



# Mapecfloor I 300 SL



**Two-component multi-purpose neutral-coloured epoxy formulate for industrial floor coatings up to 4 mm thick in compliance with the standards currently applied in the food sector**

## WHERE TO USE

**Mapecfloor I 300 SL** is a two-component epoxy formulate with high solid content used to create self-levelling or multi-layered resin coatings with an attractive smooth or non-slip surface.

### Some application examples

- Coating floors in the chemical and pharmaceutical industries.
- Coating floors in the foodstuffs industry.
- Coating floors in laboratories, sterile rooms and hospitals.
- Coating floors in aseptic rooms.
- Coating floors in mechanised warehouses.
- Coating floors in shopping centres.
- Coating floors in nuclear plants.

## TECHNICAL CHARACTERISTICS

**Mapecfloor I 300 SL** is a two-component, nonylphenol-free, fillerized epoxy resin-based formulate with 100% solids content according to a formula developed in the MAPEI R&D laboratories.

It complies with the standards EN 1186, EN 13130 and prCEN/TS 14234 currently applied in the food sector and the Decree of Consumer Goods, which represent the conversion of the European directives 89/109/EEC, 90/128/EEC and 2002/72/EC for contact with food.

**Mapecfloor I 300 SL** is versatile and may be applied in layers up to 4 mm thick.

**Mapecfloor I 300 SL** is used to create seamless coatings with an attractive finish.

**Mapecfloor I 300 SL** has good resistance to chemical products and abrasion and may be used in both self-levelling and multi-layered systems.

Decontaminable according to ISO 8690/1998 with  $^{137}\text{Cs}$  e  $^{60}\text{Co}$ .

## RECOMMENDATIONS

- Do not apply **Mapecfloor I 300 SL** on damp substrates or on substrates with capillary rising damp (please contact our Technical Services Department).
- Do not dilute **Mapecfloor I 300 SL** with solvent or water.
- Do not apply **Mapecfloor I 300 SL** on dusty or crumbling substrates.
- Do not apply **Mapecfloor I 300 SL** on substrates with oil or grease stains or stains in general.
- Do not apply **Mapecfloor I 300 SL** on substrates that have not been treated with **Primer SN** or that have not been prepared as specified.
- Do not mix partial quantities of the components to avoid mixing errors; the product may not harden correctly.
- Do not expose the mixed product to sources of heat.

- We recommend adding **Mapecolor Paste** from the same production batch to guarantee an even colour.
- Coatings made from **Mapefloor I 300 SL** may change colour or fade if exposed to sunlight but this has no effect on its performance characteristics.
- The coating may also change colour if it comes into contact with aggressive chemicals. A change in colour, however, does not mean that it has been damaged by the chemical.
- If rooms where the product is being used need to be warmed up do not use heaters that burn hydrocarbons, otherwise the carbon dioxide and water vapour given off into the air will affect the shine on the finish and ruin its appearance. Use electric heaters only.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor I 300 SL**.
- Use suitable specific cleaning equipment and detergent to clean the product, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- Do not apply the product directly on substrates with moisture content higher than 4% and/or with capillary rising damp (check by testing with a sheet of polythene).
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature.

## **APPLICATION PROCEDURE** **Preparation of the substrate**

The surface of concrete floors must be dry or slightly damp, clean and sound and have no crumbling or detached portions. The compressive strength of the substrate concrete must be at least 25 N/mm<sup>2</sup> and its tensile strength must be at least 1.5 N/mm<sup>2</sup>. The strength of the substrate must also be suitable for its final use and the types of load to which it will be subjected. The level of moisture in the substrate must be a maximum of 4% and there must be no capillary rising damp (check by testing it with a sheet of polythene). The surface of the floor must be prepared with a suitable mechanical process (e.g. shot-blasting or grinding with a diamond disk) to remove all traces of dirt and cement laitance and crumbling or detached portions, and to make the surface slightly rough and absorbent. Before applying the coating, remove all dust from the surface with a vacuum cleaner. Any cracks must be repaired by filling them with **Eporip**, while any deteriorated areas

of the concrete must be repaired with **Mapefloor EP19** or a cementitious mortar from the **Mapegrout** range. Before applying **Mapefloor I 300 SL**, remove all traces of dust from the surface with a vacuum cleaner.

