



Ultraflex™ 3

Premium Tile Mortar with Polymer



DESCRIPTION

Ultraflex 3 is a premium-grade, single-component, high-performance, polymer-modified thin-set mortar for interior and exterior installations of tile. This mortar has a high content of unique dry polymer, resulting in superior adhesion to the substrate and tile. In addition, it can be used for most interior/exterior residential and commercial tile applications on floors and walls. *Ultraflex 3* meets or exceeds ANSI A118.4E, ANSI A118.11 and ANSI A118.15E when mixed with water.

FEATURES AND BENEFITS

- Polymer-enriched for high performance and deformability
- Can be used in both thin-set and medium-bed applications
- Can be used for submerged applications and freeze/thaw conditions (see the "Limitations" section below)

INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2ES1P1
- ANSI: Meets or exceeds ANSI A118.4E, ANSI A118.11 and ANSI A118.15E bond strength requirements

WHERE TO USE

- Most interior/exterior residential and commercial installations on floors and walls
- Installation of ceramic and porcelain tile, glass 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 limestone and granite), 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 sealer before use. See the technical bulletin "Tiling over gypsum" in the Tile & Stone Installation Systems section of MAPEI's Website.
- For light-colored and translucent natural stone, a white mortar is recommended.
- Consult building code requirements for use on exterior commercial facades.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.
- Use a MAPEI mortar with a liquid latex additive for areas subject to severe freeze/thaw conditions, for the best performance.

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 and plaster – interior walls in dry areas only (priming may be required)
- 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), plastic laminate countertops, non-cushioned sheet vinyl and cutback residue (interior only)
- Existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior)
- 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.
- 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. See the Safety Data Sheet for details.

1. Into a clean mixing container, pour about 5 to 6 U.S. qts. (4.73 to 5.68 L) of clean potable water.
2. 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 spiral mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
4. Let the mixture stand ("slake") for 10 minutes.
5. Remix.
6. If the mixture becomes heavy or stiff, remix without adding more liquid or powder.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Choose a typical 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 tiles in order 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 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 or TTMAC Specification Guide 09 30 00, Detail 301MJ. Do not cover expansion joints with mortar.

CLEANUP

- Use water only to 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 water immersion for 14 days.
- Protect from frost, rain and freeze/thaw conditions for 7 days.

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
S1 (normal deformation of mortar)	≥ 0.1" (2.5 mm)
P1 (normal adhesion to plywood)	≥ 72.5 psi (0.5 MPa)

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	300 to 425 psi (2.07 to 2.93 MPa)
ANSI A118.15E – extended open time	> 75 psi (0.52 MPa) at 30 minutes	Pass
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2.76 MPa) at 28 days	400 to 500 psi (2.76 to 3.45 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3.10 MPa) at 7 days	475 to 600 psi (3.28 to 4.14 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	350 to 500 psi (2.41 to 3.45 MPa)





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

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 per L

** Open time, pot life and time before grouting 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) 	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)
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm) 	38 to 45 sq. ft. (3.53 to 4.18 m²)
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm) 	25 to 30 sq. ft. (2.32 to 2.79 m²)

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

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Packaging

Size	Color
Bag: 50 lbs. (22.7 kg)	Gray (USA and Canada)
Bag: 50 lbs. (22.7 kg)	White (USA only)

RELATED DOCUMENTS

Reference guide: "Surface preparation requirements" for tile and stone installation systems*

Technical bulletin: "Tiling over gypsum"*

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

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