

Section 09722
MASTERTOP® FLOORS
MASTERTOP APS 2010
PIGMENTED HYBRID POLYMER COATING

NOTE TO SPECIFIER

The purpose of this document is to provide pertinent information to a specifier in writing a specification for the use of Master Builders *MASTERTOP APS 2010 PIGMENTED HYBRID POLYMER COATING*. Questions regarding the selection, installation, or intended end use of Master Builders materials should be directed to a Master Builders technical representative. This document is prepared to be a part of a complete project specification.

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 multi-purpose pigmented, hybrid polymer coating formulated to be used for applications requiring chemical resistance, scratch resistance and resistance to penetration by liquids, light traffic and normal cleaning/maintenance.
- B. MASTERTOP APS 2010 is a hybrid polymer coating that is recommended to be installed between 10 and 25 mils (.25 and .625 mm) thick and can be finished with varying degrees of surface texturing as required by the prevailing conditions at the facility location. MASTERTOP APS 2010 can be applied over concrete or other MASTERTOP APS 2000 SERIES products.

1.03 References

ASTM C 307-91	Test Method for Tensile Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
ASTM C 413-88	Test Method for Absorption of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
ASTM C 531-90	Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
ASTM C 579-91	Test Method for Compressive Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
ASTM D 580-90	Test Method for Flexural Strength and Modulus of Elasticity of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
ASTM D 1864-88	Test Method for Moisture in Mineral Aggregates
ASTM D 2240-91	Test Method for Rubber Property - Durometer Hardness
ASTM D 4060-90	Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D 4263-88	Test Method for Capillary Moisture in Concrete by Plastic Sheet



1.04 System Performance Requirements

A. Provide a PIGMENTED HYBRID POLYMER COATING that, when cured, produces the following typical properties:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>RESULT</u>
Volatile Organic Compounds		0 lbs/gal
Tensile Strength	ASTM D 638	7 Days 6,000 to 8,000 psi (41 to 55 MPa)
Tensile Elongation	ASTM D 638	5.8%
Compressive Strength	ASTM C 109	1 Day 8,000 psi (55 MPa) 7 Days 10,000 psi (69 MPa)
Flexural Strength	ASTM D 790	7 Days 16,500 to 17,500 psi (114 to 121 MPa)
Water Absorption	ASTM C 413	.41%
Shore D Hardness	ASTM D 2240-91	70 to 80 (After 7 days)
Abrasion Resistance	ASTM D 4060 Taber Method	39 mg weight loss, (1,000 cycles)
Impact Resistance	Gardner Direct	>160 in • lb Tested at 25°F, 50°F, & 90°F (-4°C, 10°C, & 32°C)
Coefficient of Thermal Expansion	ASTM C 531-90	8.76×10^{-5} in/in/°F
Bond Adhesion Strength	4,000 psi concrete	> 350 psi (concrete failure)
Chemical Resistance	*Consult your local Master Builders representative for information on chemical resistance.	

1.05 Submittals

- A. Submit manufacturer's technical data and product literature indicating that the products comply with specified requirements.
- B. Submit two mock-up sample coupons that are representative of the finished floor surface, texture and color.

1.06 Quality Assurance

- A. Installer Qualification: Use only an installer that is certified in writing by the flooring system manufacturer of having completed a program of instruction in proper methods for preparation of substrate, possible delaminated areas, crack and joint repair and complete flooring installation.
- B. Mock-up: On site, fabricate a panel approximately 100 ft² (9.3 m²) to demonstrate quality of finished floor system, complying with manufacturer's instructions. Install panel where directed by architect/engineer. Maintain panel as a standard of quality for all installations.

1.07 Delivery, Storage and Handling

- A. Deliver product in factory packages, clearly marked with manufacturer's identification, printed instructions, lot numbers and shelf life expiration date for each component.

- B. Store materials at 50°F to 70°F (10°C to 21°C) in dry environment away from sunlight, heat or other hazards.

1.08 Project Conditions

- A. Maintain minimum concrete surface temperature of 50°F (10°C) for a minimum of 24 hours before, during and after installation, or until cured.
- B. Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor pressure.
- C. Concrete to receive a MASTERTOP APS 2010 coating should have been designed and installed as approved by architect/engineer to minimize random cracking, curling, slab deflections and shall contain well designed control and isolation joints as approved by architect/engineer.
- D. Do not apply sealers or membrane curing agents to concrete. Moisture curing of concrete is recommended.
- E. Concretes containing lightweight aggregates are not recommended substrates.
- F. Provide ventilation, lighting, commercial exhaust fans or air movers, other safety equipment as required by current OSHA standards, and clean, drinkable water supply.
- G. Advise other trades of fixtures and fittings not to be installed until floor is cured, such as: radiators, painting, decorating, floor-supported equipment or cabinetwork, caulking, plumbing, fixtures, etc.
- H. Floors shall be kept free of traffic and no trades shall be permitted in rooms during the application and curing of the flooring system.
- I. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.

PART 2 - PRODUCTS

2.01 Materials

- A. Pigmented Hybrid Polymer Coating: MASTERTOP APS 2010 by Master Builders, Inc.
MASTERTOP APS 2001 PRIMER (Optional)

PART 3 - EXECUTION

3.01 Inspection

- A. Before starting work, ensure that environmental and site conditions are suitable for application and curing.
- B. Inspect surfaces for acceptability of levelness, moisture content, pitch to drains and other critical factors at time of installation.
- C. Report in writing to architect/engineer, with copy to manufacturer, of deficiencies that could impair work. Surfaces must be approved by the installing contractor prior to application of flooring.

3.02 Surface Preparation

- A. Prepare surfaces in accordance with manufacturer's instructions.
- B. Remove concrete laitance by steel shot blasting, grit blasting, or other method approved by manufacturer.
- C. Surface must be clean, sound and dry prior to application.
- D. Pre-fill surface irregularities, holes and cracks in accordance with manufacturer's recommendations.

3.03 Mixing

- A. Comply with manufacturer's instructions for mixing procedures. Refer to MASTERTOP APS 2010 INSTALLATION PROCEDURE.
- B. Carefully measure and mix the components together.

3.04 Installation

- A. Follow manufacturer's written instructions (Refer to MASTERTOP APS 2010 Installation Bulletin).
- B. (OPTIONAL) Embed Pennflex tape or similar reinforcing fabric in MASTERTOP APS 2001 PRIMER over cracks in substrate.
- C. (OPTIONAL) Install cove and/or base in accordance with manufacturer's instructions.
- D. (OPTIONAL) Prime entire surface with MASTERTOP APS 2001 PRIMER.
- E. Apply MASTERTOP APS 2010 Pigmented Hybrid Polymer Floor Coating in accordance with manufacturer's instruction to a total thickness of 10 to 25 mils (.25 to .625 mm).
- F. Allow proper cure time for each installation step.
- G. Allow the finished MASTERTOP APS 2010 Pigmented Hybrid Polymer Floor Coating to cure for 12 to 24 hours from completion before putting into service.
- H. If needed, use temporary protection until flooring is fully cured.

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