



Presentation to the
Beacon Hill Architectural Commission

7 Louisburg Square

Beacon Hill Architectural District

18 January 2025





New mail slot in burnished brass.

Refer to appendix for details and hardware specifications.



New mail slot location

Refer to appendix for details and hardware specifications.





Appendix







Mail slot



Proposed hardware finish (burnished brass)

Matrix

Trowel applied, cementitious repair mortar, formulated to be compatible with the color and physical properties of parent material.

WHERE TO USE

Repair and reconstruct natural and cast stone, terracotta, and brick.

Performance Characteristics

- Low shrinkage**
 - Maintains integrity of repair, resists cracking.
- Thermal compatibility**
 - Prevents delamination due to temperature change.
- Durable**
 - Resistant to weathering action, excellent freeze/thaw stability and abrasion resistance.
- Very low permeability**
 - Resistant to deicing salts, chloride, and chemical attack, and environmental pollution.
- Breathability**
 - Will not cause damage to structure by restricting moisture vapor flow.
- Shaveable**
 - Recreate sharp edges and architectural details.
- Single component**
 - Easy to batch in less than full pail quantities.

Surface Preparation

- Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper bond.
- Saw cut edges with a diamond blade at a 90° angle to eliminate feather edging. Avoid polishing the edges, as this will inhibit bond.
- Avoid bruising or micro cracking during surface preparation. Refer to ICRI Surface Preparation Guide 03732.
- Repair zone must be a minimum of 1/2 inch deep, of simple geometry, with no complex edge conditions.
- Avoid long narrow repairs; these have a greater tendency to crack.
- Apply Conpro Start where a consolidant is of benefit.

- Saturate substrate with clean water, (saturated surface dry/SSD), with no standing water during Priming or Application.
- Remove concrete from corroded steel and several inches beyond to expose non-corroded steel.
- Provide a 3/4 inch clearance between the concrete and steel.
- Damaged reinforcing steel should be examined by a qualified engineer and appropriate action taken.

Priming Stone, Terracotta and Concrete

- Prime the prepared substrate including all edges with a bond coat of Matrix. Work the bond coat into the substrate to ensure intimate contact and establish bond. The repair mortar must be applied into the plastic bond coat. If the bond coat dries, remove and re-apply.

Embedded Metal and Steel

- Remove all scaling rust from embedded metal and steel.
- Apply ECB anti-corrosion coating.

Mixing

- Measure Matrix powder and water to achieve a 4 to 4.5 parts powder to 1 part water ratio (or approximately 1 gallon per 50 lb unit of Matrix).
- Pour measured water into a clean container suitable for mixing.
- Place 1/2 of measured Matrix into mixing container with water and mix until uniform. Add remaining 1/2 Matrix to the mixing container and mix until fully blended to a uniform, lump free consistency.
- Mechanically mix using a low-speed drill (400 – 600 rpm) and mixing paddle or mortar mixer.
- Additional water may be added to achieve desired consistency for placement of the Matrix. Over watering the mix will affect final color.

- For multiple batches, the additional water should be added in a uniform fashion to avoid color shift.
- Insufficient water will not hydrate the material and it will not achieve full strength. Mix only as much material as can be placed in 15 -20 minutes.
- Do not over mix, as this will entrain air.
- Do not retemper, this will affect color.

Application

- At the time of application, surfaces should be saturated surface dry (SSD) but hold no standing water.
- Follow instructions for Priming.
- Force the material against the edges of the repair, working from right to left or left to right.
- Over build repair zone by 1/4 inch.
- Shave to final form with Mitre Rod up to 2 hours (longer in cold temperatures) after application.
- Do not overwork the finish.

Curing

- Ensure repair zone stays properly hydrated. This may vary depending on ambient conditions. If hydration is not maintained, the repair may flash dry and not achieve full strength. Refer to ACRI 308R-01 for detailed curing recommendations. If the repair is inaccessible, tape polyethylene over area to retain moisture. Do not allow polyethylene to contact the material.
- Protect repair from direct sunlight, wind, rain and frost during curing period.

