



## RIO-SHIELD™ MMA FLOORING SYSTEM GUIDE

This application guide was written to aid RIO FLOORING SYSTEMS certified installers with installation procedures for our self-leveling, overlay, smooth and aggregate broadcast systems. Refer to Surface Prep and Bond Test guides to ensure proper surface preparation and detailing of the substrate prior to proceeding with material installation. Additionally, read and understand all safety related information such as warnings, SDS's, etc.

CREW SIZE: MOST JOBS REQUIRE 5-7 CREW MEMBERS TO HANDLE THE FOLLOWING TASKS:

MIX STATION - MATERIAL RUNNER - GAUGE RAKE - BROADCAST (COLORED QUARTZ OR FLAKE) - CUTTING IN & POULLING TAPE

### PRIMER APPLICATION

1. Refer to [RIO-SHIELD dosing Chart](#) for proper Powder Hardener (BPO) mixing.
2. Accurately measure 104-volume oz. of **R-MMP** and 24-volume oz. of **R-MMA I Component** into mixing bucket and mix until blended. (R-MMA I Component is only required when priming bare concrete)
3. Measure, add, and mix appropriate amount of Powder Hardener (BPO) until dissolved (15-30 seconds) using a drill mixer.
4. Begin application at one end of the room by pouring entire contents of mixed material along the wall. Cut in using natural bristle chip brushes. Immediately roll out material laterally across the application area using a 9" or 18" solvent resistant roller at roughly 100 sq. ft./gallon (15-16 wet mils).
5. Do not allow primer to "puddle" or "pond". Use a brush to remove excess material from joints and rough areas.
6. Allow primer to completely cure and re-prime any dry spots.
7. Primer containing **R-MMA I Component** must be recoated within 12 – 18 hours. If this window is exceeded the entire area must be re-primed or wiped down with **R-MMC Cleaner**.

### POLYMER CONCRETE PATCHING

1. Measure 56 ounces (use up to an additional 8 ounces if extending) of **R-MPC** Liquid into mixing pail. Add 1 bag of **R-MPC** Powder and appropriate amount of Pea Gravel if required (Refer to RIO MMA Dosing Chart for extension rates). Mix with a ½" heavy duty drill equipped with a spiral mixing blade (available from Res-Tek) until blended.
2. Pour material onto area to be patched and finish with a flat steel trowel. Keep tools clean with **R-MMC Cleaner**.
3. **R-MPC** Polymer Concrete must be re-primed prior to application of additional RIO products.

## JOINT AND CRACK REPAIR

1. Refer to RIO Surface Prep guide and Detail Drawings for additional guidance.
2. All cracks should be “chased out” and primed prior to filling.
3. Prepare appropriate amount of RIO-SHIELD **R-MMB** Slurry according to the RIO-SHIELD Powder Hardener (BPO) Dosing Chart.
4. Using a flat steel trowel, work material into joint or crack and trowel flush with concrete substrate.
5. Allow area to cure prior to application of additional materials

## SCRATCH COAT

1. A “scratch coat” can be used to fill rough areas and “bird baths” prior to installation of the overlay system.
2. Prepare a batch of RIO-SHIELD **R-MMB** Self-Leveling Slurry according to the RIO-SHIELD Powder Hardener (BPO) Dosing Chart.
3. Using a flat steel trowel spread slurry and smooth to a depth no greater than 1/4”- 3/8”. Be sure to taper edges.
4. Allow area to cure prior to application of additional materials.

## COVE BASE (COLORED FLAKE OR PIGMENTED TOP COAT)

1. All existing coatings must be removed from the surface to receive RIO-SHIELD products. This includes block filler on concrete block walls. Backer board may be required. Refer to RIO Detail Drawings for your particular application.
2. Zinc termination strips (3/16”) should be mounted to the wall.
3. Follow Guides for proper surface prep and priming.
4. For solid color or flake base measure 1 quart of **R-MMB** resin into mixing bucket, add appropriate amount of Powder Hardener (BPO) (refer to dosing chart), mix thoroughly, add pigment (if required), 18 oz. of RIOThix and 2 quarts of RT-Cove Sand. Continue mixing until blended.
5. With the aid of a flat steel trowel and a cove trowel, place and finish material being sure the material is completely compressed.
6. When cured, stone or grind rough areas as needed.
7. Measure 1 quart of **R-MMB** Finish.
8. Add 1 ounce of pigment (if required), appropriate amount of Powder Hardener (BPO) and mix thoroughly.

