



# Mapeguard<sup>SM</sup>

## Premium crack-isolation sheet membrane



### DESCRIPTION

*Mapeguard SM* is a flexible, thin, load-bearing, fabric-reinforced, “peel-and-stick” crack-isolation and sound-reduction membrane over which ceramic tile or stone can be installed immediately with a MAPEI latex-/polymer-modified cement-based or epoxy mortar and grout. *Mapeguard SM* has a Sound Transmission Class (STC) rating of 69 and an Impact Isolation Class (IIC) rating of 69 based on a 6” (15 cm) concrete slab with a drop ceiling.

### CLASSIFICATION STANDARDS

ANSI: *Mapeguard SM* exceeds ANSI A118.12 high-performance standards for crack isolation

### USES

#### General

- For residential and commercial interior/exterior floors under latex-modified thin-set mortars used to install ceramic tile or stone
- For residential areas such as homes, apartments and condominiums
- For commercial areas such as airports, malls, restaurants, entranceways and arcades. In these applications, use epoxy mortar and grout if a heavy-duty rating is required.
- Ideal for concrete or plywood floors in multi-family or multi-story buildings

#### Crack isolation

- For restricting existing or future in-plane floor cracks (with movement up to 3/8” [10 mm] wide) from transmitting through grout, ceramic tile or natural stone

#### Sound reduction

- For residential and commercial interior floors under latex-modified thin-set mortars used to install ceramic tile or stone

### RECOMMENDED SUBSTRATES

- Fully cured concrete (at least 28 days old)
- Cement mortar beds and leveling coats
- Cement backer units (CBUs)
- Properly prepared cement terrazzo floors, ceramic tile and natural stone; and well-bonded vinyl asbestos tile (VAT) and vinyl composition tile (VCT)
- Exterior-grade plywood for interior residential floors and countertops in dry areas only. Plywood must be Group 1, CC-type, conforming to APA classification and U.S. Product Standard PS 1-95 or COFI exterior plywood “Select” or “Select Tight Face” conforming to CSA-0121 standard for Douglas fir. (See TCNA Handbook for additional information and following statement 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.

## TECHNICAL NOTES

(for *Mapeguard SM* and *MAPEI SM Primer*<sup>TM</sup>)

- Do not use over cracks or control joints subject to out-of-plane movement.
- Do not use over cracks or control joints subject to in-plane movement greater than 3/8" (10 mm). Note: See Section 3, "Expansion Joints."
- Do not use on vertical surfaces.
- Do not use where excessive substrate moisture and/or where negative hydrostatic pressure exists. The maximum amount of acceptable moisture in a concrete substrate for *Mapeguard SM* is 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m<sup>2</sup>) per 24 hours as determined by a calcium chloride test kit.

When moisture vapor emissions are in excess of 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m<sup>2</sup>) per 24 hours, call MAPEI's Technical Services Department for recommendations.

- Do not use over substrates consisting of plank wood flooring, presswood, particleboard, chipboard, oriented strand board (OSB), pressure-treated or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, laminate, metal or fiberglass surfaces, or poured epoxy floors or similar dimensionally unstable materials.
- When using *Mapeguard SM* over gypsum-based floor-patching or leveling compounds, reference Technical Bulletin #010506-TB.
- Do not use under glass tile installations.
- Do not use as a waterproofing membrane, roof deck membrane or wear surface, or for submerged applications.

- Do not install *Mapeguard SM* over wet *MAPEI SM Primer*. Allow primer to dry tacky.
- Do not use *Mapeguard SM* or *MAPEI SM Primer* with solvent-based materials.
- Do not use premixed mastics to set tile over *Mapeguard SM*.
- Do not use on plywood in exterior applications.
- Install *Mapeguard SM* only in conjunction with *MAPEI SM Primer*.
- Do not dilute *MAPEI SM Primer*.
- Use only a MAPEI epoxy or urethane setting material when installing moisture-sensitive natural stone or manmade tiles, such as agglomerates, over *Mapeguard SM*.

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 using wet-set or medium-bed mortar methods of installation over impervious sheet membranes such as *Mapeguard SM*. For this reason, areas requiring more than 3/8" (10 mm) buildup require the use of a self-leveling underlayment or cured mud-bed application before installation of *Mapeguard SM*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach full cure to ensure achieving the desired effect.

For more information regarding these methods or materials, contact MAPEI's Technical Services before installation or design.

