



Mapeguard[®] WP 200

Waterproofing Sheet Membrane for Ceramic Tile and Stone



DESCRIPTION

Mapeguard WP 200 is a thin, flexible polyethylene sheet membrane with a nonwoven, polypropylene fabric on both sides, used for both waterproofing and crack isolation in interior/exterior residential and commercial applications. The laminated fabric webbing is designed to anchor the membrane to the substrate and tiles to the membrane using the bonded thin-set method with recommended, polymer-modified mortars. *Mapeguard WP 200's* low perm rating performance is ideal for vapor protection in showers, wet areas and steam rooms.

FEATURES AND BENEFITS

- Waterproofing and vapor control membrane
- High-performance crack isolation up to 1/8" (3 mm)
- Recommended for use with polymer-modified mortars
- For residential and commercial interior/exterior use
- Polyethylene layer with a laminated, nonwoven, polypropylene fabric on both sides
- Low perm rating per ASTM E96, Method E
- Approved for residential and commercial steam rooms
- Uniformed thickness with a thin profile
- Lightweight for easy handling and fast installation
- Allows immediate tiling after installation

INDUSTRY STANDARDS AND APPROVALS

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

- ANSI: Exceeds A118.12 standard (Crack-Isolation Membranes for Thin-Set Ceramic Tile)
- ASTM: C627 (Robinson) service rating of "Extra Heavy"
- ASTM: E96, Method E, meeting requirements of < 0.5 perms
- ICC Evaluation Service Report ESR 3474
- IAPMO-listed for shower pan liners
- IAPMO File #3996

WHERE TO USE

- Interior/exterior residential (homes, apartments and condominiums) and commercial (office buildings, restaurants, galleries and malls) floors and walls
- Tubs, showers, bathrooms, kitchens, laundry rooms, food courts, lobbies, foyers and wet areas
- For steam rooms in residential and commercial environments
- Use for renovating older floors to address existing in-plane cracks in the subfloor.
- Use to isolate stresses beneath the flooring that are associated with expansion and contraction of substrate materials.
- Use to protect lateral stresses in industry-approved plywood floors from transferring to the finished tile floor.
- Offers an installation solution when the construction timeline requires installing tile over green or young concrete slabs before the full 28-day cure

LIMITATIONS

- Do not use over cracks or control joints subject to out-of-plane movement or subject to in-plane movement greater than 1/8" (3 mm). See the "Expansion Joints" section below.
- Do not use over substrates containing asbestos, plank wood flooring, presswood, particleboard, pressure- or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, metal or fiberglass surfaces, epoxy floors or dimensionally unstable materials.
- Do not use when hydrostatic pressure exists.
- Do not use as a roof deck membrane, a wear surface, for submerged applications or on plywood in exterior applications.
- When using *Mapeguard WP 200* over gypsum-based floor patching or leveling compounds, reference MAPEI's "Tiling over gypsum" technical bulletin.
- Do not use premixed products, such as mastic, to set tile over *Mapeguard WP 200*.
- When *Mapeguard WP 200* is used over young (green) concrete, the concrete must have cured for at least 7 days and be suitable to support tile installation traffic as determined by the project design professional, construction manager or general contractor.
- Not for use with solvent-based adhesives or materials
- Not for exterior applications as a primary waterproofing membrane

Note: On occasion, dimensionally weak natural-stone tile that normally would not be categorized as moisture-sensitive (such as travertine, limestone, marble and agglomerates) can exhibit doming, cupping or curling when large-and-heavy-tile mortars are used over impervious sheet membranes such as *Mapeguard WP 200* underlayment membrane. For this reason, areas requiring more than 3/8" (10 mm) thin-set mortar buildup require the use of a self-leveling underlayment or cured mud-bed application before installation of *Mapeguard WP 200*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach a full cure to ensure the desired effect. For details on these methods or materials, contact MAPEI's Technical Services Department before installation or design.

