# KERAPOXY EASY DESIGN

**Two-component, versatile, decorative, acid-resistant epoxy grout, with a bacteriostatic agent and BioBlock® technology, easy to apply and clean, ideal for grouting ceramic tiles, glass mosaics and stone materials, to be used also in combination with MapeGlitter and Mapecolor Metallic. For grouting joints from 1 to 15 mm wide. Can also be used as an adhesive**


## CLASSIFICATION ACCORDING TO EN 13888

**Kerapoxy Easy Design** is an RG-class reactive (R) mortar for grouts (G).
**Kerapoxy Easy Design** is certified by INDUSTRIAL MICROBIOLOGICAL SERVICE LTD (England) according to ISO 22196:2011 standards as a grouting mortar protected against the formation and proliferation of micro-organisms.

## CLASSIFICATION ACCORDING TO EN 12004

**Kerapoxy Easy Design** is an R2T-class reactive (R), improved (2) adhesive with no vertical slip (T).

## WHERE TO USE

Decorative grouting of internal and external tiled floors and walls. Also suitable for an acid-resistant bond to all substrates normally used in the building industry.
**Kerapoxy Easy Design** allows to create floors, walls, worktops etc. in compliance with the HACCP system and the requirements of EC Regulation No. 852/2004 on the hygiene of foodstuffs.

### Some application examples

- Installing and grouting decorative coverings in environments with an high aesthetic value (e.g. showrooms, commercial environments, etc.).
- Installing and grouting floors and walls in showers and bathrooms. Suitable on fibreglass and PVC substrates.
- Installing and grouting floors and walls in thermal facilities, Turkish baths, etc.
- Installing and grouting swimming pools.
- Repairing existing degraded grouts by removing all loose areas and to a minimum uniform depth of 3 mm.

## TECHNICAL CHARACTERISTICS

**Kerapoxy Easy Design** is a two-component, epoxy resin-based decorative grout, with glass micro-spheres and other special components. It has an excellent resistance to acids, easy workability and is very easy to clean.
**Kerapoxy Easy Design** 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.
**Kerapoxy Easy Design** may be mixed with up to 6 % by weight of **MapeGlitter**, metallised coloured glitter, to create aesthetic effects. Percentage depends on the aesthetic effect and workability desired. **MapeGlitter** is available in silver and gold.
**Kerapoxy Easy Design** may be mixed with **Mapecolor Metallic**, available in pre-dosed sachets (90 g, equal to 3% by weight of a 3 kg drum of **Kerapoxy Easy Design**), powder pigment based on very high-quality pearlescent mica, to create a metallic effect. **Mapecolor Metallic** is available in Moonlight (similar to platinum), Sahara (similar to gold), Shining (similar to silver), Red clay (similar to copper), Stardust (similar to dark silver). In order to obtain a homogeneous mix, we suggest to add **Mapecolor Metallic** of the desired colour to **Kerapoxy Easy Design** 700 (translucent).
*Mixing* **Mapecolor Metallic** *with* **Kerapoxy Easy Design** *of other colours may result in numerous metallic effects with different intensity and shades. It is recommended to carry out preliminary tests since the result may vary based on the colours and quantities used, however within the maximum dosage of 3% by weight so that the workability of the grout/mortar is not affected.*
When applied correctly, **Kerapoxy Easy Design** produces 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; it guarantees a high level of hygiene, where a high protection from the formation and proliferation of micro-organisms (such as fungus and mould) is required;
- excellent workability, much better than traditional epoxy mortars thanks to its creamy consistency, which guarantees faster application times and makes it easier to clean from surfaces, with less waste and easier to obtain a good finish;
- no shrinkage and no cracks;
- uniform colours, resistant to UV rays and atmospheric agents;
- excellent bond;
- certified according to ISO 22196:2011 as a grouting mortar protected against the formation and proliferation of micro-organisms.

