KERAPOXY

Two-component acid-resistant epoxy grout for joints of at least 1 mm. Can also be used as an adhesive





BENEFITS AND FEATURES

- Excellent resistance to chemicals
- High hygiene, HACCP-compliant
- High mechanical strength
- Waterproof and hygienic grouts
- Uniform colour that remains stable over the years

CLASSIFICATION IN COMPLIANCE WITH EN 13888

Kerapoxy is a reaction resin (R) grout (G) classified as RG.

CLASSIFICATION IN COMPLIANCE WITH EN 12004

Kerapoxy is an improved (2) reaction resin adhesive (R) and slip resistant (T) classified as R2T.

*Conformity of **Kerapoxy** is declared in TT certificate n° 25040322/Gi (TUM) issued by the Technische Universität München laboratory (Germany) and in TT certificates n° 2008-B-2748/7.1, 2008-B-2748/8.1 and 2008-B-2748/9.1 issued by the Institute MPA Dresden (Germany).*

WHERE TO USE

Indoor and outdoor grouting of ceramic tile and natural stone floors and walls. 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.

Kerapoxy 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.

Some application examples

- Grouting floors and walls in the food industry (dairies, abattoirs, breweries, wine cellars, conserved-food plants, etc.), shops and areas where hygiene is required (ice-cream shops, butchers, fish vendors, etc.).
- Grouting industrial floors and walls (electrical industries, tanneries, battery rooms, paper mills, etc.), where high mechanical resistance and resistance to acid attack is required.
- Grouting swimming pools; particularly suitable for basins containing salt or thermal water.

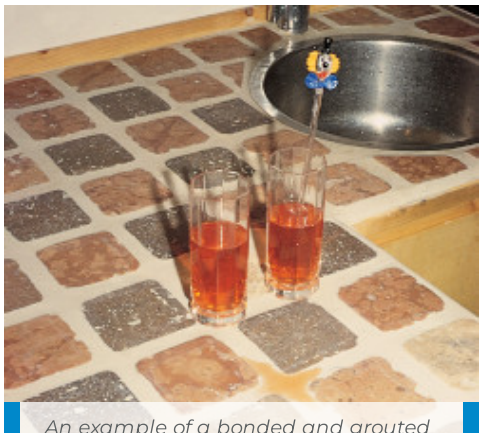
- Grouting tanks containing aggressive chemicals (purification plants, etc.).
- Grouting ceramic tiles on laboratory benches, kitchen work surfaces, etc.
- Acid-resistant bonding of tiles (used as an adhesive in compliance with class R2T specification according to EN 12004 standard).
- Bonding marble doorsteps and window sills.
- Bonding tiles in plastic reinforced with fibre glass swimming pools.
- Bonding special pieces of tiles.



An example of a grouted battery room



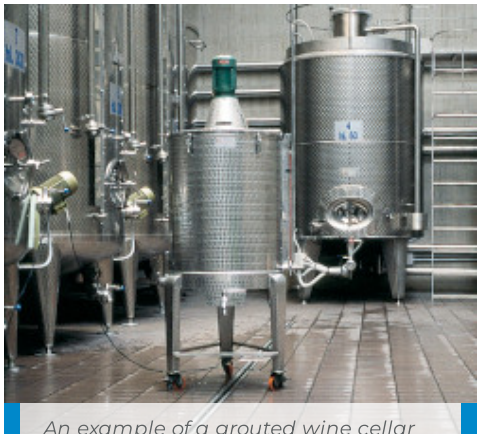
An example of grouted ornamental stones



An example of a bonded and grouted kitchen worktop



An example of a grouted brewery floor



An example of a grouted wine cellar floor

TECHNICAL CHARACTERISTICS

Kerapoxy is a two-component, epoxy-resin-based product with silica sand and special components, with excellent resistance to acids and excellent cleanability.

