

# MAPEHEAT MEMBRANE

Lightweight uncoupling, anti-fracture and waterproofing membrane for electrical underfloor heating



## DESCRIPTION

**Mapeheat Membrane** is a lightweight uncoupling, anti-fracture and waterproofing membrane for electrical underfloor heating. This patented membrane is designed to speed up the installation of tile and stone in interior rooms such as bathrooms, kitchens and living areas where the luxury of radiant floor heating is desired. **Mapeheat Membrane's** thin profile works well with remodelling projects where the new floor will be installed directly over a pre-existing one. Once the heating cable is set within **Mapeheat Membrane's** rounded square reliefs, a tile adhesive or levelling/ smoothing compound can be applied immediately.

## WHERE TO USE

- Use under ceramic, porcelain and natural stone tiles in interior residential spaces such as kitchens, bathrooms, shower floors and living areas.
- Use as a substrate for self-levellers under engineered wood, luxury vinyl tiles, luxury vinyl planks, laminate flooring and mosaic tile.

### Some application examples

For the installation of **Mapeheat Cable** heating over:

- Concrete cured for a minimum of 6 weeks.
- Sand: cement screeds cured for a minimum of 7 days and capable of supporting tile installation traffic without leaving any indentations.
- Tile adhesives and levelling/smoothing compounds
- Tile backer boards – see manufacturer's installation guidelines
- Exterior grade plywood at a minimum thickness as outlined in the local standards
- Existing, well-bonded ceramic tile and dimensionally stable natural stone
- Existing, firmly bonded existing luxury vinyl tiles.
- Existing, cement terrazzo floors

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

## TECHNICAL CHARACTERISTICS

- Helps prevent transmission of in-plane substrate cracks up to 3 mm
- Recommended for use with polymer-modified adhesives
- Thin profile: Membrane thickness is less than 6mm
- Minimal roll memory for faster installation
- Heating cable installs easily, lays flat and secure
- Suitable for areas with up to 25 lbs (11.3 kg) and 100% relative humidity
- Inhibits mould growth

## INDUSTRY STANDARDS AND APPROVALS

- ASTM: C627 (Robinson) service rating for “Extra Heavy”

## RECOMMENDATIONS

- Do not use over cracks or control joints subject to out-of-plane movement, or where in-plane movement exists greater than 3 mm.
- Do not cover expansion joints.
- Do not use over substrates containing asbestos, laminate, metal, fibreglass or similar dimensionally unstable materials.
- Do not use for submerged applications or for floors subject to standing water.
- Do not use in exterior applications.
- Do not install moisture-sensitive tile or stone with water-based setting materials. Note: On occasion, dimensionally weak natural-stone tile that normally would not be categorised as moisture-sensitive (such as travertine, limestone, marble and agglomerates) can exhibit doming, cupping or curling when installed over impervious membranes such as **Mapeheat Membrane**.
- Do not use on bituminous substrates.
- Do not use on highly flammable material.
- Do not use with solid, hardwood flooring.
- Before the installation of mosaic tile, a self-leveller must be applied over **Mapeheat Membrane** at a minimum thickness of 6 mm above the highest point of the membrane.

## APPLICATION PROCEDURE

### Preparation of the substrate

- All suitable substrates must be smooth, structurally sound and free of any contamination that could prevent or reduce proper bond and/or affect product performances.
- When applying moisture-sensitive floor coverings such as engineered wood or luxury vinyl tiles, in areas with high levels of moisture, a suitable MAPEI surface membrane, such as **Mapeproof ESM** and a suitable MAPEI cement based smoothing compound should be applied prior to installing **Mapeheat Membrane**.
- Calcium sulphate screeds must be dry to a moisture content of 0.5% w/w when measured using the carbide method. All surface laitance must be removed by mechanical abrasion and all dust thoroughly removed by vacuum. Prime the surface with **Eco Prim T Plus** (diluted 1:2 with water) or alternatively **Primer G** (neat).
- Cementitious substrates must be cured and any shrinkage process must be at an end before tiles are installed. Renders should be cured for at least 2 weeks, concrete at least 6 weeks old, cement-based screeds for at least 7 days unless they have been produced using the special MAPEI binders **Mapecem** or **Topcem** or with a pre-blended screed mix such as **Mapecem Pronto** or **Topcem Pronto**. The substrate surface should ideally be open textured. Power floated concrete should be mechanically abraded (scabbled or shot-blasted) to open up the surface and to remove any curing agents.

