



Planitop[®] 11

Pre-Extended, Pumpable and Pourable Concrete Mix



DESCRIPTION

Planitop 11 is a one-component, pre-extended, cementitious, pumpable and pourable concrete mix for full-depth concrete repairs in above-, below- and on-grade applications. Designed for large-volume repairs with application thicknesses from 1" to 8" (2,5 to 20 cm), *Planitop 11* is suitable for form-and-pour and form-and-pump applications. It is ideal for repairs on horizontal, vertical and overhead surfaces in applications such as tunnels, bridges, dams, parking garages, balcony edges and columns.

FEATURES AND BENEFITS

- Pre-extended with pea gravel
- One-component, requiring only the addition of water
- Can be both pumped and poured
- High slump
- Good freeze/thaw resistance

INDUSTRY STANDARDS AND APPROVALS

LEED v3 Points Contribution

LEED Points

MR Credit 5, Regional Materials* Up to 2 points

** Using this product may help contribute to LEED certification of projects in the category shown above. Points are awarded based on contributions of all project materials.*

WHERE TO USE

- For partial and full-depth concrete repairs from 1" to 8" (2,5 to 20 cm) in thickness

- For form-and-pour and form-and-pump applications on horizontal, vertical and overhead surfaces
- For full-depth repairs of horizontal concrete surfaces subject to traffic, such as parking pads, ramps, industrial floors and walkways
- For repair or replacement of spandrel beams, columns and balcony edges

LIMITATIONS

- Do not install over substrates containing asbestos.
- Ensure that the repair area is at least 1" (2,5 cm) in depth before placement of *Planitop 11*.
- Do not expose *Planitop 11* to rain or moving water during placement.
- Do not use additives with *Planitop 11*.
- Do not mix partial bags of *Planitop 11*.
- Do not use *Planitop 11* for anchoring purposes. For anchoring, use *Planigrout[®] 740* or *Planigrout 712* (see Technical Data Sheets [TDSs] for details).
- Ambient, surface and material temperatures should be between 45°F and 95°F (7°C and 35°C). Refer to American Concrete Institute (ACI) for cold-weather or hot-weather application guidelines.

SUITABLE SUBSTRATES

- Properly prepared masonry and concrete at least 28 days old, stable, sound and dry

Contact MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.



SURFACE PREPARATION

- All substrates must be structurally sound, stable and fully cured.
- Thoroughly clean the surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, form-release agents, laitance, loose toppings, foreign substances and any other residues.
- Mechanically profile and prepare concrete surfaces by engineer-approved methods to obtain an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of at least 7, allowing a minimum clearance of 1" (2,5 cm) behind exposed reinforcing steel. Concrete substrate and ambient room temperatures must be between 45°F and 95°F (7°C and 35°C) before application. Temperatures must be maintained within this range for at least 24 hours after the installation of *Planitop 11*.
- The substrate should be saturated surface-dry (SSD) with no standing water during application. Forms should be flooded 24 hours before application. However, if steel reinforcement is present and requires treatment with *Mapefer™ 1K* or *Planibond® 3C*, do not flood the substrate but re-use *Planibond 3C* as a bonding agent.
- All exposed steel reinforcement should be thoroughly cleaned to remove all oxidation and scale to a near-white condition in accordance with ICRI Technical Guideline No. 03730, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion." For additional protection from future corrosion, coat the prepared reinforcing steel with *Mapefer 1K* or *Planibond 3C*, or utilize cathodic protection with *Mapeshield™ I* (consult TDSs for details).

MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

1. The mixing ratio is 1 U.S. gal. (3,79 L) of clean, potable water per 80 lbs. (36,3 kg) of *Planitop 11*.
2. Use a rotary drum mixer to mechanically mix the material. Pre-dampen the mixer and remove excess water before proceeding. Alternatively, use a heavy-duty, low-speed drill (at 400 to 600 rpm) and Jiffy paddle.
3. Place 0.8 U.S. gal. (3,03 L) of clean, potable water into a mixing container. Slowly add *Planitop 11* powder while mixing; always add the powder to the water. Add additional water up to another 0.2 U.S. gal. (0,76 L) to achieve the desired consistency. Do not add more water than specified and never mix partial bags.
4. Mix for no more than 3 minutes to obtain a smooth, homogenous consistency.

