PENECRETE MORTAR™
CRYS TALLINE 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
Patch ing of tie holes and faulty construction joints
Patch ing 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.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive strength (ASTM C-109)</td>
<td>3 days</td>
<td>520 psi (3.6 MPa)</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>730 psi (5.0 MPa)</td>
</tr>
<tr>
<td></td>
<td>1 day</td>
<td>320 psi (2.2 MPa)</td>
</tr>
<tr>
<td>Tensile strength (ASTM C-190)</td>
<td>3 days</td>
<td>2400 psi (17 MPa)</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>5800 psi (40 MPa)</td>
</tr>
<tr>
<td></td>
<td>1 day</td>
<td>1600 psi (11 MPa)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Consumption</th>
<th>Yield/bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie holes and pointing</td>
<td>1.0 lb/ft² (4.9 kg/m²)</td>
<td>50 ft (15.2 m)</td>
</tr>
<tr>
<td>Spalled and honeycombed areas</td>
<td>1.0 lb/ft² (4.9 kg/m²)</td>
<td>50 ft (15.2 m)</td>
</tr>
<tr>
<td>Cracks/seal strips (reglets &amp; coves)</td>
<td>N/A</td>
<td>600 nos</td>
</tr>
</tbody>
</table>

NOTE: All values are approximate depending on surface conditions.

TECHNICAL SERVICES

For more detailed instructions, alternative applications, or information concerning the technical aspects, please contact the Penetron Technical Department or your local Penetron representative.

SAFETY

- Wearing goggles and gloves is recommended when using the product.
- Avoid breathing dust and vapors.
- Use respiratory protection when necessary.
- Provide adequate ventilation for work areas.
- Avoid contact with the skin and eyes.

Note: Specific handling and safety information should be obtained from the Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) for the product.

REACH OF CHILDREN.

Please refer to the Material Safety Data Sheet for more detailed safety information.

KEEP OUT OF REACH OF CHILDREN.
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 40°F (4°C), 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” (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 45°F (7°C). 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.

TOTAL CONCRETE PROTECTION®