PRODUCT DATA SHEET

PENETRON® V/O PATCH

Version, Penetron Hellas 17.08.2026

POLYMER MODIFIED MORTAR FOR VERTICAL AND OVERHEAD REPAIRS

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 [14,3 MPa (2070 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

TECHNICAL CHARACTERISTICS

Time	**Test Results**					
	Compressive Strength (ASTM C 109)	**Flexural Strength** (ASTM C 348)	**Shear Bond** (ASTM C 882)	**Expansion/Shrinkage** (ASTM C 157 modified per ASTM C 928)		**Set Time** (ASTM C 191) At 21° C (70° F)
				Air Cure	Water Immersion Cure	
1 hour	14,3 MPa (2070 psi)	-	-	-	-	-
3 hours	25,6 MPa (3710 psi)	-	-	-	-	-
1 day	35,1 MPa (5090 psi)	-	9,9 MPa (1430 psi)	-	-	-
7 days	42,9 MPa (6220 psi)	5,7 MPa (830 psi)	11,0 MPa (1590 psi)	-0,06%	+0,006%	-
28 days	52,0 MPa (7535 psi)	6,9 MPa (1000 psi)	-	-0,09%	+0,006%	-
Initial Set	-	-	-	-	-	Approx. 25 min.
Final Set	-	-	-	-	-	Approx. 30 min.

Note: All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

Composition	Polymer modified cement
Form	Powder
Colour	Grey
Working Time	20 minutes at 21 ºC (70 ºF)

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 the 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 PENETRON® ACRYLIC BONDCRETE™ or similar) is recommended. This should be applied to all surfaces coming into contact with the patch.

NOTE: Do not allow bond coat to dry prior to the placement of PENETRON® V/O PATCH.

Mixing: PENETRON® V/O PATCH requires 3,3 to 4,3 L (3½ to 4½ quarts) of water per 22,7 kg (50 lbs) 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 ½ " drill (400-600 rpm) and paddle. DO NOT over water, re-temper, over mix or aerate. Clean out the mixing container thoroughly after each batch to avoidgetting hardened mortar into the next batch. To ensure enough working time, a mixing batch of no more than 11,3 kg (25 lb) is recommended.

Mixing ratios: Use 3,3 to 4,3 L (3½ to 4½ quarts) of clean, potable water per 22,7 kg (50 lb) PENETRON® V/O PATCH.

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. For lifts higher than 50 mm (2"), add 30% of up to 10 mm (3/8’’) graded quartz aggregates.

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 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.

Coverage: A 22,7 kg (50 lb) bag of PENETRON® V/O PATCH yields approximately 12,7 L (0,45 ft^3). With addition of 6,8 kg (15 lb) of 10 mm (3/8") pea gravel or quartz sand aggregates, yield is approximately 15,6 L (0,55 ft^3). The 4,75 kg (10,5 lb) pails of PENETRON® V/O PATCH yields approximately 2,7 L (0,1 ft^3). 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 ºC (40 ºF) at time of application. Hot weather and conditions above 26 ºC (80 ºF) will reduce working time and accelerate set, while cold temperatures below 4 ºC (40 ºF) will have a retarding effect.

Clean out the mixing container thoroughly after each batch, to avoid getting hardened mortar into the next batch.

Contact PENETRON HELLAS for additional information, regarding your project.

PACKAGING

PENETRON® V/O PATCH is available in 22,7 kg (50 lb) multi-wall bags with tear resistant, moisture proof, polyethylene liner .

STORAGE / SHELF LIFE

PENETRON® V/O PATCH must be stored in a dry enclosed area off the ground at a minimum temperature of 7 ºC (45 ºF). Shelf life, when stored in proper conditions in unopened, undamaged packaging, is 12 months.

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SAFE HANDLING INFORMATION

Contains Portland cement which is alkaline. It may be irritating to eyes and skin. Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves should be worn. Breathing apparatus is advised if applied in enclosed environments. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers. FOR PROFESSIONAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

CERTIFICATION

CE

1085
Penetron International, Ltd.
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Allentown, PA 18103
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1085-CPR-0040
DOP NO: 10.30001D310322-01
EN 1504-3
PENETRON V/O PATCH
Products and systems for structural and non-structural protection and repair of concrete structures
Compressive strength: Class R3 (≥ 25 MPa)
Chloride ion content: < 0.10 % by mass
Adhesive bond: NPD
Restrained shrinkage, expanding: NPD
Elastic modulus: NPD
Thermal compatibility (Part 1): NPD
Carbonation resistance: deemed to have no corrosive effect
Dangerous substances: NPD
Reaction to fire: NPD

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