Kerapoxy IEG CQ

100%-Solids, Industrial-Grade, Epoxy Grout with Color-Coated Quartz

DESCRIPTION

Kerapoxy® IEG CQ is a water-cleanable, 100%-solids, epoxy grout with high chemical and stain resistance. It is a nonshrinking, nonsagging, fast-curing, efflorescence-free grout. Color-coated quartz dramatically improves its cleanability, so that *Kerapoxy IEG CQ* leaves very little film residue during cleanup of excess grout with a grout float. The color-coated quartz also eliminates pigment bleed, so tiles are not stained during installation. This grout is perfectly suited for use in commercial kitchens, meat packing houses, and any commercial and institutional floors that require daily cleaning with enzymatic cleaners. *Kerapoxy IEG CQ* is ideal for applications where high-strength, mold- and mildew-resistant grout joints are required. In addition, it has high temperature resistance and can be steam-cleaned.

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

WHERE TO USE

- 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/floor installations requiring high strength and stain resistance
- Grouting ceramic tile, quarry, pavers, 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

LIMITATIONS

- Do not use as a mortar.
- Do not use in areas subject to excessive heat. Once cured, *Kerapoxy IEG CQ* will resist temperatures up to 212°F (100°C).
- 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.

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. To ensure compatibility of such tiles 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/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 at least 2/3 of the tile depth is left available for grouting. To reduce voids or low joints, fully embed tile into mortar with a properly sized trowel.
- Clean the tile or stone surface to remove dust, dirt, mortar, adhesive and other contaminants that may cause grout discoloration.
- Grout releases may be useful or required to prevent grout film residue. See the tile/stone manufacturer's instructions and recommendations.

Note: Determine the suitability of all materials before proceeding with the installation. To ensure the desired results, a mockup installation is required before the actual installation. See the "Surface preparation requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Always mix complete kits. 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 trap air and shorten the pot life.
7. Do not place the lid on the container after the material has been mixed.
8. Wash hands and all tools immediately with water before the epoxy hardens. *Kerapoxy IEG CQ* is extremely difficult to remove once it has cured.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. The temperature of the tilework must be maintained at between 35°F and 90°F (2°C and 32°C) while grouting and until *Kerapoxy IEG CQ* has hardened sufficiently (after 24 to 72 hours).
2. Application and cleanup procedures for an entire kit should be completed in 45 minutes to 1 hour at 73°F (23°C).
3. Remove mixed product from the container, placing it in small piles on the tile surface. (For grouting a wall, place mixed product on kraft paper that is laid on the floor.) *Kerapoxy IEG CQ* is a thermosetting product, so it sets up faster in a container or in a large mass.
4. 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 edges.
5. 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.
6. Thoroughly remove excess *Kerapoxy IEG CQ* from the tile face before the epoxy loses its plasticity or begins to set. This is most easily accomplished by holding the rubber float at a 90-degree angle to the tile surface and dragging the excess grout across the tile surface diagonally to the joints, leaving as little epoxy grout on the tile surface as possible.
7. Clean tiles immediately after applying each *Kerapoxy IEG CQ* mixture. Grout and clean in small areas. Do not attempt to use more than one kit mixture before cleaning the tiles. Do not allow *Kerapoxy IEG CQ* to harden on the tile surface. On large projects, working in teams of 2 to 3 people will simplify the installation.
8. Apply a liberal amount of clean water using the Initial Wash Cleaning Additive packets included in the kit. The recommended dilution is to add one packet to 2 U.S. gals. (7,57 L) of clean water. Next, flood the freshly grouted area with this cleaning water. Scrub the tile surface in a circular motion using a nonwoven, nylon, white scouring pad to loosen the epoxy on the surface and tool the joints. Use a more aggressive pad if the tile type is textured or abrasive. Apply enough pressure on the pad to loosen any film without removing grout from the joints. Scrub an entire area with one side of the pad, flip the pad, and repeat the scrubbing process

with the clean side. Rinse scouring pad frequently while cleaning, using a separate bucket rather than the wash bucket that contains the Initial Wash Cleaning Additive. Take care not to get any cleaning water in the ungrouted joints. A rotary buffing machine with an appropriate pad with liberal amounts of water also may be used by teams for larger areas. Change the buffing machine pad frequently to avoid redepositing epoxy resin on the tile.

