

Related Documents:

MASTERTOP APS 2041 Data Sheet
MASTERTOP APS 2041 Specification
MASTERTOP APS 2010 Data Sheet
MASTERTOP APS 2001 Primer Data Sheet

Master Builders Technologies
Polymer Floor Products
INSTALLATION PROCEDURE

MASTERTOP APS® 2041

Trowel-Applied Floor System

IMPORTANT: READ THIS FIRST

Master Builders does not warrant the performance of this product unless the instructions of this document and other related Master Builders documents are adhered to in all respects. Installation procedures contained in this bulletin are as specific as possible but do not attempt to cover all variations in field conditions. Questions concerning topics not covered in this document should be discussed with your local Master Builders representative.

DESCRIPTION:

MASTERTOP APS 2041 is a unique hybrid polymer blend of rapid-curing resins combined with special gap-graded aggregate to provide a seamless, 3/16" to 1/4" (4.8 to 6.4 mm) flooring system. MASTERTOP APS 2041 has good chemical resistance, cures from 40°F to 85°F (5°C to 30°C) [for use outside these temperatures, consult your local MASTER BUILDERS representative], contains no solvents and is composed of 100% solids. MASTERTOP APS 2041 provides excellent handling and closure properties which can significantly reduce labor and installation steps. This system is designed for industrial and manufacturing facilities, and other areas where a flooring system is prone to traffic, occasional spills, and abuse. MASTERTOP APS 2041 is non-flammable, non-combustible, non-corrosive per DOT and has been designed for both hand trowel and power trowel application.

TEXTURE:

The MASTERTOP APS 2041 system can be finished with a variety of textures by the applicator, using different tools and installation techniques. By top coating this system, additional variations in finish, color, texture, gloss and appearance can be achieved.

COLORS:

MASTERTOP APS 2041 is available in Tile Red, Light Grey, Medium Grey, Dark Grey, Beige, and Country Blue. Custom colors are also available by special order. Please contact your local Master Builders representative.

EQUIPMENT LIST:Safety Equipment:

- Commercial exhaust fans or air movers (per OSHA standards).
- Industrial rubber gloves and/or disposable work gloves and wipe rags.
- Safety glasses, ear plugs and dust masks.
- Protective hand cream.
- Water-based cleaning solutions.

Surface Preparation Equipment:

- Surface and ambient temperature thermometers.
- Equipment for mechanically abrading the surface to remove laitance and provide profile similar to a metallic shot blast.
- Industrial vacuum.
- Regular and stiff bristled brooms, wheelbarrows, shovels, etc.
- Masking tape, paper and/or polyethylene for protection of adjacent areas.

EQUIPMENT LIST(Continued)

Mixing and Installation Equipment:

- High intensity, temporary lighting with extension cords.
- Clean, paddle-type mortar mixer.
- Variable-speed drill mixer with Jiffy type blade.
- Gauged rake or trowels for spreading mortar evenly.
- Narrow trowels, finishing trowels, spring steel trowels, long handled paint rollers.
- Plastic or stainless steel power trowel blades recommended to avoid discoloration of material.
- Power trowel equipment capable of producing low (20 to 25) RPM's (Euco, Whiteman or equivalent) in good working condition and free from oil leakage. Power Trowels designed for polymer floor products are preferred. Standard concrete power trowels are **NOT** recommended.
- Screed box.

PRE-INSTALLATION:

Prior to starting the installation you should:

- Review in detail the current, published MASTERTOP APS 2041 Installation Procedure.
- Inventory all materials ordered from Master Builders, Inc., and find:
 - MASTERTOP APS 2001 Primer Kits (Each kit includes a Part A and a Part B)
 - MASTERTOP APS 2041 Trowel-Applied Floor System Kits (Each kit includes a Part A, a Part B, and a Part C)
 - Optional MASTERTOP APS 2010 Topcoat Kits (Each kit includes a Part A and a Part B)

NOTE: For clarification of kit contents, see the Components section (pgs. 4 & 5) of this Bulletin.

- Determine surface preparation requirements (i.e., sandblast, shotblast, scarify, etc.).
- Check that all necessary equipment is on the job site and that adequate electrical power is available for all power tools.
- Select, set-up and clearly designate an appropriate mixing area at least 50 feet (15 meters) from sparks, welding and other forms of possible contamination.
- Brief all installation personnel on application procedures and SAFETY requirements.
- Review Material Safety Data Sheets (MSDS) and have available at job site.

SURFACE PREPARATION:

Basic Preparation - The performance of a monolithic floor is largely dependent upon a good bond to a strong concrete substrate. Lack of bond due to a weak surface may cause premature failure. The purpose of surface preparation is to remove any weak surface material or contamination that would impair bonding, and to create a surface roughness approximately equal to 20 to 40 mesh sandpaper.

