

Mapecolor System 33

SELF-LEVELLING EPOXY COATING SYSTEM WITH HIGH SOLIDS CONTENT FOR INDUSTRIAL FLOORS; THICKNESS 2-4 mm

Products used for the system:

Primer SN - Mapecolor I 300 SL - Mapecolor I 302 SL - Mapecolor Paste - Quartz 0.5 - Quartz 0.25

DESCRIPTION

MAPEFLOOR SYSTEM 33 is a self-levelling epoxy system used to make coatings on industrial floors that are highly resistant to chemical products, resistant to frequent cleaning operations and impermeable to oil and aggressive substances.

Coatings made from **MAPEFLOOR SYSTEM 33** also have an attractive finish.

WHERE TO USE

Coating industrial floors subjected to medium to heavy traffic where a smooth surface is required such as lanes for 3-way forklifts, warehouses, storage areas, transit areas used by pedestrians and forklifts, schools, offices, exhibition centres and showrooms.

MAPEFLOOR SYSTEM 33 is suitable for the following:

- processing and storage areas in the chemical and pharmaceutical industries;
- the food manufacturing industry in both processing areas (as long as no processing water is present due to the smooth finish of the floor) and areas used for storing and handling goods and for surfaces subjected to medium intensity traffic;
- large distribution warehouses;
- all areas of mechanised warehouses;
- shopping centres, areas with intense pedestrian traffic and warehouses with intense movement of goods traffic;
- aseptic areas in both processing and storage areas;

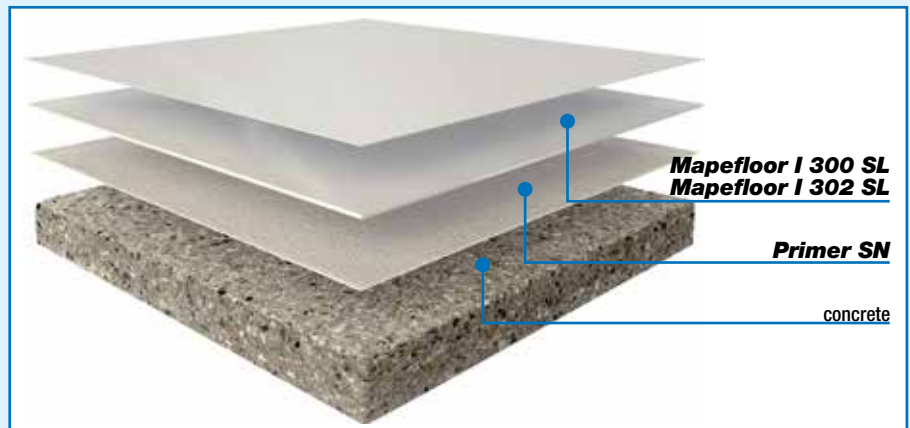
- sterile rooms, laboratories, hospitals and cleanrooms, except operating theatres.

PERFORMANCE AND ADVANTAGES

- Smooth finish.
- High solids content.
- Durable, characterised by its high

resistance to wear and abrasion from continuous pedestrian traffic and frequent cleaning operations.

- Resistant to a large number of chemical products such as diluted acids, base products, oil and fuel.
- Thanks to its highly attractive finish, it is particularly suitable for exhibition areas.



Mapefloor System 33

- Easy to clean and sterilize which makes it particularly recommended for use in the foodstuffs industry, especially in areas used by medium traffic.
- Forms an attractive, seamless, highly functional surface.
- Quick application.
- Guarantees an excellent cost-performance ratio.

CHEMICAL RESISTANCE

At room temperature, floors coated with **MAPEFLOOR SYSTEM 33** are temporarily resistant to:

- diluted mineral acids such as hydrochloric, nitric, phosphoric and sulphuric acids and limited resistance to organic acids (refer to the chemical resistance table in the **MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL** Technical Data Sheet);
- 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 granules;
- sugars, including when in frequent contact with the floor;
- mineral oils, diesel, kerosene and petrol.

Floors coated with **MAPEFLOOR SYSTEM 33** are not suitable for constant exposure to high temperatures.

COLOURS AVAILABLE

MAPEFLOOR SYSTEM 33 is available in 19 colours from the RAL colour chart: refer to the colours in the **MAPECOLOR PASTE** range for **MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL**.

YIELD

The consumption levels indicated below are for a cycle applied at a temperature of between +15°C and +25°C on a smooth, compact concrete surface broadcast with quartz sand and prepared with a diamond grinding wheel or by light shot-blasting. Rougher surfaces, or application at

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

Adhesion (DIN ISO 4624) N/mm ²	> 1.5 - failure of substrate
TABER abrasion resistance (CS 17 disk - 1000 revs - 1000 g) mg	70
Compressive strength (EN 196-1) N/mm ²	67
Flexural strength (EN 196-1) N/mm ²	28
BCA wear resistance (EN 13892-4) µm	10
Impact strength (EN ISO 6272) N/m	20
Service temperature (air temperature) °C	-20 / +60
Finish	shiny
Shore hardness (DIN 53505)	78 Shore D (7 days)
Fire reaction class (EN 13501-1)	B _{FL} -S1

lower temperatures, will lead to an increase in consumption and longer hardening times.

