

MAPEFLOOR COMPACT SYSTEM

MF

Multi-layered epoxy system with coloured aggregates for industrial floors from 2.5 to 4.0 mm of thickness

PRODUCT USED FOR THE SYSTEM

Mapecoat Universal - Mapequartz Color

DESCRIPTION

MAPEFLOOR COMPACT SYSTEM MF is a multi-layered epoxy system used to make coatings on industrial floors with an attractive finish and high mechanical strength, that are highly resistant to chemicals, to frequent washing operations and to wear caused by vehicular and foot traffic. Floors created with **MAPEFLOOR COMPACT SYSTEM MF** are also impermeable to liquids.



- 1** Substrate: concrete
- 2** Mapecoat Universal + broadcast Mapequartz Color
- 3** Mapecoat Universal + broadcast Mapequartz Color
- 4** Mapecoat Universal

WHERE TO USE

Coatings of industrial floors subject to chemical aggression and medium mechanical stress, where an attractive finish is required, together with easy cleanability and maintenance.

MAPEFLOOR COMPACT SYSTEM MF is used in:

- processing and storage areas in the chemical and pharmaceutical industries;
- processing and storage areas in the foodstuffs industry;
- all areas of mechanised warehouses;
- shopping centres in areas with intense pedestrian traffic and in areas where goods are handled.

- exposition areas;
- residential buildings;
- car workshops
- electronic industries, etc.

PERFORMANCE AND ADVANTAGES

- High solid content.
- Durable, characterised by its high resistance to wear and abrasion from continuous pedestrian traffic and frequent washing operations.
- Resistant to most chemical products such as diluted inorganic acids, bases, oil and fuel.
- High resistance to wear cause by mechanical stress.
- Hygienic, easy to clean and sterilize which makes it suitable for use in the foodstuffs industry.
- Forms an attractive, flat, seamless, highly functional surface.
- Reduces the time required to carry out work and therefore plant downtime.

CHEMICAL RESISTANCE

- At room temperature, floors coated with **MAPEFLOOR COMPACT SYSTEM MF** are temporarily resistant to:
- diluted inorganic acids such as hydrochloric, nitric, phosphoric and sulphuric acids and limited resistance to organic acids;
- diluted alkalis and detergents normally used for cleaning floors up to a concentration of 20-30%, as long as they do not contain abrasive granules;
- diluted saline solutions;
- water, fat, sugar, including when in frequent contact with the floor;
- mineral oils and lubricants, diesel, kerosene and petrol.

If **MAPEFLOOR COMPACT SYSTEM MF** comes in contact with some aggressive chemicals, the final transparent coat may turn yellow or opaque. Floors coated with **MAPEFLOOR COMPACT SYSTEM MF** are not suitable for constant exposure to high temperatures.

COLOURS AVAILABLE

MAPEFLOOR COMPACT SYSTEM MF is finished off with a coat of transparent **Mapecoat Universal** so that the **Mapequartz Color** is visible. The intermediate coat of **Mapecoat Universal** may be pigmented, if required, with **Mapecolor Paste**, which is available in 19 standard RAL colours. For other colours please contact Mapei Technical Service.

SURFACE PREPARATION

1. Substrate characteristics

The cementitious screed must be solid, compact, stable, resistant, 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. The installation surface of these kinds of substrate requires 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 must be a maximum of 4% (check moisture content with a suitable hygrometer) and there must be no capillary rising damp (check the substrate with a sheet of polythene). Wait until new cementitious flooring is fully cured before applying the resin system. In the case of damp floors or floors which are not fully cured or have capillary rising damp, apply a resin system which is permeable to vapour or which is suitable for application on damp substrates.

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 disc. 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, absorbent and 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 thickened 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** pre-dosed epoxy mortar.

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

3. Preliminary checks before application

The temperature of the environment, flooring and material must be higher than +8°C and max. +35°C (the ideal application temperature is +15°C to +25°C) and the temperature of the substrate must 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 Sheet for each single product used to form the complete system: **Mapecoat Universal** and **Mapequartz Color**.

