



Kerapoxy®

Premium Epoxy Mortar and Grout



DESCRIPTION

Kerapoxy is a premium-grade, water-cleanable, 100%-solids, high-strength epoxy mortar and chemical-resistant nonsagging grout. Available in all MAPEI colors for grouting, *Kerapoxy* is excellent for countertops, high-traffic areas, and areas needing stain and chemical resistance.

FEATURES AND BENEFITS

- Stain-free†
- No sealer required
- Water-cleanable

INDUSTRY STANDARDS AND APPROVALS

- **ISO 13007:** Classification R2/RG
- **ANSI:** Meets A118.3 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
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.

† With immediate cleaning and proper maintenance, Kerapoxy stain-free grout is resistant to staining when exposed to most common household goods and cleaning agents. Long-term exposure to any material can increase the potential for staining grout.

WHERE TO USE (see “Limitations” section)

As a mortar

- For setting interior floors and walls
- For exterior installations (contact MAPEI’s Technical Services Department)
- For setting most ceramic, porcelain and quarry tiles, acid-resistant floor brick, pavers and natural-stone tile**
- For the installation of moisture-sensitive natural stone and their agglomerates. When setting light-colored marble, which can be stained by epoxy, use white *Granirapid*®, white *Ultraflex™ RS* or white *Ultracontact™ RS***
- For residential wall, floor and countertop installations
- For installations in areas subject to high water use or submerged conditions (such as gang showers, pools, spas and fountains)
- For industrial, commercial and institutional installations with high mortar requirements, see Chemical Resistance chart in this document.

As a grout

- For grouting most ceramic, porcelain and quarry tiles; acid-resistant floor brick; pavers; and natural-stone tile**
- For grouting interior residential and commercial floor/wall applications
- For grouting exterior residential and commercial floor applications (contact MAPEI’s Technical Services Department)
- For industrial, commercial and institutional installations with high-strength, chemical-resistant and nonsagging grout requirements, see Chemical Resistance chart in this document.



- For heavy traffic areas such as subway stations, shopping malls and airport terminal buildings
- For areas requiring stain-resistant grout such as countertops, vanities and laboratory tabletops.

Note: Contact MAPEI's Technical Services Department for additional information regarding applications.

*** Marble, granite and slate are products of nature made from a vast combination of minerals and chemicals that may cause the material to behave or react in a manner beyond our control. Likewise, we do not have control over any of the materials and process used in the manufacturing of agglomerates. Therefore, determine the suitability of all the materials before proceeding with the installation. To ensure desired results, a mockup installation is required before the actual installation.*

LIMITATIONS

For use as a mortar

- Do not install over substrates containing asbestos.
- Do not exceed 1/4" (6 mm) in epoxy mortar thickness under the tile.
- Do not apply over particleboard, presswood, oriented strand board (OSB), Masonite, chipboard, Luaun, gypsum floor patching compounds or similar dimensionally unstable substrates.

For use as a grout

- Joint width should be between 1/16" and 3/8" (1,5 and 10 mm).
- Do not use for grouting white or translucent marble.

Note: Some types of glazed ceramic tiles, marble and granite as well as marble agglomerates can be permanently stained, scratched, dulled or damaged when grouted with pigmented, sanded and epoxy grout formulas. Take all the necessary precautions to ensure that the marble, granite or tiles are compatible with colored grouts. To determine the suitability of the product with colored and/or sanded grouts, check the tile or marble manufacturer's literature and test grout on a separate sample area before grouting.

- Do not use in areas subject to excessive heat. Once cured, *Kerapoxy* will resist temperatures up to 212°F (100°C). Keep steam-cleaning wands 6" to 12" (15 to 30 cm) above the tile surface.
- When used as a grout on exterior installations, color variations may occur over time, especially with lighter shades due to ultraviolet rays or environmental contaminants.

SUITABLE SUBSTRATES (As a mortar)

- Fully cured concrete (at least 28 days old)
- Cement block and brick masonry
- Cement mortars and leveling coats
- Exterior-grade plywood (interior residential floor and countertop applications in dry areas only)
- Cement backer units (CBUs)
- Properly prepared existing ceramic tile
- Properly prepared cement and epoxy terrazzo

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

The temperature of the substrate or tilework must be between 60°F and 90°F (16°C and 32°C) while grouting for best results. Maintain that temperature until *Kerapoxy* has hardened sufficiently (in 24 to 72 hours).

