

# MAPELASTIC AQUADEFENSE ZERO

Ready-to-use, ultra quick-drying, flexible liquid membrane for waterproofing interior and exterior surfaces



## WHERE TO USE

Waterproofing before applying ceramic, stone, and mosaic coverings in:

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

Mapelastic AquaDefense Zero can be applied on:

- concrete;
- cementitious screeds and screeds made using special binders (**Topcem, Topcem Pronto, Mapecem, or Mapecem Pronto**);
- plasterboard (for application in interior only);
- old ceramic tiles, terrazzo, and stone material;
- cementitious render.

## ADVANTAGES

- **Mapelastic AquaDefense Zero** is ready to use.
- **Mapelastic AquaDefense Zero** is a rapid product:
  - resists rainwater 1 hour after applying the first coat and 3 hours after applying the second coat;
  - ceramic can be bonded after 4 hours (at +23°C and 50% R.H. when applied on a dry screed with less than 3% residual moisture).
- **Mapelastic AquaDefense Zero** is elastic: at +23°C it has 3.2 mm crack-bridging capacity without reinforcement.

## TECHNICAL CHARACTERISTICS

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

**Mapelastc AquaDefense Zero** is easy to apply using a long-haired roller, brush, or trowel on horizontal, sloping, and vertical surfaces. **Mapelastc AquaDefense Zero** dries very quickly to form a flexible membrane 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 **Mapelastc AquaDefense Zero** 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 **Mapelastc AquaDefense Zero** by using C2F-class MAPEI adhesives (such as **Keraquick Maxi S1**, **Ultralite S1 Flex Quick**, etc.) and grouted with **Ultracolor Plus** can be opened to pedestrian traffic within 12 hours of starting the work.

**Mapelastc AquaDefense Zero** is resistant to water, lime water (pH >12), and detergents commonly used for cleaning residential environments.

## RECOMMENDATIONS

- Do not apply **Mapelastc AquaDefense Zero** if the temperature is lower than +5°C.
- **Mapelastc AquaDefense Zero** must always be covered with ceramic, mosaic or stone.
- Do not apply **Mapelastc AquaDefense Zero** on cementitious substrates with residual humidity higher than 3% or subject to recurring rising damp.
- Do not apply **Mapelastc AquaDefense Zero** on crumbly cementitious substrates, old floors that are not well bonded to the substrate or surface treatments which could affect the bond.
- Do not use **Mapelastc AquaDefense Zero** 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 air humidity when the product is applied on dried screeds with 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 affect the bond. Cementitious substrates must be stable and dry, with no rising damp. Surface dust must be suitably removed.

Smooth or level the surface with **Planitop Fast 330**.

On old ceramic floors with hollowed or empty tile joints, or whenever slopes on surfaces need to be restored before the application of **Mapelastc AquaDefense Zero**, it is recommended to smooth or level the surface using **Planitop Fast 330**. Such substrates 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 (such as **UltraCare HD Cleaner**) and/or by abrasion.

Before applying **Mapelastc AquaDefense Zero**, pay particular attention to expansion joints and fillet joints between horizontal and vertical surfaces: in those areas apply **Mapeband** (or as alternatives **Mapeband PE 120**) together with the relevant special pieces, bonded using **Mapelastc AquaDefense Zero**.

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 PG4**.

**Eco Prim Grip Plus** can be used to further improve the bond of **Mapelastc AquaDefense Zero** on old ceramic or natural stone floors.

## Application of the product

**Mapelastc AquaDefense Zero** must be applied in two thin (approx. 0.4 mm per coat), even coats with a long piled 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 perpendicular to the first one (approximately 1 hour at +23°C and 50% relative air humidity and with substrates having residual humidity lower than 3%).

The two coats of **Mapelastc AquaDefense Zero** must create a robust, flexible, and continuous film. Make sure there are no interruptions in the film caused by imperfections in the substrate.

If **Mapelastic AquaDefense Zero** is applied to form an anti-fracture membrane on cracked substrates, we recommend embedding the reinforcement fabric **Mapetex 50** into the first coat while it is still fresh.

**Mapetex 50** must be pressed down with a spiked roller on the first coat of **Mapelastic AquaDefense Zero** while it is still fresh.

Wait until the first coat is dry, then apply the second coat in order to completely embed **Mapetex 50**.

Drying times may increase as **Mapetex 50** insertion increases the final thickness of the applied film.

Ceramic, stone, and mosaic tiles can be laid 4 hours after the application of the second coat (at +23°C and 50% relative air humidity) MAPEI adhesive to be selected depending on the final use of the flooring or wall and the tile type and format.

In exterior applications on balconies and terraces, use a Mapei adhesive with minimum class C2S1 according to EN 12004 standard such as **Keraflex Maxi S1 Zero**, **Keraflex Extra S1 Zero**, or **Ultralite S1 Flex Zero**.

In interiors, use a Mapei adhesive with minimum class C2 according to EN 12004 standard, such as **Adesilex P9**, or **Keraflex**.

For the rapid installation of tiles, use an adhesive with minimum class C2F such as **Keraquick Maxi S1** or **Ultralite S1 Flex Quick**.