Primer (MAPECOAT UNIVERSAL)

Pour component B into component A and mix with a drill at low speed with a spiral mixing attachment to form a smooth, even paste. While mixing, add approx 20% by weight of **Mapequartz Color** and continue mixing to form a smooth, even paste. Pour the product onto the floor to be coated and spread it out evenly and uniformly using a straight steel trowel or a straight rake. Fully broadcast the product while it is still wet with **Mapequartz Color**. Once **Mapecoat Universal** has hardened, remove all excess sand with an industrial vacuum cleaner, sand the surface and remove all traces of dust with a vacuum cleaner.

Intermediate layer (MAPECOAT UNIVERSAL)

Pour component B into component A and mix with a drill at low speed with a spiral mixing attachment to form a smooth, even paste. While mixing, add approx 35-40% by weight of **Mapequartz Color** and, if required, 3-5% by weight of **Mapecolor Paste**, coloured paste, and continue mixing to form a smooth, even paste. Pour the product onto the previous layer and spread it out evenly and uniformly using a straight steel trowel or a straight rake. Fully broadcast the product while it is still wet with **Mapequartz Color**. While the mix is still wet, compact and smooth it over the surface with a power floater (helicopter).

Finishing coat (MAPECOAT UNIVERSAL)

Pour component B into component A and mix with a drill at low speed with a spiral mixing attachment to form a smooth, even paste. Pour the product onto the floor and spread it out evenly and uniformly in 1-2 coats using a roller or a straight steel trowel until all the pores on the coating surface are completely filled.

2. Hardening and step-on times

At +25°C **MAPEFLOOR COMPACT SYSTEM MF** sets to foot traffic after 12 hours and is ready for final use once fully hardened, after approximately 7 days. Lower temperatures lead to longer hardening and step-on times.

YIELD

The following consumption levels are referred to a cycle applied at a temperature of +15°C to +25°C on a smooth and compacted concrete surface finished with mineral dry-shake hardener and prepared with a diamond grinding disc or by light shotblasting. Rougher surfaces, or application at lower temperatures, will lead to an increase in consumption and longer hardening times.

The consumption rate for the primer in particular may vary, depending on the type and depth of the mechanical method used to prepare the substrate.

MAPEFLOOR COMPACT SYSTEM MF - average thickness 3.0 mm

Primer coat:

Mapecoat Universal (A+B): 0.70 kg/m² per coat

Mapequartz Color: 0.14 kg/m²

Mapequartz Color full broadcast: 3.00-4.00 kg/m²

Wear layer:

Mapecoat Universal (A+B): 0.80 kg/m²

Mapequartz Color: 0.28-0.32 kg/m²

Optional **Mapecolor Paste** 0.03-0.05 kg/m²

Mapequartz Color full broadcast 3.00-4.00 kg/m²

The real consumption rates depend on the actual thickness applied.

Finishing coat:

Mapecoat Universal (A+B): 0.20-0.50 kg/m²

CLEANING AND MAINTENANCE

Regular cleaning and maintenance operations extend the life of a coated floor, improve its aesthetic properties and reduce its tendency to collect dirt. Floors created using the **MAPEFLOOR COMPACT SYSTEM MF** are generally easy to wash with neutral detergents, or with alkaline detergents diluted at a concentration of 5 to 10% in water. **Mapefloor Maintenance Kit** is available for maintenance operations and it includes **Mapefloor Wax Remover**, **Mapelux Lucida**, metallic wax, and **Mapefloor Cleaner ED**, detergent for daily cleaning operations. Our Technical Services Department is available for any information required.

TECHNICAL DATA

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

Appearance:	gloss
Adhesion (DIN ISO 4624) (N/mm ²):	> 1,5
Compressive strength (EN 196-1) (N/mm ²):	≥ 70
Flexural strength (EN 196-1) (N/mm ²):	≥ 35
Reaction to fire (EN 13501-1):	B _{FL} -s1

NOTES

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.

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