MONOLASTIC TURBO ZERO

One-component cementitious waterproofing mortar, quick drying even at low temperatures fully offset residual CO_2 emissions over the entire life cycle

EN 1504-2

EN 14891

CO_2 FULLY OFFSET PRODUCTS

Monolastic is part of the *CO_2 Fully Offset in the Entire Life Cycle* line of products. CO_2 emissions measured throughout the life cycle of products from the Zero line in 2024 using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset through the acquisition of certified carbon credits in support of forestry protection projects. A commitment to the planet, to people and to biodiversity. For more details on how emissions are calculated and on climate mitigation projects financed through certified carbon credits, visit the webpage zero.mapei.com.

WHERE TO USE

Waterproofing balconies, terraces, bathrooms, showers and swimming pools before laying ceramic coating.
Waterproofing concrete structures, renders and cementitious screeds.

TECHNICAL CHARACTERISTICS

Monolastic Turbo Zero is a one-component, cementitious waterproofing membrane with cementitious binders, selected fine-grained inert materials and special highly-flexible acrylic polymers. When mixed with water, it forms a paste with excellent workability which is easy to apply with a trowel, roller or brush, and which may also be applied on vertical surfaces without slumping. **Monolastic Turbo Zero** also bonds extremely well to all surfaces in concrete, masonry, ceramic and marble, if they are sound and clean.

ADVANTAGES

- Excellent workability and certified performance characteristics (with 3.5-4 litres of mixing water).
- Certified crack-bridging capacity, including at low temperatures (-5°C).
- Guaranteed, durable waterproofing of substrates with just a 2 mm thick layer.
- Excellent adhesion on numerous types of substrate if prepared according to specification: no demolition work required.

- Tiling installation possible after 4 hours from the first coat in normal conditions and after max. 24 hours at temperatures down to +5°C.
- Resistant to rain after a few hours even at low temperatures and with high air moisture.
- Suitable also for not perfectly dry substrates, provided that they are sufficiently cured.
- Compatible with all accessory for undertile systems.

RECOMMENDATIONS

- Do not add cement, inert materials or gypsum to **Monolastic Turbo**.
- Do not apply **Monolastic Turbo** at a thickness of more than 2 mm per layer.
- Never apply the product on substrates saturated with water.
- Do not apply if the temperature is lower than +5°C.
- Do not add more than the recommended amount of water.
- The maximum thickness of **Monolastic Turbo** must not be higher than 4 mm.
- Do not apply on light weight substrates.
- Do not apply on cementitious substrate not sufficiently cured.

APPLICATION PROCEDURE

TECHNICAL INFORMATION FOR THE APPLICATION	
Composition of the mix:	100 kg of **Monolastic Turbo Zero** 24-26 kg of water
Minimum applicable thickness per coat:	1 mm
Maximum applicable thickness per coat:	2 mm
Recommended application temperature range:	surrounding and substrate temperature from +5°C to +35°C
Pot life of mix:	approx. 45 minutes (at +20°C) and approx. 30 minutes (at +35°C)

Preparation of the substrates
Pay particular attention to the laying surfaces and their preparation.

OLD FLOORS

old floors in ceramic, porcelain, klinker, terracotta, etc. must be bonded well to the substrate and must be completely free of substances which could compromise the bond, such as grease, wax, oil, paint. To remove all traces of material and substances that could affect adhesion of **Monolastic Turbo Zero**, clean the floor with specific products such as **UltraCare HD Cleaner**.

CEMENTITIOUS SCREEDS

cracks caused by settling and plastic or hygrometric shrinkage must be sealed beforehand using **Eporip**. If extra layers of up to 2 cm thick need to be created (e.g. to form sloping surfaces or to even out hollows), use **Planitop Fast 330**.

RENDERS

cementitious render must be cured sufficiently (7 days per centimetre of render), well bonded to the substrate, strong and free of dust and all kinds of paint. Dampen absorbent surfaces with water before applying

Monolastic without saturating them.

Before spreading **Monolastic Turbo Zero** on the surface, special care must be taken around expansion joints and fillet joints between horizontal and vertical surfaces. In the case of structural joints, use **Mapeband TPE** bonded to the substrate using **Adesilex PG4**, covered by another layer of **Adesilex PG4** over the fabric with sand sprinkled on the surface to guarantee a good grip of **Monolastic Turbo Zero.** In fillet joints between horizontal and vertical surfaces, apply **Mapeband** or **Mapeband Easy** bonded with **Monolastic Turbo Zero**, or **Mapeband SA**. To seal drain holes use special kits from the **Drain** range.

Preparation of Monolastic Turbo Zero

Pour 3 parts of the required water into a clean container and under mechanical agitation, slowly pour in **Monolastic Turbo Zero**.
Then mix thoroughly for at least 1½ minutes, taking care to remove any loose powder from the sides and bottom of the container. Add the remaining water and mix for another 1 minute until completely homogeneous. Use a low-speed mechanical stirrer for this operation to avoid excessive air entrainment. Do not prepare the mix by hand. The instructions for preparing the mortar for making samples for laboratory tests are given in the TECHNICAL DATA section.

Application of Monolastic Turbo Zero

Monolastic Turbo Zero must be applied, by brush, roller or spatula, within 45 minutes of mixing in at least two coats, waiting at least 1 hour between the first and second coats and in any case not before the first coat has dried, so that the final thickness is not less than 2 mm and not more than 4 mm.
After applying **Monolastic Turbo Zero** wait at least 3 hours for curing before laying the ceramic tiles (at +23°C and 50% R.H.; depending on climatic and environmental conditions this timeframe may vary).

