



Mapecolor CPU/NZ



Three-component easy-to-apply high-strength polyurethane/cement-based mortar with high resistance to chemicals for coating industrial floors in layers from 4 to 6 mm thick

WHERE TO USE

Mapecolor CPU/NZ is a three-component polyurethane/cement-based formulate used to create protective coatings on industrial floors exposed to medium to heavy traffic, aggressive chemicals, moderate thermal shock, etc.

Some application examples

- Coating floors in the chemicals and pharmaceuticals industries.
- Coating floors in the foodstuffs industry.
- Coating floors in wineries, breweries and the drinks industry in general.

TECHNICAL CHARACTERISTICS

Mapecolor CPU/NZ is a three-component formulate made from cement, selected aggregates and polyurethane resin according to a formula developed in the MAPEI research laboratories.

Mapecolor CPU/NZ is used to coat floors with seamless layers 4 to 6 mm thick characterised by their high resistance to chemical substances such as acids, base products, oil, grease, saline solutions, hydrocarbons, etc.

A 6 mm thick layer of **Mapecolor CPU/NZ** withstands thermal shock up to +80°C, such as hot liquids coming into contact with the floor. The service temperature for a 6 mm thick coating of **Mapecolor CPU/NZ** varies from -20°C to +80°C.

Thanks to its high mechanical strength and resistance to abrasion, **Mapecolor CPU/NZ** is suitable for floors exposed to medium to heavy traffic.

Floors coated with **Mapecolor CPU/NZ** have a rough, non-slip finish and are easy to clean.

COLOURS

Mapecolor CPU/NZ is a neutral-grey colour and must be coloured on site just prior to application by adding **Mapecolor CPU** which is available in grey, beige, oxide-red, green and ochre yellow.

RECOMMENDATIONS

- Do not apply **Mapecolor CPU/NZ** on substrates with a film of surface water or on concrete within 10 days of pouring.
- Do not dilute **Mapecolor CPU/NZ** with solvent or water.
- Do not apply **Mapecolor CPU/NZ** on dusty or crumbling substrates.
- Do not apply **Mapecolor CPU/NZ** on substrates with oil or grease stains or stains in general.
- Do not apply **Mapecolor CPU/NZ** 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 **Mapecolor CPU/NZ** on ceramic substrates or stone in general.
- Coatings made from **Mapecolor CPU/NZ** change colour if exposed to sunlight but this has absolutely no effect on its performance characteristics.
- 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 after they come into contact with **Mapecolor CPU/NZ**.

- Use suitable specific cleaning equipment and detergent to clean the product, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- The temperature of the substrate must be at least 3°C above the dew-point temperature.

APPLICATION PROCEDURE

Substrate preparation

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/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 the types of load to which it will be exposed.

The surface of the floor must be prepared with a suitable process (e.g. shot-blasting or grinding) to remove all traces of dirt, cement laitance and crumbling or detached portions, and to make the surface rough and absorbent. Before applying any material, 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 **Mapecolor CPU/NZ**, **Mapecolor EP19** or with a cementitious mortar from the **Mapecolor** line.

Before applying **Mapecolor CPU/NZ** remove all traces of dust from the surface with a vacuum cleaner.

Create anchoring grooves for the product 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 and when starting work again.

The width and depth of the grooves must be around twice the thickness of the **Mapecolor CPU/NZ** coating to be applied.

Application of primer

Primer is not generally required.

However, when applied on particularly porous concrete substrates, there is a higher risk of pinholes forming in the coating while the product is going through the hardening phase. In such cases we recommend applying a skim coat of **Primer SN** and fully broadcasting the surface with **Quartz 0.9** to seal the pores in the substrate. Please refer to the Technical Data Sheet of the product 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 slowly add **Mapecolor CPU** powdered colouring agent slowly and gradually while mixing (one 5 kg bag for every kit of **Mapecolor CPU/NZ A+B**), add component C and continue mixing until an even coloured mix is obtained. We recommend using a

mortar mixer running at low-speed 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 data table (refers to a temperature of +23°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 **Mapecolor CPU/NZ** onto the floor and spread it out evenly to the thickness required with a straight trowel or a pin-rake. If the surface of **Mapecolor CPU/NZ** is worked too much, or if it is applied in layers more than 5-6 mm thick, 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

**Mapecolor CPU/NZ (A+B+C) +
Mapecolor CPU**

Approx. 1.9 kg/m² per mm of thickness.