SUITABLE SUBSTRATES

- Concrete (including young concrete cured less than 28 days)
- Masonry cement block and brick
- Cement mortar beds, render coats and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Gypsum wallboard (ASTM C1396/C1396M) and plaster – interior walls in dry areas only (priming may be required)
- Existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior in dry conditions only)

- 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 and light commercial floors and countertops in dry conditions only).
- Well-bonded vinyl composition tile (VCT), non-cushioned sheet vinyl and cutback residue (interior only) with an appropriate adhesive
- Gypsum-based underlayments or patches – interior, dry conditions only and when thoroughly primed
- Radiant-heated floors
- See the TCNA Handbook and ANSI Specifications for additional information and the following statement below regarding deflection.

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

Tile Council of North America (TCNA) Statement on Deflection Criteria

Floor systems, including the framing system and subfloor panels, over which tile will be installed should be in conformance with the IRC [International Residential Code] for residential applications, the IBC [International Building Code] for commercial applications, or applicable building codes.

Note: The owner should communicate in writing to the project design professional and general contractor the "intended use" of the tile installation, in order to enable the project design professional and general contractor to make necessary allowances for the expected live load, concentrated loads, impact loads, and dead loads including the weight of the tile and setting bed. The tile installer shall not be responsible for any floor framing or subfloor installation not compliant with applicable building codes, unless the tile installer or tile contractor designs and installs the floor framing or subfloor.

SURFACE PREPARATION

- All suitable substrates should be structurally sound, stable, dry and free of any substance or condition that may reduce or prevent proper adhesion.
- Substrate and ambient temperature must be between 40°F and 95°F (4°C and 35°C) for protection before, during and after installation.
- Installations with drains require a minimum slope of 1/4" per foot (6 mm per 0.30 m) toward the drain.
- Do not use chemical means (such as acid etching or stripping) to prepare substrates; use mechanical methods only.

- Mechanically clean and prepare concrete substrates by diamond-cup grinding or other engineer-approved methods to obtain the minimum International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #1. See the respective Technical Data Sheets (TDSs) for more information.
- In waterproofing applications refer to TCNA Handbook, ANSI Standards and local codes for requirements.

See the “Surface preparation requirements” reference guide in the Tile & Stone Installation Systems section of MAPEI’s Website.

Regular and young (green) concrete

- All concrete substrates must be structurally sound, stable, dry, clean, and free of any substance or condition that may reduce or prevent proper adhesion. Concrete must be cured sufficiently to support tile installation traffic as determined by the design professional, construction manager or general contractor. The surface should be free of voids, sharp protrusions, loose aggregate, cement laitance, concrete sealers and curing compounds. All exterior applications must be properly and uniformly sloped.

Exterior-grade plywood

- Regarding the maximum allowable deflection, floor systems and substrates over which the tile will be installed – using the appropriate Tile Council of North America (TCNA) method, according to the Floor Tiling Installation Guide – must conform with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes.
- For ceramic tile installations, the maximum allowable floor member live load and concentrated load deflection for framed floor systems must not exceed $L/360$, where “L” is the clear span length of the supporting member per applicable building codes. For natural-stone tile installations, maximum allowable floor member live load and concentrated load deflection for wood-framed floor systems should not exceed $L/720$, where “L” is the clear span length of the supporting member, per applicable building codes.
- For other specialty flooring products, including marble and slate, refer to the suppliers’ recommendations for the finish flooring. Enhanced structural performance may be required for ceramic and natural-stone floor products. See the TCNA handbook for ceramic tile installation.
- Use a MAPEI polymer-modified mortar meeting ANSI A118.11 or ANSI A118.15 standard or classified as ISO 13007 C2E or better for installing *Mapeguard WP 200* in the applicable interior installation over plywood substrates.

