

Mapelastic WaterStop

Waterproofing and Crack-Isolation Membrane



DESCRIPTION

Mapelastic® WaterStop is a flexible, thin, fast-drying, one-component, liquid-rubber waterproofing and crack-isolation membrane for installation under ceramic tile or stone in residential, commercial and industrial environments. It provides a continuous barrier to protect adjacent floors and rooms below from water damage. Mapelastic WaterStop also prevents in-plane floor cracks (up to 1/8" [3 mm]) from transmitting through tile or stone. In problem areas such as coves, corners, cracks and drains, it can be combined with MAPEI's optional Reinforcing Fabric or Mapeband™ accessories (cove roll and drain flashing) to provide additional protection.

FEATURES AND BENEFITS

- Fast-drying: Install tile after 60 to 90 minutes of drying time.
- Flood-test as a shower-pan liner after 12 hours of drying time.
- Easy to apply with roller or brush; water cleanup
- 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-L standard (Liquid Applied 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 (File #3996): Listed for use as shower-pan liner
- ICC Evaluation Service Report ESR 3474

WHERE TO USE

- Residential and commercial interior/exterior floors, walls and ceilings
- Industrial interior floors and walls
- Bathroom tub and shower surrounds
- Kitchens: Food prep, dishwashing, servery and cafeteria areas
- Countertops and laundry rooms
- Residential and commercial submerged applications: Freshwater pools, fountains and water features (must be covered by ceramic tile)
- Cantilevered balconies and decks over unoccupied space (see the “Limitations” section below)
- 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 the TCNA Handbook’s sections SR613 and SR614 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

- *Mapelastic WaterStop* is not for use over structural cracks, in-plane cracks beyond 1/8" (3 mm) or where 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 the “Suitable Substrates” section below.
- Do not use over plank flooring, treated plywood, Lauan, gypsum-based floor-patching compounds, vinyl, glazed tile, laminate, fiberglass or epoxy floors, or storage tanks.
- 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 85% 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; or with premixed setting materials.
- 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 the “Limitations” section above)
- Masonry walls of cement block or brick
- Cured cement mortar beds or leveling coats
- Cement backer units (CBUs) – see the manufacturer’s installation guidelines

Interior only.

- All substrates listed above
- Gypsum wallboard (walls only, primed and in approved application areas only)
- Radiant-heated substrates
- Unglazed ceramic tile and cement terrazzo floors, and gypsum underlayments with at least 2,500 psi (17.2 MPa) in compressive strength
- Note: Existing unglazed ceramic tile must be abraded, and existing cement terrazzo must be mechanically profiled. Both must be skimcoated with an appropriate MAPEI latex- or polymer-modified mortar.
- Plywood underlayments must be a Group 1 exterior-grade plywood CC-plugged or better, conforming to APA classification and U.S. Product Standard PS 1-95 or a "SELECT" or (SEL-TF) CANPLY classified exterior-grade plywood conforming to CSA-0121 standard for Douglas fir for direct-bond applications (interior, residential floors and countertops in dry conditions only).
- PVC, copper, brass and stainless-steel pipe penetrations (abraded by sandpaper)

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

Before beginning, see the "Surface preparation requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

- 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 an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #2. Mechanically clean and profile by diamond-cup grinding or other engineer-approved method when necessary.
- Substrate and room temperatures must be between 45°F and 95°F (7°C and 35°C) during and at least 24 hours after application.

MIXING

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

1. Mix by hand before using.

2. Do not dilute with any other material.
3. Promptly wash tools with water after mixing.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

- 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 each crack and finish smooth with a trowel. Let it dry.
- MAPEI's optional *Reinforcing Fabric* may be used with *Mapelastic WaterStop* in any of the areas shown below (see the section "Optional Use of MAPEI's *Reinforcing Fabric*" below.)
- MAPEI's *Mapeband* accessories (cove roll and drain flashing) also may be used with *Mapelastic WaterStop* in any of the areas shown below (see the section "Optional Use of *Mapeband* Accessories" below).

Pre-treat cracks, corners and coves (floor/wall intersections)

1. For expansion and control joints, see the section "Expansion and Control Joints" below.
2. Apply 6" (15 cm) of *Mapelastic WaterStop* liquid on both sides of cracks, corners and coves with a paintbrush or roller. Let it dry to a dark red color.
3. Apply a second coat and let it dry.

Pre-treat drains

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

Pre-treat openings around pipes and other penetrations

1. Pack/fill the openings/spaces between the drain pipe and substrate with appropriate expansion joint materials (typically a foam backer rod and sealant).
2. Apply *Mapelastic WaterStop* with a brush around and up onto the floor or wall penetration. Let it dry to a dark red color.
3. Apply a second coat and let it dry.

