



Mapeguard CI[®]

Peel-and-Stick, Crack-Isolation Sheet Membrane for Tile Installations



DESCRIPTION

Mapeguard CI is a flexible, thin (1/16" or 1.5 mm), lightweight, load-bearing, fabric-reinforced, "peel-and-stick" crack-isolation membrane. After application, ceramic tile or stone can be installed immediately with approved polymer-modified cement-based mortar. *Mapeguard CI* helps to prevent existing or future in-plane floor cracks (with movement up to 3/8" or 10 mm wide) from transmitting through grout, ceramic tile or natural stone.

FEATURES AND BENEFITS

- Protects by isolating cracks
- Reduces the impact sound of the finished tile surface
- Lightweight membrane
- Semi-rigid sheet that is easy to position on the floor and cut to size
- Split-back release film that installs faster than membranes with 1-piece liners
- Thin-film adhesive backing that bonds to various substrates
- Time-saving: After priming, peel/stick the membrane and then install tile immediately.
- No odor, making it great for confined spaces

INDUSTRY STANDARDS AND APPROVALS

- ASTM C627 (Robinson): See the "ASTM C627 Service Rating" chart below.
- ANSI A118.12 (Crack Isolation for Tile & Stone): See the "Product Performance Properties" chart below. *Mapeguard CI* exceeds the high-performance standard for crack isolation.

WHERE TO USE

- Residential (homes, apartments and condominiums) and commercial floors (airports, malls, office buildings, restaurants and galleries), both interior and exterior (with proper drainage)

LIMITATIONS

- Do not use over cracks or control joints subject to out-of-plane movement, or to in-plane movement greater than 3/8" (10 mm). Note: See the "Expansion Joints" section below.
- Do not use over substrates containing asbestos, plank wood flooring, presswood, particleboard, chipboard, oriented strand board (OSB), pressure- or oil-treated plywood, Luan plywood, Masonite, self-stick tile, laminate, metal or fiberglass surfaces, or similar dimensionally unstable materials.
- Do not use where excessive substrate moisture and/or where negative hydrostatic pressure exists.
 - The maximum amount of acceptable moisture in a concrete substrate primed with *MAPEI SM Primer™* is 5 lbs. per 1,000 sq. ft. (2.27 kg per 92.9 m²) per 24 hours as determined by an ASTM 1869 calcium chloride test kit.
 - The maximum amount of acceptable moisture in a concrete substrate primed with *MAPEI SM Primer Fast* is 8 lbs. per 1,000 sq. ft. (3.63 kg per 92.9 m²) per 24 hours as determined by an ASTM 1869 calcium chloride test kit.
 - The maximum amount of acceptable moisture in a concrete substrate primed with *MAPEI HM Primer™* is 15 lbs. per 1,000 sq. ft. (6.80 kg per 92.9 m²) per 24 hours using an ASTM 1869 calcium chloride test kit.



- Do not install *Mapeguard CI* with *MAPEI HM Primer* when relative humidity of concrete slabs exceeds 95% (ASTM F2170).
- When moisture vapor emissions are in excess of 15 lbs. per 1,000 sq. ft. (6.80 kg per 92.9 m²) per 24 hours, call MAPEI's Technical Services for recommendations.
- Do not use on vertical surfaces.
- Do not use under glass tile installations.
- Do not use as a waterproofing or roof deck membrane.
- Do not use as a final wear surface.
- Do not use in wet environments. Do not use for submerged applications, or on plywood in exterior applications.
- Do not use on exterior floors with improper drainage or improper slope (no standing water).
- When using *Mapeguard CI* over gypsum-based floor-patching or leveling compounds, reference the technical bulletin "Tiling over gypsum" in the Tile & Stone Installation Systems section on MAPEI's Website.
- Do not use *Mapeguard CI*, *MAPEI SM Primer*, *MAPEI SM Primer Fast* or *MAPEI HM Primer* with solvent-based materials.
- Do not use self-leveling products over *Mapeguard CI*.
- Do not use premixed products to set tile over *Mapeguard CI*.
- Do not install moisture-sensitive tile or stone with water-based setting materials.
- *Mapeguard CI* is not rated for sound control.

