to the special fillers contained in **Aquaflex Roof Premium**, it is resistant to foot traffic and may be applied on all walkable areas without an additional protective layer.

Aquaflex Roof Premium adheres extremely well to numerous types of substrate and, thanks to its excellent elasticity and crack-bridging capacity (more than 3 cm when reinforced with **Mapetex 50**), it is resistant to dynamic loads and stresses which normally act on roof structures.

The excellent mechanical characteristics of **Aquaflex Roof Premium** remain stable over the years which makes the product highly durable.

Aquaflex Roof Premium



Filling hollows with MapeSlope before applying Primer P3



Application of Aquaflex Roof Premium on an old bituminous membrane



Application of Mapecoat I 600 W on tiles prepared accordingly

Aquaflex Roof Premium is easy to apply by brush, roller or spray on horizontal, vertical and sloping surfaces and on surfaces with a complex shape. The product dries very quickly and several coats may be applied in a very short space of time, reducing site waiting times to a minimum.

Aquaflex Roof Premium is available in various colours: grey (RAL 7038 and 2500 N) and high-reflectance white. The white version has a Solar Reflectance Index (SRI) of 103 which helps reduce the temperature of the roof, thereby improving the energy efficiency of the building and reducing its heat island effect.

Aquaflex Roof Premium meets the principles defined in EN 1504-9 (*“Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and evaluation of conformity. General principles for use of products and systems”*) and the requirements of EN 1504-2 coating (C) according to principles PI, MC and IR (*“Surface protection systems for concrete”*).

RECOMMENDATIONS

- Do not apply **Aquaflex Roof Premium** if the temperature is lower than +5°C or higher than +35°C or if it is about to rain.
- Incorporate **Mapetex 50** reinforcement in the membrane on roofs exposed to particularly low temperatures.
- Do not apply **Aquaflex Roof Premium** on substrates with a residual moisture content of > 4% or on substrates with rising damp.
- Do not apply if there is dew on the substrate.
- Do not apply **Aquaflex Roof Premium** on painted metal surfaces.
- If it rains between one coat and another of **Aquaflex Roof Premium**, wait at least 12 hours before applying the next coat, and in all cases until there is no moisture on the surface, otherwise adhesion between the two coats could be affected.
- Do not use on bitumen membranes that have only recently been applied (< 6 months). Always wait until the surface to be treated has completely oxidised.

APPLICATION PROCEDURE

Substrate preparation

All substrates, whether new or old, must be solid, clean, dry and free of all traces of oil, grease, old paint, rust, mould and any other material or substance which could affect adhesion.

Remove all loose parts from concrete and mineral-based substrates. Repair any hollows in the surface with **MapeSlope** one-component, cementitious levelling

mortar or **Planitop Fast 330** rapid-setting, fibre-reinforced cementitious mortar or **Adesilex P4** cementitious smoothing and levelling compound. All wax, water-repellent treatments, etc. must be removed from the ceramic substrates with a suitable ceramic detergent and/or by sanding. Fill any gaps between old ceramic floor tiles with **Adesilex P4**. In case of application on metal substrates, thoroughly clean the surface before applying the primer.

Then apply a coat of **Mapecoat I 600 W** two-component, transparent epoxy primer in water dispersion diluted 1:1 with water. In case of application on old bituminous membranes, carefully hydro-blast the surface and wait until all the water has drained off. If case of smooth membrane, apply a coat of **Primer for Aquaflex**, synthetic resin-based primer in solvent; In case of slated membrane, prime the surface with **Mapecoat I 600 W**.

Primer for Aquaflex may be applied also on **MapeSlope** when it is used for repairing bitumen membranes.

Before applying **Aquaflex Roof Premium**, pay particular attention to expansion joints and fillets between horizontal and vertical surfaces, which must be waterproofed with **Mapeband SA** self-adhesive butyl rubber tape or by bonding **Mapeband** or **Mapeband PE120** to the substrate with **Aquaflex Roof Premium**. Structural joints must be waterproofed with **Mapeband TPE** bonded in place with **Adesilex PG4**. Use a suitable kit from the **Drain** range to seal any drains.

Preparation of the product

The product is supplied ready-to-use, but mixing before use is recommended so that it is perfectly blended.

Application of the product

After preparing and priming the substrate as specified, apply **Aquaflex Roof Premium** with a long-pile roller, a brush or with a spray gun, such as a Wagner Plastcoat PC 430 or Plastcoat PC 830.

Apply at least two coats of **Aquaflex Roof Premium** to form an even layer. Apply the second coat crossways to the first one once it is completely dry. If there are micro-cracks in the substrate and around overlaps in bituminous membranes, incorporate **Mapetex 50** non-woven polypropylene fabric between the two coats of **Aquaflex Roof Premium** as follows. Spread a generous coat of product on the substrate, lay the **Mapetex 50** fabric on the surface and press it down with a flat spreader or spiked roller so that it becomes impregnated with **Aquaflex Roof Premium**.

When this layer is completely dry apply the next coat of **Aquaflex Roof Premium**.

