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MAPEI®

Planitop® 15

Form-and-Pour, One-Component Repair Mortar

CORROSION INHIBITOR ENHANCED™

DESCRIPTION

Planitop 15 is a one-component, shrinkage-compensated, cementitious, fiber-reinforced, fluid mortar. *Planitop 15* contains a corrosion inhibitor and silica fume, and is well-suited for form-and-pour and form-and-pump applications where high early strength and flowability are required.

FEATURES AND BENEFITS

- Fiber-reinforced to aid in providing greater tensile strength and control of cracking
- Higher resistance to abrasion
- One-component system that requires only the addition of potable mixing water
- Can be applied using the form-and-pour or form-and-pump methods
- Can be extended up to 50% by weight for repair thicknesses up to 8" (20 cm) when properly installed and reinforcing steel is incorporated
- Strong bond to existing concrete surfaces
- Provides good resistance to freeze/thaw conditions and de-icing salts
- Contains silica fume for a more durable and impermeable concrete

INDUSTRY STANDARDS AND APPROVALS

LEED 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 categories shown above. Points are awarded based on contributions of all project materials.*

WHERE TO USE

- For structural concrete repairs in thicknesses from 3/8" to 4" (10 mm to 10 cm) neat. *Planitop 15* can be placed up to 8" (20 cm) when extended 50% by weight with 3/8" (10 mm) pea gravel in horizontal, vertical and overhead applications. It is suited for all concrete form-and-pour and form-and-pump repairs.
- For repairing concrete structures such as tunnels, bridges, overpasses, retaining walls, beams, building facades, ceilings and balconies
- For treating defects in concrete surfaces and for filling honeycombs, voids and cavities
- For repairing concrete surfaces subject to extreme exposure and heavy vehicular traffic, including roads, industrial floors, sidewalks and canals

LIMITATIONS

- Do not add additives or cement to *Planitop 15*.
- Only use between 45°F to 95°F (7°C to 35°C). Refer to the American Concrete Institute (ACI) for cold-weather or hot-weather application guidelines.
- Do not use solvent-based curing compounds.

SUITABLE SUBSTRATES

- Properly prepared, structurally sound, fully cured concrete substrates (at least 28 days old)

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

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SURFACE PREPARATION

- Ensure that all substrates are clean, structurally sound and stable.
- Thoroughly clean the surface of substances that could affect the bond strength of *Planitop 15*, 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 shotblasting, abrasive blasting, water-jetting, scarifying or other engineer-approved methods to achieve a CSP of ≥ 5 for acceptable profile height.
- Reference International Concrete Repair Institute (ICRI) Technical Guideline #310.1R-2008 and ACI RAP Bulletins 4 and 5 for repair geometry, surface preparation and material application details.
- Ensure that the concrete substrate and ambient room temperatures are 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 15*.
- Ensure that the concrete substrate is SSD (saturated surface-dry) before installation of *Planitop 15*. Do not apply over standing water or wet surfaces.

MIXING

Note: Choose all appropriate safety equipment before use. Refer to the Material Safety Data Sheet (MSDS) for more information.

Mix ratio with water: 1 U.S. gal. (3,79 L) of water per 55-lb. (24,9-kg) bag of *Planitop 15*

1. Into a clean mixing container, pour 0.75 U.S. gal. (2,84 L) of required potable water for a fluid consistency (see mixing ratio below):

   Fluid: 1 U.S. gal. (3,79 L) per 55-lb. (24,9-kg) bag
2. Slowly add *Planitop 15* to water while mixing, using a low-speed drill and jiffy mixer. Mix for 1 to 2 minutes, removing any unmixed powder. While mixing, add the remaining 0.25 U.S. gal. (0,95 L) of water as required and mix to a smooth, homogenous consistency.
3. Overmixing, or moving the mixer up and down during the mixing process, should be avoided, as it could trap air and shorten pot life.
4. Mix only the amount of material that can be applied within 60 minutes.
5. For applications requiring thicknesses between 4" and 8" (10 and 20 cm), extend up to 50% by weight (26 lbs. per 55-lb. bag [11,8 kg per 24,9-kg bag] of *Planitop 15*) with clean 3/8" (10 mm) pea gravel. For deeper repairs, consult MAPEI's Technical Services Department.

