

**Related Bulletins:**

MASTERTOP APS 2021 Data Sheet  
MASTERTOP APS 2021 Installation Bulletin  
MASTERTOP APS 2010 Data Sheet

# Master Builders Technologies Polymer Floors & Walls SPECIFICATION BULLETIN

**Section 09722**  
**MASTERTOP® FLOORS**  
*MASTERTOP APS 2021*  
*PIGMENTED SLURRY-BROADCAST FLOOR SYSTEM*

## 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 2021 PIGMENTED SLURRY-BROADCAST FLOOR SYSTEM*. 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 SLURRY-BROADCAST flooring system formulated to be used for applications requiring chemical resistance, scratch resistance, surface texturing, penetration resistance from liquids and cleaning/maintenance operations, and resistance to abuse from light to medium traffic.
- B. MASTERTOP APS 2021 is a monolithic flooring system that is recommended to be installed between 1/8 inch (3.2 mm) and 3/16 inch (4.8 mm) thick and can be finished with or without a topcoat, as required by the prevailing conditions at the facility location.

#### 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 SLURRY-BROADCAST floor system 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, Mortar	ASTM C 307-91	24 Hours 2,300 to 2,500 psi (16 to 17 MPa)
Tensile Strength, Binder	ASTM C 638	7 Days 5,000 to 8,000 psi (34 to 55 MPa)
Tensile Elongation	ASTM D 638	5.785%
Coefficient of Thermal Expansion	ASTM C 531-90	$8.76 \times 10^{-5}$ in/in/°F
Compressive Strength, Mortar	ASTM C 579	24 Hours 6,500 to 6,900 psi (45 to 48 MPa)
Flexural Strength, Mortar	ASTM C 580	24 Hours 5,500 to 6,000 psi (38 to 41 MPa)
Water Absorption	ASTM C 413	0.41%
Shore D Hardness	ASTM D 2240-91	55 to 65 (24 Hours) 70 to 80 (7 Days)
Abrasion Resistance	ASTM D 4060 Taber Method	39 mg Weight Loss (1,000 cycles)
Impact Resistance	Gardner Direct (24 Hours)	>160 in • lb Tested at 25°F, 50°F, & 90°F (-4°C, 10°C, & 32°C)
Bond Adhesion Strength	4,000 psi concrete	> 350 psi (concrete failure)
Chemical Resistance	®Consult your local Master Builders representative for chemical resistance information.	

#### 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 ft<sup>2</sup> (9.3 m<sup>2</sup>) 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 2021 floor system 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. Industrial pigmented slurry-broadcast flooring: MASTERTOP APS 2021 by Master Builders, Inc.  
MASTERTOP APS 2001 PRIMER  
MASTERTOP APS 2010 (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 2021 INSTALLATION PROCEDURE.
- B. Carefully measure and mix the components together.

### **3.04     Installation**

- A. Follow manufacturer's written instructions (Refer to MASTERTOP APS 2021 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. Prime entire surface with MASTERTOP APS 2001 Primer.
- E. Apply MASTERTOP APS 2021 SLURRY-BROADCAST FLOOR matrix in accordance with manufacturer's instruction to a total thickness of 1/8 inch (3.2 mm) to 3/16 inch (4.8 mm).
- F. (OPTIONAL) Apply topcoat(s) at manufacturer's recommended coverage to provide uniform, dense surface.
- G. Allow proper cure time for each installation step.
- H. Allow the finished MASTERTOP APS 2021 SLURRY-BROADCAST FLOOR to cure for 12 to 24 hours from completion before putting into service.
- I. If needed, use temporary protection until flooring is fully cured.

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