



MapelasticTM AquaDefense

Premium Waterproofing and Crack-Isolation Membrane



DESCRIPTION

Mapelastic AquaDefense is a premixed, flexible, thin, ultra fast-drying waterproofing and crack-isolation membrane for installation under ceramic tile or stone in residential, commercial and industrial environments. Easily applied with a roller or brush on flat or curved surfaces, Mapelastic AquaDefense provides a continuous barrier to protect adjacent rooms and floors below from water damage. On common problem areas like coves, corners and cracks, combine it with MAPEI's optional *Reinforcing Fabric*. Mapelastic AquaDefense is an advanced liquid-rubber formula that allows tile installation with MAPEI polymer or epoxy mortars after just 30 to 50 minutes of dry time, and flood testing after 12 hours. Mapelastic AquaDefense exceeds ANSI A118.10 and ANSI A118.12 standards, and is IAPMO-listed for use as a shower-pan liner.

FEATURES AND BENEFITS

- Quick-drying: Install tile after 30 to 50 minutes of drying time.
- Time-saving: Flood-test as shower pan liner after 12 hours of drying time.
- Apply with roller or brush – easy to install over flat, curved or irregular surfaces.
- Bonds to a wide range of surfaces; convenient, user-friendly and versatile
- No odor; great for confined spaces
- Prevents in-plane floor cracks from transmitting through tile or stone

INDUSTRY STANDARDS AND APPROVALS

ANSI: Exceeds A118.10 standard (Waterproofing Membranes for Thin-Set Ceramic Tile) and A118.12 standard (Crack-Isolation Membranes for Thin-Set Ceramic Tile)

ASTM: C627 (Robinson) service rating for extra heavy

IAPMO: Listed for use as shower pan liner

LEED Points Contribution

LEED points

VOC compliance (Credit 4.1) 1 point

Refer to MAPEI's Material Safety Data Sheet (MSDS) for specific data related to VOCs, health and safety, and handling of product.

WHERE TO USE

- Residential and commercial interior/exterior floors, walls and ceilings
- Industrial interior floors and walls
- Tub and shower surrounds; bathrooms; kitchens; food prep, dishwashing, servery and cafeteria areas; countertops; and laundry rooms
- Residential and commercial freshwater pools, fountains and water features (completely covered by ceramic tile)
- Cantilevered balconies and decks over unoccupied space (see "Limitations" section)
- Balconies and decks over occupied space when used in conjunction with a primary waterproofing membrane
- Steam rooms when used in conjunction with a vapor barrier (refer to TCNA handbook's section SR613-07 and SR614-07 or TTMAC 321SR)
- In-plane crack isolation up to 1/8" (3 mm) over nonstructural cracks
- MAPEI's *Reinforcing Fabric* is available but optional for use on coves, corners and field application.

LIMITATIONS

- Not for use over in-plane cracks where > 1/8" (3 mm) or vertical out-of-plane movement occurs.
- Do not use over substrates containing asbestos dimensionally unstable substrates such as hardwood flooring, particleboard, oriented strand board (OSB), Masonite or metal. See suitable substrates below.
- Do not use where excessive substrate moisture and/or where negative hydrostatic pressure exists. Maximum allowable moisture is 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m²) per 24 hours per ASTM F1869 or up to 75% relative humidity as measured with moisture probes.
- Do not use as a single-application roof-deck membrane, wear surface or primary waterproofing membrane on balconies or decks directly over occupied space or in storage tanks.
- Do not allow direct contact with solvent-based materials.

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

SUITABLE SUBSTRATES

Interior and Exterior

- Fully cured concrete at least 28 days old, (See Limitations).
- Masonry walls of cement block or brick.
- Cured cement mortar beds or leveling coats (at least 3 days old).
- Cement backer units (CBU).

Interior Only

- Gypsum wallboard (walls only, in approved application areas only).
- Properly prepared radiant-heated substrates.
- Properly prepared unglazed ceramic tile and cement terrazzo floors.
Note: Existing unglazed ceramic tile must be abraded and existing cement terrazzo must be mechanically profiled. Both must be skim-coated with an appropriate MAPEI latex or polymer modified mortar.
- Exterior-grade plywood (for interior residential floors and countertops in dry areas only).
- PVC, copper, brass, stainless steel pipes (abraded)

SURFACE PREPARATION

Before beginning, consult the "Surface Preparation Requirements" document for tile and stone installation systems at www.mapei.com.