For mosaic tiles of all types, use **Ultralite S1 Flex Zero** white or **Adesilex P10 + Isolastic** diluted with 50% of water.

Grout tile joints with a special cementitious grout (such as **Ultracolor Plus** - class CG2WFA, **Keracolor FF**, **Keracolor GG** mixed with **Fugolastic**) or epoxy grout (for example **Kerapoxy**, **Kerapoxy Easy Design**, or **Kerapoxy CQ** - class RG). Seal expansion joints with a special MAPEI sealant (such as **Mapesil AC**, **Mapesil AC Eco**, **Mapesil LM**, or **Mapeflex PU 45 FT**, according to requirements).



Impregnating **Drain Vertical** fabric with **Mapelastic AquaDefense Zero**



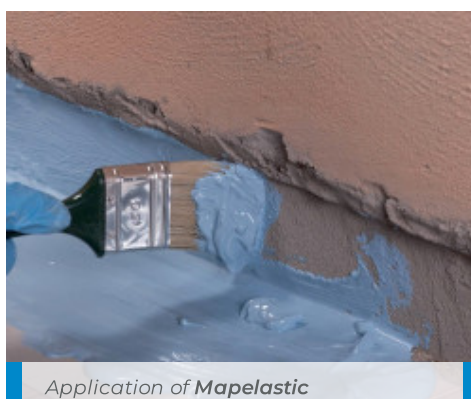
Application of **Mapeband** on a wall-floor fillet joint with **Mapelastic AquaDefense Zero**



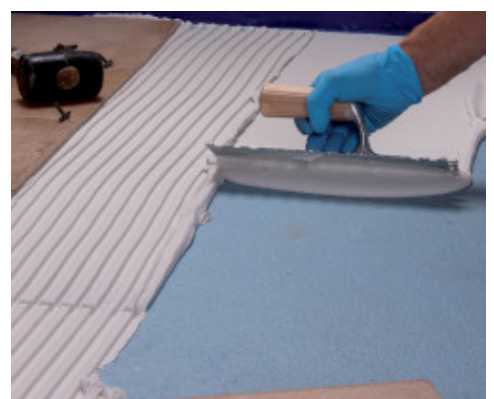
Application of the first coat of **Mapelastic AquaDefense Zero** on a screed



Application by roller of the second coat of **Mapelastic AquaDefense Zero**



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



Bonding tiles on **Mapelastic AquaDefense Zero**

## CLEANING

**Mapelastic AquaDefense Zero** can be removed easily from tools and surfaces while still fresh with water.

## CONSUMPTION

1 kg/m<sup>2</sup> for 2 coats.

## PACKAGING

3.5 kg, 7.5 kg, and 15 kg rectangular bucket.

## STORAGE

Mapelastic AquaDefense Zero can be stored for 24 months in its original packaging in a dry area. Protect from frost.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website [www.mapei.com](http://www.mapei.com)

PRODUCT FOR PROFESSIONAL USE

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

Consistency:	paste
Colour:	light blue
Density:	1.30 g/cm <sup>3</sup>
pH:	9.5
Solid content:	66
Brookfield viscosity:	30,000 mPa·s (needle 6 - 10 rpm)

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

Minimum filming temperature:	+5°C
Recommended application temperature range:	from +5°C to +35°C
Waiting time between each coat:	approx. 60 minutes (when dry touch)
Waiting time before application of the covering:	3-4 hours
Complete drying of 1 mm thick layer:	12 hours

### FINAL PERFORMANCE (0.55 mm thickness)

	EN 14891 acceptance range	Performance figures for Mapelastic AquaDefense Zero
Initial adhesion (EN 14891-A.6.2):	> 0.5 N/mm <sup>2</sup>	1.7 N/mm <sup>2</sup>
Adhesion after immersion in chlorinated water (EN 14891-A.6.3):	> 0.5 N/mm <sup>2</sup>	> 1.0 N/mm <sup>2</sup>



Adhesion after heat ageing (EN 14891-A.6.5):	> 0.5 N/mm <sup>2</sup>	> 1.8 N/mm <sup>2</sup>
Adhesion after freeze/thaw cycles (EN 14891-A.6.6):	> 0.5 N/mm <sup>2</sup>	> 0.9 N/mm <sup>2</sup>
Adhesion after immersion in alkaline water (lime water saturated solution) (EN 14891-A.6.9):	> 0.5 N/mm <sup>2</sup>	> 1.3 N/mm <sup>2</sup>
Adhesion after immersion in sodium hypochlorite solution (EN 14891-A.6.7):	> 0.5 N/mm <sup>2</sup>	> 1.2 N/mm <sup>2</sup>
Crack-bridging ability at +23°C (EN 14891-A.8.2):	> 0.75 mm	3.2 millimeters
Crack-bridging ability at -5°C (EN 14891-A.8.3):	> 0.75 mm	1.6 millimeters
Impermeability to water under pressure (EN 14891-A.7) (1500 kPa):	No penetration	No penetration

Adhesion strength values according to EN 14891 determined with **Mapelastic AquaDefense Zero** and type C2 cementitious adhesive in compliance with EN 12004

## 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.

Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)

## LEGAL NOTICE

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](http://www.mapei.com).

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