

MORTAR-V/O CI

Nonsag, corrosion inhibitor enhanced, vertical and overhead concrete repair mortar

CSI Div. 03

03 01 00 Maintenance of Concrete



LEED Points

MR Credit 5.1, Regional Materials.....Up to 2 Points
 IEQ Credit 4.2, Low-Emitting Materials Paints and Coatings... 1 Point
 Using this AQUAFIN product can help contribute to LEED certification of projects in the categories shown above.

Product Description:

MORTAR-V/O CI is a one component, lightweight, fiber reinforced, polymer modified, high strength vertical and overhead everyday concrete repair mortar. It can be placed in lifts up to 2" without forming. Its formulation is designed for excellent workability and allows shaving after reaching initial set for superior finishing. Additionally, MORTAR-V/O CI is enhanced with a migrating corrosion inhibitor which helps protect localized and adjacent reinforcing steel.

Typical Applications:

- Repairing vertical and overhead, indoor and outdoor, concrete, masonry and brick substrates.
- Spalls or holes in concrete
- Deteriorated edges

Advantages:

- Very low sag - excellent "hang" characteristics
- Bonds very well to concrete, masonry & block
- Low shrinkage
- One component - just add water
- Excellent workability - can be sculpted and shaved with ease
- Enhanced with a migrating corrosion inhibitor to help protect localized and adjacent reinforcing steel.

Substrate Preparation:

- Substrates must be dry, of load bearing capacity, hardened and be free from potential bond breakers such as dirt, dust, grease, oil, sealers, curing compounds, form release agents, laitance, loose toppings, foreign substances and adhesive residue, etc.
- Only proceed with application when the temperatures remain between 40°F and 90°F (4°C and 32°C) and protect from freezing for 24 hours after application. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- All surfaces to be repaired should be damp (SSD (saturated surface dry)) but have no standing water. Hot surfaces should be cooled and shaded while cold surfaces should be heated and sheltered. Mechanically remove all loose materials by suitable means such as chipping hammer, chisel, sandblast, waterblast, or similar methods.
- For proper adhesion, the concrete substrate must have a fractured aggregate profile.

Technical Properties:	
Physical state	Powder
Color	Gray
Flammability	Flame Spread: 0 Fuel Contribution: 0 Smoke Development: 0
MORTAR-V/O CI mixed	
Mix ratio (water:powder)	1.2 - 1.25 gal water : 50 lb powder (4.5 - 4.7 L water : 22.7 kg powder)
Application temp. range	40°F to 90°F (4°C to 32°C)
Working time	~ 10 - 12 minutes
Physical Properties: The values stated are applicable with ambient temperatures of +23° C and 50% relative air humidity. Higher temperatures shorten the processing time, lower temperatures extend processing times.	
Compressive Strength ASTM C-109	~ 1,000 psi after 3 hours ~ 2,500 psi after 24 hours ~ 3,000 psi after 7 days ~ 4,500 psi after 28 days
Flexural Strength ASTM C-348	~ 950 psi
Length Change ASTM C-157	0.086% @ 28 day wet cure
Bond Strength ASTM C-882	1,050 psi @ 28 days
Storage/Shelf Life/Packaging	
Cool and dry, 12 months in original sealed packaging	50 lb bags (22.7 kg)
Approximate Yield per 50 lb Bag: ~0.42 ft ³ / 50 lb bag	

- All exposed steel reinforcement must be cleaned to a white metal finish and primed with an anti-corrosion coating.
- Repair areas should have saw-cut straight edges with a minimum of 1/4" (6 mm) depth (avoid featheredging).

Mixing:

- Mixing Ratio: 1.2 - 1.25 gal water : 50 lb powder
- Precondition MORTAR-V/O CI to ~70°F (21°C) prior to mixing.
 - For best results, mechanically mix at slow speed with a 3/4" drill and mixing paddle. Hand mix for small repairs.
 - Add the required amount of potable water into a clean mixing bucket. Gradually add powder 1/3 at a time while mixing continuously.
 - Mix at slow speeds to prevent entraining air for a min. of 3 minutes until a lump-free consistency is achieved.
 - Working time is ~20 - 30 minutes at 70° F
- DO NOT OVERWATER! If too much water is added, the mixture tends to segregate resulting in uneven surface strengths. Surfaces with reduced strength must be removed mechanically.

MORTAR-V/O CI

Application:

Read all instructions thoroughly prior to installation.

Ensure substrate and ambient room temperatures are between 40°F and 90°F (4°C and 32°C) before application.

1. Apply a small amount of mixed MORTAR-V/O CI to the SSD substrate. Work material into the entire substrate and cavity to promote proper bonding.
2. Place MORTAR-V/O CI into the wet scrub coat before it dries, keying in and compact thoroughly.
3. Apply material in lifts of 1/4 - 2" (6 - 51 mm). Avoid featheredging. For optimum mechanical bond on successive lifts, thoroughly score each lift and allow to reach initial set before the next layer is applied.
4. Trowel material to the desired finish after initial set. MORTAR-V/O CI can be shaved after material has reached initial set for further finishing.

Curing

Damp cure for 3 days. Begin curing as soon as the patch has set by keeping surface moist as per ACI recommendations for Portland cement concrete, using burlap, polyethylene or a fine mist of water. If this is not practicable, damp cure for 6 hours, then coat with an approved water based curing compound. However, curing compound may adversely affect following lifts of mortar, leveling mortar or protective coatings.

Limitations:

- Do not bridge moving cracks or joints.
- Do not add admixtures or extend with aggregate.
- Bonding agents are recommended for large areas as well as permanently damp areas.
- Protect from freezing for 24 hours after application.

Clean-up

Promptly wash hands and tools with water before material hardens. Cured material must be removed mechanically.

Shelf Life:

12 months in unopened, dry, undamaged bags.

Note:

Installer is responsible for proper product application. Site visits by Aquafin personnel or representatives are solely for the purpose of making technical recommendations, not for providing supervision or quality control.

Safety:

Refer to SDS. This product contains portland cement and sand (crystalline silica) and is highly alkaline (irritant) in contact with water. Avoid breathing dust. May cause delayed lung injury (silicosis). Use rubber gloves and goggles during mixing and application. Protect skin and eyes. After contact with skin, wash with plenty of water. In case of eye contact, rinse immediately with plenty of cool water and seek medical advice.

KEEP OUT OF REACH OF CHILDREN.

LIMITED WARRANTY: AQUAFIN, INC. warrants this product for a period of one year from the date of installation to be manufactured free of defects and to be consistent with its technical properties as stated in our current Technical Data Sheet. This product must be used as directed and within its stated shelf life. AQUAFIN INC. will replace or at our discretion refund the purchase price of any product, excluding cost of labor, which is proven to be defective. Our product recommendations are based on industry standards and testing procedures. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. We assume no warranties written, expressed or implied as to any specific methods of application or use of the product. AQUAFIN INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. AQUAFIN, INC. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay. Any claim for a defective product must be filed within 30 days of discovery of a problem, and must be submitted with written proof of purchase.

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