

# MAPETHENE RANGE

**KEEP YOUR FOUNDATIONS  
SAFE FROM WATER**

WATERPROOFING MEMBRANES  
FOR UNDERGROUND STRUCTURES





**MAPETHENE RANGE.  
SELF-ADHESIVE BITUMEN MEMBRANES  
FOR AN EFFICIENT BARRIER IMPERMEABLE  
TO WATER AND RADON GAS.**

# MAPETHENE RANGE

Longer lasting  
and better protection

The trend in the **underground construction** market is becoming increasingly targeted towards the demand for better and longer-lasting protection and waterproofing solutions for structures in order to **reduce running costs and minimise unscheduled maintenance work**.

**Mapei Group** has always kept a close watch on market trends, on the needs expressed by their clients and on cutting-edge research into materials that help protect and conserve the most critical structures. The best solutions need to be: effective, safe, durable and simple, for professionals from the sector and for end users alike.

This is what led **Mapei** to introducing the **Mapethene Range** into its line of waterproofing solutions for underground structures, an innovative self-adhesive system that integrates and completes to perfection the other protection and waterproofing systems for structures, such as the **Mapeproof Range**, the **Plastimul Range** and **Mapelastic Foundation**.

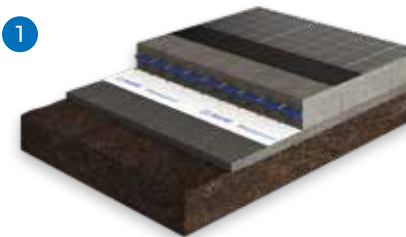
Day after day, the **Mapei** R&D laboratories are constantly committed to **innovating their products** and industrial processes in order to supply **unique technologies** that develop and simplify the work of our clients.



## Waterproofing made easy

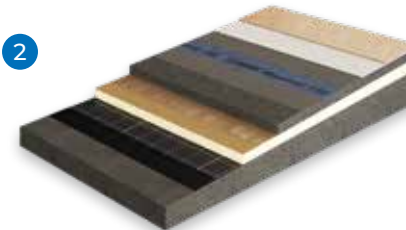
The main type of application for the **Mapethene Range** is the external **waterproofing and protection of horizontal and vertical surfaces** of concrete and brick/block-built structures, foundations, basements, underground carports and underground areas in general. It acts as a permanent barrier against water, damp and gas present in the ground (radon and methane).

1



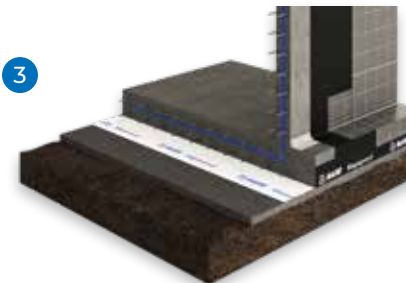
Barrier against  
vapour, radon  
and methane