Clean Up

- Clean tools and equipment with water immediately after use.
- Cured material must be removed mechanically.

Matrix

Theoretical Yield

Yield per Pail	Repair Depth	Square Feet
0.5 cubic feet	1/2 Inch	12.00
0.5 cubic feet	1 Inch	6.00
0.5 cubic feet	1.5 Inches	4.00
0.5 cubic feet	2 Inches	3.00

Product Handling

- Packaging**
 - 5 gallon plastic pails – 50 lbs.
- Shelf Life**
 - 18 months when properly stored.
- Storage**
 - Transport and store in cool, clean, dry conditions in unopened containers.
 - High temperature or high humidity will reduce shelf life.

Limitations

- Do not apply unless substrate and ambient temperature can be maintained at a minimum of 40°F for 24 hours. Refer to ACI Cold Weather Application Guidelines.
- Cold mixing water and low temperatures will retard set. Hot water

- and high temperatures will accelerate set.
- Protect application from precipitation and high wind for at least 24 hours.
- Do not add more water than specified.
- Do not re-temper, as this will affect color.
- Avoid overworking material during placement as this will affect color and cause surface (map) cracking.
- Do not allow polyethylene or burlene to touch surface while curing as this will cause whitening of the material.

Health and Safety

- Product is alkaline.
- Do not ingest.
- Avoid breathing dust.
- Avoid contact with skin and eyes.

- Refer to Safety Data Sheet (SDS) for additional information.

First Aid

- In case of skin contact, wash thoroughly with soap and water.
- For eye contact, flush immediately with a high volume of water for at least 15 minutes and contact a medical professional.
- For respiratory problems, remove person to fresh air.

Disposal

- Dispose of material in accordance with local, state and federal regulations.

Technical Data

Physical state and appearance		Dry, pigmented powder		
Base		Portland cement		
pH	Wet mix	>12		
Water/dry material ratio		0.20		
Dry bulk density	ASTM C188	92 lbs./ft. ³		
Density	Hardened	118 lbs./ft. ³		
Setting time by vicat needle	ASTM C191	240 minutes		
Percent air – pressure method	ASTM C231	4%		
Water absorption	ASTM C140	11%		
Water vapor transmission	ASTM E96	5.2 perms		
Length change	ASTM C157	<500 μstrains @28 days		
Modulus of elasticity	ASTM C469	2.6 X 10 ⁶		
Slant shear bond strength – epoxy	ASTM C882	1800 psi		
		7 Days	14 Days	28 Days
Compressive strength – psi	ASTM C109	2900		3000
Tensile strength – psi	ASTM C307	400	480	560

FOR PROFESSIONAL USE ONLY

Conproco warrants this product for one year from the date of manufacture to be free from manufacturing defects and to meet the technical properties on the current technical data sheet if used as directed within shelf life. User determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product, exclusive of labor or cost of labor. March 28, 2024.
NO OTHER WARRANTIES EXPRESSED OR IMPLIED SHALL APPLY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
CONPROCO CORP SHALL NOT BE LIABLE UPON ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES.

M3P Stain

Spray, roller
or brush applied,
semi-transparent
mineral silicate paint.

WHERE TO USE
Long term protection and enhanced aesthetics
of concrete, masonry and stone. Used to blend
substrate color variations to be more uniform.

Performance Characteristics*

- Anti-carbonation**
 - Reacts with calcium hydroxide at surface, mitigating carbonation to depth of penetration.
- Water repellent**
 - Siloxane component provides long term protection from water and water borne contaminants.
- Non-film forming**
 - Will not peel, blister or flake.
- Breathability**
 - 97% vapor permeable.
- Stable**
 - Unaffected by UV.
 - Fire resistant.
- Colorfast**
 - Unique iron oxide pigment system resists fading.
- Environmentally friendly**
 - Water based, low odor, low VOC.
- Ease of application**
 - Single component, stir and apply.
- Extensive color spectrum**
 - 34 standard colors, plus *Masonry Restoration* colors and custom matching.

