

Mapesonic RM

Premium, Sound-Reduction Rubber Membrane



DESCRIPTION

Mapesonic™ RM is a high-performance, acoustic underlayment designed to reduce ambient and impact sound transmissions in installations of ceramic and porcelain tile, natural stone, wood flooring, luxury vinyl tile (LVT), luxury vinyl plank (LVP), sheet vinyl and carpet tile. *Mapesonic RM* is ideal for applications in apartments, condominiums, college dormitories, classrooms and office buildings.

FEATURES AND BENEFITS

- Reduces impact noise
- Optional, low-profile, 5/64" (2 mm) membrane for restricted build heights
- Up to a lifetime warranty depending on the MAPEI product system
- IIC acoustical testing results of 50 to 67, depending on the floor/ceiling assembly
- Resistant to mold and mildew
- Dual use for tile installations: Sound reduction and crack isolation
- Available in three thicknesses

INDUSTRY STANDARDS AND APPROVALS

- ASTM C627 (Robinson): Residential Rating
- ANSI: A118.12, Section 5.4 – Passes “High-Performance” requirements
- ANSI: A118.13 – Passes

Green certifications

- GreenCircle-certified for 83% post-consumer recycled content

WHERE TO USE

- Use under engineered and solid wood flooring; ceramic and porcelain tile; natural stone; glue-down and loose-lay applications of LVT and LVP; sheet vinyl; and carpet tiles in interior applications such as apartments, condominiums, college dormitories, classrooms and office buildings.

Sound reduction

- For interior residential and light-commercial floors
- Ideal for multi-family and multi-story buildings that are prone to impact noise such as from foot traffic
- Compatible with properly installed, radiant-heat flooring systems

Crack isolation

- For interior residential and light-commercial floors
- Helps to prevent existing and future in-plane substrate cracks (with movement up to 1/8" [3 mm] wide) from transmitting through ceramic/porcelain tile and natural stone

LIMITATIONS

- Do not use over substrates containing asbestos, plank wood flooring, presswood, particleboard, chipboard, oriented strand board (OSB), pressure- or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, laminate, metal or fiberglass surfaces, or similar dimensionally unstable materials.
- Do not install under VCT flooring.
- Do not use as a final wear surface. *Mapesonic RM* must be covered by a final wear layer.
- Do not install on concrete slabs with moisture vapor emission rates (MVERs) greater than those that can be tolerated by the mortar, adhesive or flooring selected.
- Do not use over cracks or control joints subject to out-of-plane movement or in-plane movement greater than 1/8" (3 mm).
- Do not use *Mapesonic RM 5* or *Mapesonic RM 10* for vinyl flooring installations, due to possible indentation of the vinyl.
- Do not cover expansion joints. Refer to the most current TCNA Handbook, Detail EJ171, or TTMAC Tile Installation Manual, Detail 301MJ.
- Do not use on vertical surfaces; under glass tile installations; as a waterproofing or roof deck membrane; or for submerged applications or floors subject to standing water.
- Do not use self-leveling products over *Mapesonic RM*.
- Do not use premixed products to set tile over *Mapesonic RM*.
- Moisture-sensitive tile or stone should not be installed with water-based setting materials. 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 installed over sheet membranes such as *Mapesonic RM*.
- Do not use setting materials to compensate for irregularities in the substrate or to increase the elevation of the finished installation. A self-leveling underlayment or cured mortar bed should be applied to compensate for these conditions before installation of *Mapesonic RM*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach full cure to ensure the desired effect.
- Do not use heavy equipment directly over the finished floor.

- Ceramic/porcelain tile or stone set over *Mapesonic RM* must be 2" x 2" (5 x 5 cm) or larger.
- Do not use modified-silane adhesives with *Mapesonic RM* rubber underlayments.

For details, contact MAPEI's Technical Services Department before installation or design.

SUITABLE SUBSTRATES

- Cured concrete, including young (green) concrete. Young 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.
- Cement mortar beds, rendering and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Cement terrazzo floors, and well-bonded ceramic/porcelain tile and natural stone
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial in dry conditions only)
- Properly primed gypsum underlayments that meet the requirements for compressive strength according to ASTM F2419
- Properly installed MAPEI epoxy moisture barriers
- For subfloors and deflection requirements, refer to TCNA Handbook, Field Installation Requirements, Subsection "Maximum Allowable Deflection for Floor Systems and Substrates" and ANSI A108.01, Section 3.4.

