



ChemMasters

SPECIALTY CONSTRUCTION PRODUCTS

CHEMPATCH VO1

FAST SETTING POLYMER MODIFIED
CONCRETE REPAIR MORTAR

P R O D U C T D A T A

DESCRIPTION

ChemPatch VO1 represents a breakthrough in concrete repair technology. It is a one component, polymer modified, fast setting, nonshrink repair mortar. ChemPatch VO1 is a proprietary structural repair compound unique for its finishing characteristics. With its high ultimate strength, density and durability, ChemPatch VO1 is the ideal option for any structural or cosmetic concrete repair.

USES

- $\frac{3}{4}$ Rapid structural and cosmetic repairs to any vertical or overhead concrete
- $\frac{3}{4}$ Filling holes, spalls, cracks or honeycombs on vertical or horizontal concrete
- $\frac{3}{4}$ Restoring disintegrated surfaces of old concrete and masonry, cornices, lintels, sills, handrails

ADVANTAGES

- Light weight for high build in vertical or overhead applications
- $\frac{3}{4}$ Nonshrink to provide structural repair of holes or cracks
- $\frac{3}{4}$ Excellent bond to existing concrete or masonry
- $\frac{3}{4}$ Dense for chloride ion repellency and durability
- $\frac{3}{4}$ Rapid setting for minimal turnaround time
- $\frac{3}{4}$ Dries to a light concrete gray to blend better with surrounding concrete
- $\frac{3}{4}$ Contains no silica fume, gypsum or metallic particles
- $\frac{3}{4}$ Easy to finish
- $\frac{3}{4}$ Versatile consistency for horizontal, vertical and overhead repairs
- $\frac{3}{4}$ Does not require separate bonding agent for most applications

PACKAGING

ChemPatch VO1 is available in 50 lb (22.7 Kg) polylined, moisture proof bags shipped 60 bags per pallet shrink wrapped.

TECHNICAL DATA

Data shown based on independent laboratory tests. As a result of environmental and jobsite conditions, actual results may vary slightly.

Color Light Concrete Gray

Working Time @ 70°F (21.1°C) 20 minutes minimum

Water requirement per bag 3.25-3.5 qts 3.1-3.3 Liters

Compressive Strength (ASTM C-109)	psi	MPa
1 hour	2400	16.77
1 day	4030	27.81
7 days	5060	34.91
28 days	5550	38.30

Bond Strength-Slant Shear (ASTM C-882 Mod)

1 day	1600	11.04
28 days	1930	13.32

Flexural Strength (ASTM C-78)

28 days	800	5.52
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Modulus of Elasticity-Extended (ASTM C-469)

3.6X10 ⁶ psi	24.84 GPa
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Split Tensile Strength (ASTM C-496)

7 days	580	4.00
28 days	620	4.28

Initial Plastic Shrinkage (ASTM C-1090) -0.08%

Shrinkage (ASTM C-490)

28 days 50%RH	-0.10%
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Expansion (ASTM C-490)

28 days 100%RH	+0.03%
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Freeze/Thaw Durability (NYSDOT Test Method 502-3P)

1.7% loss after 50 cycles



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ESTIMATING GUIDE

50 lbs with 3.5 quarts water yields approximately 0.45 ft.³
22.7 Kg with 3.2 liters water yields approximately 0.014 m³

DIRECTIONS

SURFACE PREPARATION: Surface 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 which 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 must be cleaned to bright metal, removing all rust or signs of oxidation. Chip out concrete behind or under rebar to a depth of 3/4 inch (1.9 cm). Coat clean metal with an epoxy to prevent further oxidation and deterioration.

Immediately prior to placement of ChemPatch VO1, remove any remaining dust or dirt with vacuum or oil free compressed air. Saturate surface with clean, potable water to the point of rejection. Remove standing water or puddles.

MIXING: ChemPatch VO1 sets rapidly. Mix only an amount that can be placed and leveled within 15-20 minutes. Condition the dry mortar and water to 65°-75°F (18°-24°C). Do not add accelerating or bonding admixtures. Do not add additional water or retemper after initial mixing procedure.

Depending on the size of the area to be repaired, use a drill with a jiffler paddle to mix a proportionate amount of the dry ChemPatch VO1 powder with clean water to use as a bond coat. Scrub bonding mixture into the repair area being sure to fill all voids and pores. Coat any exposed reinforcing steel with bond coat. Do not allow bond coat to dry before placement of mortar.

To make mortar, measure 3.25 to 3.5 quarts (3.1 to 3.3 liters) of water into a clean mixing container, gradually add 50 pounds (22.7Kg) of ChemPatch VO1 to water and mix with high RPM, low speed drill with paddle for 1-2 minutes. Do not over mix.

APPLICATION: Due to its rapid setting characteristics, place ChemPatch VO1 mortar in lifts of not more than 1 - 2 inches (2.5 - 5.0 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 1/8-1/4 inch (0.31-0.62 cm) raked profile. Keep surface of lift damp with fog spray, sprinkler hose or brush. Apply next layer within 15-20 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 20-30 minutes or cured with a water based curing compound such as Safe-Cure & Seal 20 or Polyseal WB. ChemPatch VO1 gains strength rapidly. Light foot traffic may be allowed in approximately 1 hour.

SPECIAL APPLICATIONS

ABOVE NORMAL TEMPERATURES: At temperatures exceeding 80°F (26.7°C), cool surface to be patched with cool, clean, tap water. Prior to mixing, keep material in cool place and use cold mixing water. Mix small batches that can be used quickly.

BELOW NORMAL TEMPERATURES: At temperature below 50° (10°C), keep material warm and use lukewarm water to speed set.

BONDING: When undercutting or squaring of 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.

VERTICAL / OVERHEAD: Adjust consistency by using less water to make a stiffer mix.

LIMITATIONS

- ChemPatch VO1 hardens in 20 minutes. Prepare only enough for immediate use.
- Do not use solvent based curing compounds.
- 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).
- Do not add sand or gravel to extend. Do not use any admixtures other than those recommended by ChemMasters.

STORAGE

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

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.