



DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 14 00—Fluid-Applied Waterproofing

DIVISION: 09 00 00—Finishes

Section: 09 30 00—Tiling

DIVISION: 22 00 00—Plumbing

Section: 22 40 00—Plumbing Fixtures (Shower Pan Liner)

REPORT HOLDER:

MAPEI CORP

www.mapei.com

EVALUATION SUBJECT:

Mapelastic AquaDefense Waterproofing Membrane

Mapelastic WaterStop Waterproofing Membrane

Mapeguard WP200 Waterproofing Membrane

Mapelastic Turbo Waterproofing Membrane

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *International Plumbing Code*® (IPC)
- 2024, 2021, 2018, 2015, 2012, 2009 and 2006 *Uniform Plumbing Code*® (UPC*)
- 2020, 2015, 2010 and 2005 *National Plumbing Code of Canada*® (NPC**)
- 2022, 2019, 2016, 2013, and 2010 *California Plumbing Code*® (CPC)
- 2023, 2020 and 2017 *City of Los Angeles Plumbing Code*
- 2024, 2021, 2018, 2015 and 2012 *National Standard Plumbing Code*® (NSPC)
- 2023, 2021, 2017 and 2007 *Code of Massachusetts Regulation 248 CMR 10.00: Uniform State Plumbing Code*
- 2023, 2020 and 2017 *Florida Building Code - Plumbing*

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Compliance with the following standards:

- ANSI A118.10-2023, American National Standard Specifications for Load Bearing Bonded, Waterproof Membrane for Thin-Set Ceramic Tile and Dimension Stone Installation
- ICC-ES AC115-2024, Acceptance Criteria for Waterproof Membranes for Flooring and Shower Lining.

2.0 USES

The Mapelastic AquaDefense, Mapelastic WaterStop, Mapeguard WP200 and Mapelastic Turbo Waterproofing Membranes are used on concrete or plywood floors as a barrier to liquid water migration in bonded thin-set installations of ceramic tiles and dimension stone under the IBC and IRC and may be used as a shower sub-pan lining material in accordance with the IPC and the UPC.

3.0 DESCRIPTION

Mapelastic AquaDefense is a premixed, advanced liquid-rubber, quick-drying waterproofing, and crack-isolation membrane for installation under ceramic tile or stone in residential and commercial environments.

Mapelastic WaterStop is a premixed, 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.

Mapeguard WP200 Waterproofing Membrane is a flexible, three-layered product made of polypropylene / polyethylene, protects floors.

Mapelastic Turbo is a two-component, rapid-drying, cementitious-binder-based membrane with fine-grained selected aggregates, special admixtures, and synthetic polymers in water dispersion for interior and exterior installations under ceramic tile or stone in residential, commercial wet and submerged environments.

4.0 INSTALLATION

General:

Installation of Mapelastic AquaDefense, Mapelastic WaterStop, Mapeguard WP200 and Mapelastic Turbo Waterproofing Membranes must comply with this report

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and the manufacturer's published installation instructions. The manufacturer's installation instructions must be always available at the jobsite during installation.

4.1 Mapelastac AquaDefense or Mapelastac WaterStop Waterproofing Membrane

Surface Preparation:

- Substrates must be structurally sound, stable, clean, and free of all oils, greases and other contaminants preventing adhesion. Dry and dusty surfaces must be dampened and swept off.
- Do not use chemicals (acid etching or stripping) to prepare substrates.
- Concrete substrate should have a concrete Surface Profile #2 per International Concrete Repair Institute. Mechanically clean and profile by diamond-cup grinding or other engineer-approved method when necessary.
- Substrates 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.
- Mix by hand before using.
- Do not dilute with any other material.
- Promptly wash tools with water after mixing.

Product Application:

Fill all cracks, control joints and gaps in corners and covers that are greater than 1/32" (1 mm) with an appropriate filler material. Force material into crack and finish smooth with trowel. Let dry.

MAPEI's optional reinforcing Fabric may be used with Mapelastac AquaDefense or Mapelastac WaterStop in any of the areas shown below.

MAPEI's Mapelastac accessories (cover roll and drain flashing) also may be used with Mapelastac AquaDefense or Mapelastac WaterStop in any of the areas shown below.

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

- Apply Mapelastac AquaDefense or Mapelastac WaterStop liquid 6" (15cm) on both sides of cracks, corners, and covers with a paintbrush or roller. Let dry
- Apply a second coat and let dry.

Pre-treat drains:

- Review drains manufacturers; instructions for waterproof membrane installation in conjunction with these instructions.
- Fill space between drainpipe and substrate with appropriate expansion joint materials (typically foam backer rod and sealant).
- 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.
- With paintbrush, apply a liberal coat over and around drain flange. Let dry.
- Apply a second coat and let dry.

