

Mapegrout MS

Cementitious fibre-reinforced thixotropic mortar with added micro-silicates

WHERE TO USE

- Smoothing surface defects in concrete.
- As a render on uneven concrete surfaces.
- As a covering in canals, hydraulic installations and other areas subject to constant water pressure.

Some application examples

- Smoothing of walls before painting.
- Smoothing of tunnels and diaphragm walls.
- Levelling of vertical or horizontal surfaces subjected to heavy abrasion.
- Filling of rigid joints.

TECHNICAL CHARACTERISTICS

Mapegrout MS is a ready-to-use powder based on high-resistance cements, selected aggregates, special pozzolanic reactive additives, and synthetic fibres created according to a formula developed in the MAPEI Research Laboratories.

When mixed with water **Mapegrout MS** becomes an easily workable mortar ideal for application on vertical and horizontal surfaces with a spatula, a notched trowel, or a spray machine.

Once hardened, **Mapegrout MS** has the following properties:

- high flexural and compressive strength;
- modulus of elasticity and coefficient of thermal expansion similar to that of high-quality concrete;

- good impermeability to water;
- high adhesion strength to concrete;
- high resistance to wear through abrasion;
- excellent resistance to environmental aggressive chemicals (chlorides, sulphates).

Mapegrout MS is recommended for thicknesses of up to 30 mm per layer. For **Mapegrout MS** layers thicker than 30 mm add 30% of fine gravel with a maximum diameter of 8 mm.

RECOMMENDATIONS

- Do not add cement or additives to **Mapegrout MS**.
- Do not add water after the mix has started to set.
- Do not apply **Mapegrout MS** at temperatures below +5°C.

APPLICATION PROCEDURE

Preparing the substrate

- Remove deteriorated and loose concrete until the substrate is sound, strong and rough.
- Clean the concrete and reinforcing rods of dust and rust by sandblasting or hydro-sandblasting.
- Soak the substrate with water.
- Remove excess water from the surface of the substrate using compressed air: ideally the substrate should be saturated with water but dry on the surface.

TECHNICAL DATA (typical values)	
PRODUCT IDENTIFICATION	
Consistency:	powder
Colour:	grey
Bulk density (kg/m³):	1300
Maximum aggregate diameter (mm):	2.5
Dry solid content (%):	100
Storage:	12 months in original packaging in a dry place
Hazard classification according to EC 99/45:	irritant. Before using refer to the "Safety instructions for the preparation and application" paragraph and the information on the packing and Safety Data Sheet
APPLICATION DATA	
Mixing ratio:	100 parts of Mapegrout MS with 14.5-15.5 parts water (one 25 kg bag with 3.63-5.88 litres of water)
Consistency of the mix (%):	60-80
Density of the mix (g/cm³):	2000-2150
pH of the mix:	12.8
Pot life:	1 hour at +23°C
Maximum application thickness per coat (mm):	30
Final hardening:	28 days
MECHANICAL CHARACTERISTICS	
Compressive and flexural strength tests have been carried out on 4x4x16 cm prisms of mortar made and cured according to EN 196/1. Mapegrout MS was mixed with 15% water.	
Compressive strength (N/mm²): – after 24 hours: – after 7 days: – after 28 days:	 > 10 > 25 > 35
Flexural strength (N/mm²): – after 24 hours: – after 7 days: – after 28 days:	 > 3 > 5 > 7
Adherence to substrate (measured damp concrete) (N/mm²): – after 28 days (7 days at +23°C and 50% R.H., + 21 days in water at +20°C): – after 7 days at +23°C and 50% R.H., + 21 days at +60°C: – after 28 days at +23°C and 50% R.H.:	 > 1.5 > 1 > 1

Preparing the mortar

Before the mortar is prepared, the necessary equipment (concrete mixer and plaster sprayer) must be put in place and checks carried out to ensure that a sufficient quantity of product is available to complete the scheduled works.

The application procedure is then as follows:

- pour into the mixer the minimum amount of water required for the mix (4.25 litres per bag of **Mapegrout MS**) and add slowly and continuously powder from the pre-opened bags;
- mix for at least 2 minutes, checking the homogeneity of the mix and scraping any unmixed powder off the sides of the mixer;
- if necessary, add more water to obtain the desired consistency and plasticity for the application of the mix by spray or trowel. Under no circumstances exceed 18% water content. Remix for a further 3 minutes.
Mapegrout MS, when mixed, has a pot life of around 1 hour at +20°C.

Applying the mix

The mix can be applied with either a trowel, a Putzmeister or Turbosol rendering machine. Where applications of thicknesses in excess of 30 mm are necessary, apply the mix in more than one coat, ensuring that previous layers are completely set before proceeding to the next coat (not over 5 hours at +20°C). The mortar can be finished with a wooden or plastic tamper once it has hardened.

CURING

Mapegrout MS contains polymeric fibres and water retention agents to prevent cracking caused by plastic shrinkage. However, in particularly warm, windy or dry conditions the surface should be protected in one of the following ways:

- immediately after the surface has been finished preserve humidity using lengths of wet fabric;
- immediately after the surface has been finished apply the curing agent, **Mapecure E**; **Mapecure E** can be used only when no levelling or painting of the surface is planned.

Cleaning

Before hardening, the mortar can be cleaned from equipment with water. After setting, cleaning becomes difficult and residual stains can be removed only mechanically.

CONSUMPTION

18 kg/m² per cm of thickness.

PACKAGING

Mapegrout MS is supplied in paper bags of 25 kg.

STORAGE

Store in a dry and sheltered place.

Manufactured in compliance with the regulations of the 2003/53/EC Directive.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

It contains cement that when in contact with sweat or other body fluids produces an irritant alkaline reaction and allergic reactions to those predisposed.

Use gloves and protective goggles.

For further information refer to the Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product report 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 applications: 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
of the product are available
upon request**



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