Complete the main area

1. Apply *Mapelastic WaterStop* to the entire area to be waterproofed (including previously coated areas such as cracks, drains and penetrations) using a 1/2" (12 mm) nap roller. Let it dry to a dark red color.
2. Apply a second coat to the entire installation. Let it dry for 60 to 90 minutes before installing tile or stone.
3. The final dry thickness of first and second coats combined in the main area should be at least 25 to 30 mils.
4. Inspect and, as needed, recoat pinholes or areas not completely covered. Let it dry.
5. Apply a bead of silicone or urethane sealant around the drain flange at the drain throat to join *Mapelastic WaterStop* to the drain assembly. Leave no voids.
6. Bolt down the collar to the drain flange.

7. Where the *Mapelastic WaterStop* coating ends on any penetration, apply a bead of silicone or urethane sealant.

CLEANUP

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

PROTECTION

- Protect the application from foot traffic, rain and freezing for 24 hours.
- Protect the installed *Mapelastic WaterStop* from contamination, excessive heat and extended sun exposure until tile or stone is installed.

FLOOD-TESTING (per ASTM D5957)

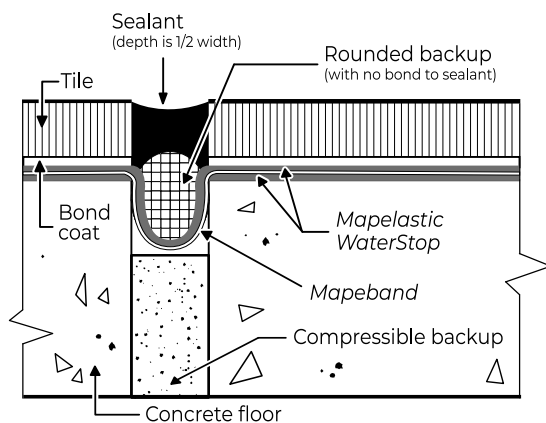
If flood-testing is required, allow *Mapelastic WaterStop* to cure for at least 12 hours at 73°F (23°C) and 50% relative humidity. Actual curing time depends on air and substrate temperatures, substrate porosity and humidity. Expect shorter drying times in warmer conditions, and longer drying times in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

INSTALLING CERAMIC TILE OR NATURAL STONE

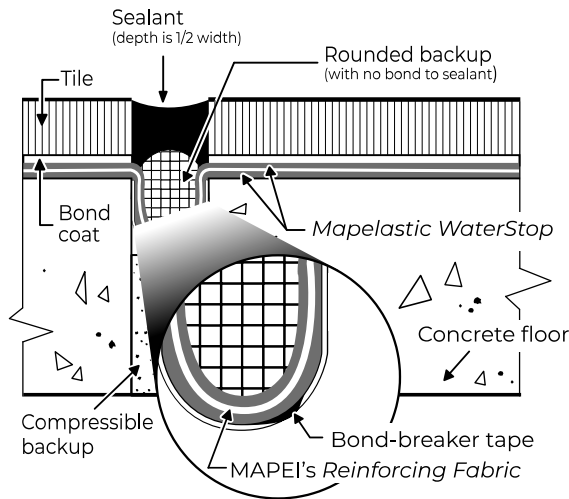
- *Mapelastic WaterStop* is ready to receive thin-set mortars for tile or stone when dry to touch (about 60 to 90 minutes after applying second coat).
- Let *Mapelastic WaterStop* cure for at least 8 hours before installing medium-bed mortars (for large tile or stone), screeds (for leveling floors) or epoxy adhesives.
- For tile and stone installations, use a MAPEI polymer-modified mortar meeting ANSI A118.4, ANSI A118.11 or ANSI A118.15, or an epoxy mortar meeting ANSI A118.3. For sheet vinyl or wood-flooring installations, use an appropriate epoxy or urethane adhesive.

EXPANSION AND CONTROL JOINTS

Installation with *Mapeband*:



Installation with MAPEI's Reinforcing Fabric:



1. Do not cover any substrate expansion or control joints with mortar or tile. Provide for expansion and control joints as specified per TCNA Method EJ171, or TTMAC Specification Guide 09 30 00, Detail 301MJ. Do not cover any expansion joints with mortar.
2. If waterproofing integrity is required in expansion and control joints, provide per the drawings above. MAPEI's *Reinforcing Fabric* or *Mapeband* can be embedded into the *Mapelastic WaterStop* liquid, allowed to dry and filled with appropriate joint sealant or an expansion molding system.
3. Protect tilework with metal strips (edge metal) along both edges of structural building expansion joints.

