



# Mapefloor<sup>TM</sup> 302 SL

NA

**Two-Component,  
Multipurpose, Epoxy Resin  
for Industrial Flooring**



## DESCRIPTION

*Mapefloor I 302 SL* is a two-component, epoxy resin for industrial flooring, suitable for both self-smoothing and textured coatings, as well as for multi-layering broadcast systems and seal coats for epoxy mortar screeds. *Mapefloor I 302 SL* offers excellent chemical and abrasion resistance in both wet and dry processing areas, which makes it particularly suitable for the food and beverage industry, shopping centers and industrial warehouses. *Mapefloor I 302 SL* creates surfaces that are flat and seamless, with a highly attractive finish.

## FEATURES AND BENEFITS

- Excellent chemical and mechanical resistance
- Used for both self-leveling and multi-layer applications
- Can provide smooth as well as non-slip surfaces
- Can be applied on walls
- Environmentally friendly, nonylphenol-free, suitable for the food and beverage industry
- Versatile; may be applied in various layers for seamless flat surfaces
- Highly attractive finish
- *Mapefloor I 302 SL* is a pre-tinted product that is available in 12 standard colors or in any number of colors upon request.
- For a surface with an orange-peel texture, MAPEI's *Additix PE* thixotropic agent can be added.

## INDUSTRY STANDARDS AND APPROVALS

- Complies with ACI 503.3, "Specification for Producing a Skid-Resistant Surface on Concrete by the Use of Epoxy and Aggregate" (using aggregates complying with the standard)

## WHERE TO USE

- For use in the chemical and pharmaceutical industries
- For use in the food and beverage industry
- For providing a durable surface coating in maintenance workshops, garages, loading ramps, storage warehouses, and assembly and industrial warehouses
- For use in shopping centers, laboratories and clean rooms
- Aircraft hangers
- Airports

## LIMITATIONS

- Do not apply *Mapefloor I 302 SL* on substrates that have not been treated with MAPEI's *Primer SN*<sup>TM</sup> or *Mapefloor I 900*, or that have not received adequate preparation.
- Do not dilute *Mapefloor I 302 SL* with solvents or water.
- Do not use *Mapefloor I 302 SL* for external applications if aesthetics are important, as the product will turn yellow.
- Do not apply *Mapefloor I 302 SL* on dusty or crumbly substrates.
- Do not apply *Mapefloor I 302 SL* on substrates polluted with oil, grease or dirt.

- Do not mix partial quantities of the components, in order to avoid mixing errors; otherwise, the product may not harden correctly.
- Do not expose the mixed product to sources of heat.
- Coatings made with *Mapefloor I 302 SL* may change color or fade if exposed to UV light, but this has no effect on the product's performance characteristics.
- The coating may also change color if it is exposed to aggressive chemicals. A change of color, however, does not mean that the chemicals have damaged the coating.
- If harsh substances come into contact with *Mapefloor I 302 SL*, remove them immediately.
- Use suitable specific cleaning equipment and detergent to clean the product, depending on the type of dirt or stain to be removed. For details, refer to the *Mapefloor* Flooring Systems: Maintenance Instructions installation guide.
- Protect the product from water, dampness and condensation for at least 24 hours after application.
- Do not apply *Mapefloor I 302 SL* on substrates with water vapor transmission values at higher than 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) per 24 hours.
- The temperature of the substrate must be at least 5 degrees F (2,8 degrees C) higher than the dew point.
- Do not apply in areas where the ambient relative humidity is greater than 85%.
- Use only between the ambient and substrate temperatures of 46°F and 95°F (8°C and 35°C).
- Do not apply on slopes greater than 2%. If necessary, use *Additix PE* to increase the viscosity.