### Applying the product

Read all installation instructions thoroughly before installation.

- Apply **Mapeheat Membrane** when substrate and ambient temperatures are between +10°C and +35°C.

### Bonding Mapeheat Membrane to the substrate

1. Select an appropriate MAPEI C2 classified adhesive such as MAPEI **Keraquick S1**, **Ultralite S1** or better.
2. Pre-cut and dry-fit **Mapeheat Membrane** in place, and then set aside.
3. Apply the adhesive to the substrate. If the substrate is existing tile, stone, luxury vinyl tiles or terrazzo, prime the surface using MAPEI's **Eco Prim Grip Plus** before applying the adhesive.
4. Lay the previously cut portion of **Mapeheat Membrane** over the wet adhesive, fabric side down.
5. Lay the next sheet of **Mapeheat Membrane**, taking care to align it with the previous one, without overlapping. Align the square reliefs.
6. For a proper bond between **Mapeheat Membrane** and the substrate, use a weighted roller over the installed membrane. For smaller pieces of membrane, use a wood float, steel trowel or hand roller to apply pressure.
7. After rolling, the applied membrane, clean off any excess adhesive that may have squeezed up through the seams between the membrane sections.
8. Allow the adhesive to cure.

### Installing the electrical cable

For complete cable installation instructions, refer to the Technical Data Sheet (TDS) for **Mapeheat Cable** at [www.mapei.co.uk](http://www.mapei.co.uk).

### Waterproofing (optional for installing ceramic tile)

1. After the cable has been properly installed, apply the same adhesive used to bond the membrane to the substrate. Over the adjoining seams using the flat side of a trowel. Be sure to fill in any holes or voids, taking care not to damage the heating cable with the trowel.
2. Apply **Mapeguard WP** Adhesive to the prepared joint and while wet bond **Mapeguard ST** or **Mapeband Easy** jointing tape into the applied compound, ensuring an overlap of 50mm each side of the seam.

3. To waterproof around the walls of the installation area, take a pre-measured length of the joining tape and fold it in half along its length. One side of the fold will be adhered to the floor, and the other side will be adhered up the wall. To accomplish this, follow the installation methods detailed in steps 1 and 2.
4. Next, embed the joining tape into the adhesive with the flat side of a trowel, taking care not to puncture the membrane or damage the heating cable.
5. Adhesive should be under the joining tape only. Use a damp sponge to clean off any visible excess adhesive on **Mapeheat Membrane** so as not to hinder bonding during flooring installation.

### Installation of ceramic/porcelain tile and stone

1. For regular installations, utilise the same adhesive used to bond **Mapeheat Membrane** to the substrate (minimum of C2 classified tile adhesive). For fast-track installations, bond tiles with one of MAPEI'S rapid-setting tile adhesives such as MAPEI **Keraquick S1**.
2. Mix the selected adhesive at the top end of recommended water ratio as outlined on the packaging.
3. Using the flat side of a trowel fill the cavities of **Mapeheat Membrane** with adhesive or alternatively, a rubber grout float can be used.
4. Use the trowel's notched side to apply adhesive over the prefilled **Mapeheat Membrane**. If a heating cable was inserted into the membrane, be careful not to damage the cable with the trowel. Spread only as much adhesive as can be covered before the adhesive skins over. Open times vary with jobsite conditions and adhesive choice.
5. Begin to install the tile/stone. Occasionally remove a tile to ensure full coverage is being achieved
6. For waiting times before grouting and protection from light foot traffic, refer to the TDS's of the MAPEI tile adhesive and grout used. Depending on site conditions, tile size, temperature and humidity, waiting times may need to be extended.
7. When cleaning out grout joints before grouting, be careful not to damage the cables that may be underneath.
8. Wait a minimum of 7 days after the completed installation of tile before reactivating the heating cable.

