WHERE TO USE
Mapefloor I 300 SL is a two-component epoxy formulate with a high solids content used to form 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 food and beverages industries.
• Coating floors in laboratories, sterile rooms and hospitals.
• Coating floors in aseptic rooms.
• Coating floors in automated warehouses.
• Coating floors in shopping centres.
• Coating floors in the nuclear industry.

TECHNICAL CHARACTERISTICS
Mapefloor I 300 SL is a two-component, nonylphenol-free, fillerized epoxy resin-based formulate with a high solids content according to a formula developed in the MAPEI R&D Laboratories. It complies with standards applied in the food and beverages sectors - EN 1186, EN 13130 and prCEN/TS 14234 - as well as the Decree of Consumer Goods, which is the conversion of the European directives 89/109/EEC, 90/128/EEC and 2002/72/EC for contact with foodstuffs.

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

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

Mapefloor I 300 SL is strong, has good resistance to chemical products and abrasion and may be used in both self-levelling and multi-layered systems. Resistant to decontamination as per ISO 8690/1998 with contaminants $^{137}$Cs and $^{60}$Co.

Mapefloor I 300 SL is supplied in a neutral version to be coloured in the job-site with Mapecolor Paste or pretinted in various colours. For the full range of colours available please contact the Head Office.

RECOMMENDATIONS
• Do not apply Mapefloor I 300 SL on damp substrates or on substrates with capillary rising damp (contact MAPEI Technical Services Department).
• Do not dilute Mapefloor I 300 SL with solvent or water.
• Do not apply Mapefloor I 300 SL on dusty or crumbling substrates.
• Do not apply Mapefloor I 300 SL on substrates with oil or grease stains or stains in general.
• Do not apply Mapefloor I 300 SL on substrates which have not been treated with Primer SN or which 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.
• Do not add Mapecolor Paste if the product is supplied ready-coloured.
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 fossil fuels; the carbon dioxide and water vapour given off into the air will affect the shine of the finish and affect 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 coating, 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% (check by testing it with a sheet of polythene).

The temperature of the substrate must be at least 3°C above dew-point.

**APPLICATION PROCEDURE**

**Preparation of the substrate**

The surface of concrete must be dry, clean and sound and have no crumbling or detached areas. The min. compressive strength of concrete substrates must be 25 N/mm² and its tensile strength must be at least 1.5 N/mm². The substrate must also be strong enough for its final intended use and to withstand the types of loads acting on the floor.

The level of moisture in the substrate must be maximum 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 suitable mechanical equipment (e.g. shot-blasting or grinding with a diamond disk), to remove all traces of dirt, cement laitance and crumbling or detached portions and to make the surface slightly rough and absorbent. Before applying the product remove all dust from the surface with a vacuum cleaner.

Any cracks must be repaired by filling them with Eporip or plastered with Mapefloor Ja, while any damaged areas in the concrete must be repaired with Mapefloor EP19.

**Application of Primer SN**

Apply the Primer SN as it is or mixed with Quartz 0.5 on the substrate after it has been prepared as specified with a straight trowel. Immediately after applying the product, broadcast (lightly or fully) the surface of Primer SN while still wet (see points 1, 2 and 3), with Quartz 0.5 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, pour all the contents of component B into component A, add 8-9% by weight of Mapecolor Paste colouring paste and, if required, the amount of quartz sand needed. Mix again for at least 2 minutes with a suitable electric mixer at low-speed to prevent entraining air into the mix (300-400 revs/min), until it is completely blended.

If pre-coloured Mapefloor I 300 SL is available, Mapecolor Paste is not required. Pour the mix into a clean container and briefly mix again.

Do not mix the product for too long to avoid entraining too much air into the mix. Apply the mix within the pot life indicated in the data table (refers to a temperature of +23°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 to form non-slip coatings (from 0.8 to 3.5 mm thick) and self-levelling coatings (from 2 to 4 mm thick). The application procedures are as follows:

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.
   - Prepare the Primer SN (A+B), add around 3.5% by weight of Mapecolor Paste and around 20% by weight of Quartz 0.5, apply the mix over the entire surface with a straight trowel and blend in down to a feather edge. Immediately after applying the primer and while it is still wet, broadcast in excess the surface with Quartz 0.5. In certain cases, for example if a higher degree of non-slip finish is required, add quartz sand with larger particles. In such cases the consumption rate of the next finishing coat will be higher.
   - When the primer has hardened remove any excess sand, sand the surface and remove any remaining grains of sand with an industrial-grade vacuum cleaner. Add more Quartz 0.25 at a rate of around 5-6% by weight of the resin to the previously prepared Mapefloor I 300 SL and mix until completely blended. Apply the finishing coat with a straight steel or rubber trowel, blend in down to a feather edge and go over the surface with a short-piled roller in criss-cross strokes. Alternatively, apply the mix directly on the surface with a medium-piled roller using criss-cross strokes.