Lightweight concrete

- Refer to MAPEI’s “Tiling over gypsum” technical bulletin.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Inspect the subfloor before installing *Mapeguard WP 200* underlayment membrane to ensure that the substrate is acceptable for tile or stone installation. Refer to ANSI A108.01’s General Requirements.
2. Snap chalk lines on the substrate and dry-fit *Mapeguard WP 200*, cutting the membrane to the required size for the installation. Allow for upturns and 2" (5 cm) overlaps as desired, or use *Mapeguard WP ST* instead of upturns and edge laps.
3. Mix a suitable MAPEI mortar for the substrate to a consistency on the high end of the recommended water range, in order to hold a notched ridge while allowing for wetting out of the fabric layer backing of the membrane.
4. With pressure, apply a mortar coat by using the trowel’s flat side to key mortar into the substrate.
5. Apply additional mortar, combing it in a single direction using a 1/4" x 3/16" (6 x 4.5 mm) V-notched trowel. Coverage may vary as a result of mortar consistency, trowel angle, floor flatness, substrate absorption, etc.
6. Spread only as much mortar as can be covered with *Mapeguard WP 200* before the mortar skins over. Open times vary with jobsite conditions and mortar choice.
7. Embed *Mapeguard WP 200* into the mortar. Using a rubber or wooden float, plastic taping knife or hand roller, move slowly to apply pressure and ensure proper embedding of the membrane. Work from the middle to the outside edges to ensure that air is not trapped underneath the membrane.
8. Lift the membrane occasionally to verify coverage between the fabric layer backing and the tile-setting mortar. Proper installation results in full contact between the fabric layer backing and the tile-setting mortar.
9. To create bonded seams, overlap the edges of the *Mapeguard WP 200* by 2" (5 cm), or embed *Mapeguard WP ST* sealing tape over the abutted edges without leaving gaps. For both methods, use a MAPEI mortar meeting the ANSI A118.4, ANSI A118.11 or ANSI A118.15 standard, or classified as at least ISO 13007 C2E or C2F.
10. Using a 1/4" x 3/16" (6 x 4.5 mm) V-notched trowel, key in the mortar to the adjoining seams with the trowel’s flat side.
11. Apply mortar on top of the seams with the trowel’s notched side. When using *Mapeguard WP ST* sealing tape, center the tape over the seam with at least 2" (5 cm) on each side of the seam and apply the tape. Work the sealing tape or 2" (5 cm) overlap into the thin-set mortar with a grout float, plastic taping knife or the trowel’s flat side while the thin-set is still workable.
12. Use a damp sponge to clean excess mortar from areas on the *Mapeguard WP 200* that will be lapped when seaming or flashing so as not to hinder the process

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- when needed. Seaming and flashing are typically done after the installation of *Mapeguard WP 200*.
- To waterproof walls, follow the installation methods detailed in steps 1 through 8. To connect a wall with the floor waterproofing and address wall seams, follow the installation methods detailed in steps 9 through 11.
 - For floor and wall connections, use *Mapeguard WP ST* sealing tape or overlap seams by at least 2" (5 cm).
 - For inside and outside corners, adhere *Mapeguard PIC* pre-formed inside corners and *Mapeguard POC* pre-formed outside corners with MAPEI recommended mortars.
 - Install *Mapeguard PC* pre-formed pipe collars to seal pipes at showerheads, body sprays, etc., and *Mapeguard VC* pre-formed valve collars at the mixing valve with MAPEI recommended mortars.
 - If flood testing is required, allow the system of *Mapeguard WP 200*, seams, connection and materials to cure for at least 24 hours at 73°F (23°C) and 50% relative humidity (RH).
 - Interior tile or stone installations can take place immediately after the installation of *Mapeguard WP 200*.

TILE INSTALLATION

Ceramic, porcelain and stone tile

- In accordance with the TCNA Handbook for Ceramic Tile Installation and with porcelain tile manufacturers, use a MAPEI polymer-modified mortar suitable for the tile being installed. The mortar should meet the ANSI A118.4, ANSI A118.11 or ANSI A118.15 standard, or be classified as ISO 13007 C2E, C2F or better.
- For fast-track and exterior installations, use a rapid-setting MAPEI mortar.
- First skim the surfaces of *Mapeguard WP 200* using the flat side of the trowel, ensuring that the mortar is embedded into the fabric.
- Immediately apply additional mortar and comb over the membrane using the recommended notched trowel (and directional troweling method) suitable for the size and type of tile being installed.
- Install tile in accordance with industry guidelines, checking frequently for adequate mortar coverage. Interior tile or stone installations can take place immediately after the *Mapeguard WP 200* installation.

Moisture-sensitive stone tile

- Skimcoat *Mapeguard WP 200* with an approved MAPEI polymer-modified mortar.
- Allow the mortar to cure.
- Use *Kerapoxy® 410* premium, 100%-solids epoxy setting mortar per its TDS recommendations to install moisture-sensitive stone.