Pre-treat openings around pipes and other penetrations:

- Pack/fill the openings/spaces between drainpipe and substrate with appropriate expansion joint materials.
- Apply Mapelastac AquaDefense or Mapelastac WaterStop with Brush around and up onto floor or wall penetration. Let dry.
- Apply a second coat and let dry.

Complete the main area:

- Apply Mapelastac AquaDefense or Mapelastac WaterStop to entire area to be waterproofed) including previously coated areas such as cracks, drains, and penetrations) using a 3/8" (10 mm) nap roller. Let dry.
- Apply a second coat to entire installation. Let dry for 30 to 50 minutes before installing tile.
- Final dry thickness of first and second coats combined in the main area should be about 20 mils (0.5 mm) minimum.
- Inspect and, as need, recoat pinholes or area not completely covered. Let dry.
- Apply bead of silicone or urethane sealant around drain flange at drain throat to join Mapelastac AquaDefense or Mapelastac WaterStop to drain assembly. Leave no voids. Bolt down collar to drain flange.
- Where Mapelastac AquaDefense or Mapelastac WaterStop coating ends on any penetration, apply a bead of silicone or urethane sealant.

Cleanup:

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

Protection:

- Protect from foot traffic, rain and freezing for 24 hours
- Protect installed Mapelastac AquaDefense or Mapelastac WaterStop from contamination, excessive heat and extend sun exposure until finish flooring is installed.

Flood testing:

If flood testing is required, allow Mapelastac AquaDefense or Mapelastac WaterStop 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.

Installation ceramic tile or natural stone:

- Mapelastac AquaDefense or Mapelastac WaterStop is ready to receive thin-set mortars for tile or stone when dry to touch (about 30 to 50 minutes after applying second coat).
- Let Mapelastac AquaDefense or Mapelastac 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 or ANSI A118.11, or an epoxy mortar meeting ANSI A118.3. For sheet vinyl or wood-flooring installations, use an appropriate epoxy or urethane adhesive.

4.2 Mapeguard WP200 Waterproofing Membrane

Surface Preparation:

- Substrates must be dry, stable, sound, flat and free from loose particles and other materials, which may inhibit adhesion.
- Remove all cement laitance, flaking areas and traces of powder, grease, wax, paint etc.
- All cracks wider than 0.2 mm must be repaired beforehand.
- Uneven cementitious substrates or ceramic surfaces with wide joints need to be smoothed off and repaired.
- Existing floors and those tiled with ceramic, porcelain, klinker or terracotta tiles, must be well bonded to the

substrate and be free from substances which could affect the adhesion of the membrane, such as grease, oil, wax, paint, etc.

- To remove material that could affect the adhesion of the cementitious adhesive, clean the floor with suitable cleaning agents. Gypsum based substrates such as calcium sulphate screeds, plasterboard, or gypsum plaster as well as absorbent surfaces made of concrete, aerated concrete, cement mortar and cement render must be primed. Non-absorbent substrates such as ceramic tiles or natural stone surfaces must also be primed.

Laying of Mapeguard MP 200:

- Membrane must be cut to size before being bonded.
- Membrane must be laid over the fresh adhesive and pressed down uniformly, from the center to the edges, to avoid trapping air bubbles under the waterproofing membrane.
- The overlap between membrane sheets must be minimum 5 cm wide and must be sealed. Seal all the junctions between floors and walls and between adjoining sheets.
- Before installing the membrane around the perimeter of the drain, apply bead of silicone or urethane sealant around drain flange at drain throat to join Mapeguard WP 200 to the drain assembly. Leave no voids.

Laying Tiles

- After the application of the waterproofing membrane, it is possible to proceed directly with the installation of tiles. The choice of the adhesive should be made according to the type and size of the selected ceramic tile or natural stone.
- After installing the tiles, grout the joints with an epoxy grout.

4.3 Mapelastc Turbo Waterproofing Membrane

Surface Preparation

- All recommended substrates must be structurally sound, stable, dry, clean, and free of any substance or condition preventing adhesion.
- Do not use chemicals (acid etching or stripping) to prepare approved substrates.
- Concrete substrates should have a concrete surface profile (CSP) of #2 per the International Concrete Repair Institute (ICRI). Mechanically clean and profile by diamond-cup grinding or other engineer-approved method when necessary.
- When concrete requires more mechanical preparation, the profile will typically increase. In such cases, the surface can be made smooth by applying coats of Mapelastc Turbo not exceeding 5/64" (2 mm) per coat.
- Substrate and room temperatures must be 40°F to 95°F (4°C to 35°C) during and at least 24 hours after application.
- See the "Surface preparation requirements" reference guide in Related Documents section of the Tile & Stone Installations System page on MAPEI's Website.

Mixing for roll/brush applications

- Mix in full units only according to the following premeasured ratios: 1 U.S. gal. (3.79 L) of latex, plus 11 lbs. (4,39 kg) of powder (components of small kit); 2 U.S. gals. (7.57 L) of latex, plus 22 lbs. (9.98 kg) of powder.
- Pour all the Mapelastc Turbo latex (Part B) into a clean mixing container. Gradually add all the

Mapelastc Turbo powder (Part A) while mixing with a low-speed drill (at about 300 rpm).

