

Mapecolor System 31

SOLVENT-FREE, MULTI-LAYER EPOXY SYSTEM 0.8-1.2 mm THICK FOR INDUSTRIAL FLOORS

Products required:

Primer SN - Mapecolor I 300 SL - 0.5 Quartz - 0.25 Quartz

DESCRIPTION

MAPEFLOOR SYSTEM 31 is a multi-layer epoxy system used to create a highly non-slip surface on industrial floors which is highly resistant to chemicals, impermeable to oil and aggressive substances, resistant to frequent washing and wear caused by trolleys and moving vehicles. Floors produced with **MAPEFLOOR SYSTEM 31** also have an attractive finish.

WHERE TO USE

Industrial floors subject to light or medium traffic, such as warehouses, storage areas, garages, covered parking lots, pedestrian zones and areas where forklifts are used.

MAPEFLOOR SYSTEM 31 is used in:

- the chemical processing and pharmaceutical industries, in storage areas;
- the food manufacturing industry, in storage areas in production area walkways and in production areas subject to light traffic;
- laboratories and hospitals, in storage areas and for interconnecting walkways;
- aseptic areas, in storage areas;
- automated warehouse systems, in all areas;
- shopping centres, in areas subject to intense pedestrian traffic and in areas used for storing goods.

PROPERTIES AND ADVANTAGES

- Non-slip finish.
- Safe for the environment, does not contain solvents.
- Long-lasting, characterised by high resistance to wear and abrasion caused by continuous pedestrian traffic and intense washing regimes.
- Resistant to most chemical agents such as dilute acids, base solutions, oil and fuel.
- Easy to clean, sanitise and decontaminate, and is therefore particularly suitable for applications in the food manufacturing industry, especially in areas subject to light or medium traffic and pedestrian use.
- Flat surfaces may be obtained, with an extremely attractive functional finish.
- Reduction in installation times, resulting in lower plant down times.
- Guarantees an excellent cost-performance ratio.

CHEMICAL RESISTANCE

Floors finished with **MAPEFLOOR SYSTEM 31** 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 300 SL**);

- alkalis, including sodium hydroxide at 50% concentration, 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 in frequent contact;
- mineral oils, diesel fuel, kerosene and petrol.

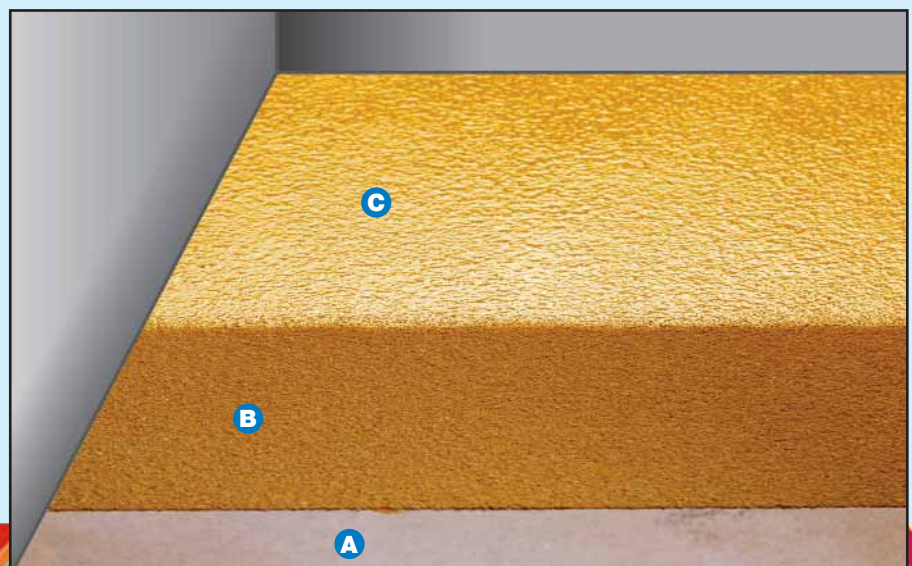
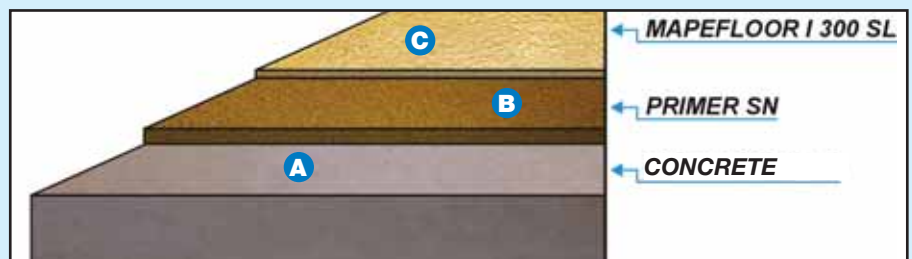
As the thickness of floors finished with **MAPEFLOOR SYSTEM 31** is less than 1.2 mm, they are not suitable for continuous exposure to high temperatures.

