KERAPOXY CQ

Two-component anti-acid epoxy grout, easy to apply and with excellent cleanability. Bacteriostatic with BioBlock® technology, it is ideal for grouting joints between ceramic tiles and mosaics. Suitable for joints of at least 1 mm. Can also be used as an adhesive.





EN 12004 R2 RG 0474 GEV-EMICODE EC 1 PLUS Very low emission BioBlock

BENEFITS AND FEATURES

- Certified anti-bacterial and mould-resistant
- Resistant to aggressive chemical substances
- Hygienic and easy to clean surfaces
- Keeps a healthy indoor environment
- Complies with HACCP food safety system
- Excellent workability

CLASSIFICATION ACCORDING TO EN 13888-1

Kerapoxy CQ is an RG-class reactive (R) grout for tile joints (G).

Kerapoxy CQ is certified by the University of Modena (Italy) according to ISO 22196:2007 standards as a grouting mortar protected against the formation and proliferation of micro-organisms.

CLASSIFICATION IN COMPLIANCE WITH EN 12004

Kerapoxy CQ is an improved (2) reaction resin adhesive (R) classified as R2.

WHERE TO USE

Internal and external grouting of ceramic, stone material and glass mosaic floor finishes. Particularly suitable for grouting large areas where easy application and cleaning is required.

Kerapoxy CQ allows you to create floors, walls and worktops, etc. in compliance with the HACCP system and the requirements of EC Regulation No. 852/2004 on the hygiene of foodstuffs.

Also suitable for acid-resistant bonding and rapid setting of ceramic tiles, stone materials, fibre-cement, concrete and any other building material on all types of substrates normally used in construction.

MAPEI

Some application examples

- Grouting materials with an uneven surface where it would be difficult to apply and clean traditional epoxy mortar.
- Grouting floor tile finishes in the foodstuffs industry (dairies, cheese factories, abattoirs, breweries, wineries, preserves factories, etc.), shops and environments where a high level of hygiene is required (ice-cream parlours, butchers shops, fishmongers, etc.).
- Grouting anti-bacterial tiles.
- Grouting surfaces where a high protection against the formation and proliferation of micro-organisms is required.
- Grouting tiles on laboratory benches, kitchen worktops, etc.
- Grouting industrial floor tile finishes (galvanizing plants, tanneries, battery rooms, paper works, etc.), where high mechanical strength and a high resistance to attack by acids is required.
- Grouting swimming pools, especially recommended for pools containing spa or sea water.
- Grouting floor tile finishes in steam rooms and Turkish baths.
- Acid-resistant bonding of tiles (used as an adhesive in compliance with class R2 specification according to EN 12004 standard).
- Bonding marble doorsteps and window-sills.
- Bonding tiles in plastic reinforced by fibre glass swimming pools.
- Bonding special pieces of tiles.

Kerapoxy CQ may also be used to grout unglazed klinker, stone, polished porcelain or porcelain in contrasting colours. Always apply a small sample of the product in a trial area before using **Kerapoxy CQ** on wider surfaces.

TECHNICAL CHARACTERISTICS

Kerapoxy CQ is a two-component, epoxy resin-based product, with silica sand and other special components. It has excellent resistance to acids and is very easy to clean.

Kerapoxy CQ has a bacteriostatic agent, preventing from the proliferation of bacteria and the formation of mould on the surfaces of grouts, making tiled surfaces hygienic and safe, thanks to the innovative BioBlock® technology developed as a result of MAPEI research.

This is a product with very low emission of volatile organic compounds and is classified Emicode EC1 Plus by GEV when used for grouting.

When applied correctly, it produces tile joints with the following characteristics:

- excellent mechanical strength and resistance to chemicals, therefore excellent durability;
- smooth and compact, surface finish which is non-absorbent and easy to clean; guarantees a high level of hygiene and blocks the formation of mildew and mould;
- high degree of hardness, excellent resistance to heavy traffic;
- no shrinkage and, therefore, no cracking;
- uniform colour, resistant to atmospheric agents;
- excellent workability, highly improved compared with traditional epoxy mortars thanks to its creamy consistency, which guarantees faster application times and makes it easier to clean the surfaces, with less waste and easier to obtain a good finish.

