



# Mapelastic® AquaDefense

**Ready-to-use, ultra-quick drying, flexible liquid membrane for internal and external waterproofing applications**



## WHERE TO USE

To form waterproofing layers before applying ceramic, stone and mosaic coatings in:

- balconies and terraces;
- bathrooms and shower cubicles;
- laundry rooms;
- saunas and damp environments in general.

**Mapelastic® AquaDefense** may be applied on:

- concrete;
- cementitious screeds and screeds made using special binders (**Topcem**, **Topcem Pronto**, **Mapecem** or **Mapecem Pronto**);
- plasterboard (for internal applications only);
- existing coatings in ceramic, terrazzo and stone;
- cementitious render.

## ADVANTAGES

**Mapelastic® AquaDefense** offers the following advantages:

- no drill or mixing tools required, supplied ready-to-use;
- resistant to rainwater 1 hour after applying the first coat and 3 hours after the second coat;
- ceramic coatings may be laid just 4 hours after applying the final coat (times refer to +23°C and 50% relative humidity of the air when the product is applied on dried screeds with a residual moisture lower than 3%).

## TECHNICAL CHARACTERISTICS

**Mapelastic® AquaDefense** is a totally solvent-free, ready-to-use, ultra-quick drying, one-component light blue synthetic resin based paste in water dispersion.

**Mapelastic® AquaDefense** is easy to apply using a long-haired roller, brush or trowel on horizontal, sloping and vertical surfaces. **Mapelastic® AquaDefense** dries very quickly to form a flexible sheath without a sticky surface. It is resistant to light pedestrian traffic after just 3 hours and forms an excellent grip with all types of adhesive for laying ceramic, stone material and mosaic of all kinds. The flexible nature of **Mapelastic® AquaDefense** helps it withstand normal movements caused by expansion and shrinkage of the substrate due to temperature variations and vibration.

Tiles laid on floors waterproofed with **Mapelastic® AquaDefense** by using C2F-class MAPEI adhesives (such as **Granirapid**, **Elastorapid**, etc.) and grouted with **Ultracolor Plus** may be opened to pedestrian traffic within only 12 hours of starting the work. Times refer to the temperature and humidity conditions as indicated before.

**Mapelastic® AquaDefense** is resistant to water, lime-water (ph > 12), water containing chlorine and detergents commonly used for cleaning residential environments.

# Mapelastic® AquaDefense®



Impregnating Drain  
Vertical fabric  
with Mapelastic®  
AquaDefense



Application of  
Mapeband on a  
wall-floor fillet joint  
with Mapelastic®  
AquaDefense



Application of the  
first coat of  
Mapelastic®  
AquaDefense on a  
screed

## RECOMMENDATIONS

- Do not apply **Mapelastic® AquaDefense** if the temperature is lower than +5°C.
- **Mapelastic® AquaDefense** must always be covered with ceramic, mosaic or stone.
- Do not apply **Mapelastic® AquaDefense** on cementitious substrates or on substrates with residual humidity higher than 3% and recurring rising damp.
- Do not apply **Mapelastic® AquaDefense** on crumbly cementitious substrates, old floors which are not well bonded to the substrate or surface treatments which impede a good bond.
- Do not use **Mapelastic® AquaDefense** to cover cracks.
- Protect the surface from rain for at least 1 hour after applying the first coat and 3 hours after applying the second coat (times refer to +23°C and 50% relative humidity of the air when the product is applied on dried screeds with a residual moisture lower than 3%).

## APPLICATION PROCEDURE

### Preparation of the substrate

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. Cementitious substrates must be stable and dry with no rising damp. Surface dust must be completely removed. Smoothing and levelling layers may be applied using **Planitop Fast 330** or **Adesilex P4**.

On old ceramic floors with hollowed or empty tile joints, or whenever slopes on surfaces need to be levelled out before spreading on **Mapelastic® AquaDefense**, we recommend applying a smoothing and levelling layer using **Adesilex P4**. Substrates in this condition must be thoroughly checked and all coatings, such as wax, water-repellent treatments, etc. must be removed from the surface with a suitable cleaning product and/or by sanding. If the substrate has micro-cracks, insert **Mapetex Sel** between the two coats of **Mapelastic® AquaDefense**.

Before spreading on the **Mapelastic® AquaDefense**, pay particular attention to expansion joints and fillet joints between horizontal and vertical surfaces. In such cases, apply **Mapeband** and suitable profiles bonded in place with **Mapelastic® AquaDefense**.

To waterproof drains on terraces and balconies, use the special kits from the **Drain** range. Structural joints must be waterproofed with **Mapeband TPE** bonded to the substrate with **Adesilex P4**.

### APPLICATION OF THE PRODUCT

**Mapelastic® AquaDefense** must be applied in two even, thin coats

(approximately 0.4 mm per coat) with a long-haired roller, brush or trowel. Wait until the first coat is dry, making sure the product becomes darker with a matt finish, before applying the second coat diagonally to the first (approximately 1 hour at +23°C and 50% relative humidity of the air and with substrates having residual humidity lower than 3%).