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

The following features are obtained when used correctly:

- excellent mechanical and chemical resistance, therefore excellent durability;
- a smooth final surface with low water absorption, therefore easy to clean; ensures hygiene;
- easy workability and finishing;
- becomes very hard and is highly resistant to heavy traffic;
- no shrinkage, therefore absence of cracks and fissures;
- uniform colours that are resistant to ultraviolet rays and atmospheric agents;
- excellent bonding.

RECOMMENDATIONS

- Thanks to the tiles' reduced thickness, **Kerapoxy** can also be used for grouting glass mosaics.
- When grouting ceramic tiled floors and walls subject to oleic acid attack (e.g. ham and sausage industries, oil mills, etc.) and aromatic hydrocarbons, **Kerapoxy IEG** can be used (available in 113 or 130 reference colour of MAPEI range).
- For flexible expansion joints or joints subject to movement, use an elastic sealant from the MAPEI line (e.g. **Mapesil AC**, **Mapesil LM**).
- **Kerapoxy** does not ensure perfect adhesion when used for grouting tiles with wet edges or contaminated with cement, dust, oil, grease, etc.
- Unglazed klinker tiles should be grouted with the same colour tone **Kerapoxy**. All other colours should be used only with glazed tiles.
- Do not use **Kerapoxy** for grouting terracotta tiles because they are difficult to clean.
- Make preliminary sample tests before grouting porcelain tiles with a contrasting colour of **Kerapoxy** (e.g. black on white).
- Always carry out preliminary tests before grouting stone or ground porcelain with a porous or rough surface.
- Do not add water or any solvents to **Kerapoxy** to make it more fluid.
- Use the product in temperatures between +12°C and +30°C.
- The quantities are already in the correct proportions; therefore, mistakes should not be made. Do not guess the quantities when mixing the two components. A wrong catalyst ratio could impair the hardening process.
- When removing already cured **Kerapoxy** from the joints, use a hot-air industrial dryer. Remove hardened **Kerapoxy** from the tiles with **Pulicol 2000.**
- When grouting large floor surface areas, it is recommended to use **Kerapoxy Easy Design**, because it is very easy to apply and to clean.

APPLICATION PROCEDURE

Preparing the joints

The joints must be dry, clean, free of dust and emptied to at least 2/3 of the tile thickness. The excess adhesive or mortar should be removed while still fresh.

Before grouting, make sure that the installation mortar or the adhesive has set and released most of its moisture.

Kerapoxy is not affected by the moisture on the surface; the joints should not be wet during work.

Preparation of the mix

Pour the hardener (component B) into the container of component A and mix well until a smooth paste is obtained. For perfect mixing and to avoid overheating of the mixture, which could reduce working time, a low-speed electric mixer should be used. Use the paste within 45 minutes of mixing.

Application

Spread **Kerapoxy** with an appropriate float **Mapei Rubber Float dual profile for Grout** or **Mapei Rubber Float for Kerapoxy Grouts**, making sure the joints are completely filled. Use the same float, but on edge, to remove excess grout.

Finishing

After grouting with **Kerapoxy**, floors and walls should be cleaned immediately, before the product dries.

Wet the surface thoroughly and emulsify with the float with abrasive pad **Mapei Scotch Brite Clean Grout KIT**, making sure not to wash out the joints. When cleaning walls, the cleaning pad should be fully soaked with water. The excess liquid can be removed with the hard cellulose sponge **Mapei CELLULOSE Cleaning Grout Sponge**, and it should be replaced when too full of resin. Use the same type of sponge for the final tooling of the grout.

It is very important that, once the finishing process has ended, no traces of **Kerapoxy** are left on the tile surface because it will be very difficult to remove. It is therefore necessary to frequently rinse the sponge with clean water during the cleaning process.

When finishing large floor surface areas, use a rotary, disc-type power float with Scotch-Brite® abrasive pads, well saturated with water. All excess liquid can be removed with 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**, a 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.



