

MAPEFLOOR I 910

Two-component low-yellowing epoxy binder for resin mortar screeds



DESCRIPTION

Mapefloor I 910 is a two-component, high solid content and low yellowing, epoxy resin according to a formula developed in the MAPEI R&D laboratories. It is used as binder for resin mortar screeds for protective and decorative resin systems for floors.

TECHNICAL CHARACTERISTICS

- Low yellowing.
- Very good binder property.
- Clear glaze.
- Complies with the requirements according to EN 13813 "Screed material and floor screeds - Screed material - Properties and requirements", which defines the requirements to be applied to materials for screeds used in the construction of internal floors.

ADVANTAGES

- Easy to use.
- Suitable to be mixed with coloured aggregates to form countless final aesthetic solutions.
- It does not smell unpleasant.
- It provides the treated surface with a nice aesthetic aspect.

WHERE TO USE

Mapefloor I 910 is a low yellowing binder for epoxy mortar used to repair and/or form aesthetically attractive resin mortars screeds systems for floors, such as in:

- food industries;
- chemical and pharmaceutical industries;
- warehouses and mechanical industries;
- showrooms, shopping centres;
- areas subjected to severe vehicular and pedestrian traffic;
- artisan and mechanical workshops;
- manufacturing industries in general.

Mapefloor I 910 is also used as adhesion promoter for resin screed systems.

RECOMMENDATIONS

- Do not apply **Mapefloor I 910** on cementitious substrates with a moisture content higher than 4% or with capillary rising damp (contact MAPEI Technical Services).
- Do not dilute **Mapefloor I 910** with solvent or water.
- Do not apply **Mapefloor I 910** on dusty or crumbling substrates.
- Do not apply **Mapefloor I 910** 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.
- Even though **Mapefloor I 910** is low-yellowing, coatings made from this product may change colour or fade if exposed to UV rays, 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 ruin its appearance. Use electric heaters only.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor I 910**.
- 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.
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature. The air relative humidity must be max. 80%.

APPLICATION PROCEDURE

Preparation of the substrate

The surface of concrete floors must be dry, clean and sound and have no crumbling or detached portions. The compressive strength of the substrate concrete must be at least 25 N/mm² and its tensile strength must be at least 1.5 N/mm². The strength of the substrate must also be suitable for its final use and the types of loads to which it will be subjected.

Cementitious substrates must be dry and there must be no capillary rising.

The surface of the floor must be prepared with a suitable mechanical process (e.g. shot blasting or grinding with a diamond disc) to remove all traces of dirt and cement laitance and crumbling or detached portions, and to make the surface slightly rough and absorbent.

Before applying the products, thoroughly remove all dust on the surface with a vacuum cleaner.

Any cracks, holes or surface irregularities must be repaired and smoothed with **Primer SN** fillerized with quartz sand or made thixotropic with **Additix PE**, or **Mapefloor JA** or **Mapefloor JA Fast** depending on the width and depth of defects and cracks. To repair highly deteriorated areas and joints, fill large hollows and to create or slightly modify the slope in confined areas, use **Mapefloor EP19**, pre-dosed three-component epoxy mortar or with epoxy mortar made of **Mapefloor I 910** and quartz sand.

Preparation of the product

Stir the component A thoroughly then add the content of component B and mix with a suitable low speed electric mixer (300-400 revs/min) for at least 2 minutes until it is completely blended. Do not overmix the product to avoid entraining too much air into the mixture.

Pour the mixture into a clean container and briefly mix again.

Apply the neat product when it is used as primer. In case it must be used for epoxy mortars, add to the product an appropriate granulometry quartz sand, such as **Quartz 1.9** or coloured quartz sand or aggregates, at a resin:sand ratio of 1:8 – 1:10 by weight (suggested) up to a maximum of 1:13. For the mixing operation use suitable mixers for resin mortars, adding first the sand then, while mixing, slowly pour the resin binder and continue to mix until a homogeneous mortar consistency is obtained.

Apply the product within the pot life indicated in the table (refers to a temperature of +23°C). Higher surrounding temperatures will reduce the pot life of the mixture, while lower temperatures will increase it.

Application of the product

Apply 1-2 coats by roller of neat **Mapefloor I 910** on the surface to be treated until the pores are completely saturated and there is a thin, even film of resin on the surface.

Pour the resin mortar prepared as above mentioned on the still wet layer of primer and spread it on an even thickness using screed rails, pin-rake and aluminium straight edge or similar tools. Compact and smooth the screed by power floater or manually with straight trowel when the mortar is still wet. The thickness of the screed rails must consider the compacting and smoothing process to reach the final thickness required.

Once the resin mortar has hardened, apply at least two scratch coats of neat **Mapefloor I 910** to fill all the pores. If a slip resistant surface profile is required, broadcast with suitable granulometry quartz sand between the two scratch coats.