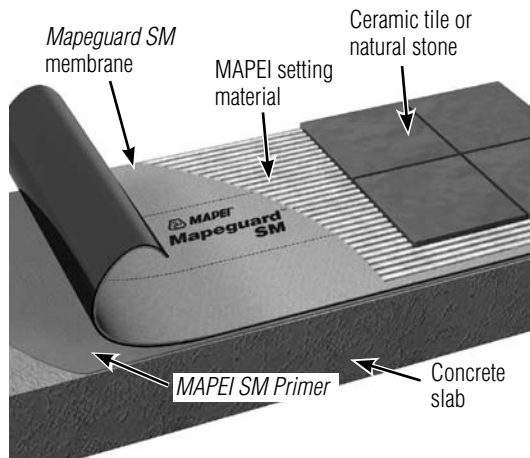
## INSTRUCTIONS

### 1. Surface Preparation

- 1.1 All recommended substrates must be smooth, structurally sound and free of any substance that could prevent adhesion.
- 1.2 Do not use chemical means (acid etching or stripping) to prepare approved substrates. Use mechanical methods only.
- 1.3 To remove any bond-inhibiting materials, concrete substrates should be mechanically cleaned and prepared by diamond-cup grinding or other engineer-approved methods to obtain the International Concrete Repair Institute (ICRI) concrete surface profile #2. When concrete requires more mechanical preparation, the profile will typically increase. In such cases, the surface should be made smooth by applying *Planipatch*<sup>®</sup> powder mixed with diluted *Planipatch Plus*<sup>TM</sup> liquid (1 part water for 3 parts *Planipatch Plus*). For large areas, consider using one of MAPEI's self-leveling underlayments. See respective Technical Data Sheets (TDSs) for more information.

1.4 For details of MAPEI's requirements, see MAPEI's "Surface Preparation Requirements" document at [www.mapei.com](http://www.mapei.com) or contact MAPEI's Technical Services Department.

**Installation Sequence for Material Layers**



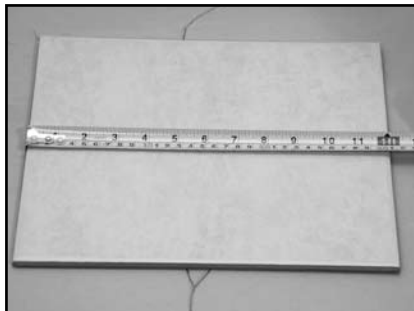
**2. Installation**

Apply only when substrate and ambient temperatures are between 40°F and 95°F (4°C and 35°C).

2.1 Individual crack isolation

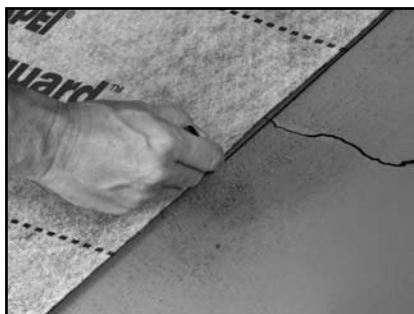
2.1.1 *Mapeguard SM* may be applied directly to the substrate area that has existing in-plane cracks (with movement up to 3/8" [10 mm] wide).

2.1.2 Cut *Mapeguard SM* to size so that both length and width of the cut membrane cover the entire length and width of the crack, plus 3 times the width of the largest tile being used.\*



\* If not impeded by a wall, column, etc., *Mapeguard SM* should extend beyond both ends of an existing crack.

2.1.3 Center the cut membrane over the crack's width and length. Mark on the floor where the membrane is to start.



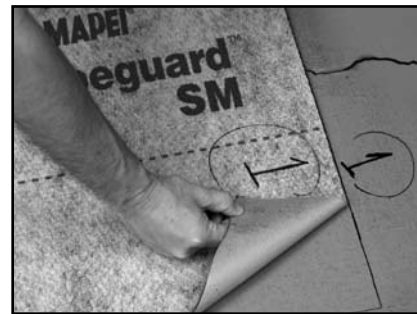
2.1.4 Set aside precut sections (or entire rolls) of *Mapeguard SM*. Continue with installation instructions at Section 2.3.

2.2 Full-floor crack isolation (or sound reduction)

2.2.1 To effectively isolate and protect an entire tile installation from existing or future substrate cracks, and to achieve effective sound reduction, *Mapeguard SM* must be installed over 100% of the substrate that will be covered with ceramic tile or stone. For sound control, an approved acoustical sealant must be used around the perimeter and all abutments (change in plane).