The final thickness of the two coats of **Mapelastic® AquaDefense** must be at least 0.8 mm in order to create a robust, flexible continuous film. Make sure there are no interruptions in the film caused by imperfections in the substrate.

If **Mapelastic® AquaDefense** is applied to form an anti-fracture membrane on cracked substrates, we recommend inserting **Mapetex Sel** reinforcement on the first coat while it is still fresh.

**Mapetex Sel** must be pressed down with a bubble-breaker roller on the first coat of **Mapelastic® AquaDefense** while it is still fresh.

Wait until the first coat is dry then apply the second coat in order to completely embed the **Mapetex Sel**.

Drying times may increase as **Mapetex Sel** insertion increases the final thickness of the applied film.

In bathrooms, on balconies and in saunas, Turkish baths, a water-tightness test may be carried out 12 hours after applying the final coat of **Mapelastic® AquaDefense**.

Ceramic, stone and mosaic coatings may be laid 4 hours after applying the second coat (at +23°C and 50% relative humidity of the air and residual humidity of the substrate lower than 3%) using a C2-class MAPEI adhesive according to EN 12004 standards, to be selected according to the final use of the floor or coating. For example, on balconies use **Keracolor Maxi S1** (class C2TE S1), for quickly laying tiles use **Elastorapid** (class C2FTE S2) and for laying all types of mosaic use **Adesilex P10 + Isolastic** mixed with 50% of water (class C2TE S1).

Grout tile joints with a special cementitious grout such as **Ultracolor Plus** - class CG2, **Keracolor FF**, **Keracolor GG** mixed with **Fugolastic**) or epoxy grout (for example **Kerapoxy**, **Kerapoxy Design** or **Kerapoxy CQ** - class RG). Seal expansion joints with a special MAPEI sealant (such as **Mapesil AC**, **Mapeflex PU20** or **Mapeflex PU50 SL** according to requirements).

Before laying the coating, carefully check the surface of **Mapelastic® AquaDefense** to make sure it is continuous and that there are no pin-holes or small craters. If there

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

Consistency:	paste
Colour:	light blue
Density (g/cm <sup>3</sup> ):	1.30
pH:	9.5
Dry solids content:	66
Brookfield Viscosity (mPa·s):	45,000 (spindle 6 - 10 rpm)

### APPLICATION DATA (at +23°C - 50% R.H.)

Minimum filming temperature:	+5°C
Recommended application temperature:	from +5°C to +35°C
Waiting time between first and second coat:	approximately 60 minutes (when dry to the touch)
Waiting time before laying coating:	3-4 hours
Complete drying of 1 mm thick layer:	12 hours

### FINAL PERFORMANCE

	EN 14891 acceptance range	Performance figures for Mapelastic® AquaDefense
Initial bond strength EN 14891-A.6.2 (N/mm <sup>2</sup> ):	> 0.5	1.7
Bond strength after immersion in water (EN 14891-A.6.3) (N/mm <sup>2</sup> ):	> 0.5	> 1.0
Bond strength after application of heat source (EN 14891-A.6.5) (N/mm <sup>2</sup> ):	> 0.5	> 1.8
Bond strength after freeze-thaw cycles (EN 14891-A.6.6) (N/mm <sup>2</sup> ):	> 0.5	> 0.9
Bond strength after immersion in basic water (solution saturated with lime) (EN 14891-A.6.9) (N/mm <sup>2</sup> ):	> 0.5	> 1.3
Bond strength after immersion in sodium hypochlorite solution (EN 14891-A.6.7) (N/mm <sup>2</sup> ):	> 0.5	> 1.2
Crack-bridging ability at +23°C (EN 14891-A.8.2) (mm):	> 0.75	3.2
Crack-bridging ability at -5°C (EN 14891-A.8.3) (mm):	> 0.75	1.6
Impermeability to water under pressure (EN14891-A.7) (1500 kPa):	no penetration	no penetration



Application by roller of Mapelastic® AquaDefense second coat



Application of Mapelastic® AquaDefense by brush between floor and wall before applying Mapeband



Bonding tiles on Mapelastic® AquaDefense

Bond values according to EN 14891 measured using Mapelastic® AquaDefense and a C2-type cementitious adhesive according to EN 12004

# Mapelastic® AquaDefense®

are such defects, apply a further coat where they are located.

## Cleaning

Mapelastic® AquaDefense may be removed easily from tools and surfaces while still fresh with water.

## CONSUMPTION

1 kg/m<sup>2</sup> for two coats (1.3 kg/m<sup>2</sup> per mm of thickness).

## PACKAGING

15 and 7.5 kg drums.

## STORAGE

Mapelastic® AquaDefense may be stored for up to 24 months in its original packaging in a dry place. Protect from freezing weather.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapelastic® AquaDefense is not considered as dangerous according to the European regulation regarding the classification of mixtures. It is however recommended to use gloves, eyes protection and to take the usual precaution taken when handling chemical products are recommended.

For further and complete information about a safe use of our product please refer to our latest version of the 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](http://www.mapei.com)

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**



BUILDING THE FUTURE