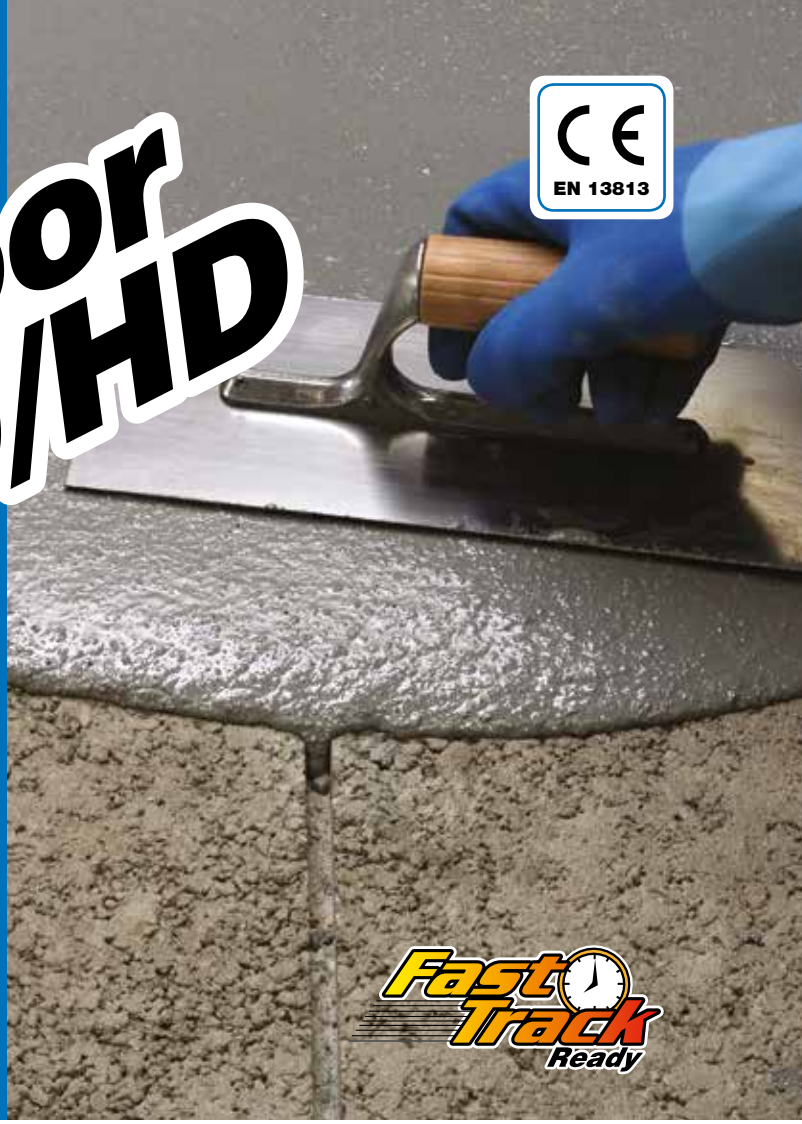
MAPEI

CT
CEMENTITIOUS SCREED
C50-F10
AR0.5-B2.0-IR20
MAPEI
IN COMPLIANCE WITH EUROPEAN STANDARDS
EN 13813

Mapefloor CPU/HD



Three-component high-strength polyurethane/ cement-based mortar with high resistance to chemicals for coating industrial floors in layers from 6 to 9 mm thick.
Complies with standards applied in the foodstuffs sector

WHERE TO USE

Mapefloor CPU/HD is a three-component polyurethane/ cement-based formulate used to create protective coatings on industrial floors subjected to heavy traffic, high chemical aggression, thermal shock, etc.

Some application examples

- Coating floors in the chemical and pharmaceutical industries.
- Coating floors in the foodstuffs industry.
- Coating floors in the dairy products industry.
- Coating floors in wineries, breweries and beverage industry in general.

TECHNICAL CHARACTERISTICS

Mapefloor CPU/HD is a formulate made from cement, selected aggregates and polyurethane resin according to a formula developed in the MAPEI research laboratories.
Mapefloor CPU/HD complies with standards applied in the foodstuffs sector:
EN 1186, EN 13130 and prCEN/TS 14234, as well as the Decree of Consumer Goods that represents the conversion of European directives 89/109/EEC, 90/128/EEC and 2002/72/EC regarding contact with foodstuffs.
Mapefloor CPU/HD is used to create seamless coatings from 6 to 9 mm thick characterised by high resistance to chemicals such as acids, basic solutions, grease, saline solutions, hydrocarbons, etc.
A 9 mm thick coat of **Mapefloor CPU/HD** has excellent resistance to thermal shocks of up to +120°C, such as when steam cleaning is carried out. The in-service temperature for a 9 mm thick coating of **Mapefloor CPU/HD** varies from -40°C to +120°C in dry environments and up to +100°C in wet environments.
Thanks to its high mechanical strength and resistance to abrasion, **Mapefloor CPU/HD** is suitable for floors subjected to heavy traffic.
Coatings made from **Mapefloor CPU/HD** are easy to clean and have a rough, non-slip finish.