Surface Preparation

- Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper penetration.
- Prepare surface to be sandpaper-like texture (CSP 3) by mechanical abrasion or water blasting. Refer to ICRI Surface Preparation Guide 03732 for information about Concrete Surface Profile (CSP).
- Surface must be dry and frost free.
- Allow surface to dry completely.
- New concrete must cure at least 14 days before application.

Priming

- Apply a uniform application of *Primex*.
- For best results spray apply beginning at the bottom of the structure and work to the top.
- Allow to react for 12 hours before applying *M3P Stain*.

Mixing

- Stir or mechanically mix using a low speed drill (400 - 600) until homogenous.
- Mix pails from different batches when an entire surface is visible.

Application

- Apply a test sample to determine suitability. Ensure by visual inspection that *Primex* and *M3P Stain* have penetrated the substrate. A white film on the surface after either material reacts for 12 hours indicates substrate is either too dense for proper penetration or a previous treatment such as a water repellent has been applied.
- Substrate temperature must be above 45°F.
- Ambient temperature must be above 45°F for the entire curing period.
- For roller applications use a 3/8 - 1/2 inch synthetic nap roller.
- For spray applications use an airless sprayer with a 0.017 - 0.021 tip. Refer to *Conproco Black Book*.
- Work to pre-determined break points in the structure.
- Maintain a wet edge.
- Allow *Primex* to react for 12 hours before applying *M3P* or *M3P Stain*.
- A second application of *M3P Stain* can be applied after the first is dry-to-touch.
- Primex* may be added to *M3P Stain* if greater transparency is desired.

Curing

- Protect from moisture for 24 hours.

Clean Up

- Clean tools and equipment with water. Clean adjacent areas with water before material dries.

M3P Stain

Coverage/Yield

- M3P Stain* – 150 - 250 ft.²/gal.
- 90 – 150 ft.²/gal. for split block or rough surfaces.

Product Handling

- Packaging**
 - 5 gallon containers.
- Shelf Life**
 - 18 months in unopened containers.
- Storage**
 - Protect from freezing.
 - Transport and store in cool, clean, dry conditions in unopened containers.
 - High temperature will reduce shelf life.

Limitations

- Do not apply if precipitation is forecast within 24 hours of application.
- Do not apply in strong winds.
- Do not apply to horizontal surfaces.
- Do not apply to frozen surfaces.
- Do not apply if temperature of substrate is below 45°F.
- Do not apply if ambient temperature is below 45°F.

Health and Safety

- Product is alkaline.
- Do not ingest.
- Avoid contact with skin and eyes.
- Refer to Safety Data Sheet (SDS) for additional information.

First Aid

- In case of skin contact, wash thoroughly with soap and water.
- For eye contact, flush immediately with a high volume of water for at least 15 minutes and contact a medical professional.
- For respiratory problems, remove person to fresh air.
- If respiratory difficulty persists, contact a medical professional.

Disposal

- Dispose of material in accordance with local, state and federal regulations.

Technical Data

Physical state & appearance		Thick liquid emulsion, natural
Base		Aqueous
pH		11.2
Percent solids by weight		29-31%
Viscosity	ASTM D562	65 - 69 KU – paint paddle
Density of liquid coatings	ASTM D1475	9.4 lbs./gal
Drying time		1 hour @ 65°F – dry to touch
Fungus resistance	Fed. Spec. TT-P-19D	Pass - no growth
Accelerated weathering – QUV	ASTM G154	2000 hours – UV-B cycled with condensation - no effect
Water penetration and leakage	ASTM E514	100% reduction
Water vapor transmission	ASTM D6490	96% WVT
Water vapor transmission – Procedure B	ASTM E96	75 perms
Heat stability	ASTM C932	Pass – 2 weeks @ 120°F

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