

MAPECOAT UNIVERSAL

Two-component transparent epoxy binder for
internal decorative coatings from the Mapefloor
Compact System range



WHERE TO USE

Mapecoat Universal is a transparent epoxy binder specific for making highly attractive protective coatings with slip resistant surface finish in order to comply with current norms and standards for various areas of use, such as industrial and commercial flooring from the **Mapefloor Compact System** range.

Mapecoat Universal is applied on concrete floors and cementitious or mineral-based substrates in general that require good mechanical properties and resistance to chemicals combined with an attractive and decorative finish. **Mapecoat Universal** may be used in various sectors, such as:

- pharmaceutical and chemical industries;
- electronics industry;
- food and beverages industry;
- showrooms;
- residential and commercial complexes, etc.

TECHNICAL CHARACTERISTICS

Mapecoat Universal is a two-component, transparent epoxy resin-based formulate with high solids content according to a formula developed in the MAPEI R&D laboratories.

Mapecoat Universal is used to form seamless, low-yellowing coatings characterised by their high mechanical properties that are easy to clean and maintain.

RECOMMENDATIONS

- Do not dilute **Mapecoat Universal** with solvent or water.
- Do not apply **Mapecoat Universal** on dusty or crumbling substrates.
- Do not apply **Mapecoat Universal** on substrates with oil or grease stains or with stains in general.
- Do not apply **Mapecoat Universal** on substrates that have not been prepared and primed 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.
- Even though **Mapecoat Universal** yellows much less than conventional epoxy binders, exposure to direct sunlight may affect its colour over the years; this phenomenon has no effect on the mechanical properties of the coating.
- 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 chemicals.
- If areas where the product is being used need to be warmed up, do not use heaters that burn fossil fuels, 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 **Mapecoat Universal**.
- Use suitable specific cleaning equipment and detergent to clean the coating, 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 cementitious substrates with a relative moisture content higher than 4% and/or with capillary rising damp (check by testing it with a sheet of polythene). In such cases, please refer to MAPEI Technical Services.
- The temperature of the substrate must be at least 3°C above dew-point.

APPLICATION PROCEDURE

Substrate preparation

The concrete surface of the floor must be dry, clean and sound and have no crumbling or detached areas. The compressive strength of the 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 to the types of loads acting on the flooring.

The moisture content of the substrate must be maximum 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 suitable power tools (e.g. shot-blasting or grinding with a diamond disk), 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 product, remove all dust from the surface with a vacuum cleaner.

Any cracks must be repaired by filling them with **Eporip**, while any damaged areas of the concrete must be repaired with **Mapefloor EP 19**. For repairing minor damage use **Mapefloor JA**.

Before applying **Mapecoat Universal**, remove all traces of dust from the surface with a vacuum cleaner.

Preparation of the product

The two components which make up **Mapecoat Universal** must be mixed 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), to prevent entraining air into the product 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 avoid entraining too much air into the mix.

Apply the mix within the pot life indicated in the data table (refers to a temperature of +23°C). Higher surrounding temperatures will reduce the open time of the mix, while lower temperatures will increase its open time.

Application of Mapecoat Universal as adhesion promoter

Mapecoat Universal may be used as a primer by applying 1-2 coats with a roller or straight steel trowel to form a seamless, even, shiny film.

Application of Mapecoat Universal as a binder

Mapecoat Universal may be used as a binder to make two types of resin systems. In both cases the systems will be applied on the coat of **Mapecoat Universal** used as a primer while it is still wet:

- **Mapefloor Compact System MF** multi-layered protective coating (approx. 3 mm thick)
- **Mapefloor Compact System HD** high performance coating for closed-pore epoxy mortar screeds (minimum thickness 5 mm).

CLEANING TOOLS

Clean tools used to prepare and apply **Mapecoat Universal** with ethanol or thinners immediately after use. Once hardened, the product may only be removed using mechanical means.

CONSUMPTION

- 0,2-0,4 kg/m² if used as adhesion promoter.
- 1,4-1,6 kg/m² if used as binder for **Mapefloor Compact System MF** for thickness of approx. 3 mm.
- 2,0-2,5 kg/m² if used as binder for **Mapefloor Compact System HD** for thickness of approx. 7 mm.

PACKAGING

15 kg units (component A = 10 kg; component B = 5 kg).

STORAGE

The product may be stored for up to 24 months if kept in its original packaging in a dry place at a temperature of +5°C to +30°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapecoat Universal component A is irritant for the skin and the eyes. Components A and B may cause sensitisation to the skin of those predisposed. **Mapecoat Universal** component B is corrosive and may cause burns and is also hazardous if swallowed. The product contains low molecular weight epoxy resins that may cause sensitisation if cross-contamination occurs with other epoxy compounds.

During use wear protective gloves and goggles and take the usual precautions for handling chemicals. In case of in contact with the eyes or skin wash immediately with plenty of water and seek medical attention.

Mapecoat Universal components A and B are also hazardous for aquatic life. Do not dispose of this product 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.

RESTRICTED TO PROFESSIONAL USERS.

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
	component A		component B
Colour:	transparent		straw yellow
Consistency:	liquid		liquid
Density (g/cm ³):	1.12		1.01
Brookfield viscosity at +23°C (mPa·s):	approx. 1,130		approx. 64
APPLICATION DATA (at +23°C and 50% R.H.)			
Mixing ratio:	component A : component B = 2 : 1		
Colour of mix:	transparent straw yellow		
Consistency of mix:	thick liquid		
Density of mix (kg/m ³):	approx. 1,079		
Brookfield viscosity of mix (mPa·s):	approx. 282		
Surface temperature:	+8°C to +35°C		
Pot-life of mix (at +23°C and 50% R.H.):	approx. 30 mins.		
Application temperature:	min. +10°C – max. +30°C		
Hardening time at +23°C and 50% R.H.:			
– Set to foot traffic:	12 hours		
– Complete hardening:	7 days		
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.).			
FINAL PERFORMANCE (after 7 days at +23°C)			
Shore D hardness (ISO 868:2003):	approx. 75		
Flexural strength (EN 196-1) (N/mm ²):	≥ 30		
Compressive strength (EN 196-1) (N/mm ²):	≥ 55		
Main characteristics of product	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Performance of product

BCA wear-resistance:	EN 13892-4	≤ AR1	AR0.5
Bond strength:	EN 13892-8; 2004	≥ 1.5 N/mm ²	≥ 3.0 N/mm ²
Fire reaction class:	EN 13501-1	Declared value	E _{FL}
Permeability to CO ₂ :	EN 1062-6	Permeability to CO ₂ S _D > 50 m	S _D > 50 m
Permeability to water vapour:	EN ISO 7783	Class I: S _D < 5 m, Class II: 5 m > S _D < 50 m Class III: S _D > 50 m	Class III
Capillary absorption and permeability to water:	EN 1062-3	W < 0.1 kg/m ² ·h ^{0.5}	W < 0.01 kg/m ² ·h ^{0.5}

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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