

MAPEFLOOR CPU+/TC

Topcoat for polyurethane-cement flooring systems and for walls



DESCRIPTION

Mapefloor CPU+/TC is an antimicrobial, easy to sanitize, polyurethane-cement topcoat for Mapefloor System CPU+/DP and Mapefloor CPU+ products range according to a formula developed by MAPEI's Research Laboratories.

TECHNICAL CHARACTERISTICS

Mapefloor CPU+/TC provides top-coat layers for products and systems of Mapefloor CPU+ range featuring:

- fast hardening;
- good chemical resistance;
- thermal shock resistance like the one of the Mapefloor CPU+ system on which it is applied, provided the application is done within 12 hours from the hardening of the base layer;
- resistance to abrasion;
- impermeability to liquids in general;
- odourless during application and hardening;
- low VOC content;
- no bacterial growth.

ADVANTAGES

- Fulfills HACCP requirements.
- Complies with all Indoor Air Comfort Gold emission requirements for indoor flooring systems, including AgBB in Germany, M1 in Finland and Afsset in France, BREEM, CAM, Singapore Green Label and Green Tag Australia. Classified A+, the best class for the lowest emissions.
- Easy to sanitize.
- Non-tainting for food.
- Fast return to service.
- Ease for warehousing management; components A, B and Mapecolor CPU+ are common to whole Mapefloor CPU+ product range.
- Complies with the principles defined in EN 13813 "Screed material and floor screeds - Screed material - Properties and requirements", which specifies the requirements for screed materials used in the construction of internal floors.
- Sustainability: it can contribute to LEED credits. EPD (Environmental Product Declaration) compliant.

WHERE TO USE

Mapefloor CPU+/TC is used as the final layer of **Mapefloor System CPU+/DP** multilayer system or as an optional finishing coat of systems made with the **Mapefloor CPU+** range of products.

Mapefloor CPU+/TC can also be used as a coating on concrete and cementitious surfaces in general such as walls, pillars, conduits, connection covings between walls and floors, etc.

Some application examples

- Finishing layer for polyurethane-cement systems made with smooth **Mapefloor CPU+/MF** or fully broadcasted with quartz sand as provided in **Mapefloor System CPU+/DP**, even in wet operating conditions.
- Finishing layer of covings for example between walls and floors, made with **Mapefloor CPU+/COVE**.
- Easy to clean and chemical resistant protective coating of concrete walls or cement plaster in food, chemical, pharmaceutical industries, etc.
- Optional finishing coat for systems made with **Mapefloor CPU+/RT**, **Mapefloor CPU+/HD**, **Mapefloor CPU+/NZ**, **Mapefloor CPU+/UD**, **Mapefloor CPU+/SR**.

COLOURS

Mapefloor CPU+/TC must be mixed with the specific **Mapecolor CPU+** pigment available in grey, beige, red, green, ochre, blue and orange colour. Please, always refer to the Mapei Technical Service for a detailed assessment of the most suitable system and colour for the specific case. The choice of colour also helps to define the overall performance of the system.

RECOMMENDATIONS

- Do not apply **Mapefloor CPU+/TC** on wet substrates or on concrete younger than 7 days.
- Do not dilute **Mapefloor CPU+/TC** with solvents or water.
- Do not apply **Mapefloor CPU+/TC** on dusty or crumbly substrate.
- Do not apply **Mapefloor CPU+/TC** on substrate contaminated by oil, grease, or dirt in general.
- Do not apply **Mapefloor CPU+/TC** on not properly prepared substrates.
- Do not mix partial quantities of the components to prevent mistakes in the mixing ratios which would cause incorrect hardening of the product.
- Do not expose the mixed product to heat sources.
- Do not apply **Mapefloor CPU+/TC** on ceramic substrates or stone materials in general with no appropriate specific preparation of the laying surface.
- **Mapefloor CPU+/TC** exposed to UV lights could lead to noticeable colour changes; this phenomenon does not affect the performance of the coating in any way.
- The colour of **Mapefloor CPU+/TC** can also change in case of contact with certain chemicals; the colour variation itself is not an indication of chemical aggression on the coating.
- Remove as soon as possible any chemicals in contact with **Mapefloor CPU+/TC**.
- For cleaning use suitable equipment and detergents depending on type of dirt to be removed.
- Protect **Mapefloor CPU+/TC** from water for at least 24 hours after the application.

