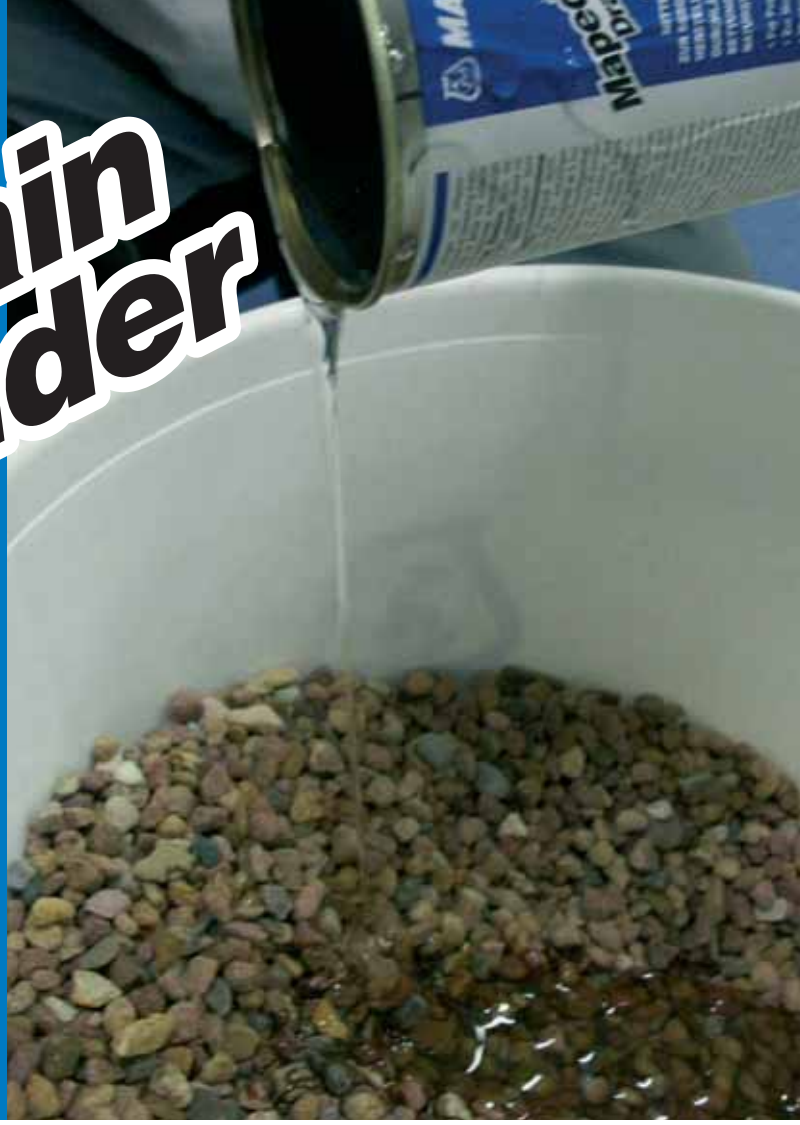
MAPEI

Mapedrain Binder



Solvent-free, single component polyurethane binder for mixing drainage mortar and grout for stone paving slabs

WHERE TO USE
- Creation of mortar drainage beds for laying all types of traditional external paved floors (slabs and blocks in porphyry, cement-based composites and dimensionally-stable stone not subject to variations in colour).
- Mixing drainage grout for tile joints (minimum width 10 mm) for external floors subject to pedestrian traffic (terraces, drives, courtyards and pedestrian zones).

Some application examples
Laying and grouting paved floors subject to low and medium intensity stresses (residential drives, pavements and terraces laid directly on the ground, courtyards and entrance areas used by pedestrians and/or occasional vehicular traffic, and public pedestrian zones, including those exposed to bad weather).

TECHNICAL CHARACTERISTICS
Mapedrain Binder is a solvent-free, single component polyurethane binder. When mixed with inert materials with a suitable grain size, it forms a drainage mortar for laying and grouting traditional paved floors.
Mortar made using **Mapedrain Binder** is characterised by its high permeability and by the fact that it is not at risk from capillary action. Therefore, the risk of deterioration of the floor due to the formation of surface efflorescence and freeze/thaw cycles is reduced. Grouting mortar mixed using **Mapedrain Binder** is also particularly resistant to cleaning operations using road sweepers and cleaners and de-icing salts. It is not washed away with time and it is not subject to the formation of weeds or moss.

