



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 mortar in powder form, made from special hydraulic binders, high-strength cement, graded aggregates and special additives 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 additives 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 ENV 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 additives 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 Assistance 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

Preparing 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 the **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.

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 freezing for 24 hours after laying.
- Mix the product with tepid water.

- Before use, store the product in an area protected against damp and freezing.

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

Grey and black.

CONSUMPTION

20 kg/m² per cm of thickness.

PACKAGING

25 kg bags.

STORAGE

The product remains stable for 12 months if stored in a covered, dry and cool area in its original packaging.

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

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapegrout SV T contains cement that, when in contact with sweat or other bodily fluids, produces an irritant alkaline reaction and allergic reactions in those predisposed. Wear protective clothing, gloves and eye/face protection.

For further information, please refer to the 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**

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION

Class according to EN 1504/3:	R4
Type:	CC
Consistency:	powder
Colour:	grey or black
Maximum aggregate (mm):	2.5
Bulk density (kg/m³):	1,300
Dry solids content (%):	100
Chloride ions content: – minimum requirements $\leq 0,05\%$ - according to EN 1015-17 (%):	≤ 0.05
Storage:	12 months in original packaging in a dry place
Hazard classification according to EC 1999/45:	irritant. 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 +20°C - 50% R.H.)

Colour of mix:	grey or black		
Mixing ratio:	100 parts of Mapegrout SV T with 12.5-13.5 parts of water (corresponding to 3.1-3.4 l of water for every 25 kg sack)		
Consistency of mix:	plastic-thixotropic		
Density of mix (kg/m³):	2,250		
pH of mix:	> 12		
Application temperature range:	from +5°C to +35°C		
Application temperature:	+5°C	+10°C	+20°C
Pot life of mix:	30 mins	15 mins	10 mins
Final hardening:	100 mins	60 mins	35 mins

FINAL PERFORMANCE (blending water 13%)

Performance characteristic	Test method	Minimum requirements according to EN 1504-3 for R4 class mortar	Product performance			
Compressive strength (MPa):	EN 12190	≥ 45 (after 28 days)		+5°C	+10°C	+20°C
			2 h	2	10	17
			4 h	10	15	20
			1 day	20	22	25
			7 days	25	27	30
			28 days	45	45	45
Flexural strength (MPa):	EN 196/1	none		+5°C	+10°C	+20°C
			2 h	1.0	2.0	2.0
			4 h	2.5	3.0	3.5
			1 day	4.5	4.5	5.0
			7 days	5.5	5.5	5.5
			28 days	6.0	6.0	6.0
Modulus of elasticity in compression (GPa):	EN 13412	≥ 20 (after 28 days)	25 (after 28 days)			
Bond strength to concrete (MC 0.40 type substrate - water/concrete ratio = 0.40) according to EN 1766 (MPa):	EN 1542	≥ 2 (after 28 days)	> 2 (after 28 days)			
Resistance to accelerated carbonation:	EN 13295	Depth of carbonation \leq reference concrete (MC 0.45 type with water/concrete ratio = 0.45) according to UNI 1766	test passed			
Capillary absorption (kg/m²·h ^{0.5}):	EN 13057	≤ 0.5	< 0.5			
Thermal compatibility to freeze-thaw cycles with deicing salts, measured as according to EN 1542 (MPa):	EN 13687/1	≥ 2 (after 50 cycles)	> 2			
Reaction to fire:	Euroclass	value declared by manufacturer	A1			

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SV T**

