

Topcem Premix

Accelerated-Cure Screed



DESCRIPTION

Topcem™ Premix is an accelerated-cure screed mortar suitable for bonded as well as unbonded applications. *Topcem Premix* can easily be screeded or sloped, and has the workability and working time of conventional screed mortars.

FEATURES AND BENEFITS

- Fast-setting
- For thicknesses from 1/4" to 2" (6 mm to 5 cm) neat and up to 4" (10 cm) when extended with 20% by weight of washed, clean, saturated surface-dry (SSD), 3/8" (10 mm) pea gravel
- When properly mixed and installed, *Topcem Premix* has a residual moisture content of less than 2.5% at 48 hours.

WHERE TO USE

- Interior/exterior use
- As a repair mortar for horizontal concrete
- As an overlay to resurface or reslope horizontal concrete
- Under MAPEI moisture-mitigation products

Tile Council of North America (TCNA) Statement on Maximum Allowable Deflection

“Floor systems, whether wood framed or concrete, over which the tile will be installed... shall be in conformance with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes. The owner should communicate in writing to the project design professional and general contractor the intended use of the tile installation, including in-service loads or information. Project design professional and general contractor must make necessary allowances for the expected live load, concentrated loads, impact loads and dead loads, including maximum allowable loads during construction and maintenance. The tile contractor shall not be responsible for problems resulting from any structural subfloor installation not compliant with applicable building codes, unless structural subfloor was designed and installed by the tile contractor.”

SURFACE PREPARATION

- Concrete surface must be clean and free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and any foreign substance or any conditions that may affect product performance or proper bonding.
- Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R Guidelines.
- Ensure that the concrete substrate is saturated surface-dry (SSD) before installation of *Topcem Premix*.
- 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.

Each 50-lb (22.7-kg) bag of *Topcem Premix* requires 2.16 to 2.4 U.S. qts. (2.04 to 2.27 L) of clean potable water, or 2.5 U.S. qts. (2.37 L) of undiluted *Planicrete AC*.

1. Pour $\frac{3}{4}$ of the required amount of mixing liquid into a clean mixing container.
2. Slowly add *Topcem Premix* to the mixing container and mix for 2 to 3 minutes with a drill and appropriate mixing paddle. To extend the mix, add aggregate before mixing and utilize a rotary drum mixer.
3. Add the remaining $\frac{1}{4}$ required mixing liquid while mixing and continue to mix to a homogenous consistency.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Ensure that the prepared concrete is saturated surface-dry (SSD) before application of *Topcem Premix*.
2. Apply a scrubcoat of mixed *Topcem Premix*.
3. Apply *Topcem Premix* by working it into the scrubcoat before it dries.

4. Use of screed rails is recommended for large areas. Screed or trowel the material to the desired thickness and finish.
5. Use *Mapecrete® Film* when conditions of excessive heat and/or wind could cause premature surface drying and result in cracking.

For floating installations

- Use *Planicrete AC* rather than water for mixing.
- Pre-place 2" x 2" (5 x 5 cm), 16-by-16-gauge, galvanized, welded wire mesh so that it will be in the center of the floating topping, and provide the required structural integrity of the floating topping.
- When applying *Topcem Premix*, maintain a thickness of at least 1-3/8" (3.5 cm).

CURING

- Cover with wet burlap or polyethylene sheet during the first 4 hours of curing.
- Alternately, apply a water-based curing compound conforming to ASTM C309.

CLEANUP

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

LIMITATIONS

- Do not install over substrates containing asbestos.
- Wait at least 24 hours to install self-leveling underlayments onto *Topcem Premix*.
- Wait at least 48 hours to install moisture-sensitive products onto *Topcem Premix*.
- Cool, damp and humid conditions will slow the rate of hydration and cause the topping to retain a higher moisture content for a longer period of time. In temperatures below 70°F (21°C), increase the time allowed before applying a covering.
- In environments subject to freeze/thaw or where increased durability is desired, replace the mixing water with undiluted *Planicrete® AC*.
- On bonded systems under 3/4" (19 mm) in thickness, replace the mixing water with undiluted *Planicrete AC*.
- Do not add other additives or cements to *Topcem Premix*.
- *Topcem Premix* also can be used as an interior floating topping and must be installed over an engineer-approved substrate with proper reinforcement. For all floating systems, replace the mixing water with undiluted *Planicrete AC*.
- When using *Topcem Premix* as an interior floating substrate, consult the Tile Council of North America for deflection criteria of the substrate it is to be applied to.
- Do not apply *Topcem Premix* over ponded water.
- 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 3 days after the installation of *Topcem Premix*.
- Do not overmix.
- Do not mix more material than can be applied within a 15-minute period.

Product Performance Properties

Laboratory Tests	Results for Water Mixture	Results for <i>Planicrete AC</i> Mixture
Compressive strength – ASTM C109 (CAN/CSA-A5)		
1 day	> 2,000 psi (13.8 MPa)	> 1,700 psi (11.7 MPa)
7 days	> 2,700 psi (18.6 MPa)	> 3,300 psi (22.8 MPa)
28 days	> 3,000 psi (20.7 MPa)	> 5,300 psi (36.6 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)		
28 days	> 725 psi (5 MPa)	> 1,500 psi (10.3 MPa)
Pull-out strength (rupture of concrete) – CAN/CSA-A23.2-6B	> 275 psi (1.90 MPa)	> 300 psi (2.07 MPa)
Flammability		
Flame spread	0	0
Fuel contribution	0	0
Smoke development	0	0
VOC content	0 g per L	

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

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

Mixing ratio, per 50 lbs. (22.7 kg) of <i>Topcem Premix</i>	For water mixture: 9% to 10% water, or 2.16 to 2.4 U.S. qts. (2.04 to 2.27 L) For <i>Planicrete AC</i> mixture: 10.5% <i>Planicrete AC</i> , or 2.5 U.S. qts. (2.37 L)
Consistency of mix	Screed mortar
Application temperature range	45°F to 95°F (7°C to 35°C)

Pot life	30 minutes
Initial set (ASTM C191)	About 50 minutes
Final set (ASTM C191)	For water mixture: 85 to 110 minutes For <i>Planicrete AC</i> mixture: 105 to 120 minutes
Ready for application of self-levelers	Typically after 1 day
Ready for application of nonbreathable coatings	Typically after 2 days

Note: Placements of high volumes of material and cool, damp and humid conditions will slow the rate of hydration and cause the topping to retain a higher moisture content for a longer period of time. In high-volume placements and in temperatures below 70°F (21°C), increase the time allowed before applying covering.

CSI Division Classifications

Maintenance of Concrete	
Maintenance of Concrete	03 01 00
Mortar Bed Tiling	09 32 00

Packaging

Size	
Bag: 50 lbs. (22.7 kg)	

Approximate Coverage*

per 50 lbs. (22.7 kg)

Yield	
0.41 cu. ft. (0.012 m ³)	

* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of equipment, thickness applied and application methods used.

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, visit www.mapei.com.
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