MAPEI

IN COMPLIANCE WITH EUROPEAN STANDARD
EN 1504-2 (C)
PRINCIPLES
MC-IR
MAPEI
SURFACE PROTECTION SYSTEMS FOR CONCRETE

IN COMPLIANCE WITH EUROPEAN STANDARD
EN 1504-3
R2
MAPEI
REPAIR MORTAR

Mapefinish

CE EN 1504-2

CE EN 1504-3

Two-component cementitious mortar for finishing concrete surfaces

WHERE TO USE
Superficial protection and levelling of concrete surfaces.

Some application examples
- Smoothing surface defects in concrete before painting.
- Smoothing and finishing concrete repaired with **Mapegrout** line mortar.
- Protect the concrete against mildly-aggressive agents from the surrounding environment.
- Repairs to the wear layer of concrete industrial floors

TECHNICAL CHARACTERISTICS
Mapefinish is a two-component mortar based on high strength cements, selected aggregates, special additives and synthetic polymers in water dispersion prepared from a formula developed in MAPEI's Research Laboratories.

On mixing the two parts (powder component A and liquid component B), a mortar is obtained, which can be easily applied on all surfaces, including vertical ones, in thicknesses up to 2-3 mm in one coat. Due to the high content of synthetic resins, **Mapefinish** has excellent adhesion to all concrete surfaces and after hardening becomes a compact and tough layer, resistant to water and atmospheric gases.

Mapefinish corresponds to the principles defined in EN 1504-9 ("*Products and systems for protecting and repairing concrete structures: definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems*") and the requirements of EN 1504-3 ("*Structural and non-structural repairs*") for R2-class non-structural mortars and of EN 1504-2 coating (C) according to the MC and IR principles ("*Protection systems for concrete surfaces*").

RECOMMENDATIONS
- Do not use **Mapefinish** for very thick coats (use products of the **Mapegrout** line).
- Do not apply **Mapefinish** at temperatures below +5°C.
- Do not add cement, aggregates or water to **Mapefinish**.

APPLICATION PROCEDURE
Preparing the Substrate
To guarantee good adhesion of the product particular care must be devoted to the preparation of the substrate.

The surface to be treated must be perfectly clean and sound.

For best results the most suitable preparation is by sand-blasting or a vigorous washing with water under pressure.

Completely eliminate all powder, laitances, traces of form release oil, cement tears, loose particles and rust from cement or concrete surfaces.

Mapefinish

Application with trowel

Smoothing with sponge float

Smoothing with sponge float

Where necessary, reconstruct and repair highly dilapidated areas using products from the **Mapegrout** range (see relevant technical data sheet).

Soak concrete or other porous substrates with water.

Wait for the excess water to evaporate. If necessary use compressed air or a sponge to facilitate the elimination of free water.

Mortar must not be applied on substrates which show a film of surface water.

Preparing the mortar
Pour the component B (liquid) into a suitable clean container and while mixing, slowly add component A (powder).

Carefully mix **Mapefinish** for several minutes, scraping any unmixed powder off the sides of the mixer and remixing.

The mixing should be continued until complete homogeneity of the mix (total absence of lumps) is obtained. For this operation it is essential to use a low speed mechanical mixer to avoid stirring an excess of air into the mix.

Refrain from preparing the mix by hand. In cases where this is unavoidable, use a gauging trowel and press the mortar against the walls of the container to break any lumps and then mix well until complete homogeneity of the mix is obtained.

Applying the mortar
Spread the mortar with a flat trowel onto the prepared surface with a maximum thickness of 2-3 mm per coat.

Greater thicknesses must be formed with several coats or preferably with products of the **Mapegrout** range.

The smoothing operation can be carried out with the same flat trowel or with a small sponge float some minutes after application.

If the surface should dry during the smoothing operation water can be sprayed over it to facilitate use of the sponge float.

In hot weather, on windy or sunny days, it is advisable to spray water onto the surface during the first hours of curing to avoid rapid evaporation of moisture from the mix, as this could cause cracks.

Precautions to be observed during application and curing
- No special precautions need be taken when the temperature is approx. +20°C.
- After its application, **Mapefinish** must be cured very carefully; the mortar surface must be protected from rapid evaporation of water.

Cleaning
Due to the high adhesion of **Mapefinish**, even on metal, it is advisable to clean tools with water before the mortar starts to set.

After setting, cleaning can only be done mechanically.