2.2.2 Roll out one or more rolls of *Mapeguard SM* and cut to size for the substrate to be tiled. For easier handling and installation, each roll may be cut into shorter lengths (such as 10 feet [3,05 m]) before installation. Ensure that all edges or ends of each roll abut edges or ends of other rolls. To ensure a flat surface and proper sound control, do not overlap the edges or ends from one roll onto another roll.

2.2.3 Number each sheet and mark its starting point on the floor.



2.2.4 Set aside precut sections (or entire rolls) of *Mapeguard SM*.

2.3 MAPEI SM Primer™ application

2.3.1 Using a roller or brush, prime the clean, properly prepared substrate with undiluted *MAPEI SM Primer*.



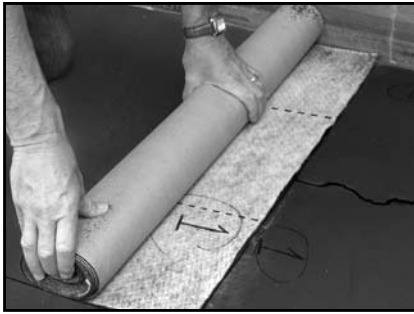
2.3.2 Allow primer to dry until tacky (about 10 to 15 minutes).

2.4 Mapeguard SM installation

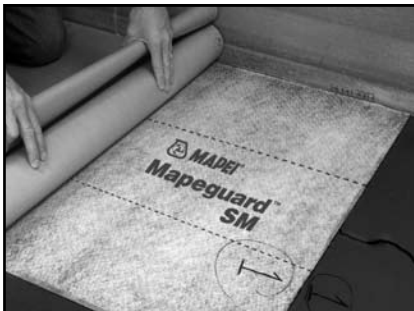
2.4.1 Peel back the first 1" (2,5 cm) of release paper from the end of the precut sections or roll.



2.4.2 Take this leading edge and, at the previously marked starting point, apply the membrane to the primed and tacky substrate.



2.4.3 Continue removing short amounts of backing paper and applying sticky membrane to the primed, dry substrate. Continue this process until the desired portion of the substrate is covered with Mapeguard SM.



2.4.4 To ensure a positive bond between sticky membrane and tacky primer, roll a 75-lb. or 100-lb. (34,0-kg or 45,3-kg) standup roller over the installed membrane.



2.4.5 Using a razor knife, remove any wrinkles, bubbles or objects trapped beneath the applied membrane, and then repair.



2.4.6 Chalk lines or other layout methods are easily applied over the light-colored Mapeguard SM surface.



## 2.5 Mortar and tile application

Use an appropriate MAPEI latex Portland-cement or polymer-modified mortar meeting ANSI A118.4 and ANSI A118.11 industry standards, or use an epoxy or urethane adhesive. Mix per recommended instructions.



Note: When installing tile larger than 18" x 18" (46 x 46 cm), longer mortar-cure times may be required before tile can be grouted or walked on. For shorter turnaround times when installing larger tile, use a MAPEI rapid-set mortar such as *Ultracontact™ RS* or *Granirapid®*.

For additional information, instructions and recommended protection, see the respective MAPEI TDS for the mortar selected.

## 3. Expansion Joints

- 3.1 Do not cover any substrate expansion joints with Mapeguard SM, mortar or tiles. Provide for expansion joints where specified. Refer to the most current TCNA handbook for ceramic tile installation, Detail EJ-171, or TTMAC Tile Installation Manual, Detail 301MJ.
- 3.2 When necessary, cut tiles along both edges of the expansion joints. Do not allow tile and mortar to overlap the joints.
- 3.3 Protect tilework with metal strips (edge metal) along both edges of structural building expansion joints.
- 3.4 Install the specified compressible bead and sealant into all expansion and control joints.

## TECHNICAL DATA for Mapeguard SM

**ANSI:** Exceeds ANSI A118.12 high-performance standard for crack isolation

Roll size and coverage	
3' x 50' (0,91 x 15,2 m) roll .....	150 sq. ft. (13,9 m <sup>2</sup> )
Roll weight .....	40 lbs. (18,1 kg)
Fabric color .....	White
Shelf life .....	1 year when stored in a dry area in original shipping container at between 40°F and 95°F (4°C and 35°C)
Maximum crack movement capacity .....	3/8" (10 mm) wide in-plane
ASTM C627 (as tested by an independent laboratory) .....	Rated extra heavy-duty (as measured by Robinson Type Floor Tester), when used in a system consisting of MAPEI's <i>Kerapoxy</i> mortar and grout with 6" x 6" (15 x 15 cm) unglazed quarry; or light commercial using 12" x 12" (30 x 30 cm) porcelain with <i>Ultraflex™ 2</i> and <i>Keracolor™ S</i> grout. See TCNA handbook regarding specific conditions.
Thickness .....	40 mils (1 mm)
Health and safety .....	Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

### Sound-Reduction Data

MAPEI Corporation and MAPEI Inc. certify that the following sound tests were conducted and results supplied by NGC Testing Services, Buffalo, NY, using a system of MAPEI's *Mapeguard SM* crack-isolation and sound-reduction sheet membrane in conjunction with MAPEI's *Ultraflex™ 2* mortar and *Keracolor™ S* grout indicated below.

