



## SUITABLE SUBSTRATES

- Concrete (cured for at least 28 days)
- Masonry cement block, brick, cement mortar beds, render coats 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 underlayment 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).
- Vinyl composition tile (VCT), vinyl and cutback residue (interior only)
- Existing ceramic and porcelain tile, quarry tile and pavers (interior only)
- MAPEI waterproofing, crack-isolation, sound-reduction and uncoupling membranes (limited to thin-set installations only when using weak stone)

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.
- Substrates to receive thin porcelain tiles must be perfectly flat. When installing thin-body porcelain tile, consult the recommendations regarding surface preparation, trowel selection and mechanical edge-leveling systems in MAPEI’s reference guides for thin-body porcelain tile 3 to 6 mm thick for walls, and 4.5 to 6 mm thick for floors. These reference guides can be found in the Tile & Stone Installation Systems section of MAPEI’s Website.
- 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 clean, potable water into a clean mixing container
- 2a. For thin-set applications: Use about 5.5 U.S. qts. (5.20 L) of water. Refer to Step 3 for final water addition.
- 2b. For large-and-heavy-tile and non-sag wall applications: Use about 5 U.S. qts. (4.73 L) of water. Refer to Step 3 for final water addition.

3. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing for at least 1 minute. Adjust the consistency with water, adding up to 1 additional U.S. qt. (946 mL) as needed, without overwatering. Mix again for 2 minutes.
4. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or spiral mixer. Mix thoroughly until mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
5. Let mixture stand (“slake”) for 5 minutes.
6. Remix.
7. If mixture becomes heavy or stiff, remix without adding more liquid.

## PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Choose a notched trowel (see “Approximate Coverage” chart below) with sufficient depth to achieve greater than 80% mortar contact to both the tile and substrate for all interior applications, and greater than 95% for exterior installations, commercial floor and wet applications. It may be necessary to back-butter the tile 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. If thin tile is being installed, it should be placed so that the troweled ridges on its back are oriented in the same parallel direction as the trowel ridges on the substrate.
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.

## CLEANUP

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

## ISO 13007 Classification

Classification Code	Classification Requirement	Test Characteristic
C2 (cementitious, improved adhesive)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles	Using porcelain tile
T (slip resistance)	≤ 0.019" (0.5 mm)	Using porcelain tile
E (extended open time)	≥ 72.5 psi (0.5 MPa) after 30 minutes	Using glazed ceramic wall tile
S1 (normal deformation of mortar)	≥ 0.1" (2.5 mm)	—
P1 (normal adhesion to plywood)	≥ 72.5 psi (0.5 MPa)	Using porcelain tile

## ANSI Specification\*

Test Method	Specification Standard	Test Results
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	150 to 250 psi (1.03 to 1.72 MPa)
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2.76 MPa) at 28 days	450 to 550 psi (3.10 to 3.79 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3.10 MPa) at 7 days	450 to 650 psi (3.10 to 4.48 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	400 to 600 psi (2.76 to 4.14 MPa)
ANSI A118.15H – mortar for large and heavy tile	ASTM C627 Robinson Floor Test, lippage change < 1/64" (0.4 mm)	Pass
ANSI A118.15T – sag on vertical surfaces	< 0.02" (0.5 mm) at 20 minutes	Pass
ANSI A118.15E – extended open time	> 75 psi (0.52 MPa) at 30 minutes	Pass

\* Anything that meets A118.15 by definition exceeds A118.4.

## Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Color	Universal color

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

Open time**	30 minutes
Pot life**	> 2 hours
Time before grouting (walls)**	8 to 16 hours
Time before grouting (floors)**	24 to 48 hours
VOCs (Rule #1168 of California's SCAQMD)	0 g per L

\*\* Actual open time, pot life and time before grouting will vary based on jobsite conditions.

## Packaging

Size and Color
Bag: 25 lbs. (11.3 kg), universal color

## 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.

MAPEI  
**Ultralite<sup>™</sup>**  
**Mortar**

# MAPEI Ultralite Mortar



## Approximate Coverage\* per 25 lbs. (11.3 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)

Refer to the 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](mailto:sustainability_USA@mapei.com) (USA) or [sustainability-durabilite@mapei.com](mailto:sustainability-durabilite@mapei.com) (Canada).

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