

MAPEFILL GP ZERO

General purpose non-shrink grout



CO₂ FULLY OFFSET PRODUCTS

Mapefill GP Zero is part of the CO₂ Fully Offset in the Entire Life Cycle line of products. CO₂ emissions measured throughout the life cycle of products from the Zero line in 2025 using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs, have been offset through the acquisition of certified carbon credits in support of forestry protection projects. A commitment to the planet, to people and to biodiversity. For more details on how emissions are calculated and on climate mitigation projects financed through certified carbon credits, visit the webpage zero.mapei.com.

WHERE TO USE

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

Some application examples

- Anchoring of mechanical equipment.
- Anchoring of steel bars.
- Filling of rigid joints between elements in concrete and precast concrete structures.
- Execution of underpinning.
- Pressure grouting of concrete structures.
- Grouting of machine baseplate, bridge bearing.
- Concrete repairs.

TECHNICAL CHARACTERISTICS

Mapefill GP Zero is a preblended powdered grout based on high strength cement, graded aggregates with 1 mm diameter and special additives with an expansive agent formulated by the MAPEI research laboratories.

When mixed with water **Mapefill GP Zero** is transformed into a very highly fluid grout without segregation that is able to fill intricate spaces.

Mapefill GP Zero, due to its expansive agent, is characterized by a total absence of shrinkage in the plastic (ASTM C827) and hardened phase, and develops early flexural and compressive strength.

Mapefill GP Zero also has the following qualities:

- excellent impermeability to water;
- excellent adhesion to iron and concrete;

- excellent resistance to dynamic mechanical stress;
- modulus of elasticity and thermal expansion coefficient similar to those of high quality concrete;
- **Mapefill GP Zero** does not contain metal aggregates and aluminium dust;
- non-toxic;
- non-corrosive;
- chloride-free.

Mapefill GP Zero meets all the main requirements for ENV 1504-9 ("*Products and systems for the protection and repair of concrete structures; definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems*") and the minimum requirements for EN 1504-6 ("*Anchoring steel reinforcement*").

RECOMMENDATIONS

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

TECHNICAL INFORMATION FOR THE APPLICATION

Mixing Ratio

- trowelable mix:	25 kg of Mapefill GP Zero with 3.25-3.75 litres of water
- pumpable mix:	25 kg of Mapefill GP Zero with 3.75-4.25 litres of water
- pourable mix:	25 kg of Mapefill GP Zero with 4.25-4.75 litres of water
- anchoring thickness:	up to 100 mm
- application temperature range:	surrounding and substrate temperature from +5°C to +40°C
- pot life of mix	approx. 1 hour (at +20°C)

Preparing the substrate

- Remove all deteriorated concrete down to sound substrate.
- Scarify the surface and eliminate completely dust, oil, grease, debris and laitance.
- Soak the sides of the cavity to be filled with water. Before pouring, remove all excess water. To facilitate the elimination of unabsorbed water, use compressed air if necessary.

Preparing the grout

Pour up to 80% of the required water (see APPLICATION DATA) into a clean container and slowly add **Mapefill GP Zero** continuously. Add remaining water to achieve the desired mix. Mix for 1 to 2 minutes with a heavy duty mixer, remove from the sides of the concrete mixer any powder that is not well blended; remix for another 2 to 3 minutes until a fluid homogeneous paste 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 formation of air bubbles. Mixing by hand is not recommended.

Instructions for the preparation of the mortar to create samples for Lab testing are contained in the TECHNICAL DATA table.

Application (anchoring)

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

The use of **Mapefill GP Zero** for connecting precast concrete elements and the filling of rigid joints is recommended for thickness up to 10 cm. It is not necessary to vibrate the grout mechanically; to facilitate the filling of spaces that are particularly difficult, an iron rod.

Grouting of thick section

To prepare the mortar, pour 12-13% of water according to the consistency required into a cement mixer. Slowly add **Mapefill GP Zero** and mix for 1-2 minutes. Remove all traces of powder not perfectly blended from the inside surface of the mixer and continue mixing for 2-3 minutes, until a completely homogenous paste is obtained. If the thickness to be laid is greater than 5cm, mix **Mapefill GP Zero** with 40% of gravel 6/10 and use 14% water (for mixing by weight of the mortar - 3.5 litres per 25kg bag). **Mapefill GP Zero** remains workable for approximately 15 minutes at a temperature of +20 °C.

For filling cavities that have dimensions greater than those indicated, please consult our Technical Service for Assistance.

PRECAUTIONS TO BE TAKEN DURING 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 sun and to use cold water in preparing the mix.
- In low temperatures it is advisable to use water that is at +20°C.
- After casting, **Mapefill GP Zero** 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 surface exposed to air the first 24 hours of curing or apply an antievaporant.

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 **Mapefill GP Zero** can yield 13-14 litres of grout.

PACKAGING

Mapefill GP Zero is available in 25 kg bags.

STORAGE

Store in a dry, sheltered place in original, unopened packaging for 12 months.

SAFETY INSTRUCTIONS FOR THE 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	
Consistency	Powder
Colour:	Grey
Ion chloride content according to EN 1015-17: (minimum requirement according to EN 1504 ≤ 0.05%)	≤ 0.05
Maximum size of aggregate:	1.0 mm

TECHNICAL INFORMATION FOR THE PREPARATION OF PRODUCT

Mixing Ratio:100 parts of **Mapefill GP Zero** with 19% water**Preparation of mix:**While mixing, add approx. $\frac{3}{4}$ of the total amount of water. Then, add slowly the product and the remaining mixing water while continuing mixing. Mix under high shear for at least 2 minutes until a homogeneous paste without lumps is obtained**Curing conditions:**

CC according to Annex A - EN 12190

Performance characteristics	Test method	Requirements EN 1504-6	Product performance
Compressive strength:	EN 12190	not required	
- 1 day			38 MPa
- 7 days			68 MPa
- 28 days			80 MPa
Flexural strength:	EN 196-1	not required	
- 1 day			6.5 MPa
- 7 days			9.0 MPa
- 28 days			10.0 MPa
Volume variation during the plastic phase:	ASTM C940	not required	1%
Pull-out strength of steel rebar – displacement at load of 75 kN:	EN 1881	not required	≤ 0.6 mm
Reaction to fire:	EN 13501-1	Euroclass	A1 A1 _{FL}

Note:

Preparation of 40x40x160 mm samples: pour the mortar in the centre of each compartment filling it up

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.

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

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

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.

Mapei U.K. Ltd

Mapei House Steel Park Road - Halesowen, West Midlands, B62 8HD



+44-121-5086970



www.technical-uk@mapei.co.uk



info@mapei.co.uk

1332-12-2025 (UK)

Any reproduction of texts, photos and illustrations published here is prohibited and subject to prosecution