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 wet-set or large-and-heavy-tile mortar methods of installation are used over impervious sheet membranes such as *Mapeguard CI*. 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 CI*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach a 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.

SUITABLE SUBSTRATES

- Concrete (cured for at least 28 days)
- Cement mortar beds and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Cement or epoxy terrazzo floors, well-bonded ceramic tile and natural stone, and vinyl composition tile

- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floors and countertops in dry conditions only). See the 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.

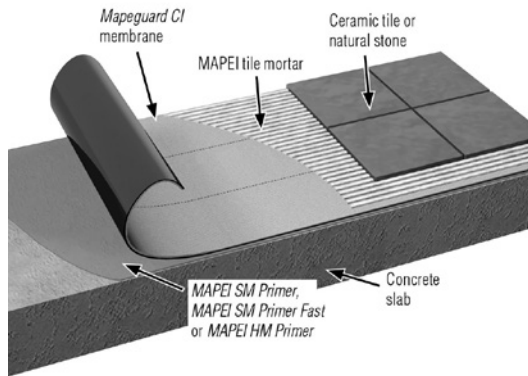
SURFACE PREPARATION

- All suitable substrates must be smooth, structurally sound, and free of any substance or condition that may reduce or prevent proper adhesion.
- Use mechanical methods only to prepare approved substrates. Do not use chemical means (acid etching or stripping).
- To remove any bond-inhibiting materials, mechanically clean and prepare concrete substrates by diamond-cup grinding or other engineer-approved methods to obtain the International Concrete Repair Institute (ICRI) concrete surface profile (CSP) #2. When concrete requires more mechanical preparation, the profile will typically increase. In such cases, the surface should be made smooth by applying *Mapecem Quickpatch*. For large areas, consider using one of MAPEI's self-leveling underlayments. See the respective Technical Data Sheets (TDSs) for more information.

See the "Surface Preparation Requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

PRODUCT APPLICATION

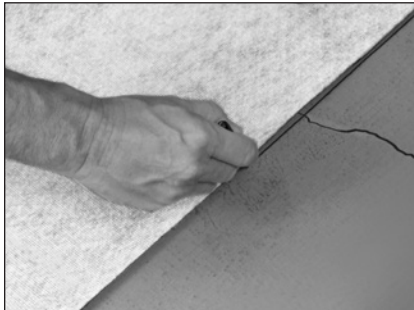
Read all installation instructions thoroughly before installation.



- Apply when substrate and ambient temperatures are between 40°F and 95°F (4°C and 35°C).
- Install *Mapeguard CI* only in conjunction with undiluted *MAPEI SM Primer*, *MAPEI SM Primer Fast* or *MAPEI HM Primer*.
- Allow primer to dry tacky before installing *Mapeguard CI*.

A. Partial-floor crack isolation before installing tile

1. *Mapeguard CI* may be applied directly to the substrate area that has existing in-plane cracks (with movement up to 3/8" or 10 mm wide).
2. Cut *Mapeguard CI* to size so that the length and width of the membrane will cover the entire length and width of the crack, plus 3 times the width of the largest tile being used.
3. Center the cut membrane over the crack's width and length. Mark on the floor where the membrane is to start.

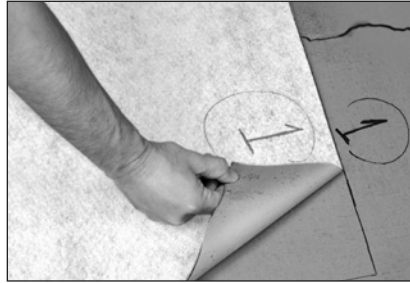


4. Set aside precut sections (or entire rolls) of *Mapeguard CI*. Continue with installation instructions at Step 3 in the "Full-floor crack isolation" instructions below.

B. Full-floor crack isolation

1. To effectively isolate and protect an entire tile installation from existing or future substrate cracks, *Mapeguard CI* must be installed over 100% of the substrate that will be covered with ceramic tile or stone.