PRODUCT APPLICATION

1. Read all application instructions thoroughly before installation.
2. Apply by the form-and-pour or form-and-pump method into formwork on horizontal, vertical and overhead surfaces. The recommended maximum thickness per lift is 4" (10 cm) neat and 8" (20 cm) extended.
3. Pretreat formwork with a form release agent so that water from the mixed *Planitop 15* is not absorbed into the formwork.
4. Clean and coat exposed reinforcing steel bars with *Planibond® 3C* or *Mapefer™ 1K* to protect against corrosion (see Technical Data Sheets for details).

CURING

1. During curing, protect *Planitop 15* from excessive heat and high wind conditions. Ideally, leave formwork in place during the first three days of curing.
2. Mist-spray surface with water during the first 24 hours of wet curing. Alternatively, use damp burlap, a white polyethylene sheet or a suitable water-based curing compound. Do not use solvent-based curing compounds.

Note: Remove form-releasing agent and/or curing compound before covering the surface with a coating.

CLEANUP

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

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Product Performance Properties

Laboratory Tests	Results
Physical state	Powder
Color	Gray
Maximum aggregate size	3/32" (2,5 mm)
***Planitop 15*, mixed neat at 15% water ratio (about 1 U.S. gal. [3,79 L])**	
Mixing ratio	Fluid: 1 U.S. gal. (3,79 L) of water per 55-lb. (24,9-kg) bag
Consistency of mix	Very flowable mortar
Yield	0.46 cu. ft. (0,013 m^3)
Application temperature range	45°F to 95°F (7°C to 35°C)
Pot life	60 minutes maximum
Initial set	> 3 hours
Final set	< 8 hours
Thickness per lift	3/8" to 4" (10 mm to 10 cm)
Compressive strength – ASTM C109 (CAN/CSA-A5) 1 day 7 days 28 days	 > 4,350 psi (30 MPa) > 8,600 psi (59,3 MPa) > 9,900 psi (68,3 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C) 1 day 7 days 28 days	 > 725 psi (5 MPa) > 1,160 psi (8 MPa) > 1,450 psi (10 MPa)
Modulus of elasticity – ASTM C469 28 days	 4.5 x 10^6 psi (31,1 GPa)
Slant/shear bond strength – ASTM C882 (modified) 1 day 28 days	 > 1,850 psi (12,8 MPa) > 3,040 psi (21,0 MPa)
Volume change – ASTM C157 (modified) 28 days, dry-cured 28 days, wet-cured	 -0.08% +0.11%
Freeze/thaw resistance – ASTM C666-A (CAN/CSA A23.2-9B), 300 cycles	 Good – 100% durability factor
Resistance to de-icing salts – ASTM C672 (CAN/CSA A23.2-16C)	Good – 0 rating, no scaling (50 cycles)
Permeability to chlorides – ASTM C1202 (AASHTO T277)	Very low – 100 to 1,000 coulombs at 28 days

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.

Shelf Life and Application Properties

Shelf life	1 year in original bag, in dry, heated and covered place

CSI Division Classification

Maintenance of Concrete	03 01 00

Packaging

Product Code	Size
2015025	Bag: 55 lbs. (24,9 kg)

Planitop® 15

RELATED DOCUMENTS

MAPEI's Technical Bulletin "The Impact of Cold Weather on Repair Materials"	010810-TB*
Surface Repair by Form-and-Pour Techniques	ACI RAP Bulletin 4
Surface Repair using Form-and-Pump Techniques	ACI RAP Bulletin 5
Standard Specification for Curing Concrete	ACI 308.1
Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion	ICRI Technical Guideline #310.1R-2008 (formerly #03730)
Guide for the Use of Preplaced Aggregate Concrete for Structural and Mass Concrete Applications (Reapproved 2005)	ACI 304.1R-92

** At www.mapei.com*

Refer to the MSDS 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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