

# VHO PATCH

# 3B

## A FAST-SETTING, POLYMER-MODIFIED PATCHING MATERIAL FOR VERTICAL, HORIZONTAL AND OVER-HEAD CONCRETE SURFACES

**VHO PATCH** is a fast-setting, polymer-modified, Portland cement based material specially designed to repair vertical, horizontal and overhead concrete and masonry surfaces. VHO Patch may be applied up to 2" thick in one application.

### USES and ADVANTAGES

- Polymer-modified.
- Increased tensile, flexural and bond strengths.
- Fast controlled set.
- Reduced shrinkage.
- Water resistant.
- May be applied from 1/4" up to 2" thick in one application.
- Thermally compatible with concrete and masonry.
- Freeze-thaw resistant.
- Eliminates expensive form work.

### SURFACE PREPARATION

#### Concrete and Masonry Surfaces

Must be sound and clean. Remove all dirt, dust, spalling or loose concrete, oil, grease, wax, mildew, efflorescence, curing compounds, form release agents, paint or any other foreign material which might effect the bond. **SEE WARNING ON BACK PAGE REGARDING PAINT REMOVAL.** A dry removal method such as a sand or shot blasting procedure will ensure a proper surface preparation. Wet cleaning may also be used. If the size of the job does not justify the costs of such equipment, all preparations may be accomplished manually. All oil and grease must be scrubbed with a de-greasing compound, rinsed thoroughly then allowed to dry. After cleaning oil or grease spots, sprinkle a little water on the cleaned surface to check for

residual contamination. Oil or grease is still present if the water forms small globules. If the water is quickly absorbed, the surface is clean. Efflorescence must be washed with a mild solution of muriatic acid and water, rinsed thoroughly then allowed to dry. Rusted or corroded steels rods or metal must be cleaned by wire brush or sand blasted making sure all rust is removed. Then apply a slurry coat of VHO Patch by brush to all cleaned and rust free steel.

Square cut the edges of the patch to a minimum depth of 1/4". Dampen the area to be repaired leaving no standing water.

**For a maximum bond, prime the area to be repaired with Bond All Exterior.**

**Always perform a spot test (of sufficient size) prior to application in order to ensure compatibility between VHO Patch and the substrate as well as to confirm that the appearance and performance are acceptable.**

### MIXING

Using a clean container or mixer, combine approximately 4 quarts of clean water per 50 lb. bag of VHO Patch. For best results, mechanical mixing is preferred using a 1/2" drill (500-650 rpm) with a jiffy mixer. Place all mixing water in the container first. Then add 3/4 of the powder and mix until uniform. Add the remainder of the powder and remix. If the VHO Patch seems too dry at first, continue mixing for approximately two more minutes before adding any more water. VHO Patch should be the consistency of putty. Less than one bag may be mixed at a time. Do not mix more

material than can be applied within 10 minutes.

Do not retemper. Retempering VHO Patch will cause the set and the structural integrity to fail. If the material begins to set before application, discard.

**As with any Portland cement-based material, mixing liquid should be kept to a minimum to avoid decreasing strength and adhesive properties.**

### APPLICATION

Apply a tight coat of VHO Patch with a steel trowel, rubber float or gloved hand forcing the material into all cracks, crevices and edges eliminating all air pockets and ensuring a complete bond. Material may be applied from 1/4" up to 2" in one application.

Patches over 2" need to be built up in successive layers. All surfaces of VHO Patch that will receive more layers of material should be scratched and kept rough to ensure a good mechanical bond. Allow previous layer to tighten at least 10 minutes before building another layer.

Before applying a new layer, dampen previous layer. If previous layer has been in place for more than one hour, prime with Bond All Exterior.

Finish the final surface with a trowel or sponge float.

### CURING

As soon as the patch has set, the surface should be lightly misted with water or covered with damp burlap for at least 24 hours in order to prevent excessive loss of water.



60 REAR NEWHALL STREET

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## **COVERAGE**

<u>Average Depth</u>	<u>Coverage</u>
1/4".....	26 sq. ft.
1/2".....	13 sq. ft.
1".....	6.5 sq. ft.

## **PRECAUTIONS**

- Mix only as much VHO Patch which can be applied within 10 minutes.
- Do not apply over frost or frozen surfaces.
- Do not apply when the temperature is below 50 degrees F or is expected to fall below 50 degrees F within 6 hours after application.
- Do not retemper VHO Patch after it begins to set.
- Do not apply over surfaces that are improperly prepared.
- Follow all existing control and expansion joints.

## **TEST DATA**

### **Compressive Strength (ASTM C109)**

3 hour.....	2000 psi
1 day.....	3000 psi
7 day.....	4000 psi
28 day.....	5000 psi

### **Flexural Strength (ASTM C348)**

7 day.....	1000 psi
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### **Shear Bond (ASTM C882)**

1 day.....	1000 psi
7 day.....	1500 psi

### **Expansion/Shrinkage (ASTM C157/C928)**

Air Cure	
1 day.....	-.06%
28 day.....	-.09%

### **Water Immersion Cure**

7 day.....	+ .018 %
28 day.....	+ .026 %

### **Chloride Permeability (ASTM C1202)**

Charged Passed.....	386 Coulombs
Relative Permeability.....	very low

### **Set Time (Gilmore)**

Initial Set.....	25 minutes
Final Set.....	30 minutes
Wet Density.....	121 lbs./cu.ft.

## **WARNING!**

Do not take internally. Contains Portland cement and Silica sand. May be irritating to the eyes and nose. Prolonged inhalation may cause lung injury. Avoid eye contact or prolonged contact with skin. Wash hands thoroughly with water after handling. In case of eye contact, flush with plenty of water for at least fifteen minutes. If irritation persists, consult a physician immediately. Dust masks, eye protection and gloves are recommended when using this product. Read Material Safety Data Sheet (MSDS) before using this product which may be obtained from your retailer or by calling 978-453-8881.

24 Hour Emergency Medical/Spill Information (Chemtrec): 800-424-9300

## **KEEP OUT OF THE REACH OF CHILDREN!**

**WARNING!** If you scrape, sand or remove old paint, you may release lead dust or fumes. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE.**

Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log onto [www.epa.gov/lead](http://www.epa.gov/lead). Wear a properly fitted respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

For technical assistance call  
978-453-8881

[www.umaco.com](http://www.umaco.com)

## **LIMITED WARRANTY**

*The manufacturer guarantees its products to be free of defects and the extent of its liability is limited to the purchase price of the materials only, if proved to be defective.*

*Improper mixing, incorrect application or other factors beyond the control of the manufacturer or its dealers may produce unsatisfactory results and cannot be held to be the manufacturers or its dealers responsibility. There are no other guarantees either expressed or implied.*

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- Concrete Patching and Repair Products
- Masonry Waterproofing Products
- Acrylic Admixtures and Bonding Agents



- Decorative Masonry and Concrete Coatings
- Traditional and Synthetic Stucco Systems
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