

Planitop 400

Fast setting shrinkage compensated thixotropic mortar for cortical restoration and the finishing of reinforced concrete by applying in a single coat a thickness of mortar variable between 1 and 40 mm



WHERE TO USE

Deep cortical restoration of vertical and horizontal concrete surfaces.

Thin smoothing finishing of vertical and horizontal concrete surfaces.

Some application examples

- Rapid restoration of corners and front sides of the concrete slabs of balconies which have been damaged by the oxidation of the re-bars.
- Fast reparation of damaged corners, concrete beams, pillars and concrete panels.
- Rapid patch-work of concrete industrial flooring.
- Rapid reparation of precast concrete elements damaged during their installation and transport.
- Reparation of damaged concrete piping.
- Rapid repair of superficial defects present in concrete castings such as honeycombs, holes, cold joints, etc.
- Rapid smoothing of limited extensions of concrete surfaces which have been repaired with products from the **Mapegrout** line.

TECHNICAL CHARACTERISTICS

Planitop 400 is a pre-mixed powder made up of special hydraulic binders, selected fine graded aggregate and

special additives prepared according to a formula developed in the MAPEI research laboratories.

Mixed with water **Planitop 400** becomes an easily workable and thixotropic mortar that can be applied on vertical surfaces in a thickness up to 4 cm per coat.

Planitop 400 can be subjected to loads after 4-5 hours after its application.

Because of its very fine graded aggregate and high content of synthetic resins, **Planitop 400** can be applied with a trowel, as a repair mortar, or with a flat trowel as a very thin smoothing finishing.

Once **Planitop 400** has hardened completely, it has the following characteristics:

- strong adhesion to the concrete;
- smooth surface;
- good resistance to wear;
- high mechanical strength.

RECOMMENDATIONS

- Do not add more water to the mix that has already set in order to try to make it re-workable.
- Do not add cement, lime, gypsum or additives to **Planitop 400**.

Planitop 400



Restoring the front side of the concrete slab of a balcony: preparing the substrate



Restoring the front side of the concrete slab of a balcony: positioning wooden form work



Restoring the front side of the concrete slab of a balcony: applying Planitop 400

- Do not use **Planitop 400** by spray with a rendering machine.
- Do not use **Planitop 400** for precision anchoring (use **Mapefill**).
- Do not apply **Planitop 400** on dry or dirty surfaces.
- Do not leave bags of **Planitop 400** before use exposed to the sun.
- Do not apply **Planitop 400** at temperatures below +5°C.
- Do not use **Planitop 400** if the bag has been damaged or opened beforehand.

APPLICATION PROCEDURE

Preparing the substrate

A) From 1 to 4 cm thick of damaged concrete elements (e.g. front side of the concrete slab of balconies, cornices, etc.)

Remove damaged and loose concrete until a sound, resistant and rough substrate is obtained. Any restoration products previously applied that are not perfectly bonded must be removed. Clean the concrete and the rebars from dust, rust, cement laitance, grease, oil, varnish or paint that have been previously applied by sanding or by accurately brushing if the surfaces that need to be restored are not too extensive. Protect any existing rebars with **Mapefer**. Wet the substrate with water. Before restoring with **Planitop 400** wait until excess water has evaporated. To eliminate free water, use, if necessary, compressed air or a sponge.

B) Patch-work of 0.5 to 4 cm thick concrete floors

Remove damaged or loosely bonded concrete. Chisel at a right angle the edges of the area that needs to be repaired and clean it from any residues. Wet the substrate with water but avoid stagnation.

C) Smoothing from 1 to 5 mm

Apply the mortar maximum 5 mm thick with a flat trowel. To make smoothing easier, a flat metal trowel can be used over the surface as soon as setting begins (by applying a slight finger pressure on the fresh surface, the fingers do not get dirty). As an alternative, the finishing can be carried out with a sponge float several minutes after the application. In this case the surface will be very similar to that of a fine grain render.

Preparing the mix

While mixing pour a 25 kg bag of **Planitop 400** into a bucket containing 3.5-3.75 litres of clean water (4 litres of water when **Planitop 400** is used as a smoothing compound). Mix with a low speed electrical mixer until a lump free homogeneous paste is obtained. Due to the speed of **Planitop 400**'s drying, it is recommended to prepare an

amount that can be used within 10 minutes (at a temperature of +23°C).