- All recommended substrates must be structurally sound, stable, clean and free of any substance preventing adhesion.
- Do not use chemicals (acid etching or stripping) to prepare approved substrates.
- Concrete substrates should have a Concrete Surface Profile #2 per ICRI (International Concrete Repair Institute). Mechanically clean and profile by diamond-cup grinding or other engineer-approved method when necessary.
- Substrate and room temperatures must be 45°F to 95°F (7°C to 35°C) during and at least 24 hours after application.

MIXING

- Choose suitable safety equipment before mixing and use.
- Stir before using.
- See the Material Safety Data Sheet (MSDS) for *Mapelastic AquaDefense* at www.mapei.com for additional information.

PRODUCT APPLICATION

- Fill all cracks, control joints and gaps in corners and coves that are greater than 1/32" (1 mm) with an appropriate filler material. Force material into crack and finish smooth with trowel. Let dry.
- An optional reinforcing fabric may be used with *Mapelastic AquaDefense* in any of the following areas. (See the section "Optional Use of MAPEI's *Reinforcing Fabric*".)

Pretreat cracks, control joints, corners and coves (floor/wall intersections)

1. Apply *Mapelastic AquaDefense* liquid 6" (15 cm) on both sides of the cracks, control joints, corners and coves, using a paintbrush. Let dry to a dark green color.
2. Apply 2nd coat and let dry.

Pre-treat drains

1. Review drain manufacturer's instructions for waterproof membrane installation in conjunction with these instructions.
2. Fill space between drain pipe and substrate with appropriate expansion joint materials (typically foam backer rod and sealant).
3. For drains with bolt-down collar and weep holes, loosen bolts and remove from flange. Abrade drain flange with sandpaper and clean and dry thoroughly.
4. With paintbrush, apply a liberal coat over and around drain flange. Let dry to a dark green color.
5. Apply 2nd coat and let dry.

6. For sealant, apply bead of silicone or urethane sealant around drain flange at drain throat to join *Mapelastic AquaDefense* to the drain assembly. Leave no voids.
7. Bolt down collar to drain flange.

Pre-treat openings around pipes and other penetrations

1. Pack/fill the openings/spaces between drain pipe and substrate with appropriate expansion joint materials (typically foam backer rod and sealant).
2. Apply *Mapelastic AquaDefense* with brush around and up onto floor or wall penetration. Let dry (will turn dark green).
3. Apply 2nd coat and let dry.
4. Where *Mapelastic AquaDefense* coating ends on any penetration, apply a bead of silicone or urethane sealant.

Completing the main area

1. Apply 1st coat of *Mapelastic AquaDefense* (including previously coated areas) using a 3/8" (10 mm) nap roller. Let dry to a dark green color.
2. Apply 2nd coat and let dry.
3. Final dry thickness of first and second coats should be 20 to 30 mils (about the thickness of a credit card).
4. Inspect and, as needed, recoat pinholes or areas not completely covered. Let dry.

CLEANUP

Remove excess *Mapelastic AquaDefense* (while fresh) with damp sponge, soap and warm water. Any completely dried material may be mechanically removed.

PROTECTION

- Protect from freezing for 24 hours.
- Protect installed *Mapelastic AquaDefense* from foot traffic, contamination, excessive heat, and extended sun exposure until finish flooring is installed.

Flood testing (per ASTM D5957-98 [2005])

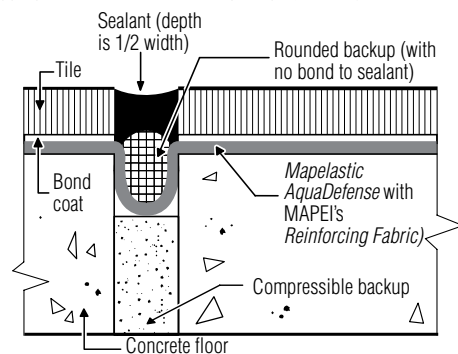
If flood testing is required, allow *Mapelastic AquaDefense* to cure at least 12 hours at 73°F (23°C) and 50% relative humidity. Actual curing time depends on air and substrate temperature, substrate porosity and humidity. Expect shorter drying times in warmer conditions, longer drying times in cooler conditions.

Installing finish floor

- *Mapelastic AquaDefense* is ready to receive thin-set mortars for tile or stone when dry to touch (after about 30 to 50 minutes). When installing medium bed mortars (for large tile or stone), screeds (for leveling floors), or epoxy adhesives, let *Mapelastic AquaDefense* cure for at least 8 hours.
- For tile and stone installations use MAPEI polymer-modified or epoxy mortars. For sheet vinyl or wood flooring installations, use an appropriate epoxy or urethane adhesive.

EXPANSION AND CONTROL JOINTS

Provide where specified per the drawing shown below with an appropriate joint sealant to satisfy the project's requirements.



