



PLANISEAL 88
Cement-Based Waterproofing and Surface Preparation Coating

SECTION 07 16 13
Polymer-Modified Cement Waterproofing

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products for maintenance of concrete, including the following:
 - 1. Polymer-modified, cementitious coating for waterproofing.
 - 2. Horizontal, vertical and overhead waterproofing.

1.2 RELATED SECTIONS

- A. Section 07 10 00 – Dampproofing and Waterproofing.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens).
 - 2. ASTM C1059 – Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.
 - 3. ASTM E96 – Standard Test Method for Water Vapor Transmission of Materials.

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 inches (150 mm) square representing actual product, color and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience in manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years' experience in 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 MANUFACTURER

- A. Product Performance:

Compressive strength – ASTM C109

7 days

> 3,500 psi (24.1 MPa)

28 days

> 3,600 psi (24.8 MPa)

Flexural strength – ASTM C348

7 days

> 1,000 psi (6.9 MPa)

28 days

> 1,100 psi (7.59 MPa)

Pull-off strength (rupture of concrete) – ASTM C1583

28 days

> 145 psi (1 MPa)

Permeance – ASTM E96

21.6 perms (mixed with water); 17.3 perms (mixed with a 1:1 dilution of Planicrete AC and water)

Resistance to freeze/thaw cycles

Good

Permeability to chlorides – ASTM C1202

Very low – in the range of 100 to 1,000 coulombs

- 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 CEMENTITIOUS COATINGS FOR WATERPROOFING

- A. One-Component, Polymer-Modified, Cementitious Coating for Waterproofing, including masonry (at a maximum depth of 10 ft. or 3.05 m).
 - 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planiseal 88.
 - 2. Compressive strength no less than 3,600 psi (24.8 MPa) at 28 days according to ASTM C109.

2.3 MISCELLANEOUS MATERIALS

- A. Portland Cement: ASTM C150/C 150M, 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.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Properly prepared masonry and 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 clean and free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax and any foreign substances.
- 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 installing Planiseal



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3.3 MIXING

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

- A. Into a clean mixing container, pour 3/4 of the required mixing liquid. See below for the mixing ratio, depending on the desired application.
 1. Trowel-grade: 6 to 6.5 U.S. qts. (5.68 to 6.15 L) of water per 55-lb. (24.9-kg) bag.
 2. Brush-grade: 6 to 6.5 U.S. qts. (5.68 to 6.15 L) of water, plus an additional 8 U.S. oz. (0.24 L), per 55-lb. (24.9-kg) bag.
- B. To improve adhesion and waterproofing characteristics, mix with 1 part of Planicrete AC to 1 part of cool, clean water. The combined amount of Planicrete AC and water should equal the mixing ratios listed above, depending on whether the desired application is trowel-grade or brush-grade.
- C. Slowly add Planiseal 88 to the mixing liquid while mixing with appropriate mixing paddle and drill.
- D. Add remaining 1/4 mixing liquid and mix up to 4 minutes until a smooth, homogenous consistency is achieved. Let the mixture sit in the container ("slake") for about 10 minutes, remix it and apply it to the surface.

3.4 INSTALLATION

Read all installation instructions thoroughly before installation.

- A. Apply Planiseal 88 with a hawk and trowel or a stiff nylon bristle brush.
- B. The first coat must completely fill and cover all holes, cavities and static cracks. Ensure a uniform, well-bonded coat by working the material aggressively into the surface. Apply in a horizontal direction across the surface.
- C. Apply a second coat after the first coat has developed sufficient strength – typically within 5 to 6 hours, but not to exceed 24 hours. Work this coat vertically into the surface, ensuring that the uniform coat fills all voids.
- D. A third coat may need to be applied in extreme cases of hydrostatic pressure.

3.5 CURING

- A. Protect from hot and windy conditions during curing.

END OF SECTION