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

SURFACE PREPARATION

- All suitable substrates must be smooth, structurally sound and free of any substance that could prevent adhesion.
- Gypsum-based patching or leveling compounds may leave a dusty residue on the surface. Clean the dusty substrate before applying primer, followed by an approved MAPEI mortar or adhesive. See the technical bulletin "Tiling over gypsum" in the Tile & Stone Installation Systems section of MAPEI's Website.
- Wood subfloors must be prepared according to TCNA Handbook, Field Installation Requirements, Subsection "Maximum Allowable Deflection for Floor Systems and Substrates" and ANSI A108.01, Section 3.4.
- Do not use chemical means (acid etching or stripping) to prepare approved substrates. Use mechanical methods only.
- Concrete substrates must be flat, smooth and absorptive. 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 (CSP) #2.
- For resilient flooring installations, substrates must be flat to 3/16" in a 10-foot span (4.5 mm in a 3.05-m span).

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 *Mapesonic RM* when substrate and ambient temperatures are between 40°F and 95°F (4°C and 35°C).
1. Always pre-cut and dry-fit *Mapesonic RM* in place before starting to apply the adhesive to the substrate.
 2. a. For ceramic/porcelain tile installations: Apply *Ultrabond ECO*[®] 420 to the substrate and allow it to become tacky. Use a 3/32" x 3/32" x 3/32" (2.5 x 2.5 x 2.5 mm) V-notch trowel. Or, alternately, apply a MAPEI mortar meeting the ANSI A118.15 industry standard, such as *Ultraflex*[®] LFT™, *Ultraflex LFT Rapid* or *MAPEI Ultralite*[®] Mortar, using a 1/4" x 3/8" x 1/4" (6 x 10 x 6 mm) square-notch trowel.
 - b. For wood-flooring installations: Apply any MAPEI urethane wood-flooring adhesive to the substrate with a 1/8" x 1/8" x 1/8" (3 x 3 x 3 mm) U-notch trowel and use the wet-lay method.
 - c. For vinyl or carpet tile installations: See chart below for suitable adhesives. Apply the selected adhesive per the adhesive's Technical Data Sheet (TDS) method for bonding to a nonporous substrate. Use a 1/16" x 1/16" x 1/16" (1.5 x 1.5 x 1.5 mm) square-notch trowel. Allow the adhesive to flash off and become tacky. Use the wet-lay method if using MAPEI's *Ultrabond*[®] G19 or *Ultrabond G21* adhesive.
 3. Lay the pre-cut *Mapesonic RM* into the mortar or adhesive.
 4. Check frequently for 100% transfer of adhesive to the membrane.
 5. For a proper bond between *Mapesonic RM* and the substrate, roll a 50-lb. (22.7 kg) or heavier roller over the installed membrane. For smaller pieces of membrane, use a wood float, steel trowel or hand roller to apply pressure.
 6. Cut out and remove trapped objects in the membrane with a razor knife, and cover the holes with small pieces of membrane.
 7. Wait for full curing of the mortar or adhesive per its TDS before allowing foot traffic.
 8. For effective sound control, it is mandatory to address the perimeter of the room. Leave a 3/16" (4.5 mm) gap around the perimeter and fill it with MAPEI's *Mapesil*[®] T, an acoustical sealant or an appropriate perimeter strip.
 9. If tile/stone will be installed, draw layout lines on the membrane for easy installation.

EXPANSION AND CONTROL JOINTS

- Do not cover any substrate movement joints with *Mapesonic RM*, adhesive, mortar, tile or wood. Provide for movement joints where specified. Refer to the most current TCNA Handbook for ceramic tile installation, Detail EJ171-07, or TTMAC Tile Installation Manual, Detail 301MJ.
- When necessary, cut tiles along both edges of the expansion joints. Do not allow tile 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 and control joints.

