



ChemMasters®

SPECIALTY CONSTRUCTION PRODUCTS

ChemPatch™ VO1

Fast Setting Polymer Modified
Concrete Repair Mortar with Fiber
and Corrosion Inhibitor

P R O D U C T D A T A

DESCRIPTION

ChemPatch VO1 represents a breakthrough in concrete repair technology. It is one component, polymer modified, shrinkage compensated, fast setting, non-shrink repair mortar with fiber and corrosion inhibitor. Its proprietary formula is freeze/thaw stable with unique finishing characteristics able to be applied in 3.5 to 4" lifts, making it an ideal product for vertical and overhead structural repairs. **ChemPatch VO1** has high ultimate strength, density, durability, and corrosion inhibition properties.

USES

- Rapid structural and cosmetic repairs to any vertical or overhead concrete
- Fills holes, spalls, cracks or honeycombs on vertical or horizontal concrete
- Restore disintegrated surfaces of old concrete and masonry, cornices, lintels, sills, handrails

ADVANTAGES

- Light weight for high build in vertical or overhead use
- Integral fibers for added strength
- Includes corrosion inhibitor to protect steel reinforcement
- Non-shrink to provide structural repair of holes or cracks
- Excellent bond to existing concrete or masonry
- Dense for chloride ion repellency and durability
- Latex modification provides enhanced resistance to acids compared to standard concrete patching products
- Rapid setting for minimal turnaround time
- Dries to a light concrete gray to blend better with surrounding concrete
- Contains no silica fume, gypsum, or metallic particles
- Easy to finish
- Versatile consistency for horizontal, vertical, and overhead repairs
- Does not require separate bonding agent for most applications

Packaging and Part Number		
50 lb (22.7 kg)	56 bags/pallet	F2012.50

TECHNICAL DATA

Test Data	
Color	Light concrete gray
Working time @ 70°F (21.1°C)	20 minutes min
Water requirement per bag	3.25 to 3.5 qt (3.1 to 3.3L)
ASTM C1090 Plastic Shrinkage	7 days -0.04%
ASTM C490 Shrinkage 28 days @ 50% R.H.	-0.1%
ASTM C490 28 days @ 100% R.H.	+0.03%
Freeze/Thaw Durability (NYSDOT Test Method 502-3P)	1.7% loss after 50 cycles

ASTM C109 Compressive Strength		
Time	psi	MPa
1 day	4030	27.81
7 days	5570	38.40
28 days	6230	42.95

ASTM C882 mod Bond Strength Slant Shear		
Time	psi	MPa
1 day	1340	9.24
7 day	2250	15.51
28 days	2380	16.41

ASTM C78 Flexural Strength	
28 days 800 psi (5.52 MPa)	

ASTM C469 Modulus of Elasticity-Extended	
3.6x10 ⁶ i psi (24.84 MPa)	



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ASTMC496 Split Tensile Strength

7 days	580 psi (4.0 MPa)
28 days	620 psi (4.28 MPa)

Estimating Guide

50 lbs with 3.5 qt water yields approx 0.45 ft ³
22.7 kg with 3.3 L water yields approx 0.0127m ³

DIRECTIONS Surface Preparation: Area to be repaired must be free of all dust, dirt, loose concrete, oil, grease, old asphalt, curing and sealing compounds, form release agents, efflorescence, or other contaminants that might interfere with adequate bond. Square cut perimeter of holes or cracks to a minimum width of 3/4 inch (1.9 cm) and depth of 1 inch (2.5 cm), undercutting to sound concrete when possible. Do not V cut cracks. Exposed reinforcing steel (NACE 3 Standard SSPC SP6) must be cleaned to a bright metal removing all rust or signs of oxidation. Chip out concrete behind or under rebar to a depth of 3/4" (1.9 cm). Coat any exposed steel with **Polyweld EPX^{CI}** or other corrosion inhibiting bonding agent as specified and allow to dry. Immediately prior to placement of **ChemPatch VO1** remove any remaining dust or dirt with vacuum or oil free compressed air. Saturate the prepared area with clean, potable water to the point of rejection. Remove any puddles or standing water immediately before placing mortar so that concrete is in a Saturated Surface Dry (SSD) condition.

