

Large Tile & Stone Mortar

Premium, Polymer-Enriched, Large-and-Heavy-Tile and Thin-Set Mortar



DESCRIPTION

Large Tile & Stone Mortar is a premium, regular-setting, polymer-enriched (“modified”) large-and-heavy-tile mortar that is ideal for installing large-format tile and stone on floors, walls and countertops. This mortar can also be used in thin-set applications to install smaller-format tile over a diverse range of substrates. This product features a very low emission of volatile organic compounds and includes an offset of greenhouse gas emissions.

CO₂ FULLY OFFSET PRODUCTS

Large Tile & Stone 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 2025, 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 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

- Multipurpose: Can be used to set small to large tile in both thin-set and large-and-heavy-tile applications
- Polymer-enriched for excellent bond, high performance and deformability
- Nonsag formula for large-format tile and stone in wall applications
- Nonslump for large-format, heavy tile and stone in floor applications
- For thicker bond coats from 3/32" to 1/2" (2.5 to 12 mm)
- Smooth and creamy consistency: Easy to apply
- Mix with water only.

- Ideal for tile with any side greater than 15" (38 cm) and for thick/heavy tile and stone

INDUSTRY STANDARDS AND APPROVALS

- ANSI: Exceeds A118.4HET, A118.11 and A118.15HET requirements

WHERE TO USE

- Interior/exterior residential and commercial installations on floors and walls in dry and wet areas (see building facade requirements under the "Limitations" section below)
- Interior installations on residential countertops
- For installing ceramic or porcelain tile in submerged applications (pools, fountains and water features)

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 some granite), agglomerate tiles or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives (see respective Technical Data Sheets for details).
- Do not use over wood planking, presswood, particleboard, chipboard, oriented strand board (OSB), treated plywood, Masonite, Lauan, laminate flooring, 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 sealer/primer 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.
- Consult building code requirements for use on exterior commercial building facades.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.
- Dimensionally weak stone (limestone, travertine) is limited to thin-set applications only.
- Not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI mortar system with a liquid latex additive.
- *Large Tile & Stone Mortar* is not recommended for setting glass tile.
- Large-and-heavy-tile mortars are not designed to correct uneven floors. Substrates must be flat and level (according to substrate flatness requirements in ANSI A108.02) before the installation of large-format tile.

SUITABLE TILE OR STONE

- For porcelain, ceramic, quarry, mosaic and Saltillo tile; cultured stone; pavers; and most types of marble, granite and natural stone
- Ideal for tile with any side greater than 15" (38 cm) and for thick/heavy tile and stone, and can be used to install small-format tile

SUITABLE SUBSTRATES

- Concrete (cured for at least 28 days)
- Masonry cement block, brick, cement mortar beds 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 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) and cutback residue – interior only
- Existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers – interior only
- MAPEI waterproofing, crack-isolation and sound-reduction membranes
- Plastic laminate countertops

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 clean, potable water into a clean mixing container.
2. a. For nonsag/nonslump applications: Use about 6.5 to 7.5 U.S. qts. (6.15 to 7.10 L) of water.
- b. For 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 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 for 5 minutes.
6. Remix for 1 minute.
7. If the 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 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 the tile in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA 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 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 any expansion joints with mortar.

CLEANUP

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

PROTECTION

- Do not disturb the installation, allow light traffic or grout the 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.
- Cure for 28 days before water immersion.

ANSI Specifications*

Test Method	Specification Standard	Test Results
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	170 to 310 psi
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
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2.76 MPa) at 28 days	465 to 625 psi (3.21 to 4.31 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3.10 MPa) at 7 days	570 to 780 psi (3.93 to 5.38 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	310 to 450 psi (2.14 to 3.10 MPa)

* 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) and 50% relative humidity
Color	White

Application Properties

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

Open time**	30 to 35 minutes
Pot life**	4 hours
Time before grouting (walls)**	8 to 16 hours
Time before grouting (floors)**	24 to 48 hours
VOC content	0 g per L

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

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	85 to 95 sq. ft. (7.90 to 8.83 m ²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	65 to 75 sq. ft. (6.04 to 6.97 m ²)
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm), square-notch	40 to 50 sq. ft. (3.72 to 4.65 m ²)
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm), U-notch	35 to 40 sq. ft. (3.25 to 3.72 m ²)

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

Packaging

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

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 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.

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,
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