- Mix for 2 to 3 minutes to a smooth, homogenous, lump-free consistency. Do not overmix, which will trap air and affect waterproofing integrity.
- When complete units are mixed, the mortar will be somewhat fluid. If a stiffer mix is preferred for vertical applications, the latex quantity can be reduced by up to 10% by volume.
- Mixing of entire units is recommended. If smaller mixes are desired, mix by volume at a ratio of 1 part of powder to 1 part of liquid.
- Do not dilute with any other material.
- Promptly wash tools with water after each mix.

Mixing for gap-filling applications

Mapelastc Turbo can be mixed to a patching consistency for use in filling cracks and gaps in corners and coves by forcing the material into the crack, finishing smooth with a trowel, and letting it dry.

- To achieve a patching consistency, mix a small amount of the powder and latex by volume at a ratio of 2 parts of powder per 1 part of latex.
- Fill gaps with a margin trowel or patching knife to maximum of 1/2" (12 mm).
- MAPEI's Reinforcing Fabric may be used with Mapelastc Turbo in these areas. See the application instructions directly below for pre-treating cracks, corners, and coves (floor/wall intersections).

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 cracks/joints/gaps and finish smooth with a trowel. Let dry.
- Do not use Mapelastc Turbo for thick layers (more than 5/64" or 2 mm per layer).
- MAPEI's optional Reinforcing Fabric may be used with Mapelastc Turbo in any of the areas shown below (see the section below "Optional use of MAPEI's Reinforcing Fabric").
- MAPEI's Mapeband accessories (cove roll and drain flashing) also may be used with Mapelastc Turbo in any of the areas shown below (see the section below "Optional Use of Mapeband Accessories").

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

- For expansion and control joints, see the section below "Expansion and Control Joints."
- Apply Mapelastc Turbo liquid 6" (15 cm) on both sides of cracks, corners and coves with a paintbrush or roller, and let dry.
- Apply a second coat and let dry.

Pre-treating drains:

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

- Apply a second coat and let dry.

Pre-treating openings around pipes and other penetrations

- Pack/fill the openings/spaces between drainpipe and substrate with appropriate expansion joint materials (typically foam backer rod and sealant).
- Apply Mapelastic Turbo with brush around and up onto floor or wall penetration and let dry.
- Apply a second coat and let dry.

Completing the main area

- Apply Mapelastic Turbo to entire area to be waterproofed (including previously coated areas such as cracks, drains and penetrations) using a 3/8" (10 mm) nap roller to 20 mils in wet film thickness and let it dry.
- Apply a second coat at 10 to 15 mils in wet film thickness to the entire installation after the first coat has dried 50 to 60 minutes. Let dry 60 to 90 minutes before installing tile or stone.
- Final dry thickness of first and second coats combined in the main area should be about 30 mils at minimum.
- Inspect and as needed, recoat pinholes or areas not completely covered. Let dry.
- Apply bead of silicone or urethane sealant around drain flange at drain throat to join Mapelastic Turbo to the drain assembly. Leave no voids.
- Bolt down collar to drain flange.
- Where Mapelastic Turbo coating ends on any penetration, apply a bead of silicone or urethane sealant.

Cleanup

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

Protection

- Provide for dry, heated storage on site and deliver materials at least 24 hours before work begins.
- Do not store Mapelastic Turbo powder or latex in direct sunlight.
- Do not allow latex to freeze.
- Protect installation from rain and freezing for 4 hours.
- Protect installed Mapelastic Turbo 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 last coating of Mapelastic Turbo to cure at least 3 to 4 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, and longer drying times in cooler conditions.

Installation ceramic tile or natural stone

- Mapelastic Turbo is ready to receive thin-set mortars for tile or stone in as little as 90 minutes.
- Let Mapelastic Turbo cure for at least 4 hours before installing large-and-heavy-tile 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.

5.0 CONDITIONS OF USE

The Mapelastic AquaDefense, or Mapelastic WaterStop, Mapeguard WP200, Mapelastic Turbo Waterproof Membrane described in this report complies with, or is a

suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The materials are applied in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this report, consult with the manufacturer for the latest updates.
- 5.2 Application is limited to ceramic tile and dimension stone installations on floors, and to use as shower sub-pans or lining.
- 5.3 Application over expansion joints is outside the scope of this report.

6.0 IDENTIFICATION

- 6.1 Each container of Mapelastic AquaDefense, or Mapelastic WaterStop, Mapeguard WP200, Mapelastic Turbo shall bear a label with MAPEI, the product name, the date of manufacture and the ICC-ES PMG certification mark.
- 6.2 The report holder's contact information is the following:

MAPEI CORP.

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