## **Application of Primer SN**

Apply an even coat of neat **Primer SN** or mixed with **Quartz 0.5** on the substrate after it has been prepared as specified with a straight trowel or smooth rake, then fully broadcast with **Quartz 0.5** while it is still wet to ensure the next coat of resin adheres perfectly.

## **Preparation of the product**

The two components which make up **Mapefloor I 300 SL** must be blended together just before application. Mix component A thoroughly and add the contents of component B. Add **Mapecolor Paste** (0.7 kg and 1.4 kg of colouring paste for each 8 kg and 20 kg kit, respectively, of **Mapefloor I 300 SL**) and, if required, quartz sand. Mix again with an electric mixer at low speed to prevent entraining air into the mix (300-400 revs/min) for at least 2 minutes until the mix is completely blended. Pour the mix into a clean container and briefly mix again.

Do not mix the product for too long to prevent entraining too much air into the mix. Apply the mix within the pot life indicated in the table (refers to a temperature of +20°C). Higher surrounding temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.

## **Application of the product**

**Mapefloor I 300 SL** may be used for non-slip coatings (from 0.8 to 3.5 mm thick) and self-levelling coatings (from 2 to 4 mm thick). Application procedures are the following:

### **1. Multi-layered non-slip coating - 0.8-1.2 mm thick (Mapefloor System 31)**

- Prepare the substrate as specified (we recommend shot-blasting or rough grinding with a diamond disk) and remove all dust with a vacuum cleaner.
- Apply a kit of **Primer SN** (A+B) mixed together with 0.7 kg of **Mapecolor Paste** and 4 kg of **Quartz 0.5** with a straight trowel then fully broadcast with the same sand. For particular requirements, such as if a higher degree of non-slip finish is required, sand with a larger particle size may be used. In such cases the consumption rate of the next coat will be higher.
- When the primer has hardened remove any excess sand, sand the surface and remove the last grains of sand with an industrial-grade vacuum cleaner. Add **Quartz 0.25** at a rate of approx. 5-6% in weight of the resin to **Mapefloor I 300 SL** and mix until completely blended. Apply the finishing coat with a straight steel or rubber trowel down to a feather edge and then backroll

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	component A	component B
Colour:	neutral	straw-yellow
Consistency:	liquid	liquid
Density (g/cm <sup>3</sup> ):	1.5	1.0
Viscosity at +23°C (mPa·s):	4500 (# 4 - 20 rpm)	200 ÷ 300 (# 2 - 50 rpm)

### APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	component A : component B = 3 : 1	
Colour of mix:	neutral	
Consistency of mix:	fluid	
Density of mix (kg/m <sup>3</sup> ):	1,340	
Viscosity of mix at +23°C (mPa·s):	800 ÷ 1200 (# 4 - 50 rpm)	
Workability time at +20°C:	35 mins.	
Application temperature:	from +8°C to +35°C (refers to the surroundings, material and substrate)	
Waiting time between coats at +23°C and 50% R.H.:		
– on Primer SN with a dry-shake finish of quartz sand:	min. 12 h	no maximum limit
– on Primer SN with a light dry-shake finish of quartz sand:	min. 18 h	max. 24 h
	*surfaces must be dry with no dust	
Hardening time at +23°C and 50% R.H.:		
– dust dry:	2-4 hours	
– set to foot traffic:	approx. 24 hours	
– full hardening time:	approx. 7 days	

The times above are for indication purposes only and are influenced by actual site conditions (e.g. temperature of the surroundings and substrate, relative humidity of the surrounding air, etc.)

