MAPEFLOOR PARKING SYSTEM RHT

Multi-layered, seamless, non-slip epoxy system with 100% solids content compliant with the requirements of class OS 8 (EN 1504-2) for coating road surfaces in car parks subjected to high volumes of traffic. Total thickness 3-3.5 mm

PRODUCTS USED

PRIMER SN - MAPEFLOOR I 300 SL - MAPECOLOR PASTE - QUARTZ 0.5 - QUARTZ 0.25

DESCRIPTION

MAPEFLOOR PARKING SYSTEM RHT is a multi-layer, epoxy surface-coating system compliant with the requirements of Class OS 8 (EN 1504-2). It is suitable for moving vehicles, has a non-slip finish and is resistant to high volumes of traffic in areas used for car parks.
MAPEFLOOR PARKING SYSTEM RHT is characterised by its excellent resistance to wear and mechanical stress in general and high resistance to 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	Concrete
2	Primer + broadcast with quartz sand **Primer SN** + **Quartz 0,5**
3	Epoxy formulate + colouring paste + broadcast with quartz sand **Mapefloor I 300 SL** + **Mapecolor Paste** + **Quartz 0,5**
4	Epoxy formulate + colouring paste **Mapefloor I 300 SL** + **Mapecolor Paste**

AREAS OF USE

Coating for concrete floors and cementitious substrates subjected to intense volumes of traffic, such as road surfaces in covered car parks, multi-storey car parks, garages, etc.

MAPEFLOOR PARKING SYSTEM RHT is used for the following:

- car-parks with intense traffic;
- internal garages, transit areas for garages, etc.

PERFORMANCE AND ADVANTAGES

- Non-slip finish.
- Solvent-free, therefore safe for the environment.
- Durable thanks to its characteristic high resistance to wear and abrasion from the constant passage of moving vehicles.
- Waterproof and dust-resistant.
- Resistant to most chemical products such as diluted acids, base products, oil and fuel.
- Easy maintenance.
- Forms attractive, flat, seamless, highly functional surfaces.
- Reduces the time required to carry out work so lower down times of car parks.
- Excellent cost-performance ratio.

CHEMICAL RESISTANCE

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

- diluted inorganic acids such as hydrochloric acid, nitric acid, phosphoric acid and sulphuric acid, as well as limited resistance to organic acids;
- alkalis, including 50% sodium hydroxide solution and detergents normally used for cleaning floors up to a concentration of 20-30%, as long as they do not contain abrasive particles;
- mineral oils, diesel, kerosene and petrol;
- saline solutions in general, including those containing de-icing salts.

COLOURS AVAILABLE

MAPEFLOOR PARKING SYSTEM RHT is available in various RAL colours.

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 lightly shot-blasted. Rougher 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 of the treatment method employed to prepare the substrate.

MAPEFLOOR PARKING SYSTEM RHT - average thickness 3-3.5 mm

1st layer:

PRIMER SN (A+B) +20%* **QUARTZ 0.5**: 0.3-0.7 kg/m²
Broadcast with **QUARTZ 0.5****: 3.0 kg/m²

* The amount of **QUARTZ 0.5** filler required may vary, depending on the roughness and porosity of the substrate.
** To get a more pronounced non-slip finish on surfaces such as access ramps, use a coarser grade of quartz sand, such as **QUARTZ 0.9** or **QUARTZ 1.2**.

2nd layer:

MAPEFLOOR I 300 SL (A +B + **MAPECOLOR PASTE** + **QUARTZ 0.5**): 0.9 kg/m²*
Broadcast with **QUARTZ 0.5****: 3.0 kg/m²

* The actual consumption level depends on the particle size of the sand used to broadcast the surface. A larger particle size will lead to a higher consumption rate.
** To get a more pronounced non-slip finish on surfaces such as access ramps, use a coarser grade of quartz sand, such as **QUARTZ 0.9** or **QUARTZ 1.2**.

Finishing coat:

MAPEFLOOR I 300 SL (A +B + **MAPECOLOR PASTE** + **QUARTZ 0.25**): 0.64 kg/m²*

* The actual consumption level depends on 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

- Before applying the **MAPEFLOOR PARKING SYSTEM RHT** cycle, the substrate on which the coating is to be applied must be carefully checked.
- The concrete screed of the substrate must be sound, compact, strong and clean and must be dimensioned according to the static and dynamic loads to which it will be subjected when in service. The flatness must be defined according to the final use.
- To get the best results make sure the substrate has been sufficiently saturated, smoothed over and levelled off with **PRIMER SN**.
- There must be no materials or debris on the substrate which could potentially impede adhesion of the coating, such as:
  - cement laitance;
  - dust or detached or loose portions;
  - protective wax, curing products, paraffin or efflorescence;
  - oil stains or layers of dirty resin;
  - traces of paint or chemical products.
- Any other contaminant that could affect adhesion of the coating must be removed using suitable equipment before applying the product. If required, contact MAPEI Technical Services Department for advice on the most suitable preparation cycle.
- The pull-off strength of the substrate must be higher than 1.5 N/mm².
- The level of humidity in the substrate must be a maximum of 4% and a vapour barrier must be installed. For floors that have just been installed, wait until the concrete is fully cured before applying the resin system. When installing floors on grade with capillary rising damp, apply a resin system permeable to vapour. If in doubt, please contact MAPEI Technical Services.

If all the above conditions are met, the system may be applied on concrete industrial floors, conventional or polymer-modified cementitious screeds, controlled-shrinkage screeds such as those made using **MAPECEM** or **TOPCEM** and old cement blocks and ceramic tiles, if prepared according to specification.

