# MAPEGROUT SV T

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


CE EN 1504-3 — IN COMPLIANCE WITH EUROPEAN STANDARD EN 1504-3 R4 MAPEI REPAIR MORTAR — UK CA 1504-3

## 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 admixtures according to a formula developed in MAPEI's own research laboratories. Available in Grey or Black.
**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. Up to 12 cm where formwork is used.
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

MAPEI®

· 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

### 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 by suitable methods. 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 the minimum amount 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.

### 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 manhole 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.

## COLOUR

Grey.

## 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 in dry conditions. Protect from frost.

## 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)**<br>**Conformity with:** – **UKCA 1504-4**<br>– **EN 1504-4** | | | |
| **PRODUCT IDENTITY** | | | |
| **Class according to EN 1504-3:** | R4 | | |
| **Type:** | CC | | |
| **Consistency:** | powder | | |
| **Colour:** | grey and black | | |
| **Maximum size of aggregate (mm):** | 2.5 | | |
| **Bulk density (kg/m³):** | 1,300 | | |
| **Dry solids content (%):** | 100 | | |
| **Chloride ions content:**<br>**– minimum requirements ≤ 0,05% - according to EN 1015-17 (%):** | ≤ 0.05 | | |
| **APPLICATION DATA (at +20°C - 50% R.H.)** | | | |
| **Colour of mix:** | black | | |
| **Mixing ratio:** | 100 parts of **Mapegrout SV T** with 12.5-13.5 parts of water (3.1-3.4 l of water for every 25 kg bag) | | |
| **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’ | 15’ | 10’ |
| **Final hardening:** | 100’ | 60’ | 35’ |

| 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 | not required | | +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/cement ratio = 0.40) according to EN 1766 (MPa):** | EN 1542 | ≥ 2 (after 28 days) | > 2 (after 28 days) | | | |
| **Resistance to accelerated carbonatation:** | EN 13295 | Depth of carbonatation ≤ reference concrete (MC 0.45 type with water/cement ratio = 0.45) according to UNI 1766 | test passed | | | |
| **Capillary absorption ($kg/m^2 \cdot h^{0.5}$):** | 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:** | EN 13501-1 | Euroclass | A1 | | | |

## N.B.

*Whilst we try to ensure that any advice, recommendations or information given in our literature is accurate and correct, we have no control over the circumstances in which our product is used. It is therefore important that the end users satisfy themselves that the product and conditions are suitable for the envisaged application.*
*No warranty can be given or responsibility accepted other than, that the product supplied by us will meet our written specification.*
*End users should ensure that our latest product data and safety information sheets have been consulted prior to use.*

# LEGAL NOTICE

*The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.*
*The most up-to-date TDS can be downloaded from our website www.mapei.co.uk.*
*ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.*

**466-01-2022 (UK)**