COLOURS AVAILABLE

MAPEFLOOR SYSTEM 31 is available in 19 different colours from the RAL range: refer to colours in the **MAPECOLOR PASTE** range for **MAPEFLOOR I 300 SL**.

YIELD

The consumption figures indicated below are based on application at temperatures between 15°C and 23°C on a smooth, compact concrete surface finished off with a diamond grinding disc or by light shot-blasting. Rougher surfaces or lower temperatures increase the consumption rate and lengthen the curing times. In particular, the consumption of **PRIMER SN** may vary depending on substrate preparation.



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1° coat:

PRIMER SN (A+B + MAPECOLOR PASTE):

average thickness 1 mm

0.7 kg/m²

Sprinkled on fresh

0.5 QUARTZ:

3.0 kg/m²

Finishing coat:

MAPEFLOOR I 300 SL

(A+B + **MAPECOLOR PASTE**): 0.6 kg/m²

0.25 QUARTZ:

0.04 kg/m²

N.B.: If the **MAPEFLOOR I 300 SL** 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 31**, an accurate, in-depth analysis of the substrate upon which the finish is to be applied must be carried out. To make sure that a good result is obtained, verify the following:

• 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 tear strength of the substrate is higher than 1.5 N/mm².
- That the level of humidity in the substrate is no higher than 4%, and that there is an adequate vapour barrier installed. If these conditions are not met, use **MAPEFLOOR SYSTEM 51** or **MAPEFLOOR SYSTEM 52**. The use of **MAPEFLOOR SYSTEM 31** could lead to detachment and/or the formation of blisters.

If the aforementioned prerequisites are met, **MAPEFLOOR SYSTEM 31** may be applied on concrete industrial floors, traditional cementitious screeds, polymer modified screeds or shrinkage-compensated screeds such as **MAPECEM** or **TOPCEM** screeds.

2. Preparation of the substrate

Correct preparation of the surface is essential to guarantee application success, and to guarantee the best performance of **MAPEFLOOR SYSTEM 31**.

The most suitable preparation method is by grinding with a diamond disc followed by vacuuming off the resulting dust, or by shot-blasting but 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 300 SL**, depending on the size and depth of the defect or damaged area.

If the substrate needs to be consolidated, use **PRIMER MF** or **PRIMER EP** (the choice of product 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 the above 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 being +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; **PRIMER SN** and **MAPEFLOOR I 300 SL**.

0.8-1.2 mm-thick multi-layer non-slip dressing

• Primer (**PRIMER SN**)

Pour component B (4 kg) into component A (16 kg), add the colouring paste (**MAPECOLOR PASTE**) and mix with a low-speed drill fitted with a spiral mixing attachment until a homogenous mix is obtained. Whilst mixing, add 4 kg of **0.5 QUARTZ** to the blend, and continue to mix for a few minutes until homogenous. Pour the mix onto the floor and spread out evenly and uniformly with a smooth spreader or a smooth rake. Whilst the product is still fresh, sprinkle on a layer of **0.5 QUARTZ**.

• Vacuuming off the dust

When the **PRIMER SN** has cured, the excess

sand should be removed and the surface vacuumed to remove the dust.

• Finishing coat (**MAPEFLOOR I 300 SL**)

Pour component B (2 kg) into component A (6 kg), add the **MAPECOLOR PASTE** (0.7 kg of **MAPECOLOR PASTE** for each bag of **MAPEFLOOR I 300 SL**) and mix with a low-speed drill fitted with a spiral mixing attachment until homogenous. Whilst mixing, add 0.5 kg of **0.25 QUARTZ** to the blend, and continue to mix until a homogenous blend is obtained. Apply the mix uniformly and continuously using a medium-haired roller, making sure that the roll strokes criss-cross each other to obtain a defect-free surface.

5. Hardening and step-on times

At a temperature of 25°C, **MAPEFLOOR SYSTEM 31** finishes may be stepped on after 16 hours. Trolleys and forklifts, however, may not drive on the surface for at least 24 hours. Lower temperatures lengthen the hardening and step-on times of the finish.

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 **MAPEFLOOR SYSTEM 31** 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 equipment which is suitable for cleaning resin floors is widely available. Manufacturers of these products supply all the necessary information required regarding the correct procedures to adopt. 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 single component of the system. 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.

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	55
Coefficient of thermal expansion (DIN 53752) °k	16x10 ⁻⁵
Modulus of elasticity (DIN 1048) N/mm ²	7200
Temperature range (open air), °C	-20 ± 50
Appearance	gloss