## RECOMMENDATIONS

- Use **Kerapoxy IEG** to grout ceramic floors 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**, **Mapeflex PU 40**, **Mapeflex PU 45 FT** or **Mapeflex PU 50 SL**) for flexible expansion joints or for joints subject to movement.
- **Kerapoxy Easy Design** does not guarantee a perfect bond when used as a grout if the edges of tiles are wet or contaminated with cement, dust, oil, grease, etc.
- If porcelain tiles are grouted with a contrasting colour of **Kerapoxy Easy Design** (for example black on white), carry out preliminary tests beforehand.
- 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 Easy Design** to increase its workability.
- Use the product at temperatures between +12°C and +30°C.
- The packages are pre-dosed and, therefore, it is not possible to make mixing errors. Do not estimate the quantities when mixing: hardening will be compromised if the catalysing ratio is wrong.
- If hardened **Kerapoxy Easy Design** has to be removed from the joints, use an industrial hot air blower. If hardened localised residues of the product remain attached to the tiles, use **Pulicol 2000** for cleaning.
- **Kerapoxy Easy Design** mixed with **MapeGlitter** or **Mapecolor Metallic** is not suitable for swimming pools or external use.

# APPLICATION METHOD WHEN USED AS ACID-RESISTANT GROUT

## Preparation of the joints

The joints must be dry, clean, free from dust and empty down 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 that most of the moisture has evaporated.
**Kerapoxy Easy Design** is not harmed by damp from the substrate, but the joints must not be wet when grouting.

## Preparation of the mix

Pour the catalyst (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 the workability time.
Where required, add **MapeGlitter** or **Mapecolor Metallic** once the blend has been mixed, at a variable ratio depending on the aesthetic effect desired, within the limits described above (up to 6% for **MapeGlitter**, 3% for **Mapecolor Metallic** so that the workability of the grout/mortar is not affected).
Given that **Mapecolor Metallic** is extremely fine and volatile, it is recommended to use and mix the product in exterior, in an area protected from draughts. Interior use may cause the product dispersion in the environment and its deposit on the surfaces.
Add **Mapecolor Metallic** after mixing the two components of **Kerapoxy Easy Design** (A+B). Create a hole in the paste obtained and pour **Mapecolor Metallic** in it; cover it and manually mix to properly blend the powder pigment. Then mix with a low-speed mixer to avoid the possible product dispersion in the enviroment.
Use the mix within 45 minutes of preparation.

## Application

Spread **Kerapoxy Easy Design** 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. Remove excess material by passing the edge of the same trowel diagonally over the tile joints.

## Finish

After grouting with **Kerapoxy Easy Design**, floor and wall coverings must be cleaned while the grout is still “fresh”.
Wet the grouted surface and emulsify with a cellulose sponge (such as MAPEI sponge). Take care not to drag grout from the joint. The sponge must be saturated with water when cleaning coverings.
The liquid residual 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.
The use of a Scotch-Brite® abrasive pad instead of the traditional cellulose sponge for cleaning joints is recommended in case of tiles with a particularly rough, structured and/or irregular surface. The liquid residual may in any case be removed with the cellulose sponge.
After the finishing operation, it is very important that no traces of **Kerapoxy Easy Design** remain on the tile 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.

## APPLICATION METHOD WHEN USED AS AN ADHESIVE

After mixing the two components as described above, spread the adhesive on the substrate using a suitable notched trowel. Firmly press the tiles/mosaics into the adhesive bed to guarantee good adhesive transfer. Once set, the bond is extremely strong and resistant to chemical agents.


*Two-component grout supplied in drums containing both component A and component B*


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


*Mix the components (A+B)*

*Obtain a creamy homogeneous mix*

*Spread Kerapoxy Easy Design with Mapei trowel*

*Easy-to-apply epoxy grout*

*Clean with water while the product is still “fresh”*

*Easy cleaning and finishing with a cellulose sponge*

*Possible final cleaning with UltraCare Kerapoxy Cleaner*

*Floor grouted with Kerapoxy Easy Design*

## 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 up 10 days after grouting. Timing that can vary according to temperature.

