MAPEFLOOR PARKING SYSTEM ME

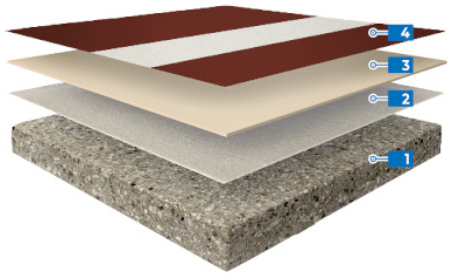
Multi-layered, flexible polyurethane system with high solids content compliant with the requirements of class os 11b (en 1504-2) for coating floor surfaces in indoor and outdoor car parks. Total thickness 4-4.5 mm

PRODUCTS USED

Primer SN - Mapefloor PU 400 LV - Mapefloor Finish 451 - Quartz 0.25 - Quartz 0.5 - Quartz 0.9 - Quartz 1.2

DESCRIPTION

MAPEFLOOR PARKING SYSTEM ME is a seamless, elastic, multi-layered polyurethane surface-coating system compliant with the requirements of Class OS 11b (EN 1504-2). It is suitable for moving vehicles and has a good crack-bridging capacity, a non-slip finish and is impermeable and resistant to intense traffic of wheeled vehicles in areas used for car parks, including external car parks.
MAPEFLOOR PARKING SYSTEM ME is characterised by its excellent resistance to wear, mechanical stress in general, UV rays and chemical products such as oil, fuel, de-icing salts, lubricants, diluted acids and base solutions and saline solutions in general.
Different colour finishes may be obtained which makes it extremely versatile for marking out areas according to their different use, such as parking areas, transit lanes, pedestrian areas, road signs and markings, etc.



1 Substrate: concrete
2 **Primer SN** + **Quartz 0,5** + Broadcast with **Quartz 0,5**
3 **Mapefloor PU 400 LV** + **Quartz 0,25** + Broadcast with **Quartz 0,9** or **Quartz 1,2**
4 **Mapefloor Finish 451**

WHERE TO USE

Flexible coating for internal and external concrete floors and cracked cementitious substrates, or those at risk of cracking, such as road surfaces in covered car parks, multi-storey car parks, on bridges and on walkways.
MAPEFLOOR PARKING SYSTEM ME is used for the following:

- multi-storey car parks with high flow of traffic;
- transit areas for garages;
- garages.

PERFORMANCE AND ADVANTAGES

- High crack-bridging capacity at temperatures down to -20°C (static crack-bridging: the capacity to support movements in structures due to thermo-hygrometric variations; dynamic crack-bridging: the capacity to withstand mechanical stress).
- Complies with the requirements of Class OS 11b (according to EN 1504-2).
- Surfaces treated with this system become waterproof (within the limits of the system's crack-bridging capacity during settling of the substrate).
- Good resistance to mechanical stress.
- Non-slip finish.
- Durable thanks to its characteristic high resistance to wear and abrasion from the constant passage of moving vehicles.
- Easy maintenance.
- Forms attractive, seamless, highly functional surfaces.

CHEMICAL RESISTANCE

Surfaces coated with **MAPEFLOOR PARKING SYSTEM ME** are resistant to:

- diluted inorganic acids;
- diluted alkalis and detergents normally used for cleaning floors, as long as they do not contain abrasive particles;
- mineral oils, diesel, kerosene and petrol;
- saline solutions in general, including those de-icing salts-based.

COLOURS AVAILABLE

MAPEFLOOR PARKING SYSTEM ME is available in different RAL colours. Please contact our head office for further information about the colours available.

YIELD

The consumption levels indicated below are for a cycle applied at a temperature of between +15°C and +25°C and 80% maximum R.H. on the surface of a smooth, dry, compact, cured concrete screed with no rising damp, strong enough to withstand the loads to which it will be subjected when in service, with a quartz sand finish, polished with a diamond disk or shot-blasted. Rough surfaces and lower temperatures lead to higher consumption of the products, longer hardening times and longer delays before being put into service. The consumption of **PRIMER SN** in particular may vary, depending on the type and depth of the mechanical preparation method of the the substrate.
MAPEFLOOR PARKING SYSTEM ME - average thickness 4-4.5 mm

1° layer:
PRIMER SN (A+B) +20%* **QUARTZ 0.5:** 0.3-0.7 kg/m²
fully broadcast with **QUARTZ 0.5:** 1.0-3.0 kg/m²
* The amount of **QUARTZ 0.5** required may vary, depending on the roughness and porosity of the substrate and the preparation method used.

2° layer:
MAPEFLOOR PU 400 LV (A+B): from 1.5 to 2 kg/m²
Fillerized with 20-30% by weight of **QUARTZ 0.25:** from 0.3 to 0.6 kg/m²
broadcast with **QUARTZ 0.9*:** 4.0 kg/m²
* To get a more pronounced non-slip finish, on external surfaces and access ramps for example, coarser quartz sand may be used, such as **QUARTZ 1.2**.

N.B. *When applying on access ramps or other sloping surfaces,* ***MAPEFLOOR PU 400 LV*** *should be thickened by adding 2-4% by weight of* ***ADDITIX PE*** *(the amount added will depend on the thickness required).*

Finishing coat:

MAPEFLOOR FINISH 451 (A +B): 0.6-0.8 kg/m²*
* The actual consumption level depends on the tools used to apply the product and the particle size of the sand used to broadcast the surface. A larger particle size will lead to a higher consumption rate.
This system must be strictly adhered to. Consumption of the products and materials is heavily influenced by the absorption, roughness and porosity of the substrate and the surrounding conditions on site during application.

