

Mapecfloor I 302 SL [NA]

Two-Component, Multipurpose, Epoxy Resin for Industrial Flooring



North America [NA]

DESCRIPTION

Mapecfloor™ I 302 SL [NA] is a two-component, epoxy resin for industrial flooring. It is suitable for both self-leveling and textured coatings, as well as for multilayered broadcast systems and seal coats for epoxy mortar screeds. *Mapecfloor I 302 SL [NA]* 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. *Mapecfloor I 302 SL [NA]* 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
- Environmentally friendly, nonylphenol-free, and suitable for the food and beverage industry
- Versatile; may be applied in various layers for seamless flat surfaces
- Highly attractive finish
- *Mapecfloor I 302 SL [NA]* is a pre-tinted product that is available in 12 standard colors.

WHERE TO USE

- The chemical and pharmaceutical industries, as well as clean rooms
- The food and beverage industry, as well as storage and assembly warehouses
- Aircraft hangars for the U.S. Air Force and space industry
- Plastics facilities and EV automotive industry

SUITABLE SUBSTRATES

- Properly prepared concrete substrates that are 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* [NA] 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 Fahrenheit (2.8 degrees Celsius) 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 an 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, or 75% RH per ASTM F2170). Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- All substrates must be structurally sound, stable, clean, and free of any bond-inhibiting or bond-breaking materials such as adhesives, tar, cure-and-seal compounds, curing compounds and mastics.
- *Mapefloor I 302 SL* [NA] must be applied on MAPEI's *Primer SN* [NA]. Please refer to the Technical Data Sheet (TDS) for *Primer SN* [NA] in order to properly prepare the surface by engineer-approved methods on the International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #3.
- Construction, expansion, control and isolation joints must be honored throughout the finished flooring system. To ensure product performance, repair all cracks greater than 1/32" (1 mm) in width and treat joints using engineer-approved ICRI methods.

MIXING

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

1. Premix the pre-pigmented Part A of *Mapefloor I 302 SL* [NA] to a homogeneous consistency (for up to 1 minute) using a low-speed drill (at 300 to 400 rpm) and appropriate paint-mixing paddle to minimize trapped air.
2. Pour all of the Part B hardener of *Mapefloor I 302 SL* [NA] into the Part A container and mix thoroughly to a smooth, homogenous consistency. Do not mix at high speeds, which can trap air within the mixed material.
3. During the mixing process, scrape down the sides and bottom of the container to completely mix all components.

PRODUCT APPLICATION

Mapefloor I 302 SL [NA] is a product that, in combination with *Primer SN* [NA] or *Primer SN Fast*, develops self-leveling and multi-layer broadcast epoxy systems.

Mapefloor System 31: Multi-layer epoxy system from 40 to 60 mils in thickness

- **First coat:** Pour mixed *Primer SN* [NA] onto the substrate in a continuous, pore-free coat. Spread the epoxy primer at 7 to 15 wet mils using a notched squeegee and back-roll crosswise, ensuring that the minimum required thickness is maintained. While *Primer SN* [NA] is still wet, follow immediately with a full sand broadcast (to rejection) with #32 mesh quartz sand, which will create a slip-resistant surface. After *Primer SN* [NA] has cured for at least 16 hours, vacuum up the excess sand. As the alternative primer, MAPEI's fast-setting *Primer SN Fast* can be used in accordance with its TDS. Consult MAPEI's CRS Technical Services Department for recommendations.
- **Finish coat:** Apply a finishing coat of *Mapefloor I 302 SL* [NA] at 12 to 15 wet mils with a notched metal trowel or notched squeegee and back-roll crosswise with a short-pile roller.

Mapefloor System 32: Multi-layer epoxy system from 120 to 140 mils in thickness

- **First coat:** Pour mixed *Primer SN* [NA] onto the substrate in a continuous, pore-free coat. Spread the epoxy primer at 7 to 15 wet mils using a notched squeegee and back-roll crosswise, ensuring that the minimum required thickness is maintained. While *Primer SN* [NA] is still wet, follow immediately with a full sand broadcast (to rejection) with #32 mesh quartz sand, which will create a slip-resistant surface. After *Primer SN* [NA] has cured for at least 16 hours, vacuum up the excess sand. As the alternative primer, MAPEI's fast-setting *Primer SN Fast* can be used in accordance with its TDS. Consult MAPEI's CRS Technical Services Department for recommendations.
- **Intermediate coat:** Apply an intermediate coat of *Mapefloor I 302 SL* [NA] at 12 to 15 wet mils with a notched metal trowel or notched squeegee and back-roll crosswise with a short-pile roller. While *Mapefloor I 302 SL* [NA] is still wet, follow immediately with a full sand broadcast (to rejection) with #32 mesh quartz sand, which will create a slip-resistant surface.
- **Finish coat:** Apply a finishing coat of *Mapefloor I 302 SL* [NA] at 12 to 15 wet mils with a notched metal trowel or notched squeegee and back-roll crosswise with a short-pile roller.

Mapefloor System 33: Self-leveling epoxy system from 80 to 140 mils in thickness

- **First coat:** Pour mixed *Primer SN* [NA] onto the substrate in a continuous, pore-free coat. Spread the epoxy primer at 7 to 15 wet mils using a notched squeegee and back-roll crosswise, ensuring that the minimum required thickness is maintained. While *Primer SN* [NA] is still wet, follow immediately with a full sand broadcast (to rejection) with #32 mesh quartz sand, which will create a slip-resistant surface. After *Primer SN* [NA] has cured for at least 16 hours, vacuum up the excess sand. As the alternative primer, MAPEI's fast-setting *Primer SN Fast* can be used in accordance with its TDS. Consult MAPEI's CRS Technical Services Department for recommendations.
- **Finish coat:** Apply a finishing coat of *Mapefloor I 302 SL* [NA] at 80 to 160 wet mils with a notched metal trowel or notched squeegee depending on thickness desired and roll immediately with a spike roller to remove trapped air. Pre-mixed *Mapefloor I 302 SL* [NA] can be mixed with quartz sand of #60 mesh size at a rate of 1:1 (1 part of quartz sand with 1 part of pre-mixed *Mapefloor I 302 SL* [NA]).

