DESCRIPTION

Uncoupling Membrane Mortar is a dry-set mortar for use in large-and-heavy-tile (formerly known as “medium-bed”) and thin-set applications for installing tile on floors and walls.

FEATURES AND BENEFITS

• For use with uncoupling membranes
• An economical large-and-heavy-tile (formerly known as “medium-bed”) and thin-set mortar for installing ceramic tile and select natural stone on floors and walls
• Can be mixed with MAPEI’s Polymer Additive (instead of water) for enhanced performance, and for setting a wider range of tile and stone over additional substrates
• Approved for use with large-format tile larger than 15” (38 cm) and for bond coats up to 1/2” (12 mm) in embedded thickness

INDUSTRY STANDARDS AND APPROVALS

When mixed with water
• ANSI: Exceeds A118.1 bond strength requirements

When mixed with Polymer Additive
• ANSI: Exceeds A118.4 and A118.11 bond strength requirements

LEED v4 Points Contribution LEED Points
Health Product Declaration (HPD)* ........................................... Up to 2 points
Environmental Product Declaration (EPD):
TCNA Industry Average for Mortars* ........................................... 1/2 point

* Using this product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.

SUITABLE TILE OR STONE OVER RECOMMENDED SUBSTRATES

When mixed with water
• Ceramic tile, quarry tile, pavers, Saltillo tile, large-format tile and most types of marble, granite and natural stone

When mixed with Polymer Additive
• All the above, plus porcelain tile

SUITABLE TILE OR STONE OVER UNCOUPLING MEMBRANE

When mixed with water
• Ceramic tile, quarry tile, pavers, Saltillo tile, porcelain tile, large-format tile and most types of marble, granite and natural stone

SUITABLE SUBSTRATES FOR UNCOUPLING MEMBRANES AND WATERPROOFING MEMBRANES

• (For the bond coat of the membrane, follow the uncoupling or waterproofing membrane manufacturer’s recommendations for unmodified mortars mixed with water or modified mortars mixed with latex additive per their system warranty.) Read the instructions completely and contact the membrane manufacturer with any questions regarding construction of the tile assembly.

SUITABLE SUBSTRATES FOR DIRECT TILE INSTALLATIONS (without uncoupling/waterproofing membranes)

When mixed with water
• Concrete (cured at least 28 days)
• Masonry cement block and brick
Cement mortars and leveling coats
When mixed with MAPEI’s Polymer Additive (see Polymer Additive’s Technical Data Sheet for details)
- All the substrates above
- Gypsum wallboard – plaster – for interior walls in dry areas only (priming may be required). See the “Surface preparation requirements” reference guide in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI’s Website.
- Properly prepared vinyl composition tile (VCT), plastic laminate countertops, non-cushioned sheet vinyl and cutback residue (interior installations)
- Properly prepared existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior in dry conditions only)
- MAPEI waterproofing, crack-isolation and sound-reduction membranes
- Installations subject to prolonged water immersion, such as pools and spas
- Cement backer units (CBUs) — see manufacturer’s installation guidelines
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floors and countertops in dry conditions only)
- MAPEI’s Technical Services Department for installation recommendations regarding substrates and conditions not listed.

WHERE TO USE
When mixed with water
- Most interior/exterior residential and light commercial installations on floors and walls

When mixed with Polymer Additive
- All the uses listed above
- Most exterior commercial installations
- Installations subject to prolonged water immersion, such as pools and spas
- Areas subject to severe freeze/thaw conditions

LIMITATIONS
- Install only at temperatures between 40°F and 95°F (4°C and 35°C).
- Do not use for moisture-sensitive stone (green marble; some limestone and granite), agglomerate tiles or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives (see respective Technical Data Sheets for more information).
- Consult building code requirements for use on exterior commercial facades.
- Do not use over gypsum underlayments or oriented strand board (OSB).
- For light-colored and translucent natural stone, a white mortar is recommended.
- For areas subject to severe freeze/thaw conditions, mix with MAPEI’s Polymer Additive instead of water.

SURFACE PREPARATION
- All substrates should be structurally sound, stable, dry, clean, and free of any substance or condition that may reduce or prevent proper adhesion.
- See the “Surface preparation requirements” reference guide in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI’s Website.

MIXING
Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Into a clean mixing container, pour about 6.5 to 7.5 U.S. qts. (6.15 to 7.10 L) of clean, potable water or 2 U.S. gals. (7.57 L) of Polymer Additive. Up to 0.5 U.S. qt. (0.47 L) of additional water may be added for use with membranes and when Uncoupling Membrane Mortar is used as a floor tile mortar.
2. Gradually add 50 lbs. (22.7 kg) of powder while slowly mixing.
3. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or auger mixer. Mix thoroughly until mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
4. Let the mixture stand for 10 minutes.
5. Remix for 1 minute.
6. If the mixture becomes heavy or stiff, remix without adding more liquid.

