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MAPEI®

Kerapoxy® IEG

100%-Solids, Industrial-Grade Epoxy Grout

GREEN INNOVATION

DESCRIPTION

Kerapoxy IEG is a water-cleanable 100%-solids epoxy grout, with high chemical and stain resistance. It is a nonshrinking, nonsagging, fast-curing, efflorescence-free grout. It is ideal for installations where high-strength, mold- and mildew-resistant grout joints are required. *Kerapoxy IEG* has high temperature resistance and can be steam-cleaned. It is formulated for use in cooler temperatures.

FEATURES AND BENEFITS

- Resistant to chemicals, stains and high temperatures
- High-strength
- Water cleanup

INDUSTRY STANDARDS AND APPROVALS

ISO 13007: Classification RG

ANSI: Exceeds ANSI A118.3 requirements ; exceeds ANSI A118.5 physical testing 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 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 (see "Limitations" section)

- For joints between 1/8" and 5/8" (3 and 16 mm) in width
- Interior floor, wall and countertop installations
- Industrial, commercial and institutional wall and floor installations requiring high strength and stain resistance
- Grouting ceramic floor, wall, quarry, pavers and porcelain, and natural-stone tile
- Grouting heavy traffic areas, such as subway stations, shopping malls and airports
- Grouting installations requiring high acid and chemical resistance, such as commercial kitchens, dairies, bottling plants, meat processing plants, breweries, bakeries, supermarkets, restaurants, hospitals, schools, research laboratories and veterinary clinics
- High-use wet areas, such as public restrooms, gang showers, steam rooms, and health clubs
- Once cured, *Kerapoxy IEG* will resist temperatures up to 212°F (100°C).

LIMITATIONS

- Do not use as a mortar.
- Do not use in areas subject to excessive heat.
- Areas subject to ultraviolet exposure may exhibit color variations over time, due to exposure to UV rays. This occurrence will be more pronounced in lighter colors.
- Do not use for grouting white or translucent marble.

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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.

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

SURFACE PREPARATION

- 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 the tiles or stones are firmly set and 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: Determine the suitability of all materials before proceeding with the installation. To ensure desired results, a mockup installation is required before the actual installation. See MAPEI's "Surface Preparation Requirements" document for tile and stone system installations at www.mapei.com.

MIXING

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

1. Always mix complete units. Partial mixing will result in uncured grout. Do not add other materials to this mixture.
2. In a clean container, mix all of Part A and all of Part B. Allow enough time for all the material in the Part A and Part B containers to flow completely out. Mix using a low-speed mixer at about 300 rpm, until a homogenous, consistent color is obtained. Do not overmix.
3. Add Part C (powder) to the Part A and Part B mixture. Mix using a low-speed mixer at about 300 rpm.
4. Using a margin trowel, occasionally scrape the bottom and sides of the mixing container so that all parts are mixed evenly.
5. Mix thoroughly until a homogenous, consistent color is obtained.
6. Avoid prolonged mixing, which may cause air entrapment and shorten the pot life.
7. Do not place the lid on the container after material has been mixed.
8. Wash hands and all tools immediately with water before epoxy hardens. *Kerapoxy IEG* is extremely difficult to remove once it has cured.

PRODUCT APPLICATION

1. Read all installation instructions thoroughly before installation.
2. The temperature of the tile work must be maintained at between 35°F and 90°F (2°C and 32°C) while grouting and until *Kerapoxy IEG* has hardened sufficiently (after 24 to 72 hours).
3. Application and cleanup procedures for an entire unit should be completed in about 45 minutes to 1 hour at 73°F (23°C).
4. Remove mixed product from the container and place in small piles on the tile surface. (If grouting a wall, place on kraft paper laid on the floor.) *Kerapoxy IEG* is a thermosetting product, so it sets up faster in a container or in a large mass.
5. 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.
6. 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.
7. Thoroughly remove excess *Kerapoxy IEG* from the face of the tile before the epoxy loses its plasticity or begins to set. This is most easily accomplished by holding the rubber float at a 90° angle to the tile surface and dragging the float across the tile surface diagonally to the grout line, leaving as little epoxy grout on the tile surface as possible.
8. Clean tiles immediately after applying each unit of *Kerapoxy IEG*. Grout and clean in small areas. Do not attempt to use more than one unit before cleaning tiles. Do not allow *Kerapoxy IEG* to harden on the tile surface. On large projects, working in teams of 2 to 3 people will simplify the installation.
9. Apply a liberal amount of cold water to the freshly grouted area and scrub the tile surface diagonally to the joint line using a nonwoven nylon white scouring pad (use a more aggressive pad if tile type is abrasive). 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.

10. Remove the epoxy residue and water by using a "towel drag" method. Hold the 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.
11. 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.
12. Remove the soap, epoxy residue and water by again using a "towel drag" method. Do not allow excess water to remain on the tile surface. This will allow a film to form on the surface that will be difficult to remove once hardened.
13. Do not step on freshly cleaned tiles, as this could permanently damage the grout.
14. 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.

