

CERTI-VEX[®] RAPID PATCH

RAPID STRENGTH GAIN PATCH and REPAIR MORTAR

QUICK SETTING • MINIMIZE DOWNTIME • FIBER REINFORCED

DESCRIPTION

CERTI-VEX RAPID PATCH is a specially formulated single component rapid hardening, early strength gain cement based patching and repair mortar. The product is ideally used for fast repairs to roadways, ramps, bridge decks, airport runways and taxiways, and parking structures. Just add water, mix and use to achieve rapid, durable and cost effective repairs to structural and general horizontal concrete.

BENEFITS

- Fiber reinforced to reduce shrinkage cracking
- Used for structural repairs
- Rapid early strength gain
- Fast return to service
- Non-shrink
- Good freeze/thaw resistance
- Excellent bond, compressive and flexural strength
- Extendable with up to 80% aggregate
- Meets ASTM C-928 for dry packaged rapid hardening cementitious materials for concrete repairs
- Interior and exterior use
- Above and below grade repairs

SURFACE PREPARATION

- Surfaces to be repaired must be structurally sound, clean and free of dust, dirt, oils, paints and all other contaminants that will prevent proper bond.
- Repair area can not be less than 2 inches thick.
- Saw cut the perimeter of the repair 2 inches or the top of the reinforcing steel, not cutting the steel.
- Prepare area by high pressure water blast, or other mechanical means to expose a aggregate surface with a minimum surface profile of +/- 1/16 inch.
- If reinforcing steel is exposed, remove 1 inch of surrounding concrete. If there is corrosion on the reinforcing steel remove concrete 3 inch beyond any evidence of corrosion along the steel. Remove all corrosion and protect the the steel with a corrosion resistant barrier or a slurry coat of Certi-Vex Rapid Patch. If applying a slurry coat apply two applications allowing to dry between applications.

SURFACE CONDITIONING

The surface to receive the repair material must be saturated, surface dry (SSD) with no standing water.

PRIMING

- Prime the prepared substrate with a brush or spray applied coat of **StarSeal Envio Bond** to the SSD surface.
- Alternatively, apply a scrub coat by mixing Certi-Vex Rapid Patch with the maximum allowable amount of clean water and scrub the material onto all exposed surfaces to receive Certi-Vex Rapid Patch. Place Certi-Vex Rapid Patch into the wet scrub coat before it dries.

MIXING

- Mixing proportions: Use 2.5 quarts of clean, potable water per 50 lb. bag of Certi-Vex Rapid Patch. Mechanical mixing is preferred for best results. For small projects use a slow speed 1/2-inch drill (500-650 rpm) and a paddle (like that used for joint compound of plaster). For larger projects use a mortar mixer.
- Pre-wet mixer for the first batch and allow to drain. Measure potable water and pour into the mixer.
- Start the mixer and slowly add Certi-Vex Rapid Patch.
- Mix until a uniform lump free consistency is obtained (approximately 1-2 minutes).
- Do not add additional water.
- Applications over 2 inches in thickness must be extended by the addition of 50-80% by weight of clean, uniformly graded 3/8" maximum size pea gravel.
- The pea gravel should be pre-wet and allowed to drain and dry slightly.
- Add 25 to 40 lbs. of pea gravel, for each 50 lbs. of Certi-Vex Rapid Patch used to the mixer only after a uniform lump free consistency is obtained, then continue mixing until the pea gravel blends in evenly.
- Do not add additional water when using pea gravel.
- Mixed product should be placed immediately.

NOTE: Do not mix longer than two (2) minutes. Do not mix more material than can be placed in 10 minutes. **DO NOT RETEMPER.**

SET TIMES

To extend set time use cold water. To reduce set time use hot water. Site environmental conditions such as air and substrate temperature will also affect set times.

PLACEMENT & FINISH

- After mixing, Certi-Vex Rapid Patch should be placed without delay to the prepared area and quickly consolidated by tamping.
- Work and consolidate material firmly into the bottom and sides of the repair area filling all pores and voids to ensure good adhesion.
- The surface should be either finished or struck-off with a screed to a level slightly above the surrounding concrete.
- Screeded surface can be shaved down with the sharp edge of a trowel to the contour to the surrounding surface as it starts to set.
- Apply neat minimum thickness of 2 inches. For repairs greater than 2 inches in depth material should be extended with clean pea gravel. (See Mixing and Yield sections)

CURING

Cure as per ACI recommendations for portland cement concrete. Beginning as soon as the patch has set, keep surface continuously moist for 24 hours, using burlap, fine mist, or a water based cure such as Vexcon's Envio Cure 100. Protect the newly placed material from wind, sun, rain, and frost. When conditions exist for rapid water loss, the use of Certi-Vex Envio-Assist, evaporation retarder is recommended.

PACKAGING

Certi-Vex Rapid Patch is available in 50 pound bags. Contact Vexcon directly to discuss your customized packaging requirements.

YIELD

When used in accordance to directions, Certi-Vex Rapid Patch yields .40 cu.ft., per 50 pounds. The product when extend with 50% by weight of pea gravel will yield .55 cu.ft.

