



Miracote MPC Hard

Product Technical Data Sheet

Miracote MPC Hard is a polymerized, two component, cementitious resurfacing and protective coating that can be applied over a variety of surfaces including concrete, masonry, metal, wood and tile. It consists of a unique rubber-like polymer liquid that is mixed with a proprietary cement and aggregate blend containing aluminum oxide for superior abrasion resistance in the most severe environments. Miracote MPC Hard is then typically applied in two or more coats by trowel, brush, roller, or notched squeegee and back roll.

Designed for both exterior and interior use, Miracote MPC Hard restores and protects concrete surfaces from the consequences of exposure to water and chloride intrusion, freeze thaw damage and carbonation. Miracote MPC Hard is an extremely durable, cost-effective protective coating that is “breathable” and allows for the transmission of inherent moisture vapor within concrete without blistering or delamination. By lowering moisture content within the concrete, Miracote MPC Hard helps reduce the potential for corrosion of steel reinforcement.

WHERE TO USE

- Concrete restoration and protection projects.
- Parking deck turn lanes, ramps and helixes.
- Helicopter landing pads.
- Concrete elements in abrasive and erosive environments
- Industrial plant floor repairs.
- Concrete toll booth lanes.
- Loading docks and access aprons.
- Secondary containment and water tank linings

ADVANTAGES

- Aluminum oxide aggregate - superior abrasion resistance.
- Moisture vapor permeable – reduces potential for corrosion.
- Protects against penetration of water, chlorides and CO².
- Ideal for exterior/interior, extreme duty vehicular traffic.
- Excellent adhesion to damp or dry substrates.
- Lower material and labor costs compared to resinous systems.
- Fast return to service in most conditions.
- Zero VOC – meets LEED point criteria.
- Slip resistance built-in with most application methods.

COVERAGE RATES

Theoretical coverage per unit:

One coat Application 500 sq. ft. @ 1/32” (31.25 mils)
Two Coat Application..... 250 sq. ft. @ 1/16” (62.50 mils)
Three Coat Application..... 166 sq. ft. @ 3/32” (93.75 mils)

Approximate Yield/Unit 1.25 cu. ft. (regular powder only)

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

MPC Liquid Catalyst Component (5-gallon pail)

MPC Hard Powder, Natural Gray or White* (55 lb bag)

*To match Standard Colors requires use of White Powder

MPC Hard Powder, Gray & White Blend (55 lb bag)

MPC Special Custom Blends Available (55 lb bag)

MIX RATIO

5 Gal Liquid Catalyst: 2-bags of MPC Hard Powder.

SHELF LIFE AND STORAGE

One year from the date of manufacture as long as containers remain 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)

Working Life	15-60 minutes (temperature dependent)
Recoat Time	1-4 hours or when dry
Open to Traffic	12 – 24 hours
Adhesion ASTM C-882, Type 1	515 psi
Tensile Strength ASTM C190	450 psi
Compressive Strength ASTM C109.....	2,440 psi
Water Vapor Permeability ASTM E96	1.96 perms/in
Water Absorption Weight gain of 4” coated concrete cube after 21 days water immersion (CMCH).....	<2%
Freeze-Thaw Resistance – 50 Cycles	no scaling/peeling/flaking (Concrete cylinders immersed for 8 hrs in coated salt water solution followed by 16 hrs. of freezing).
Weathering ASTM G23	No visible degradation (Method I Procedure, 60 cycles)
Resistance to Wind Driven Rain	
Fed. Spec. TT-C-558	(8hrs)
Fed. Spec. TT-C-0035	(24hrs)
At 5” water pressure and 60 gal/hr water flow, no water or dampness noted on back of test panels.	
Resistance to Hydrocarbon Substances	ASTM D1308 (Spot Open Test) No softening or attack – after 21 days repeated re-application of gasoline, SAE-10 motor oil and jet fuel.
Impact Resistance MIL-D-3134, Para.4.7.3	
2 lb steel ball dropped from 8” height onto coated steel plate	No cracking or detachment
Flammable Properties ASTM E84	Flame spread – 4 Smoke Density – 0
Fire Resistance UL790.....	Complies as Class A

OVERVIEW OF INSTALLATION STEPS

- **Surface Preparation** - All surfaces to be coated must be clean, sound and free from any bond inhibiting substances including, but not limited to, grease, oil and any other contaminants or loosely adhered materials. For concrete substrates, a minimum surface profile of a CSP-3 or higher is required depending on overall substrate conditions and coating requirements. Concrete and other porous or absorptive substrates should be (SSD) **saturated surface dry** with no standing water at the time of the Miracote MPC application to the substrate.
- **Mixing** – Miracote MPC Hard must be mixed mechanically using a low-speed drill with a “Jiffy-type” or similar Miracote-approved mixing paddle in a clean mixing container. Pre-mix Liquid Catalyst first to re-disperse any polymer solids that may have settled on the bottom of the pail.

When mixing Miracote MPC Hard always pour the liquid catalyst component into the mixing pail first and slowly add the powder component. The mix ratio of powder to liquid may be slightly modified depending on whether a slurry or trowel-grade consistency is desired. Thoroughly mix the Miracote MPC Hard until a uniform consistency is achieved that is free of lumps and pockets of dry powder.

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OVERVIEW OF INSTALLATION STEPS (Continued)

- **Application** - Miracote MPC Hard can be applied using a roller, brush, broom, trowel, magic trowel, or squeegee and back-roll. Apply Miracote MPC Hard only on properly prepared substrates, and be sure that minor voids and bug holes are properly filled by working material into the substrate. If concrete surface defects require repairs prior to the application of MPC Hard, select an appropriate MiraPatch repair mortar.

FOR BEST RESULT

- 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), material safety data sheets (MSDS), and installation guidelines (IG) are being utilized for project submittals and application reference.
- Protect materials at all times from excessive heat and cold.
- Regularly check wet film thickness with mil gauge and monitor product consumption to ensure correct application thicknesses are obtained.
- The proper application of this product is the sole responsibility of the end user. Job site visits by Miracote representatives are only for the purpose of making recommendations. Supervision and quality control are the sole responsibility of the user.
- Measure surface and ambient temperatures to ensure that material is only applied when temperatures are 40°F (4.5°C) and rising during placement and cure time.
- As with concrete and other cementitious or masonry products, surface staining and tire marking may occur. Apply a clear film-forming or penetrating sealer to enhance stain resistance, cleanability and minimize tire marking.
- Natural gray and pigmented cementitious coatings may exhibit color variegation due to fluctuating evaporation rates during cure. For better color consistency, apply a topcoat of MiraGard Colorbond or other Miracote pigmented topcoats.

LIMITATIONS

- May reflect moving cracks and control joints. Implement detail as per current published installation guidelines (IG's).
- Staining, streaking and efflorescence may occur when fresh coating is exposed to excessive ponding or running water.
- Prevent any contact with aluminum which can cause an adverse reaction due to Miracote MPC's cementitious content..

LIMITED WARRANTY

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CAUTION: ALWAYS KEEP OUT OF THE REACH OF CHILDREN.



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