

KERAPOXY

Two-component acid-resistant epoxy grout (available in 13 colours) for joints of at least 3 mm. Can also be used as an adhesive



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 **ITT** certificate n° **25040322/Gi (TUM)** issued by the Technical University of Munich laboratory (Germany) and in **ITT** 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).

CLASSIFICATION IN COMPLIANCE WITH IS 15477

Kerapoxy is a two-component acid-resistant epoxy grout of Type 5T.

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 regarding hygiene and 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 windowsills.
- Bonding tiles in plastic reinforced by fibre glass swimming pools.
- Bonding special pieces of tiles.



An example of a grouted battery room



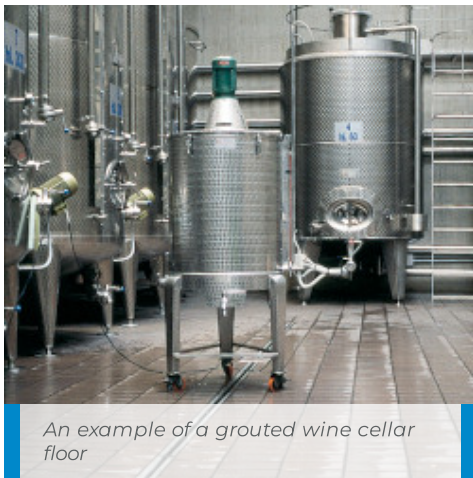
An example of grouted ornamental stones



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 emission of volatile organic compounds and is classified **Emicode EC1 R 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 ultra-violet rays and atmospheric agents.
- Excellent bonding.

RECOMMENDATIONS

- Because of the tessera's reduced thickness, **Kerapoxy** can also be used for grouting glass mosaics with joints less than 3 mm.
- When grouting ceramic tiled floors and walls subject to oleic acid attack (e.g. ham and sausage industries, oil-mills, etc.) and aromatic hydrocarbon, **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, Mapeflex PU45 FT or Mapeflex PU21).

- **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 catalysis ratio could impair the hardening process.
- When removing already cured **Kerapoxy** from the joints, use a hot air industrial drier. Remove hardened **Kerapoxy** from the tiles with **Pulicol 2000**.
- When grouting large floor surface areas, it is recommended to use **Kerapoxy P**, available in grey 113 of MAPEI range (other colours are available upon request for quantities higher than 300 kg) because it is very fluid and easy to apply.

APPLICATION PROCEDURE

Preparing the joints

The joints must be dry, clean, free of dust and emptied 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.

Preparing the mix

Pour all the hardener (component B), into a bucket containing component A and mix well until a smooth paste is obtained. For perfect mixing and avoiding overheating of the mixture, which could reduce working time, a low speed electric stirrer should be used. Use the paste within 45 minutes from mixing.

Applying the grout

Spread **Kerapoxy** with the appropriate MAPEI float, 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 an abrasive pad for cleaning joints (such as Scotch-Brite® or MAPEI tile-joint cleaning kit), making sure not to wash-out the joints. When cleaning walls, the cleaning pad should be fully soaked with water.

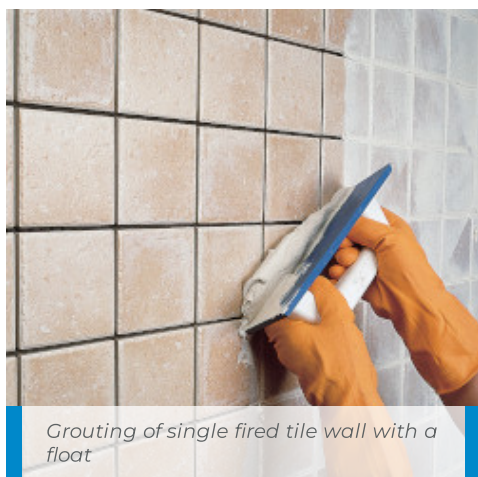
The excess liquid can be removed with a hard cellulose sponge (e.g. MAPEI sponge), and should be replaced when too full of resin. Use the same type of sponge for the final tooling of the grout. It is very important that once the finishing the process has ended, no traces of **Kerapoxy** are left on the 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.