## CONSUMPTION

Consumption rates vary according to the width of the joints and the size of the tiles.
For a more precise estimate we recommend using the “calculator for joints and sealants” available on our website www.mapei.com in the tools & downloads section.
When used as an adhesive, the consumption of **Kerapoxy Easy Design** is 2-4 kg/m² and may vary according to the size of the tiles.
The consumption of **MapeGlitter** and **Mapecolor Metallic** varies according to the desired aesthetic effect and at maximum it is equal to 6% and 3%, respectively, by weight of **Kerapoxy Easy Design**.

## CLEANING

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

## PACKAGING

**Kerapoxy Easy Design** is supplied, with mixing proportions carefully measured, in drums containing component A and component B, which must only be added at the moment it is required.
The product is supplied in 3 kg and 1.5 kg units.
**MapeGlitter** is supplied in 100 g sachets.
**Mapecolor Metallic** is supplied in 90 g sachets, a sufficient quantity to be added to a 3 kg drum of **Kerapoxy Easy Design**.

## COLOURS

**Kerapoxy Easy Design** is available in 41 colours (40 colours + neutral - No. 700 translucent).
**MapeGlitter** is available in silver and gold.
**Mapecolor Metallic** is available in Moonlight (platinum), Sahara (gold), Shining (silver), Red clay (copper), Stardust (dark silver).

## STORAGE

**Kerapoxy Easy Design** may be stored 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

When the product reacts it generates a low amount of heat. After mixing components A and B, we recommend applying the product as soon as possible and never leaving the container unattended until it is completely empty.
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.co.uk.
PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA (typical values)

**Conforms to the following standards:**
**– European EN 12004 as R2T**
**– ISO 13007-1 as R2T**
**– European EN 13888 as RG**
**– ISO 13007-3 as RG**

| PRODUCT IDENTITY | | |
|---|---|---|
| | **component A** | **component B** |
| **Consistency:** | creamy paste | gel |
| **Colour:** | available in 41 colours (40 colours + translucent) | |
| **Density (g/cm³):** | 1.67 | 1.05 |
| **Brookfield viscosity (mPa·s)** | 1000000 | 370000 |
| **EMICODE (used as grout):** | EC1 Plus - very low emission | |

| APPLICATION DATA (at +23°C and 50% R.H.) | |
|---|---|
| **Mixing ratio:** | component A : component B = 90 : 10 |
| **Consistency of mix:** | creamy paste |
| **Density of mix (kg/m³):** | 1550 |
| **Pot life of mix:** | 45 minutes |
| **Application temperature range:** | from +12°C to +30°C |
| **Open time (as an adhesive):** | 40 minutes |

| | |
|---|---|
| **Adjustability time (as an adhesive):** | 60 minutes |
| **Set to light foot traffic:** | 24 hours |
| **Ready for use:** | 4 days (10 days for basins and swimming pools). Times may vary according to the temperature. |

| FINAL PERFORMANCE | |
|---|---|
| **Bond (shear strength) according to EN 12003 (N/mm²):**<br>**– initial bond:**<br>**– after immersion in water:**<br>**– after thermal shock:** | <br>20<br>20<br>20 |
| **Flexural strength (EN 12808-3) (N/mm²):** | 45 |
| **Compressive strength (EN 12808-3) (N/mm²):** | 65 |
| **Resistance to abrasion (EN 12808-2):** | 100 |
| **Water absorption (EN 12808-5) (g):** | 0.02 |
| **Resistance to moisture:** | excellent |
| **Resistance to ageing:** | excellent |
| **Resistance to solvents and oils:** | very good (see table) |
| **Resistance to acids and alkalis:** | excellent (see table) |
| **In service temperature:** | from -20°C to +100°C |

| CONSUMPTION RATES ACCORDING TO THE SIZE OF THE TILES AND THE WIDTH OF THE JOINTS (kg/m²) | | | | |
|---|---|---|---|---|
| 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:

| | |
|---|---|
| $\frac{(A + B)}{(A \times B)} \times C \times D \times 1.6 = \frac{kg}{m^2}$ | **A** = length of tile (mm)<br>**B** = width of tile (mm)<br>**C** = thickness of tile (mm)<br>**D** = width of joint (mm) |

