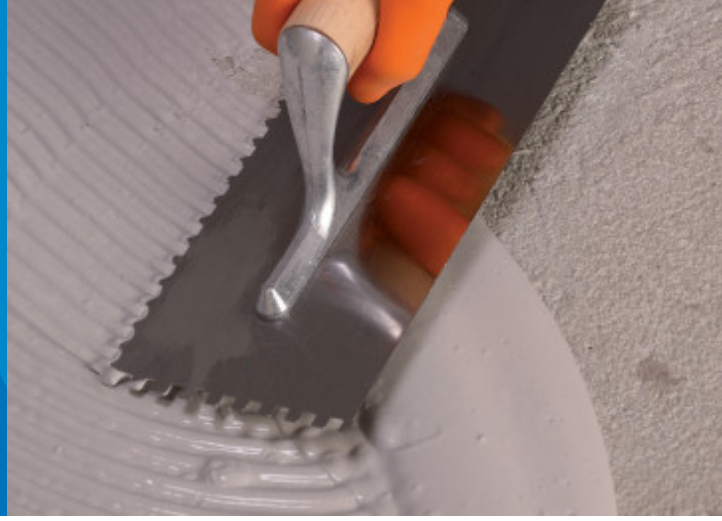
MONOLASTIC

One-component cementitious waterproofing mortar with fully offset Greenhouse Gas emissions



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 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** also bonds extremely well to all surfaces in concrete, masonry, ceramic and marble, if they are sound and clean.
Monolastic complies with 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 the 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*").

ADVANTAGES

- Excellent workability and certified performance characteristics (with 5.4-5.8 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.
- Experience: product available on the market for more than 10 years.

RECOMMENDATIONS

- Do not add cement, inert materials or gypsum to **Monolastic**.
- Do not apply **Monolastic** 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.
- After applying the product, protect the surface from rain for the first 24 hours.
- The maximum thickness of **Monolastic** must not be higher than 4 mm.
- Do not apply on lightweight 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** 27-29 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. 1 hour (at +20°C)

Preparation of the substrate

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 that could compromise the bond, such as grease, wax, oil, and paint. To remove all traces of material and substances that could affect the adhesion of **Monolastic**, clean the floor with **UltraCare HD Cleaner**, then rinse thoroughly only with water to eliminate any residue.

- CEMENTITIOUS SCREEDS:
  cracks caused by settling and plastic or hygrometric shrinkage must be sealed beforehand using **Eporip**. If extra layers of up to 2 mm thick need to be created (e.g. to form sloping surfaces or to even out hollows), use **Planitop Fast 330**, **Adesilex P4**.

- 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** 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**. In fillet joints between horizontal and vertical surfaces, apply **Mapeband** or **Mapeband Easy** bonded with **Monolastic**, or **Mapeband SA**. To seal drain holes, use special kits from the **Drain** range.

Preparation of Monolastic

Pour 5.4-5.8 litres of water into a clean container and slowly add **Monolastic** while mixing.
Mix thoroughly for a further 3 minutes until it is completely blended, making sure that no powder remains attached to the sides and bottom of the container. A low-speed mechanical mixer is recommended for this operation, to avoid too much air being entrapped in the mix.
Avoid mixing the product manually.

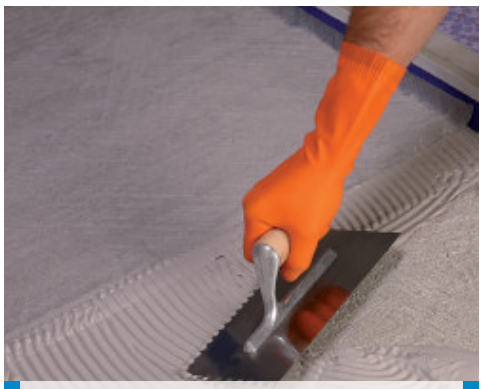
The instructions for the preparation of the mortar to be used for the creation of samples for laboratory tests are reported in the TECHNICAL DATA table.

Application of Monolastic

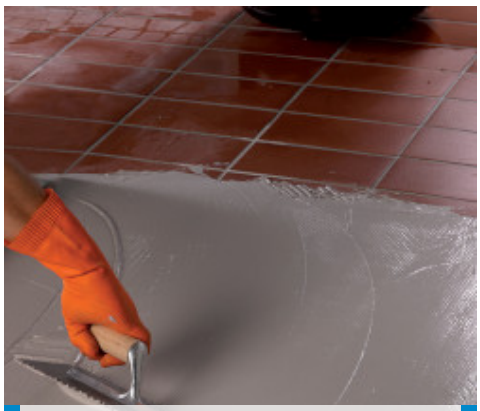
Monolastic must be applied in at least two layers with a brush, roller, or trowel within 60 minutes of mixing at a distance of at least 6 hours between each coat, and in all cases only once the first coat has dried, until a final thickness of 2 mm up to a maximum of 4 mm is obtained.
After completing the application cycle of **Monolastic**, wait at least 24 hours before laying the ceramic tiles (at +23°C and 50% R.H.; this time may vary according to climate and surrounding conditions).