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
### TECHNICAL DATA (typical values)

#### PRODUCT IDENTITY

<table>
<thead>
<tr>
<th></th>
<th>component A</th>
<th>component B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>neutral/coloured straw yellow</td>
<td>straw yellow</td>
</tr>
<tr>
<td>Consistency</td>
<td>liquid</td>
<td>liquid</td>
</tr>
<tr>
<td>Density (g/cm³)</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Viscosity at +23°C (mPa·s):</td>
<td>4500 (# 4 - 20 rpm)</td>
<td>200 ÷ 300 (# 2 - 50 rpm)</td>
</tr>
</tbody>
</table>

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

- **Mixing ratio:**
  - comp. A neutral : comp. B = 3 : 1
  - comp. A pre-coloured : comp. B = 17 : 5
- **Colour of mix:** neutral/coloured
- **Consistency of mix:** fluid
- **Density of mix (kg/m³):** 1,340
- **Viscosity of mix at +23°C (mPa·s):** 800 ÷ 1,200 (# 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)
- **Recoat time at +23°C and 50% R.H.:**
  - on Primer SN broadcast with quartz sand: min. 12 hours, no maximum limit*
  - on Primer SN lightly broadcast with quartz sand: min. 18 hours, max. 24 hours
- **Hardening time at +23°C and 50% R.H.:**
  - dust dry: 2-4 hours
  - set to foot traffic: approx. 24 hours
  - complete hardening: approx. 7 days

*surfaces must be dry and clean with no dust

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/mm²) (EN 196-1):** 67 (product fillerized with 1:1 by weight of Quartz 0.25)
- **Flexural strength (N/mm²) (EN 196-1):** 28 (product fillerized with 1:1 by weight of Quartz 0.25)
- **Capillary absorption and water permeability (EN 1062-3) (kg/m²·h⁰·⁵):** 0.002
- **Fire reaction class (EN 13501-1):** Bfl - 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

<table>
<thead>
<tr>
<th>Main characteristics</th>
<th>Test method</th>
<th>Requirements according to EN 13813 for synthetic resin-based screeds</th>
<th>Performance of product</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA wear resistance:</td>
<td>EN 13892-4</td>
<td>≤ 100 µm</td>
<td>10 µm</td>
</tr>
<tr>
<td>Adhesion strength:</td>
<td>EN 13892-8; 2004</td>
<td>≥ 1.5 N/mm²</td>
<td>3.10 N/mm² (failure of concrete)</td>
</tr>
<tr>
<td>Impact strength:</td>
<td>EN ISO 6272</td>
<td>≥ 4 Nm</td>
<td>20 Nm</td>
</tr>
</tbody>
</table>
with a diamond disk), and remove all dust with a vacuum cleaner.

- Prepare the Primer SN (A+B), add around 20% by weight of Quartz 0.5, apply the mix over the entire surface with a straight trowel and blend in down to a feather edge. Immediately after applying the primer and while it is still wet, broadcast in excess with Quartz 0.5.

- When the primer has hardened remove any excess sand, sand the surface and remove any remaining particles of sand with an industrial-grade vacuum cleaner. Add more Quartz 0.5 at a rate of around 35-40% by weight of the resin to the previously prepared Mapefloor I 300 SL and mix until completely blended. Pour the product onto the floor and spread it out evenly with a straight steel trowel. Immediately after applying the resin and while it is still wet, broadcast in excess the surface with Quartz 0.5.

- For particular requirements, such as if a higher degree of non-slip finish is required, broadcast with a larger particle size may be used. In such cases the consumption rate of the next finishing coat will be higher.

- When the resin has hardened remove any excess sand, sand the surface and remove any remaining particles of sand with an industrial-grade vacuum cleaner. Add more Quartz 0.25 at a rate of around 5-6% by weight of the resin to the previously prepared Mapefloor I 300 SL and mix until completely blended. Apply the finishing coat with a straight steel or rubber trowel, blend in down to a feather edge and go over the surface with a short-piled roller using criss-cross strokes. Alternatively, apply the mix directly on the surface with a medium-piled roller using criss-cross strokes.

