

PRIMER MF

Two-component, solvent-free epoxy primer for consolidating and waterproofing cementitious substrates



WHERE TO USE

Primer MF is used to treat concrete slabs and cementitious screeds with a residual moisture level higher than that permitted for the installation of flooring sensitive to moisture, such as wooden and resilient floors.

Primer MF can be applied with humidity up to 6% CM (measured by carbide hygrometer) or up to 100% R.H. (measured with probe hygrometer - ASTM F2170 - BS 8203). On screeds integrating heating system, the product can be applied up to a maximum of 3% CM or 50% R.H.

It is also used for impregnating inconsistent substrates and/or those with reduced mechanical properties.

Some application examples

- Application, prior to the laying of flooring sensitive to moisture, to avoid rising of excessive residual moisture present in concrete slabs and screeds.
- Consolidation treatment of weak cementitious substrates.
- Dustproof coating over superficially inconsistent screeds, both based on cement and anhydrite.
- Binder to be mixed with quartz to prepare synthetic mortar for small smoothing and repair operations.

TECHNICAL CHARACTERISTICS

Primer MF is a two-component product based on pure epoxy resin, solvent-free, with low viscosity and therefore with high penetrating power into the porosity of substrates.

Primer MF is totally solvent-free, so it is non-flammable and has a slight odour typical of resin-based products. For these reasons, the product is particularly suitable for use even on construction sites located near inhabited areas (such as residential buildings, schools, offices, etc.).

After application and crosslinking of resins, the substrate treated with **Primer MF** greatly reduces its permeability and at the same time, acquires greater consistency, hardness and abrasion resistance.

RECOMMENDATIONS

- Do not dilute **Purtop MF** with water or solvents in general. The product can be diluted, when necessary, only with **Primer KL**.
- Do not apply on wet surfaces.
- Do not use **Primer MF** over skimming or self-leveling smoothing compounds.
- Do not clean the substrate to which the primer is to be applied with acids.
- The product is also suitable for consolidating cementitious and anhydrite heating screeds. However, make sure these types of substrates are dry before applying the product. According to the Italian standard UNI

11371, heating screeds can be consolidated when there are residual moisture values of 1.7 CM (for cement-based screeds), 0.2% CM (for anhydrite-based screeds).

- To ensure direct anchorage of skim coats or adhesives on the substrate treated with **Primer MF**, sprinkle the fresh product with **Quartz 1.2** or clean, dry sand of suitable grain size. Not-bonded sand should be removed, prior to further processing, once **Primer MF** has cured.
- Direct application of parquet on substrates treated with **Primer MF** not broadcasted with quartz can be done with epoxy-polyurethane reactive adhesives or silylated polymer-based adhesives.
- The use of one-component polyurethane adhesives always requires treatment with quartz.
- If **Primer MF** has not been broadcasted with quartz and the surface when cured is shiny, an adhesion promoter such as **Eco Prim Grip Plus** or **Eco Prim T Plus** should be applied before applying cementitious skim coats for laying multilayer prefinished wooden floor with silylated adhesives. For direct installation with two-component adhesive, however, carry out vigorous sanding.
- To prevent condensation from forming on the surface of the product during the curing stages, the substrate temperature at the time of application must be at least 3°C above the dew point.

APPLICATION PROCEDURE

Preparation of the substrate

The substrate must be clean, firm, and free of oil, wax, dirt or any other substance that may affect adhesion. It must also be cured and not subject to drying shrinkage.

Concrete must be cured and be sufficiently porous.

Cement slurry, as well as any anti-evaporating agents on the surface, must be removed by effective mechanical abrasion.

The surface of very compacted cementitious and concrete substrates should be properly abraded, by suitable means, prior to the application of **Primer MF** in order to obtain a sufficiently rough profile (for concrete surfaces CSP [Concrete Surface Profile] #2 or #3).

Cracks and microcracks must be opened and sealed with **Eporip** or **Eporip Turbo** before the application of **Primer MF** to eliminate any defect in the substrate.

MAPEI cannot be held responsible for the formation of cracks or detachments occurring after application of the product that result from subsequent movement of the substrate.

