

Mapecoat System 53

SOLVENT-FREE, VAPOUR PERMEABLE, SELF-LEVELLING, MATT EPOXY SYSTEM IN WATER DISPERSION, FOR SMOOTH INDUSTRIAL FLOOR FINISHES AVERAGE 4 mm THICK

Products required:

Mapecoat I 600 W - Mapecoat I 500 W - 0.5 Quartz

DESCRIPTION

MAPEFLOOR SYSTEM 53 is a self-levelling epoxy system used to create surface finishes on industrial floors which are highly resistant to chemicals, impermeable to oil and aggressive substances and resistant to frequent washing and wear caused by trolleys and moving vehicles.

Floors finished with **MAPEFLOOR SYSTEM 53** have an attractive finish and, since they are solvent-free, are also odourless.

WHERE TO USE

Industrial floors subject to medium or heavy traffic, such as warehouses, storage areas, garages, covered parking lots, pedestrian zones, areas where forklifts are used and in the food manufacturing industry.

THE SYSTEM IS ALSO SUITABLE FOR INDUSTRIAL FLOORS WITHOUT A VAPOUR BARRIER AND UNDERGROUND PARKING LOTS. IT MAY ALSO BE APPLIED ON CONCRETE AFTER ONLY 4 DAYS CURING. THE FINAL SURFACE FINISH IS SMOOTH.

MAPEFLOOR SYSTEM 53 is used in:

- the chemical processing and pharmaceutical industries, in processing and storage areas;
- food manufacturing industry, in both production areas (as long as no process water is present due to the smooth finish of the floor) and in areas used for storage and movement of goods, and on surfaces subject to medium to heavy traffic;
- automated warehouse systems, in all areas;
- shopping centres, in areas subject to intense pedestrian traffic and storage areas where goods are moved about frequently;
- aseptic areas, in storage areas;
- sterile areas, laboratories and hospitals, except isolation wards and operating theatres.

PROPERTIES AND ADVANTAGES

- Smooth finish.
- Safe for the environment, water-based product without solvents.
- Long-lasting, characterised by high resistance to wear and abrasion caused by continuous pedestrian traffic and frequent washing regimes.
- Resistant to most chemical agents such as dilute acids, base solutions, oil and fuel.
- The product's extremely attractive appearance makes it particularly suitable for exhibition areas.
- Easy to clean, sanitise and decontaminate, making it particularly suitable for applications in the food manufacturing industry, especially in areas subject to heavy traffic.
- Flat surfaces may be obtained, with an extremely attractive highly functional finish.
- Guarantees an excellent cost-performance ratio.

CHEMICAL RESISTANCE

Floors prepared with **MAPEFLOOR SYSTEM 53** are resistant to:

- dilute mineral acids, such as: hydrochloric acid, nitric acid, phosphoric acid and

sulphuric acid, limited resistance to organic acids (refer to the chemical resistance table in the technical data sheet for **MAPEFLOOR I 500 W**);

