



# Mapedrain 3K Grout

**Three-component drainage epoxy mortar for grouting stone paving slabs with joints wider than 5 mm, subject to medium intensity stresses**



## WHERE TO USE

Grouting all types of internal and external paved floors (klinker, cement-based composites, porphyry slabs and blocks, etc.) subject to medium intensity stresses and traffic.

## Some application examples

**Mapedrain 3K Grout** is used to create a drainage grouting mortar for use on paved surfaces subject to medium intensity stresses, such as:

- steps, pavements and terraces laid directly on the ground;
- courtyards and pedestrian entrances and/or subject to occasional vehicular traffic;
- public pedestrian zones, including those exposed to adverse weather conditions;
- terraces and balconies with the following construction: sloping layer (minimum 2%), waterproofing layer, isolating drainage screed (with a thickness of at least 50 mm) made from **Mapedrain Mortar**, and a finishing layer of ceramic or stone laid using **Elastorapid** or **Granirapid**.

## TECHNICAL CHARACTERISTICS

**Mapedrain 3K Grout** is a three-component, epoxy resin-based mortar with quartz and special admixtures, according to a formula developed in MAPEI's own research laboratories.

When the three components are mixed smoothly by

adding water (approximately 10% of the A+B+C mix), a solvent-free, emulsifying epoxy mortar is obtained, with a smooth, workable consistency without shrinkage or cracks.

**Mapedrain 3K Grout** forms a very good bond with the edges of the slabs and hardens quickly, to develop high wear resistance, good mechanical strength and excellent drainage properties. The characteristics of **Mapedrain 3K Grout** make the grout particularly resistant to cleaning operations carried out using road cleaning machines.

Thanks to the permeability which characterises this product, rainwater penetrates quickly into the substrate without leaving puddles on the surface.

**Mapedrain 3K Grout** is resistant to freeze/thaw cycles and adverse weather conditions and is suitable for both internal and external applications. Also, thanks to its special properties, grout made using **Mapedrain 3K Grout** is resistant to the formation of weeds and moss and is not washed away over the years, which makes maintenance easier and more cost effective compared with conventional grout.

## RECOMMENDATIONS

- **Mapedrain 3K Grout** must not be either manually or mechanically compacted: if the product is compacted, its capacity of dispersing rainwater and of drainage will be reduced.
- Do not lay the product if it is about to rain or if it will be continuously exposed to sunlight, unless some form of protection is employed.



# Mapedrain 3K Grout



Mixing component A with component B



Mixing component A with mixture A+B



Adding water to the mixture

- Do not apply the product if the temperature is lower than +8°C or higher than +30°C.
- Do not use **Mapedrain 3K Grout** if the substrate on which the floor is to be laid is not a drainage type.
- Do not use **Mapedrain 3K Grout** to grout special paved drainage floors, the product may reduce the permeability of the slabs.
- Do not mix **Mapedrain 3K Grout** with solvents or with other products.
- If the product is applied at low temperatures, the components tend to increase its viscosity: in these cases, the product will be more workable if it is immersed in hot water.
- After applying **Mapedrain 3K Grout** on the surface of the slabs, stains may appear on it or their colour may be altered if they are not treated with **Mapedrain EasyClean** beforehand. However, these effects will be worn away with use and due to the action of adverse weather conditions.

## APPLICATION PROCEDURE

### Preparation of the substrate

The substrate on which the floor is to be laid must be of the drainage type, and suitable to withstand the loads foreseen. The substrate must be solid enough to ensure that permanent loads or pools of water do not cause it to subside.

The floor must be laid according to careful laying techniques, so that the tile joints are not damaged once they have been completed.

### Preparation of the joints

The joints must be carefully cleaned and raked out before grouting. They must be at least 5 mm wide and 30 mm deep. If the joints are wider than 15 mm, they must be at least twice as deep, otherwise the **Mapedrain 3K Grout** grout mix may not penetrate down through the entire thickness and leave voids. After freeze/thaw cycles water which remains in these voids may cause fracture of the joints.

If the product is used to repair the grout of an old slab, the joints must be emptied beforehand and the surfaces and edges must be carefully cleaned.

Before grouting the joints, the surface of the floor must be wetted uniformly, but avoiding pools of water in the joints.

### Preparation of the mix

The three components which make up **Mapedrain 3K Grout** are supplied in pre-dosed packages at the correct mixing ratio. Add all the catalyst component B into the tub of component A and mix with a low-speed mechanical mixer (400 rpm max) until a smooth blend is obtained.