PRODUCT APPLICATION

Placing via form-and-pour

Read all installation instructions thoroughly before installation.

1. *Planitop 11* can be applied via form-and-pour or form-and-pump into formwork on horizontal, vertical and overhead surfaces.
2. For form-and-pour, use a suitable bonding agent such as *Planibond 3C* or apply a cementitious scrub coat of *Planitop 11* mixed with *Planicrete® AC*. When applying a scrub coat, ensure that the profiled surface is SSD and apply *Planitop 11* while the scrub coat is still wet. Do not apply over a dry scrub coat.
3. The formwork should be rigid, sealed and tight to prevent material loss and water absorption into the formwork. Formwork should be pre-treated with an appropriate, environmentally friendly form-release agent to provide ease of form removal. Ensure that formwork has drainage outlets to remove pre-flooded water (24 hours before placement of *Planitop 11*), maintaining an SSD surface.
4. When encountering exposed reinforcing steel bars, clean bars and coat them with *Mapefer 1K* or *Planibond 3C* to protect against corrosion and to improve adhesion (see TDSs for details). Do not flood the forms in these circumstances.
5. After draining forms and immediately after mixing, pump or pour *Planitop 11* into the formed area. Since *Planitop 11* is not self-consolidating, some external and internal vibration may be required to adequately fill the formed area. Reference ACI 304R, "Guide for Measuring, Mixing, Transporting and Placing Concrete."

Placing as a bonded, horizontal topping

Contact MAPEI's Technical Services Department for application procedures when *Planitop 11* is used as a horizontal topping.

CURING

1. Keep *Planitop 11* protected from high winds and direct sunlight while it cures.
2. Moist-cure *Planitop 11* with wet burlap and polyethelene, a fine mist of water or an appropriate ASTM C309-referenced curing compound.
3. For form-and-pour applications: Forms must remain in place for at least 72 hours. If the forms are removed after only 24 hours, wet-cure or use an appropriate curing compound such as *Mapecure™ DR* on the exposed repair area.
4. For improved curing, leave formwork in place for three days after application of *Planitop 11*.

CLEANUP

Wash hands and tools promptly with water before material hardens. Cured material must be mechanically removed.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	> 2,500 psi (17,2 MPa)
7 days	> 5,000 psi (34,5 MPa)
28 days	> 6,000 psi (41,4 MPa)
Compressive strength – ASTM C39	
28 days	> 5,000 psi (34,5 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 750 psi (5,17 MPa)
Slant/shear bond strength – ASTM C882 (modified)	
28 days	> 3,000 psi (20,7 MPa)
Length change – ASTM C157 (modified)	
28 days	< 0.06%
Splitting tensile strength – ASTM C496	
28 days	> 500 psi (3,45 MPa)

Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Physical state	Powder
Color	Gray

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties

Mixing ratio per 80 lbs. (36,3 kg)	10.4% water by weight: 1 U.S. gal. (3,79 L)
Consistency of mix	Pumpable and pourable concrete mix
Application temperature range	45°F to 95°F (7°C to 35°C)
Slump (ASTM C143)	8" to 10" (20 to 25 cm)
Set time for concrete mixture (ASTM C403)	Initial: About 8 hours Final: About 10 hours
Set time for hydraulic mortar (ASTM C191)	Initial: About 5 hours Final: About 6 hours

CSI Division Classification

Maintenance of Concrete	03 01 00
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Packaging

Size
Bag: 80 lbs. (36,3 kg)

Approximate Coverage* per 80 lbs. (36,3 kg)

Yield
0.65 cu. ft. (0,018 m³)

* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to climate and substrate conditions.

Planitop® 11



Refer to the SDS for specific data related to VOCs, health and safety, and handling of product.

STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith.

ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.

We proudly support the following industry organizations:



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For the most current BEST-BACKED™ product data and warranty information, visit www.mapei.com.

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