

MAPEGROUT SV T

Quick-setting and hardening, shrinkage compensated, thixotropic mortar for repairing concrete and fixing drains, manholes and urban fixtures



WHERE TO USE

- Repairing concrete elements, including those on a slope.
- Repairing industrial floors, and for construction work on roads and in airports which need to be quickly reopened to traffic.
- Fixing inspection shafts and manholes in place.

Some application examples

- Repairing concrete floors used in industry, shopping centres and warehouses.
- Repairing concrete road surfaces in airports.
- Repairing roadside pavements.
- Repairing access ramps.
- Repairing concrete overflow channels.
- Fixing road signs in place.
- Fixing concrete electricity and telephone pylons in place.
- Fixing fences in place.
- Fixing urban fixtures in place.
- Anchoring protective barriers and crash barriers in place.
- Fixing gratings for overflow channels in central reservations and kerbstones in place.
- Fixing drain covers and manhole covers for gas, electricity and phone companies in place.

TECHNICAL CHARACTERISTICS

Mapegrout SV T is a one-component, pre-blended, shrinkage compensated thixotropic black mortar in powder form, made from special hydraulic binders, high-strength cement, graded aggregates and special admixtures according to a formula developed in MAPEI's own research laboratories.

Mapegrout SV T is suitable also where large thicknesses need to be applied (up to 5 cm), in specially-prepared areas without the use of formwork.

Thanks to its rapid hardening properties, **Mapegrout SV T** may be stepped on and opened to rubber-wheeled traffic after only 2 hours from application at a temperature of +20°C.

Thanks to its special composition and the admixtures contained in the product, the mortar has high mechanical properties even after a long period of time, is impermeable to water and is considerably resistant to abrasion.

Mapegrout SV T meets the requirements defined by EN 1504-9 (*"Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - General principles for the use of products and systems"*) and the minimum requirements claimed by EN 1504-3 (*"Structural and non structural repair"*) for structural mortars of class R4.

RECOMMENDATIONS

- Do not add cement or admixtures to **Mapegrout SV T**.
- Do not use **Mapegrout SV T** if the bag is damaged.
- Do not add water once the mix has started to set.
- Do not apply **Mapegrout SV T** on asphalted surfaces or on surfaces treated with bitumen.
- If the surface is subject to heavy traffic and dynamic stress and vibration, we recommend adding metallic fibres to the product.
- Do not apply **Mapegrout SV T** on smooth surfaces. Substrates must have a rough surface (at least 5 mm of roughness) and, if necessary, reinforcement rods may be inserted.
- Do not use **Mapegrout SV T** if the temperature is lower than +5°C or higher than +35°C. If the product is to be applied at temperatures not included within this range, please consult our Technical Services Department.
- **Mapegrout SV T** sets very quickly. Therefore, we recommend mixing only quantities of the product which will be laid within 10 minutes of preparation.

APPLICATION PROCEDURE

TECHNICAL INFORMATION FOR PRODUCT PREPARATION

Mix composition:	100 kg Mapegrout SV T 12.5-13.5 kg of water		
Application temperature:	Surrounding and substrate temperature from -5°C to +35°C		
	+5°C	+10°C	+20°C
Pot life of mix:	30 min.	15 min.	10 min.
End of setting:	100 min.	60 min.	35 min.

Preparation of the substrate

- Remove all concrete which has deteriorated or is at risk of detachment, until a solid, strong rough substrate is obtained. Remove all loose parts with a hydro jack-hammer. All previous repair work which is not perfectly bonded must be removed.
- Eliminate all old paintwork, oil, dust and any other material which may impede the bonding of **Mapegrout SV T** to the substrate.
- Saturate the substrate with water.
- Before applying the product, wait until all excess water has evaporated. If necessary, use compressed air.

Preparing the mortar

- Pour 12.5-13.5% of water into a cement mixer (3.1-3.4 litres per 25 kg bag). Slowly add **Mapegrout SV T** and mix for 1-2 minutes. Remove all the powder which has not blended with the mix from the sides of the mixer and continue mixing for 2-3 minutes, until a smooth, homogenous blend is obtained.