The consumption rate 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 **Mapecolor CPU/NZ** with polyurethane thinners immediately after use. Once hardened, the product may only be removed using mechanical means.

HARDENING TIMES

Floors coated with **Mapecolor CPU/NZ** set to foot traffic after approx. 8 hours at +23°C. Floors may be used by light vehicle traffic after approximately 24 hours at +23°C. The product develops its full strength after 4 to 5 days at minimum +23°C, although it depends on the actual surrounding conditions on site.

PACKAGING

Mapecolor CPU/NZ 21.3 kg kit
(component A = 2.6 kg - component
B = 2.7 kg - component C = 16 kg).

Mapecolor CPU powdered pigment must also be added to **Mapecolor CPU/NZ**: one 5 kg bag for each 21.3 kg kit of **Mapecolor CPU/NZ**, which brings the total weight of the mix to 26.3 kg.

STORAGE

Mapecolor CPU/NZ can be stored for up to 12 months in its original packaging in a dry place, and at a temperature between +5°C to +30°C.

This product conforms to the prescriptions of Reg. (EC) N. 1907/2006 (REACH) - Annex XVII, item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapecolor CPU/NZ component B is irritant for the eyes, the skin and the respiratory tract. Furthermore, it may cause irreversible damage if used for lengthy periods, and it may cause sensitization if it comes in

TECHNICAL DATA (typical values)

PRODUCT IDENTITY				
	neutral			colouring agent
	comp. A	comp. B	comp. C	Mapecolor CPU
Colour:	milky white	amber	white	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 ± 200 (# 2 - rpm 20)	110 (# 1 - rpm 5)	-	-
APPLICATION DATA				
Mixing ratio:	A + B + C + Mapecolor CPU : 2.6 / 2.7 / 16 / 5			
Colour of mix:	grey - beige - red - green - ochre yellow			
Consistency of mix:	viscous fluid			
Density of mix (kg/m³):	1,925			
Pot life of mix (+23°C):	15 mins.			
Surface temperature:	+8°C to +30°C			
FINAL PERFORMANCE				
Dust dry at +23°C and 50% R.H.:	2 ÷ 4 hours			
Set to foot traffic at +23°C and 50% R.H.:	8 hours			
Complete hardening time at +23°C and 50% R.H.:	4 days			
Slip resistance (EN 13036-4 pendulum test method):	dry: 63 wet: 50			
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	14.10 N/mm ²	
Compressive strength (after 28 days):	EN 13892-2	declared value	62.80 N/mm ²	
Adhesion strength (after 28 days):	EN 13892-8; 2004	≥ 1.5 N/mm ²	≥ 2.5 N/mm ² (failure of concrete)	
Böhme abrasion resistance after 28 days (cm³/50 cm²):	EN 13892-3	declared value	A9	
Taber Test after 28 days (at +23°C and 50% R.H., 1,000 cycles/1,000 g, H22 disk):	EN ISO 5470-1	< 3,000 mg	1158 mg	
Fire reaction class:	EN 13501-1	from A1 _{fl} to F _{fl}	B _{fl} -s1	

contact with the skin of subjects sensitive to isocyanates. Component B may become hazardous and cause sensitisation if inhaled at temperatures above +60°C. In the event of sickness seek medical attention.

Mapefloor CPU/NZ component C contains cement, which when in contact with sweat or other body fluids may cause an irritant alkaline reaction and allergic reactions to those predisposed. It may cause damage to the eyes.

During use, wear protective clothes, gloves and goggles and wear a safety mask to protect the respiratory system. It is recommended to use the product 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.

Furthermore, **Mapefloor CPU/NZ** component A is dangerous for aquatic life. Do not dispose of it 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

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