2. Unroll *Mapeguard CI* and cut it 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 or 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, do not overlap edges or ends from one roll onto another.
3. Number each sheet and mark its starting point on the floor.



4. Set aside precut sections of *Mapeguard CI*.

C. Primer application

1. Using a roller or brush, prime the substrate with *MAPEI SM Primer*, *MAPEI SM Primer Fast* or *MAPEI HM Primer*.



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

D. *Mapeguard CI* installation

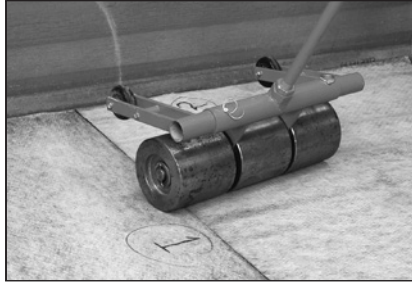
1. Peel back the first 1" (2.5 cm) of release film from the end of the precut sections or roll.



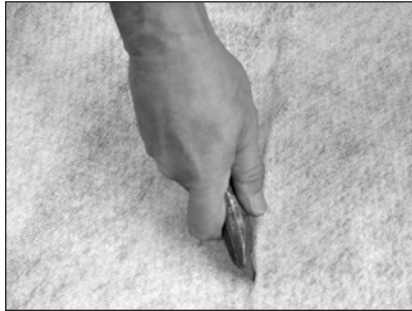
2. Apply this leading edge at the previously marked starting point to the primed and tacky substrate.
3. Continue removing short amounts of release film and apply the membrane to the substrate. Continue until the substrate is covered with the membrane.

Mapeguard[®] CI

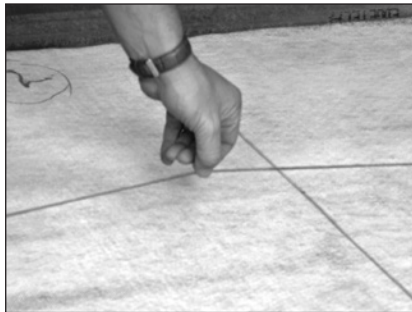
- To ensure a positive bond between the sticky membrane and substrate, roll a 75-lb. to 100-lb. (34.0-kg to 45.4-kg) roller over the installed membrane.



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



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



E. Tile mortar application

- Set tile using an appropriate MAPEI latex polymer-modified mortar meeting or exceeding both the ANSI A118.4 and ANSI A118.11 industry standards. For moisture-sensitive tile or stone, use MAPEI's Planicrete® W urethane adhesive.
- For installation of large-and-heavy tiles, longer mortar-cure times may be required before tile can be grouted or walked on. For shorter turnaround times when installing larger tiles, use a MAPEI rapid-set mortar such as Ultraflex™ LFT™ Rapid, MAPEI Ultralite™ S1 Quick or Granirapid® System.
- For additional information, instructions and recommended protection, see the respective MAPEI TDS for the mortar selected.

EXPANSION JOINTS

- Do not cover any substrate expansion joints with Mapeguard CI, mortar or tiles. Provide for expansion joints as specified per TCNA Method EJ171, or TTMAC Specification Guide 09 30 00 Detail 301MJ.
- When necessary, cut tiles along both edges of the expansion joints. Do not allow tiles and mortar to overlap the joints.
- Protect tilework with metal strips (edge metal) along both edges of structural building expansion joints.
- Install the specified compressible bead and sealant into all expansion joints.

GROUTING

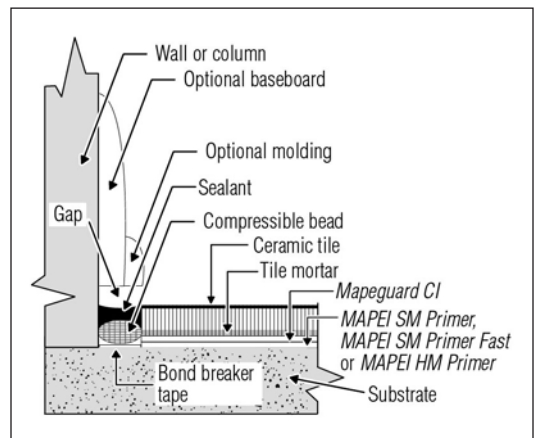
- Select an appropriate MAPEI grout. For product information, instructions and recommended protection, see the respective TDS for the MAPEI grout selected.