APPLICATION PROCEDURE

Substrate characteristics

Mapefloor CPU+/TC can be applied as an optional coat, to homogenize the colour appearance of **Mapefloor CPU+** product range application. Application must take place within 12 hours of hardening at +23°C of the base layer if you want to maintain the resistance to thermal shock with no risk of debonding of **Mapefloor CPU+/TC**. After that time, it will be mandatory to mechanically reactivate the surface to be treated with a grinding machine before applying **Mapefloor CPU+/TC**.

Substrates made up with **Mapefloor CPU+** product range must be hardened, no longer sticky, dry, clean and dust-free.

Please read the technical data sheets of the related **Mapefloor CPU+** product for further application details.

Mapecolor CPU+/TC can also be used as a coating on concrete and cementitious surfaces in general such as walls, pillars, channels, etc. These surfaces must be dry or moderately humid, clean, undamaged, without crumbling or detached parts. The substrate concrete must be at least 15 days old and at the time of application it must have a minimum compressive strength of 25 N/mm² and 1.5 N/mm² tensile strength. The mechanical performance of the substrate must in any case be adequate for the purpose and for the stresses for the specific operating conditions.

Substrate preparation

Mechanically remove any loose or crumbly parts.

Cracks can be repaired with **Primer SN** filled with quartz sand or thixotropic agent like **Additix PE** or with **Mapecolor JA** or **Mapecolor JA Fast** depending on the width and depth of the defects and cracks.

For the reconstruction of heavily degraded areas and joints, the filling of large depressions, repairs, or minimal localized changes to slopes, etc., please contact the Technical Service.

Before proceeding with the application of the material, the surface dust must be carefully vacuumed.

Temperature

To avoid the condensation on the surface, the substrate temperature must be at least 3°C above the dew point. The relative humidity of the air must be lower than 80%. The ambient temperature must be between +10°C and +30°C.

In case of application at temperature above +25°C, store the material in sheltered spot at lower temperature.

This will allow to get longer pot life and get the application simpler even at high temperature. In case of temperature below +15°C, store the material in a warmer place (heated room temperature) to avoid the risk of too high viscosity of the mix making the application harder and turning into a potential problem of aesthetics effect.

Preparation of the product

Shake the packs containing the liquid components A, B and **Mapecolor CPU+** pigment.

Pour one pack of component A and one pack of **Mapecolor CPU+** into a clean bucket and mix for a few seconds until a homogeneous mixture is obtained. Then add one pack of component B and mix again with a suitable low-speed electric mixer until completely blended.

Then slowly and gradually add one pack of component C, continuing to mix for at least three minutes until a homogeneous mixture is obtained. At temperatures lower than +23°C this time could be slightly longer.

Only mix whole packs of components A, B, C and **Mapecolor CPU+** to prevent potential mistakes in the mixing ratios which could compromise the entire system.

Application of the product

Mapecolor CPU+/TC can be applied on substrates made with **Mapecolor CPU+** products range within 12 hours of their hardening at +23°C. If this time is exceeded, mechanical preparation of the surface must be carried out.

There is no maximum overcoating time for **Mapecolor System CPU+/DP**, as long the surface is clean and free from dust.

For better distribution of the material, it is advisable to pour all **Mapecolor CPU+/TC** onto the floor and apply it evenly with a short or medium pile roller, for example on smooth **Mapecolor CPU+/MF** or on rough **Mapecolor CPU+/RT**, **Mapecolor CPU+/HD**, **Mapecolor CPU+/NZ**, **Mapecolor CPU+/UD** and **Mapecolor CPU+/SR**.

In the case of wall cladding or coving, apply the product in at least two coats.

In the **Mapecolor System CPU+/DP** system, immediately after mixing, pour all **Mapecolor CPU+/TC** on the floor. Then spread the material evenly with a straight squeegee, crossing the strokes to seal the roughness properly.

Finally, use a medium hair roller (50 - 60 cm wide), to even out any excess product and obtain the correct aesthetic and functional result.

