



## Ultraflex<sup>TM</sup> LHT<sup>TM</sup>

### Large-and-Heavy-Tile Mortar with Polymer



#### DESCRIPTION

*Ultraflex LHT* is a nonsag large-and-heavy-tile mortar (formerly known as “medium-bed mortar”) and thin-set mortar for large-format and heavy tile and stone for interior/exterior installations on floors, walls and countertops. This polymer-modified mortar is formulated with Easy Glide Technology<sup>TM</sup> for ease of application with excellent adhesion to the substrate and tile.

#### FEATURES AND BENEFITS

- Polymer-enriched for high performance
- Nonsag formula for large-format and heavy tile and stone in wall applications
- Nonslump for large-format and heavy tile and stone in floor applications. For bond coats up to 1/2" (2,5 to 12 mm) in embedded thickness.
- Smooth and creamy consistency makes it easy to apply.
- Approved for use with plywood

#### INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2TE
- ANSI: Exceeds A118.4TE and A118.11 bond strength requirements

LEED v3 Points Contribution ..... LEED Points

MR Credit 5, Regional Materials\* ..... Up to 2 points

IEQ Credit 3.2, Construction IAQ Management Plan – Before Occupancy ..... 1 point

IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants.....1 point

IEQ Credit 4.3, Low-Emitting Materials –

Flooring Systems.....1 point

*\* Using this product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.*

LEED v4 Points Contribution

LEED Points

MR Credit Materials Ingredient Reporting –

Health Product Declaration (HPD) .....1 point

#### WHERE TO USE

- Most interior/exterior residential installations on floors, walls and countertops in dry and wet areas (see wall specifications under “Limitations”)
- Most interior/exterior commercial installations on floors and countertops
- Most interior commercial installations on walls
- Installation of ceramic and porcelain tile, cultured stone, 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, cultured marble 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.

- To use directly over gypsum-based patching or leveling substrates, apply a suitable sealer/primer before use.
  - 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. Dimensionally weak stone (limestone and travertine) is limited to thin-set applications only.
  - Do not use for installations subject to water immersion, such as pools and spas.
  - Not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI liquid latex additive mortar system.
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 double-box mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
  4. Let the mixture stand ("slake") for 5 minutes.
  5. Remix.
  6. If the mixture becomes heavy or stiff, remix without adding more liquid.

### **SUITABLE SUBSTRATES**

- Concrete (cured at least 28 days)
- Masonry cement block, brick, cement mortar beds and leveling coats
- Cement backer units (CBUs) – see the manufacturer's installation guidelines
- Gypsum wallboard and plaster – interior walls in dry areas only
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floors/countertops in dry conditions only)
- Properly prepared vinyl composition tile (VCT), noncushioned sheet vinyl and cutback residue (interior installations only)
- Properly prepared existing ceramic and porcelain tile, quarry tile and pavers (interior applications in dry conditions only)
- MAPEI waterproofing, crack-isolation and sound-reduction membranes

Contact MAPEI's Technical Services Department for installation recommendations concerning 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 MAPEI's "Surface Preparation Requirements" document in the Reference & Installation Guides section of the Tile & Stone Installation Systems page on MAPEI's Website.

### **MIXING**

Choose all appropriate safety equipment before use. See the Safety Data Sheet for details.

1. Into a clean mixing container, pour about 6 to 6.5 U.S. qts. (5,68 to 6,15 L) of clean water.

### **PRODUCT APPLICATION**

Read all installation instructions thoroughly before installation.

1. Choose a notched trowel (see the "Approximate Coverage" chart) with sufficient depth to achieve more than 85% mortar contact to both the tile and substrate for all interior applications, and more than 95% for exterior, 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 TCNA handbook guidelines.)
2. With pressure, apply a coat of mortar by using the trowel's flat side to key the 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 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 09300 Detail 301EJ. Do not cover any expansion joints with mortar.

### **CLEANUP**

While the mortar is fresh, clean tools and tile with water.

### **PROTECTION**

- Protect from foot traffic for 24 hours before grouting.
- Protect from heavy traffic, frost and rain for 7 days.

## ISO 13007 Classification

Classification Code	Classification Requirement	Test Characteristic
C2 (cementitious, improved adhesive)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles	Using porcelain tile
T (vertical slip resistance)	≤ 0.019" (0,5 mm)	Using porcelain tile
E (extended open time)	≥ 72.5 psi (0,5 MPa) after 30 minutes	Using glazed ceramic wall tile

## ANSI Specification

Test Method	Specification Standard	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	400 to 550 psi (2,76 to 3,79 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1,03 MPa) at 28 days	300 to 425 psi (2,07 to 2,93 MPa)
ANSI A118.4E – extended open time	≥ 72.5 psi (0,5 MPa) at 30 minutes	Pass
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1,03 MPa) at 28 days	150 to 175 psi (1,03 to 1,21 MPa)

## Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Colors	Gray; white

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

Open time*	30 minutes
Pot life*	> 2 hours
Time before grouting (walls)*	8 to 16 hours
Time before grouting (floors)*	24 hours
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
Application temperature range	40°F to 95°F (4°C to 35°C)
Embedded thickness range	3/32" to 1/2" (2,5 to 12 mm)





\* Cold temperature or high humidity may alter these properties.

## Packaging

Size and Color
50 lbs. (22,7 kg), gray
50 lbs. (22,7 kg), white

**Ultraflex™ LHT™**

## 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.

Refer to the SDS 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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