



# Kerapoxy CQ

**Two-component epoxy grout, easy to apply and excellent cleanability, with a bacteriostatic agent and BioBlock® technology, ideal for grouting ceramic tiles and mosaics. Can also be used as an adhesive**



#### **CLASSIFICATION ACCORDING TO EN 13888**

**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 regarding hygiene and 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.

#### **Some application examples**

- Grouting materials with an uneven surface where it would be difficult to apply and clean traditional epoxy mortar.

- Grouting of 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 of anti-bacterial tiles.
- Grouting of 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.



# Kerapoxy CQ



Spreading Kerapoxy CQ using a MAPEI float



Cleaning the surface with water and single-head rotary machine with special abrasive felt discs, such as "Scotch-Brite®"



Removing excess liquid using a rubber squeegee

## TECHNICAL CHARACTERISTICS

**Kerapoxy CQ** is a two-component, epoxy resin-based product with very low emission of volatile organic compounds, 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.

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 PU45**) 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 (component B) into the container of component 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 MAPEI grout 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.

## CHEMICAL RESISTANCE OF FULLY CURED KERAPOXY CQ\*

| PRODUCT                      |  |                 |                    | USE                      |                           |
|------------------------------|--|-----------------|--------------------|--------------------------|---------------------------|
| Group                        | Name                                   | Concentration % | Laboratory benches | INDUSTRIAL FLOORING      |                           |
|                              |  |                 |                    | 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                        | 6.4 g/l         | +                  | (+)                      | +                         |
|                              | active chlorine                        | 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 <sub>2</sub> ) | 5               | +                  | +                        | +                         |
| Hydrogen peroxide            | 1                                      | +               | +                  | +                        |                           |
|                              | 10                                     | +               | +                  | +                        |                           |
|                              | 25                                     | +               | (+)                | +                        |                           |

Legend: + excellent resistance

(+) good resistance

- poor resistance

\* Evaluated in compliance with EN 12808-1 standards

## TECHNICAL DATA (typical values)

In compliance with:

- European EN 12004 as R2
- ISO 13007-1 as R2
- European EN 13888 as RG
- ISO 13007-3 as RG

### PRODUCT IDENTITY

|                                     | component A                       | component B |
|-------------------------------------|-----------------------------------|-------------|
| <b>Consistency:</b>                 | thick paste                       | gel         |
| <b>Colour:</b>                      | available in 21 different colours |             |
| <b>Density (g/cm<sup>3</sup>):</b>  | 1.85                              | 0.98        |
| <b>Dry solids content (%):</b>      | 100                               | 100         |
| <b>Brookfield viscosity (mPa·s)</b> | 1,200,000                         | 250,000     |
| <b>EMICODE:</b>                     | EC1 R Plus - very low emission    |             |

### APPLICATION DATA (at +23°C and 50% R.H.)

|   |                                   |
|---|-----------------------------------|
| <b>Mix ratio:</b>                           | component A : component B = 9 : 1 |
| <b>Consistency of mix:</b>                  | creamy paste                      |
| <b>Density of mix (kg/m<sup>3</sup>):</b>   | 1,600                             |
| <b>Pot life of mix:</b>                     | 45 minutes                        |
| <b>Application temperature range:</b>       | from +12°C to +30°C               |
| <b>Open time (as an adhesive):</b>          | 30 minutes                        |
| <b>Adjustability time (as an adhesive):</b> | 60 minutes                        |
| <b>Set to light foot traffic:</b>           | 12 hours                          |
| <b>Ready for use:</b>                       | 3 days                            |