Instructions for the preparation of mortar for Lab testing samples can be found in the TECHNICAL DATA section.

Laying the mortar

- Apply **Mapegrout SV T** using a trowel in the pre-prepared area.
- Compact the mortar to get rid of any voids, either manually with a trowel or with a vibrator with a pronged fitting.
- Smooth off the surface immediately with a finishing trowel.

If required, after fixing drain covers or man-hole covers in place, lay fresh asphalt around the area. We recommend applying a layer of at least 3 cm thick in order to bond well and to bear the weight of traffic without cracking.

PRECAUTIONS TO BE TAKEN DURING AND AFTER APPLICATION

In cold weather

- Make sure the substrate is not frozen, and protect the product from frost for 24 hours after laying.
- Mix the product with tepid water.
- Before use, store the product in an area protected against damp and frost.

In hot and/or windy weather

- Saturate the substrate with water.
- Mix the product with cold water.
- Protect the fresh mortar surface against rapid evaporation of the water with **Mapecure S** or **Mapecure E** to avoid the formation of shrinkage cracks.

CLEANING

While still fresh, the mortar may be removed from work tools with running water. Once set, it is difficult to remove the mortar and cleaning must be carried out using mechanical means.

COLOURS

Black.

CONSUMPTION

20 kg/m² per cm of thickness.

PACKAGING

25 kg bags.

STORAGE

The product remains stable for 12 months if stored in its original packaging. The product is available in special 25 kg vacuum-packed polyethylene bags which may be stored outside for the entire construction phase of the site. Rain has no effect on its characteristics.

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.co.uk
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Class according to EN 1504-3:	R4
Type according to EN 1504-1:	CC
Consistency:	powder
Colour:	black

Maximum size of aggregate:	2.5 mm
Chloride ion content according to EN 1015- 17: (minimum requirements according to EN 1015 ≤ 0.05%)	≤ 0.05 %

TECHNICAL INFORMATION FOR PRODUCT PREPARATION

Mix composition:	100 parts by weight of Mapegrout SV T with 13% of water
Preparation of mix:	Mix the product in compliance with the standard EN 196-1

CHARACTERISTICS OF FRESH MIX (at +20°C - 50% R.H.)

Colour of mix:	black
Consistency of mix:	plastic-thixotropic
Density of mix:	2250 kg/m ³

FINAL PERFORMANCE PROPERTIES According to seasoning defined in the test methods

Performance characteristic	Test method	Requirements EN 1504-3 (R4)	Performance of product		
			+5°C*	+10°C*	+20°C
Compressive strength: - 2 hours: - 4 hours: - 1 day - 7 days: - 28 days:	EN 12190	-	2 MPa	10 MPa	17 MPa
		-	10 MPa	15 MPa	20 MPa
		-	20 MPa	22 MPa	25 MPa
		-	25 MPa	27 MPa	30 MPa
		≥ 45 MPa	45 MPa	45 MPa	45 MPa
Flexural strength at +20°C: - 1 day: - 7 days: - 28 days:	EN 196-1	not required			5.0 MPa 5.5 MPa 6.0 MPa
Compressive modulus of elasticity:	EN 13412	≥ 20 GPa	25 GPa		
Direct tensile adhesion to concrete:	EN 1542	≥ 2.0 MPa	> 2.0 MPa		
Resistance to accelerated carbonation:	EN 13295	depth of carbonation ≤ to reference concrete	Meets specifications		
Capillary absorption:	EN 13057	≤ 0.5 kg/m ² ·h ^{0.5}	≤ 0.5 kg/m ² ·h ^{0.5}		
Thermal compatibility: - freeze-thaw cycling with de-icing salt (50 cycles):	EN 13687-1	≥ 2.0 MPa	> 2.0 MPa		
Reaction to fire:	EN 13501-1	Euroclass	AI		

NOTES: Preparation of specimens: pour the mortar into the molds until they are filled without settling.

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. The values declared in the TECHNICAL DATA table (typical values) were obtained in compliance with test methods and curing cycles defined in the technical standards referenced therein. Therefore, please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

Please refer to the current version of the Technical Data Sheet, available from our website
www.mapei.co.uk

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