For use as a mortar

- All substrates should be structurally sound, stable, dry, clean and free of any substance or condition that may reduce or prevent proper adhesion.

For use as a grout

- The application of a grout release over certain types of porcelain or textured surface tiles or stone may be advantageous where a fine surface porosity might trap fine cement particles or color pigments. Seek the advice of the tile or stone manufacturer and site-test (mock up) on separate samples before grouting.
- Before grouting, make sure that the tiles or stones are firmly set and that the adhesive or mortar is completely dry.
- Remove all spacers, pegs, ropes and strings.
- Grout joints must be clean and free of standing water, dust, dirt and foreign matter. Remove excess adhesive or mortar from the joint area so that 2/3 of the depth of the tile is left available for grouting.
- Clean the tile or stone surface to remove dust, dirt, mortar, adhesive and other contaminants that may cause grout discoloration.

Note: See MAPEI's "Surface Preparation Requirements" document for tile and stone system installations at www.mapei.com for additional information.

MIXING

1. Parts A and B are packaged to exact quantity ratios for proper curing.
2. Pour out all material from the Part B container into Part A (paste). To improve flowability and texture, allow enough time for the material to flow completely out of the container. Always mix complete units. Do not add other materials to this mixture.
3. Use a slow-speed mixer (at about 300 rpm), or manually mix smaller kits with a margin trowel.
4. Avoid air entrapment from prolonged mixing, which will shorten the pot life.
5. Mix thoroughly until a homogenous, consistent color is obtained.
6. Wash tools immediately with water before epoxy hardens. *Kerapoxy* is extremely difficult to remove once cured.
7. Do not place the lid on the container after the material has been mixed.

Note: Use all appropriate safety equipment. Refer to Material Safety Data Sheet (MSDS) for more information.

PRODUCT APPLICATION

As a mortar

1. Remove the mixed product from the container and place in piles on the floor. *Kerapoxy* is a thermosetting product, so it sets faster in a container or a large mass.
2. Choose a notched trowel (see chart below) 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 installations and wet applications. All edges of the tile or stone must be supported by the mortar. It may be necessary to back-butter tiles in order to reach these requirements. (Refer to ANSI A108.5 specifications and TCNA guidelines.)

3. With pressure, apply a coat by using the trowel's flat side to key mortar into substrate.
4. Apply additional mortar, combing it in a single direction with the trowel's notched side.
5. Spread only as much mortar as can be tiled before product skins over. Open time can vary with jobsite conditions.
6. 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 (see TNCA adhesive placement guidelines).
7. 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).
8. Provide for expansion and control joints as specified per TCNA Detail EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ.
9. Clean tools and tile while mortar is fresh.

As a grout

1. Remove mixed product from the container and place in small piles. (If grouting a wall, place on kraft paper laid on the floor.) *Kerapoxy* is a thermosetting product, so it sets up faster in a container or in a large mass.
2. Use a hard-rubber float with a sharp edge to force the grout into the joints in a continuous manner, leaving it flush with the tile edge.
3. Be certain that all joints are well-compacted, and are free of voids and gaps. Fill the joints with the maximum amount of grout possible.
4. Thoroughly remove excess *Kerapoxy* from the face of the tile before it loses its plasticity or begins to set. Hold the rubber float at a 90° angle to the tile surface and drag the float across the tile surface diagonally to the grout lines, leaving as little epoxy grout on the tile surface as possible.
5. Clean tiles immediately after applying each unit of *Kerapoxy*. Grout and clean in small areas. Do not attempt to use more than one unit before cleaning tiles. Do not allow *Kerapoxy* to harden on the tile surface. On large projects, working in teams of 2 to 3 people will simplify the installation.

6A. On horizontal surfaces:

- Apply a liberal amount of cold water to the freshly grouted area. Scrub the tile surface diagonally to the joint line using a nonwoven nylon white scouring pad (use a more aggressive pad if tile has an abrasive surface). Apply enough pressure on the pad to loosen any film without removing grout from the joints. Rinse pads frequently while cleaning. Note: Be careful not to get any water in the ungrouted joints.
- Remove the epoxy residue and water by using a "towel drag" method. Hold a damp towel by two corners and drag it diagonally across the grout joints. Rinse the towel often and keep changing water in the buckets to avoid residue buildup.