Grit blasting, scarifying or metallic blasting are the recommended methods of preparation. If dust is a problem, wet blasting or self-contained blasting units (Blastrac) may be used. Any sensitive machinery in the area should be removed or protected from possible dust contamination prior to starting any surface preparation procedures.

Light to moderately contaminated surfaces which are covered with dirt or traffic soil, other than grease and oil, can be satisfactorily prepared by mechanical treatment. If the surface is contaminated with oil or grease, a detergent wash should be used prior to the mechanical treatment. Strong, low-foaming detergents such as Johnson's Wax Company J-Shop 600 or Texo's Texo 227 are recommended for this use. The detergent should be scrubbed vigorously into the surface with a brush or power scrubber and should then be thoroughly flushed with clean water before beginning further treatment. Multiple cycles of scrubbing and rinsing may be necessary for satisfactory results.

SURFACE PREPARATION (Continued)

Heavily contaminated surfaces that have excessive caking of oil, grease, grime, asphalt, earth, mortar or other materials may be encountered. Such conditions will prevent detergents from performing correctly. Caked deposits should be removed prior to any application of detergent. Thickly caked deposits (oil, grease, etc.) are best removed by scraping or chipping the area before detergent treatment. Animal fats and vegetable oils should be removed by scrubbing with a strong soap solution prior to further treatment.

The laitance and curing compounds which may be present on freshly placed concrete surfaces and sometimes older surfaces must be removed to ensure a satisfactory bond. Mechanical cleaning as outlined previously is recommended for this purpose.

pH - When installing MASTERTOP APS 2041 over existing concrete that has been subjected to acidic or alkaline conditions, a pH test is recommended. The floor, checked at the locations of previous heavy use or spills, should be in the pH 10-11 range after preparation is complete. If not, the floor will have to be cleaned until the proper pH is achieved.

Surface Cracks - Small surface cracks due to drying shrinkage, crazing, dusting, etc. should be cleaned and filled with an appropriate crack filler (consult your local MASTER BUILDERS representative). Larger substrate cracking due to physical damage, excessive loading, slab settlement and movement, etc. should be routed, cleaned and then filled with an appropriate crack filler (consult your local MASTER BUILDERS representative). The filled cracks should then be overlaid with fiberglass reinforced mat cloth with at least six inches (15 centimeters) of excess matting on each side of the crack edge. The matting should be fully saturated with MASTERTOP APS 2001 Primer prior to placement of the MASTERTOP APS 2041 material.

Upon completion of all surface treatment and repair, the concrete should be thoroughly vacuumed to remove all dust and dirt from the floor area. A successfully prepared concrete substrate will be sound, clean, maintain a surface dry condition throughout the initial curing phase and be free from all contaminants. All "hollow" areas will have been removed and depressions, spalled areas or cracks pre-filled. The surface roughness will be approximately equal to 20 to 40 mesh sandpaper.

NOTE: All surface preparation should be completed prior to proceeding with the floor installation. Verify dryness of floor area by ASTM D 4263 (Refer to MASTERTOP APS 2041 Specification, Section 1.08 B).

MIXING AND APPLICATION OF MASTERTOP APS 2001 PRIMER:

- 1) Add 0.31 gal (1.17 Litre) of MASTERTOP APS 2001 PRIMER Activator #2 to .62 gal (2.35 litre) of MASTERTOP APS 2001 PRIMER Hybrid Polymer #2.
- 2) Mechanically stir for at least 60 seconds.
- 3) Immediately pour onto to prepared concrete substrate using a "ribbon" pattern. With a brush, paint roller, spring steel trowel or squeegee, spread the primer evenly over the concrete. Do not puddle the primer, but be certain that all areas are coated with primer, including vertical shoulders. Primer may be lightly seeded with dry fine sand [10 lb per 100 ft² (4.5 kg per 9.3 m²)] to provide traction. **Primer not used within 20 minutes of mixing should be removed to an outside location** and discarded at the end of the day.

Working time is 15 to 20 minutes at 72°F (22°C). Working time decreases with increasing temperature. Allow primer to cure for 30 to 60 minutes until tacky.

NOTE: A weak bond between the MASTERTOP APS 2041 and the existing concrete substrate will result if too much of the primer is absorbed into old, dry, porous concrete. In the case of old,

MIXING AND APPLICATION OF MASTERTOP APS 2001 PRIMER (Continued)

dry, porous concrete, an additional application of primer is recommended. Coverage will vary with the porosity of the prepared floor. Due to the limited working time of the primer, it is recommended that the primer be mixed and applied in batch sizes no larger than the one gallon unit.

