MAPEFLOOR CPU+/COVE

Polyurethane-cement mortar for coverings and details



DESCRIPTION

Mapefloor CPU+/COVE is a polyurethane-cement mortar developed by MAPEI's Research Laboratories, trowel-applied for microbe-resistant and sanitizable covings and walls.

TECHNICAL CHARACTERISTICS

Mapefloor CPU+/COVE is mainly used for coving connections between floors and walls, and other complementary details for protective systems made with **Mapefloor CPU+** product range. It features:

- fast hardening;
- high mechanical performance;
- high chemical resistance;
- 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 sanitizable;
- complies with the requirements according to EN 13813 "*Screed and material for 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 the whole **Mapefloor CPU+** product range.

WHERE TO USE

Mapefloor CPU+/COVE is mainly used in combination with **Mapefloor CPU+** products range, for instance:

- wall coating, for instance, in secondary containments of chemicals, pharmaceutical, food, and beverage plants;
- coving connecting floors to walls and floors to vertical elements in general;
- small repair works.

COLOURS

Mapefloor CPU+/COVE 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+/COVE** on wet substrates or on concrete younger than 7 days.
- Do not dilute **Mapefloor CPU+/COVE** with solvents or water.
- Do not apply **Mapefloor CPU+/COVE** on dusty or crumbly substrates.
- Do not apply **Mapefloor CPU+/COVE** on substrates contaminated by oil, grease, or dirt in general.
- Do not apply **Mapefloor CPU+/COVE** 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+/COVE** on ceramic substrates or stone materials in general, without appropriate specific preparation of the laying surface.
- **Mapefloor CPU+/COVE** 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+/COVE** 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 the **Mapefloor CPU+/COVE**.
- For cleaning, use suitable equipment and detergents depending on the 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+/COVE** 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 must be solid, compact, stable, sound, clean, and properly designed for static and dynamic loads foreseen in the operating conditions. The flatness must be defined by the needs of use. At the time of application, compressive strength of the concrete or cementitious mortar used for the repair must be higher than 25 N/mm² and the direct tensile strength at least 1.5 N/mm².

The substrate surface must appear visually dry. There must be no capillary rising damp as well.

In case of substrates such as ceramic tiles, natural stone, or old resin systems, they must be perfectly stable and well adhered to the substrate, sound and clean. These substrates require specific preparation methods for the

laying surfaces. In case of old resin systems, it is recommended to also perform a compatibility test with the new system to be applied.

Substrate preparation

The substrate to be covered with **Mapefloor CPU+/COVE** must be sound, clean, slightly rough and absorbent, free from oils, fats, or any other substance that could compromise adhesion.

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

Application of the primer

Before applying **Mapefloor CPU+/COVE**, **Mapefloor CPU+/Primer** previously rolled on must still be sticky (fresh on tack-free). At +23°C, the overcoating time is approx. 20 minutes.

Product preparation

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

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

Then, slowly and gradually add all the 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.

Product application

Immediately after mixing, pour **Mapefloor CPU+/COVE** onto the floor along the laying line and then apply it with a suitable steel or plastic tool. Once hardened, **Mapefloor CPU+/COVE** can be covered with at least one coat of **Mapefloor CPU+/TC** to fully saturate the pores to make it even easier to clean.

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

Further information can be found on the related technical data sheet of **Mapefloor CPU+/Primer** and **Mapefloor CPU+/TC** products.

CONSUMPTION

Mapefloor CPU+/COVE: approx. 2 kg per litre, depending on the shape and volume of the detail.

For covings, these are the typical consumptions:

Dimension of the coving	Consumption kg/m
3 cm x 3 cm	0.9
4 cm x 4 cm	1.6
5 cm x 5 cm	2.5

The consumption is influenced by the roughness and absorption of the substrate, as well as the environmental and working conditions of the job site.

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+/COVE Component C: 25 kg bag

Mapecolor CPU+: 0.23 kg pack

STORAGE

12 months in the original packaging, closed 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+/COVE** 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	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:	-	-	1.995÷2.095 g/cm³	-
Viscosity a +23°C:	200-600 mPa·s (# 2 - rpm 20)	100-160 mPa·s (# 1 - rpm 50)	–	6 000- 25000 mPa·s (# 6 – rpm 20)

APPLICATION DATA	
Mixing ratio by weight:	A + B + C + **Mapecolor CPU+**: 2 / 2.16 / 25/ 0.23
Colour of the mix:	grey, beige, red, green, ochre, blue, orange

Consistency of the mix:	thixotropic
Density of the mix:	1 990-1 995 kg/m³
Pot life at +23°C:	20 min
Application temperature (refers to ambient, material and substrate):	from +10°C to +30°C

FINAL PERFORMANCE at +23°C and 50% R.H.	
Tack free:	2-4 h
Pedestrian traffic:	24 h
Minimum recoating time:	12 h
Complete hardening:	4 days
Bond strength (EN 13892-8):	≥ 2 N/mm²
Shore D hardness after 28 days (DIN 53505):	75-80

Essential characteristics	Test method	Requirements according to EN 13813 for cement screeds	Typical values
Flexural strength:	EN 13892-2	from F1 to F50	F10
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}	E_{FL}

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 odourless, thixotropic polyurethane-cement mortar to create a microbe-resistant, sanitizable floor-wall connection coves with high chemical, mechanical and thermal shock resistance (such as **Mapefloor CPU+/COVE** by MAPEI S.p.A.) coloured with the suitable pigment available in grey, beige, red, green, ochre, blue and orange colours (such as **Mapecolor CPU+** by MAPEI S.p.A.).

The hardened material must have the following characteristics:

Bond strength (EN 13892-8):	≥ 2 N/mm^2
Compressive strength after 28 days (EN 13892-2):	≥ 40 N/mm^2
Flexural strength after 28 days (EN 13892-2):	≥ 10 N/mm^2
Abrasion resistance BCA (EN 13892-4):	≤ 20 µm
Shore D hardness after 28 days (DIN 53505):	75-80
Reaction to fire class (EN 13501-1):	E_{FL}
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 emissions.
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.	

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