2

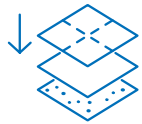


Vapour barrier

3

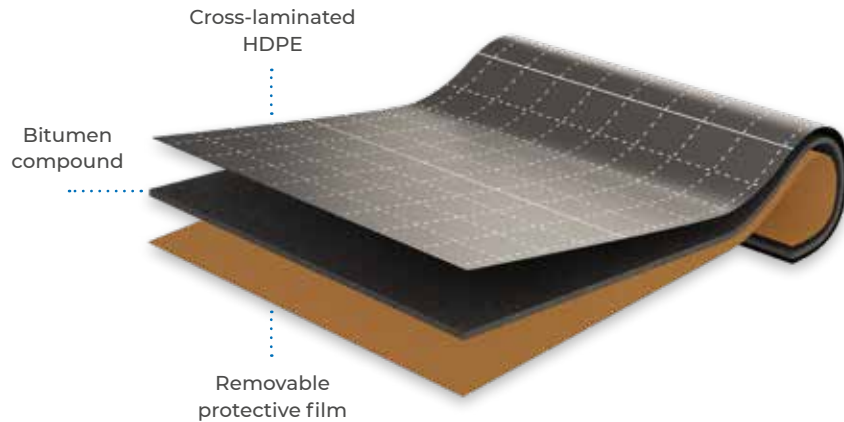


Waterproofing  
retaining walls



## Composition of Mapethene membranes

The self-adhesive bitumen membranes from the **Mapethene Range** consist of a film of cross-laminated, high-density polyethylene (HDPE) sandwiched to a mixture of bitumen and special SBS polymers.



### Characteristics of membranes from the Mapethene Range

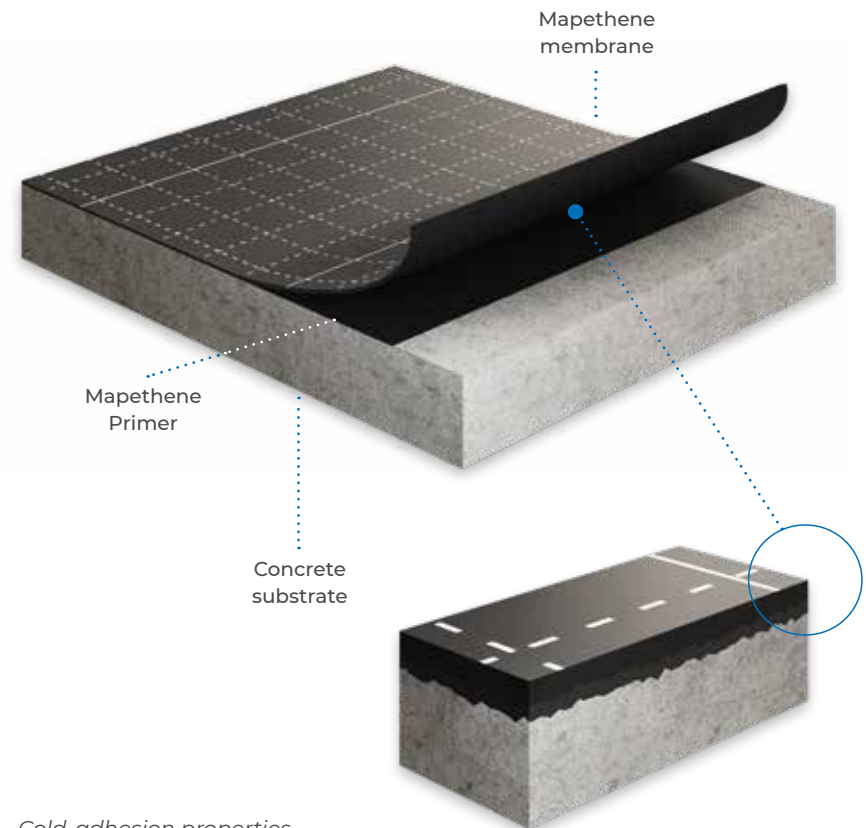
- Perfect adhesion to substrates
- Capacity to absorb and bridge minor deformations that occur while in service
- Flexibility at low temperatures
- Self-sealing compound if punctured (with metal objects less than 2 mm in diameter)
- Guaranteed and constant thickness of 1.5 mm
- Impermeable to up to 8 bar of positive pressure
- May be applied at both low (-5°C) and high (+45°C) temperatures
- Durability
- Compatible with other Mapei waterproofing products for underground structures



## In-depth look at Mapethene

### Cold adhesion

**Mapethene** membranes are cold-applied on substrates thanks to the soft **rubber and SBS bitumen compound** (Styrene-Butadiene-Styrene) used to make the membranes in this range; adhesion is improved even further by using an appropriate primer.