MIXING AND APPLICATION OF MASTERTOP APS 2041:

- 1) Add .31 gal (1.17 litre) of MASTERTOP APS 2041 Activator #2 to .68 gal (2.58 litre) of MASTERTOP APS 2041 Hybrid Polymer #1.
- 2) Mechanically mix for a minimum of 60 seconds.
- 3) Pour contents into a paddle-type mortar mixer.
- 4) Add two 50 lb (22.72 kg) bags of MASTERTOP APS 2041 Aggregate to the mixture. Use only 1.75 bags for the first mix to allow the mixer to wet out.
- 5) After the last bag of aggregate has been added, mix at least an additional 30 to 60 seconds or until all dry pockets are wet and no dust rises from the mixture.
- 6) Discharge into a sturdy wheelbarrow.
- 7) Apply mixture to the primed surface to be topped.
- 8) Trowel to the desired thickness using a good quality concrete-type finishing trowel. Consolidation and finishing is best accomplished with a power trowel machine designed for polymer materials using float shoes. When power troweling is not possible, use good quality finishing trowels. Emphasis should be placed on creating a level, uniform and closed surface to provide maximum durability.

Working time is 20 to 30 minutes at 72°F (22°C).

Cure time for foot traffic is 4 to 6 hours.

Cure time for vehicular traffic and chemical exposure is 24 to 48 hours.

MASTERTOP APS 2041 is a fast curing product. As such, care should be taken to minimize open edges, and continuous placement is encouraged. To keep uniform thickness, do not feather edge. At stopping points, cut off each swath to form a butt edge that will allow the next batch to be tied in. Care should be taken on the first few batches to become familiar with the product characteristics.

NOTE: Each trowel mechanic's work area should have a hooded light fixture. Individual lighting helps point out low areas, tear marks, openness, trowel ridges, etc.

COMPONENTS:

MASTERTOP APS 2001 PRIMER - is applied with a brush, paint roller, spring steel trowel or squeegee.

Part A

MASTERTOP APS 2001 PRIMER
Hybrid Polymer # 2
0.62 gal in a 2.6 gal plastic can
(2.35 litre in a 9.85 litre plastic can)

Part B

MASTERTOP APS 2001 PRIMER
Activator #2
0.31 gal in a 1/2 gal plastic bottle
(1.17 litre in a 1.90 litre plastic bottle)

MASTERTOP APS 2041 - is applied with a hand trowel or power trowel. Suggested power trowel RPM range is 20 to 25 (very slow). Power trowels designed for polymer materials are preferred. Standard concrete power trowels are **NOT** recommended.

Part A

MASTERTOP APS 2041
Hybrid Polymer #1
0.68 gal in a 2.6 gal plastic can
(2.58 litre in a 9.85 litre plastic can)

Part B

MASTERTOP APS 2041
Activator #2
0.31 gal in a 1/2 gal plastic bottle
(1.17 litre in a 1.90 litre plastic bottle)

COMPONENTS (Continued)

Part C

MASTERTOP APS 2041 Aggregate
100 lb in two 50 lb bags
(45.45 kg in two 22.72 kg bags)

ESTIMATING:

Coverage Rates (Approximate):

MASTERTOP APS 2001 PRIMER	125 to 175 ft ² /unit (11.6 to 16.3 m ² /unit)
MASTERTOP APS 2041	43 ft ² /unit (4.0 m ² /unit) @ 1/4" (6.4 mm)
	54 ft ² /unit (5.0 m ² /unit) @ 3/16" (4.8 mm)
MASTERTOP APS 2010 Topcoat (Optional)	100 to 140 ft ² /unit (9.3 to 13.0 m ² /unit)

NOTE: All quantities are approximate and will be affected by job conditions, substrate condition and workmanship. Master Builders Inc. will not be responsible for actual coverage rates achieved.

CLEAN-UP:

Hand tools and power equipment can be cleaned with a water-based industrial cleaner prior to material hardening. Hardened material can be removed using solvents such as Xylol or Xylene. **Material that is over 24 hours old may require sandblast removal from mixer tubs, other power equipment, and hand tools.**

LIMITATIONS:

- Material must be stored in a cool, dry area [50°F to 70°F (10°C to 21°C)], away from direct sunlight, flame or other hazards.
- Movement of sub-floor cracks may transmit through flooring material.
- An effective vapor barrier is required beneath substrates in contact with the ground.
- Adequate air movement must be ensured during material placement and subsequent joint sawing (per OSHA standards).
- Heat resistance limits are 160°F (71°C) continuous, and 212°F (100°C) intermittent.

SAFETY:

This product should be used only by qualified personnel for recommended applications in accordance with current, published installation guidelines. Please review current MSDS sheets for detailed information prior to placing any material and/or for specific product information.

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