

V.O. REPAIR MORTAR

Description

ProSpec[®] V.O. Repair Mortar is a fast setting, single component, polymer modified, non-sag, cementitious patch formulated for vertical and overhead repairs.

Features

- Superior bond
- Fast setting
- Easy to use just add water
- Excellent overhead hang capability of from 1/2" to 2" (12 mm to 50 mm)
- Portland cement based
- Interior/exterior
- Trowel or hand apply
- Remains plastic for approximately 15 minutes allowing shaping and sanding
- Cost effective – no forming needed
- Integrated corrosion inhibitor

Uses

- Structural repairs of interior or exterior, above or below grade areas
- Rapid setting patching mortar for use on vertical and overhead concrete and masonry surfaces
- Restoration of architectural details, bridges, parking structures, tunnels, precast concrete products, retaining walls, balconies, etc.

Technical Data

Working Time		Flexural Strength ASTM C 348	
20 minutes at 70° F (21° C)		7 days	>800 psi (5.5 MPa)
Set Time ASTM C 191 @ 70° F (21° C)		28 days	>1,000 psi (6.9 MPa)
Initial set	Approx. 25 min.	Shear Bond ASTM C 882	
Final set	Approx. 30 min.	1 day	>1,400 psi (9.7 MPa)
Compressive Strength ASTM C 109		7 days	>1,500 psi (10.3 MPa)
1 hour	>2,000 psi (13.8 MPa)	Expansion/Shrinkage ASTM C 157 modified per ASTM C 928	
3 hours	>3,700 psi (25.5 MPa)		
1 day	>5,000 psi (34.5 MPa)		
7 days	>6,000 psi (41.4 MPa)		
28 days	>7,500 psi (51.7 MPa)		
		Air Cure	Water Immersion Cure
		7 days	-0.06%
		28 days	-0.09%
			+0.006%
			+0.006%

Test results obtained under controlled laboratory conditions.
Reasonable variations can occur due to atmospheric and job site conditions.

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Preparation

1. Adjoining surfaces must be sound, clean, free of loose or damaged concrete, dust, dirt and other contaminants that will interfere with bond.
2. Completely expose and clean all reinforcing steel, ensuring a minimum clearance of $\frac{3}{4}$ " (19 mm) behind reinforcing steel. Perform reinforcing steel preparation in accordance with ICRI Technical Guidelines No. 03730. For best results patch area edges should be saw cut to a depth of $\frac{1}{2}$ " (13 mm).
3. Abrade the concrete to obtain a rough surface thereby promoting adhesion.
4. The area should be saturated surface dry (SSD) with no standing water.
5. The use of a vigorously scrubbed in no slump bond coat of V.O. Repair Mortar or a bonding agent like ProSpec Acrylic Additive is recommended. This should be applied to all surfaces coming into contact with the patch. Do not allow bond coat to dry prior to the placement of V.O. Repair Mortar.

Refer to

- ICRI Technical Guide No. 03732 [Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays](#)

Mixing

1. V.O. Repair Mortar requires 3.5 to 4.5 quarts (3.3 to 4.3 L) of water per 50 lbs. (22.7 kg) of powder.
2. Mix only the amount of material that can be placed in 20 minutes.
3. Pour the required amount of potable water into a clean mixing container, then add the measured amount of V.O. Repair Mortar while continuing to mix. Blend thoroughly for 2-3 minutes to a lump free putty like consistency and place.
4. Small amounts of V.O. Repair Mortar can be mixed using a trowel or a $\frac{1}{2}$ " drill (400-600 r.p.m.) and paddle.
5. DO NOT over water, re-temper, over mix or aerate. Clean out the mixing container thoroughly after each batch to avoid getting hardened mortar into the next batch.

Application

1. Immediately apply the fresh mortar into the entire surface, forcing V.O. Repair Mortar firmly into the properly prepared area insuring full contact with all bonding surfaces.
2. Slightly overfill the area and after initial set, using a steel trowel, shave V.O. Repair Mortar to the desired final profile, shaving from the center towards the bond edge at the existing surfaces. A wet spray may help with final shaping.
3. In deeper areas additional lifts can be made after the original patch has reached initial set (approximately 30 minutes). Score and roughen the original lift layer to improve bond between applications.
4. V.O. Repair Mortar, used neat, can be placed in lifts up to 2" (50 mm) on vertical and overhead applications by holding the mortar in place until initial set takes place.

Clean Up

Use water to clean all tools immediately after use.

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Best Performance

- To ensure enough working time a mixing batch of no more than 25 lbs. (11.3 kg) is recommended.
- Do not bridge moving cracks, control or expansion joints
- Protect from conditions that cause early water loss; avoid wind, sunlight and heat
- The minimum application thickness is 1/2" (12 mm)
- Do not over work, re-temper, over water or add admixtures
- Use proper methods to clean and abrade concrete/masonry
- Do not apply to frozen or frost covered areas. The minimum ambient and surface temperatures should be 40° F (4° C) at time of application. Hot weather and conditions above 80° F (27° C) will reduce working time and accelerate set, while cold temperatures below 40° F (4° C) will have a retarding effect.

Refer to

- ASTM Standards D4259 Standard Practices for Abrading Concrete
- ASTM D4261 Standard Practices for Surface Cleaning Concrete Unit Masonry for Coating
- ASTM D4258 Standard Practices for Surface Cleaning Concrete for Coating
- ACI 305 Standard on Hot Weather Concreting
- ACI 306 Standard on Cold Weather Concreting
- ACI 308 Standard Practice for Curing Concrete

Curing

Cure in accordance with American Concrete Institute Procedure No. 308. Keep ProSpec V/O moist and protected from high temperature, high wind, low

humidity and direct sun causing rapid drying, by covering with wet burlap or plastic for up to 24 hours. A water based curing can be used.

Coverage

50 lbs. (22.7 kg) bag yields approximately 0.45 ft³ (0.01 m³)

Packaging

50 lbs (22.7 kg) moisture resistant bag

Storage

Always keep in a cool dry place unexposed to sunlight.

Shelf Life

One year when stored properly in original unopened container.

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Caution

KEEP OUT OF REACH OF CHILDREN AND ANIMALS. WARNING!

Contains portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly

with water. The wearing of gloves and safety goggles is recommended.

In case of eye contact, flood eyes with potable water and call physician. DO NOT RUB EYES. Do not take internally. Crystalline silica sand may cause serious

lung problems. Avoid breathing dust and wear a respirator in dusty areas.

Consult Material Safety Data Sheet for further information.

First Aid

Inhalation: Remove to fresh air
Eye Contact: Irrigate eye with water or consult physician if irritation persists.

Skin Contact: Washed exposed skin area with soap and water; consult a physician if irritation persists.

Ingestion: Immediately consult a physician.

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