### FINAL PERFORMANCE

Compressive strength (N/mm <sup>2</sup> ) (EN 196-1):	67 (product fillerized with 1:1 in weight of Quartz 0.25)
Flexural strength (N/mm <sup>2</sup> ) (EN 196-1):	28 (product fillerized with 1:1 in weight of Quartz 0.25)
Capillary absorption and water permeability (EN 1062-3) (kg/m <sup>2</sup> ·h <sup>0.5</sup> ):	0.002
Fire reaction class (EN 13501-1):	B <sub>fl</sub> - S1
Taber Test after 7 days (EN ISO 5470-1) (at +23°C, 50% R.H, 1,000 cycles/1,000 g, CS17 disk) (mg):	70

Performance characteristic	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Performance of product
BCA wear-resistance:	EN 13892-4	≤ 100 µm	10 µm
Adhesion strength:	EN 13892-8; 2004	≥ 1.5 N/mm <sup>2</sup>	3.10 N/mm <sup>2</sup> (failure of concrete)
Impact strength:	EN ISO 6272	≥ 4 Nm	20 Nm

crosswise with a short-piled roller, or apply the mix directly on the surface with a medium-piled roller.

## 2. Multi-layered non-slip coating - 3-3.5 mm thick (Mapefloor System 32)

- Prepare the substrate as specified (we recommend shot-blasting or rough grinding with a diamond disk) and remove all dust with a vacuum cleaner.
  - Apply a kit of **Primer SN** (A+B) mixed with 4 kg of **Quartz 0.5** using a straight trowel, then fully broadcast with the same sand.
  - When the primer has hardened remove any excess sand, sand the surface and remove the last grains of sand with an industrial-grade vacuum cleaner. Add **Quartz 0.5** at a rate of around 35-40% in weight of the resin to **Mapefloor I 300 SL** and mix until completely blended. Pour the product onto the floor and spread it out evenly with a straight trowel.
  - Fully broadcast with **Quartz 0.5**. For particular requirements, such as if a higher degree of non-slip finish is required, sand with a larger particle size may be used. In such cases the consumption rate of the next coat will be higher.
  - When the primer has hardened remove any excess sand, sand the surface and remove the last grains of sand with an industrial-grade vacuum cleaner. Add **Quartz 0.25** at a rate of 5-6% in weight of the resin to **Mapefloor I 300 SL** and mix until completely blended. Apply the finishing coat with a straight rubber trowel down to a feather edge then backroll crosswise with a short-piled roller, or apply the mix directly on the surface with a medium-piled roller. Make sure the roller strokes criss-cross to get a better finish.
- ## 3. Smooth self-levelling coating - 2-4 mm thick (Mapefloor System 33)
- Prepare the substrate as specified (we recommend shot-blasting or rough grinding with a diamond disk) and remove all dust with a vacuum cleaner.
  - Apply a kit of **Primer SN** (A+B) mixed together with 4 kg of **Quartz 0.5** with a straight trowel then lightly broadcast with the same sand at a rate of 0.7-1.0 kg/m<sup>2</sup>. Make sure there are no open pores in the surface of the substrate, otherwise air bubbles could escape and form pinholes in the self-levelling finishing coat.
  - Once hardened remove any loose sand and carefully vacuum the surface. Mix **Mapefloor I 300 SL** prepared previously and add more **Quartz 0.25** at a rate of up to 1:1 in weight, depending on

the surrounding temperature and the thickness of the coat to be applied. The amount of sand required is higher as the surrounding temperature increases and if the coat to be applied is thicker. Mix again until a well-blended paste is formed, pour the product onto the floor and spread it out evenly with a notched trowel with "V" shaped teeth.

- Backroll intensively with a spiked roller while the product is still wet to even out the thickness of the coat and to remove any air entrapped in the product.

**Mapefloor I 300 SL** may also be applied in two coats with a roller on the surface of concrete prepared as specified (we recommend grinding with a diamond disk) or on **Primer SN** to create a coloured, anti-dust painted finish. The recommended total consumption of **Mapefloor I 300 SL** must be at least 0.5-0.6 kg/m<sup>2</sup>.