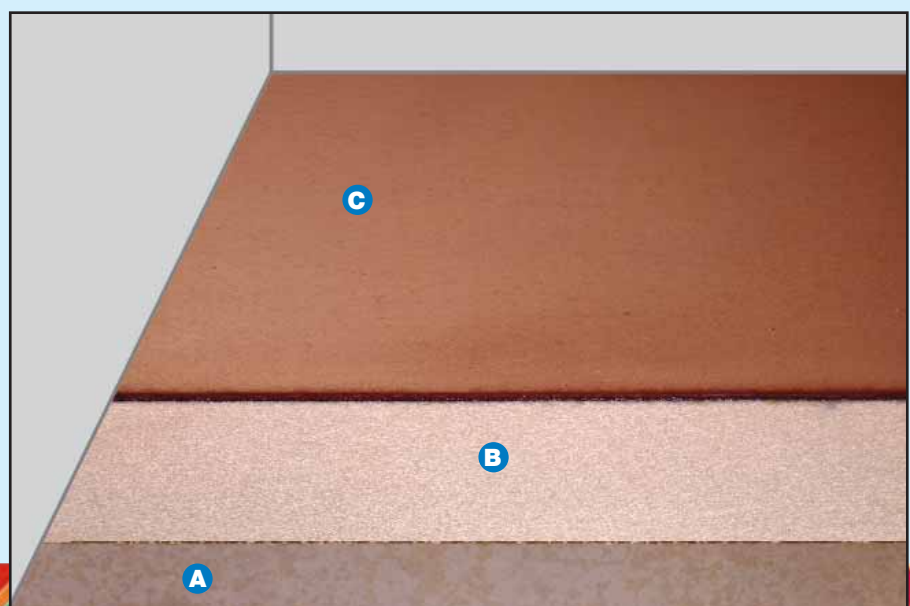
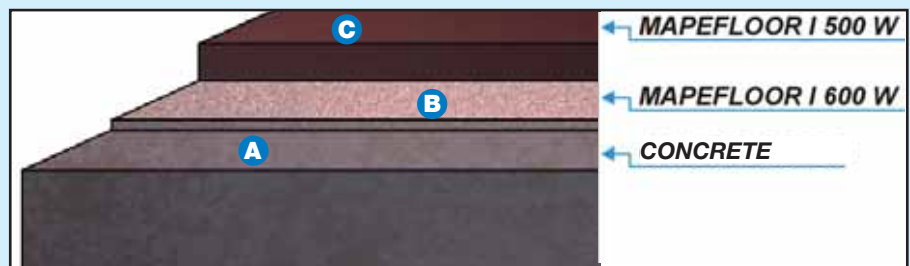
- alkalis, including sodium hydroxide at a concentration of 50%, and detergents normally used for cleaning floors, up to a concentration of 20-30%, as long as they do not contain abrasive material;
- sugary substances, even if in frequent contact.

COLOURS AVAILABLE

MAPEFLOOR SYSTEM 53 is available in 19 different colours from the RAL range: refer to colours in the **MAPECOLOR PASTE** range for **MAPEFLOOR I 500 W**.

YIELD

The consumption figures indicated below are based on application at a temperature of between +15°C and +23°C on a smooth, compact concrete surface finished off with a diamond grinding disk or by light shot-blasting. Rougher surfaces or lower temperatures increase the consumption rate and lengthen the curing times.



Mapecolor System 53

MAPEFLOOR SYSTEM 53 1° coat:	average thickness 2 mm
MAPEFLOOR I 600 W (A+B) Sprinkled on fresh	0.4 kg/m ²
0.5 QUARTZ Finishing coat:	0.5 kg/m ²
MAPEFLOOR I 500 W (A+B + MAPECOLOR PASTE)	4.0 kg/m ²

N.B.: If the **MAPEFLOOR I 500 W** to be used is already coloured, the **MAPECOLOR PASTE** component must not be included.

SURFACE PREPARATION

1. Characteristics of the substrate

Before applying the **MAPEFLOOR SYSTEM 53**, an accurate, in-depth analysis of the substrate upon which the dressing is to be applied must be carried out. To make sure that good results are obtained, verify the following:

- That the surface irregularity does not exceed 0.3 mm.
- That there are no materials on the substrate which could impede the adhesion of successive finishes, such as:
 - cement laitance;
 - dust or areas which are loose or not well bonded;
 - protective wax, curing agents, paraffin or efflorescence;
 - oil stains or layers of dirty resin;
 - traces of paint or chemical products.
- Other contaminants which may compromise bonding of the finish must be removed before carrying out installation. If the substrate is contaminated, it is ESSENTIAL to implement a suitable preparation technique. If necessary, contact our company's Technical Services Department for advice.
- That the tear strength of the substrate is higher than 1.5 N/mm².
- If the aforementioned prerequisites are met, **MAPEFLOOR SYSTEM 53** may be applied on concrete industrial floors, traditional cementitious screeds or polymer modified screeds or on shrinkage-compensated screeds such as **MAPECEM** or **TOPCEM** screeds.

2. Preparation of the substrate

Correct preparation of the surface is essential to guarantee successful application, and to guarantee the best performance of the **MAPEFLOOR SYSTEM 53**.

The most suitable preparation method is by shot-blasting, taking care not to penetrate too deeply into the substrate. We advise against using chemical-based treatments, such as acid rinsing, or aggressive pneumatic hammering, which may damage the substrate. Any defects present, such as holes, cavities, cracking, etc. must be repaired beforehand using either **EPORIP**, **PRIMER SN** or **MAPEFLOOR I 500 W**, depending on the size and depth of the defect or damaged area. If the substrate needs to be consolidated, use diluted **MAPECOAT I 600 W** (the dilution ratio depends on the porosity of the substrate, which will also effect the consumption rate). Large hollows or highly deteriorated areas must be rebuilt beforehand using either **MAPEFLOOR EP 19** three-component epoxy mortar or one of the products from the **MAPEGROUT** range.