RECOMMENDATIONS

- Even if it already seems clean after passing over the surface with a rubber float, always clean the surface using a Scotch-Brite® pad and water, to emulsify traces of resin on the surface which could otherwise modify the final surface finish.
- Use **Kerapoxy IEG** to grout ceramic and where floor finishes will be subject to attack by oleic acids (ham curers, sausage factories, oil mills, etc.) and aromatic hydrocarbons.
- Use a flexible sealant from the MAPEI range (such as **Mapesil AC**, **Mapesil LM** or **Mapeflex PU 45 FT**) for flexible expansion joints or for joints subject to movement.

- **Kerapoxy CQ** does not guarantee perfect bonding if the edges of the tiles are wet or contaminated with cement, dust, oil, grease, etc. during grouting.
- Do not use **Kerapoxy CQ** to grout terracotta tiles, the finish of the tiles may be altered.
- Always carry out preliminary tests before grouting stone or ground porcelain with a porous or rough surface.
- Do not add water or solvents to **Kerapoxy CQ** to increase its workability.
- Use the product at temperatures between +12°C and +30°C. However, at temperatures below +15°C application may be more difficult.
- The packages are pre-dosed and, therefore, it is not possible to make mixing errors if all the contents are mixed together. Do not rough guess the quantities when mixing the two components: hardening will be compromised if the catalysing ratio is wrong.
- If hardened and **Kerapoxy CQ** has to be removed from the joints, use an industrial hot air blower. If hardened localized residues of the product remain bonded to the tiles, use **Pulicol 2000** for cleaning.

ACID RESISTANT GROUTING APPLICATION METHOD

Preparation of the joints

The joints must be clean, free of dust and free from adhesive to at least 2/3 of the thickness of the tiles. Any adhesive or mortar which has seeped into the joints while laying the tiles must be removed while still fresh.

Before grouting, make sure the installation mortar or adhesive has set and most of the moisture has been lost.

Kerapoxy CQ is not harmed by damp from the base, but the joints must not be wet when grouting.

Preparation of the mix

Pour the catalyser (part B) into the container of part A and mix well until a smooth paste is obtained. We recommend using a low-speed electric mixer to guarantee perfect blending, and to avoid overheating of the mix which would reduce working times. Use the mix within 45 minutes of preparation

Application

Spread **Kerapoxy CQ** over the tiled surface with a special rubber grout float (such as MAPEI float), making sure that the joints are filled right down to the bottom. With the edge of the same float, strike off excess material.

Finish

After grouting with **Kerapoxy CQ**, floor finishes must be cleaned while the grout is still “fresh”. Cleaning of the joints may be carried out using a small amount of water and an abrasive sponge for cleaning joints (such as Scotch-Brite® or MAPEI tile-joints cleaning kit), followed by a cellulose sponge (MAPEI sponge, for example), taking care to avoid removing grout from the joints. The sponge must be saturated with water when cleaning finishes.

The residual liquid may be removed with the same sponge, which must be replaced when it becomes too impregnated with resin, and the same technique may be used when finishing off the grouted joints.

After the finishing operation, it is very important that no traces of **Kerapoxy CQ** remain on the surface. Once hardened, it is very difficult to remove.

Therefore, rinse the sponge often with clean water during cleaning.

In the case of very large floor surfaces, finishing may be carried out by wetting the surface and using a single-head rotary machine with special abrasive felt disks such as Scotch-Brite®. Residual liquid may be drawn off using a rubber squeegee.

UltraCare Kerapoxy Cleaner (special cleaning solution for epoxy grout) may also be used for the final cleaning cycle.

UltraCare Kerapoxy Cleaner can be used both immediately after grouting and after completing laying work.

If cleaning is carried out a few hours after applying the grout, it may be necessary to leave it standing for longer (at least 15-20 minutes) or you may need to repeat the cycle.

The efficiency of **UltraCare Kerapoxy Cleaner** depends on the amount of residual resin and how much time has passed since application.

For residues that have cured on the surface over time or if residues persist then use **UltraCare Epoxy Off Gel**, special high-viscosity cleaner to remove epoxy residues.

For the use of products from the **UltraCare** range, please refer to the relative Techincal Data Sheets.



Two-component grout provided in drums containing both components (A and B)



Pour the hardener (component B) in the container of component A



Mix component A+B



Application of Kerapoxy CQ with Mapei rubber trowel



Cleaning joints with Scotch-Brite®



Cleaning and finishing joints with a hard cellulose sponge



Final effect of a floor grouted with ***Kerapoxy CQ***

APPLICATION PROCEDURE AS AN ADHESIVE

After mixing the two components as described above, spread the adhesive with a notched trowel. Apply the tile under firm pressure to ensure good contact. After setting, bonding becomes extremely strong and resistant to chemical agents.