## SUITABLE SUBSTRATES

- Properly prepared substrates such as concrete cementitious screeds, polymer-modified self-leveling screeds; they must be sound and dry, with a minimum compressive strength of greater than 3,600 psi (24,8 MPa) and a minimum pull-off strength of greater than 200 psi (1,38 MPa).
- Before application of a *Mapefloor I 302 SL* system, determine the substrate's moisture content as well as the relative humidity (RH) and dew point. Ensure that the temperature of the concrete is at least 5 degrees F (2,8 degrees C) above the measured dew point, and test concrete substrate using appropriate Calcium Chloride Testing methods (ASTM F1869) and moisture content testing methods in accordance with a RH moisture probe test (ASTM F2170).
- The level of moisture content in the substrate must be below the values indicated below, depending on the test method used.
  - 4% surface moisture by weight, per ASTM E1907
  - 75% RH per ASTM F2170

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

## SURFACE PREPARATION

- Surfaces to be treated must be flat, clean, sound and dry, and must not have capillary rising dampness.
- The surface of the floor must be prepared mechanically. Any cement laitance, dirt, crumbling, weak or detached portions present on the surface to be treated must be removed using suitable mechanical process (e.g., shotblasting or diamond grinding) to achieve a concrete surface profile of #2 to #4 according to the ICRI classification, and to make the surface slightly rough and absorbent.
- Any cracks must be repaired by filling them with *Planibond® EBA*, *Epojet™* or *Epojet LV*, while any deteriorated areas of the concrete like spalls, potholes and other voids must be repaired with an epoxy dry mortar such as from MAPEI's *PlanigROUT®* line.
- High spots must be removed by grinding to achieve a level surface.
- Before applying the selected base coat such as *Primer SN* or *Mapefloor I 302 SL*, all traces of dust must be removed from the surface with a vacuum cleaner, and substrates must receive adequate preparation.

## MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. To ensure that all solids are evenly dispersed, mix pre-pigmented Part A of *Mapefloor I 302 SL* mechanically for about 1 minute.
2. Pour Part B (hardener) into the tinted Part A. Mix thoroughly for at least 2 minutes using a low-speed drill (at 300 to 400 rpm) until a uniform, lump-free mix has been achieved.
3. Avoid overmixing to minimize air entrapment, using adequate mixing paddles with a low-speed drill mixer (at 300 to 400 rpm.)
4. Apply the mixed *Mapefloor I 302 SL* within the pot life indicated in the table below. Higher ambient and substrate temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.
5. Optionally, if an orange-peel texture is desired or if applying over covings or over slopes greater than 2%, add between 1.5% to 2% by weight (2.2% to 3% by volume) of the thickening agent *Additix PE* during the mixing process.

## PRODUCT APPLICATION

Read all *Mapefloor* System installation instructions thoroughly before installation.

#### Mapefloor System 31 – Non-slip, multi-layer finish

- First coat: Apply a priming coat of *Primer SN* at 7 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a criss-cross pattern) and broadcast with #32 mesh quartz sand at 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>), which will create a slip-resistant surface.
- Finishing coat: Apply a finishing coat of *Mapefloor I 302 SL* at 12 to 15 mils with a serrated trowel or squeegee and back-roll with a short-pile roller (in a criss-cross pattern).

#### Mapefloor System 32 – Non-slip, multi-layer finish

- First coat: Apply a priming coat of *Primer SN* at 7 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a criss-cross pattern) and broadcast with #32 mesh quartz sand at 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>), which will create a slip-resistant surface.
- Intermediate coat: Apply an intermediate coat of *Mapefloor I 302 SL* at 12 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a criss-cross pattern) and broadcast with #32 mesh quartz sand at 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>), which will create a slip-resistant surface.
- Finishing coat: Apply a finishing coat of *Mapefloor I 302 SL* at 12 to 15 mils with a serrated trowel or squeegee and back-roll with a short-pile roller (in a criss-cross pattern).

#### Mapefloor System 33 – Smooth, self-leveling finish

- First coat: Apply a priming coat of *Primer SN* at 7 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a criss-cross pattern) and broadcast with #32 mesh quartz sand at 0.1 to 0.2 lb. per sq. ft. (0,045 to 0,09 kg per 0,09 m<sup>2</sup>), which will create a slip-resistant surface.
- Finishing coat: Apply a finishing coat of *Mapefloor I 302 SL* at 80 to 160 mils with a blend of #70 mesh quartz sand at 23.2 to 46.4 lbs. per 100 sq. ft. (10,5 to 21,0 kg per 9,29 m<sup>2</sup>) by using a serrated trowel or screed rake. Roll immediately with a spike roller to remove trapped air.

