

Section 03726
MASTERSEAL® 510

ONE COMPONENT, POLYMER-MODIFIED CEMENTITIOUS PROTECTIVE COATING

NOTE TO SPECIFIERS

The purpose of this suggested specification is to assist the specifier while developing a specification for the use of Master Builders MASTERSEAL® 510. This specification has been prepared to be part of a complete project specification. It has not been prepared to be a "stand alone" item. This document is not intended to be copied directly into project specifications.

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.02 Summary

A. This section specifies a one component, polymer-modified, cement-based coating for waterproofing, dampproofing and beautifying concrete.

B. This product is designed for positive side waterproofing, dampproofing and to provide a uniform aesthetic protective coating to new and existing concrete, mortar and masonry.

1.03 References

ASTM C 348-93	Test Method for Flexural Strength of Hydraulic Cement Mortars.
ASTM C 496-90	Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens.
ASTM D 4541-85	Test Method for Pull-Off Strength of Coatings Using Portable Adhesion-Testers
ASTM C 884-92	Test Method for Thermal Compatibility Between Concrete and an Epoxy Resin.
ASTM E 96-80	Test Method for Water Vapor Transmission of Materials
Fed. Spec. TT-P-14411A	Test Method for Hydrostatic Pressure Test

1.04 System Performance Requirements

A. Provide polymer modified cement-based waterproofing and protective coating which when cured produces the following properties:

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| 1. Flexural Strength (ASTM C 343): | Minimum, 1-day 220 psi (1.5 MPa);
7 day 350 psi (2.4 MPa); 28-day 600 psi (4.1 MPa). |
| 2. Split Tensile Strength (ASTM C 496): | Minimum, 1-day 120 psi (0.8 MPa);
7-day 200 psi (1.4 MPa); 28-day 350 psi (2.4 MPa). |

1.04 System Performance Requirements, continued

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| 3. Pull-Off Strength (ASTM D 4541): | 100% cohesive failure (0% bond loss). |
| 4. Thermal Compatibility (ASTM C 884): | 5 cycles, no delamination. |
| 5. Water Vapor Transmission (ASTM E 96): | max. 10 grains/hr/ft ² (7.0 g/hr/m ²). |
| 6. Hydrostatic Pressure Test (Fed. Spec. TT-P-14411A): | @ coverage of 50 ft ² /gal (1.23 m ² /L),
water leakage: none;
softening: none;
delamination: none. |

1.05 Project Conditions

- A. Weather Conditions: Apply protective coating only when ambient and surface temperatures are 45 °F (7 °C) and rising. Do not make the repair if the ambient temperature is expected to fall below 45 °F (7 °C) within 24 hours after placement. Do not apply repair mortar when surface temperature is 90 °F (32 °C) and above.
- B. Follow manufacturer's recommendations regarding additional installation information (hot weather drying conditions, or cold weather installation.)

PART 2 - PRODUCTS

2.01 Materials

- A. One component, polymer-modified, cement-based waterproofing & protective coating:
"MASTERSEAL® 510" by Master Builders, Inc. a blend of portland cement, dispersible dry polymer, specially graded aggregates and set-control admixtures.
- B. Water: Drinkable.
- C. Curing: Wet Cure with Water.
- D. Evaporation Reducer and Finishing Aid: "CONFILM® " by Master Builders, Inc.

PART 3 - EXECUTION

3.01 Surface Preparation

- A. Mechanically remove unsound concrete to the limits indicated on the drawings.
- B. Remove existing concrete facing as required to expose sound aggregate. Substrate should not have an amplitude of more than 1/8 in. (3 mm) . Limit the size of chipping hammers to 15 lbs. to reduce micro fractures.
- C. Areas deeper than 1/8 in. (3 mm), should be repaired prior to the application of MASTERSEAL® 510 (i.e. with EMACO® R300).
- D. Thoroughly clean the roughened surface and exposed reinforcement of rust, dirt, loose chips and dust using high pressure water. Maintain substrate in a saturated, surface-dry (SSD) condition.
- E. Coat exposed reinforcing steel with EMACO® P22 rebar protection coating prior to patching and coating.

3.02 Mixing

A. Comply with mortar manufacturer's recommendations for water quantity and mixing procedures.

3.03 Application

A. Apply polymer-modified, cement-based, one component waterproofing and protective coating by means of a stiff brush, broom, trowel or spray equipment.

B. Trowel and Brush Applications: Apply in two coats (cross direction - one vertical and one horizontal) at approximately 31 mils thickness per coat to achieve required performance.

C. Spray Applications: For large applications, spray apply MASTERSEAL® 510 using a hopper gun, carousel pump or Moyno screw type low pressure equipment.

3.04 Curing

A. Protect fresh mortar from premature evaporation. Cure finished coating by wet curing.

B. If coating is subject to continuous contact with water, wet cure the area for three days, followed by two days of air drying.

C. Protect new application from rain, strong wind and intense sunlight for 24 hours.

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