



# V/O Patch

Polymer Modified, Vertical/Overhead Repair Mortar with **Ferrolok** penetrating corrosion inhibitor



## Description

**V/O Patch** is a one-component, dry polymer modified, portland cement mortar. This product is a fast setting patching material for vertical and overhead repairs for applications up to 2" in depth. **V/O Patch** exhibits superior workability by maintaining a non-sag consistency for easy molding and shaving and offers the additional benefit of **Ferrolok**, a penetrating corrosion inhibitor.

## Uses

**V/O Patch** is ideal for a wide variety of vertical and overhead concrete repairs such as:

- Parking structures
- Bridge structures
- Docks and piers
- Tunnels
- Vertical precast concrete products
- Tilt-up panels
- Columns
- Concrete walls
- Interior or exterior applications

## Benefits

- Thermal expansion similar to concrete
- Color: consistent color match for concrete
- High bond, compressive strengths
- High flexural, tensile strengths
- Interior and exterior applications
- Non-corrosive: enhanced with **Ferrolok**
- Consistent: strict Quality Control Testing and standards

## Surface Preparation

All surfaces in contact with **V/O Patch** shall be free of dirt, oil, grease, laitance and other contaminants. All unsound concrete should be removed to ensure a good bond. Smooth, dense surfaces may need to be mechanically abraded to provide necessary bonding requirements. ACI recommends that the area to be patched should be saturated for 24 hours before placement. Remove any standing water. Surface should be saturated, surface dry (SSD). For best results, scrub some of the mixed components into the prepared surface. Do not allow scrub coat to fully dry before placement. Always apply a test patch. Maintain contact areas between 40°F(4°C) and 90°F (32°C) prior to repair and during initial curing period.

## Physical Properties

Compressive Strength (ASTM C-109\*)

SET	1 DAY	3 DAYS	7 DAYS	28 DAYS
A Normal	1,500 psi 10.34 MPa	3,200 psi 22.05 MPa	4,000 psi 27.56 MPa	5,300 psi 36.52 MPa

\*Notes: 73°F (22.8°C) 55% Humidity A = 9 1/2 pints water/50# material  
Rate of Set (ASTM C-266\*)

SET	INITIAL	FINAL
A Normal	:45	1:40

Length Change (ASTM C-157\*)

AGE	% LENGTH CHANGE
28 DAYS AIR	-0.05
28 DAYS WATER	+0.01

Bond Strength (ASTM C-882\*)

AGE	APPLIED LOAD	SHEAR BOND STRENGTH
7 DAYS	24,700	2,200 psi (15.16 MPa)

\*Note: 100% of rupture occurred in dummy section

Flexural Strength (ASTM C-78\*)

AGE	FLEXURAL STRENGTH
7 DAYS	850 psi (5.86 Mpa)
28 DAYS	1,100 psi (7.58 Mpa)

Split Tensile Strength (ASTM C-496\*)

AGE	SPLIT TENSILE STRENGTH
28 DAYS	1,100 psi (7.58 MPa)

## Mixing

For best results, use a mechanical mixer with rotating blades. Pre-wet mixer and empty excess water. Pour 9 1/2 pints of cool, clean potable water per 50 lb. bag in mixer, then add dry material. Mix on low RPM for a total of 3 to 5 minutes to achieve desired consistency. Mix only enough material that can be placed within working time. Do not blend excess water as this will cause bleeding and segregation. Do not use any other admixtures or additives.

**Packaging:** 50 lb. bag (22.7 kg)  
64 bags per pallet

**Yield:** 50 lb. (22.7 kg) will fill approximately .43 ft<sup>3</sup>  
(0.012 m<sup>3</sup>) when 9 1/2 pints mixing water is used

03930 CONCRETE REHABILITATION

## Placing

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**V/O Patch** should be placed upon completion of mixing. Place material consistently, avoiding any air entrapment. Use slightly more material than needed and roughly shape during placement. When material has reached the proper set, it can be shaved, shaped or molded with a steel trowel. For placements greater than 2", multiple lifts can be applied. Allow material to reach initial set before the next layer is applied. Profile or roughen each lift to ensure a good bond.

## Finishing & Curing

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Follow standard ACI curing practices. Exposed surfaces can be cured by a membrane forming curing compound such as **US SPEC** Maxcure Resin Clear, Maxcure Wax Clear, Hydrasheen 15% or Hydrasheen 30%.

## Storage

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Normal cement storage and handling practices should be observed. Store material in an interior, cool, dry place. Shelf life is one year in original, unopened bags.

## Limitations

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In addition to limitations already mentioned, please note the following. Do not apply when temperature is below 40°F (4°C) or when the temperature is expected to fall below 40°F within 48 hours. Do not apply over surfaces that are frozen or contain frost. Do not apply over any active faults or cracks in the substrate without addressing any movement that may occur. Allow concrete to fully cure for 28 days before the use of this product. Normal conditions working time is 10 minutes. Setting time will speed up in hot weather and slow in cold weather. For hot and cold weather applications, contact your US SPEC manufacturer's representative.

## Regulatory

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Read and follow application information, precautions and Material Safety Data Information.

### Right-to-know

This product contains Crystalline Silica (CAS# 14808-60-7) and Portland Cement (CAS# 65997-15-1).

### HMIS

Health 1, Fire 0, Reactivity 0

### Prop 65

Warning! This product contains Crystalline Silica, a chemical known to the State of California to cause cancer or reproductive toxicity.

### VOC Content

0 g/l

## Caution

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### EYE AND SKIN IRRITANT

Contains Portland Cement (CAS# 65997-15-1) Contains Aggregates (CAS# 14808-60-7) Do not allow contact with eyes or skin. Avoid breathing dust - Silica may cause serious lung problems. There is limited evidence Silica is a carcinogen. The use of gloves, goggles, and where appropriate, dust masks and other protective clothing is recommended. If cement or sand particles get into eyes, rinse immediately with clean water and seek prompt medical attention.

## Technical Service

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Web Site [www.usspec.com](http://www.usspec.com)

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