

# Mapefill GP ME

## General purpose non-shrink cementitious grout

### WHERE TO USE

Recommended for grouting voids in structural elements such as: honeycombs in concrete, filling gaps in precast elements, and grouting base plates and bridge bearings.

### Some application examples

- Anchoring of mechanical plant, and machinery.
- Anchorage of steel bolts and other metallic fixtures.
- Filling of rigid joints between elements in concrete and precast concrete structures.
- Underpinning works.
- Pressure grouting of concrete structures.
- Grouting of machine baseplates.

### TECHNICAL CHARACTERISTICS

**Mapefill GP ME** is a preblended powdered grout based on high strength cement, graded aggregates and special additives with an expansive agent formulated by the MAPEI research laboratories. When mixed with water **Mapefill GP ME** is transformed into a highly fluid grout without segregation, able to fill intricate spaces.

**Mapefill GP ME**, due to its expansive agent, is characterized by a total absence of shrinkage in the plastic (ASTM C940) phase, and develops early flexural and compressive strength.

If **Mapefill GP ME** is prepared by only adding water, it must be cured under damp conditions, in order to guarantee that the product expansive properties develop completely and correctly.

Please note that, in common with all other high quality cementitious based materials, curing of **Mapefill GP ME** is essential under extreme and arid climatic conditions and/or where correct or adequate curing cannot be maintained, the addition of **Mapecure SRA** is highly recommended in order to ensure the required properties are attained. **Mapecure SRA** is considered a technologically advanced additive system that has the capability of slowing down the evaporation rate of the mixing water thereby promoting the development and efficiency of the hydration process. The addition of **Mapecure SRA** in proportions of upto 0.25% has the ability to reduce drying shrinkage by between 20% and 50%.

**Mapefill GP ME** also has the following qualities:

- excellent impermeability to water;
- excellent adhesion to rebar and concrete;
- excellent resistance to mechanical stress;
- modulus of elasticity and thermal expansion coefficient similar to those of high quality concrete;
- non-toxic;

- non-corrosive;
- chloride free.

## RECOMMENDATIONS

- Do not add cement or additives to **Mapecure GP ME**.
- Do not add water once the mix has begun to set.
- Do not use **Mapecure GP ME** if the bag is damaged or has already been opened.
- Do not apply **Mapecure GP ME** at temperatures below +5°C.

## APPLICATION PROCEDURE

### Preparing the substrate

Remove all deteriorated concrete down to sound substrate.

Scarify the surface and completely eliminate dust, oil, grease, debris and laitance.

Pre-soak the sides of the cavity or void by filling with water. Before pouring, ensure all excess water is removed. Use clean, compressed air if necessary.

### Preparing the grout

Pour up to 80% of the required mixing water (see APPLICATION DATA) into a clean, rust-free container and whilst mixing slowly add **Mapecure GP ME** continuously. Add remaining water to achieve the desired consistency. Mix for 1 to 2 minutes, scrape the sides of the mixing container to remove any powder that is not well blended; remix for another 2 to 3 minutes until a fluid homogeneous mix is obtained.

According to the quantities to be prepared, a grout mixer or a mechanical mixer can be used paying careful attention to avoid the entraining of air bubbles. Mixing by hand is not recommended. Do not use a free fall mixer.

### Application (anchoring)

Pour **Mapecure GP ME** from one side only in a continual flow encouraging the discharge of air bubbles.

It is not necessary to vibrate the grout mechanically. However, to facilitate the filling of spaces that are particularly difficult, use an iron rod or other suitable methods.

When using **Mapecure GP ME** for connecting precast concrete elements and filling of rigid joints, a thickness of 60 mm should not be exceeded.

### Grouting of thick sections

For filling cavities greater than 100 mm, consult your local MAPEI Technical Services for assistance.