Apply the mix within the useful pot life indicated in the table. The higher temperatures the lower pot life; the lower the temperature, the higher pot life.

CONSUMPTION

As topcoat on concrete or a **Mapecolor CPU+** products range



TOOLS CLEANING

Equipment used to prepare and apply **Mapefloor CPU+** product range must be cleaned with thinner for polyurethanes immediately after use. Once the product has hardened, it can only be removed mechanically.

FLOOR CLEANING

The first cleaning after laying **Mapefloor CPU+/TC** must only be carried out after the product has completely hardened. Early washing could lead to the formation of stains/shading due to the surface not yet perfectly closed and still partially absorbent.

For periodic and extraordinary washing, use suitable and specific machines, equipment and detergents for the type of stains and dirt to be removed.

PACKAGING

Mapefloor CPU+ Component A: 2 kg pack

Mapefloor CPU+ Component B: 2.16 kg pack

Mapefloor CPU+/TC Component C: 2.5 kg bag

STORAGE

12 months in the original sealed packaging and kept in a dry and sheltered spot at temperatures between +10°C and +30°C. Components A and B can be damaged by frost. **Mapefloor CPU+/TC** part C is sensitive to humidity.

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, B and C, 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

	Comp. A	Comp. B	Comp. C	Mapecolor CPU+
Colour:	Milky white	Amber	White grey	Grey, beige, red, green, ochre, blue, orange
Appearance:	Liquid	Liquid	Powder	Paste
Density:	1÷1.05 g/cm ³	1.2 g/cm ³	–	1.30÷1.60 g/cm ³
Bulk density:	–	–	1.3 ÷1.4 g/cm ³	–
Viscosity at +23°C:	200÷600 mPa·s (# 2 - rpm 20)	100÷160 mPa·s (# 1 - rpm 50)	–	5 000÷9 000 mPa·s (# 5 – rpm 20)

APPLICATION DATA

Mixing ratio:	A / B / C / Mapecolor CPU+ : 2 / 2.16 / 2.5 / 0.23
Colour of the mix:	grey, beige, red, green, ochre, blue, orange
Consistency of the mix:	fluid
Viscosity at +23°C:	1800 ± 300 mPa·s (# 4 - rpm 20)
Density of the mix:	1,300÷1,400 kg/m ³

Pot life at +23°C:	15 min
Temperature of the surface:	from +10°C to +30°C

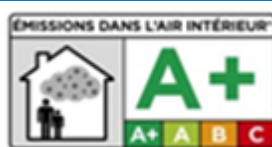
FINAL PERFORMANCE at +23°C and 50% R.H.

Tack free:	2-4 h
Pedestrian traffic:	24 h
Complete hardening:	4 days
Shore D hardness after 28 days (DIN 53505):	77
Bond strength (EN 13892-8)	$\geq 2 \text{ N/mm}^2$
Taber Test after 28 days (CS17 wheel, 1000 cycles/1000 revs):	150 mg
Resistance to thermal shock (EN 13687-5):	2.60 N/mm ²

Essential characteristics	Test method	Requirements according to EN 13813 for cement screeds	Typical values
Flexural strength:	EN 13892-2	From F5 to F50	F7
Compressive strength:	EN 13892-2	From C5 to C80	C40
Abrasion resistance BCA:	EN 13892-4	$\leq \text{AR6}$	AR0.5
Reaction to fire class:	EN 13501-1	Declared value	B _{FL} -s1

Indoor Air Comfort GOLD – VOC Emission

French VOC Regulation
(Decree of March /April 2011 modified in February 2012)



French CMR components
(Regulation of April/May 2009)

Pass

Italian CAM Edilizia
(DM23.06.2022 n.256, GURI n.183 06/08/2022)

Pass

AgBB
(Regulation AgBB/DIBt)

Pass

Belgian Regulation
(Royal decree of May 2014)

Pass

Indoor Air Comfort
(Indoor Air Comfort 8.0 of June 2022)

Pass

Indoor Air Comfort GOLD
(Indoor Air Comfort GOLD 8.0 of June 2022)

Pass

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.

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



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

8996-7-2023 en (IT)

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