Mapecem 202

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

DESCRIPTION

Mapecem® 202 is a two-component, shrinkage-compensated, polymer-modified, fast-setting cementitious mortar with a corrosion inhibitor.

FEATURES AND BENEFITS

- 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
- Requires only the addition of its liquid (Part B), and is prepackaged with both components for easy field use and control
- Can be applied using a trowel or screed
- *Mapecem 202* can be opened to foot and rubber-wheel traffic within 4 hours.

WHERE TO USE

- For horizontal, exterior/interior structural concrete repairs and toppings at thicknesses from 1/4" to 2" (6 mm to 5 cm)
- For use as a monolithic topping where fast drying is required
- When properly mixed and installed, *Mapecem 202* has a residual moisture content of less than 2.5% at 24 hours, making it ideal for floor-covering applications in residential, commercial, institutional and industrial structures.

SURFACE PREPARATION

- Concrete surface 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 Sheet 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 required amount of latex liquid (Part B).
2. Slowly add the Part A powder to the liquid while mixing, using a low-speed mixer (at 300 to 500 rpm).
3. Add as much of the remaining 1/5 of liquid as needed to achieve the desired consistency. Mix for up to 4 minutes, removing any unmixed powder and remix to a smooth, homogenous consistency.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Before application, ensure that 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 4 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, water or cements to *Mapecem 202*.
- Do not use solvent-based curing compounds.
- Only use between 45°F and 95°F (7°C and 35°C). Note that cool, damp and humid conditions will slow the rate of hydration and will cause the mortar to retain a higher moisture content for a longer period of time.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 (CAN/CSA-A5)	
4 hours	> 2,200 psi (15.2 MPa)
1 day	> 3,100 psi (21.4 MPa)
7 days	> 4,950 psi (34.1 MPa)
28 days	> 6,150 psi (42.4 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
1 day	> 650 psi (4.48 MPa)
7 days	> 1,085 psi (7.48 MPa)
28 days	> 1,500 psi (10.3 MPa)
Modulus of elasticity – ASTM C469, 28 days	2.6 x 10^6 psi (18.0 GPa)
Slant/shear bond strength – ASTM C882 (modified)	
1 day	> 1,100 psi (7.59 MPa)
7 days	> 1,300 psi (8.97 MPa)
28 days	> 1,450 psi (10 MPa)
Pull-off bond strength – ASTM C1583	Greater than concrete (rupture of concrete substrate)
Volume change – ASTM C157 (modified)	Typical results
28 days, dry-cured	-0.04%
28 days, wet-cured	+0.015%
Abrasion resistance – ASTM D4060, after 7 days	
Taber H22-500 g, 200 cycles	< 1.5 g
Freeze/thaw resistance – ASTM C666-A (CAN/CSA A23.2-9B), 300 cycles	100%
Resistance to de-icing salts – ASTM C672 (CAN/CSA A23.2-16C), 50 cycles	0 rating, no scaling
Permeability to chlorides – ASTM C1202 (AASHTO T277), 28 days	Very low – in the range of 100 to 1,000 coulombs
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 and latex liquid

Application Properties

mixed neat

Laboratory Tests	Results
Color of mixture	Dark gray
Mixing ratio (Part A : Part B = 8.9 : 1)	0.71 U.S. gal. (2.69 L) of *Mapecem 202* Part B latex liquid per 55-lb. bag (2,69 L per 24.9-kg bag) of *Mapecem 202* Part A powder
Consistency	Screed mortar
Density	131 lbs. per cu. ft. (2.10 kg per L)
pH (fresh mortar)	12.3
Slump – ASTM C143 (CAN/CSA-A23.2-5C)	9" (23 cm) (neat mortar)
Application temperature range	45°F to 95°F (7°C to 35°C)
Thickness per lift (neat)	1/4" to 2" (6 mm to 5 cm)
Pot life	30 minutes
Initial set – ASTM C191	60 minutes
Final set – ASTM C191	90 minutes
Open to traffic	4 hours

Application Properties

mixed with 20% of 3/8" (10 mm) pea gravel*

Laboratory Tests	Results
Color of mixture	Dark gray
Compressive strength – ASTM C39 (4" x 8" [10 x 20 cm] cylinders)	
1 day	> 2,250 psi (15.5 MPa)
7 days	> 2,800 psi (19.3 MPa)
28 days	> 4,500 psi (31.0 MPa)

** See the preceding chart for other mixture characteristics.*

CSI Division Classifications

Cast in Place Concrete	033000
Cementitious Decks and Underlayment	035000
Concrete Restoration and Cleaning	039000

Packaging

Size	
Kit: 61.17-lb. (27.7-kg) kit	Bag, Part A powder: 55 lbs. (24.9 kg)
	Jug, Part B latex liquid: 0.71 U.S. gal. (2.69 L) and 6.17 lbs. (2.80 kg)

Approximate Yield**

per 61.17-lb. (27.7-kg) kit (mixed neat)

0.47 cu. ft. (0.0133 m^3)

Approximate Coverage**

per 61.17-lb. (27.7-kg) kit (mixed neat)

Thickness	Coverage
1/4" (6 mm)	23.4 sq. ft. (2.17 m^2)
1" (2.5 cm)	5.6 sq. ft. (0.52 m^2)
2" (5 cm)	2.8 sq. ft. (0.26 m^2)

*** 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-durabilite@mapei.com.

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[SM] warranty information, visit www.mapei.com.