



Ultraflex™ 1

Standard Tile Mortar with Polymer



DESCRIPTION

Ultraflex 1 is a standard-grade, single-component, polymer-modified thin-set mortar for most interior and exterior installations of tile. This mortar has an above average content of unique dry polymer, resulting in good adhesion to the substrate and tile. Ultraflex 1 can be used for both interior and exterior installations of tile in most residential floor and wall applications. In commercial applications, use on interior floor and wall installations and exterior floors. Ultraflex 1 meets or exceeds ANSI A118.4 and ANSI A118.11 requirements when mixed with water.

FEATURES AND BENEFITS

- Polymer-enriched for performance
- Good bond strength with plywood

INDUSTRY STANDARDS AND APPROVALS

ISO 13007: Classification C2E

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

LEED (Version 3.0) Points Contribution.....	LEED Points
MR Credit 5, Regional Materials*.....	Up to 2 points
IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants.....	1 point
IEQ Credit 4.3, Low-Emitting Materials – Flooring Systems.....	1 point

**Using this MAPEI 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 installations on floors and walls
- Most interior/exterior commercial installations on floors
- Most interior commercial installations on walls
- Installation of ceramic and porcelain tile, quarry tile, pavers, 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 limestones and granites), agglomerate tiles or resin-backed tiles. Instead, use a suitable epoxy or urethane adhesive. See the respective Technical Data Sheet 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 suitable primer before use. See MAPEI Technical Bulletin 010506-TB, "Installing MAPEI Products Over Gypsum."
- Use a white mortar when installing light-colored stones and translucent marble.
- Installations of tile over nonporous surfaces (waterproofing membranes, sheet membranes, etc.) may require extended setting/curing times.
- Do not use for installations subject to prolonged water immersion.



- Not recommended for areas subject to severe freeze/thaw conditions. Instead, MAPEI recommends the use of a liquid latex additive mortar system.

SUITABLE SUBSTRATES

- Concrete (cured 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 – interior walls in dry areas only (see Technical Bulletin 010506-TB for priming instructions)
- APA and CANPLY Group 1 exterior-grade plywood (interior, residential and light commercial in dry conditions only)
- MAPEI waterproofing, crack-isolation and sound-reduction membranes

SUBSTRATE 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 MAPEI's "Surface Preparation Requirements" document for tile and stone installation.

MIXING

1. Before starting, take appropriate safety precautions. See MSDS for details.
2. Into a clean mixing container, pour about 5 to 6 U.S. qts. (4,73 to 5,68 L) of clean potable water. Gradually add 50 lbs. (22,7 kg) of powder while slowly mixing.
3. Use a low-speed mixing drill (at about 300 rpm), with an angled cross blade mixer or double box mixer. Mix thoroughly until mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
4. Let mixture stand ("slake") for 10 minutes.
5. Remix.
6. If mixture becomes heavy or stiff, remix without adding more liquid or powder.

PRODUCT APPLICATION

1. Choose a typical notched trowel (see 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 the tile in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCA handbook 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 with the trowel's notched side.
4. Spread only as much mortar as can be tiled before 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 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 Detail EJ171 or TTMAC Specification Guide 09 30 00 Detail MJ301. Do not cover any expansion joints with mortar.

CLEANUP

Clean tools and tile while the mortar is fresh.

PROTECTION

- Protect from traffic for 24 hours. Protect from heavy traffic for 7 days.
- Protect from frost and rain for 7 days.

Product Performance Properties

ISO 13007 Classification

Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
E (extended open time)	≥ 72.5 psi (0,5 MPa) after 30 minutes

ANSI Specification

Test Method	ANSI Specification	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	375 to 550 psi (2,59 to 3,79 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1,03 MPa) at 28 days	245 to 400 psi (1,69 to 2,76 MPa)
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1,03 MPa) at 28 days	150 to 160 psi (1,03 to 1,10 MPa)

Shelf Life and Application Properties*

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

Shelf life..... 1 year
 Open time*..... 30 minutes
 Pot life*..... > 2 hours
 Time before grouting..... 16 to 24 hours
 VOCs (Rule #1168 of California's SCAQMD)..... 0 g/L

* Open time and pot life vary based on jobsite conditions.

Packaging

Product Code	Size and Color
U.S. 0060048; Canada 006004821	Bag: 50 lbs. (22,7 kg), gray
U.S. 0060049; Canada 006004921	Bag: 50 lbs. (22,7 kg), white

Approximate Product Coverages* per 50 lbs. (22,7 kg)

Typical Trowel	Coverage
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)

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

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Refer to MAPEI's Material Safety Data Sheet (MSDS) for specific data related to VOCs, health and safety, and handling of product.

STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. **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.**

We proudly support the following industry organizations:



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For the most current product and warranty data, visit www.mapei.com.

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