6B. On vertical surfaces:

- Mist the surface using a spray bottle in small workable areas. Use MAPEI's nonabrasive nylon pad and apply enough pressure on the pad to loosen any film without removing grout from the joints. Rinse pads frequently while cleaning. Note: Be careful not to get any water in the ungrouted joints. If slumping of the grout occurs during initial rinsing, dress up the grout joint by smoothing the joint with a sharp-edged cellulose sponge.

7. Remove the soap, epoxy residue and water by again using a "towel drag" method (for horizontal surfaces) or the misting method (for vertical surfaces). Do not allow excess water to remain on the tile surface, which would allow a film to form on the surface that would be difficult to remove once hardened.
8. Within 15 to 20 minutes – for best results – perform a second wash with clean water, a clean white scrubpad and a neutral-pH liquid soap solution. This will help loosen any residue left on the tile from the first wash.
9. Do not step on freshly cleaned tiles, as this could permanently damage the grout.
10. Check the installation the same day before leaving the jobsite to make sure it is completely clean. If the tile surface has any shiny or tacky residue, remove it with a neutral solution of liquid detergent and water.
11. Protect surfaces for at least 7 days after grouting. Wait at least 3 days before checking hardness.

PROTECTION

- Because propane gas heaters will yellow epoxy, refrain from using such heaters or properly vent all exhaust.
- Do not disturb, grout or walk over tiles for at least 24 hours after setting.
- Grout should be cured for at least 72 hours before routine cleaning.
- *Kerapoxy* should be cured for at least 10 to 14 days at 73°F (23°C) before water immersion or exposure to chemicals. Longer times will be needed for colder temperatures.

MAINTENANCE

- Grout must be fully cured before regular cleaning.
- MAPEI grout products are produced to the highest quality of standards. To maintain a clean tile surface, use a neutral-pH cleaner for maintaining the floor, followed by a clean-water rinse.
- Do not use harsh chemicals to maintain the tile surface. Before proceeding with cleaning, consult the cleaner's manufacturer for compatibility, use and application instructions. Remove or rinse fatty acid residue from the grout surface to avoid potential grout deterioration caused by prolonged exposure.

CHEMICAL RESISTANCE

Resistance to chemicals depends on the concentration, temperature and duration of exposure. For long-term durability and improved grout appearance, clean up spills immediately after they occur.

Laboratory tests reveal variable resistance to certain chemicals. The following table may be considered as a general guide for *Kerapoxy* applications at 73°F (23°C).

For recommendations regarding chemicals not listed or concentrations exceeding the levels stated, contact MAPEI's Technical Services Department.

Legend

- ++ Excellent resistance
- + Good resistance; long exposure could cause some deterioration; clean surface rapidly with water
- Poor or no resistance

Product Types	Concentration	Laboratory	Long Time	Short Time
Acids				
Vinegar	2.5%	++	++	++
	5%	++	+	++
	10%	-	-	-
Hydrochloric acid	10%	++	++	++
Chromic acid	20%	-	-	-
Citric acid	10%	++	++	++
Formic acid	2.5%	++	++	++
	10%	-	-	-
Lactic acid	2.5%	++	++	++
	5%	++	+	++
	10%	+	-	+
Nitric acid	10%	++	+	++
	50%	-	-	-
Phosphoric acid	50%	++	++	++
	75%	+	-	+
Sulfuric acid	1.5%	++	++	++
	10%	++	++	++
	96%	-	-	-
Tannic acid	10%	++	++	++
Oxalic acid	10%	++	++	++
Oleic acid		-	-	-
Base and Salt Solutions				
Ammonia solution	25%	++	++	++
Caustic soda	50%	++	++	++
Hypochlorite solution				
	• Act. CL 6.4 g/L	++	+	++
• Act. CL 165 g/L		-	-	-
Sodium hyposulfite		++	++	++
Calcium chloride		++	++	++
Iron chloride		++	++	++
Sodium chloride		++	++	++
Sodium chromate		++	++	++
Sugar		++	++	++
Aluminum sulfate		++	++	++
Potassium permanganate	5%	++	+	++
	10%	+	-	+
Caustic potash	50%	++	++	++
Hydrogen peroxide	1%	++	++	++
	10%	++	++	++
	25%	++	++	++
Sodium bisulfite		++	++	++
Oils and Combustible Products				
Gasoline		++	++	++
Turpentine		++	++	++
Diesel fuel		++	++	++
Peanut oil		++	++	++
Tar		++	+	+
Olive oil		++	++	++
Heating oil		++	++	++
Solvents				
Acetone		-	-	-
Ethylene glycol		++	++	++
Glycerol		++	++	++
Methylcellosolve		-	-	-
Perchloroethylene		-	-	+
Carbon tetrachloride		+	-	+
Chloroform		-	-	-
Methylene chloride		-	-	-
Toluene		-	-	+
Carbon disulfide		+	-	+
Mineral spirits		++	++	++
Benzene		-	-	+
Trichloroethane		-	-	-
Xylene		-	-	-