Product Performance Properties

Laboratory Tests	Results
pH	9
Viscosity	Around 30,000 cps
Density	1.3 g/mL
Weight	10.9 lbs. per U.S. gal. (1,3 kg per L)

Shelf Life and Application Properties

Shelf life	2 years when stored in original unopened container
Flash point (Seta flash)	Nonflammable
Dry time (between 1st and 2nd coats)	When dark green and dry to the touch
Color	Medium green when wet; dark green when dry
Dry time (before tiling)	After 30 to 50 minutes (when dry to touch)
Final dry thickness (2 coats)	20 to 30 mils (about credit-card thickness)
Dry time (before flood-testing for shower pan liner)	After 12 hours at 73°F (23°C) and 50% relative humidity
Freeze/thaw stability	Up to 5 cycles at 32°F (0°C)
Storage	Store in cool, dry place. Protect from freezing.

Packaging

Product Code	Size
01953	1 U.S. gal. (3,79 L)
01968	5 U.S. gals. (18,9 L)
01977	55 U.S. gals. (208 L) (special order)

Optional MAPEI's Reinforcing Fabric

Product Code	Size
0170004	6" x 75' (15 cm x 22,9 m) Roll (8/box) – To reinforce over cracks, control joints, corners, coves and floor/ wall penetrations
0170007	38" x 75' (97 cm x 22,9 m) Roll (1/box) – To reinforce around drains or main area to be waterproofed

Approximate Product Coverage (2 coats)

Size	Coverage
1 U.S. gal. (3,79 L)	60 sq. ft. (5,57 m²)
5 U.S. gals. (18,9 L)	300 sq. ft. (27,9 m²)
55 U.S. gals. (208 L)	3,300 sq. ft. (307 m²)

* Coverages shown are for estimating purposes only. Actual jobsite coverages may vary according to substrate conditions, concrete profile and porosity, type of equipment used, thickness applied, handling and application procedures.

Mapelastic[®] AquaDefense



OPTIONAL USE OF MAPEI'S REINFORCING FABRIC (AVAILABLE SIZES):

- 6" x 75' (15 cm x 22,9 m) Roll (Product No. 0170004) – To reinforce over cracks, control joints, corners, coves and floor or wall penetrations
- 38" x 75' (97 cm x 22,9 m) Roll (Product No. 0170007) – To reinforce around drains or main area to be waterproofed

Select fabric size (see above)

- For coves (floor/wall intersections), allow 2" (5 cm) of fabric on the floor and 4" (10 cm) of fabric up the wall. For cracks, control joints and vertical corners, allow 3" (7,5 cm) of fabric on each side.
- For drains, cut desired fabric size from 38" (97 cm) roll. For floor or wall penetrations, use 6" wide, 38" wide or a combination of both.
- For large areas, the 38" (97 cm) roll is recommended.

Cut fabric to size

Cut all required pieces. Set aside.

Pretreat cracks, control joints, corners, coves, drains and floor and wall penetrations

1. Apply *Mapelastic AquaDefense* as described in the "Pretreat" sections above.
2. Lay pre-cut pieces of fabric into wet *Mapelastic AquaDefense*. Use brush to press fabric into corners until liquid comes through fabric. Work out any wrinkles or bubbles.
3. While fabric is wet, apply additional *Mapelastic AquaDefense* over fabric until completely covered to create void-free surface. Let dry to a dark green color.

Install fabric on main floor

1. Apply 1st coat of *Mapelastic AquaDefense* (including areas previously coated) using a 3/8" (10 mm) nap roller.
2. Place fabric into wet liquid on floor. Using a roller, apply pressure to fabric, working out wrinkles or bubbles while forcing *Mapelastic AquaDefense* to come through fabric. Overlap seams and ends of fabric 2" (5 cm). While still wet, apply additional *Mapelastic AquaDefense* over fabric until completely covered, creating a void-free surface. Let dry completely to a dark green color.
3. Apply 2nd coat of *Mapelastic AquaDefense* to entire area. Let dry.
4. Give a final inspection, looking for pinholes, areas not completely covered or other defects. Recoat as needed. Let dry.

Installing finish floor

- Install tile or stone per instructions above.

RELATED DOCUMENTS

Surface Preparation Requirements for tile & stone	RGTO309*
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* At www.mapei.com.

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:



MAPEI Headquarters of the Americas

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
Phone: 1-888-US-MAPEI
(1-888-876-2734)

Technical Services

1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

Customer Service

1-800-42-MAPEI (1-800-426-2734)

For the most current product and warranty data, visit www.mapei.com.

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