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

WHERE TO USE

When mixed with water

- Most interior/exterior residential floors

When mixed with *Polymer Additive*

- All of the above uses
- Most interior/exterior commercial floors

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, and some limestone and granite), agglomerate tiles or resin-backed tiles. Instead, use a suitable epoxy or urethane adhesive. See the respective Technical Data Sheets 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.
- 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.
- For areas subject to severe freeze/thaw conditions, mix *Floor Tile Mortar* with *Polymer Additive* (instead of water).
- Installations of tile over nonporous surfaces – such as waterproofing membranes, sheet membranes and existing tile – may require extended setting/curing times.

SUITABLE TILE OR STONE

When mixed with water

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

When mixed with *Polymer Additive*

- All of the above substrates
- Porcelain tile, most types of marble, slate, granite and natural stone

SUITABLE SUBSTRATES

When mixed with water

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

When mixed with *Polymer Additive*

- All the substrates listed above
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- 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).

▪ 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

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

1. Pour 5 to 6 U.S. qts. (4.73 to 5.68 L) of clean water or 1.5 to 2 U.S. gals. (5.68 to 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 auger 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 sit ("slake") 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 below) 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 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 the 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. 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).

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 tile while the mortar is fresh.

PROTECTION

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

ANSI Specifications

Test Method	Specification Standard	Test Results
When mixed with water		
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	> 100 psi (0.69 MPa) at 28 days	170 to 220 psi (1.17 to 1.52 MPa)
When mixed with *Polymer Additive*		
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 Product Characteristics

before mixing

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Physical state	Powder
Colors	Gray and white

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties

at 73°F (23°C) and 50% relative humidity

Mixing ratio	For a 50-lb. (22.7-kg) bag: 5 to 6 U.S. qts. (4.73 to 5.68 L) of clean water or 1.5 to 2 U.S. gals. (5.68 to 7.57 L) of *Polymer Additive*
Open time*	15 to 20 minutes
Pot life*	> 2 hours
Time before grouting*	24 hours
VOC content	0 g per L
Application temperature range	40°F to 95°F (4°C to 35°C)

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

Packaging

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

Approximate Coverage**

per 50 lbs. (22.7 kg)

Typical Trowel	Coverage
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)

** 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 and stone installation systems***

*** At 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_USA@mapei.com (USA).

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.

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