Version: May 3, 2010

MAPEI®

Keraflor™

Standard Tile Mortar

GREEN INNOVATION

DESCRIPTION

Keraflor is a dry-set mortar for use in interior/exterior residential floor applications.

FEATURES AND BENEFITS

- For tile and stone
- For interior floors

INDUSTRY STANDARDS AND APPROVALS

ISO 13007: When mixed with water, classification C1; when mixed with *Keraply*, classification C2S1

ANSI: Exceeds ANSI A118.1 bond strength requirements when mixed with water; exceeds ANSI A118.4 and ANSI A118.11 bond strength requirements when mixed with *Keraply*.

LEED 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 when mixed with water
- Most interior/exterior residential and commercial floor installations when mixed with *Keraply*
- Installation of ceramic tile, quarry tile, pavers and Saltillo tile when mixed with water
- Installation of ceramic and porcelain tile, quarry tile, pavers, Saltillo tile, and most types of marble, granite and natural stone when mixed with *Keraply*

LIMITATIONS

- Install 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 suitable epoxy or urethane adhesives. See 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 “Suitable Substrates” section below.
- Use a white mortar when installing light-colored stones and translucent marble.
- 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.

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SUITABLE SUBSTRATES

When mixed with water

- Concrete (cured at least 28 days)
- Masonry, brick, cement mortar beds and leveling coats

When mixed with *Keraply*

- The substrates listed above
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- APA and CANPLY Group 1 exterior-grade plywood (interior, residential and light commercial in dry conditions only)

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 "Surface Preparation Requirements" document for tile and stone installation systems.

MIXING

1. Before starting, take appropriate safety precautions. See Material Safety Data Sheet (MSDS) for details.
2. Into a clean mixing container, pour about 6 U.S. qts. (5,68 L) of clean potable water or 2 U.S. gals (7,57 L) of *Keraply*.
3. Gradually add 50 lbs. (22,7 kg) of powder while slowly mixing.
4. 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.
5. Let mixture stand ("slake") for 10 minutes.
6. Remix.
7. 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 > 80% mortar contact to both the tile and substrate for all interior applications; and > 95% for exterior installations, commercial floor and wet applications. It may be necessary to back-butter tile/stone in order to reach 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 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 301MJ. Do not cover expansion joints with mortars.

CLEANUP

Clean tools and tile while 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.

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Product Performance Properties

ISO 13007 Classification – when mixed with water

Classification Code	Classification Requirement
C1 (cementitious, normal adhesion)	≥ 72.5 psi (0,5 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles

ISO 13007 Classification – when mixed with *Keraply*

Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
S1 (normal deformation of mortar)	≥ 0.1" (2,5 mm)

ANSI Specification – when mixed with water

Test Method	ANSI Specification	Test Results
ANSI A118.1 – shear strength, impervious ceramic (porcelain) mosaics	>150 psi (1,03 MPa) at 28 days	160 to 190 psi (1,10 to 1,31 MPa)
ANSI A118.1 – shear strength, glazed wall tile	>250 psi (1,72 MPa) at 28 days	250 to 270 psi (1,72 to 1,86 MPa)
ANSI A118.1 – shear strength, quarry tile to quarry tile	>100 psi (0,69 MPa) at 28 days	170 to 220 psi (1,17 to 1,52 MPa)

ANSI Specification – when mixed with *Keraply*

Test Method	ANSI Specification	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	>200 psi (1,38 MPa) at 28 days	200 to 280 psi (1,38 to 1,93 MPa)
ANSI A118.4 – shear strength, glazed wall tile	>300 psi (2,07 MPa) at 28 days	300 to 550 psi (2,07 to 3,79 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	>150 psi (1,03 MPa) at 28 days	250 to 380 psi (1,72 to 2,62 MPa)
ANSI A118.11 – shear strength, quarry tile to plywood	>150 psi (1,03 MPa) at 28 days	150 to 300 psi (1,03 to 2,07 MPa)

Shelf Life and Application Properties* at 73°F (23°C) and 50% relative humidity

Shelf life	1 year
Open time*	15 to 20 minutes
Pot life*	> 2 hours
Time before grouting	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
0040050	50 lbs. (22,7 kg), gray
0040051 (U.S. only)	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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RELATED DOCUMENTS

Reference Guide: Surface Preparation Requirements for tile and stone installation systems	RGT0309*

** At www.mapei.com.*

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:

MAPEI®

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For the most current BEST-BACKED™ product data and warranty information, visit www.mapei.com.

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