### FINAL PERFORMANCE

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



*Spreading Kerapoxy CQ on a wall using a MAPEI float*



*Kerapoxy CQ is emulsified with water, using a Scotch-Brite® pad*



*Cleaning and finishing with a hard cellulose sponge*

## CONSUMPTION TABLE DEPENDENT ON THE SIZE OF THE TILES AND WIDTH OF THE JOINTS (kg/m<sup>2</sup>)

| Size of the tile (mm) | Width of the joint (mm): |     |     |     |
|-----------------------|--------------------------|-----|-----|-----|
|                       | 3                        | 5   | 8   | 10  |
| 75 x 150 x 6          | 0.6                      | 1.0 | –   | –   |
| 100 x 100 x 6         | 0.6                      | 1.0 | –   | –   |
| 100 x 100 x 10        | 1.0                      | 1.6 | –   | –   |
| 100 x 200 x 6         | 0.5                      | 0.8 | –   | –   |
| 100 x 200 x 10        | –                        | 1.2 | 2.0 | 2.4 |
| 150 x 150 x 6         | 0.4                      | 0.7 | –   | –   |
| 200 x 200 x 8         | 0.4                      | 0.7 | –   | –   |
| 120 x 240 x 12        | –                        | 1.2 | 2.0 | 2.4 |
| 250 x 250 x 12        | –                        | 0.8 | 1.3 | 1.6 |
| 250 x 330 x 8         | 0.3                      | 0.5 | 0.8 | 0.9 |
| 300 x 300 x 8         | 0.3                      | 0.5 | 0.7 | 0.9 |
| 300 x 300 x 10        | 0.4                      | 0.6 | 0.9 | 1.1 |
| 300 x 600 x 10        | 0.3                      | 0.4 | 0.7 | 0.8 |
| 330 x 330 x 10        | 0.3                      | 0.5 | 0.8 | 1.0 |
| 400 x 400 x 10        | 0.3                      | 0.4 | 0.7 | 0.8 |
| 450 x 450 x 12        | –                        | 0.5 | 0.7 | 0.9 |
| 500 x 500 x 12        | –                        | 0.4 | 0.6 | 0.8 |
| 600 x 600 x 12        | –                        | 0.4 | 0.5 | 0.7 |

### FORMULA FOR THE COVERAGE CALCULATION:

$$\frac{(A + B)}{(A \times B)} \times C \times D \times 1.6 = \frac{\text{kg}}{\text{m}^2}$$

- A** = length of tile (mm)
- B** = width of tile (mm)
- C** = thickness of tile (mm)
- D** = width of joint (mm)

**Kerapoxy Cleaner** (special cleaning solution for epoxy grout) may also be used for the final cleaning cycle and may also be used to remove thin residues of grout up to several hours after application. In this case, the product must be left to react for longer (at least 15-20 minutes).

The efficiency of **Kerapoxy Cleaner** depends on the amount of residual resin and how much time has passed since application. Cleaning must always be carried out while the product is still “fresh” as described above.

### 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 12 hours at +20°C.

### READY FOR USE

3 days. After 3 days, the surfaces may also be subjected to chemical attack.

### 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 dependent on the size of the joints and the size and thickness of the tiles.

### PACKAGING

**Kerapoxy CQ** is supplied in pre-dosed packages. It is contained in tubs which contain component A and a canister

# Kerapoxy CQ

|                    |       |             |             |            |       |         |            |            |            |                |          |       |            |             |            |            |           |            |                |          |       |
|--------------------|-------|-------------|-------------|------------|-------|---------|------------|------------|------------|----------------|----------|-------|------------|-------------|------------|------------|-----------|------------|----------------|----------|-------|
|                    | WHITE | SILVER GREY | CEMENT GREY | ANTHRACITE | BLACK | JASMINE | BEIGE 2000 | RICH BROWN | CAPPUCCINO | MUSTARD YELLOW | MAGNOLIA | LILAC | CHERRY RED | CROCUS BLUE | OCEAN BLUE | JADE GREEN | TORMALINE | LIME GREEN | BARDIGLIO GREY | SEA BLUE | CREAM |
| <b>Kerapoxy CQ</b> | 100   | 111         | 113         | 114        | 120   | 130     | 132        | 146        | 147        | 151            | 160      | 163   | 165        | 170         | 173        | 181        | 182       | 183        | 282            | 283      | 290   |

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

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 only for the coloured versions n. 282 - 283 - 100 - 113 - 114 - 132.

### COLOURS AVAILABLE

Kerapoxy CQ is available in 21 colours.

### 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

Kerapoxy CQ component A is irritant for the eyes and skin. Both component A and B may cause sensitization in those predisposed.

Kerapoxy CQ component B is corrosive and may cause burns.

During the application it is recommended to wear protective gloves and goggles and to take the usual precautions for handling chemicals. In case of contact with the eyes and the skin wash immediately with plenty of water and seek medical attention.

Furthermore, Kerapoxy CQ component A and B are dangerous for aquatic life, do not dispose of it in the environment.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

### 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](http://www.mapei.com)



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.



**Our Commitment To The Environment**  
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

**All relevant references for the product are available upon request and from [www.mapei.com](http://www.mapei.com)**



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