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. 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 disk. Milling 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 made thixotropic with **ADDITIX PE** 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 consolidated, 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 material must be higher than +8°C and max. 35°C (the ideal application temperature is between +15°C and +25°). 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%.

4. Preparation and application of the products

Carefully follow the preparation instructions according to the Technical Data Sheet for each single product used to form the complete system: **PRIMER SN**, **MAPEFLOOR PU 400 LV** and **MAPEFLOOR FINISH 451**.

Non-slip multi-layered coating - 4-4.5 mm

Primer (PRIMER SN)

Pour component B into component A and mix with a drill at low-speed (300-400 rpm) with a spiral mixing attachment for at least 2 minutes to form a smooth, even compound. While mixing, add approx. 20% by weight of **QUARTZ 0.5** to the compound as soon as it has been prepared and continue mixing for several minutes to form a smooth, even compound. Pour the product onto the floor to be coated and spread it out evenly and uniformly using a straight steel trowel or a smooth rake. While the product is still wet broadcast the surface with **QUARTZ 0.5**.

Removal of excess sand

Once the **PRIMER SN** has hardened remove all excess sand with an industrial vacuum cleaner.

Flexible intermediate layer (MAPEFLOOR PU 400 LV)

Pour component B into component A and mix with a drill at low speed (300-400 rpm) with a spiral mixing attachment for at least 2 minutes to form a smooth, even compound. Whilst mixing, add 20-30% by weight of **QUARTZ 0.25** to the compound as soon as it has been prepared and continue mixing to form a smooth, even compound. Pour the mix on the previous layer and spread it out evenly and uniformly by means of a notched trowel. While still fresh broadcast in excess with **QUARTZ 0.9** or **QUARTZ 1.2**, depending on degree of non-slip finish required (approximately 4-6 kg/m^2).

Removal of excess sand

Once hardened remove all excess sand with an industrial vacuum cleaner.

Finishing layer (MAPEFLOOR FINISH 451)

Pour component B into component A and mix with a drill at low speed (300-400 rpm) with a spiral mixing attachment for at least 2 minutes to form a smooth, even compound. Apply the product uniformly and continuously using a short-pile roller, or smooth it over the surface with a straight steel or rubber trowel, then pass over the surface with a medium-haired roller, making sure that the roll strokes criss-cross over each other. Any expansion and contraction joints in the floor (contraction joints may be sealed at the start of work and then covered with the resin system) must be sealed with **MAPEFLEX PU 45 FT**.

5. Hardening and waiting time before use

At +20°C **MAPEFLOOR PARKING SYSTEM ME** sets to foot traffic after around 24 hours, whilst it takes around 3 days before light traffic may use the surface. Complete hardening and maximum strength are reached after around one week. Lower temperatures lead to longer hardening times and set to foot traffic times for the coating, while higher temperatures reduce these times.

6. Please note

Protect **MAPEFLOOR PARKING SYSTEM ME** from water and condensation for at least 24 hours after application.
If the coating is exposed to aggressive chemicals it may yellow or the colour may change slightly. This phenomenon is purely aesthetic and has no effect on the performance of the system.
Do not apply the system if there is a high level of humidity in the surrounding air or, in the case of external applications, if it is about to rain.
Wear suitable clothing and sweat bands to prevent beads of sweat dripping onto the surface of the fresh resin while it is being applied; it may react with the product and form foam.
Never use tools which have just been cleaned with alcohol to apply the products, particularly rollers. We recommend using new rollers.
Never dilute any of the products.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance increase the life of the treated floor, improves its aesthetic properties and reduces its tendency to collect dirt. Floors created using **MAPEFLOOR PARKING SYSTEM ME** are generally easy to clean with neutral detergents, or with alkali detergents diluted at a concentration of from 5 to 10% in water. **MAPEFLOOR MAINTENANCE KIT** is available for maintenance operations and includes **MAPELUX LUCIDA** metallic wax, **MAPEFLOOR WAX REMOVER** and **MAPEFLOOR CLEANER ED** detergent for daily cleaning operations.
Our Technical Services Department is available for any information required.

TECHNICAL DATA

TECHNICAL DATA (after 28 days at +23°C)	
Tear strength* (DIN 53515)	27 N/mm
Elongation at failure* (DIN 53504) at +23°C	450%
Shore A hardness* (DIN 53505)	73
Dynamic crack-bridging at -20°C (DIN EN 1062-7)	Class B 3,2
Dynamic crack-bridging at +23°C (DIN EN 1062-7)	Class > B 4,1
Impact strength (EN ISO 6272-1)	20 Nm
Determination of thermal compatibility – Resistance to thermal shock (EN 13687-5)	2.40 N/mm²
Capillary absorption and permeability to water (EN 1062-3)	$w < 0.1\ kg/m^2 \cdot h^{0.5}$
Permeability to CO_2 (EN 1062-6)	$s_D > 50$ m
Reaction to fire (EN 13501-1)	B_{FL} - s1

** Values refer to a **MAPEFLOOR PU 400 LV** flexible membrane fillerized with 30% in weight of **QUARTZ 0.25***

NOTES

Recommendations regarding safe handling of the products are contained in the Material Safety Data Sheet for each single product in the cycle. However, the use of protective gloves and goggles is recommended when mixing and applying the products.
If the cycle is applied on surfaces, in climatic conditions and/or for final uses not mentioned above, please contact the Technical Services Department at MAPEI S.p.A.

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