*Grouting of single fired tile wall with float **Mapei Rubber Float dual profile for Grout***



*Finishing of single fired tile wall with the float with abrasive pad **Mapei Scotch Brite Clean Grout KIT***



*Finishing of single fired tile wall with **Mapei CELLULOSE Cleaning Grout Sponge***



Finishing a porcelain tiled floor with single-brushed power float or rubber squeegee



*Grouting a ceramic tile floor with wood inlays with **Mapei Rubber Float dual profile for Grout***



*Finishing a ceramic tile floor with wood inlays with **Mapei Cellulose Sponge for Grout Cleaning***

APPLICATION PROCEDURE AS AN ADHESIVE

After mixing the two components as described above, spread the adhesive with **Mapei Wooden Handle Trowel**. Apply the tile under firm pressure to ensure good contact. After setting, the bond becomes extremely strong and resistant to chemical agents.

SET TO LIGHT FOOT TRAFFIC

At +20°C, floors are set to light foot traffic after 24 hours.

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. Times may vary according to the temperature.

CLEANING

Clean tools and containers with plenty of water before **Kerapoxy** hardens. When **Kerapoxy** has hardened, removal is only possible by mechanical means or with **Pulicol 2000**.

CONSUMPTION

Consumption of **Kerapoxy** varies depending on the width of the joints, the size and thickness of the tiles. The table shows consumption in kg/m².

When **Kerapoxy** is used as an adhesive, consumption is 2-4 kg/m².

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 (in mm)

B = width of the tile (in mm)

C = thickness of the tile (in mm)

D = width of the joint (in 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.

PACKAGING

Kerapoxy is supplied, with mixing proportions carefully measured, in drums containing component A and bottles of component B to be mixed when using the product.

The total weight of the units is: 10, 5 and 2 kg in total.

COLOURS

Kerapoxy is available in 12 colours from the "MAPEI Coloured Grouts" range.

Kerapoxy		
100	WHITE	
110	MANHATTAN	
111	SILVER GREY	
112	MEDIUM GREY	
113	CEMENT GREY	
114	ANTHRACITE	
120	BLACK	
130	JASMINE	
132	BEIGE 2000	
141	CARAMEL	
142	BROWN	
144	CHOCOLATE	

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 can be stored 24 months in a dry place in original packaging.

Store component A at a temperature of at least +10°C to avoid crystallisation which, however, can be reversed by warming.

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 R2T
– ISO 13007 as R2T
– European EN 13888 as RG
– ISO 13007 as RG

PRODUCT IDENTITY		
	component A	**component B**
Consistency:	thick paste	dense liquid
Colours:	available in 12 colours	
Density (g/cm³):	1.64	0.97
Dry solids content (%):	100	100
Brookfield viscosity (mPa·s):	3,500,000	900
EMICODE (as a grout):		

APPLICATION DATA (at +23°C and 50% R.H.)	
Mix ratio:	component A : component B = 9 : 1
Consistency of mix:	thick paste
Density of mix (kg/m³):	1,550
Pot life:	45 mins.
Application temperature:	from +12°C to +30°C
Open time (as an adhesive):	30 mins.
Adjustability time (as an adhesive):	60 mins.
Set to ligh foot traffic:	24 h

Ready for use:	4 days (10 days for basins and swimming pools). Times may vary according to the temperature.

FINAL PERFORMANCE	
Shear adhesion strength (N/mm²):	
– initial:	25
– after water immersion:	23
– after thermal shock:	25
Flexural strength (N/mm²):	31
Compressive strength (N/mm²):	55
Resistance to abrasion (loss in mm³):	147
Water absorption (g):	0.05
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)
Temperature in use:	from -20°C to +100°C

CHEMICAL RESISTANCE OF CERAMIC TILING GROUTED WITH KERAPOXY*

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	5	+	(+)	+
	permanganate	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 13888-2 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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