



# Mapecfill GP

**General purpose non-shrink grout with exceptionally high fluidity, non-toxic, non-corrosive and chloride free.**

## WHERE TO USE

**Mapecfill GP** is a general purpose non-shrink grout recommended for grouting voids in structural elements such as patching up honeycombs in concrete, filling gaps in precast elements and grouting base plates and bridge bearings.

## TYPICAL APPLICATIONS

- Anchoring of mechanical equipment.
- Anchoring of steel bars.
- Filling rigid joints between elements in concrete and precast concrete structures.
- Execution of underpinning.
- Pressure grouting of concrete structures.
- Grouting of machine base plates or bridge bearings.
- Concrete repair.

## TECHNICAL CHARACTERISTICS

**Mapecfill GP** is a pre-blended grey powdered grout, based on high strength cement, 1mm graded aggregate, special additives and an expansive agent.

When mixed with water, **Mapecfill GP** is transformed into a non segregated, exceptionally high fluid grout that is able to fill intricate spaces.

Due to its expansive agent, **Mapecfill GP** is characterised by a total absence of shrinkage in the plastic (ASTM C827) and hardened phase and develops early flexural and compressive strength.

**Mapecfill GP** also has the following qualities:

- Excellent impermeability to water.
- Excellent adhesion to rebars and concrete.
- Modulus of elasticity and thermal expansion coefficient similar to those of high-quality concrete.
- DOES NOT contain metallic aggregates.
- Non-toxic.
- Non-corrosive.
- Chloride-free.

## RECOMMENDATIONS

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

## APPLICATION PROCEDURE

### Preparing the substrate

- Remove all deteriorated concrete from the substrate.
- Scarify the surface and eliminate the presence of dust, oil, grease, debris and laitance.
- Soak the sides of the cavity to be filled with water.

Before pouring, remove all excess water from the cavity. To facilitate the elimination of unabsorbed water, use compressed air if necessary.

### Preparing the grout

Pour up to 80% of the required water into a clean container and then slowly and continuously add the **Mapefill GP** powder.

### Water ratio

Trowellable mix -

20kg bag **Mapefill GP** with 2.6 – 3.0 litres of water.

Pumpable mix -

20kg bag **Mapefill GP** with 3.0 – 3.4 litres of water.

Pourable mix -

20kg bag **Mapefill GP** with 3.4 – 3.8 litres of water.

Add the remaining water to achieve the required blend, mixing for 1 to 2 minutes with a mechanical mixer set at low speed. Remove any powder from the sides of the mixing container to ensure that all the powder is blended. Remix for another 2 to 3 minutes until a fluid homogeneous paste is obtained.

Depending on the quantities to be prepared, a grout mixer or a mechanical mixer can be used paying careful attention to avoid the formation of air bubbles.

Mixing by hand is not recommended.

### POT LIFE

Pot life of the mix at +23°C is approximately one (1) hour.

## APPLICATION

### Anchoring (Pourable Mix ratio only)

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

The use of **Mapefill GP** for connecting precast concrete elements and the filling of rigid joints is recommended for a thickness up to 60mm. It is not necessary to vibrate the grout mechanically. To facilitate the filling of spaces that are particularly difficult use a wood list or an iron rod.

## Grouting of thick section

For filling cavities that have dimensions greater than those indicated, please consult your Mapei Technical Representative for assistance.

## IMPORTANT INSTRUCTIONS

Instructions to be observed before and after application

- At temperatures around +20°C no particular precautions are required.
- In hot weather it is advisable not to expose the material to the sun and to use cold water when preparing the mix.
- In cold temperatures it is advisable to use water that is at +20°C.
- After casting, **Mapefill GP** 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.
- Spray water on the surface exposed to the air for the first 24 hours of curing or apply an anti-evaporant.

## CLEANING

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

## CONSUMPTION

Every 20kg bag of **Mapefill GP** can yield 10 – 11 litres of grout.

## PACKAGING

**Mapefill GP** is available in 20kg bags.

## STORAGE

**Mapefill GP** may be stored in a dry, sheltered place in original unopened packaging for up to 12 months.

Note: Protect from moisture.

## TECHNICAL DATA (typical values)

in compliance with:

- EN 196: 1995
- ASTM C939 - 97
- ASTM C940 - 98
- ASTM C827 - 97

### PRODUCT IDENTITY

**Consistency:** powder

**Colour:** grey

**Maximum diameter of aggregate (mm):** 1

**Dry solids content (%):** 100

### APPLICATION DATA

**Colour of the mix:** grey

**Mixing ratio:**  
- trowellable  
- pumpable  
- pourable

20 kg bag **Mapefill GP** with 2.6 - 3.0 litres of water  
20 kg bag **Mapefill GP** with 3.0 - 3.4 litres of water  
20 kg bag **Mapefill GP** with 3.4 - 3.8 litres of water

**Consistency:** fluid (using 19% water)

**Flow (ASTM C 939):** < 60 seconds (using 19% water)

**Specify gravity (kg/m<sup>3</sup>):** 2200 - 2350

**pH of mix:** > 11.5

**Temperature range:** from +5°C to +40°C

**Pot Life:** 60 minutes

### FINAL PERFORMANCE

**Mechanical characteristics:**

The tests of flexural and compressive strengths were carried out on prisms of 4 x 4 x 16, made and cured according to EN 196-1  
**Mapefill GP** was prepared using 19% water

**Initial setting:** 7 hours

**Final setting:** 8 hours

**Compressive strength (MPa):**  
- 1 day > 20  
- 7 days > 50  
- 28 days > 55

**Flexural strength:**  
- 1 day > 5  
- 7 days > 6-7  
- 28 days > 9

**Bleeding (ASTM C940):** absent

**Volume expansion (%) (ASTM C827):** 1.0

# Mapefill GP



## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefill GP is not hazardous according to the ruling standards on the classification of mixtures. It is recommended to take the usual precautions for handling chemical products. The Material Safety Data Sheet is available upon request, or can be downloaded from [www.mapei.com.au](http://www.mapei.com.au)

PRODUCT FOR PROFESSIONAL USE.

## WARNING

Although the technical details and recommendations contained in this 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.

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



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



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