



PLANIBOND 3C
Three-Component, Cementitious Corrosion-Inhibitor and Bonding Agent

SECTION 03 01 00
MAINTENANCE OF CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Corrosion Inhibiting

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 6" (150 mm) square representing actual product, color and patterns.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years' experience installing similar products.
- C. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

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 and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.



1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Product Performance:

Slant/shear bond strength – ASTM C882	
14 days (moist cure / wet-on-wet / 16-hour open time)	1,812 psi (12.5 MPa)
14 days (moist cure / 24-hour open time)	1,580 psi (10.9 MPa)

Slant/shear bond strength – ASTM C882	
2 days (moist cure), Type 2	1,044 psi (7.2 MPa)
14 days (moist cure) Type 2	1,812 psi (12.5 MPa)

Resistance to de-icing salts Good

Permeability to chlorides Good

- 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. Three-component, cementitious, moisture-tolerant, water-based, epoxy-modified corrosion inhibitor and bonding agent. Specially formulated for application on clean reinforcing steel to inhibit oxidation and rust formation.
 - 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planibond 3C.
 - 2. Meets or exceeds performance when tested at ASTM C882 standards.

2.3 MISCELLANEOUS MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I, II or III unless otherwise indicated.
Water: Potable.



2.4 MIXES

- A. General: Mix products in clean containers according to manufacturer's written instructions.
 - 1. Do not add water, thinners or additives unless recommended by manufacturer.
 - 2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovels or trowels as units of measure.
 - 3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Properly prepared concrete at least 28 days old, stable, sound and dry.
- B. Clean reinforcing steel with a near-white metal finish.

3.2 PREPARATION

- A. Thoroughly clean the concrete or masonry surface to remove substances that could affect the bond strength of Planibond 3C, including but not limited to dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose and deleterious materials, foreign substance and adhesive residue.
- B. Mechanically profile and prepare concrete surfaces by engineer-approved methods to obtain an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) standards #7 to #9 for acceptable profile height. Remove all dust, debris and other contaminants before application.
- C. Clean exposed steel by removing all loose scaling and surface rust to a near-white metal finish. Clean metal by abrasive blasting or other engineer-approved mechanical methods, and then coat with Planibond 3C. For section loss of 15% to 25%, add additional reinforcing steel as directed by an engineer.
- D. Ensure that concrete or masonry substrate and ambient room temperatures are between 45°F and 95°F (7°C and 35°C) before application. Temperatures must be maintained within this range until the repair material has developed sufficient strength.
- E. Reference ICRI Technical Guideline #310.1R-2008, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion," for more information.

3.3 MIXING

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

- A. Shake the contents of Part A and Part B (liquids) vigorously. Pour both components into a clean mixing container.
- B. Mix the two liquids together with a drill (at 400 to 800 rpm) and a Jiffy-type paddle for 1 minute.



Slowly add Part C (powder), mix for another 2 minutes and blend to a uniform, lump-free consistency.

- C. The mixed material will be a slurry-consistency coating that can be brushed, push-broomed or sprayed on, having a pot life of 90 minutes at 73°C (23°C) and 50% relative humidity.

3.3 INSTALLATION

Read all installation instructions thoroughly before installation.

Application on reinforcing steel as an anti-corrosion coating

- A. Apply the mixed Planibond 3C by brush or sprayer using a two-coat method to ensure complete surface coverage.
- B. Apply in two coats of 10 mils each.
- C. Apply the second coat within 90 to 120 minutes after the first coat (at 73°F or 23°C, and at 50% relative humidity). Do not exceed 24 hours between coats.
- D. Place repair mortar from 2 to 3 hours after the second application of Planibond 3C.

Application as a bonding agent

- A. Ensure that the prepared concrete or masonry substrate is saturated surface-dry (SSD) and free of standing water before application.
- B. Apply the bond coat using a brush, push-broom, short-nap roller or spray equipment. Work Planibond 3C thoroughly into the substrate to fill the pore structure. Apply at 20 mils' thickness onto the prepared surface.
- C. Apply the repair mortar or concrete to the bond coat while is still wet and tacky.

3.4 PROTECTION

- A. For hot-weather applications, protect Planibond 3C from direct sunlight. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines.

END OF SECTION