



**MAPEFLOOR I 900  
Epoxy Resin for Industrial Flooring**

**SECTION 09 96 00  
High-Performance Coatings**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Products for concrete protection and sealing.

**1.2 RELATED SECTIONS**

- A. Section 03 30 00 – Cast-in-Place concrete
- B. Section 03 40 00 – Pre-cast concrete

**1.3 REFERENCES**

- A. ASTM International :
  - 1. ASTM D4060 – Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.

**1.4 SUBMITTALS**

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Submit manufacturer's data sheets and safety data sheets (SDS) on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Samples: Submit samples of specified traffic deck system. Samples shall be construed as examples of finished color and texture of the system only.
- D. Warranty: Submit copy of manufacturer's standard warranty.

**1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Mapefloor I 900, as supplied by MAPEI, is approved for use in this project.
- B. Applicator Qualifications: Applicator shall be approved to install the specific system.
- C. Field Sample:
  - 1. Install a sizeable field sample at the discretion of the engineer of record (EOR).
  - 2. Apply material in accordance with manufacturer's written application instructions.
  - 3. Field sample will be standard for judging color and texture on remainder of project.
  - 4. Maintain field sample during construction for workmanship comparison.
  - 5. Do not alter, move or destroy field sample until work is completed and approved by owner's representative.
- D. Requirement of regulatory agencies: Comply with applicable codes, regulations, ordinances and laws regarding use and application of coating systems.



## 1.6 PRE-INSTALLATION MEETINGS

- A. Convene at least two weeks prior to starting work of this section.

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name, type of material and legible lot number.
- B. Storage and Handling: Recommended material storage temperature is 73°F (23°C). Handle products to prevent damage to container. All materials shall be stored in compliance with fire and safety requirements. Do not store at high temperatures or in direct sunlight.

## 1.8 PROJECT CONDITIONS

- A. Prior to starting work, read and follow the Safety Data Sheet (SDS) and container labels for detailed health and safety information.
- B. Do not proceed with application of material when surface temperature is less than 40°F (4°C), if precipitation is imminent, or when a surface is damp, unclean or frosty. Ambient temperature should be a minimum 40°F (4°C) and rising, and more than 5 degrees Fahrenheit (2.8 degrees Celsius) above dew point. Special precautions are to be taken when ambient and/or surface temperature are approaching, at or above 100°F (38°C), and it may be necessary to limit material application to evening hours for exterior exposed decks.
- C. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the vehicular traffic coatings to cure adequately.
- D. Protect plants, vegetation or other surfaces that are not to be coated against damage or soiling.
- E. Keep products away from sparks and flames. Do not allow the uses of spark-producing equipment during application and until all vapors have dissipated. Post "No Smoking" signs.
- F. Maintain work area in a neat and orderly condition, removing empty containers, rags and rubbish daily from the site.

## 1.9 WARRANTY

- A. Upon request, MAPEI shall offer a manufacturer's standard warranty for institutional, commercial, industrial and high-rise/multi-family residential projects only. A properly submitted warranty request form shall be submitted prior to start of project.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Product Performance:

Viscosity (A+B) – ASTM D1475	830 cps
Compressive strength – ASTM D695	
7 days	11,211 psi (77.3 MPa)
28 days	11,429 psi (78.8 MPa)
Tensile strength – ASTM D638	5,180 psi (35.7 MPa)



Elongation – ASTM D638

2.7%

Acceptable Manufacturer:

MAPEI North America

1144 E. Newport Center Dr.; Deerfield Beach, FL 33442

Toll-Free for CRS Technical Services: Tel. 888-365-0614

Email: [CRS@mapei.com](mailto:CRS@mapei.com)

Web: [www.mapei.com](http://www.mapei.com)

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

C. Substitutions: Not permitted.

## 2.2 HIGH-PERFORMANCE COATINGS

A. Two-component, low-viscosity, epoxy resin that is used as a primer for resinous flooring systems and as a binder to blend and adhere large aggregates for the Ultratop Terrazzo System.

1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Mapefloor I 900.

