



# Floor Tile Mortar

## Thin-Set Mortar



### DESCRIPTION

*Floor Tile Mortar* is a dry-set (non-polymer-enriched or "unmodified") mortar for installing floor tile in thin-set applications.

### FEATURES AND BENEFITS

- An economical thin-set mortar for installing ceramic tile and select natural stone on floors
- 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

### INDUSTRY STANDARDS AND APPROVALS

#### When mixed with water

Exceeds ANSI A118.1 bond strength requirements

#### When mixed with *Polymer Additive*

Exceeds ANSI A118.4 and ANSI A118.11 bond strength requirements

### SUITABLE TILE OR STONE

#### When mixed with water

- Ceramic tile, quarry tile, pavers and Saltillo tile
- Best for small tile and tile up to 12" x 12" (30 x 30 cm)

#### When mixed with *Polymer Additive*

- All the above, plus porcelain tile, most types of marble, granite and natural stone

### SUITABLE SUBSTRATES (properly prepared)

#### When mixed with water

- Concrete (at least 28 days old)
- Masonry, brick, cement mortar beds and leveling coats

#### When mixed with *Polymer Additive*

- All the substrates listed above, plus the following:
- Cement backer units (CBUs) (see manufacturer's installation guidelines)
- APA and CANPLY Group 1 exterior-grade plywood (interior, residential and light commercial applications in dry conditions only)

### WHERE TO USE

#### When mixed with water

- Most interior/exterior residential floors

#### When mixed with *Polymer Additive*

- All the above, plus most interior/exterior commercial floors

## LIMITATIONS

- Install at temperatures between 40°F and 95°F (4°C and 35°C).
- Do not use for moisture-sensitive stone such as green marble, Rosso Levanto (red marble), Negro Marquina (black marble), some limestone, green granite, agglomerate tiles, cultured marble 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.
- Use a white mortar when installing light-colored stone or translucent marble.
- Do not use for installations subject to prolonged water immersion.
- For areas subject to severe freeze/thaw conditions, mix *Floor Tile Mortar* with *Polymer Additive* (instead of water).

## SUBSTRATE 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 MAPEI "Surface Preparation Requirements" document for tile and stone installation systems at [www.mapei.com](http://www.mapei.com).

## MIXING

Before starting, take appropriate safety precautions and choose all appropriate safety equipment. See Material Safety Data Sheet (MSDS) for details at [www.mapei.com](http://www.mapei.com).

1. Pour 6 U.S. qts. (5,68 L) of clean water or 2 U.S. gals (7,57 L) of *Polymer Additive* into a clean mixing container.
2. Gradually add 50 lbs. (22,7 kg) of powder while slowly mixing using an electric drill with an angled cross-blade mixer or double box mixer.
3. Continue low-speed mixing (at about 300 rpm) for about 5 minutes, until mixture becomes a smooth, lump-free paste. Avoid prolonged mixing.
4. Let mixture stand for 10 minutes.
5. Remix for 2 minutes.
6. If mixture becomes heavy or stiff within 2 hours, remix without adding more liquid.

## APPLYING

1. Choose a typical notched trowel (see chart) with sufficient depth to achieve > 80% mortar contact with both the tile and substrate for all interior applications, and > 95% for exterior installations, commercial floor and wet applications. It may be necessary to back-butter tile/stone in order to reach 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 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 product skins over. Open time can vary with jobsite conditions.
5. Set tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Periodically lift 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).

## EXPANSION AND CONTROL JOINTS

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

## CLEANUP

While mortar is fresh, clean tools and tile with water.

## PROTECTION

- Protect from foot traffic and wait 24 hours before grouting.
- Protect from heavy foot traffic, frost and rain for 7 days.

## Product Performance Properties

### ANSI Specification – when mixed with water

Test Method	ANSI Specification	Test Results
ANSI A118.1 – shear strength, impervious ceramic (porcelain) mosaics	> 150 psi (1,03 MPa) at 28 days	160 to 190 psi (1,10 to 1,31 MPa)
ANSI A118.1 – shear strength, glazed wall tile	> 250 psi (1,72 MPa) at 28 days	250 to 270 psi (1,72 to 1,86 MPa)
ANSI A118.1 – shear strength, quarry tile to quarry tile	>1 00 psi (0,69 MPa) at 28 days	170 to 220 psi (1,17 to 1,52 MPa)

### ANSI Specification – when mixed with *Polymer Additive*

Test Method	ANSI Specification	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	> 200 psi (1,38 MPa) at 28 days	200 to 280 psi (1,38 to 1,93 MPa)
ANSI A118.4 – shear strength, glazed wall tile	> 300 psi (2,07 MPa) at 28 days	300 to 550 psi (2,07 to 3,79 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1,03 MPa) at 28 days	250 to 380 psi (1,72 to 2,62 MPa)
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1,03 MPa) at 28 days	150 to 300 psi (1,03 to 2,07 MPa)

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



Shelf life	1 year
Open time*	15 to 20 minutes
Pot life*	> 2 hours
Time before grouting	24 hours
VOCs (Rule #1168 of California's SCAQMD)	0 g per L

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

### Packaging

Product Code	Size and Color
12450136	50 lbs. (22,7 kg), gray
12550136	50 lbs. (22,7 kg), white

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

Typical Trowel	Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) 	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) 	55 to 65 sq. ft. (5,11 to 6,04 m²)

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

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

## STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. **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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**Edition Date** April 13, 2012  
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