

Related Bulletins:

MASTERTOP APS 2046 Data Sheet
MASTERTOP APS 2046 Installation Bulletin
MASTERTOP APS 2011 Data Sheet

Master Builders Technologies Polymer Floors & Walls SPECIFICATION BULLETIN

Section 09722
MASTERTOP® FLOORS
MASTERTOP APS 2046
TROWEL-APPLIED FLOOR SYSTEM (Metallic Aggregate)

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 2046 TROWEL-APPLIED FLOOR SYSTEM (with Metallic Aggregate)*. 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 trowel-applied flooring system formulated to be used for applications requiring chemical resistance, abrasion resistance and resistance to abuse from medium to heavy traffic, high usage, impact and loading.
- B. MASTERTOP APS 2046 is a monolithic flooring system that is recommended to be installed between 3/16 inch (4.8 mm) and 1-1/2 inch (38 mm) thick and can be finished with or without a topcoat, as required by the prevailing conditions at the facility location. (Refer to MASTERTOP APS 2046 INSTALLATION BULLETIN)

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 TROWEL-APPLIED 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	ASTM C 307-91	1 Day 520 psi (4 MPa) 7 Days 750 psi (5 MPa)
Tensile Elongation	ASTM D 638	2.8%
Coefficient of Thermal Expansion	ASTM C 531-90	16.5×10^{-5} in/in/°F
Compressive Strength	ASTM C 109	1 Day 8,000 psi (55 MPa) 7 Days 12,000 psi (83 MPa)
Flexural Strength	ASTM C 348	1 Day 850 psi (6 MPa) 7 Days 1,400 psi (10 MPa)
Flexural Modulus	ASTM C 580	1.6 to 1.9 psi x 10^6 (11,000 to 13,000 MPa)
Shore D Hardness	ASTM D 2240-91	86 to 90
NBS Abrasion Resistance	ASTM C 779	0.007 inches, 60 minutes
Impact Resistance	Gardner Direct	>240 in • lb Tested at 25°F, 50°F, & 90°F (-4°C, 10°C, & 32°C)
Toughness	LA Rattler Test	35% weight loss (2000 cycles)
Bond Adhesion Strength	5,000 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 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 2046 floor 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 Trowel-Applied Flooring: MASTERTOP APS 2046 by Master Builders, Inc.
MASTERTOP APS 2001 PRIMER, MASTERTOP APS 2011 (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 2046 INSTALLATION PROCEDURE.
- B. Carefully measure and mix the components together.

3.04 Installation

- A. Follow manufacturer's written instructions (Refer to MASTERTOP APS 2046 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 2046 TROWEL FLOOR matrix in accordance with manufacturer's instruction to a total thickness of 3/16 inch (4.8 mm) to 1-1/2 inch (38 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 2046 TROWEL FLOOR (METALLIC AGGREGATE) to cure for 12 hours from completion before putting into service. For severe conditions, such as heavy impact, heavy repetitive load (e.g., towveyor line), or waste transfer facilities, a minimum 24 hour cure is recommended prior to placing floor into service.
- I. If needed, use temporary protection until flooring is fully cured.

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