Bonding: When undercutting or squaring the edges of the patch is impractical or when application must be made in hot or dry conditions, use **Cretelox** as the mixing liquid for the slurry bond coat. Do not allow slurry bond coat to dry out before application of the mortar. Use 1 part **Cretelox** to 2 parts of water as the mixing liquid for the mortar consistency **ChemPatch VO1**. Refer to **Cretelox** product data sheet.

Mixing: ChemPatch VO1 sets rapidly. Mix only an amount that can be placed and leveled within 15 to 20 minutes. Condition the dry mortar and clean potable mix water to 65° to 75°F (18° to 24°C). Mix for approximately 1 to 2 minutes to achieve a lump free consistency. Do not over mix. Do not add additional water. **Vertical / Overhead:** Adjust consistency by using less water to make a stiffer mix. Over watering causes excessive shrinkage and lower strengths. Do not add additional water or re-temper after initial mixing procedure. Do not add accelerating or bonding admixtures. When mixing one bag use a variable speed drill with a jiffler paddle. For less than full bag requirements, use a drill with a jiffler paddle to mix a proportionate amount of the dry **ChemPatch VO1** powder and mix water. Scrub a mortar bond coat into the repair area being sure to fill all voids and pores. Do not allow bond coat to dry before placement of mortar. **Application:** Due to its rapid setting

characteristics, place **ChemPatch VO1** mortar in lifts of not more than up to 4 inches (up to 10.2 cm). Compact mortar firmly into repair area filling all voids and air pockets paying special attention to spaces beneath any reinforcing steel. The top surface of each lift must have a 1/8 to 1/4 inch (0.31 to 0.62 cm) raked profile. Keep surface of lift damp with fog spray, sprinkler hose or brush. Apply next layer within 15 to 20 minutes. When design depth is obtained, finish final placement to match surrounding surface texture.

Curing: ChemPatch VO1 continues to gain strength as long as it is damp. It generates considerable heat when used in quantity. Keep cool by wetting. Repaired areas should be kept damp for 20 to 30 minutes or cured with a water based curing compound such as **Safe-Cure & Seal 309** or **Polyseal WB**. **ChemPatch VO1** gains strength rapidly.

Extreme Temperature Application: Temperatures above 80°F (26.7°C): Cool the substrate with cool clean potable water. Prior to mixing keep material in cool, dry area, and use cold water for mixing. Temperatures below 50°F (10°C): Keep material warm and use lukewarm water to speed set time.

LIMITATIONS

- Do not apply to frozen or frosted surfaces. Warm substrate to a minimum of 40°F (4°C) prior to application.
- Do not apply if ambient or substrate temperatures are below 40°F (4°C).
- **ChemPatch VO1** hardens in 20 minutes, prepare only enough for immediate use.
- Do not exceed maximum recommended water content. Do not use solvent based curing compounds.
- Do not add sand or gravel to extend. Use only admixtures recommended by **ChemMasters**.

STORAGE

Store between 40° and 90°F (4° and 32°C) in unopened bags on pallets in a dry area. Shelf life of properly stored material is one year from date of manufacture.

Precautions:

DANGER Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure if inhaled. Precautionary Statements: Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

All label precautions and the safety Data Sheet must be fully understood before using this product.
Keep out of the reach of children.

This Product is Formulated and Labeled for Industrial and Commercial Use Only FOR BEST RESULTS AND SAFEST USAGE, USER IS SPECIFICALLY DIRECTED TO CONSULT THE CURRENT MATERIAL SAFETY DATA SHEET AND PACKAGE LABEL FOR THIS PRODUCT

We warrant our products to meet our published specifications and to be free from defects in materials and workmanship to the acceptable quality levels defined in these specifications. If acceptable quality levels are not specified, the acceptable quality levels will be those normally supplied by us for the product. We make no guarantee of the results to be obtained from the use of our products. The determination as to the adaptability of any of our products to the specific needs of the Buyer is solely Buyer's prerogative and responsibility. We are glad to offer suggestions on the use of our products. Nevertheless, there are no warranties given except such expresses warranties offered in connection with the sale of a particular product. Our liability shall be limited to replacement of, or refund of an amount not to exceed the purchase price attributed to, the goods as to which such claim is made. Our selection of one of these alternatives shall be Buyer's exclusive remedy. IN NO CASE SHALL WE BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, CO-CONDITIONS AND REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER ANY STATUTE, COMMON LAW, USAGE OR TRADE, COURSE OF DEALING OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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