EXPANSION JOINTS

- Honor expansion joints through *Mapeguard WP 200*, tiles and grout per industry standards.
- When necessary, cut tiles along both edges of the expansion joints. Do **not** allow tiles and mortar to overlap the expansion joints.
- Provide for movement as required by TCNA Method EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ.

GROUTING

- Tiles may be grouted once the mortar has cured enough to allow light traffic, which will depend upon the mortar used, tile size, tile type and jobsite conditions. Select an appropriate MAPEI cement, ready-to-use or epoxy grout. For exterior installations, use MAPEI's *Ultracolor® Plus FA* rapid-setting grout. Allow for longer drying time before grouting when installing large-format tiles (that is, tiles greater than 15" or 38 cm on one or more sides).

CLEANUP

- Clean hands, tools and tile while the mortar is fresh, using only water.

PROTECTION

- Provide for dry, heated storage on site and deliver materials at least 24 hours before tilework begins.
- Do not store *Mapeguard WP 200* in direct sunlight.
- Do not leave *Mapeguard WP 200* exposed for more than 72 hours; rather, protect it from other trades if tile will not be set immediately. If left exposed, *Mapeguard WP 200* should be covered with a recommended MAPEI thin-set mortar, troweled smooth.
- Protect *Mapeguard WP 200* from spills, contamination and damage before and during tilework to ensure a positive bond with the mortar.
- Always provide proper protection or appropriate protection boards for finished floors when heavy equipment (such as fork lifts or scissor lifts) is to be used over installations with sheet membranes during construction.
- Refer to the TDS of the selected MAPEI tile-setting mortar regarding protection from heavy traffic, frost and rain.

FLOOD TESTING (per ASTM D5957)

- Flood testing is recommended before the finished floor is installed, even if not required. Allow the system of *Mapeguard WP 200*, seams, connections and materials to cure at least 24 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.



Product Performance Properties

Laboratory Tests	Results
ASTM C627 Service Rating (Robinson)	
16" (41 cm) o.c., wood substrate	Heavy
Concrete slab	Extra Heavy

Shelf Life and Product Characteristics

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C) and 50% RH
Physical state	Polyethylene sheet membrane with non-woven polypropylene fabric on both sides
Thickness	0.02" (0.44 to 0.48 mm), nominally 17 to 19 mils
Color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

ANSI Specifications

Property	Test Results
System performance – ANSI A118.10	Pass
Fungus and microorganism resistance – ANSI A118.10	No mold growth
Seam strength – ANSI A118.10 and ASTM D751	23 lbs./in.
Breaking strength – ANSI A118.10 and ASTM D751	
Transverse	1,365.6 psi (9.42 MPa)
Longitudinal	2,003.2 psi (13.8 MPa)
Dimensional stability – ANSI A118.10 and ASTM D1240	< 0.7%
Waterproofness – ANSI A118.10 and ASTM D4068	Pass
Shear strength to ceramic tile and cement mortar – ANSI A118.10 and ASTM C482	> 50 psi (0.34 MPa)
Water vapor transmission – ASTM E96 (Method E)	0.22 (grains/h-ft ²)
Permeance – ASTM E96 (Method E)	0.12 perms
Shear strength – ASTM C482	
7 days, dry	136.6 psi (0.94 MPa)
7 days, water immersion	120.4 psi (0.83 MPa)
4 weeks	112.8 psi (0.78 MPa)
12 weeks	132.5 psi (0.91 MPa)
100 days, water immersion	142.4 psi (0.98 MPa)
Crack isolation – ANSI A118.12	High performance > 1/8" (3 mm)

Packaging and Coverage

Size	Coverage
Roll: 39.4" x 16.4' (1 m x 5 m)	53.8 sq. ft. (5 m ²)
Roll: 39.4" x 32.8' (1 m x 10 m)	108 sq. ft. (10 m ²)
Roll: 39.4" x 98.4' (1 m x 30 m)	323 sq. ft. (30 m ²)
Roll: 6' x 50' (1.83 m x 15.2 m)	300 sq. ft. (27.9 m ²)



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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).

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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