2. Viscosity – 830 cps when tested according to ASTM D1475.

## 2.3 ACCESSORIES

A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, etc., shall be compatible with the specified traffic coat system.

## 2.4 MIXING

A. Comply with manufacturer's instructions for mixing procedures.

# PART 3 EXECUTION

## 3.1 EXAMINATION

A. Properly prepared substrates such as concrete, cementitious screeds, polymer-modified self-leveling screeds. These must be sound and dry, with a minimum compressive strength of at least 3,600 psi (24.8 MPa) and a minimum pull-off strength of at least 200 psi (1.38 MPa).

B. Before application of Mapefloor I 900, determine the substrate's moisture content as well as the RH and dew point.

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

## 3.2 PREPARATION

A. Surfaces to be treated must be flat, clean, sound, solid and dry, and must not exceed stated moisture levels.

B. 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 an



International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #2 to #4, and to make the surface slightly rough and absorbent.

- C. Fill in static cracks with Epojet or Epojet LV. Dynamic cracks should be honored through the coating system unless otherwise directed by the engineer of record.
- D. High spots must be removed by grinding to achieve a level surface.
- E. Before applying the selected basecoat such as Mapefloor I 900, all traces of dust must be eliminated from the surface with a vacuum cleaner equipped with a brush attachment and substrates must receive adequate preparation.

### 3.3 MIXING

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

- A. To ensure that all solids are evenly dispersed, mix Part A of Mapefloor I 900 for 1 minute.
- B. Pour Part B (hardener) into Part A. Mix thoroughly for at least 2 minutes using a low-speed drill (300 to 400 rpm) until material is uniform in color and consistency.
- C. Avoid overmixing to minimized air entrapment.
- D. Apply the mixed Mapefloor I 900 within the pot life indicated in the "Application Properties" chart on the Technical Data Sheet (TDS).

### 3.4 APPLICATION

For Mapefloor Systems: Read all Mapefloor Systems installation instructions thoroughly before installation.

- A. Before application, confirm the substrate's moisture content, RH and temperature in relation to the dew point.
- B. Pour mixed material Mapefloor I 900 onto the substrate in a continuous pore-free coat. If necessary, for particularly porous surfaces, two priming coats may be applied to smooth out rough surfaces. Mapefloor I 900 may be mixed with silica quartz sand of #32 mesh with up to a 1 to 0.5 ratio in weight, depending of the roughness of the substrate.
- C. Spread Mapefloor I 900 using a brush, roller or squeegee. The preferred application method is using a squeegee and back-roll crosswise, ensuring that the minimum required thickness is maintained.
- D. Apply the entire contents of the mixed unit, working it aggressively into the concrete substrate to cover the substrate entirely with a wet film thickness (WFT) of 9 to 15 mils.
- E. Apply a full sand broadcast into Mapefloor I 900 to increase mechanical bond of future topcoat materials.

For Ultratop Terrazo Systems: Read the Ultratop Terrazzo Systems guide specification thoroughly before application.

- A. Before application of Mapefloor I 900, the surface must be prepared with MAPEI's Primer SN full sand broadcast (to rejection) with #16 to #30 mesh sand. For details, refer to the Technical Data Sheet for Ultratop.
- B. Mix Mapefloor I 900 with dry aggregates using a proper horizontal mortar mixer. Mixing ratio by weight: 1 part of premixed Mapefloor I 900 to 20 parts of dry aggregates 3/8" to 3/4" (10 mm to 19 mm) in size.



- C. Spread and set the epoxy-wet aggregates onto the properly primed surface using a gauge rake following architectural patterns and preset metal stripes to achieve the designed texture of the surface. Before pouring the epoxy-wet aggregates, apply a coat of Mapefloor I 900 using a roller or squeegee at a thickness of 4 wet mils.
- D. After epoxy-wet aggregates are spread, wait for at least 12 hours before pouring the Ultratop. Refer to the Ultratop Terrazzo System specification guide for details.

### 3.5 CURING

- A. Mapefloor Systems: Protect the applied Mapefloor I 900 for 1.5 to 2 hours of curing and until covered by a subsequent polyurethane or epoxy resin coating system.

END OF SECTION