

# Planitop 11

Pre-Extended, Pumpable and Pourable Concrete Mix



## DESCRIPTION

*Planitop*<sup>®</sup> 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" (2.5 cm) to full depth, *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.

## WHERE TO USE

- Interior and exterior applications
- For partial and full-depth repairs greater than 1" (2.5 cm) in thickness
- For form-and-pour and form-and-pump applications on horizontal, vertical and overhead surfaces

Consult MAPEI's Technical Services Department for installation recommendations regarding uses not listed.

## FEATURES AND BENEFITS

- Pre-extended with pea gravel
- One-component
- Can be both pumped and poured
- High-slump
- Compatible with *Mapeshield*<sup>™</sup> / galvanic anode

## SURFACE PREPARATION

- Concrete surface must be clean, sound and free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and any foreign substance or any conditions that might affect proper bonding of the product, resulting in possible cracking and altered product performance.
- Saw-cut the perimeter of the repair area into a square to a minimum depth of 1" (2.5 cm).
- Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R guidelines, CSP #7 to #9.
- Ensure that the concrete substrate is saturated surface-dry (SSD) before installation of *Planitop 11*; alternatively, the prepared concrete can be coated with *Planibond*® 3C.
- Ensure that all exposed reinforcing steel is prepared in accordance with the most current ICRI 310.1 guideline and coated with either *Planibond 3C* or *Mapecer*™ 1K [NA].
- Pretreat formwork with a form-release agent.

## MIXING

Before product use, take appropriate safety precautions. 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 an appropriate paddle.
3. Place 3/4 of the required water into a mixing container. Slowly add *Planitop 11* powder while mixing. Add remaining water as required to achieve the desired consistency. Do not add more water than specified.
4. Mix for 3 minutes or to a smooth, homogenous consistency.

## PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

### Placing via form-and-pour

1. *Planitop 11* can be applied via form-and-pour or form-and-pump into formwork on horizontal, vertical and overhead surfaces.
2. 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.
3. When encountering exposed reinforcing steel bars, clean bars and coat them with *Mapecer 1K* [NA] or *Planibond 3C* to protect against corrosion and to improve adhesion (see Technical Data Sheets for details). Do not flood the forms in these circumstances.
4. After draining forms and immediately after mixing, pump or pour *Planitop 11* into the formed area. Because *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

1. Ensure that the prepared concrete is SSD before the application.
2. Apply a scrubcoat of mixed *Planitop 11*.
3. Use a float to install *Planitop 11* as a repair mortar, by working it into the scrubcoat before the scrubcoat dries out. Work from the center of the repair to the outer edge.
4. Finish to match the surrounding concrete.

## CURING

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- Protect *Planitop 11* from high winds and direct sunlight while it cures.
- Moist-cure *Planitop 11* with wet burlap and polyethylene, a fine mist of water or an appropriate ASTM C309-referenced curing compound.
- For form-and-pour applications: Forms must remain in place for at least 72 hours. When forms are removed, wet-cure or use an appropriate curing compound such as *Mapecure™ DR* on the exposed repair area.

## CLEANUP

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Wash hands and tools promptly with water before *Planitop 11* hardens. Cured material must be mechanically removed.

## LIMITATIONS

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- 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.
- 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.

## Product Performance Properties

| Laboratory Tests  | Results                |
|---|------------------------|
| <b>Compressive strength – ASTM C109 (CAN/CSA-A5)</b>    |                        |
| 1 day   | > 2,500 psi (17.2 MPa) |
| 7 days  | > 5,000 psi (34.5 MPa) |
| 28 days   | > 6,000 psi (41.4 MPa) |
| <b>Compressive strength – ASTM C39</b>                  |                        |
| 28 days   | > 5,000 psi (34.5 MPa) |
| <b>Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)</b> |                        |
| 28 days   | > 750 psi (5.17 MPa)   |
| <b>Slant/shear bond strength – ASTM C882 (modified)</b> |                        |
| 28 days   | > 3,000 psi (20.7 MPa) |
| <b>Length change – ASTM C157 (modified)</b>             |                        |
| 28 days   | < 0.06%                |
| <b>Splitting tensile strength – ASTM C496</b>           |                        |
| 28 days   | > 500 psi (3.45 MPa)   |

## Shelf Life and Product Characteristics

before mixing

|                       |   |
|-----------------------|---|
| <b>Shelf life</b>     | 1 year when stored in original, unopened packaging at 73°F (23°C) |
| <b>Physical state</b> | Powder  |
| <b>Color</b>          | 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

|  |   |
|--|---|
| <b>Mixing ratio per 80 lbs. (36.3 kg)</b>        | 10.4% water by weight: 1 U.S. gal. (3.79 L)     |
| <b>Consistency of mix</b>                        | Pumpable and pourable concrete mix              |
| <b>Application temperature range</b>             | 45°F to 95°F (7°C to 35°C)                      |
| <b>Slump (ASTM C143)</b>                         | 8" to 10" (20 to 25 cm)                         |
| <b>Set time for concrete mixture (ASTM C403)</b> | Initial: About 8 hours<br>Final: About 10 hours |
| <b>Set time for hydraulic mortar (ASTM C191)</b> | Initial: About 5 hours<br>Final: About 6 hours  |

## CSI Division Classification

Maintenance of Concrete

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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 m<sup>3</sup>)

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

## ADDITIONAL INFORMATION

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact [sustainability\\_USA@mapei.com](mailto:sustainability_USA@mapei.com) (USA) or [sustainability-durabilite@mapei.com](mailto:sustainability-durabilite@mapei.com) (Canada).

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For the most current product data and BEST-BACKED<sup>SM</sup> warranty information,  
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