## COVE BASE (CONTINUED)

9. Brush onto cove base and smooth using a natural bristle brush.
10. If required, immediately broadcast with Colored Flake.
11. When cured, abrade (by hand) Colored Flake with a black stripping pad.
12. If an additional broadcast is required mix up small quantities of **R-MMB** with appropriate amount of Powder Hardener (BPO), brush onto cove base and repeat steps 10 and 11.
13. Once cove base is abraded, swept and / or vacuumed, apply two coats of **R-MMT** Sealer sanding aggressively between coats.

## TROWEL-ON COVE BASE

1. All existing coatings must be removed from the surface to receive RIO MMA products. This includes block filler on concrete block walls. Backer board may be required. Refer to RIO Detail Drawings for your particular application.
2. Zinc Termination strips (3/16") should be mounted to the wall.
3. Follow Guides for proper surface prep and priming.
4. Refer to Powder Hardener (BPO) Dosing Chart for Trowel-On Cove Base mix design and yield.
5. Measure 1 quart of **R-MMB** resin and 18 volume ounces of RIOThix into mixing container begin mixing (27 grams, better consistency is achieved if RIOThix is weighed) while gradually adding ½ gallon (7 lbs.) of Colored Quartz. Mix until well blended.
6. Measure, add, and thoroughly mix in appropriate amount of Powder Hardener (BPO).
7. With the aid of a flat steel trowel and a cove trowel, place and finish material being sure the material is completely compressed.
8. When cured, apply two coats of **R-MMT** Sealer. Sanding between coats may be necessary to

## SELF-LEVELING OVERLAY BODY COAT

1. Refer to appropriate product data sheet and Powder Hardener (BPO) Dosing Chart for additional information.
2. Gauge / Pin rakes should be set to 1/8" or as specified.
3. Measure, add, and mix all components thoroughly according to the Powder Hardener (BPO) Dosing Chart. Batches of material should be mixed so as to provide a steady flow of material that keeps pace with the applicators.  
**Do Not Allow Material To Sit In Bucket As It Can Heat Up Resulting In Premature Polymerization**
4. Pour material onto floor parallel to wall.



## SELF-LEVELING OVERLAY BODY COAT (CONTINUED)

5. Pull material with gauge / pin rake in a lateral fashion parallel to the back wall overlapping passed by 50%.
6. Subsequent batches should be poured directly into the leading wet edge.
7. Once material is in place immediately roll with spiked roller (multiple passes) to release entrapped air and aid in leveling.

## RIO-SHIELD SMOOTH OVERLAY SYSTEM

1. Allow body coat to thoroughly cure and cool down (approx. 1 hour).
2. Refer to **R-MMT** Sealer product data sheet and Powder Hardener (BPO) Dosing Chart for additional information.
3. Measure, add, and mix 1 gallon of **R-MMT** Sealer and appropriate amount of Powder Hardener (BPO).
4. Immediately pour material onto floor, parallel to the starting point and cut in using natural bristle brushes (stay within approx. 10 feet of the area to be rolled to avoid blistering / wrinkling).
5. Using good quality solvent resistant 3/8" – 1/2" x 9" or 18" rollers, apply topcoat in a lateral fashion parallel to the starting point, maintaining 15 wet mils or 100 sq. ft. per gallon.
6. Always pour subsequent batches into wet edge.
7. Topcoat should be back-rolled immediately to smooth roller overlap marks and any puddles.
8. If pigmented solid color topcoat is desired, add 6-8 oz. Pigment and 1 pint of Aerosil. Disperse aggressively with a 2500 RPM 3/8" drill equipped with a Pigment Dispersing Blade (available from Res-Tek) until mix is lump free (approximately 3 minutes). Then add Powder Hardener (BPO) in accordance

## RIO-SHIELD MMA COLORED QUARTZ OVERLAY SYSTEM

1. Shortly after the slurry has been spiked rolled and enough working space has been established, broadcast RT Colored Quartz into wet material. Broadcast CQ evenly by throwing toward the ceiling allowing the sand to land smoothly into the slurry.
2. Broadcast only enough CQ to a point where "wet spots" are no longer visible.
3. Allow body coat to thoroughly cure and cool down (approx. 1 hour).
4. Remove excess Colored Quartz with a good quality, stiff synthetic fiber broom.
5. Thoroughly and carefully vacuum entire area paying close attention to perimeter and corners.

