

MAPEI Ultralite Mortar

Premium, Lightweight Mortar with Polymer for Large and Heavy Tile



DESCRIPTION

MAPEI Ultralite[®] Mortar is a premium-grade, lightweight, single-component mortar for large-and-heavy-tile and non-sag applications, and that can also be used for thin-set mortar installations. This high-performance, polymer-modified mortar features a very low emission of volatile organic compounds and includes an offset of greenhouse gas emissions. It is formulated with Easy Glide Technology[™] for ease of application, and with BioBlock[®] technology for mold and mildew resistance. MAPEI Ultralite Mortar utilizes Ultralite Technology[™] for twice the coverage of a standard thin-set mortar per pound/kg and contains more than 20% recycled content.

CO₂ FULLY OFFSET PRODUCTS

MAPEI Ultralite Mortar is part of the “CO₂ Fully Offset in the Entire Life Cycle” line of products. CO₂ emissions measured throughout the life cycle of products from the Zero line in 2023, using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset through the acquisition of third-party-certified carbon credits in support of renewable energy and forestry protection projects: A commitment to the planet, to people and to biodiversity. For more details on how emissions are calculated and on climate-mitigation projects that are financed through certified carbon credits, visit www.mapei.com/us/sustainable-products.

FEATURES AND BENEFITS

- Polymer-enriched for high performance and deformability
- Non-sag formula for large and heavy tile/stone
- Nonslump for large and heavy tile/stone in floor applications
- A 25-lb. (11.3-kg) bag provides the same coverage as a 50-lb. (22.7-kg) bag of a standard polymer-modified mortar.
- Smooth and creamy consistency
- No silica sand added*
- Suitable for submerged applications like pools, spas and water features
- Suitable for installations of opaque glass tile 3" x 3" (7.5 x 7.5 cm) and smaller
- For thicker bond coats from 3/32" to 1/2" (2.5 to 12 mm)

*Does not contain intentionally added crystalline silica. Trace amounts exist in cement and other ingredients, which will be listed on the Safety Data Sheet.

INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2TES1P1
- ANSI: Exceeds A118.4HET, A118.11 and A118.15HET requirements
- SCS Green Squared Certified per ANSI A138.1

WHERE TO USE

- Most interior/exterior residential installations on floors and walls
- Most interior/exterior commercial installations on floors and walls
- Installation of ceramic and porcelain tile, quarry tile, pavers, glass tile, Saltillo tile, and most types of marble, granite and natural stone

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; some limestone and granites), agglomerate tiles, or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives. 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.
- 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 Tile & Stone Installation Systems section of MAPEI's Website.
- For installations of light-colored and translucent natural stone, a white mortar is recommended.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.
- 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.

- Not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI mortar system with a liquid latex additive.
- For large-format glass tile, see the technical bulletin “Installing large-format, opaque glass tiles” in the Tile & Stone Installation Systems section on MAPEI’s Website.
- Follow the glass tile manufacturer’s recommendations regarding limitations and appropriate use.
- For translucent or clear glass tiles, *Adesilex™ P10 Mosaic & Glass Tile* is recommended for its bright white color.
- Do not use for glass tile with a decorative coating on the tile backing.

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
- Foam backer board
- 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 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).
- 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)
- Note that glass tile may not be suitable over some of the above substrates, such as plywood. Consult the TCNA and glass tile manufacturer regarding installation recommendations over these substrates or 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.
- 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
2. a. For thin-set applications: Use about 5.5 U.S. qts. (5.20 L) of water. Refer to Step 3 for final water addition.
b. 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 the “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 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. For glass tile, follow immediately with a proper beating-in of the tiles to flatten ridges or notches. For the installation of sheet-mounted glass and marble mosaics, after using light pressure to establish contact with the fresh mortar, lightly tap the tile with a rubber-faced beating block and mallet.
7. 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.
- Glass tiles exhibit more dimensional change due to temperature fluctuations than do ceramic or porcelain tiles. Joint spacing recommendations in EJ171 (301MJ) give a range for interior and exterior applications. For glass tile installations, add additional movement joints in order to reduce stresses.

CLEANUP

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

PROTECTION

- Do not disturb the installation, allow light traffic or grout any tiles for at least 24 to 48 hours after mortar application.
- 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.

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 A118.15E – extended open time	> 75 psi (0.52 MPa) at 30 minutes	Pass
ANSI A118.15T – sag on vertical surfaces	< 0.02" (0.5 mm) at 20 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)
Colors	Gray; white

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), gray

Bag: 25 lbs. (11.3 kg), white

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 ²)
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 ²)
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 ²)
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 ²)

^{†††} 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

ADDITIONAL INFORMATION

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 (USA) or sustainability-durabilite@mapei.com (Canada).

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. **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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For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.

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