TILE AND STONE FLOORING INSTALLATION

1. Use an appropriate MAPEI polymer-modified mortar classified as ISO 13007 C2E and meeting or exceeding ANSI A118.4, ANSI A118.11 or ANSI A118.15 industry standards. For moisture-sensitive tile or stone, use MAPEI's *Kerapoxy*[®] 410.
2. Follow installation guidelines listed in the TDSs for the selected MAPEI tile-setting mortar and grout being used, including waiting times before grouting and protection from light foot traffic. Depending on site conditions, temperature and humidity, waiting times may need to be extended.
3. For fast-track installations, use rapid-setting products such as MAPEI's *Ultraflex RS* mortar and *Ultracolor*[®] *Plus FA* grout.

WOOD-FLOORING INSTALLATION

1. Use the same MAPEI urethane wood-flooring adhesive that was used under *Mapesonic RM*. Select the appropriate notched trowel shown on the adhesive's TDS for the flooring type and thickness.
2. Follow installation guidelines listed in the TDS for the adhesive.

LUXURY VINYL AND CARPET INSTALLATION

Flooring type	Recommended MAPEI adhesives
For LVP, LVT and sheet vinyl	<i>Ultrabond ECO 350, Ultrabond ECO 360, Ultrabond ECO 373, Ultrabond ECO 560, Ultrabond ECO 811, Ultrabond G19, Ultrabond G21</i>
For carpet tile	<i>Ultrabond ECO 373, Ultrabond ECO 811</i>

1. Select the appropriate MAPEI adhesive to go under and over the membrane.
2. For bonding a finished floor on top of *Mapesonic RM*, follow the installation instructions and recommended trowel size per the TDS of the adhesive selected.
3. Use the application technique for a nonporous substrate.

PROTECTION

- Provide for dry storage on site at between 40°F and 95°F (4°C and 35°C). Deliver installation materials at least 24 hours before application.
- Do not store *Mapesonic RM* in direct sunlight.
- For the waiting times before grouting and for protecting from light foot traffic, refer to the TDS of the MAPEI tile-setting mortar and grout being utilized. Depending on site conditions, temperature and humidity, waiting times may need to be extended.
- Protect the tile installation from heavy traffic or rolling loads by waiting 3 days if using a rapid-setting mortar, or 7 days if using a thin-set or large-and-heavy-tile mortar (formerly known as “medium-bed mortar”).
- Protect the installation from contamination and damage before and during tilework.
- Always provide proper protection of finished floors that utilize *Mapesonic RM* when heavy construction equipment (such as forklifts or scissor lifts) is to be used over them.

Product Characteristics

	<i>Mapesonic RM 2</i>	<i>Mapesonic RM 5</i>	<i>Mapesonic RM 10</i>
Color	Black with colored specks		
Composition	Styrene-butadiene rubber (SBR) and ethylene propylene diene monomer (EPDM) rubber		
Shelf life	2 years when stored in unopened, original packaging at 73°F (23°C)		
Weight	0.38 lbs. per sq. ft. (1.86 kg per m ²)	0.85 lbs. per sq. ft. (4.2 kg per m ²)	1.65 lbs. per sq. ft. (8.1 kg per m ²)
Density (ASTM D792)	43 lbs. per cu. ft. (689 kg per m ³)		
Shore “A” hardness	40 to 55		
Temperature stability	-40°F to 180°F (-40°C to 82°C)		
Thermal resistance factor	< 1 R factor		

Specifications for Tile Installation

Test Method	Results
ASTM C627 – Service rating (Robinson)	“Residential” rating
ANSI A118.12, Section 5.4 – Crack-Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations	Passes “High Performance” requirements
ANSI A118.13 – Specifications for Bonded Sound-Reduction Membranes for Thin-Set Ceramic Tile Installations	
7-day shear, > 50 psi (0.34 MPa)	Passes
7-day shear with water immersion, > 50 psi (0.34 MPa)	Passes
4-week shear, > 50 psi (0.34 MPa)	Passes
Robinson Test, > 3 cycles	Passes
Delta IIC, > 10	Passes

Flammability Specifications

ASTM D2859 Surface Flammability Test	Pass
ASTM E648-17 (Standard Test Method for Critical Radiant Flux)	
With engineered hard wood	0.67 W/cm ² average
With ceramic tile	> 1.08 W/cm ² average
With luxury vinyl plank	0.95 W/cm ² average

ASTM Standards for Sound Reduction: MAPEI Corporation certifies that the following sound tests were conducted and results supplied by Intertek in York, PA. For sound-reduction ratings, higher numbers are preferred over lower numbers.

