Mapefloor PU 400 FC

Two-Component, Fast-Curing, Polyurethane Basecoat for *Mapefloor*™ Parking Deck System

Fast Track Ready

DESCRIPTION

Mapefloor PU 400 FC is a two-component, fast-curing, polyurethane basecoat specifically designed for use as a waterproofing membrane for elevated concrete surfaces where the *Mapefloor* parking deck system is utilized. With its high elongation and crack-bridging properties, *Mapefloor PU 400 FC* is suited as a basecoat layer on concrete substrates subject to vibration.

FEATURES AND BENEFITS

- Can bridge cracks of up to 1/16" (1.5 mm) in concrete substrates at temperatures as low as -4°F (-20°C)
- Low-odor and VOC-compliant
- Elongation greater than or equal to 750%
- Fast-curing

INDUSTRY STANDARDS AND APPROVALS

- Meets or exceeds the requirements of ASTM C957 if applicable in conjunction with *Mapefloor Finish 415 NA* or *Mapefloor Finish 450*

WHERE TO USE

- Interior/exterior multi-story parking garages subjected to vehicular traffic
- Pedestrian bridges
- Balconies

SUITABLE SUBSTRATES

- Properly prepared, elevated concrete substrates that have been mechanically prepared using engineer-approved methods to an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #3, and then primed with *Primer SN*™ [NA] or *Mapefloor PU Primer* [NA]

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

SURFACE PREPARATION

- *Mapefloor PU 400 FC* must be applied over properly prepared, elevated concrete surfaces that have been primed with *Primer SN* [NA] or *Mapefloor PU Primer* [NA].

For complete details on surface preparation, refer to the *Mapefloor* installation manual in the Concrete Restoration Systems section of MAPEI's Website.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details. For complete details on mixing, refer to the *Mapefloor* installation manual in the Concrete Restoration Systems section of MAPEI's Website.

1. Separately premix the Part A hardener to a homogenous consistency (for 1 minute).
2. Pour Part A into the Part B container and mix thoroughly for 2 to 3 minutes to a smooth, homogenous consistency. Never add Part B to Part A, as mixing will be poor.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation. For complete details on application, refer to the *Mapefloor* installation manual in the Concrete Restoration Systems section of MAPEI's Website.

1. Pour the mixed *Mapefloor PU 400 FC* onto the surface of the properly prepared, primed substrate. Spread the product evenly and uniformly with a rubber squeegee at a depth of 20 mils of WFT or at a rate of 80 sq. ft. per U.S. gal. (1.96 m^2 per L).
2. Apply *Mapefloor PU 400 FC* within 1.5 to 24 hours of application of *Primer SN* [NA] or *Mapefloor PU Primer* [NA]. Re-prime if *Mapefloor PU 400 FC* cannot be applied within 24 hours (contact MAPEI's Technical Services Department for re-priming instructions). Steep slopes may require thinner, multiple passes of coating to achieve the necessary thickness.
3. Allow *Mapefloor PU 400 FC* to cure for at least 1.5 hours at 75°F (24°C) or until tack-free. Then apply the appropriate topcoat.

CLEANUP

- Before the material hardens, clean tools with an appropriate solvent or cleaning material, such as xylene.

PROTECTION

- Protect *Mapefloor PU 400 FC* from direct sunlight during curing, as well as from traffic and precipitation, until the application is coated with an appropriate wear surface. At a temperature of 75°F (24°C), a *Mapefloor* parking deck system will allow light foot traffic after 16 hours. Vehicular traffic is allowed on coated surfaces after at least 48 to 72 hours. Lower temperatures will increase the curing time and lengthen the time before pedestrian and vehicular traffic is allowed.

LIMITATIONS

- Do not apply onto slab-on-grade concrete surfaces.
- Do not apply on surfaces that are damp, wet or covered with frost.
- *Mapefloor PU 400 FC* is not a standalone coating and must be used in conjunction with *Primer SN* [NA] or *Mapefloor PU Primer* [NA], as well as with *Mapefloor Finish 415 NA* or *Mapefloor Finish 450* as an acceptable topcoat.
- Before and during application, the ambient temperature range must be 45°F to 85°F (7°C to 29°C). Special precautions should be taken when ambient and substrate temperatures exceed 85°F (29°C). The substrate temperature must be at least 5 degrees Fahrenheit (2.8 degrees Celsius) higher than the dew point and maintained at this level during curing.
- Do not dilute *Mapefloor PU 400 FC*.
- Do not apply *Mapefloor PU 400 FC* on dusty, unsound substrates or on substrates containing oil or grease residue.
- Do not mix partial quantities of the components of *Mapefloor PU 400 FC*.
- Multiple thin layers may be required to achieve proper wet film thickness (WFT) in areas such as ramps and other sloped areas.
- Do not mix at high speeds, which can trap air within the mixed material.

Product Performance Properties

Laboratory Tests	Results
***Mapefloor PU 400 FC* (mixed)**	
Weight of product – ASTM D1475	9.354 lbs. per U.S. gal. (4.24 kg per 3.79 L)
Solids content – ASTM C1250	100%
VOCs (Rule #1113 of California's SCAQMD)	50 g per L
Viscosity – ASTM D2196	3,200 cps
Working time at 77°F (25°C)	35 minutes

Cured Resin Performance*

Laboratory Tests	Results
Tensile strength – ASTM D412	1,200 psi (8.28 MPa)
Elongation – ASTM D412	≥ 750%
Tear resistance – ASTM D1004	240 pli (4.20 x 10^4 N/m)
Shore "A" hardness – ASTM D2240	60 to 80
Weight loss of base coat, max. % – ASTM C1250	< 10
Low-temperature crack bridging at -15°F (-26°C) – ASTM C1305-8, mod. 5.5	No cracking in the membrane
Adhesion in peel after water submersion, min., N – ASTM C794, mod. 5.6	> 22,2
Chemical resistance, min. % of tensile retention – ASTM D471, mod 5.7	
Water exposure Ethylene glycol exposure Mineral spirits exposure	> 70 > 70 > 45
Weathering resistance and recovery from elongation, min. % – ASTM C957, mod. 5.8	
Recovery from elongation, initial Tensile retention Elongation retention	> 90 > 80 > 90
Abrasion resistance, max., mg – ASTM C501, mod. 5.9	< 50
Stability, min., months – ASTM C957, mod. 5.10	> 6

** Results are typical values. Individual batches may vary up to 10% from the typical value.*

Shelf Life and Application Properties

Shelf life	1 year when stored in original, unopened packaging in a shaded area at 70°F (21°C)
Curing time at 75°F (24°C) and 50% relative humidity	3 to 6 hours

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.

CSI Division Classification

Dampproofing and Waterproofing	07 10 00

Packaging

Size
Pail: Part A, 1.08 U.S. gals. (4.09 L)
Pail: Part B, 3.9 U.S. gals. (14.8 L)

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.

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.**

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For the most current product data and BEST-BACKED℠ warranty information, visit www.mapei.com.

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