

# Large and Heavy Pro Tile Mortar

Professional, Large-and-Heavy-Tile Mortar with Polymer



## DESCRIPTION

*Large and Heavy Pro Tile Mortar* is a polymer-enriched ("modified") mortar ideal for installing large-format tile on floors, walls and countertops. This large-and-heavy-tile mortar is designed to bond and support large tile over a diverse range of substrates.

## FEATURES AND BENEFITS

- Multipurpose: Ideal for floor and wall tile 15" x 15" (38 x 38 cm) and larger, and can also be used to install small-format tile
- Nonslump formula for large-format, heavy tile/stone in floor applications
- Nonsag formula for large-format, heavy tile/stone in wall applications
- For thicker bond coats from 3/32" to 1/2" (2.5 to 12 mm)
- Unique formulation allows easier installation of large tile
- Mix with water only

## INDUSTRY STANDARDS AND APPROVALS

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

## WHERE TO USE

- Most interior residential installations on floors, walls and countertops
- Most interior commercial installations on floors, walls and countertops
- For installing porcelain, ceramic, quarry and Saltillo tile; cultured stone; pavers; and most types of marble, granite and natural stone

## LIMITATIONS

- Install *Large and Heavy Pro Tile Mortar* 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, cultured marble or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives. See the respective Technical Data Sheets (TDS) for details.
- Do not use over wood planking, presswood, particleboard, chipboard, treated plywood, Masonite, Lauan, laminate, fiberglass, poured epoxy floors, self-stick tile, noncushioned sheet vinyl, metal or similar dimensionally unstable substrates. See the "Suitable Substrates" section below.
- To use directly over gypsum-based patching or leveling substrates, apply a suitable primer/sealer 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 *Large and Heavy Pro Tile Mortar* for installations subjected to water immersion, such as pools and spas.
- *Large and Heavy Pro Tile Mortar* is not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI mortar with a liquid latex additive.
- *Large and Heavy Pro Tile Mortar* is not designed to correct uneven floors. The substrate must be flat and level (according to substrate flatness requirements in ANSI A108.02) before installation of large-format tiles.

## SUITABLE SUBSTRATES

- Concrete (cured at least 28 days)
- Masonry cement block, brick, cement mortar beds and leveling coats
- Cement backer units (CBUs) – see the manufacturer's installation guidelines
- Gypsum wallboard and plaster – interior walls in dry areas only (properly primed)
- 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
- Oriented Strand Board (OSB) for use in uncoupling membrane systems only, not for direct bonding applications

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and 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 (SDS) for details.

1. Pour the appropriate amount of clean, potable water into a clean mixing container.
2. a. For nonsag/nonslump application: Use about 6.5 to 7.5 U.S. qts. (6.15 to 7.10 L) of water.  
b. For applications over MAPEI uncoupling and peel-and-stick membranes: Use about 7.5 to 8 U.S. qts. (7.10 to 7.57 L) of water.
3. Gradually add 50 lbs. (22.7 kg) of *Large and Heavy Pro Tile Mortar* powder while slowly mixing.
4. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or spiral mixer. Mix thoroughly until the mixture becomes a smooth, homogeneous, lump-free paste. Avoid prolonged mixing.
5. Let the mixture stand (“slake”) for 5 minutes.
6. Remix for 1 minute.
7. If mixture becomes heavy or stiff, remix it without adding more water.

## 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 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 the mortar into the substrate.
3. Apply additional mortar, combing it in a single direction parallel to the tile’s 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 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 expansion joints with mortar.

## CLEANING

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

## PROTECTION

- Do not disturb the installation, allow light traffic or grout any tiles for at least 24 to 48 hours.
- Protect the installation from general traffic for at least 72 hours, and from heavy traffic for at least 7 days.
- Protect the installation from water exposure for 72 hours, and from freezing for 21 days.

Note: When working in cold temperatures, protect tilework for an extended time for this dry-set mortar to cure before grouting and/or allowing traffic.

### 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	225 to 350 psi (1.55 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	300 to 425 psi (2.07 to 2.93 MPa)
ANSI A118.4H – mortar for large and heavy tile	ASTM C627 Robinson Floor Test Lippage change < 1/64" (0.4 mm)	Pass
ANSI A118.4E – extended open time	≥ 72.5 psi (0.5 MPa) at 30 minutes	Pass
ANSI A118.4T – sag on vertical surfaces	< 0.02" (0.5 mm) at 20 minutes	Pass
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	150 to 175 psi (1.03 to 1.21 MPa)

### Shelf Life and Product Characteristics

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Physical state	Powder
Color	Gray or White

**Application Properties\***

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

Mixing ratio	6.5 to 8 U.S. qts. (6.15 to 7.57 L) of water per 50 lbs. (22.7 kg) of powder; see the "Mixing" section for details
Open time*	30 minutes
Pot life*	> 2 hours
Time before grouting (floors)*	24 to 48 hours
Time before grouting (walls)*	8 to 16 hours
Application temperature range	40°F to 95°F (4°C to 35°C)
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
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 m <sup>2</sup> )
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 m <sup>2</sup> )
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm), square-notch	38 to 45 sq. ft. (3.53 to 4.18 m <sup>2</sup> )
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm), U-notch	25 to 30 sq. ft. (2.32 to 2.79 m <sup>2</sup> )

\*\* 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\*\*\*
- 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.**

## CONTACT INFORMATION

### MAPEI Headquarters of North America

1144 East Newport Center Drive  
Deerfield Beach, Florida 33442  
1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

### Technical Services

U.S. and Puerto Rico:

Flooring: 1-800-992-6273

Concrete and heavy construction: 1-888-365-0614

Canada:

1-800-361-9309

### Customer Service

1-800-42-MAPEI (1-800-426-2734)

**Edition Date: June 12, 2024 MK 3000214 (24-2060)**

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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