

Planitop 18

Very Rapid-Hardening Repair Mortar



DESCRIPTION

Planitop[®] 18 is a very rapid-hardening repair mortar that exhibits high early strength and provides quick return to service.

FEATURES AND BENEFITS

- Open to traffic in as little as 1 hour
- Can be coated in less than 4 hours
- Depth of 1/2" to 2" (12 mm to 5 cm) neat, up to 8" (20 cm) extended
- Contains a corrosion inhibitor
- Shrinkage-compensated

INDUSTRY STANDARDS AND APPROVALS

- Meets or exceeds the requirements of ASTM C928, R3

WHERE TO USE

- For interior and exterior applications
- Horizontal repairs
- Bridge decks
- Parking garages
- For joint repair of concrete floors

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

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 substances 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 with a minimum depth of 1/2" (12 mm).
- Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R guidelines, CSP #5 or greater.
- Ensure that the concrete substrate is saturated surface-dry (SSD) before installing *Planitop 18*.
- 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 *Mapefer*™ 1K.

MIXING

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

1. *Planitop 18* requires 2.5 to 3 U.S. qts. (2.37 to 2.84 L) of water per 50-lb. (22.7-kg) bag.
2. Into a clean mixing container, pour 3/4 of the required water.
3. Slowly add the full bag of *Planitop 18* into the mixing container while mixing with a drill and appropriate mixer.
4. Mix for 2 to 3 minutes. *Planitop 18* will initially appear to be dry during mixing. While mixing, add the remaining water and mix to a smooth, homogenous consistency. Do not add more than 3 U.S. qts. (2.84 L) of water.
5. For an extended mixture, add up to 40 lbs. (18.1 kg) of washed, SSD 3/8" (10 mm) pea gravel while mixing.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Ensure that the prepared concrete is SSD before the application.
2. Apply a scrubcoat of mixed *Planitop 18*.
3. Use a float to install *Planitop 18* 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 similarly to the surrounding concrete.

CURING

- Protect *Planitop 18* from high winds and direct sunlight during curing.
- Protect *Planitop 18* with wet burlap for at least 1 hour after placement.
- Protect *Planitop 18* from freezing for at least 12 hours after placement.
- Alternatively, apply a water-based curing compound conforming to ASTM C309.

CLEANUP

- Immediately clean tools and equipment with water before the material hardens. Hardened material must be mechanically removed.

LIMITATIONS

- Only use at between 32°F and 95°F (0°C and 35°C). Refer to the American Concrete Institute (ACI) for cold-weather or hot-weather application guidelines.
- Do not overmix or overwork *Planitop 18*.
- Do not use *Planibond 3C* as a bonding agent for *Planitop 18*.

Product Performance Properties

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

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 hour	> 2,500 psi (17.2 MPa)
2 hours	> 5,500 psi (37.9 MPa)
1 day	> 7,800 psi (53.8 MPa)
28 days	> 9,400 psi (64.8 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
1 day	> 700 psi (4.83 MPa)
28 days	> 850 psi (5.86 MPa)
Modulus of elasticity – ASTM C469	
28 days	> 3.71 x 10 ⁶ psi (25.6 GPa)
Mortar flow – ASTM C109	
5 minutes	> 100%
Bond strength – ASTM C882 (modified)	
1 day	> 2,400 psi (16.6 MPa)
28 days	> 3,000 psi (20.7 MPa)
Length change – ASTM C157 (modified C928)	
28 days, water-cured	+0.05% (max. +0.06%)
28 days, air-cured	-0.06% (max. -0.08%)
Freeze/thaw resistance – ASTM C666-A (CAN/CSA A23.2-9B), 300 cycles	> 99% durability factor
Scaling resistance – ASTM C672 (CAN/CSA A23.2-22C)	
50 cycles	0 rating, no scaling
Permeability to chlorides – ASTM C1202 (AASHTO T277)	
28 days	Very low – <1,000 coulombs

VOCs (Rule #1168 of California's SCAQMD)	0 g per L
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Shelf Life

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
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Application Properties

Minimum depth of repair	
Neat	1/2" (12 mm)
Extended	2" (5 cm)
Maximum depth of repair	
Extended	8" (20 cm)
Initial set – ASTM C191	> 12 minutes
Final set – ASTM C191	≤ 30 minutes

Packaging

Size
Bag: 50 lbs. (22.7 kg)

Approximate Coverage*

per 50 lbs. (22.7 kg)

Mixture type	Yield
Neat	0.42 cu. ft. (0.012 m ³)
Extended by 80%	0.64 cu. ft. (0.018 m ³)

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

CSI Division Classification

Maintenance of Cast-In-Place Concrete	03 01 30
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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

MAPEI Headquarters of North America

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

Technical Services

U.S. and Puerto Rico:

Flooring: 1-800-992-6273

Concrete and heavy construction: 1-888-365-0614

Canada:

1-800-361-9309

Customer Service

1-800-42-MAPEI (1-800-426-2734)

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For the most current product data and BEST-BACKEDSM warranty information,
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