CLEANUP

- Remove excess primer with mineral spirits.

PROTECTION

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



Product Performance Properties

Maximum crack-movement capacity	3/8" (10 mm) wide, in-plane
Maximum temperature of product exposure	122°F (50°C)
ANSI A118.12 (Crack-Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation)	
4.1 – Fungus and micro-organism resistance: Thin-Set Ceramic Tile and Dimension Stone Installation) 4.1.2 – 14-day incubation: (with mortar)	Pass
5.1 – Shear strength to ceramic tile and cement mortar	Pass
5.1.6 – After accelerated aging	Pass
5.2 – Point load test	Pass
5.2.3 – Point load resistance after 28-day cure	Pass
5.4 – System crack resistance test	Pass
5.4.9 – High performance	Pass
ASTM C627 Service Rating (Robinson)	Extra Heavy

Shelf Life and Product Characteristics before mixing

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)
Dimensions	3.28 x 68.9 ft. (1 x 21 m)
Thickness	1/16" (1.5 mm) nominal
Weight per roll	63.3 lbs. (28.7 kg)
Fabric color	Green

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

ASTM C627 Service Rating (Robinson)

MAPEI Corporation and MAPEI Inc. certify that the following Robinson tests (for tile) were conducted and warrant the systems noted.

ASTM C627 Actual rating	Extra Heavy
MAPEI grout	<i>Ultracolor® Plus FA</i>
Tile	12"x 12" (30 x 30 cm) unglazed solid-body porcelain (with 1/4" [6 mm] joints)
MAPEI mortar	<i>Ultraflex 1</i>
MAPEI crack-isolation sheet membrane	<i>Mapeguard CI</i>
MAPEI primer	<i>MAPEI SM Primer, MAPEI SM Primer Fast and MAPEI HM Primer</i>
Substrate	Concrete slab

Packaging and Coverage

Product	Size	Weight	Coverage*
<i>Mapeguard CI</i>	Roll: 39.4" x 68.6' (1 x 20.9 m)	63.3 lbs. (28.7 kg)	225 sq. ft. (20.9 m ²)
<i>MAPEI SM Primer</i>	Jug: 1 U.S. gal. (3.79 L)	9 lbs. (4.08 kg)	300 to 350 sq. ft. (27.9 to 32.5 m ²)
<i>MAPEI SM Primer</i>	Pail: 5 U.S. gals. (18.9 L)	45 lbs. (20.4 kg)	1,500 to 1,750 sq. ft. (139 to 163 m ²)
<i>MAPEI SM Primer Fast</i>	Jug: 1 U.S. gal. (3.79 L)	9 lbs. (4.08 kg)	300 to 350 sq. ft. (27.9 to 32.5 m ²)
<i>MAPEI HM Primer</i>	Jug: 1 U.S. gal. (3.79 L)	9 lbs. (4.08 kg)	250 to 350 sq. ft. (23.2 to 32.5 m ²)

* Coverage shown is for estimating purposes only. Actual jobsite coverage depends on substrate conditions, type of roller or brush used.

Mapeguard CI



Primer Reference Chart

	Interior applications			Exterior applications		
	Below-grade	On-grade	Above-grade	Below-grade	On-grade	Above-grade*
MAPEI HM Primer	●	●	●	●	●	●
MAPEI SM Primer		●	●			●
MAPEI SM Primer Fast		●	●			●

* In appropriately sloped exterior environments

Refer to the 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).

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.**

We proudly support the following industry organizations:



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
 1-800-992-6273 (U.S. and Puerto Rico)
 1-800-361-9309 (Canada)
Customer Service
 1-800-42-MAPEI (1-800-426-2734)

Services in Mexico
 0-1-800-MX-MAPEI (0-1-800-696-2734)
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