SET TO LIGHT FOOT TRAFFIC

Floors may be subjected to foot traffic after 24 hours at +20°C.

READY FOR USE

(with hypothetical curing at +23°C and 50% R.H.)

4 days. After 10 days, the surfaces may also be subjected to chemical attack.

Basins and swimming pools can be filled 10 days after grouting. Times may vary according to the temperature.

CLEANING

Tools and containers may be cleaned while the product is still fresh using plenty of water. Once **Kerapoxy CQ** has set, it may only be removed mechanically or with **Pulicol 2000**.

CONSUMPTION

The consumption of **Kerapoxy CQ** varies depending on the size of the joints and the size and thickness of the tiles.

CONSUMPTION RATES ACCORDING TO THE SIZE OF THE TILES AND THE WIDTH OF THE JOINTS (kg/m^2)				
Size of tile (mm)	Width of joint (mm)			
	3	5	8	10
75x150x6	0.6	1.0	1.5	1.9
100x100x7	0.7	1.1	1.8	2.2
100x100x9	0.9	1.4	2.3	2.9
150x150x6	0.4	0.6	1.0	1.3
200x200x7	0.3	0.6	0.9	1.1
200x200x9	0.4	0.7	1.2	1.4
300x300x10	0.3	0.5	0.9	1.1
300x300x20	0.6	1.1	1.7	2.1
300x600x10	0.2	0.4	0.6	0.8
400x400x10	0.2	0.4	0.6	0.8
500x500x10	0.2	0.3	0.5	0.6
600x600x10	0.2	0.3	0.4	0.5
750x750x10	0.1	0.2	0.3	0.4
100x600x9	0.5	0.8	1.3	1.7
150x600x9	0.4	0.6	1.0	1.2
150x900x9	0.3	0.6	0.9	1.1
150x1200x10	0.4	0.6	1.0	1.2
225x450x9	0.3	0.5	0.8	1.0
225x900x9	0.2	0.4	0.6	0.8
250x900x9	0.2	0.4	0.6	0.7
250x1200x10	0.2	0.4	0.6	0.8
600x600x5	0.1	0.1	0.2	0.3
600x600x3		0.1	0.1	0.2
1000x500x5	0.1	0.1	0.2	0.2
1000x500x3		0.1	0.1	0.1
1000x1000x5		0.1	0.1	0.2
1000x1000x3			0.1	0.1
3000x1000x5		0.1	0.1	0.1
3000x1000x3			0.1	0.1

FORMULA FOR THE COVERAGE CALCULATION:

A = length of tile (mm)

B = width of tile (mm)

C = thickness of tile (mm)

D = width of joint (mm)

(A + B) kg x C x D x 1.6 = (A x B) m²

For sizes not covered by the table, our website www.mapei.com has a calculator available to estimate consumption rates according to the size of the tiles and the width of the joints.

PACKAGING

Kerapoxy CQ is supplied in pre-dosed packages. It is contained in tubs which contain component A and a canister containing component B, which must only be added at the moment it is required.

The product is available in 3 kg and 10 kg containers. 10 kg containers are available only for the coloured versions n. 282 - 100 - 113 - 114 - 132.

COLOURS AVAILABLE

Kerapoxy CQ is available in 17 colours.

Kerapoxy CQ		
100	WHITE	
111	SILVER GREY	
282	BARDIGLIO GREY	
113	CEMENT GREY	
114	ANTHRACITE	
120	BLACK	
130	JASMINE	
290	CREAM	
132	BEIGE 2000	
147	CAPPUCCINO	
146	RICH BROWN	
173	OCEAN	
283	SEA BLUE	
182	TORMALINE	
183	LIME GREEN	
151	MUSTARD YELLOW	
165	CHERRY RED	

N.B.: Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual product

STORAGE

Kerapoxy CQ may be stored for up to 24 months in its original packaging in a cool, dry place. Store component A at a temperature of at least +10°C to avoid crystallisation of the product, reversible by heating up.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

In compliance with:
– European EN 12004 as R2
– ISO 13007-1 as R2
– European EN 13888-1 as RG
– ISO 13007-3 as RG

