

# Mapecem 102

Medium-Build, One-Component, Fast-Setting Mortar



## DESCRIPTION

*Mapecem*® 102 is a one-component, shrinkage-compensated, polymer-modified, fast-setting cementitious mortar with a corrosion inhibitor and silica fume. *Mapecem 102* is intended for the renovation and topping of horizontal concrete surfaces.

## FEATURES AND BENEFITS

- For concrete repair and topping applications from 1/4" to 2" (6 mm to 5 cm)
- *Mapecem 102* can be opened to foot and rubber-wheel traffic within 3 hours.
- Requires only the addition of water
- Can be applied using a trowel or screed

## WHERE TO USE

- For concrete repair and topping applications from 1/4" to 2" (6 mm to 5 cm), or extended up to 20% by weight for thicknesses from 2" to 6" (5 to 15 cm) with 3/8" (10 mm) thoroughly washed, sound, saturated surface-dry (SSD) pea gravel
- For renovating and resurfacing interior and exterior horizontal concrete surfaces found in residential, commercial and institutional structures that are subject to foot traffic and rubber-wheel traffic
- When properly mixed and installed, *Mapecem 102* has a residual moisture content of less than 2.5% at 24 hours, making it ideal for floor-covering applications in residential, commercial and institutional structures.

## SURFACE PREPARATION

- Concrete surfaces must be clean and free of loose particles, efflorescence, paint, tars, grease, asphaltic materials, bond breakers, curing compounds, wax and any foreign substance.

- Mechanically profile clean, sound and stable concrete surfaces to obtain a concrete surface profile (CSP) equal to or greater than #5 per ICRI Guideline #310.2R-2013.
- Clean any exposed steel reinforcement and coat with *Mapefer*™ 1K or *Planibond*® 3C (see the respective Technical Data Sheets for details) to protect against corrosion.

## MIXING

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

1. Into a clean mixing pail, pour 4/5 of the recommended amount of cool, clean, potable water. See “Mixing ratio” in the chart below.
2. Slowly add *Mapecem 102* to the water while mixing, using a low-speed mixer.
3. Add as much of the remaining 1/5 of water as needed to achieve the desired consistency. Continue mixing for 4 minutes to achieve a smooth, homogenous consistency.

## PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Before application, ensure that the prepared concrete is SSD.
2. Apply with a trowel or a screed, with or without formwork (screed rail), on a horizontal surface.

## CURING

- Cure with wet burlap or polyethylene sheet during the first 3 hours of curing. Alternately, apply a water-based curing compound conforming to ASTM C309.

## CLEANUP

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

## LIMITATIONS

- Do not add other additives or cements to *Mapecem 102*.
- Do not use solvent-based curing compounds.
- Only use between 45°F and 95°F (7°C and 35°C).

## Product Performance Properties\*

Laboratory Tests	Results
<b>Compressive strength – ASTM C109 (CAN/CSA-A5)</b>	
3 hours	> 4,350 psi (30 MPa)
1 day	> 5,800 psi (40 MPa)
7 days	> 7,250 psi (50 MPa)
28 days	> 7,975 psi (55 MPa)
<b>Slant shear bond strength – ASTM C882</b>	
24 hours	1,450 psi (10 MPa)
7 days	1,740 psi (12 MPa)
28 days	2,175 psi (15 MPa)
<b>Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)</b>	
1 day	> 750 psi (5.17 MPa)
7 days	> 1,150 psi (7.93 MPa)
28 days	> 1,350 psi (9.31 MPa)
<b>Shrinkage – ASTM C157, modified (typical results)</b>	
7 days, dry-cured	< -0.05%
28 days, dry-cured	< -0.06%
<b>Freeze/thaw resistance – ASTM C666-A (CAN/CSA A23.2-9B)</b>	
300 cycles	Good – 98% durability factor
<b>Resistance to de-icing salts – ASTM C672 (CAN/CSA A23.2-16C)</b>	
50 cycles	Very good – 0 rating, no scaling
<b>Permeability to chlorides – ASTM C1202 (AASHTO T277)</b>	
28 days	Very low – in the range of 100 to 1,000 coulombs (typical value is 160 coulombs)
VOC content	0 g per L

\* All tests performed at 72°F (22°C) and 50% relative humidity with 10% of mixing water

## Shelf Life and Product Characteristics

before mixing

Shelf life	1 year stored in original, unopened packaging in a dry, heated, covered and well-ventilated place
Physical state	Powder
Color	Gray

## Application Properties

Mixing ratio	2-3/4 U.S. qts. of water per 55-lb. bag (2.60 L per 24.9-kg bag) of <i>Mapecem 102</i>
Consistency	Screed mortar
Application temperature range	45°F to 95°F (7°C to 35°C)
Thickness per lift	1/4" to 2" (6 mm to 5 cm)
Pot life	20 to 30 minutes
Initial set – ASTM C191	50 minutes
Final set – ASTM C191	70 minutes
Open to traffic	3 hours

## CSI Division Classifications

Concrete Topping	03 53 00
Cast Underlayment	03 54 00

## Packaging

Size	
Bag: 55 lbs. (24.9 kg)	

## Approximate Coverage\*\*

per 55-lb. (24.9-kg) bag

Yield	0.48 cu. ft. (0.0136 m <sup>3</sup> )
Coverage at 1/4" (6 mm) thickness	24.7 sq. ft. (2.29 m <sup>2</sup> )
Coverage at 1" (2.5 cm) thickness	5.8 sq. ft. (0.54 m <sup>2</sup> )
Coverage at 2" (5 cm) thickness	2.9 sq. ft. (0.27 m <sup>2</sup> )

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

## 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).

## 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.

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