

Mapefloor System CPU/DP

MULTI-LAYERED, POLYURETHANE/CEMENT-BASED SYSTEM FOR INDUSTRIAL FLOORS, THICKNESS 4 TO 6 mm

Products used for the system:

MAPEFLOOR CPU/MF - QUARTZ 0.5 - MAPECOLOR CPU - MAPECOAT I 24 - MAPECOLOR PASTE

DESCRIPTION

MAPEFLOOR SYSTEM CPU/DP is a multi-layered polyurethane/cement system used to make coatings on industrial floors with a high chemical resistance and a rough slip-resistant finish which reduces the risk of slipping. It is also resistant to frequent washing operations and to wear caused by trolleys and moving vehicles. Floors created with **MAPEFLOOR SYSTEM CPU/DP** are also impermeable to liquids.

WHERE TO USE

Coatings of industrial floors subjected to medium to heavy stresses, also in presence of liquids on the surface, in foods and beverage industries, warehouses, storage areas, garages, in chemical and petrochemical industries, industrial laundries, etc.

PERFORMANCE AND ADVANTAGES

- Slip-resistant effect.
- Durable, characterised by a high resistance to wear and abrasion from continuous pedestrian traffic and frequent washing operations.
- Highly resistant to chemicals such as acids, alkalis, oil and fuels, salts, solvents and biological products.
- Easy to clean and sterilize which makes it suitable for use in the foodstuffs industry.
- Coloured, with an attractive gloss finish.
- Drastically reduces the time required to carry out work so lower down times of equipment and machinery.
- Excellent price-performance ratio.
- Low odour and no VOCs – non tainting.

CHEMICAL RESISTANCE

At room temperature, floors coated with **MAPEFLOOR SYSTEM CPU/DP** are resistant to:

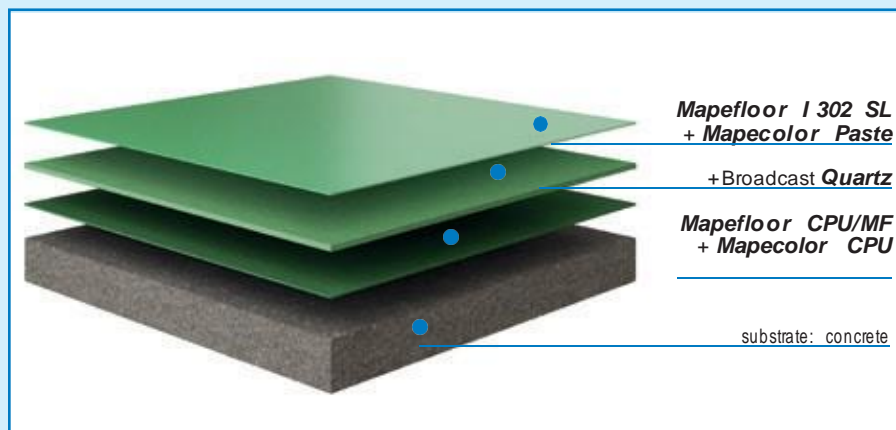
- diluted inorganic acids such as hydrochloric, nitric, phosphoric, sulphuric etc.
- diluted organic acids such as formic, acetic, lactic, citric, etc.
- alkalis, including sodium hydroxide at a concentration of 50%, and detergents normally used for

cleaning floors up to a concentration of 20-30%, as long as they do not contain abrasive granules;

- sugars, including when in frequent contact with the floor;
- mineral oils, diesel, kerosene and petrol.

HEAT RESISTANCE

MAPEFLOOR SYSTEM CPU/DP is resistant to thermal shocks due, for example, to the pouring of hot liquid



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at a temperature of up to +90°C. The max. service temperature is up to +90°C, while the min. one can be down to -40°C.

COLOURS AVAILABLE

MAPEFLOOR SYSTEM CPU/DP is available in the 6 colours from the **MAPECOLOR CPU** range: ochre, beige (approx. RAL 1001), oxide red, oxide green, blue and grey (approx. RAL 7030). The finishing coat of **MAPEFLOOR SYSTEM CPU/DP**

is made with **MAPEFLOOR I 302 SL**, which can be coloured only using **MAPECOLOR PASTE**. **MAPECOLOR PASTE** is available in any RAL international colour.

YIELD

The consumption levels indicated below are for a cycle applied at a temperature of +15°C to +25°C on a smooth, compact concrete surface finished with mineral hardener and prepared by shot blasting. Rougher surfaces, or application at lower temperatures, will lead to an increase in consumption and longer hardening times.

The consumption rate for the first layer of **MAPEFLOOR CPU/MF** in particular may vary, depending on the type of the mechanical method used to prepare the substrate.

MAPEFLOOR SYSTEM CPU/DP - average thickness 6 mm

1st layer:

MAPEFLOOR CPU/MF + MAPECOLOR CPU 6.6 kg/m²

Broadcast on wet surface **QUARTZ 0.5** 3.0 kg/m²

The actual consumption depends on the roughness of the substrate.

Finishing layer

MAPECOAT I 24 + MAPECOLOR PASTE: 0.5-0.7 kg/m²

The actual consumption depends on the grain size of quartz sand used for broadcasting **MAPEFLOOR CPU/MF**

TECHNICAL DATA (after 7 days at +23°C)

Adhesion (EN 1542) (N/mm ²):	> 2,0
Wear resistance (EN 13892-3):	class A6
Compressive strength (EN 196-1)(N/mm ²):	≥ 50
Flexural strength (EN 196-1)(N/mm ²):	≥ 15
Service temperature (air temperature):	-40/+90°C
Finishing	slip-resistant

and the tools used for applying the product.