#### Mapefloor System 34 – Smooth finishing coat

- First coat: Apply a priming coat of *Primer SN* at 7 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a criss-cross pattern).
- Finishing coat: Apply a finishing coat of *Mapefloor I 302 SL* at 8 to 12 mils with a serrated trowel or squeegee and back-roll with a short-pile roller (in a criss-cross pattern). Optionally, *Additix PE* can be added for a surface with an orange-peel texture.

## **EXPANSION AND CONTROL JOINTS**

- All expansion and control joints on the floor must be respected and properly sealed using a product from the *Mapeflex™* line.

## **CURING**

- Maintain surrounding conditions after application within the recommended ambient and substrate temperatures for at least 72 hours at 46°F (8°C) or 24 hours at 95°F (35°C).

## **CLEANUP AND MAINTENANCE**

- Clean all tools and equipment with a suitable solvent, such as xylene. Hardened or cured material must be mechanically removed.
- For details, refer to the *Mapefloor* Flooring Systems: Maintenance Instructions installation guide.

## **PROTECTION**

- Protect the application from dampness for at least 24 hours.

**Product Performance Properties** at 73°F (23°C) and 50% RH

Laboratory Tests	Results
Compressive strength – ASTM D695	
7 days	9,979 psi (68,8 MPa)
28 days	10,254 psi (70,7 MPa)
Tensile strength – ASTM D638	3,240 psi (22,3 MPa)
Bond strength – ASTM D4541	438 psi (3,02 MPa) (substrate failure)
Impact resistance – ASTM D2794	
Initial indentation	5.00 ft.-lbs. (6.78 J)
Initial cracking	10.33 ft.-lbs. (14.01 J)
Initial delamination	No delamination
Abrasion resistance – ASTM D4060	
CS17/1000 cycles, 2.2 lbs. (1 000 g)	-0.0032 U.S. oz. (-0.09 g)
Coefficient of friction – ASTM D1894-61T (depending on the system)	<u>Steel</u> Static: 0.31 Kinetic: 0.26 <u>Neelite rubber</u> Static: 0.37 Kinetic: 0.41
Flammability – ASTM D635	2.15 in./min. (54.5 mm/min.)
Water absorption – ASTM D570	0.17%
Elongation	7.4%
Thermal compatibility – ASTM 884	Passes
Indentation – ASTM MIL-PRF-24613	Initial indentation: 0.18% Residual indentation: 0.12%
Coefficient of linear thermal expansion – ASTM D696	2.88 x 10e-5 in/in/°F (5.18 x 10e-5 mm/mm/°C)
VOCs (Rule #1113 of California's SCAQMD)	10.9 g per L

**Shelf Life and Product Characteristics** (before mixing)

Shelf life and storage	2 years when stored in original, unopened packaging. Store at 41°F to 95°F (5°C to 35°C).	
Physical state	Part A: Liquid Part B: Liquid	
Color	Part A (pre-pigmented per the colors listed below) Part B: straw yellow	
	RAL 1001, Beige	RAL 3020, Traffic Red
	RAL 6028, Pine Green	RAL 7038, Agate Grey
	RAL 1018, Zinc Yellow	RAL 5007, Brilliant Blue
	RAL 7012, Basalt Grey	RAL 7030, Stone Grey
	RAL 3009, Oxide Red	RAL 5017, Traffic Blue
	RAL 7046, Telegrey	RAL 9003, Signal White
Specific gravity – ASTM D1475		
Part A	13.1 lbs./U.S. gal. (1,57 kg/L)	
Part B	8.68 lbs./U.S. gal. (1,04 kg/L)	
Mixture of Parts A and B	11.9 lbs./U.S. gal. (1,43 kg/L)	

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

## Application Properties

Mixing ratio for self-leveling and seal coats	4 : 1 by weight; 2.6 : 1 by volume		
Density at 23°C (73°F)	11.93 lbs. / U.S. gal. (1,41 kg / m <sup>3</sup> )		
Viscosity	1,750 cps		
Application temperature range	46°F and 95°F (8°C and 35°C)		
Service temperatures*			
Minimum**	23°F (-5°C)		
Maximum continuous exposure**	+122°F (50°C)		
Short-term exposure**	+176°F (80°C) (8 hours)		
Pot life for 8.8 oz. (250 g) (min.)	<u>50°F (10°C)</u>	73°F (23°C)	95°F (35°C)
(Gelation Timer BS 2782-8) Open time on substrate (min.)	60 minutes	30 minutes	13 minutes
Waiting time between coats (min./max.)	80 minutes	40 minutes	27 minutes
At 50% RH	<u>50°F (10°C)</u>	73°F (23°C)	95°F (35°C)
Drying time recorders (ASTM D5895)	15 hours (Stage III)	7 hours (Stage III)	3.5 hours (Stage III)
At 50% RH	<u>50°F (10°C)</u>	73°F (23°C)	95°F (35°C)
Foot traffic permitted	48 hours	24 hours	16 hours
Light traffic permitted	3 to 4 days	48 hours	24 hours
Normal traffic and chemical exposure permitted	10 days	7 days	5 days