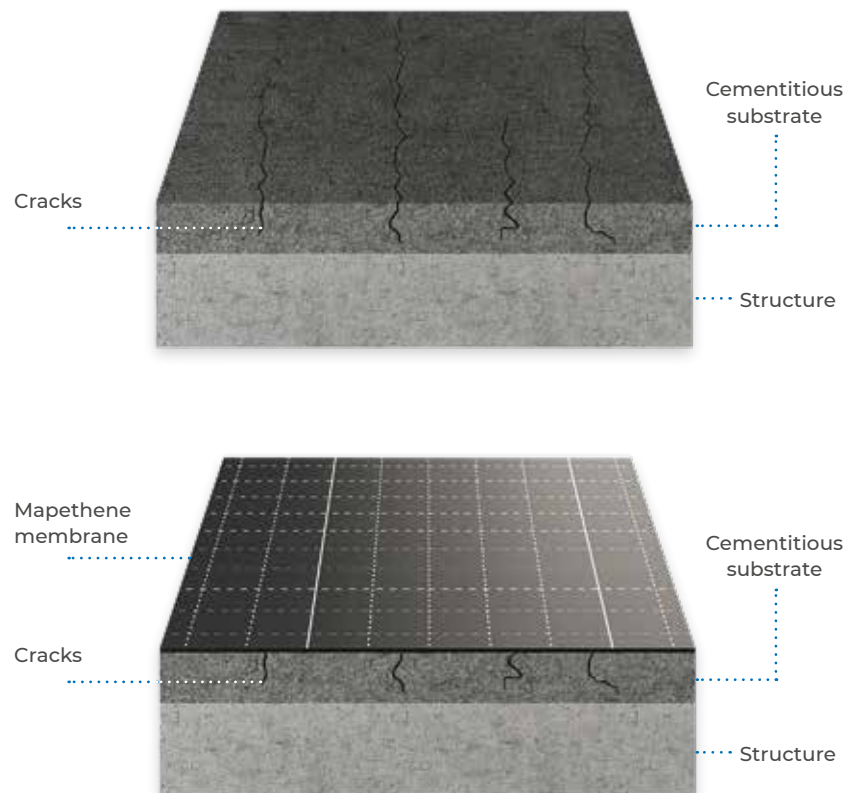
*Cold-adhesion properties of Mapethene membranes*



