



HMI REPAIR MORTAR PLUS Technical Data Sheet

DESCRIPTION:

Light weight, single component, cement/ fiber based, medium setting repair mortar. Versatility includes vertical patching and horizontal overlay repairs; that can be placed with a specialized roller (optimal method) or conventional placement tools.

APPLICATIONS:

Driveways, walkways, concrete ramps, slabs, spalls, structural underlayment, decorative overlays, bridges, parking structures, tunnels, industrial plants. ALL applications requiring a durable, abrasion resistant and high strength concrete repair mortar.

FEATURES/BENEFITS

- . Versatility for Multiple Applications
- . Unequalled flexural and tensile strength
- . Trowel or gauge rolled
- . Shrinkage compensated
- . Single component
- . Minimizes Reflective Surface Cracking
- . Strong resistance to abrasion, freeze-thaw cycles, and deicing salts.

TECHNICAL INFORMATION

Material Properties @ 80F (26C)

ASTM Certified Lab testing

Set Times ASTM C 266

Initial set.....approx. 15 to 25 min.
 Final setapprox. 60 to 80 min.

Flexural Strength psi ASTM C348

10day 1873 PSI
 28day 2144 PSI

Compressive Strength psi ASTM C109

3hour 4290 PSI
 1day 5375 PSI
 7day 6026 PSI
 28day 7000 PSI

Slant Shear Strength psi ASTM C1059

1day Primer 663 PSI
 7day Primer 820 PSI
 1day Slurry 1057 PSI
 7day Slurry 1295 PSI
 1day Epoxy 1743 PSI
 7day Epoxy 1745 PSI

Length change of hardened cement mortar ASTM C 157

0.06% shrinkage at 28-day lab tested.

Split Tensile Strength psi ASTM C496

10day 1015 PSI

Shelf Life

1 year in original, unopened package and protected from moisture.

Packaging 45 lb.

Dry Unit Weight 106 lbs. per cubic ft.

Coverage/Yield

45 lb. HMI Repair Mortar 45 PLUS will yield approximately **0.37 ft³** (0.01) m³ of material.

Directions for use:

Surface Preparation: Repair surfaces must be sound, clean, and free from contaminants.

Mechanical preparation options:

- 1) Mechanical grind the concrete surface using metal bonded tooling (16 grit or 35 grit) using walk behind floor grinders with vacuum systems. Hand -held 7" grinders with shrouds, vacuum & metal coarse wheel.
- 2) Scarifying will remove approximately 1/8" of concrete at each pass. It may be necessary to go this route for heavier removal or a more aggressive preparation.
- 3) Hydro blasting with media or high -pressure power washing to remove the cream of the concrete to open the pores of the surface can be another option, especially for vertical and overhead preparations.
- 4) Power wash repair area after mechanical preparation and before applying primer bonding system.

HMI Moisture Blocker Application:

Moisture Blocker is an internal stabilizer that strengthens the concrete interface. Chemically filling voids and capillaries, creating a glass-like barrier keeping moisture and vapor transmissions from intruding the negative side of the concrete structure.

Priming: Required for durable and long lasting repairs.

HMI Repair Mortar Primer is a ready to use re-emulsifiable bonding agent, which bonds HMI Repair Mortar PLUS to properly prepared concrete, and between repair mortar lifts. It can also be used to bond mortar to plywood, decking and expanded polystyrene forms.

Recommended for interior and exterior use that is not subjected to constant moisture and hydrostatic pressure.

HMI Repair Mortar Primer Slurry/ Bond Coat is a blend of 1 bag of HMI Repair Mortar PLUS with 2 gallons of undiluted HMI Repair Mortar Primer to produce a thin slurry consistency. Work slurry into repair area with a stiff masonry brush, paying attention to the corners, sides and any exposed rebar. Place the HMI Repair Mortar PLUS mixed with water before the Slurry/Bond Coat becomes tack- free. Application rate for the slurry bond coat is approximately 50 sq. ft per mixture depending on the roughness/porosity of the concrete substrate.

EPOXY Euclid Dural MV 452 is a two -component, 100% solids, moisture insensitive, high strength epoxy binder. Perfect solution for bonding new, plastic concrete and mortar to existing concrete slabs and steel.

(Required for DOT applications and ASTM C 882 Bond strength using Slant Shear.)

Mixing:

Fill a sufficient size bucket with all the mix water, then add ½ of the mortar and thoroughly mix, add the remainder of mix, and continue mixing. Mix thoroughly until the mortar has a consistent mixture, scrape the sides of the mixing bucket with a trowel to ensure that all the dry material gets mixed thoroughly.

Mix for another 30-60 seconds once the sides of the bucket has been scraped off. Total mixing water shall be in the range **150 oz – 180 oz per 45 lb.** For optimal mixing, use a dual paddle hand-held mixer such as the **BNR6402K** or barrel style concrete mixer. This provides the best fiber dispersion with lump free consistency. Mix time will depend on the type of mixer and volume of material.

Application:

Can be placed with a specialized 18" or 9" roller (Best Practice) or traditional placement tools.

Gauged rollers, roller frames and textured rollers are available for applying the HMI Repair Mortar 45 PLUS at a consistent thickness. Magic trowels are available for achieving a smooth finish easily without tearing the surface.

Product can be screeded, troweled, broomed, along with decorative roller or stamped finish. Accepts integral colors powder or liquid, acid stain and water based or acrylic stains.

USE HMI Finishing aid instead of water for each step of the finishing process.

Curing:

For optimal performance **Moisture Cure HMI Repair Mortar PLUS** for a minimum of 2 hours for all applications. Apply **HMI RM SEALER** as per instructions to continue the curing process and to provide the ultimate protection for the repair or overlay. * Lab tests shall be conducted following **AASHTO R39-19 and M201. Keeping samples in a moist condition from initial set, until time of testing.**

Clean-Up:

All tools and mixing equipment shall be immediately cleaned with water.

Precautions / Limitations

For optimal performance **MOISTURE CURE HMI Repair Mortar PLUS** for a minimum of 2 hours.

Apply **HMI RM SEALER**, after moisture curing. Unless a topical stain or sealer is going to be applied.

If low humidity and high wind is predicted wind breaks, sunscreens and HMI Finishing Aid evaporation retarder maybe needed to minimize potential shrinkage cracking.

Have adequate manpower to place, finish, and cure overlay. Avoid placement in the hottest part of the day.

Do not add more water than recommended.

Mix Cannot be Extended with Aggregate.

Do not over-work or over-trowel the spall repair or overlay.

Follow ACI Hot Weather Concreting 305R-99 procedures.

Do not apply to frozen surfaces, or at temperatures below 35 F (1.7 C). Consult the Safety Data Sheet, in all cases before use.

Dust Control

Small Vacuum



Large Vacuum



Air Scrubber



Removal

Chipping Hammer



Spade, Chisel,

Waffle & Point Bits



Surface Profile Creation

Floor Grinder



Hand Grinder



Scarifier



ShotBlaster



HydroBlaster



Clean

Pressure Washer



Turbo



Blower



Patch

5-Gallon



Brushes



Trowels



Placement

Loop Rollers
& Gauges



Adjustable
Roller Frame



Aluminum
Screed



Trowels



Mixing Station

Gloves



5-Gallon Buckets



Plastic



Muck Bucket



Muck Bucket
Cart



Thermometer
Gun



Measuring
Container



Double Head
Mixer



Barrel Mixer



Utility



Margin Trowel



Dust Mask

