



**PLANITOP 15**  
**Form-and-Pour, One-Component Repair Mortar**

**SECTION 03 01 30**  
**MAINTENANCE OF CAST-IN-PLACE CONCRETE**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Products for maintenance of concrete, including the following:
  - 1. Form-and-pour/pump concrete repair.
  - 2. Silica-fume-enhanced concrete repair.
  - 3. Corrosion-inhibiting.

**1.2 RELATED SECTIONS**

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

**1.3 REFERENCES**

- A. ASTM International:
  - 1. ASTM C150 – Standard Specification for Portland Cement.
  - 2. ASTM C1240 – Standard Specification for Silica Fume Used in Cementitious Mixtures.

**1.4 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.

**1.5 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. Refinish mock-up area as required to produce acceptable work.

#### 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 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.

#### 1.8 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.

#### 1.9 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:

Compressive strength – ASTM C109	1 day > 4,350 psi (30 MPa) 7 days > 8,600 psi (59.3 MPa) 28 days > 10,875 psi (75 MPa)
Flexural strength – ASTM C348	1 day > 725 psi (5 MPa) 7 days > 1,160 psi (8 MPa) 28 days > 1,450 psi (10 MPa)
Slant/shear bond strength – ASTM C882 (modified)	1 day > 1,850 psi (12.8 MPa) 28 days > 3,040 psi (20.0 MPa)
Volume change – ASTM C157 (modified)	28 days, dry-cured - 0.08% 28 days, wet-cured + 0.11%
Freeze/thaw resistance – ASTM C666-A 300 cycles	100% durability factor
Resistance to de-icing salts – ASTM C672	0 rating, no scaling (50 cycles)
Permeability to chlorides – ASTM C1202 (AASHTO T277)	Very low, 100 to 1,000 coulombs at 28 days

- 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](mailto:CRS@mapei.com)  
Web: [www.mapei.com](http://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 SILICA-FUME-ENHANCED CONCRETE REPAIR PRODUCTS

- A. Silica-Fume-Enhanced, Fluid Cementitious Repair Mortar: Packaged, dry mix for repair of concrete and that contains silica fume complying with ASTM C1240.
  - 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planitop 15.
  - 2. Compressive Strength: Not less than 6,000 psi (42 MPa) within 28 days when tested according to ASTM C109.

## 2.3 MISCELLANEOUS MATERIALS

- A. Portland Cement: ASTM C150, Type I, II or III unless otherwise indicated.
- B. 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.
- B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.
- C. Grout for Use with Preplaced Aggregate: Proportion according to ASTM C938.
- D. Concrete: Comply with Section 03 30 00 - Cast-in-Place Concrete

# PART 3 EXECUTION

## 3.1 EXAMINATION

- A. Properly prepared concrete at least 28 days old, stable, sound and dry.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

## 3.2 PREPARATION

- A. Concrete surface must be free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and dry foreign substances or any conditions that may affect product performance or proper bonding.
- B. Saw-cut the perimeter of the repair area into a square to a minimum depth of 3/8" (0.10



mm).

- C. Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R Guidelines.
- D. Ensure that the concrete surface is saturated surface-dry (SSD) before the installation of Planitop 15. Alternatively, the prepared concrete can be coated with Planibond 3C.
- E. Ensure that all exposed reinforcing steel is prepared in accordance with the most current ICRI 310.1 guideline and coated with either Planibond 3C or Mapefer 1K.
- F. Pretreat formwork with a form-release agent.

### 3.3 MIXING

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

- A. Planitop 15 requires 1 U.S. gal. (3.79 L) of water per 55-lb. (24.9-kg) bag.
- B. Into a clean mixing container, pour 3/4 of the water.
- C. Slowly add Planitop 15 powder to the water while mixing, using a low-speed drill and an appropriate mixer. Mix for 1 to 2 minutes. While mixing, add the remaining water and continue mixing to a smooth, homogenous consistency.
- D. For applications between 4" (10 cm) and full depth, extend up to 50% by weight (27.5 lbs. per 55-lb. bag (12.5 kg per 24.9-kg bag) of Planitop 15 with clean 3/8" (10 mm) pea gravel.

### 3.4 INSTALLATION

Read all installation instructions thoroughly before installation.

- A. Planitop 15 can be applied via form-and-pour and form-and-pump method into formwork on horizontal, vertical and overhead surfaces.
- B. The formwork should be rigid, sealed and tight to prevent material loss and water absorption into the formwork. Formwork should be pre-treated with an appropriate, environmentally friendly form-release agent to provide easy of form removal. Ensure that formwork has drainage outlets to remove pre-flooded water (24 hours before placement of Planitop 15), maintaining an SSD surface.
- C. When encountering exposed reinforcing steel bars, clean bars and coat them with Mapefer 1K or Planibond 3C to protect against corrosion and to improve adhesion (see technical data sheets for details). Do not flood the forms in these circumstances.

### 3.5 CURING

- A. Protect exposed Planitop 15 from high winds and direct sunlight while it cures.
- B. Moist-cure Planitop 15 with burlap and polyethylene, a fine mist of water or an appropriate ASTM C309-referenced curing compound.
- C. For form-and-pour applications: Forms must remain in place for at least 72 hours. If the forms are removed after only 24 hours, wet-cure or use an appropriate curing compound such as Mapecure DR on the exposed repair area.

### 3.6 PROTECTION

- A. Protect installed products until completion of project.



- B. Touch up, repair or replace damaged products before substantial completion.

END OF SECTION