



# Ultraflex<sup>®</sup> RS

## Premium, Rapid-Setting Tile Mortar with Polymer



### DESCRIPTION

*Ultraflex RS* is a premium-grade, single-component, high-performance, polymer-modified, rapid-setting thin-set mortar for interior and exterior installations of tile. This mortar has a high content of unique dry polymer, resulting in excellent adhesion to the substrate and tile. *Ultraflex RS* is a FastTrack Ready™ product, allowing grouting in 2 to 3 hours. It 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. Thanks to MAPEI's High-Hydrated Cement Technology (HCT™), *Ultraflex RS* offers superior drying-out characteristics for quick curing and does not contribute to efflorescence. *Ultraflex RS* meets or exceeds ANSI A118.4F, ANSI A118.11 and ANSI A118.15F requirements for fast-setting mortars when mixed with water.

### FEATURES AND BENEFITS

- Polymer-enriched for high performance and deformability
- Ready to grout in 2 to 3 hours

### INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2FS1P1
- ANSI: Meets or exceeds ANSI A118.4F, ANSI A118.11 and ANSI A118.15F bond strength requirements

### 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 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.
- Use a white mortar when installing light-colored stones and translucent marble.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.
- Do not use for installations subject to water immersion.
- Not recommended for areas subject to severe freeze/thaw conditions. Instead, use a MAPEI 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 and primed plaster – interior walls in dry areas only (see MAPEI’s technical bulletin “Tiling over gypsum” for priming instructions)
- 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), plastic laminate countertops, non-cushioned sheet vinyl 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

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. Refer to the Safety Data Sheet for details.

For 25-lb. (11.3-kg) size:

- 1a. Into a clean mixing container, pour about 2.5 to 3 U.S. qts. (2.37 to 2.84 L) of clean potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing.

For 50-lb. (22.7-kg) size:

- 1b. 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.
2. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or double-box mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
3. Do not let the mixture stand (“slake”). Instead, spread immediately.
4. If the mixture becomes heavy or stiff, remix without adding more liquid or powder.

## **PRODUCT APPLICATION**

1. Choose a typical 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, 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, using the trowel’s notched side to comb the mortar in a single direction parallel to the tile’s shortest dimension.
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 tiles while the mortar is fresh.

## **PROTECTION**

- Protect floors for 2 to 3 hours before grouting. Protect from light traffic for 6 hours. Protect from heavy traffic for 24 hours.
- Protect from frost and rain for 7 days.

## ISO 13007 Classification

Classification Code	Classification Requirement
C2 (cementitious, improved adhesive)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
F (fast-setting)	≥ 72.5 psi (0.5 MPa) at 6 hours
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	200 to 325 psi (1.38 to 2.24 MPa)
ANSI A118.15F – shear strength, impervious ceramic (porcelain) mosaics	> 50 psi (0.34 MPa) at 4 hours	Pass
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2.76 MPa) at 28 days	485 to 625 psi (3.34 to 4.31 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3.10 MPa) at 7 days	485 to 600 psi (3.34 to 4.14 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	550 to 750 psi (3.79 to 5.17 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 when stored in original, unopened packaging
Open time**	10 to 20 minutes
Pot life**	30 minutes
Time before grouting**	2 to 3 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\*\*\*

Typical Trowel		Coverage for 25 lbs. (11.3 kg)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm)		38 to 45 sq. ft. (3.53 to 4.18 m <sup>2</sup> )
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm)		28 to 33 sq. ft. (2.60 to 3.07 m <sup>2</sup> )

Typical Trowel		Coverage for 50 lbs. (22.7 kg)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm)		75 to 90 sq. ft. (6.97 to 8.36 m <sup>2</sup> )
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm)		55 to 65 sq. ft. (5.11 to 6.04 m <sup>2</sup> )

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

# Ultraflex<sup>RS</sup>



## Packaging

Size	Color
Bag: 25 lbs. (11.3 kg)	Gray
Bag: 50 lbs. (22.7 kg)	Gray White

## RELATED DOCUMENTS

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

Technical bulletin: "Tiling over gypsum"\*

\* At [www.mapei.com](http://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](mailto:sustainability_USA@mapei.com) (USA) or [sustainability-durabilite@mapei.com](mailto:sustainability-durabilite@mapei.com) (Canada).

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Before using, the user must determine the suitability of our products for the intended use,

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**MAPEI Headquarters of North America**  
1144 East Newport Center Drive  
Deerfield Beach, Florida 33442  
1-888-US-MAPEI (1-888-876-2734) /  
(954) 246-8888

**Technical Services**  
1-800-992-6273 (U.S. and Puerto Rico)  
1-800-361-9309 (Canada)

**Customer Service**  
1-800-42-MAPEI (1-800-426-2734)

**Services in Mexico**  
0-1-800-MX-MAPEI (0-1-800-696-2734)

**Edition Date:** June 17, 2021  
MK 3000262 (21-1968)

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