RECOMMENDATIONS
- Do not mix **Mapedrain Binder** with solvents, water or other substances.
- Do not use mortar prepared with **Mapedrain Binder** once it starts becoming sticky (30-50 minutes after mixing).
- Use the product at a temperature of between +5°C and +30°C.

APPLICATION PROCEDURE
Preparation of the mix
Pour **Mapedrain Binder** into a clean container with the required quantity of quartz sand and gravel. The grain size of the aggregates and dosage of **Mapedrain Binder** depends on the final use of the mortar to be prepared (laying bed or for grouting) and on the thickness to be laid.
If a drainage grout is required, the joint must be 3 to 5 times wider than the maximum grain size of the aggregate.
The correct dose is 1.75 kg of **Mapedrain Binder** for every 50 kg of aggregate.
If used for a drainage laying surface, the diameter of the aggregate must be 2 to 4 mm for thicknesses up to 20 mm and 4 to 8 mm for thicknesses from 20 to 50 mm. The dosage in this case is 1 kg of **Mapedrain Binder** for every 50 kg of aggregate.
Mix with a low-speed mixer until a homogenous mix is obtained. Only mix the amount of product which will be used within 30-50 minutes. Do not use the mix once it has started becoming sticky.

Application of the product
- **As a drainage bed**
  Apply the mortar prepared using **Mapedrain Binder** on a substrate which has been dampened beforehand.
  Lay the blocks of porphyry or stone slabs on the bed of mortar while still fresh and make sure they are well beaten in. The joints must be grouted after at least 24 hours using a suitable drainage grout.

- **As a drainage grout**
  The joints must be carefully cleaned and scraped before grouting. They must be at least 10 mm wide, and in all cases 3-5 times the diameter of the largest aggregates. The depth of the joints must be at least 30 mm for floors subject to light stresses and 50 mm for medium intensity stresses. Apply the mortar mixed using **Mapedrain Binder** in dry joints with a rubber trowel or rake, making sure that the joints are completely filled. If the joints are

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TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Consistency:	liquid
Colour:	transparent
Dry solids content (%):	100
Storage:	12 months in original packaging in a dry place
Hazard classification according to EC 1999/45:	harmful. Before using refer to the “Safety instructions for preparation and application” paragraph and the information on the packaging and Safety Data Sheet
Customs class:	3824 50 90
APPLICATION DATA (at +23°C and 50% R.H.)	
Mixing ratio:	1.75 kg of **Mapedrain Binder** for every 50 kg of aggregate (for drainage laying surfaces) 1 kg of **Mapedrain Binder** for every 50 kg of aggregate (for drainage joints)
Pot life of mix:	30-50 minutes
Application temperature range:	from +5°C to +30°C
Step-on time:	24 hours
Waiting time before putting into service:	7 days

too narrow, the product may fall out after grouting and it will be necessary to repeat application.
Within 30 minutes of applying the mortar mixed using **Mapedrain Binder**, clean off residues from the surface of the slabs using a broom.
Protect the joints from rain and dust for at least 24 hours after grouting. If the joints come into contact with water too early, they may become yellow.
After 24 to 48 hours, and only once the product has hardened, clean the treated surface with water.

CONSUMPTION

For drainage laying beds: ca. 0.6 kg/m² per cm thickness.
For drainage grouts:
- 5/7 paved surfaces (average dimension of the block: 5-7 cm): approx. 0.5 kg/m² of **Mapedrain Binder** (approx. 15 kg of aggregate);
- 10/11 paved surfaces (average dimension of the block: 10-11 cm): approx. 0.3 kg/m² of **Mapedrain Binder** (approx. 10.5 kg of aggregate);
- 14/17 paved surfaces (average dimension of the block: 14-17 cm): approx. 0.2 kg/m² of **Mapedrain Binder** (approx. 7 kg of aggregate).

Cleaning

Tools may be cleaned using water while the product is still fresh. Once hardened, the product may only be removed mechanically.

PACKAGING

5 and 10 kg drums, 0.75 kg tins.

STORAGE

Mapedrain Binder remains stable for at least 12 months if stored in a dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapedrain Binder is irritant for the eyes and skin and harmful if inhaled. Repeated contact with the skin may cause allergic reactions to those who are sensitive to isocyanate. While handling and mixing the components avoid contact with the skin and eyes by always using protective gloves and goggles while laying and preparing the material. Use in well-ventilated areas. If the product is used at temperatures higher than +60°C it becomes harmful and it sensitizes when inhaled. In case of accident consult a doctor.
For further information refer to the Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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.

All relevant references for the product are available upon request and from www.mapei.com



Draining effect of laying bed prepared with crushed stones and Mapedrain Binder

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