



MiraPatch RM 3000

Product Technical Data Sheet

MiraPatch RM 3000 is a single component, polymer-modified, pre-blended cementitious repair mortar fortified with micro-fiber reinforcement and shrinkage-compensating additives to achieve exceptional physical properties with very low drying shrinkage. Designed for horizontal and vertical applications, *MiraPatch RM 3000* can be troweled-applied at a minimum depth 1/8" up to 1". For repair depths 1" and greater, extend mortar with 3/8" clean coarse aggregate to produce *MiraPatch RM 3000* concrete.

WHERE TO USE

- Concrete repairs on grade, above and below grade.
- Horizontal and inclined surfaces.
- Interior and exterior service conditions.
- Structural repair applications.
- Expansion joint nosing repairs.
- Resurfacing and overlayment for concrete.
- To level, pitch or slope irregular concrete surfaces.

ADVANTAGES

- Polymer modified powder – no need liquid latex admixture.
- High early strength – 2,200 psi in 4 hours.
- Rapid return to service for fast track installations.
- Low free water content – can be coated in 6 hours.
- Very low water absorption and drying shrinkage.
- Excellent compressive, flexural and tensile strengths.
- Tenacious adhesion to prepared substrates.
- Excellent freeze-thaw resistance.

COVERAGE RATES

Theoretical coverage rate per 50 lb. bag:

MiraPatch RM 3000	@ 25 lb. Aggregate Extension*
38.5 sq. ft. @ 1/8"	7.0 sq. ft. @ 1"
19.2 sq. ft. @ 1/4"	4.6 sq. ft. @ 1 1/2"
9.6 sq. ft. @ 1/2"	4.0 sq. ft. @ 1 3/4"
4.8 sq. ft. @ 1"	3.5 sq. ft. @ 2"

Approximate Yield/Bag - .42 cu. ft.

Actual consumption rates are dependent on many factors including, but not limited to, substrate texture and porosity, variations in applied thickness and normal allowance for waste.

PACKAGING and COLORS

Powder (50-pound bag) - Available in gray.

MIX RATIO

3 Quarts Potable Water to (1) 50 lb. bag of powder.

SHELF LIFE AND STORAGE

One year from the date of manufacture provided packaging remains unopened and material is stored in a protected environment free from moisture, excessive heat, freezing temperatures, and direct sunlight.

TYPICAL PHYSICAL PROPERTIES @ 75°F (24°C)

Water Demand..... Approximately 3 quarts/bag

Working Time..... 20 minutes (with cool mix water)

Compressive Strength (ASTM C109):

4 Hour..... 2,225 psi

1 Day..... 3,175 psi

7 Day..... 5,575 psi

28 Day..... 6,125 psi

Tensile Strength (ASTM C190):

7 Day..... 435 psi

28 Day..... 585 psi

Flexural Strength (ASTM C348):

7 Day..... 845 psi

28 Day..... 1,400 psi

Adhesion (ACI 503.R) > 290 psi

Water Absorption (ANSI A118.7) < 4.0%

Shrinkage (ASTM C157) <.04 %

Initial Set (ASTM C191) 31 min.

Final Set (ASTM C191) 39 min.

OVERVIEW OF INSTALLATION STEPS

- **Surface Preparation** – All surfaces must be clean, sound, and free from bond inhibiting substances including, but not limited to, grease, oil and any other contaminants or loosely bonded materials. Follow ICRI Technical Guideline #310.2-1997 for detailed surface preparation requirements. A minimum surface profile of a CSP-4 or higher is required depending on overall substrate conditions and concrete repair requirements. Concrete and other porous or absorptive substrates must be (SSD) **saturated surface dry** with no standing water at the time of application.

- **Mixing** - *MiraPatch RM 3000* must be mechanically mixed to a uniform consistency in a clean mixing vessel using a low-speed drill (300-450 rpm) with a "Jiffy-type" or similar Miracote-approved mixing paddle. Pour approximately 2 1/2 quarts of potable water into the mixing vessel. When mixing always add the powder component gradually to the mix water. Thoroughly blend the complete unit for a minimum of two minutes. For desired consistency, add the additional 1/2 quart of potable water and continue mixing one more minute or until a uniform homogeneous consistency is achieved.

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OVERVIEW OF INSTALLATION STEPS (continued).

- **MiraPatch RM 3000 concrete** – Coarse aggregates must be clean, well-graded, non-reactive, high in density and low in water absorption. Aggregate must be (SSD) saturated surface dry when incorporating into the **MiraPatch RM 3000** mortar mix. Each unit may be extended with 25 pounds maximum of 3/8" aggregate when surface repair depth is 1" and greater. Follow the same instructions as detailed for mixing **MiraPatch RM 3000** mortar. After the initial two minutes of mixing, slowly add the desired quantity of measured aggregate into the mortar and continue mixing for one more minute. Up to one additional pint of potable water may be added while mixing to achieve the desired uniform consistency.
- **Application & Finish** – As with all trowel-grade repair mortars, **MiraPatch RM 3000** must be applied to a saturated surface dry (SSD) substrate with no standing water. To ensure intimate contact with the concrete substrate, apply a scrub coat to fill all pores and voids and place material immediately while scrub coat is still wet. Trowel the mortar/concrete against the perimeter of the repair and work the material toward the center. To complete the repair, finish surface with appropriate trowel or float as required depending on desired surface texture. Do not re-temper the material when it is no longer workable.

FOR BEST RESULTS

- Always install a minimum 4' by 4' test area or job site mock up for owner approval of acceptable color, texture, finish adhesion and any other critical requirements prior to proceeding with the installation.
- Verify that the most current versions of product technical data sheets (PTDS), color charts, material safety data sheets (MSDS), and installation guidelines (IG) are being utilized for project submittals and application reference.
- Protect materials always from excessive heat and cold, and pre-condition material as required in adverse conditions.
- As per ACI recommendations for Portland cement concrete, curing is required to meet published physical properties. Moist curing with burlap/polyethylene or burlene is the preferred method. A compatible water-based curing compound is also acceptable but may require removal prior to the application of subsequent coatings or other materials.
- The proper application of this product is the sole responsibility of the end user. The intent of job site visits by Miracote representatives is for observation of the work and offering technical recommendations only. Supervision and quality control are the sole responsibility of the user.

- Measure surface and ambient temperatures to ensure that material is only applied when both temperatures range between 40°F (7°C) and 90°F (32.2°C) during mixing, placement and time of application.
- When applying resinous and other moisture sensitive coatings after only 6 hours of cure, perform in-situ tensile pull-off tests to evaluate bond and confirm acceptable adhesion to the **MiraPatch RM3000**.

LIMITATIONS

- Concrete surface repair dimensions including overall length, width, depth and shape need careful consideration, and should be in conformance with ACI recommended standards of practice.
- Mechanical surface preparation methods may require additional testing to verify substrate tensile strength in accordance with ICRI Guideline No. 210.3R-2013 (Guide for Using In-Situ Tensile Pull-off Tests to Evaluate Bond of Concrete Surface Materials).
- Extension with coarse aggregates may alter the physical properties of **MiraPatch RM 3000**, as published herein.
- Do not use solvent based curing compounds.
- As with all cement-based materials, avoid direct contact with aluminum to prevent an adverse chemical reaction. Refer to MiraPrime AL for an appropriate primer.

LIMITED WARRANTY

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CAUTION: ALWAYS KEEP OUT OF THE REACH OF CHILDREN.



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