

Mapecoat EPN 24 [NA]

Two-Component, Chemical-Resistant, Epoxy-Novolac Coating



NORTH AMERICA [NA]

FOR PROFESSIONAL USE ONLY

DESCRIPTION

Mapecoat™ EPN 24 [NA] is a two-component, high-solids, epoxy-novolac coating for surfacing and containment lining. It creates an impermeable barrier that can withstand exposure to a wide range of harsh chemicals – including acids, solvents, and caustic substances – with stain-resistance for easy maintenance.

FEATURES AND BENEFITS

- Excellent chemical resistance
- Withstands higher temperatures than traditional epoxy resin systems
- Good abrasion resistance when incorporating silica sand
- Excellent adhesion properties for a long-lasting and reliable flooring system that won't delaminate or peel over time
- Long-term corrosion resistance
- Easy maintenance

WHERE TO USE

- Chemical and pharmaceutical industries

- Food and beverage industry
- Maintenance workshops, garages and loading ramps, storage and assembly, and mechanized warehouses
- Containment tanks*, machine bases, plant floors and walls exposed to severe chemicals (including sulphuric acid)

**Note: when using Mapecoat EPN 24 [NA] for containment lining, consult MAPEI's Technical Services Department for installation recommendations regarding use on vertical surfaces.*

LIMITATIONS

- Do not apply *Mapecoat EPN 24 [NA]* on substrates that have not received adequate surface preparation.
- Do not dilute *Mapecoat EPN 24 [NA]* with solvents or water.
- Do not apply *Mapecoat EPN 24 [NA]* on dusty or weak substrates.
- Do not apply *Mapecoat EPN 24 [NA]* on substrates with oil, grease, or dirt.
- Do not apply while ambient and substrate temperatures are rising, as pinholes may occur.
- Not recommended for areas subject to frequent thermal cycles.
- Do not mix partial quantities of the components; otherwise, the product may not perform to specification.
- Do not expose the mixed product to sources of heat.
- The coating may change color if exposed to aggressive chemicals. A change of color, however, does not mean that the chemicals have damaged the coating.
- If corrosive substances come into contact with *Mapecoat EPN 24 [NA]*, remove them immediately.
- Use only between the ambient and substrate temperatures of 15°C and 30°C (59°F and 86°F).
- Do not use on exterior, on-grade surfaces.
- Ensure that *Mapecoat EPN 24 [NA]* is protected from water and condensation for at least 24 hours after application.
- Ensure that the temperature of the concrete substrate is at least 5 degrees Fahrenheit (2.8 degrees Celsius) above the dew point during the application and curing of *Mapecoat EPN 24 [NA]*.
- Test the concrete substrate using appropriate methods for testing calcium chloride (ASTM F1869) and methods for testing surface moisture content (ASTM F2170). *Mapecoat EPN 24 [NA]* can be applied when an effective moisture vapor retarder exists under the concrete (for slabs on or below grade), and at MVER values at no more than 5 lbs. per 1,000 sq. ft. (2.27 kg per 92.9 m²) and relative humidity values at no more than 85% with records confirming that the moisture is still dissipating (that is, moisture levels are dropping).
- Do not apply in areas where the ambient relative humidity is greater than 85%.

SUITABLE SUBSTRATES

- Properly prepared substrates such as concrete, cementitious screeds and polymer-modified self-leveling screeds must be sound and dry, with a minimum compressive strength of 3,600 psi (24.8 MPa) and a minimum pull-off strength of 200 psi (1.38 MPa).
- Before application of a *Mapecoat EPN 24 [NA]*, determine the substrate's moisture content as well as the relative humidity (RH) and dew point. 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, 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 a suitable mechanical process (e.g.: shotblasting or diamond grinding) to achieve a concrete surface profile (CSP) of #3 to #4 according to the International Concrete Repair Institute (ICRI) classification, and to make the surface slightly rough and absorbent.
- Fill in static cracks with *Mapefloor™ Patch*; dynamic cracks should be honored through the coating system unless otherwise directed by the engineer of record.
- High spots must be removed by grinding to achieve a level surface.

MIXING

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

1. To ensure that all solids are evenly dispersed, mix Part A of *Mapecoat EPN 24 [NA]* mechanically for about one minute.
2. Add all of the Part B hardener. 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 an adequate mixing paddle with a low-speed drill mixer (at 300 to 400 rpm).
4. During the mixing process, scrape down the sides and bottom of the container to completely mix both components.
5. Apply the mixed *Mapecoat EPN 24 [NA]* 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, as well as increase the viscosity and affect coverage.

PRODUCT APPLICATION

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

Before application, confirm the substrate's moisture content, relative humidity, and temperature in relation to dew point. See the "Limitations" section for details.

MULTI-COAT SYSTEM

1. First coat: Apply a priming coat of *Primer SN™ [NA]* or *Mapefloor I 900 [NA]* at 9 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a crisscross pattern) at a uniform coverage without ponding.
2. Intermediate coat (Optional): Apply a priming coat of *Mapecoat EPN 24 [NA]* at 12 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a crisscross pattern) and broadcast (optional) with silica sand #32 mesh to rejection at 0.614 lbs. per sq. ft. (0.29 kg per 0.09 m²), which will create a slip-resistant surface.
3. Finishing coat: Apply a finishing coat of *Mapecoat EPN 24 [NA]* at 9 to 12 mils with a serrated trowel or squeegee and back-roll with a short-pile roller (in a crisscross pattern) at a uniform coverage without ponding.