The abovementioned consumption values are also influenced by environmental conditions on job site during the application phases.

SURFACE PREPARATION

1. Characteristics of the substrate

The cementitious screed must be solid, compact, stable, strong, sound and clean and dimensioned according to the static and dynamic design loads it will have to withstand while in service. The flatness must be defined according to its final use.

The compressive strength of the concrete or cementitious mortar must be at least 25 N/mm² and its tensile strength must be at least 1.5 N/mm². If the substrate is dressed with ceramic, natural stone or an old resin coating, they must be perfectly stable, firmly bonded to the substrate and must be intact, sound and clean. These kinds of substrates require specific and adequate preparation. In the case of old resin coatings, it is also recommended to test their compatibility with the new system to be applied.

The moisture content of the substrate does not need to be considered but there must be no capillary rising damp - test with a sheet of polythene).

2. Preparation of the substrate

It is very important that the surface is prepared correctly to guarantee perfect adhesion and the best performance of the resin-based system. The most suitable methods to prepare the surface are those of mechanic nature, such as shot-blasting or grinding with a diamond disk. Bush-hammering or scarifying are only required if several millimetres of material need to be

removed from the surface. After that, all scraps must be removed carefully and the dust must be removed with a vacuum cleaner.

Once the surface of the substrate has been prepared, it must be sound, compact, clean, dry or slightly damp, absorbent, have a slightly rough finish and have no traces of material that could affect adhesion of the coating, such as:

- cement laitance ;
- dust, loose or detached parts;
- protective waxes, curing products, paraffins, efflorescence;
- pollutants of any nature;
- loose residues of existing coating etc.

If required, contact Mapei Technical Services for advice on the most suitable preparation method. Any defects present in the surface, such as holes, pitting, cracking, etc., must be repaired with **PRIMER SN** fillerized with quartz sand or made thixotropic with **ADDITIX PE**, or with **MAPEFLOOR JA** depending on the width and depth of the defects or cracks.

Reintegrate any badly damaged areas or joints, fill hollows in the surface and repair or carry out localised modifications to slopes with **MAPEFLOOR EP19**, ready-mixed epoxy mortar.

If the substrate needs to be strengthened, apply **PRIMER MF** with a roller in one or more coats until the substrate is completely saturated.

3. Preliminary checks before application

The surrounding temperature of the floor and of the product must be higher than +8°C and max. +35°C (the ideal application temperature is +15°C to +25°C). The temperature of the substrate must be at least 3°C higher than the dewpoint temperature.

The relative humidity of the air must be max. 80%.

APPLICATION OF THE PRODUCTS

1. Preparation and application of the products

Carefully follow the preparation instructions contained in the Technical Data Sheets for each single product used to form the complete system: **MAPEFLOOR CPU/MF** and **MAPECOAT I 24**.

Multi-layered, electric mixer slip-resistant system min. 3.0 mm

• 1st layer (**MAPEFLOOR CPU/MF**)

Mix component A and then pour it into a clean and properly dimensioned container. Add component B and mix it with a suitable low speed electric mixer to form a smooth, even blend.

While mixing, add slowly and continuously the specific powder pigment **MAPECOLOR CPU** (one 5 kg bag of **MAPECOLOR CPU** each kit of **MAPEFLOOR CPU/MF A+B+C**). Then add component C. Pour the product onto the floor to be coated and spread it out evenly and uniformly skimmed to a feather edge using a straight steel trowel. While the product is still wet, fully broadcast the surface with **QUARTZ 0.5**. To obtain a rougher finish with more pronounced non-slip effect, quartz sand with a larger particle size may be used, such as **QUARTZ 0.9**.

When the product has completely hardened, remove the excess sand with a vacuum cleaner.

Finishing layer (MAPEFLOOR I 302 SL)

Mix component A and then pour it into a clean and properly dimensioned container. Add component B and mix it with a suitable low speed electric mixer to form a smooth, even paste. While mixing, add slowly and continuously **MAPECOLOR PASTE**, coloured paste. Mix until a smooth, even blend is obtained.

Apply the mix uniformly and continuously using a medium-pile roller, making sure that the roll strokes criss-cross each other to obtain homogeneous surface. As an alternative, apply by straight steel trowel or rubber squeegee and back roll with a short-pile roller.

2. Hardening and step-on times

At +25°C **MAPEFLOOR SYSTEM CPU/DP** sets to foot traffic after 12 hours, may be used by light loads after 1 day and is ready for final use once fully hardened after approximately 2 days. Higher temperatures lead to shorter hardening and step-on times. Lower temperatures lead to longer hardening and step-on times.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance operations increase the life of a coated floor, improves its aesthetic properties and reduces its tendency to collect dirt. Floors created using the **MAPEFLOOR SYSTEM CPU/DP** are generally easy to wash with neutral detergents, or with alkaline detergents diluted at a concentration of 5 to 10% in water.

NOTE

Information regarding safety equipment and handling of the products are contained in the safety data sheets for each component. However, we recommend that protective goggles and gloves are always used when mixing and applying the products.

If the products are to be applied on surfaces or under climatic and/or service conditions which are different from those indicated in the technical data sheet for the system, please contact MAPEI's Technical Services Department.