Applying the mix

A) Patch-work up to 4 cm thick of damaged concrete elements (e.g. front side of the concrete slab of balconies, cornices, etc.)

Apply the mortar with a trowel: 4 cm is the maximum thickness allowed per coat it is possible to apply more coats of **Planitop 400** approximately every 15 minutes. Once the restoration has been completed **Planitop 400** has to be cured for at least 24 hours in wet conditions.

B) Repairing concrete floors

Apply **Planitop 400** with a trowel and finish the surface with a float. After application protect the surface from the rapid evaporation of the water with a polythene sheet or wet jute bags. **Planitop 400** is set to light foot traffic after 3 hours at +23°C.

C) Smoothing front sides of concrete slabs of balconies, pilars and beams in thicknesses varying from 1 to 5 mm

Apply a maximum thickness of 5 mm of the mortar with a flat trowel. The mix is thixotropic therefore it is not necessary to use fixed formworks. Finishing can be carried out with a sponge float approximately 20-30 minutes (at +23°C) after the application. If necessary, for aesthetic effects, the final smoothing can be carried out with a flat trowel or with suitable tools in order to obtain an appearance which is very similar to existing concrete. This need especially occurs for patch-work of precast concrete panels.

MEASURES TO BE OBSERVED WHILE PREPARING PLANITOP 400

No special precaution needs to be taken when the temperature is around +20°C. During summer do not expose the product to the sun and use cold water to prepare the mix. At a lower temperature use water at +20°C and store the product in a heated room otherwise the beginning of the setting and hardening is delayed.

Cleaning

Fresh **Planitop 400** can be cleaned from tools with water. Once the product has set, cleaning can be carried out by mechanical means.

CONSUMPTION

18.5 kg/m² per cm of thickness.

PACKAGING

25 kg bag.

STORAGE

In original packaging and in a dry place, **Planitop 400** can be stored for 12 months.

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION

Consistency:	powder
Colour:	grey
Specific gravity (kg/l):	1.3
Grading (mm):	0.5
Dry solid content (%):	100
Storage:	12 months in original packing in a dry place
Hazard classification according to EC 99/45:	irritant. Before use refer to the "Safety instructions" paragraph and the information on the packaging and safety data sheet
Custom class:	3823 50 90

APPLICATION DATA at +23°C – 50% R.H.

Colour of mix:	grey
Consistency of mix (UNI 7044):	55-88% (flow value)
Mixing ratio:	a 25 kg bag with 3.5-3.75 l of H ₂ O (4 l as a smoothing compound)
Specific gravity of mix (kg/l):	2.05-2.2
pH of mix:	12-12.5
Open time of mix:	8-12 minutes
Application temperature range:	from +5°C to +35°C
Max thickness per coat (mm):	40 (over small surfaces)
Setting time: – beginning: – end:	approx. 15 minutes approx. 20 minutes

FINAL PERFORMANCES (mix water 14.5%)

Bonding to concrete (N/mm²): – after 7 days: – after 28 days: – after 28 days + 21 in H ₂ O:	> 1 > 1 > 2
Flexural strength according to EN 196/1 (N/mm²): – after 3 hours: – after 24 hours: – after 7 days: – after 28 days:	> 3.0 > 4.0 > 5.0 > 7.0
Compressive strength according to EN 196/1 (N/mm²): – after 3 hours: – after 24 hours: – after 7 days: – after 28 days:	> 12 > 18 > 35 > 45
Dynamic modulus of elasticity (N/mm²):	> 24000-28000



Restoring the front side of the concrete slab of a balcony: finishing



Patch-work of a concrete beam



Concrete repair of industrial floor

Planitop 400



SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

It contains cement that on contact with sweat or other body fluids produces an irritant alkaline reaction and allergic reactions to those predisposed. Wear protective gloves and goggles. For further information refer to the safety data sheet.

FOR PROFESSIONALS.

WARNING

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.

All relevant references of the product are available upon request

(GB) A.G. BETA



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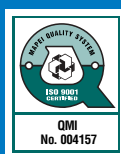
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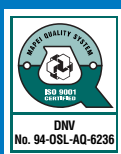
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1055-1-2003