

Related Bulletins:

MASTERTOP APS 2041 Data Sheet
MASTERTOP APS 2041 Installation Bulletin
MASTERTOP APS 2010 Data Sheet

Master Builders Technologies Polymer Floors & Walls SPECIFICATION BULLETIN

Section 09722
MASTERTOP® FLOORS
MASTERTOP APS 2041
TROWEL-APPLIED 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 2041 TROWEL-APPLIED 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 trowel-applied flooring system formulated to be used for applications requiring chemical resistance, scratch resistance and resistance to abuse from impact and heavy loading.
- B. MASTERTOP APS 2041 is a monolithic flooring system that is recommended to be installed between 3/16 inch (4.8 mm) and 1/4 inch (6.4 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 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 510 psi (4 MPa) 7 Days 740 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 845 psi (6 MPa) 7 Days 1,350 psi (9 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	0.023 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	38% 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 2041 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 2041 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 2041 INSTALLATION PROCEDURE.
- B. Carefully measure and mix the components together.

3.04 Installation

- A. Follow manufacturer's written instructions (Refer to MASTERTOP APS 2041 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 2041 TROWEL FLOOR matrix in accordance with manufacturer's instruction to a total thickness of 3/16 inch (4.8 mm) to 1/4 inch (6.4 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 2041 TROWEL 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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