### Instructions to be observed before and after application

In hot working conditions (greater than +35°C), the following precautions should be taken:

- Avoid direct exposure to sunlight for stored material and also mixing equipment.
- Use cool water (approx +20°C) for mixing.
- Prior to use, the product must be stored under shaded, ambient conditions no higher than +35°C.
- Avoid application during the hottest time of the day and/or direct sunlight.
- Mix only sufficient material that can be applied using available labour and equipment to ensure a continuous and uninterrupted application.

After casting, **Mapecure GP ME** must be properly cured; the surface of grout exposed to the air must be protected from rapid water evaporation that can cause the formation of surface cracks due to plastic shrinkage especially in hot and/or windy weather.

Ensure curing in accordance with good concrete practice.

Spray water on surface exposed to air the first 24 hours of curing or apply an anti-evaporant such as **Mapecure E** or **Mapecure S**.

## Cleaning

Fresh grout can be removed from tools with water. After curing, cleaning becomes very difficult and can only be done mechanically.

## CONSUMPTION

Every 25 kg bag of **Mapecure GP ME** yields 13-14 litres of grout.

## PACKAGING

**Mapecure GP ME** is available in 25 kg bags.

## STORAGE

When stored in dry conditions in the original, unopened bags, **Mapecure GP ME** has a shelf life of 12 months. If stored at high temperature and or high humidity conditions the shelf life may be reduced. Manufactured in compliance with the regulations of the 2003/53/EC Directive.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapecure GP ME** contains cement powders which, when mixed with water or upon becoming damp, releases alkalis which can be an irritant to the skin.

During use, avoid inhalation of the dust and contact with skin and or eyes. Wear suitable protective clothing such as eye protection and gloves. In case of contact with the skin or eyes rinse with plenty of clean water.

For further and complete information about the safe use of our product please refer to our latest version of the Material Safety Data Sheet.

**TECHNICAL DATA (typical values)**

In compliance with:

- EN 196-1
- ASTM C939
- ASTM C940

**PRODUCT IDENTITY**

<b>Consistency:</b>	powder
<b>Colour:</b>	grey
<b>Max. diam. of aggregate (mm):</b>	2
<b>Dry solids content (%):</b>	100
<b>Storage:</b>	12 months in original packaging, in dry place
<b>Hazard classification according to EC 1999/45:</b>	irritant. Before using refer to the "Safety Instructions for the preparation and application" paragraph and the information on the packing and Safety Data Sheet
<b>Customs class:</b>	3824 50 90

**APPLICATION DATA (at +20°C and 50% R.H.)**

<b>Colour of the mix:</b>	grey
<b>Mixing ratio:</b> - flowable mix: - fluid mix:	25 kg of <b>Mapefill GP ME</b> with 3.2-3.1 l of water 25 kg of <b>Mapefill GP ME</b> with 4.4-4.6 l of water
<b>Consistency of the flowable mix (according to EN 13395):</b>	230 (13% of water)
<b>Flow (ASTM C939):</b>	< 60 sec. (using 18% water)
<b>Density of the mix (kg/m<sup>3</sup>):</b>	2250
<b>pH of mix:</b>	12.5
<b>Temperature range:</b>	from +5°C to +50°C
<b>Pot life (at +20°C):</b>	60 min.

**FINAL PERFORMANCES**

	<b>fluid</b> (18% water addition)	<b>flowable</b> (13% water addition)
<b>Compressive strength (N/mm<sup>2</sup>) EN 196-1</b> - 1 day: - 7 days: - 28 days:	20 55 70	35 65 85
<b>Flexural strength (N/mm<sup>2</sup>) EN 196-1</b> - 1 day: - 7 days: - 28 days:	5 7 8	6 8 9
<b>Bleeding:</b>	absent	
<b>Modulus of elasticity ASTM C469 (N/mm<sup>2</sup>):</b>	27,000	
<b>Water permeability EN12390-8 (mm):</b>	< 5 mm	
<b>Expansion according to ASTM C940 (%):</b>	1	
<b>Time for expansion:</b> - start: - finish:	10 min 1.5 hrs	

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.*

**Please refer to the current version of the Technical Data Sheet, available from our web site [www.mapei.com](http://www.mapei.com)**

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**

(UAE)

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