



MAPESHIELD™ CI 100
Surface-Applied Corrosion Inhibitor

SECTION 03 01 30
REHABILITATION OF CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Corrosion Inhibiting.

1.2 RELATED SECTIONS

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

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Submit manufacturer's data sheets and safety data sheets (SDSs) 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.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar products.
- B. Applicator Qualifications: Minimum 2 years' experience installing similar products.
- C. Field Sample:
 - 1. Install a sizeable field sample at the discretion of the Engineer of Record.
 - 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.

1.5 PRE-INSTALLATION MEETINGS

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

1.6 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 75°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.

1.7 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 the surface temperature is less than 40°F (4°C), if precipitation is imminent, or when the 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 and other surfaces not to be coated against damage or soiling.
- E. Keep products away from spark or flame. Do not allow the use of a 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.

1.8 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 MANUFACTURERS

- A. Product Performance:

| | |
|---|---|
| Density | 8.5 to 8.65 lbs. per U.S. gal. (1.02 to 1.04 kg per L) |
| pH | 10 to 11 |
| Penetration depth – ASTM G109 | > 3" (7.5 cm) in 28 days |
| Cracked concrete beam test – ASTM G109 | Reduction in rate of corrosion by > 65% versus a control specimen after 1 year |
| VOCs | 0 per L |
| Appearance | Clear liquid |
- B. 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

Web: www.mapei.com

- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
- D. Substitutions: Not permitted.

2.2 CORROSION-INHIBITING MATERIALS

- A. A surface-applied corrosion inhibitor designed to penetrate concrete structures and protect embedded steel reinforcement.
 - 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Mapeshield CI 100.
 - 2. Meets or exceed performance when tested according to ASTM G109.

2.3 MIXING

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

PART 3 EXECUTION

3.1 EXAMINATION

- A. Properly prepared concrete at least 28 days old, stable, sound and dry.

3.2 PREPARATION

- A. Concrete surface must be free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax and any other contaminants before application.
- B. Allow the concrete surface to dry before application of Mapeshield CI 100.

3.3 MIXING

- A. Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details. Mapeshield CI 100 is ready to use. Shake and use directly from the container.
- B. Do not dilute.

3.4 APPLICATION

Read all installation instructions thoroughly before installation.

- A. Apply Mapeshield CI 100 to the concrete surface with a low-pressure, airless sprayer or by brushing or rolling onto the surface.
- B. Apply a minimum of two coats of Mapeshield CI 100 for maximum effectiveness. Allow at least 1 hour between coats.
- C. Allow at least 1 day for Mapeshield CI 100 to dry at 70°F (21°C) and penetrate the surface before permitting foot traffic.
- D. Pressure-wash horizontal surfaces at a minimum of 2,000 psi to remove any Mapeshield CI 100 residue, before application of concrete overlays, coating or sealers. Rinse or pressure-wash vertical/overhead surfaces.



- E. Ambient and surface temperatures as well as absorbency of the substrate will affect drying times.

END OF SECTION