The consumption rate for **PRIMER SN** in particular may vary, depending on the method used to prepare the substrate.

MAPEFLOOR SYSTEM 33

average thickness 2 mm

Primer:

PRIMER SN (A+B)	0.7 kg/m ²
QUARTZ 0.5:	0.14 kg/m ²
Broadcast on wet product	
QUARTZ 0.5:	0.7÷1 kg/m ²

Self-levelling layer:

MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL (A+B + MAPECOLOR PASTE)	2 kg/m ²
QUARTZ 0.25:	2 kg/m ²

SURFACE PREPARATION

1. Characteristics of the substrate
Before applying the **MAPEFLOOR SYSTEM 33** process, the substrate on which the coating is to be applied must be carefully analysed. The concrete screed for 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, the following must be checked:

- The roughness of the substrate must be a maximum of 0.5 mm.
- 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 material;
- protective wax, curing products, paraffin or efflorescence;
- oil stains or layers of dirty resin;
- traces of paint or chemical products.

Any other kind of material or substance that could affect adhesion of the coating must be removed before starting work. If such materials or substances are present, the substrate must be prepared by carrying out a specific preparation cycle. Please contact Mapei Technical Services Department for advice and information.

- The pull-off strength of the substrate must be more than 1.5 MPa.
- The level of moisture in the substrate must be a maximum of 4% and there must be a suitable vapour barrier or no capillary rising damp (check by testing with a sheet of polythene according to ASTM standards). If these conditions are not met, use **MAPEFLOOR SYSTEM 53**, otherwise **MAPEFLOOR SYSTEM 33** could detach and/or blisters could form in the coating.

If all the above conditions are met, **MAPEFLOOR SYSTEM 33** may be applied on concrete industrial floors, conventional or polymer-modified cementitious screeds, shrinkage-compensated screeds such as those made from **MAPECEM** or **TOPCEM**, old cement terrazzo floors and ceramic floors if prepared according to specification.

2. Preparation of the substrate

It is very important that the surface is

prepared as specified to guarantee correct application and the best performance of the **MAPEFLOOR SYSTEM 33** epoxy process.

The most suitable method to prepare the surface is shot-blasting, or alternatively grinding with a diamond grinding 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, such as holes, pitting, cracking, etc., must be repaired beforehand using either **EPORIP**, **PRIMER SN** or **MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL**, 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 there are deep hollows or highly deteriorated areas on the substrate, repair these areas beforehand using **MAPEFLOOR EP19** three-component epoxy mortar, which may also be used to integrate damaged joints.

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 indicated in point 1 “*Characteristics of the substrate*” have been carried out, 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 at least 3°C higher than the dew-point temperature.

4. 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.

PRIMER SN and **MAPEFLOOR I 300 SL**.

Self-levelling coating - 2-4 mm

- **Primer (PRIMER SN)** 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 **QUARTZ 0.5** to the paste as soon as it has been prepared and continue mixing for some 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 trowel or a smooth spreader. Lightly broadcast the product while it is still wet with **QUARTZ 0.5** (approximately 0.7÷1 kg/m²). If the surface is still porous, is not compact or if it has open micro-pores due to its high absorbency after the first coat of primer, apply a second smoothing layer of **PRIMER SN** as described above until all porosity has been completely eliminated. If the porosity is not correctly sealed, pinholes and defects could form in the finishing coat of **MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL**. Once the **PRIMER SN** has hardened, remove all excess sand with an industrial vacuum cleaner.

- **Self-levelling coat (MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL)**

Pour the contents of component B into the container of component A, add the coloured paste **MAPECOLOR PASTE** at a ratio of 7-9% by weight and mix with a drill at low speed with a spiral mixing attachment to form a smooth, even paste. While mixing, add **QUARTZ 0.25**, up to a maximum ratio of 1:1 by weight to the mixture and continue mixing to form a smooth, even compound. Pour **MAPEFLOOR I 300 SL - MAPEFLOOR I 302 SL** prepared as described above onto the floor to be coated and spread it out evenly and uniformly using a straight trowel or a notched spreader

with “V”-shaped teeth. While the product is still wet, immediately pass over the surface with a spiked roller to help completely eliminate any air entrained into the product during mixing.

5. Hardening and step-on times

At +25°C **MAPEFLOOR SYSTEM 33** sets to foot traffic after 16 hours, may be used by light loads after 1 to 2 days and is ready for final use once fully hardened after approximately 7 days. Lower temperatures lead to longer hardening and step-on times.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance operations increase the life of a coated floor, improves its aesthetic properties and reduces its tendency to collect dirt. Floors created using the **MAPEFLOOR SYSTEM** 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. If **MAPEFLOOR SYSTEM 33** is applied in domestic environments, we recommend waxing the floor with **MAPELUX LUCIDA** or **MAPELUX OPACA** special metallic wax. Our Technical Services Department is available for any information required.

NOTES

Recommendations regarding safe use and handling of the products are contained in the Material Safety Data Sheet for each single material in the cycle. However, the use of protective gloves and goggles is recommended when mixing and applying the products.

If the process 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.

