

Planitop 13

Hand-Applied, One-Component Vertical, Overhead and Horizontal Repair Mortar



DESCRIPTION

Planitop® 13 is a one-component, polymer-modified, fiber-reinforced, extended-working-time, cementitious repair mortar with corrosion inhibitor. *Planitop* 13 is designed to be a high-utility product that excels in vertical, overhead and horizontal repairs when forming and pouring is not possible or desirable.

FEATURES AND BENEFITS

- Extended working time: For ease of application in resurfacing/topping repairs and in hot-weather conditions
- High utility: Can be used in vertical, overhead and horizontal applications (pedestrian traffic only) for a uniform appearance across all repaired surfaces
- Ideal consistency for thicker resurfacing of spalled/pitted/damaged concrete with a single lift of material
- Fiber-reinforced
- Polymer-modified for added durability and bond strength
- Hand-applied: No forming and pouring required
- User-friendly, single-component formulation
- Can be placed from 1/8" to 2" (3 mm to 5 cm) per lift

WHERE TO USE

- Medium- to high-build resurfacing of vertical, overhead and horizontal (pedestrian traffic only) concrete surfaces
- Interior and exterior structural concrete repairs and restoration
- Particularly well-suited for concrete structures where repairs extend to horizontal, vertical and overhead surfaces, or where repairs require thicker applications. This includes tunnels, bridges, overpasses, stairs (risers and treads), retaining walls, pools, fountains, honeycombs, beams, columns, building facades, ceilings, balconies, walkways, form ties, holes and more.
- Can be mixed with *Planitop Accelerator* for cold-weather installation. Contact MAPEI's Technical Services Department for details.

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

SURFACE PREPARATION

- Concrete must be clean, sound, and free of loose particles, efflorescence, paints, tar, grease, asphaltic materials, bond breakers, curing compounds, wax and any foreign substance or any conditions that may affect proper bonding of the product and that could result in cracking, discoloration or changes to the product's physical properties and overall performance.
- Mechanically profile concrete surfaces by engineer-approved methods and in accordance with the most current International Concrete Repair Institute (ICRI) #310.2R guidelines to achieve a concrete surface profile (CSP) in accordance with the application thicknesses below:
 - CSP #3 to #4 for applications from 1/8" to 1/4" (3 to 6 mm)
 - CSP #5 to #10 for applications greater than 1/4" and up to 2" (6 mm to 5 cm)
- Reference ICRI Technical Guideline #310.1R and American Concrete Institute (ACI) RAP Bulletin 7 for repair geometry, surface preparation and material application details.
- Ensure that the concrete surface is saturated surface-dry (SSD) before product placement.
- Ensure that all exposed reinforcing steel is prepared in accordance with the most current ICRI #310.2R guidelines and coated with either *Planibond*® 3C or *Mapefer*™ 1K [NA].

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet (SDS) for details.

1. Into a clean mixing container, pour 0.87 U.S. gals. (3.29 L) of water.
2. Slowly add *Planitop 13* powder to the water while mixing, using a low-speed drill and an appropriate mixing paddle.
3. Add up to 0.06 U.S. gals. (0.23 L) of additional water to achieve the desired consistency. Do not mix more than 0.93 U.S. gals. (3.52 L) of water per 50-lb. (22.7-kg) bag.
4. Mix for up to 3 minutes to achieve a smooth and homogenous consistency. While mixing, scrape the sides of the pail to incorporate any remaining dry powder.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Apply *Planitop 13* as a scrubcoat directly over the prepared SSD surface.
2. Immediately apply *Planitop 13* while the scrubcoat is still wet.
3. When applying additional coats of *Planitop 13*, wait for the previous lift to reach an initial set. Score or crosshatch the surface to promote adhesion of additional coats.

CLEANUP

- Use water promptly to wash hands and tools before the material hardens. Cured material must be mechanically removed.

CURING

- Immediately after placement, apply a water-based curing compound that is compliant with ASTM C309, such as *Mapecure™ DR*, or cover the application area with a polyethylene sheeting or wet burlap for the first 24 hours.
- For a horizontal application exposed to pedestrian traffic, allow at least 48 hours of curing at 73°F (23°C) before returning the application area to service.

LIMITATIONS

- Freshly installed *Planitop 13* should be protected from rain and water.
- Do not install over substrates containing asbestos.
- Do not mix *Planitop 13* with cement, aggregates or additives (other than *Planitop Accelerator*, as described above).
- The minimum application thickness is 1/8" (3 mm). Do not exceed 4" (10 cm) in thickness when installed in two lifts of 2" (5 cm) per lift.
- Do not use solvent-based curing compounds.
- Repair configurations must be carefully considered and consistent with industry practices recommended by the ACI and ICRI.
- Install at temperatures above 41°F (5°C) and rising, and below 95°F (35°C). For temperatures outside of this range, refer to the ACI's cold-weather or hot-weather application guidelines. Refer to the MAPEI reference guide "Installing repair materials in cold weather" at www.mapei.com.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	2,610 psi (18 MPa)
7 days	4,351 psi (30.0 MPa)
28 days	5,801 psi (40.0 MPa)

Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
7 days	870 psi (6 MPa)
28 days	1,450 psi (10 MPa)
Slant/shear bond test – ASTM C882	
1 day	> 1,160 psi (8 MPa)
7 days	> 1,885 psi (13 MPa)
28 days	> 2,320 psi (16 MPa)
Freeze/thaw resistance, 300 cycles – ASTM C666	Procedure A – 96% durability factor
Shrinkage, 28 days – ASTM C157	< 0.08%
De-icing salts resistance, 56 cycles (BNQ 2621-905)	Rating 0, no scaling
Chloride permeability, 28 days – ASTM C1202	Very low (between 100 and 1,000 coulombs)
Modulus of elasticity, 28 days – ASTM C469	2,755,722 psi (19.0 GPa)

Shelf Life and Product Characteristics before mixing

Shelf life	1 year in original, unopened packaging, stored in a dry, heated and covered place
Physical state	Powder

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 at 73°F (23°C) and 50% relative humidity

Color	Light gray
Mixing ratio	Between 14.5% and 15.5% of mixing water by weight From 0.87 to 0.93 U.S. gal. (3.29 to 3.52 L) of water per 50-lb. (22.7-kg) bag
Consistency of mix	Paste
Application temperature range	41°F to 95°F (5°C to 35°C)
Pot life	20 to 40 minutes
Initial set – ASTM C191	> 40 minutes

Final set – ASTM C191	< 90 minutes
Maximum thickness per lift	2" (5 cm)

CSC Division Classification

Maintenance of Concrete	03 01 00
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Packaging

Size
Bag: 50 lbs. (22.7 kg)

Approximate Coverage*

per 50 lbs. (22.7 kg)

Yield
0.44 cu. ft. (0.0126 m ³)

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

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (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 (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **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.**

CONTACT INFORMATION

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