Cleaning tools

Clean tools used to apply **Aquaflex Roof Premium** with water before the product dries.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	paste
Colours:	high-reflectance white, RAL 7038 grey, 2500 N grey
Density (g/cm ³):	1.25
Dry solids content (%):	60
Brookfield viscosity (mPa·s):	20,000

APPLICATION DATA

Application temperature:	+5°C to +35°C
Waiting time at +23°C - 50% R.H.:	<ul style="list-style-type: none"> - Mapecoat I 600 W and 1st coat: approx. 3-4 hours or Primer for Aquaflex and 1st coat: approx. 5-6 hours - each coat of Aquaflex Roof Premium: approx. 2 hours - set to foot traffic: approx. 24 hours
Waiting time at +5°C - 50% R.H.:	<ul style="list-style-type: none"> - Mapecoat I 600 W and 1st coat: approx. 24 hours or Primer for Aquaflex and 1st coat: approx. 24 hours - each coat of Aquaflex Roof Premium: approx. 24 hours - set to foot traffic: approx. 48 hours
Waiting time at +35°C - 50% R.H.:	<ul style="list-style-type: none"> - Mapecoat I 600 W and 1st coat: approx. 1-2 hours or Primer for Aquaflex and 1st coat: approx. 2-4 hours - each coat of Aquaflex Roof Premium: approx. 1 hour - set to foot traffic: approx. 24 hours

MECHANICAL CHARACTERISTICS

Elongation at failure at +23°C - 50% R.H. (ISO 37) (%):	400
Tensile strength at +23°C - 50% R.H. (ISO 37) (N/mm ²):	4

FINAL PERFORMANCE

Performance characteristic	Test method	Requirements according to EN 1504-2 coating (C) principles PI, MC and IR	Performance figures for Aquaflex Roof Premium		
Adhesion to concrete - after 28 days at +23°C and 50% R.H. (N/mm ²):	EN 1542	Flexible systems with no traffic: ≥ 0.8	2		
Thermal compatibility to freeze/thaw cycles with de-icing salts, measured as adhesion (N/mm ²):	EN 13687-1		≥ 1.5		
Thermal compatibility to storm cycles measure as adhesion (N/mm ²):	EN 13687-2		≥ 1.5		
Static crack-bridging at +23°C expressed as maximum width of crack (mm):	EN 1062-7	from class A1 (0.1 mm) to class A5 (2.5 mm)	Class A5		
Static crack-bridging at 0°C expressed as maximum width of crack (mm):			Class A5		
Static crack-bridging at -10°C expressed as maximum width of crack (mm):			Class A5		
Dynamic crack-bridging at +23°C expressed as resistance to cracking cycles:		from class B1 to class B4.2	Class B4.2		
Dynamic crack-bridging at -10°C expressed as resistance to cracking cycles:			Class B4.1		
Permeability to water vapour - equivalent air thickness S _D (m):	EN ISO 7783-1	class I: S _D < 5 m (permeable to vapour)	S _D = 1.5	Class I	
Impermeability to water, expressed as capillary absorption (kg/m ² ·h ^{0.5}):	EN 1062-3	< 0.1	< 0.01		
Permeability to carbon dioxide (CO ₂) - diffusion in equivalent air layer thickness S _{Dco2} (m):	EN 1062-6	> 50	S _{Dco2} = 195 for 1 mm of dry layer		
Artificial exposure to atmospheric agents:	EN 1062-11	After 2,000 hours of artificial bad weather: <ul style="list-style-type: none"> - no swelling according to EN ISO 4628-2 - no cracking according to EN ISO 4628-4 - no flaking according to EN ISO 4628-5 slight colour variation, loss of brightness and crumbling may be acceptable	No swelling, cracking or flaking slight colour variation		
Reaction to fire:	EN 13501-1	Euroclass	B-s1-d0		
Slip/streak resistance (Pendulum test value):	EN 13036-4	Class I: > 40 tested in damp state (damp internal surface) Class II: > 40 tested in dry state (dry internal surface) Class III: > 55 tested in damp state (external) or according to national regulations	Class II		
Slip/streak resistance (μ):	B.C.R.A. method Italian Ministerial Decree no. 236/89 art. 8.2.2	μ > 0.40 slipping element made of leather on dry surfaces μ > 0.40 slipping elements made of hard rubber on wet surfaces		Wet	Dry
			leather	0.48	0.64
			rubber	0.60	*
			SBR 302 Nora T	0.45	0.75
			Synthetic	0.60	0.62



Cementitious substrate primed with Mapecoat I 600 W



Application of the first coat of Aquaflex Roof Premium on cementitious screed



Application of the second coat of Aquaflex Roof Premium

* Out of scale

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CONSUMPTION

In general, the consumption rates below are for a seamless film on a flat surface and will be higher on uneven substrates.

- Protective finish or reflective coating on an old bitumen membrane: approx. 0.9-1 kg/m².
- Waterproof membrane: 1.5-2 kg/m² (equivalent to approx. 0.8-1 mm thick dry layer).

PACKAGING

5 and 20 kg cans.

COLOURS

High-reflectance white, 2500 N grey, RAL 7038 grey.

STORAGE

Aquaflex Roof Premium may be stored for 12 months in its original sealed packaging. Protect from freezing weather.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Aquaflex Roof Premium is not considered hazardous according to current norms and guidelines regarding the classification of mixtures. 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 Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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All relevant references for the product are available upon request and from www.mapei.com