

KERAPOXY IEG

Two-component, extremely high chemical resistance epoxy grout for tile joints at least 3 mm wide



CLASSIFICATION ACCORDING TO EN 13888

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

WHERE TO USE

Acid-resistant grouting with extremely high chemical resistance, for ceramic and stone material floors where higher resistance to chemical products compared with conventional epoxy grouting compounds is required, and in particular to oleic acids and aromatic hydrocarbons.

Kerapoxy IEG allows you to create floors, 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 ceramic floor coverings in ham curers, especially in the areas where trimming, boning and curing are carried out, where the grout comes into contact with animal fats for long periods and is subject to frequent washing with high-pressure jets of hot water.
- Grouting ceramic floors in sausage factories, especially where cooking takes place (mortadella, etc.) where the grout is subject to the combined action of oleic acid and high temperatures.
- Grouting ceramic floors in oil mills.
- Grouting ceramic floors in pickling factories.

TECHNICAL CHARACTERISTICS

Kerapoxy IEG is a two-component, epoxy resin-based product with very low emission of volatile organic compounds, with silica sand and special admixtures. It forms highly compact tile joints with excellent resistance to chemical products and which are very easy to clean, according to a formula developed in MAPEI research laboratories. It is a product with very low emission of volatile organic compounds, classified as Emission Code EC1 Plus by GEV.

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

- extremely high mechanical strength and resistance to chemicals, higher than conventional epoxy grouts
- smooth, compact final surface which is non-absorbent and easy to clean, to guarantee a high level of hygiene;
- easy to work with and finish off;
- high degree of hardness, excellent resistance to heavy traffic;
- no shrinkage and, therefore, no cracking.

RECOMMENDATIONS

- Use a flexible sealant from the MAPEI range for flexible expansion joints or for joints subject to movement.
- **Kerapoxy IEG** does not guarantee perfect bonding if the edges of the tiles are wet or contaminated with cement, dust, oil, grease, etc. during grouting.
- 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 IEG** to increase workability.
- Use the product at temperatures of 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. Do not rough guess the quantities when mixing the two components: hardening will be compromised if the catalysing ratio is wrong.
- The modulus of elasticity of **Kerapoxy IEG** is higher compared with **Kerapoxy**: therefore, more expansion joints must be included.

APPLICATION PROCEDURE

Preparation of the joints

The joints must be clean, free of 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 have set and most of the humidity has been lost.

Kerapoxy IEG 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 with component A and mix well until a smooth paste is obtained. We recommend using a low-speed electric mixer to guarantee perfect bonding, and to avoid overheating of the mix which would reduce working times. Use the mix within 45 minutes of its preparation.

Application

Spread **Kerapoxy IEG** with a special MAPEI trowel, making sure that the joints are filled right down to the bottom.

With the edge of the same trowel, remove excess material.

The surrounding temperature and the temperature of the tiles have a considerable influence on setting times, workability and cleaning of **Kerapoxy IEG**.

Finish

After grouting with **Kerapoxy IEG**, floors and finishes must be carried out while still “fresh”, by forming an emulsion with water. Solvents must not be used, a further advantage for the environment and user.

Wet and emulsify the grouted surface, using a Scotch-Brite® pad if necessary, taking care not to remove material from the joints. 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®.

The residual liquid may be removed with a hard, cellulose sponge (for example a MAPEI sponge). Replace the sponge when it becomes too impregnated with resin. Use the same sponge to even out the grouted joints.

After the finishing operation, it is very important that no traces of **Kerapoxy IEG** remain on the surface. Once hardened, it is very difficult to remove. Therefore, rinse the sponge often with clean water during cleaning.

Residual liquid may be drawn off using a rubber squeegee.

SET TO LIGHT FOOT TRAFFIC

Floors are set to light foot traffic after 24 hours at +23°C.

READY FOR USE

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

After 4 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 IEG** has set, they may only be cleaned mechanically.

CONSUMPTION

The consumption of **Kerapoxy IEG** varies according to the size of the joints and the shape of the tiles, and must be calculated by considering a density of 1430 kg/m³.

The table below shows approximate consumption levels in kg/m² of some types of floor, according to the size and thickness of the tiles.

PACKAGING

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

The product is supplied in 10 kg kits.

COLOURS

Kerapoxy IEG is available in colours 113 and 130 from the MAPEI range.

STORAGE

Kerapoxy IEG may be stored for up to 24 months in its original packaging in a 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)

Complies with the following standards:

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

PRODUCT IDENTITY

	component A	component B
Consistency:	thick paste	thick paste
Colour:	113 and 130 from the MAPEI range	
Density (g/cm ³):	1.65	1.61
Dry solids content (%):	100	100
Brookfield viscosity (Pa·s):	thick paste	650

EMICODE:

EC1 Plus - very low emission

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

Mixing ratio:	component A : component B = 80 : 20
Consistency of the mix:	very thick
Density of mix (kg/m ³):	1,430
Pot life of mix:	45 minutes
Application temperature range:	from +12°C to +30°C
Set to light foot traffic:	24 hours
Ready for use:	4 days

FINAL PERFORMANCE

Flexural strength (EN 12808-3) (N/mm ²):	35
Compressive strength (EN 12808-3) (N/mm ²):	80
Resistance to abrasion (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 oils:	excellent (refer to table)
Resistance to acids and alkalis:	excellent (refer to table)
In service temperature range:	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
75 x 150 x 6	0.5	0.9	–	–
100 x 100 x 6	0.5	0.9	–	–
100 x 100 x 10	0.9	1.4	–	–
100 x 200 x 6	0.4	0.6	–	–
100 x 200 x 10	–	1.1	1.7	2.1
150 x 150 x 6	0.3	0.6	–	–

200 x 200 x 8	0.3	0.6	–	–
120 x 240 x 12	–	1.1	1.7	2.1
250 x 250 x 12	–	0.7	1.1	1.4
250 x 330 x 8	0.2	0.4	0.6	0.8
300 x 300 x 8	0.2	0.4	0.6	0.8
300 x 300 x 10	0.3	0.5	0.8	1.0
300 x 600 x 10	0.2	0.4	0.6	0.7
330 x 330 x 10	0.3	0.4	0.7	0.9
400 x 400 x 10	0.2	0.4	0.6	0.7
450 x 450 x 12	–	0.4	0.6	0.8
500 x 500 x 12	–	0.3	0.5	0.7
600 x 600 x 12	–	0.3	0.5	0.6

FORMULA FOR THE COVERAGE CALCULATION:

$$\frac{(A + B)}{(A \times B)} \times C \times D \times 1.4 = \frac{\text{kg}}{\text{m}^2}$$

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)

CHEMICAL RESISTANCE OF CERAMIC TILING GROUTED WITH KERAPOXY IEG*

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	+	(+)	+
		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

Kerapoxy IEG		
113	CEMENT GREY	
130	JASMINE	

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

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The most up-to-date TDS can be downloaded from our website www.mapei.com.

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