The product can be used for controlling moisture in the substrate if the moisture values are max. 6% CM or 100% RH.

No water should be present on the surface.

It is important to consider that very high moisture values (above 6% CM or 98% R.H.) may be the consequence of water infiltration from the outside due, for example, to improper drainage or waterproofing design, leaks, broken pipes, etc.: therefore, before treating with **Primer MF** it is necessary to verify the absence of these types of problems.

Preparation of the product

The two components of **Primer MF** are supplied in a predosed ratio:

- component A: 3 parts by weight;
- component B: 1 part by weight.

The two components should be completely and thoroughly mixed together with low-speed mixer until a uniform mixture is obtained.

Application of the product

For reducing moisture in the substrate or for consolidating substrates

Apply **Primer MF** by roller, brush or flat trowel in at least 2 coats, waiting about 3 hours between applications. However, do not exceed an interval of 12 to 24 hours between applications to ensure perfect bonding between coats.

The first coat can be diluted with **Primer KL** (maximum one 1-litre bottle, equal to 0.8 kg, of **Primer KL** for each 4-kg kit of **Primer MF**) to increase product penetration.

To make an effective moisture barrier, it is necessary to make a continuous film of more or less constant thickness, which can be most easily achieved by applying the first coat by trowel and the second coat by roller.

It is recommended that the surface be examined immediately after application to ensure that the coverage is uniform and that no untreated areas are present.

For the use of **Primer MF** as a consolidating agent, the application of a single coat may be sufficient.

For repair works

For minor smoothing or screed repair work, use **Primer MF** diluted with **Primer KL** mixed with **Quartz 1.2**. The mixing ratio is 7/10 kg of **Quartz 1.2** for every kg of **Primer MF** diluted with 1 litre, equal to 0.8 kg, of **Primer KL**.

The resulting mortar is easily workable and, once hardened, becomes a very solid repair on which any type of wooden floor can be applied.

The mortar must be applied on substrates previously treated with **Primer MF** (possibly diluted with **Primer KL**), applied not more than 24 hours ago.

CLEANING

When still fresh, **Primer MF** can be removed from clothing and tools with alcohol.

CONSUMPTION

0.2-0.4 kg/m² per coat, depending on the evenness and absorption of the substrate (200 g/m² per application layer).

PACKAGING

The product is available in 1 kg kits (0.750 kg comp. A + 0.250 kg - comp. B) and 4 kg kits (3 kg comp. A + 1 kg - comp. B).

STORAGE

24 months in the original, closed packages and stored under normal condition. Protect from frost.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instruction for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.com.

When the product reacts, it generates heat. After mixing components A and B, we recommend applying the product as soon as possible and never leaving the container unattended until it is completely empty.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	component A	component B
Colour:	transparent yellow	transparent yellow
Density (g/cm³):	1.12	1.00
Brookfield viscosity (mPa·s):	350 (# 2 - rpm 50)	150 (# 2 - rpm 50)

APPLICATION DATA

Mixing ratio:	component A : component B = 3 : 1
Consistency of mix:	liquid
Colour:	transparent
Density (g/cm ³):	1.1
Brookfield viscosity (mPa·s):	300 (# 2 - rpm 50)
Maximum allowable residual moisture per residual moisture barrier:	6% CM (carbide hygrometer - UNI 10329) 100% RH (probe hygrometer - ASTM F2170 - BS 8203)
Permeability to water vapour (ASTM E96-05):	< 0.1 perm for dry film thickness ≥ 0.25 mm
Reduction of vapour emission (ASTM E96-05):	> 96% for 0.25 mm dry film thickness
Resistance to alkaline solution, pH 14 (ASTM D1308):	no effect
Temperature range for application:	from +10°C to +30°C
Pot life	
– at +10°C:	180 minutes
– at +23°C:	60 minutes
– at +30°C:	45 minutes
Set to foot traffic	
– at +10°C:	24 hours
– at +23°C:	12 hours
– at +30°C:	9 hours
Complete hardening time at +23°C:	7 days

FINAL PERFORMANCE	
Resistance to moisture:	excellent
Adhesion to concrete (N/mm ²):	> 3 (failure of substrate)
Service temperature:	from -5°C to +80°C

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

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