Product Performance Properties

ISO 13007 Classification

Classification Code	Test Characteristics	Classification Requirement
RG (reaction resin grout)	Abrasion resistance†	Less than or equal to 0.015 cu. in. (250 mm³)
	Flexural strength†	Greater than 4,350 psi (30 MPa)
	Compressive strength†	Greater than 6,525 psi (45 MPa)
	Shrinkage†	Less than 0.06 in./3.28 ft. (1,5 mm/m)
	Water absorption†	Less than 0.0002 lb. (0,1 g)
R2 (reaction resin adhesive, improved)	Shear adhesion strength	≥ 2 N/mm²
	Shear adhesion strength after water immersion	≥ 2 N/mm²
	Open time: tensile adhesion strength	≥ 0,5 N/mm² after not less than 20 minutes
	Shear adhesion strength after thermal shock	≥ 2 N/mm²

† 28-day cure

Approximate Product Coverage*

• For use as a mortar

Trowel Size	1 U.S. qt. (946 mL)	1 U.S. gal. (3,79 L)	2 U.S. gals. (7,57 L)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square-notched trowel	4.5 sq. ft. (0,42 m²)	18 sq. ft. (1,67 m²)	36 sq. ft. (3,34 m²)
5/32" x 5/32" (4 x 4 mm) V-notched trowel	10 sq. ft. (0,93 m²)	40 sq. ft. (3,72 m²)	80 sq. ft. (7,43 m²)

• For use as a grout

Tile Size	Approximate Coverages** – per 1 U.S. qt. (946 mL)			
	Grout Joint Width			
	1/16" (1,5 mm)	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)
1" x 1" x 1/4" (25 x 25 x 6 mm)	14 (1,30)	8 (0,74)	4 (0,37)	3 (0,28)
2" x 2" x 1/4" (50 x 50 x 6 mm)	27 (2,51)	14 (1,30)	8 (0,74)	6 (0,56)
3" x 3" x 1/4" (75 x 75 x 6 mm)	40 (3,72)	20 (1,86)	11 (1,02)	8 (0,74)
4-1/4" x 4-1/4" x 1/4" (108 x 108 x 6 mm)	56 (5,20)	28 (2,60)	15 (1,39)	10 (0,93)
4" x 4" x 3/8" (100 x 100 x 10 mm)	35 (3,25)	18 (1,67)	9 (0,84)	7 (0,65)
4" x 8" x 1/2" (100 x 200 x 12 mm)	35 (3,25)	18 (1,67)	9 (0,84)	6 (0,56)
4" x 8" x 3/4" (100 x 200 x 19 mm)	23 (2,14)	12 (1,11)	6 (0,56)	4 (0,37)
4" x 8" x 1-1/8" (100 x 200 x 29 mm)	15 (1,39)	8 (0,74)	4 (0,37)	3 (0,28)
4" x 8" x 1-3/8" (100 x 200 x 35 mm)	13 (1,21)	6 (0,56)	3 (0,28)	2 (0,19)
6" x 6" x 1/4" (150 x 150 x 6 mm)	78 (7,25)	40 (3,72)	20 (1,86)	14 (1,30)
6" x 6" x 1/2" (150 x 150 x 12 mm)	39 (3,62)	20 (1,86)	10 (0,93)	7 (0,65)
8" x 8" x 3/8" (200 x 200 x 10 mm)	69 (6,41)	35 (3,25)	18 (1,67)	12 (1,11)
10" x 10" x 3/8" (250 x 250 x 10 mm)	86 (7,99)	44 (4,09)	22 (2,04)	15 (1,39)
12" x 12" x 1/2" (300 x 300 x 12 mm)	78 (7,25)	39 (3,62)	20 (1,86)	13 (1,21)
16" x 16" x 3/8" (406 x 406 x 10 mm)	138 (12,8)	69 (6,41)	35 (3,25)	24 (2,23)

