MAPEI

IN COMPLIANCE WITH EUROPEAN STANDARD
EN 1504-6
MAPEI
ANCHORING MORTAR

Mapefill GP IN

General purpose non-shrink grout

WHERE TO USE

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.

Some application examples

- Anchoring of mechanical equipments.
- 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 baseplates, bridge bearings.
- Concrete repair.

TECHNICAL CHARACTERISTICS

Mapefill GP IN 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 MAPEI research laboratories.

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

Mapefill GP IN, 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 IN also has the following qualities:

- excellent impermeability to water;
- excellent adhesion to rebars and concrete;
- excellent resistance to dynamic mechanical stress;
- modulus of elasticity and thermal expansion coefficient similar to those of high-quality concrete;
- **Mapefill GP IN** does not contain metallic aggregates;
- non-toxic;
- non-corrosive;
- chloride-free.

Mapefill GP IN meets all the main requirements defined by EN 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 claimed by EN 1504-6 (*"Anchoring steel reinforcement"*).

Mapefill GP IN

RECOMMENDATIONS

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

APPLICATION PROCEDURE

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 IN** continuously. Add the 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.

Application (anchoring)

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

The use of **Mapefill GP IN** for connecting precast concrete elements and the filling of rigid joints is recommended for thickness up to 6 cm. 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 our Technical Service for assistance.

Instructions to be observed before and after the 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 IN** 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 air the first 24 hours of curing or apply an anti-evaporant.

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 IN** can yield 13-14 litres of grout.

PACKAGING

Mapefill GP IN is available in 25 kg bags.

STORAGE

Mapefill GP IN can be stored for 12 months in a dry, sheltered place in original, unopened packaging.

SAFETY INTRUCTIONS FOR THE PREPARATION AND APPLICATION

Mapefill GP IN contains cement that when in contact with sweat or other body fluids causes irritant alkaline reactions and allergic reactions to those predisposed. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

N.B. *- Although the technical details and recommendations contained in this product 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

LEGAL NOTICE

The contents of this Technical Data Sheet

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	
Type:	CC
Consistency:	powder
Colour:	grey
Maximium aggregate size (mm):	1
Bulk density(kg/m³):	1300
Dry solid content(%):	100
Chloride ions content: minimum requirement ≤ 0.05% according to EN 1015-17 (%):	≤ 0.05

PRODUCT APPLICATION DATA	
Colour of mix:	grey
Consistency of mix:	fluid (using 19% of water)
Flow (ASTM C939):	< 60 sec. (using 19% of water)
Density of mix (kg/m³):	2200
pH of the mix:	> 11.5
Application temperature range:	from +5°C to +40°C
Pot life of mix:	60 minutes

FINAL PERFORMANCES (19% OF WATER)

Performance characteristic	Test method	Requirements according to EN 1504-6	Product performance
Initial setting time:	-	not required	7 hr
Final setting time:	-	not required	8 hr
Compressive strength (MPa):	EN 12190	> 80% of the value declared by the manufacturer	> 20 (after 1 day) > 50 (after 7 days) > 55 (after 28 days)
Flexural strength (MPa):	EN 196/1	not required	> 4.5 (after 1 day) > 7 (after 7 days) > 8 (after 28 days)
Bleeding:	ASTM C940	not required	absent
Volume expansion (%)	ASTM C827	not required	1.0
Drawing resistance of steel rods - displacement at 75 kN load (mm)	EN 1881	≤ 0.6	≤ 0.6
Reaction to fire:	EN 13501-1	Euroclass	A1, $A1_{fl}$

Mapefill GP IN

("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.com.
ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

All relevant references for the product are available upon request

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