3. Smooth self-levelling coating - thickness 2-4 mm (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.

- Prepare Primer SN (A+B), add around 20% by weight of Quartz 0.5, apply the mix over the entire surface with a trowel and blend in down to a feather edge. Immediately after applying the primer and while it is still wet, lightly broadcast the surface with Quartz 0.5 at a rate of around 0.7-1.0 kg/m². Make sure there are no open pores in the surface of the substrate, otherwise air bubbles could escape and form small craters or pinholes in the self-levelling finishing coat. If there are any open pores in the substrate, apply a second skim coat of Primer SN as previously described and lightly broadcast the surface with Quartz 0.5.

- Once the primer has hardened, remove any loose sand and carefully vacuum the surface. Mix the previously prepared Mapefloor I 300 SL and add more Quartz 0.25 at a rate of up to 1:1 by weight for the neutral version and up to 1:0.5 by weight for the pre-coloured version, depending on the surrounding temperature and the thickness of the coat to be applied. The amount of additional sand required increases as the surrounding temperature and final thickness of the coating increases. Mix again to form a well-blended paste, pour the product onto the floor and spread it out evenly with a notched spreader with “V” shaped teeth. Go over the surface with a spike roller several times while the product is still wet to even out the thickness of the coat and to remove any air entrapped in the product.

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

CONSUMPTION

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

1° layer:

- Primer SN (A+B) + Mapecolor Paste*: 0.7 kg/m²
- Quartz 0.5: 0.14 kg/m²
- Broadcast in excess with Quartz 0.5: 3 kg/m²

Finish:

- Mapefloor I 300 SL
  - (A+B + Mapecolor Paste*): 0.6 kg/m²
  - Quartz 0.25: 0.04 kg/m²

* If pre-coloured Mapefloor I 300 SL is used, Mapecolor Paste is not required.

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

1° layer:

- Primer SN (A+B) 0.7 kg/m²
- Quartz 0.5: 0.14 kg/m²
- Broadcast in excess with Quartz 0.5 on wet primer: 3 kg/m²

2° layer:

- Mapefloor I 300 SL
  - (A+B + Mapecolor Paste*): 0.9 kg/m²
  - Quartz 0.5: 0.34 kg/m²
- Broadcast in excess of Quartz 0.5: 3 kg/m²

* If pre-coloured Mapefloor I 300 SL is used, Mapecolor Paste is not required.

Finish:

- Mapefloor I 300 SL
  - (A+B + Mapecolor Paste*): 0.6 kg/m²
  - Quartz 0.25: 0.04 kg/m²

* If pre-coloured Mapefloor I 300 SL is used, Mapecolor Paste is not required.
3. Smooth self-levelling coating - average thickness 2 mm (Mapefloor System 33)

1st layer:
- Primer SN (A+B): 0.7 kg/m²
- Quartz 0.5: 0.14 kg/m²
- Lightly broadcast with Quartz 0.5: 0.7-1 kg/m²

Self-levelling layer:
Neutral version to be coloured on site:
- Mapefloor I 300 SL (A+B + Mapecolor Paste): 2 kg/m²
- Quartz 0.25: 2 kg/m²
- resin: sand ratio 1:1 by weight

Pre-coloured version:
- Mapefloor I 300 SL (A pre-coloured + B)*: 2.4 kg/m²
- Quartz 0.25: 1.2 kg/m²
- resin: sand ratio 1:0.5 by weight

* If pre-coloured Mapefloor I 300 SL is used, Mapecolor Paste is not required.

The consumption rates mentioned above are theoretical values only and refer to the use of Quartz 0.5 to broadcast the surface and to the mixing ratios for Mapefloor I 300 SL and Quartz 0.25 as per the data table. These factors and, as a result, the relative consumption rates for the materials, are influenced by the actual conditions of the surfaces to be coated, such as absorbency and roughness, surrounding conditions, type of site, etc.

Cleaning tools
Clean 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
Neutral version to be coloured with Mapecolor Paste:
- 20 kg kit (component A = 15 kg; component B = 5 kg).

Pre-coloured version:
- 22 kg kit (component A = 17 kg; component B = 5 kg).

STORAGE
Store the product in its original packaging in a dry place at a temperature of +5°C to +35°C. Max. 24 months.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
Mapefloor I 300 SL component A irritates the skin and eyes. Components A and B may cause sensitisation to those predisposed if they come in contact with the skin. Mapefloor I 300 SL component B is corrosive and may cause burns. The product contains low molecular weight epoxy resins that may cause sensitisation if cross-contamination occurs with other epoxy compounds. When applying the product it is recommend to wear protective gloves and goggl...