### ***RIO-SHIELD R-MMT Sealer Application:***

6. Refer to **R-MMT** product data sheet and Powder Hardener (BPO) Dosing Chart for additional information.



## RIO-SHIELD MMA COLORED QUARTZ OVERLAY SYSTEM (CONTINUED)

7. Measure, add, and mix 1 gallon of **R-MMT** and appropriate amount of Powder Hardener (BPO).
8. Immediately pour material onto floor, parallel to the starting point and cut in using natural bristle brushes (stay within approx. 10 feet of the area to be rolled to avoid blistering / wrinkling).
9. Using good quality solvent resistant 3/8" – 1/2" x 9" or 18" rollers, apply topcoat in a lateral fashion parallel to the starting point, at 80 - 90 sq. ft. per gallon.
10. Batches of material should be mixed so as to provide a steady flow of material that keeps pace with the applicators and maintains a wet edge.  
**Do Not Allow Material To Sit In Bucket As It Can Heat Up Resulting In Premature Polymerization.**
11. Always pour subsequent batches into wet edge.
12. Topcoat should be back-rolled immediately to smooth roller overlap marks and any puddles.
13. Allow material to cure.

## RIO-SHIELD MMA COLORED FLAKE OVERLAY SYSTEM

1. Shortly after the slurry has been spiked rolled and enough working space has been established, broadcast Colored Flake into wet material. Broadcast Colored Flake evenly by throwing toward the ceiling allowing the chips to land smoothly into the slurry.
2. Broadcast only enough Colored Flake to a point where "wet spots" are no longer visible.
3. Allow body coat to thoroughly cure and cool down (approx. 1 hour).
4. Remove excess Colored Flake with a good quality, stiff synthetic fiber broom.
5. Once the bulk of the loose Colored Flake has been removed abrade the entire area with a floor buffer equipped with a black striping pad. Buff in two directions to avoid leaving a visible pattern.
6. Thoroughly and carefully vacuum entire area paying close attention to perimeter and corners.

### ***RIO-SHIELD R-MMT Sealer Application:***

7. Refer to **R-MMT** product data sheet and Powder Hardener (BPO) Dosing Chart for additional information.
8. Measure, add, and mix 1 gallon of **R-MMT** and appropriate amount of Powder Hardener (BPO).
9. Immediately pour material onto floor, parallel to the starting point and cut in using natural bristle brushes (stay within approx. 10 feet of the area to be rolled to avoid blistering / wrinkling).
10. Using good quality solvent resistant 3/8" – 1/2" x 9" or 18" rollers, apply topcoat in a lateral fashion parallel to the starting point, at 90 – 100 sq. ft. per gallon.



## RIO-SHIELD MMA COLORED FLAKE OVERLAY SYSTEM (CONTINUED)

11. Batches of material should be mixed so as to provide a steady flow of material that keeps pace with the applicators and maintains a wet edge.

**Do Not Allow Material To Sit In Bucket As It Can Heat Up Resulting In Premature Polymerization.**

12. Always pour subsequent batches into wet edge.

13. Topcoat should be back-rolled immediately to smooth roller overlap marks and any puddles.

14. Allow material to cure.

15. Sand entire floor with 36 – 60 grit open face sand paper. Sand in two directions to avoid leaving a visible pattern.

16. Thoroughly and carefully vacuum entire area paying close attention to perimeter and corners.

17. Apply second coat at a rate of 100 – 125 sq. ft. per gallon in the same manner as the first coat.

**RIO-SHIELD MMA based flooring products are completely cured in 1-2 hours and may be place into full**

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