COLOURS AVAILABLE

Mapefloor CPU/HD is a neutral-grey colour and must be coloured on site at the moment it is applied by adding **Mapecolor CPU** which is available in grey, beige, oxide red, green and ochre yellow.

RECOMMENDATIONS

- Do not apply **Mapefloor CPU/HD** on substrates with a film of surface water or on concrete within 10 days of pouring.
- Do not dilute **Mapefloor CPU/HD** with solvent or water.
- Do not apply **Mapefloor CPU/HD** on dusty or crumbling substrates.
- Do not apply **Mapefloor CPU/HD** on substrates with oil or grease stains or stains in general.
- Do not apply **Mapefloor CPU/HD** on substrates that have not been prepared according to specification.
- 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.
- Do not apply **Mapefloor CPU/HD** on ceramic substrates or stone in general.
- **Mapefloor CPU/HD** coatings change colour if exposed to sunlight but this has absolutely no effect on their performance characteristics.

Mapefloor CPU/HD

- 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.
- Remove aggressive chemicals as soon as possible if they come into contact with **Mapefloor CPU/HD**.
- Use suitable specific cleaning equipment and detergent to clean the coating, depending on the type of dirt or stain to be removed.
- Protect coatings from water for at least 24 hours after application.
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature.

APPLICATION PROCEDURE

Preparation of the product

The surface of concrete floors must be dry or slightly damp, clean and sound and have no crumbling or detached portions. Concrete must have been poured at least 10 days before applying the coating, its compressive strength must be at least 25 N/mm^2 and its tensile strength must be at least 1.5 N/mm^2. 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 must be prepared with a suitable process (e.g. shot-blasting or grinding) to remove all traces of dirt and cement laitance and crumbling or detached portions, and to make the surface rough and absorbent. Before applying the coating, remove all dust from the surface with a vacuum cleaner.
Repair cracks by filling them with **Eporip** and repair areas of the concrete in poor condition with **Mapefloor CPU/HD**, **Mapefloor EP19** or with a cementitious mortar from the **Mapegrout** range.
Before applying **Mapefloor CPU/HD** remove all traces of dust from the surface with a vacuum cleaner.
Create anchoring grooves around the edge of the area to be coated and in proximity to all vertical elements such as walls, pillars, cable troughs, drains, etc. Grooves must also be created if application of the coating is interrupted, such as alongside joints when work finishes for the day or when starting work again.
The width and depth of the grooves must be around twice the thickness of the **Mapefloor CPU/HD** coating to be applied.

Application of the primer

Primer is not generally required.
However, on particularly porous substrates where pin-holes are more likely to form as the product hardens, we recommend skimming the surface with a thin coat of **Primer SN** followed by a full broadcast of 0.9 mm quartz sand on the surface to saturate the porosity of the substrate. Please refer to the **Primer SN** Technical Data Sheet for further information on its use and application.

Preparation of the product

Pour component A into a large, clean container and, after mixing it, add component B and mix again with an electric mixer at low speed until it is completely blended. Then add **Mapecolor CPU** powder colouring agent slowly and gradually (one 5 kg bag of **Mapecolor CPU** for every kit of **Mapefloor CPU/HD** A+B) and then slowly and gradually add all the content of component C and continue mixing until an even coloured mix is obtained. We recommend a specific low speed mortar mixer for this operation, such as a vertical mixer or a mixer with static blades and a rotating mixing drum.
Apply the mix within the pot life indicated in the table (refers to a temperature of +20°C). Higher surrounding temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.

Application of the product

Pour **Mapefloor CPU/HD** onto the floor and spread it out evenly to the thickness required with a steel straight trowel or a notched float or a float with spacers. After spreading the coating, level and smooth off the surface with a long-bladed flooring trowel. If the surface of **Mapefloor CPU/HD** is worked too much it may cause the more fluid resinous part of the product to bleed through and make the coating less rough.
We recommend applying the product so that each batch is applied immediately after the previous one while it is still wet and workable to reduce the number of joint marks.

CONSUMPTION

Mapefloor CPU/HD (A+B+C) + **Mapecolor CPU**
Approx. 2.0 kg/m^2 per mm of thickness.

