MAPEFLOOR I 900

Two-component, epoxy binder

WHERE TO USE

Mapefloor I 900 is used as a fixing primer or adhesion promoter, or as a binder when mixing resin mortar with consistency similar to a mortar screed.

Some application examples

- Binder for epoxy mortar used to repair and/or form protective coatings on industrial floors.
- Primer before applying epoxy or polyurethane coatings.
- Adhesion promoter for synthetic mortar floors.
- Binder for fluid mortar used to smooth over deteriorated substrates.

TECHNICAL CHARACTERISTICS

Mapefloor I 900 is a two-component, epoxy resin-based binder, made according to a formula developed in MAPEI's Research & Development laboratories, and is used to obtain mortars with a consistency similar to a mortar screed for renovating old floors.
Due to its special composition, **Mapefloor I 900** may also be used on lightly humid substrates.
Mapefloor I 900 complies with the principles defined in UNI EN 13813 "*Screeds and materials for screeds - Materials for screeds - Properties and requirements*", which specifies the requirements of materials for screeds used in the construction of internal floors.

RECOMMENDATIONS

- Do not apply **Mapefloor I 900** on damp substrates or on substrates with capillary rising damp (please contact our Technical Services Department).
- Do not dilute **Mapefloor I 900** with solvent or water.
- Do not apply **Mapefloor I 900** on dusty or crumbling substrates.
- Do not apply **Mapefloor I 900** on substrates with oil or grease stains or stains in general.
- Do not mix partial quantities of the components to avoid mixing errors; the product may not harden correctly.
- Do not expose the mixed product to sources of heat.
- Coatings made from **Mapefloor I 900** may change colour or fade if exposed to sunlight but this has no effect on its performance characteristics.
- The colour and finish of the coating may also change if it comes into contact with aggressive chemicals. A change in colour, however, does not mean that it has been damaged by the chemical.

- If rooms where the product is being used need to be warmed up do not use heaters that burn hydrocarbons, otherwise the carbon dioxide and water vapour given off into the air will affect the shine on the finish and affect its appearance. Use electric heaters only.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor I 900**.
- Use suitable specific cleaning equipment and detergent to clean the product, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- Do not apply the product directly on substrates with moisture content higher than 4% and/or with capillary rising damp (check by testing with a sheet of polythene).
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature.

APPLICATION PROCEDURE

Preparation of the substrate

The surface of concrete floors must be dry or slightly damp, clean and sound and have no crumbling or detached portions.
The minimum compressive strength of the substrate concrete must be 25 N/mm² and its tensile strength must be 1.5 N/mm². The strength of the substrate must also be suitable for its final use and the types of load to which it will be subjected.
The level of moisture in the substrate must be a maximum of 4% and there must be no capillary rising damp (check by testing it with a sheet of polythene).
The surface of the floor must be prepared with a suitable mechanical process (e.g. shot-blasting or a diamond grinding wheel) to remove all traces of dirt, cement laitance and crumbling or detached portions, and to make the surface slightly rough and absorbent. Before applying the coating, remove all dust from the surface with a vacuum cleaner.
Any cracks must be repaired by filling them with **Eporip**, while any deteriorated areas of the concrete must be repaired with epoxy mortar made from **Mapefloor I 900** and quartz sand.
Before applying **Mapefloor I 900**, remove all traces of dust from the surface with a vacuum cleaner.

Preparation of the product

The two components which make up **Mapefloor I 900** must be blended together just before application. Mix component A thoroughly and add the contents of component B. Mix again with an electric mixer at low speed (300-400 revs/min) for at least 2 minutes until the mix is completely blended.
Pour the mix into a clean container and briefly mix again.
Do not mix the product for too long to prevent entraining too much air into the mix.
Apply the mix within the pot life indicated in the table (refers to a temperature of +20°C). Higher surrounding temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.
To realize an epoxy mortar, add a mixture of graded spheroid sand to the mix as soon as it has been prepared, such as **Quartz 1.9** or coloured quartz sand or aggregates at a resin:sand ratio of 1:8 - 1:10 (recommended) up to a maximum of 1:13, and mix again to form a consistency similar to screed mortar.

Application of the product

Mapefloor I 900 may be applied with a roller and used as a primer for resin coatings. Apply 1-2 coats of the product with a medium-piled roller until the pores in the substrate are completely saturated. If the surface of the floor is rough or badly worn, make trowellable fluid mortar by fillerizing **Mapefloor I 900** with up to 1:1 in weight of **Quartz 0.5**, depending on the roughness of the substrate. Spread a thin coat of mortar over the surface down to a feather edge with a straight steel trowel.
When used as an adhesion promoter for resin mortar coatings, apply an abundant coat of **Mapefloor I 900** on the surface to be treated with a roller until the pores are completely saturated and there is a thin, even film of resin binder on the surface. Pour the resin mortar prepared as above on the product while it is still wet and spread the mortar over the surface in an even coat using an aluminium straight edge and suitable spacers to form the required thickness. While the mix is still wet, compact it and smooth over the surface with a power floater with suitable blades or manually with a smooth straight trowel. The thickness of the spacers must be approximately 20% more than the final thickness of the coating to compensate for the drop in the level of the mortar after the compacting and smoothing process.
The surface will be porous after this phase. To form a washable, impermeable and sanitizable surface with an even finish, apply at least two coats of epoxy resin with 100% solids content, such as **Mapefloor I 300 SL**, to fill and seal the pores. To form a non-slip effect, broadcast between the two smoothing coats with a suitable grade of quartz sand.

