



Large-Format Floor Tile Mortar

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



DESCRIPTION

Large-Format Floor Tile Mortar is a polymer-enriched (“modified”), large-and-heavy-floor-tile mortar (formerly “medium-bed mortar”) and thin-set mortar for floor applications of large-format tile. It is used to install ceramic tile, porcelain tile, quarry tile, Saltillo tile and natural-stone tile. *Large-Format Floor Tile Mortar* is designed to give better support under large-format tile.

FEATURES AND BENEFITS

- Nonslump for large-format and heavy tile/stone
- For thicker bond coats from 3/32” to 1/2” (2.5 to 12 mm)
- A smooth and creamy consistency for easy application

INDUSTRY STANDARDS AND APPROVALS

- ANSI: When mixed with water, exceeds ANSI A118.4 requirements; when mixed with *Polymer Additive*, exceeds ANSI A118.11 requirements

LEED v4 Points Contribution

LEED Points

Environmental Product Declaration (EPD):

TCNA Industry Average for Mortars* 1/2 point

Health Product Declaration (HPD)* Up to 2 points

** 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.*

WHERE TO USE

- Most interior/exterior residential and commercial floor installations of ceramic tile, porcelain tile, quarry tile, brick pavers, Saltillo tile, dimensional tile and most types of natural stone

When mixed with water:

- Over cured concrete, cement mortar beds and leveling coats
- Over cement backer units (CBUs) – see manufacturer’s installation guidelines

When mixed with *Polymer Additive*:

- All of the above uses, plus the following:
 - Over properly prepared and well-bonded ceramic and porcelain tile, quarry tile pavers and cementitious terrazzo (interior and dry conditions only)
 - Over APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floors in dry conditions)
 - Interior installations over properly prepared vinyl composition tile (VCT), non-cushioned sheet vinyl and cutback residue
 - Over MAPEI waterproofing, crack-isolation, sound-reduction and uncoupling membranes

LIMITATIONS

- Use 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 some granite), agglomerate tiles or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives (see the respective Technical Data Sheets for details). Regarding installations of resin-backed tile, contact MAPEI’s Technical Services Department.
- Do not use over wood planking, presswood, particleboard, chipboard, oriented strand board (OSB), treated plywood, Masonite, Luan, laminate flooring, fiberglass, poured epoxy floors, self-stick tile, non-cushioned sheet vinyl, metal or similar dimensionally unstable substrates. See the “Suitable Substrates” section.



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- To use directly over gypsum-based patching or leveling substrates, apply a suitable primer/sealer before use. See the technical bulletin “Tiling over gypsum” in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI’s Website.
- For light-colored and translucent natural stone, a white mortar is recommended.
- Large-and-heavy-tile mortars are not designed to correct uneven floors. Substrates must be flat and level before the installation of large-format tile.
- Extended setting/curing times may be required when tile is installed over nonporous surfaces, such as waterproofing membranes and existing tile, and when *Large-Format Floor Tile Mortar* is mixed with *Polymer Additive*.
- Mix with *Polymer Additive* for areas subject to severe freeze/thaw conditions.
- Do not use for installations subjected to water immersion, such as pools and spas.
- Dimensionally weak stone (limestone and travertine) is limited to thin-set applications only.
- Not recommended for setting glass tile

SUITABLE SUBSTRATES

When mixed with water:

- Concrete (cured at least 28 days)
- Cement mortar beds and leveling coats
- Cement backer units (CBUs) – see the manufacturer’s installation guidelines

When mixed with *Polymer Additive*:

- Installations over properly prepared and well-bonded ceramic and porcelain tile, quarry tile and pavers (interior and dry conditions only)
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floors and countertops in dry conditions only)
- Interior installations over VCT, cutback residue and non-cushioned sheet vinyl
- MAPEI waterproofing, crack-isolation, sound-reduction and uncoupling membranes

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 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. Pour mixing liquid into a clean mixing container.
- 2a. For nonlump applications: Use about 6.5 to 7.5 U.S. qts. (6.15 to 7.10 L) of clean, potable water, or about 2 U.S. gals. (7.57 L) of undiluted *Polymer Additive*.
- 2b. For applications over MAPEI uncoupling 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-Format Floor Tile Mortar* powder while slowly mixing.
4. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or auger mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
5. Let the mixture stand (“slake”) for 5 minutes.
6. Remix for 1 minute.
7. If the mixture becomes heavy or stiff, remix it 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, commercial floor 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 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. Do not cover expansion joints with mortar.

CLEANING

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

ANSI Specifications (when mixed with water)

Test Method	Specification Standard	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	> 200 psi (1.38 MPa) at 28 days	255 to 315 psi (1.76 to 2.17 MPa)
ANSI A118.4 – shear strength, glazed wall tile	> 300 psi (2.07 MPa) at 28 days	325 to 445 psi (2.24 to 3.07 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	370 to 515 psi (2.55 to 3.55 MPa)

ANSI Specifications (when mixed with *Polymer Additive*)

Test Method	Specification Standard	Test Results
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	151 to 190 psi (1.03 to 1.31 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

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

Mixing ratio, per 50 lbs. (22.7 kg) of <i>Large-Format Floor Tile Mortar</i>	6.5 to 8 U.S. qts. (6.15 to 7.57 L) of water, or 2 U.S. gals. (7.57 L) of <i>Polymer Additive</i> ; see the “Mixing” section for details
Open time*	20 minutes
Pot life*	> 2 hours
Time before grouting*	24 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
Bag: 50 lbs. (22.7 kg)

Approximate Coverage** per 50 lbs. (22.7 kg)

Typical Trowel	Coverage
Thin-set applications	
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)

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Large-and-heavy tile and stone applications		
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm)		38 to 45 sq. ft. (3.53 to 4.18 m ²)
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm)		25 to 30 sq. ft. (2.32 to 2.79 m ²)

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

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 rain 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.

RELATED DOCUMENTS

Reference guide: "Surface preparation requirements" for tile and stone installation systems***

Technical bulletin: "Tiling over gypsum"***

*** At www.mapei.com

Refer to the SDS for specific data related to health and safety as well as product handling.

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 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. **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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