Joints which are in a poor condition must be rebuilt using these materials. If the above guidelines are not followed, there will

be a detrimental effect on quality of the work carried out.

3. Preliminary checks before application

Make sure that all the checks in item 1 "Characteristics of the substrate" have been carried out, and that all the operations indicated in item 2 "Preparation of the substrate" have been carried out correctly. The air temperature must be higher than 8°C (the most suitable temperature is from 15°C to 25°C) and the temperature of the substrate must be at least 3°C higher than the dew-point temperature.

4. Mixing and application

Follow the instructions in the technical data sheet for each single component of the system: **MAPECOAT I 600 W** and **MAPEFLOOR I 500 W**.

2 mm-thick self-levelling dressing

Before application, wet the surface to be treated, taking care not to form puddles or to leave spanding water.

• Primer (**MAPECOAT I 600 W**)

Pour component A (2.3 kg) into component B (3.6 kg) and mix with a low-speed drill fitted with a spiral mixing attachment until a homogenous mix is obtained. Dilute with water on at a ratio of up to a maximum of 1:1, depending on the porosity of the substrate, and keep mixing until homogenous. Pour the mix onto the floor, and spread it out evenly and uniformly using a medium-haired roller. Whilst the product is still fresh, apply a layer of **0.5 QUARTZ** (approx. 0.5 kg/m²).

• Finishing coat (**MAPEFLOOR I 500 W**)

Pour component A (2 kg) into component B (24 kg), add the colouring paste (**MAPECOLOR PASTE**) and mix with a low-speed drill fitted with a spiral mixing attachment until homogenous mix is obtained. Whilst mixing, slowly add 2 litres of water and continue mixing until homogenous. Pour the mix on the floor and spread it out evenly and homogeneously using either a smooth spreader or a V-notched serrated rake, and immediately pass over the surface with a bubble breaker, to help completely eliminate any air entrapped in the product during mixing.

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

Bonding strength (DIN ISO 4624) N/mm ²	> 1,5
Abrasion resistance (TABER Disk CS 17 - 1000 revs - 1000 g in weight) mg	105
Compressive strength (DIN EN 196) N/mm ²	50
Flexural strength (DIN 1048) N/mm ²	30
Coefficient of thermal expansion (DIN 53752) °k	16x10 ⁻⁵
Modulus of elasticity (DIN 1048) N/mm ²	5.000
Temperature range (open air) °C	-20 ± 60
Water vapour permeability (DIN 52615)	mμ 6000
Appearance	smooth, matt

N.B.: the level of resistance to abrasion of **MAPEFLOOR FINISH 53** may be improved by applying a further coat of **MAPEFLOOR FINISH 50** solvent-free, aliphatic polyurethane compound, which is extremely resistant to abrasion.

A lightly non-slip finish can be achieved by adding 5 to 10% **MAPEFLOOR FILLER** to the **MAPEFLOOR FINISH 50**, depending on the degree of non-slip finish required.

5. Hardening and step-on times

At a temperature of 25°C, **MAPEFLOOR SYSTEM 53** may be stepped on after 16 hours. Trolleys and forklifts, however, may not drive on the surface for at least 24 hours. Lower temperatures and high relative humidity lengthen the hardening and step-on times of the dressing.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance increases the life of the treated floor, improves its appearance and reduces the floor's tendency to attract dirt. Floors made using the **MAPEFLOOR SYSTEM** are generally easy to clean with neutral detergents or with alkalis diluted in water at a concentration from 5 to 10%. Also, detergents and cleaning equipments which are suitable for cleaning resin floors are widely available. Manufacturers of these products supply all the necessary information required regarding the correct procedures to adopt. If **MAPEFLOOR SYSTEM 53** is applied in public areas, we recommend polishing with special metallic waxes. The company's Technical Services Department is also available for any kind of clarification required.

NOTE

Information regarding safety equipment and handling of the products are contained in the technical 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.