Laying ceramic tiles on Monolastic

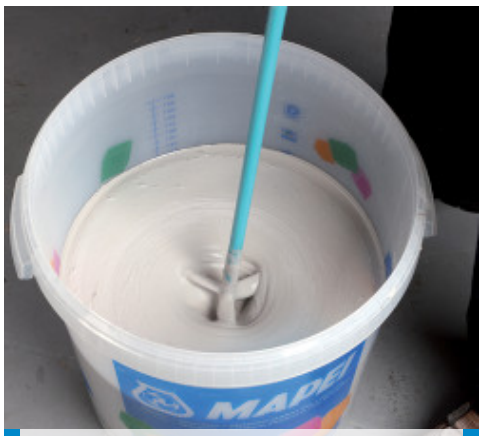
Bond in place using C2 class cementitious adhesive of the **Keraflex** or **Ultralite Flex** or **Ultraflex S1 2K** range depending on the format of the tile or, for more rapid work, C2F class adhesive (**Elastorapid** or **Ultralite S1 Flex Quick**). When laying mosaic, use **Ultralite S1 Flex Zero white** or, as an alternative, **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**).



*Applying a first layer of **Monolastic** welded with **Mapetex Sel N** on a new screed*



*Applying a second layer of **Monolastic** on **Mapenet 150***



*Mixing of **Monolastic***

CLEANING

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

CONSUMPTION

Approx. 1.1 kg/m² per mm of thickness.

PACKAGING

20 kg bags.

STORAGE

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

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

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 priciples)	Covering (C) – prinicples PI, MC and IR
Identification according to EN 14891:	CM O1 P
Appearence:	powder
Colour:	grey

PREPARATION OF THE PRODUCT FOR LABORATORY SAMPLES	
Mixing ratio:	100 parts by weight of **Monolastic** with 28% 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:	grey
Consistency of mix:	plastic-trowellable
Density of mix:	1450 kg/m^3

FINAL PERFORMANCE
Curing at +23°C – 50% R.H. if not otherwise specified in the test methods (Thickness applied 2.0 mm)

Performance characteristic	**Test method**	**Requirements EN 1504-2 (C) PI, MC and IR**	**Product performance**
Adhesion to concrete by pull-off:	EN 1542	for flexible systems without traffic ≥ 0.8 MPa	**≥ 1.0 MPa**
Thermal compatibility – freeze-thaw cycling with de-icing salt (50 cycles) after thunder-shower cycling (10 cycles):	EN 13687-1 EN 13687-2	for 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 (wet-cup - 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 < 3 m** **Class I** *(permeable to water vapour)*
Impermeability expressed as coefficient of permeability to free water *W*:	EN 1062-3	W < 0.1 kg/m²·$h^{0.5}$	***W* < 0.1 kg/m²·$h^{0.5}$** Class W_3 *(low permeability to water according to EN 1062-1*
Permeability to carbon dioxide (CO_2) according – diffusion in equivalent air thickness S_D:	EN 1062-6 method B	S_D > 50 m	**S_D > 50 m**
Elasticity 28 days – expressed as elongation:	DIN 53504 mod.	not required	**≥ 30%**
Reaction to fire:	EN 13501-1	Euroclass	**B-s1, d0**

Performance characteristic	Test method	Requirements EN 14891 CM O1 P	Product performance
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	**> 0.75 mm**
Crack-bridging ability at low temperature -5°C:	EN 14891-A.8.3	≥ 0.75 mm	**> 0.75 mm**
Initial bond strength:	EN 14891-A.6.2	≥ 0.5 N/mm²	**≥ 1.3 N/mm²**
Bond strength after immersion in water[1]:	EN 14891-A.6.3	≥ 0.5 N/mm²	**≥ 0.6 N/mm²**
Bond strength after application of heat source[1]:	EN 14891-A.6.5	≥ 0.5 N/mm²	**≥ 1.5 N/mm²**
Bond strength after freeze-thaw cycles[1]:	EN 14891-A.6.6	≥ 0.5 N/mm²	**≥ 0.7 N/mm²**
Bond strength after immersion in basic water[1]:	EN 14891-A.6.9	≥ 0.5 N/mm²	**≥ 0.7 N/mm²**
Bond strength after immersion in chlorinated water[1]:	EN 14891-A.6.8	≥ 0.5 N/mm²	**≥ 0.65 N/mm²**

NOTE:
[1] *Bond strength values measured using **Monolastic** and a C2FTES2-type cementitious adhesive according to 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. 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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