SHORT SPECIFICATION

03 01 00: Maintenance of Concrete: Repair mortar shall be a factory blended cement based one component rapid hardening, early strength gain, fiber reinforced, high compressive and bond strength, and quick-setting repair mortar for concrete. The repair mortar shall be suitable for use above or below grade and for applications on horizontal surfaces. Manufactured by Vexcon Chemicals.

HEALTH AND SAFETY

- Use only with adequate ventilation.
 - Use of gloves, goggles and other protective clothing is advised when using this product.
 - If swallowed, do not induce vomiting.
 - Use of respirators is advised when using in confined areas.
- Vexcon MSDS RP103 is an integral part of the safety and application of our product. A short synopsis is provided in this product data sheet. Before using this Vexcon product it is advisable to obtain a copy of the MSDS, RP103, from your distributor or by contacting Vexcon Chemicals.

SHELF LIFE

If properly stored in its original sealed bag, one year from date of manufacture. Rotate your stock.

CONTACT US @

Additional product information, technical assistance and customer service are available by contacting Vexcon Chemicals directly or our distributors.

- vexcon.com
- techservice@vexcon.com
- customerservice@vexcon.com
- sales@vexcon.com
- Voice: 888.839.2661
- Fax: 215.332.9997

LIMITATIONS/SPECIAL NOTES

- Do not attempt to RETEMPER or add water to the surface during finishing.
- All materials should be conditioned to the appropriate temperature range of 50° F to 90° F (10° C - 32° C) prior to mixing and placement.
- In areas subject to heavy loading a minimum repair depth of 2 inches is recommended and must be extended with pea gravel.
- Avoid cold joints, when installing repair material. Placing and finishing operations should occur concurrently without interruption.
- Do not apply when air, surface or material temperature is below 50° F (10° C).
- Protect from freezing
- Do not place in lifts
- Do not exceed liquid requirements
- Application thickness minimum is 1/2 inch
- Do not use solvent based cures
- Do not feather edge
- For additional information on substrate preparation refer to ICRI guide lines.
- Proper application of Vexcon material is the responsibility of the installer or user. Telephone consultation and/or field visits by Vexcon personnel are for the sole purpose of making technical recommendations only, and not for providing quality control or supervision on location.

TECHNICAL DATA

Set Time (ASTM C 191)		
Initial		20 minutes
Final		40 minutes
Compressive Strength (ASTM C 109)		
Cured 1 Hour		1,600 psi
Cured 3 Hours		2,900 psi
Cured 1 Day		4,825 psi
Cured 7 Days		7,000 psi
Cured 28 Days		8,225 psi
Freeze/Thaw Resistance (ASTM C 666)		
50 Cycles		Excellent
Shrinkage (ASTM C 157)		
28 Days		+0.08%
Flexural Strength (ASTM C 348)		
1 Day		700 psi
28 Days		950 psi
Shear Bond (ASTM C 882)		
1 Day		1480 psi
28 Days		1980 psi
Wet Density (ASTM C 185)		
Wet		145 lbs./cubic ft.

WARRANTY

Vexcon warrants that the goods supplied hereunder shall be of its standard quality and shall conform in all material respects to the sample which has been made available for testing by buyer prior to sale. As the EXCLUSIVE REMEDY for any breach of this Limited Warranty, Vexcon shall replace nonconforming goods or refund the purchase price. Since methods of use and application are beyond Vexcon's control, this Limited Warranty IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THOSE CONCERNING MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS LIMITED WARRANTY IS ALSO IN LIEU OF ANY OTHER POSSIBLE LIABILITIES OF VEXCON, WHETHER ALLEGED TO ARISE BY AGREEMENT OR BY OPERATION OF LAW, RESPECTING THE SALE, APPLICATION, USE OR FUNCTION OF VEXCON'S PRODUCTS, INCLUDING BUT NOT LIMITED TO CLAIMS OR NEGLIGENCE, GROSS NEGLIGENCE, STRICT LIABILITY OR ANY OTHER TORT. IN NO EVENT SHALL VEXCON BE LIABLE FOR PERSONAL INJURY OR PROPERTY DAMAGE, REAL OR PERSONAL, ATTRIBUTED TO ITS PRODUCTS, NOR FOR ANY EXCAVATION, REMOVAL, REAPPLICATION, DOWN TIMES, CLEANUP, LOSS OF USE, LOSS OF OPPORTUNITY, LOSS OF MARKET VALUE, LOSS OF RENTAL VALUE OR FOR ANY LOSS OF PROFITS OR OTHER SPECIAL, INCIDENTAL, RESULTING, CONSEQUENTIAL OR EXEMPLARY DAMAGES. No person is authorized by Vexcon to assume for it any other liability of any kind in connection with the sale or use of products manufactured and sold by it, and there are no oral agreements or warranties collateral to or affecting any sale or use. All of the foregoing arises under the substantive law of Pennsylvania without regard to principles of conflicts of laws.