CLEANING

Clean tools used to prepare and apply **Mapefloor I 910** with alcohol immediately after use. Once hardened, the product may only be removed using mechanical means.

CONSUMPTION

Primer and adhesion promoter:

1-2 coats

Mapefloor I 910 0.5-0.7 kg/m² per coat

Binder for epoxy mortar:

Mapefloor I 910 + 0.15-0.17 kg/m² per mm of thickness

Quartz sand* 1.5-1.7 kg/m² per mm of thickness

* considering a mixing ratio of 1:10 by weight.

Finishing:

1-2 coats

Mapefloor I 910 0.3-0.5 kg/m² per coat

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 for the epoxy mortar, the porosity of the screed after compacting, the actual conditions on site, etc. We recommend carrying out preliminary tests with the sand and relative filler rates that will actually be used on site.

PACKAGING

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

STORAGE

24 months in its original sealed packaging, in a dry place and at a temperature of between +5°C and +30°C. Protect from frost.

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.

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.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	component A	component B
Colour:	neutral	straw-yellow
Appearance:	liquid	liquid
Density:	1.20 g/cm ³	0.99 g/cm ³
Viscosity at +23°C:	1,500 – 2,000 mPa·s (# 2 - rpm 10)	200 - 300 mPa·s (# 2 - rpm 50)

APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	component A : component B = 100:50
Colour of mix:	transparent, straw
Consistency of the mix:	thick fluid
Dry solid content:	approx. 100 %
Density of the mixture:	1,100 kg/m ³
Viscosity of the mixture:	900 - 1,200 mPa·s (# 2 - rpm 50)
Pot life of mix at +23°C and 50% R.H.:	20 min.
Surface temperature:	from +8°C to +35°C

FINAL PERFORMANCE OF THE RESIN (A+B)

Hardening time at +23°C and 50% R.H.:	
– dust dry:	2-4 hours
– set to foot traffic:	approx. 12 hours
– full hardening time:	approx. 7 days

FINAL PERFORMANCE OF THE MORTAR - made of MAPEFLOOR I 910 and QUARTZ 1.9 - 1:10 by weight

Flexural strength (after 7 days at +23°C) (EN 196-1):	20 N/mm ²
Compressive strength (after 7 days at +23°C) (EN 196-1):	67 N/mm ²
Impact resistance (EN ISO 6272):	20 Nm
Wear resistance BCA (EN 13892-4):	30 µm
Fire reaction class (EN 13501-1):	B _{FL} -s1

Essential characteristics (binder A+B)	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Typical values
BCA wear-resistance:	EN 13892-4	≤ AR6	AR0.5
Bond strength:	EN 13892-8	≥ B1.5	≥ B2.0
Impact strength:	EN ISO 6272	≥ IR4	IR10
Fire reaction class:	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

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

TECHNICAL SPECIFICATIONS

Supply and installation of two coats by roller of high solid transparent epoxy primer (such as **Mapefloor I 910** by Mapei S.p.A.). On the still wet second layer of primer, application of resin mortar screed made of specific high solid content, transparent low yellowing, epoxy binder (such as **Mapefloor I 910** by Mapei S.p.A.) mixed with suitable granulometry quartz sand, possibly coloured, at mixing ratio binder:sand of 1:10 by weight. The mortar will be laid by pin rakes, straight edge and screed rails, or similar tools. Once laid, compact and smoothen the still wet mortar screed by power floater or manually with straight trowel. Once the mortar screed has hardened, application of at least two finishing scratch coats, to fill all the pores, with high solid content, transparent low yellowing, epoxy resin (such as **Mapefloor I 910** by Mapei S.p.A.).

The resin product must have the following characteristics:

Dry solid content:	approx. 100 %
Density of the mix:	1,100 kg/m ³
Viscosity of the mix:	900 – 1,200 mPa·s (# 2 - 50 rpm)

Wear resistance BCA (EN 13892-4):	23 µm
Bond strength (EN 13892-8):	≥ 2.5 N/mm ²
Impact resistance (EN ISO 6272):	10 Nm
Reaction to fire class (EN 13501-1):	E _{FL}

The epoxy mortar made using the epoxy resin binder mixed with 10 parts by weight of suitable quartz sand must have the following characteristics:

Flexural strength (after 7 d at +23°C) (EN 196-1):	20 N/mm ²
Compressive strength (after 7 d at +23°C) (EN 196-1):	67 N/mm ²
Impact resistance (EN ISO 6272):	20 Nm
Wear resistance BCA (EN 13892-4):	30 µm
Reaction to fire class (EN 13501-1):	B _{FL-s1}

Mapei S.p.A.

Via Cafiero, 22, 20158, Milano



+39-02-376731



www.mapei.com



mapei@mapei.it

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