



Ultraflex[®] 1

Polymer-modified mortar

Meets or exceeds ANSI A118.4 and ANSI A118.11 requirements



DESCRIPTION

Ultraflex 1 is a single-component, polymer-modified, thin-set mortar for interior and exterior installations of dimensional stone, ceramic, porcelain and quarry tile. This mortar has an above-average content of a 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. For exterior commercial wall applications, use either the *Kerabond/Keralastic*[™] or *Granirapid*[®] system. *Ultraflex 1* meets or exceeds ANSI A118.4 and ANSI A118.11 requirements when mixed with water.

USES

- For interior/exterior vertical and horizontal installation of dimensional stone, ceramic, porcelain and quarry tile installation over most traditional, well-prepared, nondeflecting substrates such as plywood, cured concrete, masonry and cement backer units (CBUs)

TECHNICAL NOTES

- Do not apply over presswood, particleboard, chipboard, Masonite, Luan, gypsum floor-patching compounds, metal or similar dimensionally unstable substrates.

- Do not use for installations subject to prolonged water immersion (such as swimming pools, gang showers, hot tubs and fountains). Instead, use *Keracrete*[™], or the *Kerabond/Keralastic* or *Granirapid* system (see Technical Data Sheets for details).
- Do not use for setting green marble or green granite and their agglomerates, or Rosso Levante and Negro Marquina marble. Instead, use *Kerapoxy*[®], *Kerapoxy 410* or *Planicrete*[®] W. For installing light-colored stones and translucent marble, typically a white mortar is recommended. White *Granirapid*, white *Ultraflex RS* or white *Ultraflex 1* is highly recommended (see respective Technical Data Sheet for details).
- Use between 50°F and 100°F (10°C and 38°C).

RECOMMENDED SUBSTRATES

- Fully cured concrete (at least 28 days old)
- Masonry block
- Cement mortars and leveling coats
- Gypsum plaster – walls only (primed with *Planicrete AC*)
- Gypsum wallboard – walls only (may be primed with *Planicrete AC*)
- Cement backer units (CBUs)
- Properly prepared Group I exterior-grade plywood (interior residential floors and countertops in dry areas only)

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.



INSTRUCTIONS

1. Surface Preparation

See MAPEI's "Surface Preparation Requirements" document.

2. Mixing

- 2.1 Into a clean mixing container, pour about 1.5 U.S. gals. (5,68 L) of cold water.
- 2.2 Gradually add a 50-lb. (22,7-kg) bag of *Ultraflex 1* powder while slowly mixing with a low-speed mixer (at about 300 rpm).
- 2.3 Avoid air entrapment and prolonged mixing, which will shorten the pot life.
- 2.4 Mix thoroughly to a homogenous and smooth consistency.
- 2.5 After mixing, let sit ("slake") for 10 to 15 minutes.
- 2.6 Restir without adding any more liquid or dry powder.
- 2.7 Some stiffening may occur before all material is used (about 1.5 to 2 hours). If so, simply restir by hand or machine, but do not add any liquid.
- 2.8 Wash hands and tools with water immediately after mixing.

3. Application

- 3.1 Use a typical notched trowel (see chart) with sufficient depth to achieve at least 80% mortar contact to the back of the tiles for all interior applications. For commercial as well as marble, granite and other natural-stone installations, achieve at least 95% mortar contact in accordance with applicable ANSI specifications and TCA guidelines.

Note: All trowel patterns, regardless of depth, should be square-notched and not "V" or rounded types.

- 3.2 Using the flat or straight edge of the trowel, spread a thin pressure-applied coat onto the substrate. Follow immediately with additional material, then comb the material with the trowel's notched side to achieve an even-setting bed. Do not spread more material than can be covered with tiles within 20 minutes (about 20 sq. ft. [1,86 m²]).
- 3.3 Set tiles before surface of the mortar "skins over." If "skinover" occurs, scrape off and replace with fresh mortar. Place tiles firmly in position with a slight twisting motion to ensure good contact with the mortar.
- 3.4 Follow immediately with proper and thorough beat-in to flatten the ridges or notches into a continuous bed, allowing at least 25% of the thickness of each tile to be embedded in the *Ultraflex 1* mortar.
- 3.5 Make all alignments and adjustments within 45 minutes following the beat-in procedure.
- 3.6 Clean all joints and wipe smudges from the tile face with a damp towel.

- 3.7 Do not disturb, grout or walk over tiles for at least 24 hours after installation.
- 3.8 Wash hands and tools with water while material is still fresh.

4. Expansion and Control Joints

- 4.1 Provide for expansion and control joints within the tilework where specified or where necessary. Refer to the Tile Council of America or TTMAC handbook for details.
- 4.2 Do not cover any expansion joints with mortar.
- 4.3 Cut tiles on both sides along the edges of expansion joints or control joints.
- 4.4 Protect tilework with metal strips along both edges of structural building expansion joints.
- 4.5 Install the specified compressible bead and sealant in all expansion and control joints.

5. Grouting

Allow tiles to reach a firm set before grouting with the appropriate MAPEI grout (typically 16 to 24 hours).

6. Protection

- 6.1 Provide for dry, heated storage on site and deliver materials at least 24 hours before tilework begins.
- 6.2 Floors: Keep free from general traffic for at least 72 hours after installation. Plywood or stepping boards may be used after 24 hours when occasional stepping on the floor is unavoidable.
- 6.3 Walls: Protect from impact, vibrations and heavy hammering on adjacent and opposite walls for at least 14 days after installation.

TECHNICAL DATA (based on 73°F [23°C] and 50% relative humidity)

References: Meets or exceeds ANSI A118.4 and ANSI A118.11 requirements

Pot life	About 2 hours
Open time	20 minutes
Initial cure	16 to 24 hours
Final cure	28 days
Shear strength per ANSI A118.4 tests (at 28 days)	
Ceramic mosaic	280 psi (1,93 MPa)
Quarry tile to plywood	190 psi (1,31 MPa)
Quarry tile to quarry tile	295 psi (2,03 MPa)
Cleanability	With water while fresh
Colors	Gray; white
Shelf life	1 year when stored in a dry, heated area. Protect from moisture.
Health and safety	Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

PACKAGING

Bag: 50 lbs. (22,7 kg)

TYPICAL TROWELS AND APPROXIMATE COVERAGES* (per 50-lb. [22,7-kg] bag)

1/4" x 1/4" x 1/4"	75 to 90 sq. ft.	
(6 x 6 x 6 mm)	(6,97 to 8,36 m²)	

1/4" x 3/8" x 1/4"	55 to 65 sq. ft.	
(6 x 10 x 6 mm)	(5,11 to 6,04 m²)	

**Trowel dimensions are width/depth/space. Coverages shown are for estimating purposes only. Actual job-site coverages may vary according to substrate conditions, type of trowel used and setting practices.*

NOTICE

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.**

MAPEI

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Additional Information

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