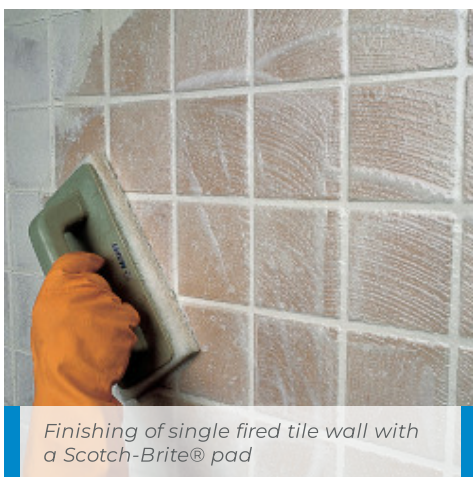
When finishing large floor surface areas, use a rotary, disc-type power float with Scotch-Brite® abrasive pads, well saturated with water. All excess liquid can be removed with a rubber squeegee.

The final cleaning cycle may be carried out using **Kerapoxy Cleaner** (special cleaning solution for epoxy grout). **Kerapoxy Cleaner** may also be used to remove thin residues of grout several hours after application. In such cases, the product must be left to react for longer (15-20 mins.).

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



Grouting of single fired tile wall with a float



Finishing of single fired tile wall with a Scotch-Brite® pad



Finishing of single fired tile wall with a sponge



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



Grouting a ceramic tile floor with wood inlays with a trowel



Finishing a ceramic tile floor with wood inlays with a sponge

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

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

READY FOR USE

4 days. Surfaces can also undergo chemical attack after 4 days.

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.

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 20 colours from the "MAPEI Coloured Grouts" range.

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 13007-1 as R2T
- European EN 13888 as RG
- ISO 13007-3 as RG

PRODUCT IDENTITY

	component A	component B
Consistency:	thick paste	dense liquid
Colour:	17 colours available	
Density (g/cm ³):	1.64	0.97
Dry solids content (%):	100	100
Brookfield viscosity (mPa·s)	3,500,000	900
EMICODE (as a grout):	EC1 Plus - very low emission	

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/m ³):	1,550	
Pot life:	45 minutes	
Application temperature:	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 for basins and swimming pools).	
	Times may vary according to the temperature.	

FINAL PERFORMANCE

Shear adhesion strength according to EN 12003 (N/mm ²):	25
– initial:	23
– after water immersion:	25
– after thermal shock:	
Flexural strength (EN 12808-3) (N/mm ²):	31
Compressive strength (EN 12808-3) (N/mm ²):	55
Resistance to abrasion (EN 12808-2):	147 (loss in mm ³)
Water absorption (EN 12808-5) (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

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:

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 (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.

CHEMICAL RESISTANCE OF CERAMIC TILING GROUTED WITH KERAPOXY*					
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	+	+	+
Alkalies	Ammonia in solution	25	+	+	+
	Caustic soda	50	+	+	+
	Sodium hypochlorite in solution: 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 – poor resistance (+) good resistance					

* Evaluated in compliance with EN 12808-1 standards

TEST CONDUCTED	Requirement as per IS 15477 : 2019	Average Test Results
Tensile adhesion (N/mm²):	TYPE 5T	Tests Exceeded
-Dry Condition	Min 2.0	
Shear Adhesion (N/mm²):		
-Dry Condition	7.63	
-Heat Ageing condition	4.32	
Open Time (minutes)	Not Specified	30
Adjustability (minutes)	Not Specified	65
Slip (mm) 0.1	Shall not be more than 0.5 mm	0.1

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.

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.

141-10-2018 (GBxIN)

Any reproduction of texts, photos, and illustrations published here is prohibited and subject to prosecution.