Pour the blend into a bucket and add component C, and mix with a mechanical mixer until a smooth blend is obtained. Then add approximately 2.5 kg of water and mix again for 3 minutes until a uniform blend is

obtained (white foam may form on the surface).

Preparation of the blend may be carried out in a cement mixer.

## Application

Before applying **Mapedrain 3K Grout**, spray plenty of water on the slabs which will be used for the floor, in order to form a surface film.

While the surface is still wet, apply **Mapedrain 3K Grout** on the surface and in the joints using a rubber trowel or rake, making sure that the joints are completely filled. If the joints are narrow, the grout may fall out and will have to be applied again.

## Finish

Within 15 minutes of applying **Mapedrain 3K Grout**, clean any product residues from the surface of the slabs with a broom.

Clean the surface again with a broom after 5-10 minutes if foam forms again on the surface.

Do not manually or mechanically compact the product into the joints to avoid its drainage capacity being reduced.

Protect the joints from rain and dust for at least 12 hours after grouting.

If efflorescence forms within a few days of laying, and after the product has hardened, it may be removed by washing the surface with soap.

## SET TO LIGHT FOOT TRAFFIC

The grouted surface may be stepped on after 24 hours (at +23°C and 50% relative humidity). These times may vary according to the ambient temperature.

## READY FOR USE

The surface may be put into service after 3 days and may be driven on after 7 days (at +23°C and 50% relative humidity). These times may vary according to the ambient temperature.

## Cleaning

Tools and containers may be cleaned while the product is still fresh using plenty of water. Once **Mapedrain 3K Grout** grout has set, they may only be cleaned mechanically.

## CONSUMPTION

Consumption depends on the width of the joints and the size of the slabs.

## PACKAGING

**Mapedrain 3K Grout** is supplied in pre-dosed packages according to the correct mixing ratio.

The product is available in 27.4 kg kits (component A: 1.7 kg + component B: 0.7 kg + component C : 25 kg).

## STORAGE

**Mapedrain 3K Grout** remains stable for at least 24 months if stored in its original, sealed packaging. Store component A at a temperature of at least +10°C to avoid crystallisation of the product, reversible by heating up.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	comp. A	comp. B	comp. C
<b>Consistency:</b>	viscous liquid	liquid	quartz
<b>Colour:</b>	pale yellow	transparent	sand-grey-anthracite
<b>Density (g/cm<sup>3</sup>):</b>	1.18	1.0	1.50
<b>Dry solids content (%):</b>	100	100	100
<b>Brookfield viscosity (mPa·s):</b>	400-500	15-25	quartz
<b>Storage:</b>	24 months in its original, closed containers. Store component A at a temperature of at least +10°C to avoid crystallisation of the product; reversible by heating up		
<b>Hazard classification according to EC 1999/45:</b>	irritant, hazardous, corrosive for the environment		none
	Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet		
<b>Customs class:</b>	3506 99 00		

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

<b>Mixing ratio:</b>	comp. A: comp. B: comp. C = 6.20 : 2.55 : 91.25
<b>% in weight of water:</b>	10
<b>Brookfield viscosity of mix (mPa·s):</b>	5,000
<b>Density of mix (kg/m<sup>3</sup>):</b>	1,300
<b>Pot life of mix:</b>	40 minutes
<b>Application temperature range:</b>	from +8°C to +30°C
<b>Set to light foot traffic:</b>	24 hours
<b>Ready for use:</b>	3 days

### FINAL PERFORMANCE

<b>Flexural strength after 28 days (N/mm<sup>2</sup>) (EN 12808-3):</b>	12
<b>Compressive strength after 28 days (N/mm<sup>2</sup>) (EN 12808-3):</b>	30



Grouting blocks on the substrate with Mapedrain 3K Grout



Spreading with rakel trowel



Cleaning Mapedrain 3K Grout with a site broom

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## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapedrain 3K Grout** component A is an irritant for the eyes and skin. Component B is corrosive and may cause severe burns. It is also harmful if it comes into contact with the skin or if swallowed or inhaled. Both component A and component B may provoke rashes in those subjects who are allergic to such substances.

Use protective clothing, gloves and goggles and only work in well ventilated environments. If the product comes into contact with the eyes, rinse well with plenty of clean water and seek medical advice.

**Mapedrain 3K Grout** component A is hazardous for aquatic life. Do not dispose of the product in the environment. Further information is available on the product's Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

## WARNING

*While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use this product, must ensure beforehand that it is suitable for the intended application and, in all cases, the user is to be held responsible for any consequences deriving from its use.*

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

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