MAPEFLOOR CPU+/TC

Topcoat for polyurethane-cement flooring systems and for walls



DESCRIPTION

Mapefloor CPU+/TC is a microbe-resistant, easy to sanitize, polyurethane-cement topcoat for **Mapefloor System CPU+/DP** systems range 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:

- 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;
- fast hardening;
- good chemical resistance;
- resistance to abrasion;
- impermeability to liquids in general;
- complies with the M1 protocol which includes VOC, formaldehyde and ammonia emission requirements according to EN 16516 and sensory odour testing according to ISO 16000-28;
- low VOC content and emission;
- does not allow microbial growth;
- 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, BREEAM, CAM, Singapore Green Label and Global Green Tag. Classified A+, the best class for the lowest emissions;
- hygienic and sanitisable;
- complies with requirements according to 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.

ADVANTAGES

- Fast return to service;
- ease for warehousing management; components A, B and **Mapecolor CPU+** are common to whole **Mapefloor CPU+** product range;
- sustainability: it can contribute to LEED credits. EPD (Environmental Product Declaration) compliant.

WHERE TO USE

- Finishing layer for polyurethane-cement systems **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 coating of concrete vertical surfaces in food, chemical, pharmaceutical industries, etc.
- Optional finishing coat for systems made with **Mapefloor CPU+** product range.

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 colour 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 substrates.
- Do not apply **Mapefloor CPU+/TC** on substrates 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 rays 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. The first cleaning must be carried out after the system has completely hardened. Early washing could lead to the formation of stains.
- Protect **Mapefloor CPU+/TC** from water for at least 24 hours after the application.
- In case of application at temperature above +25°C, store the material in a sheltered place at a lower temperature. In case of temperature below +15°C, store the material in a warmer place.
- The temperature of the substrate during application and hardening must be at least 3°C above the dew point and the relative humidity of the air must be max. 80%.

APPLICATION PROCEDURE

Substrate characteristics

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.

Mapefloor 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 7 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 **Mapefloor JA** or **Mapefloor 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.

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

Mapefloor CPU+/TC can be applied evenly with a short or medium pile roller on substrates made with **Mapefloor 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.

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

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

Immediately after mixing, pour all **Mapefloor 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.

It is recommended to apply each fresh batch of product immediately after the previous one while it is still wet and workable so that they mix and bond together and leave no visible overlaps.

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

CONSUMPTION

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

Mapefloor CPU+/TC	0.4 -1.2 kg/m² (depending on the roughness of the substrate)

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.

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

Mapecolor CPU+: 0.23 kg pack.

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	Dark brown	White	Grey, beige, red, green, ochre, blue, orange
Appearance:	Liquid	Liquid	Powder	Viscous liquid
Density:	1-1.05 g/cm³	1.2 g/cm³	–	1.30-1.60 g/cm³
Bulk density:	–	–	1.3-1.4 g/cm³	–
Viscosity a +23°C:	200-600 mPa·s (# 2 - rpm 20)	100-160 mPa·s (# 1 - rpm 50)	–	6,000-25,000 mPa·s (# 6 – rpm 20)

APPLICATION DATA	
Mixing ratio by weight:	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:	1,800 ± 300 mPa·s (# 4 - rpm 20)
Density of the mix:	1,300-1,400 kg/m³
Pot life at +23°C:	15 min
Application temperature (refers to ambient, material and support):	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)	≥ 2 N/mm^2
Taber Test after 28 days (CS17 wheel, 1,000 cycles/1,000 revs) (EN ISO 5470-1):	150 mg
Resistance to thermal shock (1 x) (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 F1 to F50	F7
Compressive strength:	EN 13892-2	From C5 to C80	C40
Abrasion resistance BCA:	EN 13892-4	≤ AR6	AR0.5
Reaction to fire class:	EN 13501-1	From $A1_{FL}$ to F_{FL}	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

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 SPECIFICATION

Supply and installation of microbe-resistant, sanitizable, high chemical resistance polyurethane-cement finish (such as **Mapefloor CPU+/TC** by MAPEI S.p.A), specific for vertical concrete surfaces or as a finishing layer for polyurethane-cement systems (such as **Mapefloor CPU+** range by MAPEI S.p.A.), coloured with specific pigment available in grey, beige, red, green, ochre, blue and orange colours (such as **Mapecolor CPU+** by MAPEI S.p.A.)

The hardened product must have the following characteristics:

Abrasion resistance BCA (EN 13892-4):	≤ 10 µm
Bond strength (EN 13892-8):	≥ 2 N/mm^2
Flexural strength (EN 13892-2):	≥ 7 N/mm^2
Compressive strength (EN 13892-2):	≥ 40 N/mm^2
Resistance to thermal shock (1 x) (EN 13687-5):	≥ 2.50 N/mm^2
Shore D hardness (DIN 53505):	77
Taber Test after 28 days (CS17 wheel, 1,000 cycles/1,000 revs) (EN ISO 5470-1):	150 mg
Reaction to fire class (EN 13501-1):	B_{FL}-s1
VOC Emission (UNI EN 16516):	Indoor Air Comfort Gold including AgBB in Germany, M1 in Finland and Afsset in France, BREEAM, CAM, Singapore Green Label and Global Green Tag. Classified A+, the best class for the lowest emission
Fulfills HACCP requirements.	
Complies with the M1 protocol which includes VOC, formaldehyde and ammonia emission requirements according to EN 16516 and sensory odors testing according to ISO 16000-28.	
Contributes to obtaining LEED credits, EPD (Environmental Product Declaration) compliant.	

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