PENETRON®
TOTAL CONCRETE PROTECTION

PENECRETE MORTAR™

CRYSTALLINE WATERPROOFING MORTAR

DESCRIPTION

PENECRETE MORTAR™ consists of Portland cement, specially treated quartz sand and a compound of active chemicals.

The active chemicals react with moisture and the by-products of cement hydration to cause a catalytic reaction, which generates an insoluble integral crystalline complex. These crystalline complexes grow in the presence of water and block the capillaries of the concrete and minor shrinkage cracks, thus waterproofing the concrete. Chemical activation begins when the powder is mixed with water and may take several days to completely block the capillaries, depending on ambient temperature and environmental conditions.

APPLICATIONS

Applied in conjunction with PENETRON® for:

Installation of seal strips, reglets and coves at joints to assure water tightness

Patching of tie holes and faulty construction joints

Patching and filling of routed out cracks

Repairing of spalled and honeycombed areas

ADVANTAGES

Can be applied to the positive or negative water pressure sides of a structure

Resists strong hydrostatic pressure

Seals cracks up to 1/51" (0.5 mm)

Easy to use – needs only to be mixed with water prior to application

Allows the concrete to "breathe"

Can be skim coated or feather edged

Can be applied to moist concrete

Fast setting

Inorganic – contains no polymers

NSF 61 certified for use in potable water applications

Non-flammable

Resists abrasion and mechanical wear

Freeze/thaw resistant

Zero VOC - PENETRON powdered products contain zero volatile organic compounds and are safe for use both outdoors and in confined indoor spaces

DIRECTIONS FOR USE

Surface preparation:

All surfaces to be patched, repaired or sealed with PENECRETE MORTAR™ must be clean and sound. Cracks should be routed out to a U-shaped configuration, approximately 3/4" (19 mm) wide and a minimum of 3/4" (19 mm) deep. Tie holes should be roughened prior to filling. Spalled and honeycombed areas must be thoroughly cleaned and chiseled back to sound concrete prior to repair. Remove all dirt, cement laitance, form release agents, curing compounds, paints, coatings, etc. by means of wet or dry sandblasting, high pressure water jet or other suitable mechanical means. Surfaces must be well moistened to a dull dampness at the time of application. The concrete should be damp with no wet sheen on the surface.

Mixing:

Routed cracks, coves and non-moving joints: Add water to PENECRETE MORTAR™ until a medium stiff, trowelable consistency is reached. The texture of the mix should be pliable enough to be trowelled into the cracks with some pressure, but not so pliable that it would run out or sag out of the crack.

Approximate mixing ratio (by volume) is 4.5 parts powder to 1 part water. Alternatively, 3.4 oz (101 ml) of water to 1 lb (454 g) of PENECRETE MORTAR™ powder.

Tie holes and pointing applications: Add only a small amount of water. Mixed consistency should be that of "dry earth," holding a shape when squeezed in your hand but easily crumbled when pressed between fingers. Mix only as much material as can be used within 20 minutes.

Application:

Cracks/seal strips (reglets & coves): After proper surface preparation and routing to appropriate configuration, prime areas to be patched or repaired with a slurry coat of PENETRON® and while "green" (tacky), fill cavity flush to surface with PENECRETE MORTAR™ in mortar consistency.

Spalled and honeycombed areas: Prepare surface and chisel back to sound concrete. Prime area to be repaired with a slurry coat of PENETRON®. While still "green" (tacky), apply PENECRETE MORTAR™ in layers of 1/2" (13 mm) not to exceed 2.5" (6.4 cm). Each layer should be allowed to set long enough that it will leave only a slight indent, approximately 1/16" (1.6 mm) when pressed with a finger. Where possible, the surface of the repair should be packed tightly using a hammer and block of wood.

Tie holes and pointing applications: Prepare surface and chisel back to sound concrete. Prime area to be repaired with a slurry coat of PENETRON® and while still "green" (tacky), apply PENECRETE MORTAR™ in "dry earth" consistency. PENECRETE MORTAR™ should be tightly rodded into tie holes or packed tightly using a hammer and block of wood.

NOTE: For all applications, PENETRON® should be applied as a surface treatment as soon as PENECRETE MORTAR™ has set (approximately 1-2 hours). If this is not practical, leave surface rough for subsequent surface treatment to bond.

Curing:

Provide protection against extreme weather conditions, such as heavy rain or freezing conditions, during the setting period. Curing is not normally required except during hot, low humidity weather. In these conditions, a light mist of water approximately 24 hours after the repair is completed will help to ensure a controlled cure. In extreme dry heat, water misting may be required more frequently.

SPECIAL CONSIDERATIONS

DO NOT apply PENECRETE MORTAR™ at temperatures below 40ºF (4ºC), to a frozen substrate or if temperatures will drop below freezing during the curing period (approximately 24 hours).

This product is not recommended for use in expansion joints or other joints designed for movement. PENECRETE MORTAR™ can be applied in 1/2" (13 mm) layers not exceeding 2.5" (6.4 cm) to prevent shrinkage cracks in the mortar.

CONSUMPTION & YIELD OF 50-LB (22.7-KG) BAG

All values are approximate depending on surface conditions.

U-shaped cracks and reglets

Size	1"x1" (25 mm x 25 mm)
Consumption	1.0 lb/ft² (4.9 kg/m²)
~Yield/bag	50 ft (15.2 m)

Coves, triangular shaped

Size	1.5"x1.5" (38 mm x 38 mm)
Consumption	1.0 lb/ft² (4.9 kg/m²)
~Yield/bag	50 ft (15.2 m)

Tie holes

Size	1"x1"x1" (25 mm x 25 mm x 25 mm)
Consumption	N/A
~Yield/bag	600 nos

Honeycomb and surface patching

Approximately 0.4 ft³ (0.01 m³) / bag

PACKAGING

PENECRETE MORTAR™ is available in 50-lb (22.7-kg) bags or 55-lb (25-kg) pails.

STORAGE / SHELF LIFE

PENETRON products must be stored dry at a minimum temperature of 45ºF (7ºC). Shelf life is one year when stored under proper conditions.

TECHNICAL DATA

Compressive strength (ASTM C-109):

1 day	1600 psi (11 MPa)
3 days	2400 psi (17 MPa)
7 days	5800 psi (40 MPa)
28 days	6900 psi (48 MPa)

Tensile Strength (ASTM C-190):

1 day	320 psi (2.2 MPa)
3 days	520 psi (3.6 MPa)
7 days	730 psi (5.0 MPa)
28 days	900 psi (6.2 MPa)

NOTE: Cooler temperatures, inadequate ventilation and higher humidity can extend drying times. All data derived from tests under laboratory conditions; field conditions may yield slightly different results.

TECHNICAL SERVICES

For more detailed instructions, alternative application methods, or information concerning the compatibility of the PENETRON treatment with other products or technologies, contact the Penetron Technical Department or your local Penetron representative.

SAFE HANDLING INFORMATION

PENECRETE MORTAR™ contains cement that is alkaline. Will irritate eyes and skin and may cause skin sensitization. Wear appropriate eye, skin and breathing protection when using this product. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. For further information, please refer to Safety Data Sheet. KEEP OUT OF REACH OF CHILDREN.

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001bCPR2013-07-10
EN 1504-3
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PENECRETE
for structural and nonstructural repair CC mortar
Compressive strength: Class R4 (≥ 45 MPa)
Chloride content: < 0,05 % 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
Reaction to fire: NPD
Dangerous substances: 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 PENETRON INTERNATIONAL, LTD. 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.

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