**N.B.:** *the examples above are for indication purposes only. The amount of sand added to **Primer SN** may vary according to the surrounding temperature. The amount required may be less at low temperatures and more at high temperatures.*

### CONSUMPTION

#### 1. Multi-layered non-slip coating - average thickness 1 mm (Mapefloor System 31)

1° coat:

<b>Primer SN</b> (A+B + <b>Mapecolor Paste</b> ):	0.7 kg/m <sup>2</sup>
<b>Quartz 0.5</b> :	0.14 kg/m <sup>2</sup>
Broadcast with <b>Quartz 0.5</b> :	3 kg/m <sup>2</sup>

Finishing coat:

<b>Mapefloor I 300 SL</b> (A+B + <b>Mapecolor Paste</b> ):	0.6 kg/m <sup>2</sup>
<b>Quartz 0.25</b> :	0.04 kg/m <sup>2</sup>

#### 2. Multi-layered non-slip coating - average thickness 3 mm (Mapefloor System 32)

1° coat:

<b>Primer SN</b> (A+B)	0.7 kg/m <sup>2</sup>
<b>Quartz 0.5</b> :	0.14 kg/m <sup>2</sup>
Broadcast with <b>Quartz 0.5</b>	3 kg/m <sup>2</sup>

2° coat:

<b>Mapefloor I 300 SL</b> (A+B + <b>Mapecolor Paste</b> ):	0.9 kg/m <sup>2</sup>
<b>Quartz 0.5</b> :	0.34 kg/m <sup>2</sup>
Broadcast with <b>Quartz 0.5</b>	3 kg/m <sup>2</sup>

Finishing coat:

<b>Mapefloor I 300 SL</b> (A+B + <b>Mapecolor Paste</b> + <b>Quartz 0.25</b> ):	0.6 kg/m <sup>2</sup>
<b>Quartz 0.25</b>	0.04 kg/m <sup>2</sup>

#### 3. Smooth self-levelling coating - average thickness 2 mm (Mapefloor System 33)

1° coat:

<b>Primer SN</b> (A+B)	0.7 kg/m <sup>2</sup>
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**Quartz 0.5:** 0.14 kg/m<sup>2</sup>  
Broadcast with **Quartz 0.5** 0.7-1 kg/m<sup>2</sup>

Finishing coat:

**Mapefloor I 300 SL**  
(A+B + **Mapecolor Paste**) 2 kg/m<sup>2</sup>  
**Quartz 0.25** 2 kg/m<sup>2</sup>

The consumption rates above are theoretically calculated using **Quartz 0.5** for the dry shake finish, and are influenced by the condition of the surface to be treated, absorbency, roughness, the actual conditions on site, etc.

**Cleaning tools**

Cleaning tools used to prepare and apply **Mapefloor I 300 SL** with ethanol or thinners immediately after use. Once hardened, the product may only be removed using mechanical means.

**PACKAGING**

8 kg kits (component A = 6 kg; component B = 2 kg) and 20 kg kits (component A = 15 kg; component B = 5 kg).

**STORAGE**

The product must be stored in its original packaging in a dry place at a temperature of between +5°C and +35°C. Maximum 24 months.

**SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION**

**Mapefloor I 300 SL** component A is irritant for the eyes and skin. Both component A and B may cause sensitization when in contact with the skin of those predisposed. **Mapefloor I 300 SL** component B is corrosive and may cause burns.

The product contains low molecular weight epoxy resins that may cause sensitization if cross-contamination occurs with other epoxy compounds. During use wear protective gloves and goggles and take the usual precautions for handling chemicals. In case of contact with the eyes or skin wash

immediately with plenty of clean water and seek medical attention. When the product reacts it generates considerable heat. After mixing components A and B we recommend applying the product as soon as possible and to never leave the container unguarded until it is completely empty.

Furthermore, **Mapefloor I 300 SL** component A and B are dangerous for aquatic life. Do not dispose of them in the environment.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

**WARNING**

*Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.*

Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)



**All relevant references for the product are available upon request and from [www.mapei.com](http://www.mapei.com)**



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