CLEANING TOOLS

Tools used to prepare and apply **Mapefloor I 900** must be cleaned with alcohol immediately after use. After hardening, the product may only be removed using mechanical means.

CONSUMPTION

Primer applied with a roller for resin coatings:
1-2 coats
Mapefloor I 900 0.2-0.3 kg/m² per coat

Binder for mixing smoothing mortar:
Mapefloor I 900 0.5-0.7 kg/m² per coat
The consumption of **Quartz 0.5** depends on the filler rate.

Primer and adhesion promoter for resin mortar:
1-2 coats
Mapefloor I 900 0.5-0.7 kg/m² per coat

Binder for epoxy mortar:
Mapefloor I 900 + 0.15-0.17 kg/m² per mm of thickness
Quartz 1.9* 1.5-1.7 kg/m² per mm of thickness

** considering a filler rate of 1:10 in weight*
The consumption rates above are for indication purposes only and are influenced by the condition of the surface to be treated, the roughness and absorbency of the substrate, the type of sand used to mix the epoxy mortar, the actual conditions on site, etc. We recommend carrying out preliminary tests with the quarts sand and relative filler rates that will actually be used on site.

PACKAGING

15 kg units:
component A = 10 kg;
component B = 5 kg.

STORAGE

Mapefloor I 900 may be stored for 24 months in its original packaging in a dry place at a temperature of +5°C to +30°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefloor I 900 component A is irritant for the eyes and skin. Component B is corrosive and may cause burns and damage to the eyes. Furthermore, it is hazardous if swallowed. Both component A and B may cause sensitization when in contact with the skin of those predisposed. The product contains low molecular weight epoxy resins that may cause sensitization if cross-contamination occurs with other epoxy compounds. When applying the product it is recommended to wear protective gloves and goggles and to take the usual precautions for handling chemicals. In case of contact with the eyes or skin wash immediately with plenty of clean water and seek medical attention. When the product reacts it generates considerable heat. After mixing components A and B we recommend applying the product as soon as possible and to never leave the container unguarded until it is completely empty.
Furthermore, **Mapefloor I 900** component A is dangerous for aquatic life. Do not dispose of them in the environment.
For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)		
PRODUCT IDENTITY		
	component A	**component B**
Colour:	neutral	straw-coloured
Appearance:	liquid	liquid
Density (g/cm³):	1.20	0.99
Viscosity at +23°C (mPa·s):	1,500	200
APPLICATION DATA (at +23°C and 50% R.H.)		
Mixing ratio:	component A : component B = 100 : 50	
Colour of mix:	transparent, amber	
Consistency of the mix:	thick fluid	
Dry solids content (%):	approx. 100	
Density of the mix (kg/m³):	1,100	
Viscosity of the mix (mPa·s):	1,000	
Pot life at +20°C:	30 min.	
Surface temperature:	from +8°C to +35°C	
FINAL PERFORMANCES OF THE RESIN (A+B)		
Dust dry at +23°C and 50% R.H.:	2-4 hours	
Set to light foot traffic:	12 hours	
Final hardening time:	7 days	
Shore D hardness (DIN 53505):	81	
Bond strength (EN 1542) (MPa):	≥ 1.5 (concrete failure)	
FINAL PERFORMANCES OF THE MORTAR - realized using MAPEFLOOR I 900 charged with QUARTZ 1.9 - 1:10 by weight		
Flexural strenght (after 7 days at +23°C) (EN 196-1) (N/mm²):	21	
Compressive strenght (after 7 days at +23°C) (EN 196-1) (N/mm²):	65	
Fire class reaction (EN 13501-1):	B_{FL} - s1	

Essential characteristic (A +B)	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Performance of product
BCA wear-resistance:	EN 13892-4	≤ 100 µm	13 µm
Adhesion strength:	EN 13892-8; 2004	≥ 1.5 N/mm²	≥ 2.5 N/mm²
Impact strength:	EN ISO 6272	≥ 4 Nm	20 Nm
Fire class reaction:	EN 13501-1	from $A1_{FL}$ to F_{FL}	E_{FL}

The times above are for indication purposes only and are influenced by actual site conditions (e.g. temperature of the surroundings and substrate, relative humidity of the surrounding air, etc.).

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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