Tile Size	Approximate Coverages** – per 1 U.S. gal. (3,79 L)			
	Grout Joint Width			
	1/16" (1,5 mm)	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)
1" x 1" x 1/4" (25 x 25 x 6 mm)	56 (5,20)	31 (2,88)	18 (1,67)	14 (1,30)
2" x 2" x 1/4" (50 x 50 x 6 mm)	108 (10,0)	56 (5,20)	31 (2,88)	22 (2,04)
3" x 3" x 1/4" (75 x 75 x 6 mm)	159 (14,8)	82 (7,62)	43 (3,99)	31 (2,88)
4-1/4" x 4-1/4" x 1/4" (108 x 108 x 6 mm)	223 (20,7)	114 (10,6)	59 (5,48)	41 (3,81)
4" x 4" x 3/8" (100 x 100 x 10 mm)	140 (13,0)	72 (6,69)	37 (3,44)	26 (2,42)
4" x 8" x 1/2" (100 x 200 x 12 mm)	139 (12,9)	71 (6,60)	37 (3,44)	25 (2,32)
4" x 8" x 3/4" (100 x 200 x 19 mm)	93 (8,64)	47 (4,37)	24 (2,23)	17 (1,58)
4" x 8" x 1-1/8" (100 x 200 x 29 mm)	62 (5,76)	32 (2,97)	16 (1,49)	11 (1,02)
4" x 8" x 1-3/8" (100 x 200 x 35 mm)	51 (4,74)	26 (2,42)	13 (1,21)	9 (0,84)
6" x 6" x 1/4" (150 x 150 x 6 mm)	313 (29,1)	159 (14,8)	82 (7,62)	56 (5,20)
6" x 6" x 1/2" (150 x 150 x 12 mm)	156 (14,5)	79 (7,34)	41 (3,81)	28 (2,60)
8" x 8" x 3/8" (200 x 200 x 10 mm)	277 (25,7)	140 (13,0)	72 (6,69)	49 (4,55)
10" x 10" x 3/8" (250 x 250 x 10 mm)	345 (32,1)	174 (16,2)	89 (8,27)	60 (5,57)
12" x 12" x 1/2" (300 x 300 x 12 mm)	310 (28,8)	156 (14,5)	79 (7,34)	54 (5,02)
16" x 16" x 3/8" (406 x 406 x 10 mm)	551 (51,2)	277 (25,7)	140 (13,0)	94 (8,73)

* Coverages shown are for estimating purposes only. Actual jobsite coverages may vary according to actual tile size and thickness, exact joint width, job conditions and grouting methods.

** When grouting abrasive or slip-resistant floor tiles, anticipated coverage can be dramatically decreased. Alternatives to the traditional grouting technique, such as a grout bag or commercial sealant gun, may be of assistance. Consult MAPEI's Technical Services Department for approximate coverages not shown in the above table or use the grout calculator at www.mapei.com.

Kerapoxy®



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ANSI Specification

Test Method	ANSI Specification	Test Results
ANSI A118.3 (5.1) – water cleanability	80 minutes	Pass
ANSI A118.3 (5.2)		
– initial setting time	> 2 hours	Pass
– service setting time	< 7 days	Pass
ANSI A118.3 (5.3) – shrinkage	< 0.25%	Pass
ANSI A118.3 (5.4) – sag	No change	Pass
ANSI A118.3 (5.5) – quarry shear bond	> 1,000 psi (6,90 MPa)	Pass
ANSI A118.3 (5.6) – compressive strength	> 3,500 psi (24,1 MPa)	Pass
ANSI A118.3 (5.7) – tensile strength	> 1,000 psi (6,90 MPa)	Pass
ANSI A118.3 (5.8) – thermal shock	> 500 psi (3,45 MPa)	Pass

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

Shelf life	2 years
Protect from:	
light traffic†	24 hours
heavy traffic†	48 hours
Full cure†	10 to 14 days

† Protection and cure times will vary depending on ambient temperature, substrate temperature and humidity.

Packaging

Product Code††	Size
35XX018	Kit: 1 U.S. qt. (946 mL)
34XX018	Kit: 1 U.S. gal. (3,79 L)
39XX901	Kit: 2 U.S. gals. (7,57 L)

†† "XX" is reserved for the two-digit color code.

Colors

Available in MAPEI's pallet of 36 designer colors. Refer to MAPEI's grout color chart. Sample grout color chips are available upon request.

RELATED DOCUMENTS

Reference Guide: Surface Preparation Requirements for tile and stone installation systems	RGT0309*
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* At www.mapei.com.

Refer to MAPEI's 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:



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