Consumption is influenced by the condition of the surface to be coated, its absorbency and roughness, site conditions, etc.

Cleaning tools

Clean tools used to prepare and apply **Mapefloor CPU/HD** with polyurethane thinners immediately after use. Once hardened, the product may only be removed using mechanical means.

HARDENING TIME

Floors coated with **Mapefloor CPU/HD** set to light foot traffic after approximately 8 hours at +20°C and may be opened to light vehicle traffic after approximately 24 hours at +20°C. The product develops its full strength after 4 to 5 days at minimum +20°C, although it depends on the actual surrounding conditions on site.

PACKAGING

Mapefloor CPU/HD: 25.8 kg units (component A = 2.6 kg + component B = 2.7 kg + component C = 20.5 kg).
One 5 kg bag of **Mapecolor CPU** colouring powder must also be added to each 25.8 kg kit of **Mapefloor CPU/HD**, which brings the total weight of each batch to 30.8 kg.

STORAGE

12 months in a dry area in its original packaging at a temperature of between +5°C and +30°C.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY				
	BASE			PIGMENT
	comp. A	comp. B	comp. C	Mapecolor CPU
Colour:	milk white	amber	whitish	grey - beige - red - green - ochre yellow
Consistency:	liquid	liquid	powder	powder
Density (g/cm³):	1.05	1.2	–	–
Bulk density (g/cm³):	–	–	1.15	1.350-1.450
Viscosity at +23°C (mPa·s):	800 (# 2 - 30 rpm)	110 (# 1 - 5 rpm)	–	–

APPLICATION DATA	
Mixing ratio:	A + B + C + **Mapecolor CPU** : 2.6 / 2.7 / 20.5 / **5**
Colour of mix (including Mapecolor CPU):	grey - beige - red - green - ochre yellow
Consistency of mix:	thick
Density of mix (kg/m³):	2,000
Pot life of mix at +20°C:	15 mins.
Surface temperature:	from +8°C to +30°C

FINAL PERFORMANCE	
Dust dry at +23°C and 50% R.H.:	2-4 hours
Set to foot light traffic at +23°C and 50% R.H.:	8 hours
Full hardening time:	4 days
In-service temperature range for 6 mm thick coating:	from -40°C to +70°C
In-service temperature range for 9 mm thick coating:	from -40°C to +120°C
Slip resistance (EN 13036-4 pendulum test method):	dry: 85 (class II) wet: 60 (class I)
Shore D hardness after 28 days (DIN 53505):	85

Performance characteristic	Test method	Requirements according to EN 13813 for cementitious screeds	Performance of product
Flexural strength after 28 days:	EN 13892-2	declared value	13 N/mm²
Compressive strength after 28 days:	EN 13892-2	declared value	59 N/mm²
Bond strength after 28 days:	EN 13892-8; 2004	≥ 1.5 N/mm²	> 2.5 N/mm² (failure of concrete)
Permeability to water:	EN 1062-3	declared value	w 0.0025 kg/(m²·h$^{0.5}$) Class III
Impact strength:	EN ISO 6272	≥ IR 4	20 Nm
Wear resistance:	EN 13892-4	≤ AR 1	AR 0.5 (10 µm)
Böhme abrasion resistance after 28 days (cm³/50 cm²):	EN 13892-3	declared value	A 9
Taber Test after 28 days (at +23°C, 50% H.R., 1,000 cycles/1,000 g, revs/H22 disk):	EN ISO 5470-1	< 3,000 mg	2,150 mg
Reaction to fire:	EN 13501-1	da $A1_{fl}$ a F_{fl}	B_{fl}-s1

Mapefloor CPU/HD

Mapefloor CPU/HD component C complies with the prescriptions of Reg. (EC) N. 1907/2006 (REACH) - Annex XVII, article 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefloor CPU/HD component B irritates the eyes, skin and respiratory system. It is harmful if inhaled and may cause irreversible damage if used for long periods. It may also cause sensitisation if inhaled or if it comes in contact with the skin.

Mapefloor CPU HD component C contains cement that when in contact with sweat or other body fluids causes irritating alkaline reactions and allergic reactions to those predisposed. It can cause damage to eyes. When applying the product it is recommended to use protective clothing, gloves, goggles and a safety mask to protect the respiratory system and to work only in well-ventilated areas. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention.

Mapefloor CPU HD component A is hazardous for aquatic life. Do not dispose of the product in the environment.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT ONLY FOR PROFESSIONAL USE.

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

Our Commitment To The Environment
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

GREEN INNOVATION

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

2054-8-2015 (GB)

MAPEI®
BUILDING THE FUTURE