Sound-Reduction Ratings Over 6" (15 cm) Concrete Slab

ASTM test method	Type of sound-transmission measurement	Membrane thickness	Suspended ceiling	No suspended ceiling
Ceramic tile and stone				
E90	STC	3/16" (5 mm)	63	54
E492	IIC	3/16" (5 mm)	62	50
E492	IIC Delta	3/16" (5 mm)	-	20
E90	STC	3/8" (10 mm)	63	53
E492	IIC	3/8" (10 mm)	62	50
E492	IIC Delta	3/8" (10 mm)	-	20
Engineered wood flooring 3/8" (10 mm) thick				
E90	STC	3/16" (5 mm)	62	50
E492	IIC	3/16" (5 mm)	66	50
E492	IIC Delta	3/16" (5 mm)	-	22
E90	STC	3/8" (10 mm)	62	50
E492	IIC	3/8" (10 mm)	66	50
E492	IIC Delta	3/8" (10 mm)	-	22
Luxury vinyl tile 2.4 mm thick				
E90	STC	5/64" (2 mm)	-	51
E492	IIC	5/64" (2 mm)	-	51
E492	IIC Delta	5/64" (2 mm)	-	21

Sound-Reduction Ratings Over 8" (20 cm) Concrete Slab

ASTM test method	Type of sound-transmission measurement	Membrane thickness	Suspended ceiling		No suspended ceiling	
			Ceramic tile and stone			
E90	STC	3/16" (5 mm)	63			53
E492	IIC	3/16" (5 mm)	64			52
E90	STC	3/8" (10 mm)	-			56
E492	IIC	3/8" (10 mm)	-			54
			Engineered wood flooring 3/8" (10 mm) thick			
E90	STC	3/16" (5 mm)	63			55
E492	IIC	3/16" (5 mm)	66			53
E90	STC	3/8" (10 mm)	62			55
E492	IIC	3/8" (10 mm)	65			53
			Solid wood flooring 3/4" (19 mm) thick			
E90	STC	3/16" (5 mm)	62			56
E492	IIC	3/16" (5 mm)	67			53
			Luxury vinyl tile 2.4 mm thick			
E90	STC	5/64" (2 mm)	-			55
E492	IIC	5/64" (2 mm)	-			54

Sound-Reduction Ratings Over Wood Flooring with Gypsum Substrate

ASTM test method	Type of sound-transmission measurement	Membrane thickness	Suspended ceiling	No suspended ceiling
			Ceramic tile and stone	
E90	STC	3/16" (5 mm)	57	-
E492	IIC	3/16" (5 mm)	53	-
E90	STC	3/8" (10 mm)	59	-
E492	IIC	3/8" (10 mm)	53	-
			Engineered wood flooring 3/8" (10 mm) thick	
E90	STC	3/16" (5 mm)	61	-
E492	IIC	3/16" (5 mm)	55	-
			Luxury vinyl tile 2.4 mm thick	
E90	STC	5/64" (2 mm)	59	-
E492	IIC	5/64" (2 mm)	52	-

The Sound Transmission Class (STC) and Impact Insulation Class (IIC) ratings were calculated in accordance with ASTM E413 and ASTM E989, respectively. Volume of receiving room was 5,509 cu. ft. (156 m³), exceeding minimum requirements of 125 m³ per ASTM E492. Individual test reports can be requested from MAPEI's Technical Services Department.

Packaging and Coverage

Product	Roll Thickness	Roll Size and Coverage
Mapesonic RM 2	5/64" (2 mm)	4' x 75' (1.22 x 22.9 m) = 300 sq. ft. (27.9 m ²)
Mapesonic RM 5	3/16" (5 mm)	4' x 25' (1.22 x 7.62 m) = 100 sq. ft. (9.29 m ²)
Mapesonic RM 10	3/8" (10 mm)	4' x 25' (1.22 x 7.62 m) = 100 sq. ft. (9.29 m ²)

RELATED DOCUMENTS

- Reference guide: "Surface preparation requirements" for tile and stone installation systems*
- Technical bulletin: "Tiling over gypsum"*

*At www.mapei.com

ADDITIONAL INFORMATION

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.**

CONTACT INFORMATION

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Flooring: 1-800-992-6273
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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,
visit www.mapei.com.

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