



Planigrout 300

Three-component fluid epoxy mortar for repairing deteriorated concrete elements and for high-precision anchorage work

WHERE TO USE

Planigrout 300 is an epoxy mortar specifically developed for fixing structural elements, structural repairs and structural fillings which are also subject to stress due to dynamic loads.

Some application examples

- Repair and structural reinforcement of beams and columns by casting into formworks.
- Rebuilding and renovation of crumbled joints in industrial floors.
- Repairing bridge-crane runways subject to strong vibrations.
- Repair of joints between concrete slabs in deteriorated industrial floors (butt joints).
- Filling of large holes in concrete floors and slabs.
- Foundations for presses and general heavy machinery.
- Evening-out of the surfaces of support elements for the bearing of bridge beams.
- Structural fixing of tie-rod fasteners and bolts in existing concrete structures, stone, rock and steel subject to vibration and chemical attack.

TECHNICAL CHARACTERISTICS

Planigrout 300 is a tri-component product based on epoxy resin, selected well-graded aggregates and special additives, blended according to a formula developed in MAPEI's own Research Laboratories.

After mixing component A of **Planigrout 300** with its relative hardener (component B) and filler (component C), a fluid mixture which may be easily poured and applied in layers up to 5 cm is obtained.

After preparation, **Planigrout 300** hardens in approximately 8 hours at +23°C by means of chemical reticulation without shrinking, and is transformed into a compound with exceptional bonding strength and chemical and mechanical resistance characteristics.

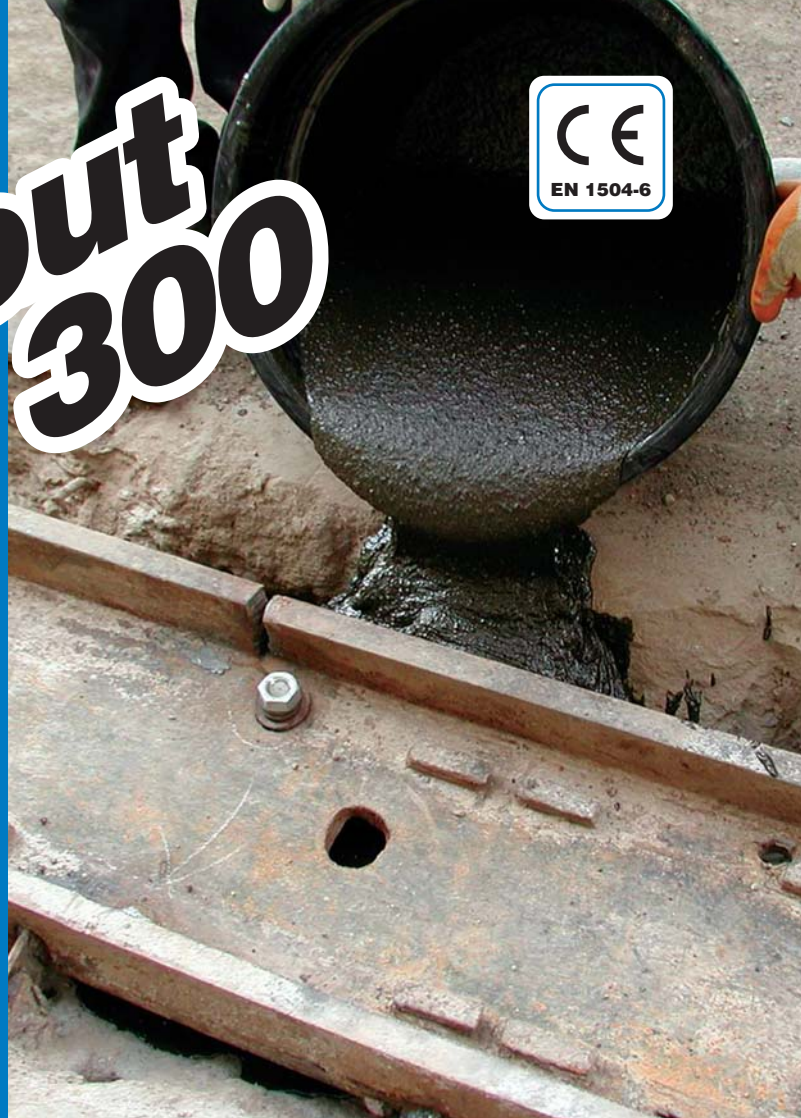
After hardening **Planigrout 300** is durable and may be used for both internal and external applications.

Planigrout 300 may be applied in a temperature range between +10°C and +35°C.

Planitop 300 responds to the principles defined in EN 1504-9 ("Products and systems for protecting and repairing 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 of reinforcing steel bar").

RECOMMENDATIONS

- **Planigrout 300** must not be used for sealing flexible joints or joints which are subject to movement (use **Mapesil AC** or **Mapeflex PU20**).
- **Planigrout 300** must not be used for cold joints between fresh and old concrete (use **Eporip**).
- **Planigrout 300** must not be used on wet surfaces.
- **Planigrout 300** must not be used on dirty or crumbly surfaces.