COVERAGE
2 kg/m² for each mm of thickness.

PACKAGING
Units of 30 kg composed of 24 kg component A and 6 kg component B.

STORAGE
Mapefinish component A, stored in original packagings in a dry place can be stored up to 12 months.
Manufactured in compliance with the regulations of the 2003/53/EC Directive.

Mapefinish component B can be stored for 24 months.

Store both components at a temperature of at least +5°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Mapefinish component A contains cement which, when comes in to contact with sweat or other bodily fluids, produces an irritant alkaline reaction and allergic reactions to those predisposed.
Wear protective gloves and goggles.
The further information refer to the Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING
Although the technical details and recommendations contained in this product report 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 pratical applications; 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.

All relevant references for the product are available upon request and from www.mapei.com

Mapefinish: two-component, normal-setting, cementitious mortar for repairing and protecting concrete: conforms to the requirements of EN 1504-3 R2 - class and of EN 1504-2 coating (C) MC and IR principles.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY		
Type:	PCC	
	component A	**component B**
Consistency:	powder	liquid
Colour:	grey	white
Maximum size of aggregate (mm):	0.4	–
Bulk density (kg/m³):	1.2	–
Density (g/cm³):	–	1.02
Dry solids content (%):	100	24
Chloride ions content: – minimum requirements ≤ 0.05% - according to EN 1015-17 (%):	≤ 0.05	≤ 0.05
Storage:	12 months in a dry place in its original packaging	24 months
Hazard classification according to EC 1999/45:	irritant Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet	none
Customs class:	3824 50 90	

APPLICATION DATA (at +20°C - 50% R.H.)	
Colour of mix:	grey
Mixing ratio:	4 parts of **Mapefinish** comp. A with 1 parts of comp. B
Consistency of mix:	fluid - applicable by trowel
Density of the mix (kg/m³):	1,900
Application temperature range:	from +5°C to +35°C
Pot life of mix:	approximately 1 hour
Waiting time for superficial drying:	approximately 30 min
Waiting time before paiting over with Elastocolor Paint:	24 hours

FINAL PERFORMANCE (thickness 2.5 mm)

Performance characteristics	Test method	Requirements according to EN 1504-2 coating (C) MC and IR principles	Requirements according EN 1504-3 for mortar class R2	Performance of product
Compressive strength (MPa):	EN 12190	not required	≥ 15 (after 28 days)	> 4 (after 1 day) > 20 (after 7 days) > 35 (after 28 days)
Flexural strength (MPa):	EN 196/1	not required	not required	> 1.5 (after 1 day) > 5.0 (after 7 days) > 10.0 (after 28 days)
Modulus of elasticity in compression (GPa):	EN 13412	not required	not required	14 (after 28 days)
Bond strength on concrete (substrate in MC 0.40) according to EN 1766 (MPa):	EN 1542	for rigid systems without traffic: ≥ 1.0 with traffic: ≥ 2.0	≥ 0.8 (after 28 days)	≥ 2 (after 28 days)
Thermal compatibility measured as bonding according to EN 1542 (MPa): **– freeze-thaw cycles with deicing salts:** **– thunder-shower cycle:** **– dry thermal cycle:**	 EN 13687/1 EN 13687/2 EN 13687/4	 For rigid systems without traffic: ≥ 1.0 with traffic: ≥ 2.0	 ≥ 0.8 (after 50 cycles) ≥ 0.8 (after 30 cycles) ≥ 0.8 (after 30 cycles)	 > 2 > 2 > 2
Capillary absorption (kg/m²·h$^{0.5}$):	EN 13057	not required	≤ 0.5	< 0.30
Impermeability expressed as coefficient of permeability to free water (kg/m²·h$^{0.5}$):	EN 1062-3	W < 0.1	not required	W < 0.05 - Class III (low permeability) according EN 1062-1
Permeability to water vapour - equivalent air thickness S_D - (m):	EN ISO 7783-1	Class I S_D < 5 m Class II 5 m ≤ S_D ≤ 50 m Class III S_D > 50 m	not required	S_D < 0.5 Class I (permeable to water vapour)
Resistance to accelerated carbonatation:	EN 13295	not required	not required	Depth of carbonatation ≤ of reference concrete (MC 0.45 type with water/concrete ratio = 0.45) according to UNI 1766
Reaction to fire:	Euroclass	according to value declared by manufacturer		E

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