Laying ceramic tiles on Monolastic Turbo Zero

Bond in place using C2 class cementitious adhesive of the **Keraflex** or **Ultralite Flex** or **Ultraflex S1 2K** range depending on the format of the tile or, for more rapid work, C2F class adhesive (**Elastorapid** or **Ultralite S1 Flex Quick**). When laying mosaic, use **Adesilex P10** + **Isolastic** mixed with water at 50% (C2TE). Grout the tile joints with a special class CG2 cementitious grout (such as **Keracolor FF** or **Keracolor GG** mixed with **Fugolastic** or **Ultracolor Plus**) or epoxy grout, class RG (**Kerapoxy**). Seal expansion joints with a special MAPEI sealant (**Mapesil AC**, **Mapesil AC Eco**, **Mapesil LM** or **Mapeflex PU 45 FT**).

CLEANING

While the product is still fresh, it may be removed from tools and hands using plenty of clean water. Once hardened, **Monolastic Turbo Zero** may only be removed mechanically.

CONSUMPTION

Approx. 1.1 kg/m² per mm of thickness.

PACKAGING

15 kg bags.

STORAGE

Monolastic Turbo Zero may be stored for up to 12 months in its original packaging in a dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Identification according to EN 1504-2: (methods and principles)	Covering (C) – prinicples PI, MC and IR
Identification according to EN 14891:	CM O1 P
Appearance:	powder
Colour:	light grey

PREPARATION OF THE PRODUCT FOR LABORATORY SAMPLES	
Mixing ratio:	100 parts by weight of **Monolastic Turbo Zero** with 25% of water
Preparation of the mix:	mix with a paddle mixer for around 1'30'' to form a smooth, even paste with the required density

CHARACTERISTICS OF THE FRESH MIX (at +20 °C and 50% R.H.)	
Colour of mix:	light grey
Consistency of mix:	plastic-trowellable
Density of mix:	1500 kg/m³

FINAL PERFORMANCE
Curing at +23°C – 50% RH unless otherwise specified in the test methods (Application thickness 2.0 mm)

Performance characteristic	Test method	Requirements according to EN 1504-2 (C) PI, MC and IR	Performance of the product
Direct tensile adhesion to concrete:	EN 1542	flexible systems without traffic ≥ 0.8 MPa	**≥ 0.8 MPa**
Thermal compatibility - freeze/thaw cycles with de-icing salts (50 cycles) following storm cycles (10 cycles):	EN 13687-1 EN 13687-2	flexible systems without traffic ≥ 0.8 MPa	**≥ 0.8 MPa**
Static crack-bridging at +23°C after conditioning according to EN 1062-11 § 4.1 - 7 days at +70 °C:	EN 1062-7 Method A	from class A1 (0,1 mm) to class A5 (2,5 mm)	**Class A3 (+23°C) (> 0.75 mm)**
Water-vapour permeability (wetcup - method B) expressed as equivalent air-layer thickness S_d:	EN ISO 7783	Class I S_d < 5 m Class II 5 m ≤ S_d ≤ 50 m Class III S_d > 50 m	**S_d < 5 m Class I (permeable to water vapour)**
Impermeability expressed as coefficient of permeability to liquid water (W):	EN 1062-3	W < 0.1 kg/m²·h$^{0.5}$	**W < 0.1 kg/m²·h$^{0.5}$ Class W_3 (permeable to water vapour) according to EN 1062-1**
Permeability to carbon dioxide (CO_2) – diffusion in equivalent air layer thickness S_d:	EN 1062-6 method B	S_D > 50 m	**S_D > 50 m**
Reaction to fire:	EN 13501-1	Euroclass	**B-s1, d0**

Performance characteristic	Test method	Requirements according to EN 14891 CM O1 P	Performance of the product
Impermeability to water in pressure:	EN 14891-A.7	no penetration	**no penetration**
Crack-bridging ability at +23°C:	EN 14891-A.8.2	≥ 0.75 mm	**≥ 0.80 mm**
Crack-bridging ability at low temperature -5°C: (2)	EN 14891-A.8.3	≥ 0.75 mm	**≥ 0.85 mm**
Initial tensile adhesion strength:	EN 14891-A.6.2	≥ 0.5 N/mm²	**≥ 1.00 N/mm²**
Tensile adhesion strength after water immersion: (1)	EN 14891-A.6.4	≥ 0.5 N/mm²	**≥ 0.65 N/mm²**
Tensile adhesion strength after heat ageing:(1)	EN 14891-A.6.5	≥ 0.5 N/mm²	**≥ 1.50 N/mm²**
Tensile adhesion strength after freeze-thaw cycles: (1)	EN 14891-A.6.6	≥ 0.5 N/mm²	**≥ 0.80 N/mm²**
Tensile adhesion strength after contact with lime water: (1)	EN 14891-A.6.9	≥ 0.5 N/mm²	**≥ 0.80 N/mm²**
Tensile adhesion strength after contact with chlorinated water: (1)	EN 14891-A.6.8	≥ 0.5 N/mm²	**≥ 0.80 N/mm²**

NOTE:
(1) Tensile adhesion strength values determined with **Monolastic Turbo Zero** and type C2FTES2 cementitious adhesive in compliance with EN 12004
(2) *with reinforcement*

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.
The values declared in the TECHNICAL DATA table (typical values) were obtained in compliance with test methods and curing cycles defined in the technical standards referenced therein. Therefore, please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.
Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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