Contact MAPEI's Technical Services Department for more information.

OPTIONAL USE OF MAPEI'S REINFORCING FABRIC

Select a fabric size (see the "Packaging and Approximate Coverage" chart below)

- For coves (floor/wall intersections), allow for 2" (5 cm) of fabric on the floor and 4" (10 cm) up the wall. For cracks, control joints and vertical corners, allow for 3" (7.5 cm) of fabric on each side.
- For drains, cut the desired fabric size from the 38" (97-cm) wide roll. For floor or wall penetrations, use 6" (15-cm) wide, 38" (97-cm) wide or a combination of both.
- For large areas, the 38" (97-cm) wide roll is recommended.

Cut the fabric to size

- Cut all required pieces and set them aside.

Pre-treat cracks, control joints, corners, coves, drains and floor/wall penetrations

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

Install fabric on the main area

1. Apply the first coat of *Mapelastic WaterStop* (including areas previously coated) using a 1/2" (12-mm) nap roller.
2. Place fabric into wet liquid on the floor. Using a roller, apply pressure to the fabric, working out wrinkles or bubbles while forcing *Mapelastic WaterStop* to come through the fabric. Overlap the seams and ends of fabric by 2" (5 cm). While the fabric is still wet, apply additional *Mapelastic WaterStop* over it until it is completely covered, creating a void-free surface. Let it dry completely to a dark red color.
3. Apply a second coat of *Mapelastic WaterStop* to the entire area. Let it dry.
4. Give a final inspection to the application, looking for pinholes, areas not completely covered and other defects.
5. Recoat as needed and let it dry to a dark red color.
6. Apply a bead of commercial-grade silicone or urethane sealant between the membrane and the drain flange, about 1/2" (12 mm) in from the drain opening.
7. Bolt the drain collar into place while the sealant is still fresh.
8. Install ceramic tile or natural stone per the section "Installing Ceramic Tile or Natural Stone" above.

OPTIONAL USE OF MAPEBAND ACCESSORIES

1. MAPEI's *Mapeband* accessories (cove roll and drain flashing) are waterproof, vapor-proof, thin, elastic, deformable, rubber-coated fabric pieces that are fully compatible with *Mapelastic WaterStop* and provide the ultimate in "change-of-plane" waterproofing protection for coves, corners and drains. *Mapeband* accessories are ideal for environments requiring waterproofing but also where temperature extremes, freeze/thaw conditions, vibrations, etc., can cause waterproofing problems.
2. *Mapeband* cove roll can be used in place of MAPEI's *Reinforcing Fabric* on coves, corners and control joints. The "felt side" should face into the corner.
3. *Mapeband* drain flashing can be used in place of MAPEI's *Reinforcing Fabric* on drains. The "felt side" should face down.
4. See *Mapeband*'s Technical Data Sheet for installation details.

Product Performance Properties

Laboratory Tests	Results
VOC content (SCAQMD Rule 1113)	<100 g per L
Typical VOC content per SCAQMD Rule 1113 testing methods	15 g per L
pH	9
Viscosity	Approximately 30,000 cps
Density	1.3 g per mL

Shelf Life and Product Characteristics

before mixing

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C)
Color	Medium red when wet; dark red when dry
Storage	Store in cool, dry place. Protect from freezing.
Weight	10.9 lbs. per U.S. gal. (1.3 kg per L)
Flash point (Seta flash)	Nonflammable
Freeze/thaw stability (liquid)	Up to 5 cycles at 32°F (0°C)

Application Properties

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

Drying time between first and second coats	About 20 to 30 minutes (when dark red and dry to the touch)
Drying time after second coat (before applying ceramic tile or stone)	Total drying time for two coats about 60 to 90 minutes (when second coat is dark red and dry to the touch)
Drying time before flood-testing	After 12 hours at 73°F (23°C) and 50% relative humidity
Wet film thickness minimum	First coat at 25 mils; second coat at 20 mils
Final dry thickness (2 coats)	25 to 30 mils minimum

Packaging and Approximate Coverage

Size	Coverage (per 2 coats)*
Pail: 1 U.S. gal. (3.79 L)	50 sq. ft. (4.65 m ²)
Pail: 3.5 U.S. gals. (13.2 L)	175 sq. ft. (16.3 m ²)

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

RELATED DOCUMENTS

- Reference Guide: Surface Preparation Requirements for tile and stone installation systems**

** At www.mapei.com

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,
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