APPLYING FOR DIRECT TILE INSTALLATIONS
(without uncoupling membranes)

1. Choose a notched trowel (see the “Approximate Coverage” chart) with sufficient depth to achieve greater than 80% mortar contact with both the tile and substrate for all interior applications, and greater than 95% for exterior installations, commercial floor applications and wet applications. It may be necessary to back-butter tiles in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA Handbook guidelines.)
2. With pressure, apply a coat by using the trowel’s flat side to key mortar into the substrate.
3. Apply mortar to the substrate, combing it in a single direction parallel to the tiles’ shortest dimension with the trowel’s notched side.
4. Spread only as much mortar as can be tiled before the product skins over. Open time can vary with jobsite conditions.
5. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to the trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage.
6. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines).
### ANSI Specification when mixed with water

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Specification Standard</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI A118.1 – shear strength, impervious ceramic (porcelain) mosaics</td>
<td>&gt; 150 psi (1,03 MPa) at 28 days</td>
<td>175 to 225 psi (1,21 to 1,55 MPa)</td>
</tr>
<tr>
<td>ANSI A118.1 – shear strength, glazed wall tile</td>
<td>&gt; 250 psi (1,72 MPa) at 28 days</td>
<td>275 to 330 psi (1,90 to 2,28 MPa)</td>
</tr>
<tr>
<td>ANSI A118.1 – shear strength, quarry tile to quarry tile</td>
<td>&gt; 100 psi (0,69 MPa) at 28 days</td>
<td>225 to 300 psi (1,55 to 2,07 MPa)</td>
</tr>
</tbody>
</table>

### ANSI Specification when mixed with Polymer Additive

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Specification Standard</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics</td>
<td>&gt; 200 psi (1,38 MPa) at 28 days</td>
<td>200 to 300 psi (1,38 to 2,07 MPa)</td>
</tr>
<tr>
<td>ANSI A118.4 – shear strength, glazed wall tile</td>
<td>&gt; 300 psi (2,07 MPa) at 28 days</td>
<td>300 to 400 psi (2,07 to 2,76 MPa)</td>
</tr>
<tr>
<td>ANSI A118.4 – shear strength, quarry tile to quarry tile</td>
<td>&gt; 150 psi (1,03 MPa) at 28 days</td>
<td>200 to 300 psi (1,38 to 2,07 MPa)</td>
</tr>
<tr>
<td>ANSI A118.11 – shear strength, quarry tile to plywood</td>
<td>&gt; 150 psi (1,03 MPa) at 28 days</td>
<td>150 to 250 psi (1,03 to 1,72 MPa)</td>
</tr>
</tbody>
</table>

### Shelf Life and Application Properties* at 73°F (23°C) and 50% relative humidity

- **Shelf life**: 1 year when stored in original, unopened packaging
- **Open time***: 20 to 30 minutes
- **Pot life***: > 2 hours
- **Time before grouting***: 24 to 48 hours
- **VOCs (Rule #1168 of California's SCAQMD)**: 0 g per L

* Open time, pot life and time before grouting vary based on jobsite conditions.

### Packaging

**Size and Color**

- 50 lbs. (22,7 kg), gray

### Approximate Coverage** per 50 lbs. (22,7 kg)

<table>
<thead>
<tr>
<th>Typical Trowel</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; x 1/4&quot; x 1/4&quot; (6 x 6 x 6 mm)</td>
<td>85 to 95 sq. ft. (7,90 to 8,83 m²)</td>
</tr>
<tr>
<td>1/4&quot; x 3/8&quot; x 1/4&quot; (6 x 10 x 6 mm)</td>
<td>65 to 75 sq. ft. (6,04 to 6,97 m²)</td>
</tr>
<tr>
<td>1/2&quot; x 1/2&quot; x 1/2&quot; (12 x 12 x 12 mm)</td>
<td>40 to 50 sq. ft. (3,72 to 4,65 m²)</td>
</tr>
<tr>
<td>3/4&quot; x 9/16&quot; x 3/8&quot; (19 x 14 x 10 mm)</td>
<td>35 to 40 sq. ft. (3,25 to 3,72 m²)</td>
</tr>
</tbody>
</table>

**Coverage estimates are for flat substrates; use over a membrane will significantly reduce coverage rate as a result of filling voids in the membrane. Trowel dimensions are width/depth/space. Actual coverage will also vary according to tile type.**
APPLYING BOND COAT FOR UNCOUPLING MEMBRANE INSTALLATION

1. Refer to the membrane manufacturer’s guidelines for installation instructions and trowel recommendations.
2. Spread only as much mortar as can be covered with the uncoupling membrane before the product skins over. Open time can vary with jobsite conditions.

APPLYING FOR TILE INSTALLATION OVER UNCOUPLING MEMBRANES

1. Follow the uncoupling membrane manufacturer’s installation guidelines.
2. Choose a notched trowel (see the “Approximate Coverage” chart) with sufficient depth to achieve greater than 80% mortar contact with both the tile and substrate for all interior applications, and greater than 95% for exterior installations, commercial floor applications and wet applications. It may be necessary to back-butter tiles in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA Handbook guidelines.)
3. With pressure, apply a coat by using the trowel’s flat side to completely fill the cavities on the surface of the membrane and achieve a mechanical bond to the membrane.
4. Apply additional mortar, combing it in a single direction with the trowel’s notched side.
5. Spread only as much mortar as can be tilled before the product skins over. Open time can vary with jobsite conditions.
6. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to the trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage.
7. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines).
8. Prevent traffic over the tiles before grouting.

EXPANSION AND CONTROL JOINTS

- Provide for expansion and control joints as specified per TCNA Detail EJ171. Do not cover expansion joints with mortars.

CLEANUP

- Clean tools and tile while the mortar is fresh, using only water.

PROTECTION

- Protect installation from traffic and wait to grout for 24 to 48 hours.
- Protect from heavy traffic for 7 days.
- Protect from rain or frost for 7 days.
- Large-format tile and low-absorption tile may require a longer time to fully set before tiles can be grouted.

RELATED DOCUMENTS

Reference Guide: “Surface preparation requirements” for tile and stone installation systems*

*At www.mapei.com

Refer to the SDS for specific data related to VOCs, health and safety, and handling of product.

LEGAL NOTICE

The contents of this Technical Data Sheet (“TDS”) may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per this TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES. Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.