



MAPECEM QUICKPATCH
High-Performance Concrete Patch

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. Patching mortar.
 - 2. Horizontal concrete repair.

1.2 RELATED SECTIONS

- A. Section 03 53 00 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens).

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.

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. 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.

1.6 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 (modified)	
1 day	> 2,700 psi (18.6 MPa)
7 days	> 3,700 psi (25.5 MPa)
28 days	> 4,000 psi (27.6 MPa)

Flexural Strength – ASTM C 348	
28 days	> 1,200 psi (8.28 MPa)

VOCs (Rule # 1168 of California's SCAQMD)	0 g per L
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- B. Acceptable manufacturer:

MAPEI North America
1144 E. Newport Center Dr.; Deerfield Beach, FL 33442
Toll-Free for CRS Technical Service: 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 PATCHING MORTAR

- A. Cementitious Patching Mortar: Packed dry-mix for repair of concrete.
 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Mapecem Quickpatch.
 2. Compressive Strength: Not less than 4,000 psi (40 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. 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 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 clean and free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and any foreign substance or any conditions that may affect product performance or proper bonding.
- B. Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R guidelines.
- C. Ensure that the concrete substrate is saturated surface-dry (SSD) before installation of Mapecem Quickpatch. Alternatively, the prepared concrete can be coated with Planibond 3C.
- D. 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.
- E. If Mapecem Quickpatch is being used for a final finished surface; repair all cracks in the substrate using conventional repair techniques before applying Mapecem Quickpatch. Use an appropriate MAPEI product for crack repair (see the technical data sheet for instructions). Refer to ICRI 310.01 "Guideline for Surface Reparation: Repair of Deteriorated Concrete."

3.3 MIXING

- A. Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details. Depending on the application and desired consistency, use the following mixing ratios for Mapecem Quickpatch:
 - 10-lb. (4.54-kg) bag: 0.91 to 1 U.S. qt. (0.86 to 0.95 L) of water
 - 25-lb (11.3-kg) bag: 2.28 to 2.50 U.S. qts. (2.16 to 2.37 L) of water



- 50-lb. (22.7-kg) bag: 4.56 to 5.0 U.S. qts. (4.32 to 4.73 L) of water.
- B. Into a clean mixing pail, pour the required amount of cool, clean, potable water and mix while slowly adding powder. The mixing ratio must remain consistent. Do not overwater material.
- C. To increase product performance and durability, use Planicrete UA diluted at 3 parts water to 1 part Planicrete UA (refer to technical data sheet for Planicrete UA).
- D. Mix with a medium-speed drill (at 550 to 800 rpm), with a box paddle or other appropriate paddle for at least 2 to 3 minutes, ensuring a lump-free consistency.
- E. For uses greater in depth than 1.5" (3.8 cm) and more than 24 sq. ft. (2.23 m), Mapecem Quickpatch should be extended 30% by weight with clean, 3/8" (10-mm) pea gravel.
- F. Do not mix more material than can be applied in 15 to 20 minutes, and do not add additional water over the maximum limit.

3.4 INSTALLATION

Read all installation instructions thoroughly before installation.

- A. Immediately after mixing, apply a scrubcoat or slurry coat of Mapecem Quickpatch onto the surface and bring it to elevation by the desired application techniques.
- B. When Mapecem Quickpatch is being used as a final wear surface; apply an appropriate finish such as a broom finish shortly after Mapecem Quickpatch has been placed.

3.5 CURING

- A. Mapecem Quickpatch is self-curing; do not use a damp-curing method.

END OF SECTION