

# Porcelain Tile Mortar

Polymer-Enriched Thin-Set Mortar



## DESCRIPTION

Porcelain Tile Mortar is a regular-setting, polymer-enriched ("modified") mortar for installing a wide range of tile and stone over a diverse range of substrates in thin-set applications.

## FEATURES AND BENEFITS

- Higher polymer content provides a stronger bond, with a wider range of tile and stone to a wider range of substrates.
- Allows tile over existing tile installation to save time
- Smooth and creamy consistency for easy application
- Mix with water only.

## INDUSTRY STANDARDS AND APPROVALS

- ANSI: Exceeds ANSI A118.4E and ANSI A118.11 bond-strength requirements

## WHERE TO USE

- Most interior/exterior residential installations on floors and walls
- Most interior/exterior commercial installations on floors
- Most interior commercial installations on walls

## 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 the respective Technical Data Sheet (TDS) for more information.
- Do not use over dimensionally unstable substrates such as hardwood flooring, oriented strand board (OSB), substrates containing asbestos, or metal. See the "Suitable Substrates" section below.
- To use directly over gypsum-based patching or leveling substrates, apply suitable sealer/primer before use. See the "Tiling over gypsum" technical bulletin in the Tile & Stone Installation Systems section of MAPEI's Website.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting curing times.
- For light-colored and translucent natural stone, a white mortar is recommended.
- Do not use for installations subject to water immersion, such as pools and spas.
- Not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI mortar system with a liquid latex additive.

## SUITABLE TILE OR STONE

- Ceramic tile, porcelain tile, quarry tile, pavers and Saltillo tile and most types of marble, granite, slate and natural stone
- Best for small tile or stone up to 15" x 15" (38 x 38 cm)

## SUITABLE SUBSTRATES

- Concrete (cured for at least 28 days)
- Masonry cement block, brick, cement mortar beds and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Gypsum wallboard and plaster – interior walls in dry areas only (priming may be required). See the "Surface Preparation Requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.
- Plywood underlayments must be a Group 1 exterior-grade plywood CC-plugged or better, conforming to APA classification and U.S. Product Standard PS 1-95 or a "SELECT" or (SEL-TF) CANPLY classified exterior-grade plywood conforming to CSA-0121 standard for Douglas fir for direct-bond applications (interior, residential and light commercial floors and countertops in dry conditions only)
- Properly prepared vinyl composition tile (VCT) and cutback residue (interior only)
- Properly prepared existing ceramic and porcelain tile, quarry tile and pavers (interior only)
- MAPEI waterproofing, crack-isolation, sound-reduction and uncoupling membranes

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates or conditions not listed.

## 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 Tile & Stone Installation Systems section of MAPEI's Website.

## MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

1. Into a clean mixing container, pour the following amounts of clean water according to the bag sizes indicated:  
For 25-lb. (11.3-kg) bag:  
About 2.5 to 3 U.S. qts. (2.37 to 2.84 L) of clean water  
For 50-lb. (22.7-kg) bag:  
About 1.25 to 1.5 U.S. gals. (4.73 to 5.68 L) of clean water
2. Gradually add powder while slowly mixing using an electric drill with an angled cross-blade mixer or spiral mixer.
3. Continue low-speed mixing (at about 300 rpm) for about 3 minutes until the mixture becomes a smooth, lump-free paste. Avoid prolonged mixing.
4. Let the mixture stand for 5 minutes.
5. Remix for 1 minute.
6. If the mixture becomes heavy or stiff within 2 hours, remix without adding more liquid.

## PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Choose a notched trowel (see the “Approximate Coverage” chart) with sufficient depth to achieve more than 80% mortar contact to both the tile and substrate for all interior applications, and more than 95% for exterior installations and wet applications. It may be necessary to back-butter the tile 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 additional mortar, combing it in a single direction 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 tiles firmly into the wet mortar. Push tiles back and forth in a direction perpendicular to 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  $\frac{2}{3}$  of the tile depth is available for grouting (see ANSI A108.10 guidelines).

## EXPANSION AND CONTROL JOINTS

- Provide for expansion and control joints as specified per TCNA Method EJ171 or TTMAC Specification Guide 09 30 00 Detail 301MJ.
- Do not cover any expansion joints with mortar.

## CLEANUP

- Use water only to clean tools and tiles while the mortar is fresh.

## PROTECTION

- Protect from foot traffic for 16 to 24 hours before grouting.

- Protect from heavy traffic, frost and rain for 7 days.

### ANSI Specification

Test Method	Specification Standard	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	> 200 psi (1.38 MPa) at 28 days	275 to 350 psi (1.90 to 2.41 MPa)
ANSI A118.4 – shear strength, glazed wall tile	> 300 psi (2.07 MPa) at 28 days	400 to 550 psi (2.76 to 3.79 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	325 to 400 psi (2.24 to 2.76 MPa)
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	Pass
ANSI A118.4E - extended open time	≥ 72.5 psi (0.5 MPa) at 30 minutes	Pass

### 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*	30 minutes
Pot life*	> 2 hours
Time before grouting*	16 to 24 hours
VOC content	0 g per L

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

### Packaging

Size and Color
Bag: 25 lbs. (11.3 kg), gray
Bag: 50 lbs. (22.7 kg), gray

Approximate Coverage\*\*

Typical Trowel	Coverage for 50 lbs. (22.7 kg)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	75 to 90 sq. ft. (6.97 to 8.36 m²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	55 to 65 sq. ft. (5.11 to 6.04 m²)

Typical Trowel	Coverage for 25 lbs. (11.3 kg)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	38 to 45 sq. ft. (3.53 to 4.18 m²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	28 to 33 sq. ft. (2.60 to 3.07 m²)

\*\* Trowel dimensions are width/depth/space. Actual coverage will vary according to substrate profile and tile type.

RELATED DOCUMENTS

- Reference Guide: Surface Preparation Requirements for Tile & Stone Installation Systems\*\*\*
- Technical Bulletin: "Tiling over gypsum"\*\*\*

\*\*\* At [www.mapei.com](http://www.mapei.com)

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact [sustainability-durabilite@mapei.com](mailto:sustainability-durabilite@mapei.com).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

#### 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 nor replace requirements per the 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](http://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.**

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For the most current product data and BEST-BACKED<sup>SM</sup> warranty information, visit [www.mapei.com](http://www.mapei.com).

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