2. Preparation of the substrate

It is very important that surfaces are prepared correctly to ensure good adhesion and guarantee the best performance from the system.
The most suitable method to prepare the surface is shot-blasting, or alternatively grinding with a diamond disk. All dust must then be removed with a vacuum cleaner. Do not use chemical preparation methods, such as acid rinsing, or aggressive percussion tools, to prevent damaging the substrate. Any defects present on the

surface, such as holes, pitting, cracking, etc., must be repaired beforehand using either **EPORIP** or **PRIMER SN**, depending on the width and depth of the defects and cracks.
If the substrate needs to be consolidated, use **PRIMER MF** or **PRIMER EP** (choose the most suitable product according to the porosity of the substrate, which will also have an effect on the consumption rate). If deep hollows or highly deteriorated areas are present on the surface of the floor, repair these areas using **MAPEFLOOR EP19**, three-component epoxy mortar or with products from the **MAPEGROUT** range.
Highly deteriorated joints must be reconstructed using the same products.
If any of the above conditions are not strictly adhered to, the quality of the coating may be poor.

3. Preliminary checks before application

Make sure that all the checks from point 1 "*Characteristics of the substrate*" have been made and that all the operations indicated in point 2 "*Preparation of the substrate*" have been carried out correctly.
The surrounding temperature must be higher than +8°C (the ideal application temperature is between +15°C and +25°C) and the temperature of the substrate must be at least 3°C higher than the dew-point temperature.
Relative humidity of the surrounding air must be no higher than 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** and **MAPEFLOOR I 300 SL**.

Non-slip multi-layered coating - 3-3.5 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 20% by weight of by weight **QUARTZ 0.5** to the compound as soon as it has been prepared and mix again 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 by means of a straight trowel or rake. While the product is still wet, broadcast the surface with approximately 3 kg/m² of **QUARTZ 0.5**, **QUARTZ 0.9** or **QUARTZ 1.2**, depending on the degree of non-slip finish required.

Removal of excess sand

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

Intermediate layer (MAPEFLOOR I 300 SL)

Pour component A into component B 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 40% by weight of **QUARTZ 0.5** and 9% by weight of **MAPECOLOR PASTE** to the mix after it has been prepared; mix again to form an even compound. Pour the product on the previous layer and spread it out evenly and uniformly by means of a straight trowel or rake. While the product is still wet, broadcast the surface with approximately 3 kg/m² of **QUARTZ 0.5**, **QUARTZ 0.9** or **QUARTZ 1.2**, depending on the degree of non-slip finish required. The sand used for the two surface-dusting phases should preferably have the same particle size.

Removal of excess sand

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

Finishing layer (MAPEFLOOR I 300 SL)

Pour component A into component B 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 5-6% by weight of **QUARTZ 0.25** and 9% by weight of **MAPECOLOR PASTE** to the mix after it has been prepared; mix again to form an even compound. Apply the product uniformly and continuously and smooth it over the surface with a

straight trowel or rake, then backroll with a medium-haired roller, making sure that the roll strokes criss-cross over each other.

Expansion joints and contraction joints in the flooring must be sealed with **MAPEFLEX PU 45 FT**.

5. Hardening and step-on times

At +20°C **MAPEFLOOR PARKING SYSTEM RHT** sets to foot traffic after around 24 hours, while it takes 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 SYSTEM RHT** from water and condensation for at least 24 hours after application.
The colour of the material may vary slightly between one batch and another, even if they are the same RAL colour, and may also vary according to variations in the surrounding conditions during 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.

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 RHT** 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

Test	Standard	Requirements	System Performance
Abrasion resistance	EN ISO 5470-1	< 3000 mg (H22, 1000 g, 1000 cycles)	**780 mg**
Capillary water absorption and water permeability	EN 1062-3	$w < 0.1\ kg/m^2 \cdot h^{0.5}$	**$w\ 0.004\ kg/m^2 \cdot h^{0.5}$**
CO_2 permeability	EN 1062-6	$S_D > 50$ m	**S_D 592 m**
Impact Resistance	EN ISO 6272	No cracks or delamination after loading Class I: > 4 Nm Class II: > 10 Nm Class III: > 20 Nm	**Class II: > 20 Nm**
Linear shrinkage	EN 12617-1	≤ 0.3%	**≤ 0.3%**
Compressive strength	EN 12190	Class I: ≥ 35 N/mm^2 Class II: ≥ 50 N/mm^2	**Class II**
Determination of water – vapour transmission	EN ISO 7783-1-2	Class I: $S_D < 5$ m (permeable to water vapour) Class II: 5 m ≤ S_D ≤ 50 m Class III: $S_D > 50$ m (not permeable to water vapour)	**Classe II**

Determination of thermal compatibility: Freeze-thaw cycling with de-icing salt immersion (50x) and (10x)	EN 13687-1	Rigid System: ▪ without traffic: ≥ 1.0 (0.7)[b] ▪ with traffic: ≥ 2.0 (1.5)[b]	[b] **The value in brackets is the lowest accepted value of any reading 1.84 N/mm²**
Determination of thermal compatibility - Thunder-shower cycling (thermal shock)	EN 13687-2	Rigid System: ▪ without traffic: ≥ 1.0 (0.7)[b] ▪ with traffic: ≥ 2.0 (1.5)[b]	[b] **The value in brackets is the lowest accepted value of any reading 1.90 N/mm²**
Tear-off test	EN 1542	Rigid System: ▪ without traffic: ≥ 1.0 (0.7)[b] ▪ with traffic: ≥ 2.0 (1.5)[b]	[b] **The value in brackets is the lowest accepted value of any reading 1.78 N/mm²**
Fire resistance	EN 13501-1	A_{fl} - E_{fl}	**B_{fl}-s1**

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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