

DESCRIPTION

PENETRON V/O PATCH is a fast setting, one component, polymer modified, non-sag, cementitious patch formulated for vertical and overhead repairs. PENETRON V/O PATCH offers excellent adhesion and high build properties. It is a Portland cement based mortar having a comparable coefficient of thermal expansion to concrete, insuring compatibility with the substrate.

RECOMMENDED FOR

- ▶ Structural repairs of interior or exterior and above or below grade areas
- ▶ Rapid setting patching mortar for use on vertical and overhead concrete and masonry surfaces
- ▶ Restoration of architectural details, bridges, parking structures, tunnels, precast concrete products, retaining walls, balconies, etc.

ADVANTAGES

- ▶ One component, polymer modified for superior bond
- ▶ Fast setting, 13.8 MPa (2000 psi) in 1 hour
- ▶ Easy to use just add water
- ▶ Excellent overhead hang capability of from 13 mm to 50 mm (1/2" to 2")
- ▶ Trowel or hand apply
- ▶ Remains plastic for approximately 15 minutes allowing shaping and sanding
- ▶ Cost effective – no forming needed
- ▶ Zero Voc - Penetron powdered products contain zero volatile organic content and are safe for use both outdoors and in confined indoor spaces

DIRECTIONS FOR USE

Surface Preparation: Adjoining surfaces must be sound, clean, free of loose or damaged concrete, dust, dirt and other contaminants that will interfere with bond. Completely expose and clean all reinforcing steel, ensuring a minimum clearance of 19 mm (3/4") behind reinforcing steel. Perform reinforcing steel preparation in accordance with ICRI Technical Guidelines No. 03730. For best results patch area edges should be saw cut to a depth of 13 mm (1/2").

Abrade the concrete to obtain a rough surface thereby promoting adhesion. The area should be saturated surface dry (SSD) with no standing water. The use of a vigorously scrubbed-in no slump bond coat of PENETRON V/O PATCH or a bonding agent like Acrylic Bondcrete is recommended. This should be applied to all surfaces coming into contact with the patch. Do not allow bond coat to dry prior to the placement of PENETRON V/O PATCH.

Mixing: PENETRON V/O PATCH requires 2.6 to 3.4 L (2¾ to 3½ quarts) of water per 18 kg (39.7 lb) of powder. Mix only the amount of material that can be placed in 20 minutes. Pour the required amount of potable water into a clean mixing container, then add the measured amount of PENETRON V/O PATCH while continuing to mix. Blend thoroughly for 2-3 minutes to a lump free putty like consistency and place.

Small amounts of PENETRON V/O PATCH can be mixed using a trowel or a 1/2" drill (400-600 r.p.m.) and paddle. DO NOT over water, re-temper, over mix or aerate. Clean out the mixing container thoroughly after each batch to avoid getting hardened mortar into the next batch. To insure enough working time a mixing batch of no more than 11.3 kg (25 lb) is recommended.

Application: Immediately apply the fresh mortar into the entire surface, forcing PENETRON V/O PATCH firmly into the properly prepared area insuring full contact with all bonding surfaces. Slightly overfill the area and after initial set, using a steel trowel, shave PENETRON V/O PATCH to the desired final profile, shaving from the center towards the bond edge at the existing surfaces. A wet spray may help with final shaping. In deeper areas additional lifts can be made after the original patch has reached initial set (approximately 30 minutes). Score and roughen the original lift layer to improve bond between applications. PENETRON V/O PATCH, used neat, can be placed in lifts up to 50 mm (2") on vertical and overhead applications by holding the mortar in place until initial set takes place.

Clean Up: Use water to clean all tools immediately after use.

Curing: Cure in accordance with American Concrete Institute Procedure No. 308. Keep PENETRON V/O PATCH moist

POLYMER MODIFIED MORTAR FOR VERTICAL AND OVERHEAD REPAIRS

and protected from high temperature, high wind, low humidity and direct sun causing rapid drying, by covering with wet burlap or plastic for up to 24 hours. A water based curing can be used.

Consumption & Yield: A 18-kg (39.7-lb) bag yields approximately 10 L (0.35 cu ft). With addition 5.4 kg (11.9 lb) of 10 mm (3/8") pea gravel yield is approximately 12.4 L (0.44 cu ft).

All above values are approximate depending on surface conditions.

SPECIAL CONSIDERATIONS

- ▶ Do not bridge moving cracks, control or expansion joints
- ▶ Protect from conditions that cause early water loss; avoid wind, sunlight and heat
- ▶ The minimum application thickness is 6 mm (1/4")
- ▶ Do not over work, re-temper, over water or add admixtures
- ▶ Use proper methods to clean and abrade concrete/masonry
- ▶ Do not apply to frozen or frost covered areas. The minimum ambient and surface temperatures should be 4° C (40° F) at time of application. Hot weather and conditions above 26° C (80° F) will reduce working time and accelerate set, while cold temperatures below 4° C (40° F) will have a retarding effect.

PACKAGING

Available in 18-kg (39.7-lb) moisture resistant bags.

STORAGE

Penetron V/O Patch must be stored in a dry enclosed area off the ground at a minimum temperature of 7° C (45° F). Shelf life when stored in proper conditions in unopened, undamaged packaging is 12 months.



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Penetron International, Ltd.
601 South Tenth Street, Unit 300, Allentown, PA 18103
11
PENETRON V/O PATCH
for the structural and non-structural
protection and repair of concrete structures

TECHNICAL DATA

Working Time

20 minutes at 21° C (70° F)

Set Time ASTM C 191 @ 70° F (21° C)

Initial set Approx. 25 min.
Final set Approx. 30 min.

Compressive Strength ASTM C 109

1 hour 13.8 MPa (2000 psi)
3 hours 25.5 MPa (3700 psi)
1 day 35.2 MPa (5100 psi)
7 days 42.8 MPa (6200 psi)
28 days 51.7 MPa (7500 psi)

Flexural Strength ASTM C 348

7 days 5.7 MPa (830 psi)
28 days 6.9 MPa (1000 psi)

Shear Bond ASTM C 882

1 day 9.9 MPa (1430 psi)
7 days 11.0 MPa (1590 psi)

Expansion/Shrinkage ASTM C 157 modified per ASTM C 928

	Air Cure	Water Immersion Cure
7 days	-0.06%	+0.006%
28 days	-0.09%	+0.006%

Test results obtained under controlled laboratory conditions. Reasonable variations can occur due to atmospheric and job site conditions.

SAFE HANDLING INFORMATION

For commercial use only, this product contains Portland cement and is highly alkaline. The use of rubber gloves, goggles and other appropriate protective gear during mixing and application is recommended. Avoid contact with eyes and skin. In case of eye contact, rinse immediately with plenty of water and seek medical advice. **KEEP OUT OF REACH OF CHILDREN.** Refer to MSDS for detailed safety considerations.

Compressive strength: Class R3 (≥ 25 MPa)
Chloride content: < 0,10 % by mass
Adhesive bond: NPD
Restrained shrinkage, expanding: NPD
Elastic modulus: NPD
Thermal compatibility (Part 1): NPD
Corrosion behaviour: deemed to have no corrosive effect
Dangerous substances: NPD
Reaction to fire: NPD

WARRANTY

PENETRON INTERNATIONAL, LTD. warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON INTERNATIONAL, LTD. shall be limited to replacement of the material proven to be defective and shall in no case be liable otherwise or for incidental or consequential damages. **PENETRON INTERNATIONAL, LTD. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.