\* Reported value is expressed in the absence of simultaneous chemical and/or mechanical aggression.

\*\* Reported values are expressed for Mapefloor System 32 and Mapefloor System 33.

## CSC Division Classifications

High-Performance Coatings	09 96 00
Flooring Treatment	09 61 00
Traffic Coatings	07 18 00

## Packaging

Size	
Mapefloor I 302 SL unit	2.64 U.S. gals. (10 L)
Part A (pre-tinted)	1.93 U.S. gals. (7,3 L)
Part B	0.71 U.S. gal. (2,7 L)

**Mapefloor<sup>®</sup>  
I 302 SL**



## Approximate Coverage\*

Thickness of layers	Coverage
<b>Mapefloor System 31</b>	
<ul style="list-style-type: none"> <li>• Primer SN = 7 to 15 mils</li> <li>• #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>)</li> <li>• <i>Mapefloor I 302 SL</i> = 12 to 15 mils</li> </ul>	110 sq. ft. to 135 sq. ft. per U.S. gal. (2,69 to 3,31 m <sup>2</sup> per L)
<b>Mapefloor System 32</b>	
<ul style="list-style-type: none"> <li>• Primer SN = 7 to 15 mils</li> <li>• #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>)</li> <li>• <i>Mapefloor I 302 SL</i> = 12 to 15 mils</li> <li>• #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0,29 kg per 0,09 m<sup>2</sup>)</li> <li>• <i>Mapefloor I 302 SL</i> = 12 to 15 mils</li> </ul>	110 sq. ft. to 135 sq. ft. per U.S. gal. (2,69 to 3,31 m <sup>2</sup> per L)
<b>Mapefloor System 33</b>	
<ul style="list-style-type: none"> <li>• Primer SN = 7 to 15 mils</li> <li>• #32 mesh quartz sand = 0.1 to 0.2 lb. per sq. ft. (0,045 to 0,09 kg per 0,09 m<sup>2</sup>)</li> <li>• <i>Mapefloor I 302 SL</i> = 80 to 160 mils – blended with #70 mesh quartz sand at 23.2 to 46.4 lbs. per 100 sq. ft. (10,5 to 21,0 kg per 9,29 m<sup>2</sup>)</li> </ul>	10 to 20 sq. ft. per U.S. gal. (0,245 to 0,49 m <sup>2</sup> per L)
<b>Mapefloor System 34</b>	
<ul style="list-style-type: none"> <li>• Primer SN = 7 to 15 mils</li> <li>• <i>Mapefloor I 302 SL</i> = 8 to 12 mils</li> </ul>	135 to 200 sq. ft. per U.S. gal. (3,31 to 4,9 m <sup>2</sup> per L)

\* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices. Values are for Mapefloor I 302 SL pre-pigmented versions only.

## RELATED DOCUMENTS

Installation Guide: "Mapefloor Flooring Systems:  
Maintenance Instructions"\*

\* At [www.mapei.com](http://www.mapei.com)

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact [sustainability\\_USA@mapei.com](mailto:sustainability_USA@mapei.com) (USA) or [sustainability\\_durabilite@mapei.com](mailto:sustainability_durabilite@mapei.com) (Canada).

### LEGAL NOTICE

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Before using, the user must determine the suitability of our products for the intended use,

and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

We proudly support the following industry organizations:



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### Customer Service

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### Services in Mexico

0-1-800-MX-MAPEI (0-1-800-696-2734)

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For the most current product data and **BEST-BACKED<sup>SM</sup>** warranty information, visit [www.mapei.com](http://www.mapei.com).

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