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.

| CHEMICAL RESISTANCE OF CERAMIC TILING GROUTED WITH KERAPOXY EASY DESIGN* | | | | |
|---|---|---|---|---|
| PRODUCT | | | USE | |
| Group | Name | % concentration | Permanently (+20°C) | Sporadically (+20°C) |
| Acids | Acetic acid | 2,5 | + | + |
| | | 5 | (+) | + |
| | | 10 | – | – |
| | Hydrochloric acid | 37 | + | + |
| | Citric acid | 10 | (+) | + |
| | Lactic acid | 2,5 | + | + |
| | | 5 | (+) | + |
| | | 10 | – | – |
| | Nitric acid | 10 | (+) | + |
| | | 50 | – | – |
| | Phosphoric acid | 40 | + | + |
| | | 75 | – | – |
| Alkalis | Ammonia in solution | 10 | + | + |
| | Caustic soda | | + | + |
| | Sodium hypochlorite in solution: Active chlorine: Active chlorine: | 6.4 g/l 162 g/l | (+) – | (+) – |
| | Potassium hydroxide | 50 | + | + |
| Saturated saline solutions at +20°C | Sodium hyposulphite | | + | + |
| | Calcium chloride | | + | + |
| | Ferric chloride | | + | + |
| | Sodium chloride | | + | + |
| | Sodium chromate | | + | + |

| | | | | |
|---|---|---|---|---|
| | Sugar | | + | + |
| | Aluminium sulphate | | + | + |
| Solvents | Acetone | | – | – |
| | Methylene glycol acetate | | – | – |
| | Perchloroethylene | | – | – |
| | Carbon tetrachloride | | – | – |
| | Ethyl alcohol | | (+) | + |
| | Trichloroethylene | | – | – |
| | Chloroform | | – | – |
| | Methylene chloride | | – | – |
| | Tetrahydrofurane | | – | – |
| | Toluene | | – | – |
| | Trichloroethane | | – | – |
| | Xylene | | – | – |
| | Hydrogen peroxide | 1 | + | + |
| | | 10 | + | + |
| Legend: + excellent resistance (+) good resistance – poor resistance | | | | |

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

| Kerapoxy Easy Design | | |
|---|---|---|
| **100** | WHITE | |
| **103** | MOON WHITE | |
| **111** | SILVER GREY | |
| **123** | ANCIENT WHITE | |
| **112** | MEDIUM GREY | |
| **113** | CEMENT GREY | |
| **114** | ANTHRACITE | |
| **127** | ARCTIC GREY | |

| | | |
|---|---|---|
| **110** | MANHATTAN 2000 | |
| **187** | LINEN | |
| **176** | GREEN-GREY | |
| **174** | TORNADO | |
| **125** | CASTLE GREY | |
| **119** | LONDON GREY | |
| **163** | LIGHT LILAC | |
| **168** | CERULEAN | |
| **167** | AVIO | |
| **169** | STEEL BLUE | |
| **172** | SPACE BLUE | |
| **177** | SAGE | |
| **130** | JASMINE | |
| **131** | VANILLA | |
| **137** | CARIBBEAN | |
| **132** | BEIGE 2000 | |
| **138** | ALMOND | |
| **141** | CARAMEL | |
| **142** | BROWN | |
| **189** | SPELT | |
| **133** | SAND | |
| **134** | SILK | |
| **188** | BISCUIT | |
| **135** | GOLDEN DUST | |
| **152** | LIQUORICE | |
| **144** | CHOCOLATE | |
| **149** | VOLCANO SAND | |

MAPEI®

| | | |
|---|---|---|
| **145** | TERRA DI SIENA | |
| **143** | TERRACOTTA | |
| **136** | MUD | |
| **120** | BLACK | |
| **150** | YELLOW | |
| **700** | TRANSLUCENT | |

All the colours in the **Kerapoxy Easy Design** range may be mixed with **MapeGlitter** or **Mapecolor Metallic** to create an even wider range of colours.
**N.B.**: *Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual product*

## 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.co.uk**

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

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