HIGH BUILD SYSTEM

1. First coat: Apply a priming coat of *Primer SN* [NA] or *Mapecfloor I 900* [NA] at 9 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a crisscross pattern) at a uniform coverage without ponding.
2. Finishing coat: Mix 8 to 10 lbs. (3.63 to 4.54 kg) of #70 mesh quartz sand into the combined mix of *Mapecoat EPN 24* [NA]. Apply *Mapecoat EPN 24* [NA] at 30 to 35 mils with a serrated trowel or notched squeegee and back-roll with a spiked roller (in a crisscross pattern) at a uniform coverage without ponding.

FIBERGLASS REINFORCED SYSTEM

1. First coat: Apply a priming coat of *Primer SN* [NA] or *Mapecfloor I 900* [NA] at 9 to 15 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a crisscross pattern) at a uniform coverage without ponding.
2. Intermediate/Saturant coat: Apply a saturant coat of *Mapecoat EPN 24* [NA] at 20 to 25 mils with a serrated trowel or squeegee. Back-roll with a short-pile roller (in a crisscross pattern). Ensure that the saturant coat is applied evenly with no ponding.
 - a. Fiberglass mesh – immediately after the application of the saturant coat, apply the fiberglass mesh into the wet coating. Press the mesh down into the coating to ensure maximum impregnation. Overlap edges of the mesh by 1/4" (6 mm). Roll the fiberglass mesh with a ribbed roller to release any built-up air. Apply additional *Mapecoat EPN 24* [NA] (using the dip and roll method) to confirm that the fiberglass mesh is completely embedded and covered with *Mapecoat EPN 24* [NA].
3. Finishing coat: Apply a finishing coat of *Mapecoat EPN 24* [NA] at 12 to 15 mils with a serrated trowel or squeegee and back-roll with a short-pile roller (in a crisscross pattern) at a uniform coverage without ponding.**

** Note: The grid pattern of the fiberglass mesh may be slightly visible once the complete system has cured. This is to be expected and is acceptable; it does not affect the integrity or the performance of the system.

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 *Mapecfloor* Resin Flooring: Maintenance Instructions found on www.mapei.ca.

CURING

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

Product Performance Properties

ASTM	Laboratory Tests	Results
D695	Compressive strength	6,073 psi (41.9 MPa)
D638	Tensile Strength***	4,395 psi (30.3 MPa)
C884	Thermal Compatibility with Concrete (from -23°C to 23°C [-9.4°F to 73.5°F])	Pass – No Cracking or Delamination

D638	Elongation***		8.3%
D7234	Pull-off Strength***		635 psi (4.38 MPa) substrate failure
D2240	Surface hardness		24 hrs: 75 3 days: 79 7 days: 80 28 days: 81
D4060	Abrasion resistance***	CS17/1000 cycles 2.2 lbs. (1 kg)	0.00166 U.S. oz. (47 mg)
D3029	Impact Resistance		D2794 Indentation: 10 in.-lbs. (1.1 J) Crack: 100 in.-lbs. (11.3 J)
D1894	Coefficient of friction***		Steel – Static: 0.60; Kinetic: 0.57 Neolite Rubber – Static: 0.43; Kinetic: 0.28
E96	Water Permeance	(Water method)	0.35 perm 30 mils film
	VOC Content		33 g/L
D570	Water absorption***		24 hours: 0.26% 7 days: 0.79% 2 hours, boiling water: 0.75%
Application data	Pot Life 8.8 U.S. oz. (250 g)	13°C (55°F)	87 minutes
		23°C (73°F)	32 minutes
		35°C (95°F)	28 minutes
	Waiting times between coats	13°C (55°F)	11 hours
		23°C (73°F)	5 hours
		35°C (95°F)	2.5 hours
	Curing Time Open to foot traffic	13°C (55°F)	21 hours
		23°C (73°F)	8 hours
		35°C (95°F)	4 hours
	Curing Time Lightly serviceable	13°C (55°F)	48 hours
		23°C (73°F)	24 hours
		35°C (95°F)	12 hours
	Curing Time Fully serviceable	13°C (55°F)	10 days
		23°C (73°F)	7 days
		35°C (95°F)	3 days

*** 7-day cure and conditioning @ 23°C ± 2°C (73.5°F ± 3.5°F) and 50% ± 5% relative humidity

Shelf Life and Product Characteristics

(before mixing)

Shelf life and storage	2 years when stored in original, unopened packaging. Store at 5°C to 35°C (41°F to 95°F). Condition product between 18°C to 30°C (65°F to 86°F) before use.
Physical state	Part A: Liquid Part B: Liquid
Color	Part A (pre-tinted per the colors listed below) RAL 7038 - Agate Grey, RAL 7046 - Telegrey, RAL 7030 - Stone Grey Part B: straw yellow

Packaging

Size	
Mapecoat EPN 24 [NA]	1.69 U.S. gals (6.41 L)
Part A (pre-tinted):	1.07 U.S. gals (4.05 L)
Part B:	0.62 U.S. gals (2.36 L)

Approximate Coverage

for substrate with CSP #3†

Wet Film Thickness (WFT)	Coverage
9 mils	178 sq. ft. per U.S. gal. (4.36 m ² per L)
12 mils	133 sq. ft. per U.S. gal. (3.26 m ² per L)
15 mils	107 sq. ft. per U.S. gal. (2.62 m ² per L)

† Coverage shown is for estimating purposes only. Actual jobsite coverage may vary depending on the desired build as well as the profile and porosity of the substrate.

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (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-durabilite@mapei.com.

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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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Concrete and heavy construction: 1-888-365-0614

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Customer Service

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For the most current product data and BEST-BACKEDSM warranty information, visit www.mapei.com.

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