9. Washwater Removal, Method 1: Remove any remaining epoxy residue and water by using a clean, dampened cellulose sponge included in the kit. Drag the sponge diagonally across the joints, flipping to the sponge's other side after each pass. Rinse the sponge after both sides are used for a pass, and keep changing water in the buckets after using each unit for grouting.
   Washwater Removal, Method 2: This method involves the use of a large industrial 16" (41 cm) dustpan and a large window rubber squeegee. After the "initial wash" cleaning has been completed, squeegee the loose epoxy residue and cleaning water into the dustpan. Pour the epoxy residue and cleaning water from the dustpan into a separate bucket for disposal. All of the epoxy residue and cleaning water from the tile surface should continue to be squeegeed into the dustpan and removed from the floor and discarded into an empty bucket separate from the clean-water rinse bucket. This method allows removal of the epoxy residue and cleaning water so that it is not reintroduced to the tile surface. Continue following the next steps: Please note that in some applications, a properly protected Ground Fault Circuit Interrupter (GFCI) and grounded wet/dry vacuum may be used to pick and evacuate the epoxy residue and cleaning water from the tile surface.
10. Within 5 to 10 minutes of completing the initial wash, once the tile surface begins to dry, perform a final wash. Temperature and humidity extremes can impact when you should begin the final wash. Add the contents of the kit's Final Wash Cleaning Additive packets to a pail of clean water. The recommended dilution is to add one packet to 2 U.S. gals. (7,57 L) of clean water. Use a new white scrubpad and flood the freshly grouted area with clean water, scrubbing/cleaning the tile surface rather the grout joints. The final wash will help to loosen any residue left on the tile from the initial wash. Using a new cellulose sponge, remove excess water from the tile surface in the same manner as described in Step 9. Rinse the sponge often and keep changing water in the buckets to avoid residue buildup.
11. Do not allow excess water to remain on the tile surface. Otherwise, the surface could develop a film that would be difficult to remove once hardened.
12. Check the installation on the same day before leaving the jobsite, as well as checking on the following day, to make sure it is completely clean. If the tile surface has any shiny or tacky residue, remove the residue with a neutral solution of liquid detergent and water.

PROTECTION

- Because propane gas heaters will yellow the epoxy, refrain from using such heaters or properly vent all exhaust.
- Do not step on freshly cleaned tiles, as this could permanently damage the grout.
- Keep the installation free from heavy traffic for at least 5 to 12 hours after grouting.
- Keep steam cleaning wands 6" to 12" (15 to 30 cm) above the tile surface.

MAINTENANCE

- Grout must be fully cured before regular cleaning can take place.
- 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 CQ* 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

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	Specification Standard	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)	3,000 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 Product Characteristics

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C)
Colors	Gray #09, Black #10, Mocha #42, Charcoal #47
VOCs (Rule #1168 of California's SCAQMD)	19 g per L

Application Properties

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

Protect from traffic	5 to 12 hours**
Full cure	4 days**

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

Packaging

Size
Large kit: 4 pouches of Part A liquid, each 0.292 U.S. gal. (1,11 L) 4 plastic jars of Part B liquid, each 0.15 U.S. gal. (0,57 L) 4 Initial Wash Cleaning Additive packets 4 Final Wash Cleaning Additive packets 4 cellulose sponges 4 white scrubpads 4 pairs of gloves 1 instruction sheet This kit requires mixing with 2 cases of Part C powder (sold separately) – a total of four bags of Part C.
Bag, Part C powder (colorant): 9.288 lbs. (4,21 kg)

Approximate Coverage***

For Large Kit, with a yield of 4 U.S. gals. (15,1 L) when mixed with Part C. Coverage is in sq. ft. (m^2).					
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 8" x 1/2" (100 x 200 x 12 mm)	278 (25,8)	139 (12,9)	92 (8,55)	69 (6,41)	55 (5,11)
4" x 8" x 3/4" (100 x 200 x 19 mm)	185 (17,2)	93 (8,64)	62 (5,76)	46 (4,27)	37 (3,44)
6" x 6" x 1/2" (150 x 150 x 12 mm)	310 (28,8)	155 (14,4)	103 (9,57)	77 (7,15)	63 (5,85)
8" x 8" x 3/8" (200 x 200 x 10 mm)	550 (51,1)	275 (25,5)	185 (17,2)	138 (12,8)	110 (10,2)
10" x 10" x 3/8" (250 x 250 x 10 mm)	695 (64,6)	345 (32,1)	230 (21,4)	173 (16,1)	138 (12,8)
12" x 12" x 1/2" (300 x 300 x 12 mm)	620 (57,6)	310 (28,8)	206 (19,1)	155 (14,4)	125 (11,6)
24" x 24" x 1/2" (600 x 600 x 12 mm)	1,250 (116)	620 (57,6)	418 (38,8)	310 (28,8)	249 (23,1)

*** *Coverage shown is for estimating purposes only. Actual jobsite coverage 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 Services Department for approximate coverage not shown in the above table.*

RELATED DOCUMENTS

- Reference guide: "Surface preparation requirements" for tile and stone installation systems†
- Grout Troubleshooting Guide†

† *At www.mapei.com*

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

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