PRODUCT IDENTITY		
	component A	**component B**
Consistency:	thick paste	gel
Colour:	available in 17 different colours	
Density (g/cm³):	1.85	0.98
Dry solids content (%):	100	100
Brookfield viscosity (mPa·s)	1,200,000	250,000
EMICODE (as a grout):	EC1 Plus - very low emission	

APPLICATION DATA (at +23°C and 50% R.H.)	
Mixing ratio:	component A : component B = 9 : 1
Consistency of mix:	creamy paste
Density of mix (kg/m³):	1,600
Pot life of mix:	45 minutes
Application temperature range:	from +12°C to +30°C
Open time (as an adhesive):	30 minutes
Adjustability time (as an adhesive):	60 minutes
Set to light foot traffic:	24 hours
Ready for use:	4 days (10 days in case of water immersion). Times may vary according to the temperature.

FINAL PERFORMANCE	
Shear adhesion strength according to EN 12003 (N/mm^2):	
– initial:	≥ 2.0
– after water immersion:	≥ 2.0
– after thermal shock:	≥ 2.0
Flexural strength (EN 12808-3) (N/mm^2):	38
Compressive strength (EN 12808-3) (N/mm^2):	49
Abrasion resistance (EN 12808-2):	147 (loss in mm^3)
Water absorption (EN 12808-5) (g):	0.05
Resistance to humidity:	excellent
Resistance to ageing:	excellent
Resistance to solvents and oil:	very good (refer to table)
Resistance to acids and alkalis:	excellent (refer to table)
In service temperature range:	from -20°C to +100°C

CHEMICAL RESISTANCE OF FULLY CURED KERAPOXY CQ*					
PRODUCT				USE	
				INDUSTRIAL FLOORING	
Group	Name	Concentration %	Laboratory benches	Permanently used (+20°C)	Sporadically used (+20°C)
Acids	Acetic acid	2.5	+	+	+
		5	+	(+)	+
		10	–	–	–
	Hydrochloric acid	37	+	+	+
	Chromic acid	20	–	–	–
	Citric acid	10	+	(+)	+
	Formic acid	2.5	+	+	+
		10	–	–	–
	Lactic acid	2.5	+	+	+
		5	+	(+)	+
		10	(+)	–	(+)
	Nitric acid	25	+	(+)	+
		50	–	–	–

	Pure oleic acid		–	–	–
	Phosphoric acid	50 75	+ (+)	+ –	+ (+)
	Sulphuric acid	1.5 50 96	+ + –	+ (+) –	+ + –
	Tannic acid	10	+	+	+
	Tartaric acid	10	+	+	+
	Oxalic acid	10	+	+	+
Alkalis	Ammonia in solution	25	+	+	+
	Caustic soda	50	+	+	+
	Sodium hypochlorite in solution: active chlorine active chlorine	6.4 g/l 162 g/l	+ –	(+) –	+ –
	Potassium permanganate	5 10	+ (+)	(+) –	+ (+)
	Potassium hydroxide	50	+	+	+
	Sodium bisulphite	10	+	+	+
Saturated solutions at +20°C	Sodium hyposulphite		+	+	+
	Calcium chloride		+	+	+
	Ferric chloride		+	+	+
	Sodium chloride		+	+	+
	Sodium chromate		+	+	+
	Sugar		+	+	+
	Aluminium sulphate		+	+	+
Oils and fuels	Petrol, fuels		+	(+)	+
	Turpentine		+	+	+
	Diesel fuel		+	+	+
	Tar oil		+	(+)	(+)
	Olive oil		(+)	(+)	+
	Light fuel oil		+	+	+
	Petrol		+	+	+
Solvents	Acetone		–	–	–
	Ethylene glycol		+	+	+
	Glycerine		+	+	+
	Methylene glycol acetate		–	–	–
	Perchloroethylene		–	–	–
	Carbon tetrachloride		(+)	–	(+)
	Ethyl alcohol		+	(+)	+
	Trichloroethylene		–	–	–
	Chloroform		–	–	–
	Methylene chloride		–	–	–
	Tetrahydrofurane		–	–	–
	Toluene		–	–	–
	Carbon sulphide		(+)	–	(+)
	White spirit		+	+	+
	Benzene		–	–	–
	Trichloroethane		–	–	–

	Xylene		–	–	–
	Mercuric chloride ($HgCl_2$)	5	+	+	+
	Hydrogen peroxide	1 10 25	+ + +	+ + (+)	+ + +
Legend: + excellent resistance (+) good resistance – poor resistance					

**** Evaluated in compliance with EN 12808-1 standards***

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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