



# Ker® 121

## Professional, One-Step Tile Mortar with Polymer



### DESCRIPTION

*Ker 121* is a professional-grade, single-component, high-performance mortar for the installation of ceramic, marble, granite and porcelain stoneware over most traditional and specialty substrates. *Ker 121* can be used for most interior residential floor and wall tile applications. In commercial applications, use on interior floor and wall installations as well as exterior floors.

### FEATURES AND BENEFITS

- Polymer-enriched for deformability and high performance
- Smooth and creamy consistency makes it easy to apply.

### INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2EP1
- ANSI: Exceeds ANSI A118.4E and ANSI A118.11 bond strength requirements

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

*\* 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.*

### WHERE TO USE

- Most interior/exterior residential installations on floors and walls

- Most interior/exterior commercial installations on floors, and 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).
- Use a white mortar when installing light-colored stones and translucent marble.
- 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 MAPEI's Technical Bulletin 010313-TB, "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?"
- Installations of tile over nonporous surfaces, such as waterproofing membranes, sheet membranes and existing tile, may require extended setting/curing times.
- Do not use for installations subject to prolonged water immersion.
- *Ker 121* is not recommended for areas subject to severe freeze/thaw conditions. Instead, use a 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 – interior walls in dry areas only (see MAPEI's Technical Bulletin 010313-TB for priming instructions)
- APA and CANPLY Group 1 exterior-grade plywood (interior, residential and light commercial in dry conditions only)
- Properly prepared vinyl composition tile (VCT) and cutback residue (interior installations)
- Properly prepared existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior and dry conditions 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 MAPEI's "Surface Preparation Requirements" document in the Product Information section of the Tile & Stone Installation Systems page on MAPEI's Website.

## MIXING

Note: Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for more information.

- 1A. For 10 lbs. (4,54 kg)
  - Into a clean mixing container, pour about 1 to 1.2 U.S. qts. (0,95 to 1,14 L) of clean potable water. Gradually add 10 lbs. (4,54 kg) of powder while slowly mixing.
- 1B. For 25 lbs. (11,3 kg)
  - 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.
- 1C. For 50 lbs. (22,7 kg)
  - 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 mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.

3. Let mixture stand ("slake") for 10 minutes.
4. Remix.
5. If mixture becomes heavy or stiff, remix without adding more liquid or powder.

## PRODUCT APPLICATION

1. Choose a notched trowel (see the "Approximate Coverage" chart) 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 with the trowel's notched side 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 the 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.

## CLEANING

- Clean tools and tile while the mortar is fresh.

## PROTECTION

- Protect from traffic for 24 hours. Protect from heavy traffic 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
E (extended open time)	≥ 72.5 psi (0,5 MPa) after 30 minutes
P1 (normal adhesion to plywood)	≥ 72.5 psi (0,5 MPa)

## ANSI Specifications

Test Method	Specification Standard
ANSI A118.4E – extended open time	≥ 75 psi (0,52 MPa) at 30 minutes (pass)
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	> 200 psi (1,38 MPa) at 28 days
ANSI A118.4 – shear strength, glazed wall tile	> 300 psi (2,07 MPa) at 28 days
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1,03 MPa) at 28 days
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1,03 MPa) at 28 days

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



Shelf life	1 year when stored in original, unopened packaging in a dry, covered location
Open time*	30 minutes
Pot life*	> 2 hours
Time before grouting*	24 hours
VOCs (Rule #1168 of California's SCAQMD)	0 g per L

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

## Packaging

Size and Color
Bag: 10 lbs. (4,54 kg); Gray – Canada only
Bag: 25 lbs. (11,3 kg); Gray – Canada only
Bag: 50 lbs. (22,7 kg); Gray – Canada only

## Approximate Coverage\*\*

Typical Trowel	Coverage
<b>Per 10 lbs. (4,54 kg)</b>	
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) 	15 to 18 sq. ft. (1,39 to 1,67 m²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm) 	11 to 13 sq. ft. (1,02 to 1,21 m²)
<b>Per 25 lbs. (11,3 kg)</b>	
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm)	38 to 45 sq. ft. (3,53 to 4,18 m²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm)	28 to 33 sq. ft. (2,60 to 3,07 m²)
<b>Per 50 lbs. (22,7 kg)</b>	
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 coverage 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*
Technical Bulletin: "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?"	010313-TB*

\* At [www.mapei.com](http://www.mapei.com).

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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For the most current **BEST-BACKED™** product data and warranty information, visit [www.mapei.com](http://www.mapei.com).

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