Planigrout 300



| TECHNICAL DATA (typical values) | | | |
|---|--|--|--|
| PRODUCT IDENTIFICATION | | | |
| Type | PC | | |
| | Comp. A | Comp. B | Comp. C |
| Consistency: | liquid | liquid | powder |
| Colour: | off-white | straw | grey |
| Maximum size of aggregate (mm): | 2.0 | | |
| Density (kg/m³): | 1.09 | 1.04 | – |
| Viscosity (mPa·s): | 700 | 400 | – |
| Storage: | 12 months in a dry area in its original packaging | | |
| Hazard classification according to EC 1999/45: | irritant, dangerous for the environment corrosive irritant Before using refer to the “Safety instructions for preparation and installation” paragraph and the information on the packaging and Safety Data Sheet. | | |
| Customs class: | 3506 91 00 | | |
| APPLICATION DATA (at 23°C - 50% R.H.) | | | |
| Mixing ratio: | A : B : C = 16 : 6 : 100 | | |
| Colour of mix: | dark grey | | |
| Consistency of mix: | fluid | | |
| Density of the mix (kg/dm³): | 2.0 | | |
| Brookfield Viscosity (mPa s): | 35,000 | | |
| Slump after mixing (EN 13395-2) (cm): | > 20 | | |
| Application temperature range: | from 10°C to 35°C | | |
| Pot life of mix: | 1 hour | | |
| Setting time: | 6-8 hours | | |
| Final hardening time: | 7 days | | |
| FINAL PERFORMANCE | | | |
| Performance characteristic | Test method | Requirements according to EN 1504-6 | Performance of product |
| Creep: – movement with a load of 50 kN for 3 months - (mm): | EN 1544 | ≤ 0.6 | 0.3 |
| Slip-resistance of reinforcement rods: – movement with a load of 75 kN - (mm): | EN 1881 | ≤ 0.6 | < 0.45 |
| Glass transition temperature: | EN 12614 | ≥ +45°C | +50°C |
| Compressive strength (MPa): | EN 12190 | > 80% of value declared by manufacturer after 7 days | 55 (after 1 day) 80 (after 3 days) 95 (after 7 days) |
| Flexural strength (MPa): | EN 196-1 | not required | 25 (after 1 day) 35 (after 3 days) 40 (after 7 days) |
| Compressive modulus of elasticity (MPa): | ASTM D695 | not required | 2,400 |
| Modulus of flexural elasticity (MPa): | ISO 178 | not required | 10,000 |
| Bond strength on concrete (substrate in MC 0.40 – water/cement ratio = 0.40) according to EN 1766 (MPa): | EN 1542 | not required | > 3 (failure of concrete) |
| Reaction to fire: | EN 13501-1 | Euroclass | D-s2, d2 |

- **Planigrout 300** must not be used for bonding and grouting antiacid ceramic tiles (use **Kerapoxy**).

APPLICATION PROCEDURE

Preparation of the substrate

To guarantee that **Planigrout 300** bonds well to the substrate, special care must be taken in the preparation of the surfaces to be bonded.

The concrete, natural stone or brick substrate must be clean, dry and sound.

The most suitable methods for preparing the substrate are chiselling, sand-blasting, milling, shot blasting, grinding or sandpapering the surface in order to remove irregular or loose parts, efflorescence, cement laitance, traces of oil and form release agents. Then remove all traces of dust from the substrate with compressed air and/or an industrial vacuum cleaner.

Metallic surfaces must be free of all traces of rust, paint and oil preferably by means of sandblasting down to bare metal (SA 2^{1/2}). Structures made on-site in cast concrete, have to be cured for at least 4 weeks before applying **Planigrout 300** to avoid the stresses induced by hydrometric shrinkage in the concrete being concentrated at the interface of the joined parts.

Preparing the mix

The three components which make up **Planigrout 300** have to be mixed together. Pour component B into component A, making sure that the container with the catalyst (component B) is completely emptied, and mix them together with a drill fitted with a low-speed mixer until a completely homogeneous paste is formed. At this point, pour in the selected aggregates (component C) with a continuous, regular flow, and mix together for 4 or 5 minutes until a uniformly wet paste with a homogenous colour is obtained. The packages are already pre-dosed. Therefore, avoid using only partial quantities of the packages to avoid accidental errors in the mix ratio, which would lead to a lack or only partial setting of **Planigrout 300**.

If the packages are to be partially used, a precision electronic scale is to be used.

Application of the mix

Planigrout 300 is applied by pouring and, where necessary, into sealed formworks. In order to achieve good bonding, it is advisable to pre-treat the surfaces to be repaired with **Primer MF**.

The air temperature has an effect on the setting time of the product; at +23°C, **Planigrout 300** may be worked for approximately 60 minutes.

Planigrout 300 must be applied within the indicated pot life. Therefore, make sure that the work is organised and programmed so that all the operations are completed within the time indicated above.

Precautions to be taken to follow before using

While taking into account the fact that the product sets in the time indicated above, no particular precautions need to be taken when the temperature is between +10°C and +35°C.

Cleaning

Planigrout 300 has a high bonding capacity even on metals, therefore it is advisable to wash all tools with a suitable solvent (ethyl alcohol, toluene etc.) before the product completely sets.

CONSUMPTION

2 kg/m² per mm of thickness.

PACKAGING

Packages of 12.2 kg:

part A = kg 1.6;

part B = kg 0.6;

part C = kg 10.

Packages of kg 36.6:

part A = kg 4.8;

part B = kg 1.8;

part C = kg 30.

STORAGE

12 months in a covered, dry area in its original packaging at a temperature of between +5°C and +30°C.

Manufactured in compliance with the regulations of the 2003/53/EC Directive.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Planigrout 300 components A and C may irritate and provoke an allergic rash in those subjects sensitive to such substances. Component B may cause burns to the skin and serious eye damage. The use of protective gloves and goggles is highly recommended. Component A is also hazardous for the environment. Waste material must be considered as hazardous and disposed of according to current norms and legislation.

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

PRODUCT FOR PROFESSIONAL USE.

WARNING

While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use these products, must ensure beforehand that they are suitable for their intended application and, in all cases, the user is to be held responsible for any consequences deriving from their use.

Please refer to the current version of the **Technical Data Sheet**, available from our web site www.mapei.com

All relevant references for the product are available upon request and from www.mapei.com



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