SOUND-REDUCTION TESTING (With Suspended Ceiling) <sup>†</sup>			
Test	Test Method	Floor Configuration	Results
ASTM E492-04	Impact Sound	6" (152 mm) Concrete <sup>†</sup>	IIC: 69
ASTM E90-04	Airborne Sound	6" (152 mm) Concrete <sup>†</sup>	STC: 69
ASTM E492-04	Impact Sound	6" (152 mm) Concrete <sup>†</sup>	IIC: 68
ASTM E90-04	Airborne Sound	8" (203 mm) Concrete <sup>†</sup>	STC: 68

<sup>†</sup> Drywall grid suspension system consisting of 5/8" (16 mm) Type X gypsum board (2.3 lbs./sq. ft. [11,2 kg/m<sup>2</sup>]) attached with screws 12" (30 cm) on center to suspended grid suspension system; and 12" (30 cm) plenum with 3-1/2" (8,9 cm) lay-in fiberglass insulation 0.16 lbs./sq. ft. (0,78 kg/m<sup>2</sup>).

SOUND-REDUCTION TESTING (Without Suspended Ceiling)			
Test	Test Method	Floor Configuration	Results
ASTM E492-04	Impact Sound	6" (152 mm) Concrete <sup>††</sup>	Delta IIC: 10
ASTM E492-04	Impact Sound	6" (152 mm) Concrete <sup>††</sup>	IIC: 36
ASTM E90-04	Airborne Sound	6" (152 mm) Concrete <sup>††</sup>	STC: 54
ASTM E492-04	Impact Sound	8" (203 mm) Concrete <sup>††</sup>	IIC: 36
ASTM E90-04	Airborne Sound	8" (203 mm) Concrete <sup>††</sup>	STC: 57

<sup>††</sup> One layer of 6" x 6" (15 x 15 cm) unglazed quarry tile installed with *Ultraflex 2* mortar and *Keracolor S* grout applied over *Mapeguard SM*.

## TECHNICAL DATA for MAPEI SM Primer™

Cleanability .....	With mineral spirits
Color .....	White
Shelf life .....	1 year when stored in original, unopened container at between 40°F and 95°F (4°C and 35°C)
Health and safety .....	Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

### PACKAGING

Jug: 1 U.S. gal. (3,79 L)  
Pail: 5 U.S. gals. (18,9 L)

### APPROXIMATE COVERAGE\*

per 1 U.S. gal. (3,79 L).....300 to 350 sq. ft. (27,9 to 32,5 m<sup>2</sup>)

\* Coverages shown are for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of roller or brush used.



#### 4. Grouting

Select an appropriate MAPEI Portland-cement grout meeting ANSI A118.6 or ANSI A118.7 industry standards, or an epoxy grout meeting ANSI A118.3 industry standards.

For additional information, instructions and recommended protection, see the respective MAPEI TDS for the grout selected.

#### 5. Protection

- 5.1 Provide for dry, heated storage on site and deliver materials at least 24 hours before tilework begins.
- 5.2 Do not store *Mapeguard SM* or *MAPEI SM Primer* in direct sunlight.
- 5.3 Do not allow *MAPEI SM Primer* to freeze.
- 5.4 Protect *Mapeguard SM* from spills, contamination and damage before and during tilework to ensure a positive bond with the mortar.
- 5.5 Always provide proper protection of finished floors when heavy equipment (such as fork lifts or scissor lifts) is to be used over installations with sheet membrane underlayments during construction.

#### NOTICE

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.**

#### MAPEI

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##### Customer Service

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

##### Technical Services

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

##### Additional Information

Website: [www.mapei.com](http://www.mapei.com)

##### MAPEI – USA

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##### MAPEI – Puerto Rico

Dorado

##### MAPEI – Venezuela

Caracas, Ref. J-30312350-3

For the most current product  
and warranty data, visit  
[www.mapei.com](http://www.mapei.com).



PR5040 MPGD\_I08EvP  
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