### Installation using a smoothing levelling compound and of alternate floor coverings (engineered wood, luxury vinyl tile, luxury vinyl plank, laminate)

1. Priming of the **Mapeheat Membrane** is not required prior to the application of levelling compound.
2. Apply a suitable MAPEI **Ultraplan Renovation Screed 3240** over **Mapeheat Membrane** at a minimum thickness of 6 mm above the highest point of the membrane.
3. Allow the applied **Ultraplan Renovation Screed 3240** to cure.
4. Install floor covering using an appropriate Mapei adhesive relative to the selected floor finish.
5. Wait at least 72 hours after the flooring installation before reactivating the heating cable.

Note: Tile/stone is the most efficient floor covering for providing maximum heat conductivity and thermal output per square meter. As other floor-covering types may not transfer heat at the same rate, they may not warm the floor to the same degree as ceramic tile and stone will, unless heating cables are set at a higher temperature.

Caution: The technical data sheet and/or installation instructions for any chosen floor covering must confirm compatibility with radiant floor-heating systems. In addition, the temperature of the heating cable must not exceed the floor covering's maximum allowable temperature.

## MOVEMENT JOINTS

- Reflect structural movement joints through **Mapeheat Membrane**, tiles and grout per tile industry standards.
- When necessary, cut tiles along both edges of the structural movement joints. Do not allow tiles and adhesive to overlap the expansion joints.
- Provide perimeter and intermediate movement joints where required

## PROTECTION

- Protect **Mapeheat Membrane** from direct exposure to sunlight or extreme heat.
- Provide for dry storage on site at between +4°C and +35°C. Allow the **Mapeheat Membrane** to acclimatise for a minimum of 24 hours prior to application.
- For information regarding the area being set to light foot traffic and grouting, refer to the specific TDS of the MAPEI adhesive and grout to be used. Depending on site conditions, temperature and humidity, the waiting times may need to be extended.
- Protect the flooring installation from heavy traffic or rolling loads for at least 72 hours if using a rapid-set adhesive and 7 days if using a standard-set adhesive.
- Protect installation from contamination and damage before and during tile installation.
- 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.

## PACKAGING

**Mapeheat Membrane** is available in 15m rolls.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

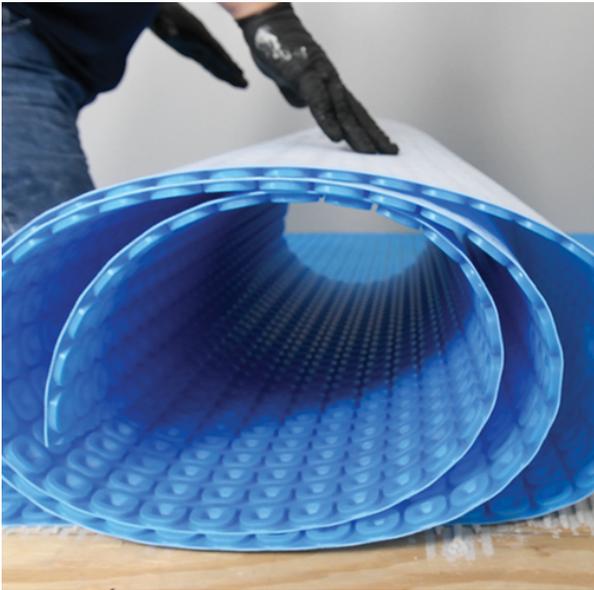


Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website [www.mapei.co.uk](http://www.mapei.co.uk).

PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Colour:	Blue
Length:	15m
Width:	1m
Material:	Polypropylene
Thickness:	5.5mm
Weight of nonwoven polypropylene bottom layer:	50 g per m <sup>2</sup>
Weight of polypropylene membrane:	750 g per m <sup>2</sup>
PRODUCT CHARACTERISTICS	
Physical State	Membrane
Application temperature range	+10°C to +35°C
COVERAGE	
15 x 1 m roll	15 m <sup>2</sup>
FINAL PERFORMANCES	
Robinson Wheel test:	ASTM C627 "Extra Heavy" classification
Shear strength – A118.12: - at 7 days - at 28 days	51 psi (0.35 MPa) 52 psi (0.36 MPa)
Breaking strength – A118.10: - longitudinal - transverse	355 psi (2.45 MPa) 282 psi (1.94 MPa)



## WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.co.uk](http://www.mapei.co.uk)

## 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 or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website [www.mapei.co.uk](http://www.mapei.co.uk).

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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