EXPANSION AND CONTROL JOINTS

- All existing construction/control/expansion joints (or saw-cuts) and moving cracks must be properly repaired by installing a flexible sealing compound for control/expansion joints or epoxy adhesive for monolithic sealing of cracks in slabs or other materials specifically designed for use in joints or cracks. *Mapefloor I 302 SL* [NA] must not be installed over any joints or cracks if they are not properly repaired or prepared; otherwise, the control joints or cracks will cause *Mapefloor I 302 SL* [NA] to show cracks or pattern reflective after *Mapefloor I 302 SL* [NA] has been installed. MAPEI cannot be responsible for problems that arise from existing cracks or new cracks that may develop after *Mapefloor I 302 SL* [NA] has been installed.

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

- Before *Mapefloor I 302 SL* [NA] cures to a hardened state, clean equipment using an appropriate solvent, such as xylene. Cured material can only be removed mechanically.

LIMITATIONS

- Do not apply *Mapefloor I 302 SL* [NA] on substrates that have not been treated with MAPEI's *Primer SN* [NA] or *Primer SN Fast*.
- Do not dilute *Mapefloor I 302 SL* [NA] with solvents or water.
- Do not use *Mapefloor I 302 SL* [NA] for exterior applications.
- Do not apply *Mapefloor I 302 SL* [NA] on dusty or crumbly substrates.
- Do not apply *Mapefloor I 302 SL* [NA] on substrates polluted with oil, grease or dirt.
- Do not expose the mixed product to sources of heat.
- Ensure that *Mapefloor I 302 SL* [NA] is protected from water and condensation for at least 24 hours after application
- Protect the product from water, dampness and condensation for at least 24 hours after application.
- Do not apply *Mapefloor I 302 SL* [NA] on substrates with water vapor transmission values at higher than 5 lbs. per 1,000 sq. ft. (2.27 kg per 92.9 m²) per 24 hours.
- The temperature of the substrate must be at least 5 degrees Fahrenheit (2.8 degrees Celsius) 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).

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>Neolite rubber</u> Static: 0.37 Kinetic: 0.41
Flammability – ASTM D635	2.15 in. per min. (54.5 mm per 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	2.88×10^{-5} in/in/°F (5.18×10^{-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. per U.S. gal. (1.57 kg per L)	
Part B		8.68 lbs. per U.S. gal. (1.04 kg per L)	
Mixture of Parts A and B		11.9 lbs. per U.S. gal. (1.43 kg per 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. per U.S. gal. (1.41 kg per m3)	
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.) (Gelation Timer BS 2782-8)		<u>50°F (10°C)</u> 60 minutes	<u>73°F (23°C)</u> 30 minutes
Open time on substrate (min.)		80 minutes	27 minutes

Waiting time between coats (min./max.)	35 to 75 hours	18 to 48 hours	10 to 24 hours
At 50% RH	<u>50°F (10°C).</u>	<u>73°F (23°C).</u>	<u>95°F (35°C).</u>
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>	<u>73°F (23°C).</u>	<u>95°F (35°C).</u>
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 Mapecolor System 32 and Mapecolor System 33.

CSC Division Classifications

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

Packaging

Mapecolor I 302 SL [NA] kit: 2.64 U.S. gals. (10 L)

Part A (pre-tinted): 1.93 U.S. gals. (7.31 L)

Part B: 0.71 U.S. gal. (2.69 L)

Approximate Coverage***

Thickness of layers	Coverage
Mapefloor System 31	
<ul style="list-style-type: none"> • <i>Primer SN</i> [NA] = 7 to 15 mils • #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0.29 kg per 0.09 m²) • <i>Mapefloor I 302 SL</i> [NA] = 12 to 15 mils 	110 sq. ft. to 135 sq. ft. per U.S. gal. (2.69 to 3.31 m ² per L)
Mapefloor System 32	
<ul style="list-style-type: none"> • <i>Primer SN</i> [NA] = 7 to 15 mils • #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0.29 kg per 0.09 m²) • <i>Mapefloor I 302 SL</i> [NA] = 12 to 15 mils • #32 mesh quartz sand = 0.614 lbs. per sq. ft. (0.29 kg per 0.09 m²) • <i>Mapefloor I 302 SL</i> [NA] = 12 to 15 mils 	110 sq. ft. to 135 sq. ft. per U.S. gal. (2.69 to 3.31 m ² per L)
Mapefloor System 33	
<ul style="list-style-type: none"> • <i>Primer SN</i> [NA] = 7 to 15 mils • #32 mesh quartz sand = 0.1 to 0.2 lb. per sq. ft. (0.045 to 0.09 kg per 0.09 m²) • <i>Mapefloor I 302 SL</i> [NA] = 80 to 160 mils – blended with #60 mesh quartz sand at 23.2 to 46.4 lbs. per 100 sq. ft. (10.5 to 21.0 kg per 9.29 m²) 	10 to 20 sq. ft. per U.S. gal. (0.245 to 0.49 m ² per L)

*** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

ADDITIONAL INFORMATION

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 (USA) or sustainability-durabilite@mapei.com (Canada).

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

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.**

CONTACT INFORMATION

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Canada:

1-800-361-9309

Customer Service

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For the most current product data and BEST-BACKEDSM warranty information,
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