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MAPEFLOOR EP 19

Three-component epoxy mortar for wear-resistant floors



WHERE TO USE

Thick repair layers on concrete surfaces subjected to high abrasion and to form coatings with high wear resistance for concrete floors subjected to heavy traffic.

Some application examples

- Repair and levelling of reinforced concrete bearings for crane and bridge crane runways.
- Wear-resistant beds for machinery, beams, etc.
- Rebuilding the corners of expansion joints in industrial flooring damaged by impact from trucks and forklifts, etc.
- Filling holes and levelling off surfaces before the application of resinous systems exposed to severe chemical and mechanical stresses on industrial floors.
- Protective wear-resistant layers on foundation pads for depuration plants and concrete drain pipes.
- Wear-resistant protection of reinforced concrete elements such as ramps, silo beds, and concrete floors subject to heavy traffic.

TECHNICAL CHARACTERISTICS

Mapefloor EP19 is a three-component mortar manufactured from a formula developed in the MAPEI Research & Development laboratories. **Mapefloor EP19** is composed of a fluid epoxy resin, a special hardener, and graded silica sand mineral filler that is ideal for preparing highly compact mortar.

Mapefloor EP19 hardens without remarkable shrinkage to form a very strong product with particularly high resistance to wear and good resistance to aggressive chemical agents if saturated with **Mapecoat I 24** or **Mapefloor I 300 SL**.

At +23°C **Mapefloor EP19** is set for light foot traffic 6 hours after application and ready for vehicle traffic after 12 hours. Final curing occurs after 7 days.

Mapefloor EP19 complies with the principles defined in EN 13813 "Screeds and materials for screeds - Material for screeds - Properties and requirements", which specifies the requirements of materials for screeds used in the construction of internal floors.

RECOMMENDATIONS

- Do not dilute **Mapefloor EP19** with solvent.
- Do not apply **Mapefloor EP19** on dusty or crumbling substrates.
- Do not apply **Mapefloor EP19** on substrates with oil or grease stains or stains in general.
- Only apply **Mapefloor EP19** on substrates treated with **Primer SN** and which have been prepared as specified.
- 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 EP19** may change colour or fade if exposed to sunlight but this has no effect on its performance characteristics.
- The coating may also change colour 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 fossil fuels; the carbon dioxide and water vapour given off into the air will affect the shine of the finish and affect its appearance. Use electric heaters only.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor EP19**.
- 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 above dew-point.

APPLICATION PROCEDURE

Preparation of the substrate

The surface of concrete floors must be dry, clean and sound and have no crumbling or detached areas. The compressive strength of the concrete used for the substrate 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 load to which it will be subjected.

The surface of the floor to be treated must be prepared with a suitable mechanical process (e.g. shot-blasting or grinding with a diamond disk), 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 product remove all dust from the surface with a vacuum cleaner.

Metal surfaces should be sanded to bare metal before applying the product.

Application of Primer SN

Just before applying **Mapefloor EP19**, impregnate the dry surface with **Primer SN** two-component epoxy primer, supplied in two pre-dosed containers.

Carefully blend component A and component B of **Primer SN** until an homogeneous mixture is achieved then.

Preparing Mapefloor EP19

Pour **Mapefloor EP19** components A and B into a bucket and mix for several minutes. Then add component C (powder) while mixing with a drill at low-speed and keep mixing to form an even, screed-mortar consistency.

Applying the product

Trowel the **Mapefloor EP19** onto the *primer* while the latter is still fresh, then tamp it and float finish with a metal trowel.

Finishing coat

To reduce the porosity and the settling of dirt on the **Mapefloor EP19** surface, one of the two procedures may be followed:

- saturate the surface with several coats of **Mapecoat I 24**;
- apply a protective smoothing layer of **Mapefloor I 300 SL** mixed with 20% by weight of **Quartz 0.25**.

CLEANING

Tools and clothing must be cleaned with ethyl alcohol while the product is still fresh.

CONSUMPTION

Mapefloor EP19:

20 kg/m² per 1 cm of thickness.

Primer SN:

0.3-0.7 kg/m² according to the absorption of the substrate.

PACKAGING

Mapefloor EP19 is available in buckets containing 10 kg of the product in accurately pre-measured components (0.750 kg component A + 0.250 kg component B + 9 kg component C).

STORAGE

The product is stable for 24 months when stored in a cool, dry sheltered place at a temperature not less than +5°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Mapefloor EP19 component A is irritant for the eyes and skin. Both component A and B may cause sensitization when in contact with the skin of those predisposed.

Mapefloor EP19 component B is corrosive and it may cause burns. Furthermore, it is hazardous if swallowed or if it comes in contact with the skin. 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. We recommend working in well ventilated areas. In case of poor ventilation, we recommend wearing the mask with filters. 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 EP19** component A and B are 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 Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
	component A	component B	component C
Consistency:	viscose liquid	liquid	powder
Colour:	straw yellow	straw yellow	sand
Density (g/cm ³):	1.17	1.07	–
Dry solids content (%):	~100	~100	100
Viscosity (mPa·s):	3500	400	–
APPLICATION DATA (at +23°C and 50% R.H.)			
Mix ratio by weight A : B : C:	component A : component B : component C = 7.5 : 2.5 : 90		
Consistency of mix:	damp sand		
Density of mix (kg/m ³):	1,900		
Application temperature range:	from +5°C to +30°C		
Workability at +23°C:	30-40'		
Set to light foot traffic:	6 hours		
Ready for use:	12 hours		
FINAL PERFORMANCES (at +23°C - 50% R.H.)			
Resistance to temperature:	from -20°C to +120°C (for short term exposure)		
Resistances to oils:	excellent		
Resistance to acids and alkalis:	excellent		
Compressive strength (EN 196/1) (N/mm ²):			
– after 1 day:	40		
– after 7 days:	50		

Flexural strength (EN 196/1) (N/mm ²): – after 1 day: – after 7 days:		17 20		
Adhesion to concrete (N/mm ²):		> 2 (failure of the substrate)		
Abrasion resistance - Taber abrasion test (H22 disk - 1,000 g - 1,000 rev) expressed in weight loss (g): – after 1 day: – after 7 days:		2.2 1.1		
Performance characteristic	Test method	Requirements according to EN 13813 for synthetic resin screeds	Performance of product	Class
BCA wear resistance	EN 13892-4	< 100 µm	40 µm	AR0.5
Bond strength	EN 13892-8; 2004	> 1.5 N/mm ²	4.20 N/mm ²	B2.0
Impact strength	EN ISO 6272	> 4 Nm	20 Nm	IR20
Reaction to fire	EN 13501-1	from A ₁ FL to F _{FL}	B _{FL} -s1	B _{FL} -s1
Emission of corrosive substances	–	Type	SR	SR
Permeability to water	EN 1062-3	–	NPD	NPD
Soundproofing capacity	EN ISO 140-6	–	NPD	NPD
Sound absorption	EN 12354-6	–	NPD	NPD
Thermal resistance	EN 12524 - EN 12664	–	NPD	NPD
Chemical resistance	EN 13529	–	NPD	NPD

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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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.

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