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PLANIGROUT 300

Three-component fluid epoxy mortar for 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.
- 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 three-component product based on epoxy resin, selected well-graded aggregates and special admixtures, 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.

Planigrout 300 complies to 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

- For high-precision anchorage work please refer to our Technical Services Department.
- **Planigrout 300** must not be used for sealing flexible joints or joints which are subject to movement (use **Mapesil** or **Mapeflex** range products).
- **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** 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 sturdy.

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 2½).

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, make use of a precision electronic scale.

Application of the mix

Planigrout 300 must be 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 influences 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 DURING AND AFTER APPLICATION

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:

component A = kg 1.6;
component B = kg 0.6;
component C = kg 10.

Packages of kg 36.6:

component A = kg 4.8;
component B = kg 1.8;
component C = kg 30.

STORAGE

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

Planigrout 300 component C complies with the conditions of Annex XVII to Regulation (EC) N. 1907/2006 (REACH), item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Planigrout 300 component A is irritant for the skin and eyes. Both components A and B may cause sensitisation in those predisposed if in contact with the skin sensitive to such substances.

Planigrout 300 component B is corrosive and may cause serious burns and damages to eyes. Then it can also provoke irreversible damages if used for lengthy periods.

Planigrout 300 component C contains cement that when in contact with sweat or other body fluids causes irritant alkaline reaction and allergic reactions to those predisposed. It can cause damage to eyes.

The product contains low molecular weight epoxy resins that may cause sensitisation if cross-contamination occurs with other epoxy compounds.

When applying the product, we recommend the use of protective gloves and goggles and to take the usual precautions for handling chemical products. If the product comes into contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention.

After mixing components A and B, the material reacts and generates a high amount of heat. We recommend applying the product as soon as possible after preparing the mix and to never leave the container with the resins unattended until it is completely empty.

Planigrout 300 components A and B are also hazardous for aquatic life. Do not dispose of these products in the environment.

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.

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
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 (g/cm ³):	1.09	1.04	-
Viscosity (mPa·s):	700	400	-
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/dm ³):	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	40 (after 1 day) 80 (after 3 days) 90 (after 7 days)
Flexural strength (MPa):	EN 196-1	not required	15 (after 1 day) 25 (after 3 days) 30 (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

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.

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The most up-to-date TDS can be downloaded from our website www.mapei.com.

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