PROTECTION

- Because propane gas heaters will yellow epoxy, refrain from using such heaters or properly vent all exhaust.
- Do not step on freshly cleaned tiles. Permanent damage to the grout could result.
- Keep free from heavy traffic for at least 12 hours after grouting.
- Keep steam cleaning wands 6" to 12" (15 to 30 cm) above tile surface.

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

Chemical resistance data is in accordance with ASTM C267-1982. Chemical resistance refers to chemicals' potential to deteriorate product. This chart is a general guide for *Kerapoxy IEG* applications. Resistance tests on chemicals other than those listed may be conducted, upon request, by MAPEI's Technical Services Department. It may take 90 to 120 days for test results.

Testing conditions: 73°F (23°C), 7-day cure, 28-day immersion, no change of chemical agent

Results:

R = Resistant **NR** = Nonresistant

Types	Concentration	Result
Acid (food & mineral)		
Acetic acid	10%	NR
Citric acid	50%	R
Formic acid	5%	NR
Hydrochloric acid	36.5%	R
Lactic acid	10%	NR
Nitric acid	30%	R
Oleic acid	100%	R
Phosphoric acid	80%	R
Sulfuric acid	50%	R
Tartaric acid	50%	R
Tannic acid	50%	R
Cleaners		
Sodium hydroxide	Saturated	R
Sodium hypochlorite	3%	R
Solvents		
Ethyl alcohol		NR
Gasoline		R
Methylene chloride		NR
Mineral spirits		R
Toluene		NR
Xylene		R

Product Performance Properties

ISO 13007 Classification

Classification Code	Classification Requirement	Test Characteristic
RG (resin grout)	Abrasion resistance*	Less than or equal to 0.015 cu. in. (250 mm^3)
	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)

** 28-day cure*

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
ANSI A118.5 compressive strength (ASTM C579)	3000 psi (20,7 MPa)	Pass
ANSI A118.5 tensile strength (ASTM C307)	400 psi (2,76 MPa)	Pass
ANSI A118.5 absorption (ASTM C413)	1% maximum	Pass
ANSI A118.5 modulus of rupture (ASTM C580)	600 psi (4,13 MPa)	Pass
ANSI A118.5 initial set, in hours (ASTM C308)	5 maximum	Pass
ANSI A118.5 final set, in days (ASTM C308)	7 maximum	Pass
ANSI A118.5 linear shrinkage (ASTM C531)	1% maximum	Pass
ANSI A118.5 working time (ASTM C308)	10 minutes	Pass
ANSI A118.5 bond strength (ASTM C321)	150 psi (1,03 MPa)	Pass

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

Shelf life	2 years
Protect from traffic	5 to 12 hours†
Full cure	4 days†
Colors	Gray #09, Black #10, Terra Cotta #37, Mocha #42, Charcoal #47

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

Packaging

Product Code††	Size
49988	Large kit**
4XX87	Part C powder

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

** Large kit contains:

- 4 pouches of Part A liquid
- 2 white scrubpads
- 4 pouches of Part B liquid
- Instruction sheet
- 2 pairs of gloves

Requires mixing with 2 cases of Part C powder (sold separately) – a total of four bags.

Approximate Product Coverage

Large Kit – Parts A, B and C combined (3.6 U.S. gals. [13,6 L])					
Tile Size	**Joint Width**				
	1/8" (3 mm)	**1/4" (6 mm)**	**3/8" (10 mm)**	**1/2" (12 mm)**	**5/8" (16 mm)**
4" x 4" x 3/8" (100 x 100 x 10 mm)	258 (24,0)	135 (12,5)	94 (8,73)	73 (6,78)	61 (5,67)
4" x 8" x 1/2" (100 x 200 x 12 mm)	255 (23,7)	132 (12,3)	91 (8,45)	71 (6,60)	58 (5,39)
4" x 8" x 3/4" (100 x 200 x 19 mm)	170 (15,8)	88 (8,18)	61 (5,67)	47 (4,37)	39 (3,62)
4" x 8" x 1-1/8" (100 x 200 x 29 mm)	114 (10,6)	59 (5,48)	41 (3,81)	31 (2,88)	26 (2,42)
4" x 8" x 1-3/8" (100 x 200 x 35 mm)	93 (8,64)	48 (4,46)	33 (3,07)	26 (2,42)	21 (1,95)
6" x 6" x 1/2" (150 x 150 x 12 mm)	286 (26,6)	147 (13,7)	101 (9,38)	78 (7,25)	64 (5,95)
8" x 8" x 3/8" (200 x 200 x 10 mm)	504 (46,8)	258 (24,0)	176 (16,3)	135 (12,5)	110 (10,2)
10" x 10" x 3/8" (250 x 250 x 10 mm)	628 (58,3)	320 (29,7)	217 (20,2)	166 (15,4)	135 (12,5)
12" x 12" x 1/2" (300 x 300 x 12 mm)	563 (52,3)	286 (26,6)	194 (18,0)	147 (13,7)	120 (11,1)

* *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. Consult MAPEI's Technical Service Department for approximate coverages not shown in the above table.*

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RELATED DOCUMENTS

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

** At www.mapei.com.*

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

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