## In-depth look at Mapethene

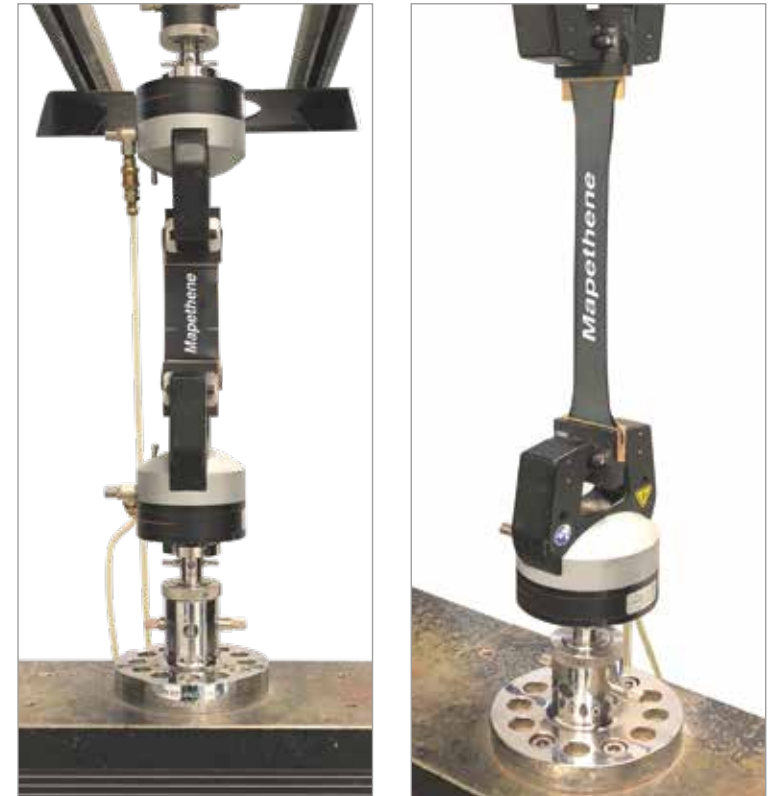
### Crack-bridging

The soft compound used to make membranes from the **Mapethene Range** means they are able to absorb and bridge **small cracks** that appear in concrete structures. Also, its toughness is made possible by the strength of the film of cross-laminated HDPE.



### Tensile strength and elongation

Laboratory tests have demonstrated the superior physical and mechanical qualities of membranes from the **Mapethene Range** compared with the more traditional bitumen and synthetic membranes.



*Tensile strength and elongation at failure properties of membranes from the Mapethene Range.*



## Advantages of Mapethene membranes

The **Mapethene Range** is a versatile product system suitable for use by workers who normally use traditional bitumen membranes and by specialists used to working with other types of products. Using the **Mapethene Range** offers numerous advantages:



NO NAKED FLAMES  
NO SOLVENTS  
LESS HARMFUL FOR THE ENVIRONMENT  
SAFER



QUICK AND EASY APPLICATION  
IMMEDIATELY WATERPROOF AFTER INSTALLATION  
SOUND JOINTS THANKS TO THE LATERAL SELVEDGE



LOWER WEIGHT AND CONSTANT THICKNESS  
VERY EASY TO HANDLE  
PERFORMED AND SELF-ADHESIVE MEMBRANES



BARRIER TO WATER AND DAMP  
NO POSSIBILITY FOR WATER  
TO TRANSMIGRATE IF TORN  
FLEXIBLE AND EASY TO FORM



BLOCKS RISING GAS AND METHANE  
FULLY RESISTANT TO CHEMICAL AGENTS



MAY BE APPLIED ALL YEAR ROUND:  
• MAPETHENE HT FOR HOT WEATHER  
• MAPETHENE LT FOR COLD WEATHER



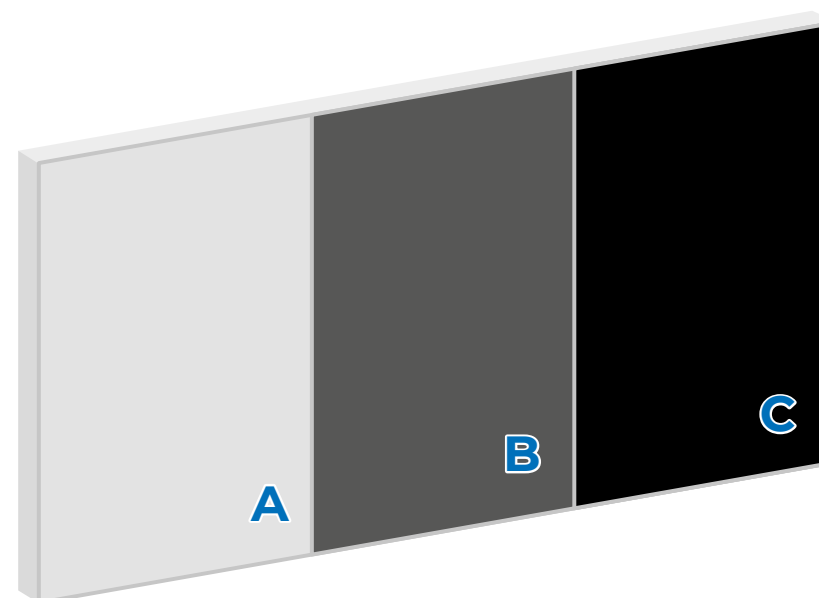
## Application of Mapethene membranes

The **Mapethene Range** consists of special **primers** and **self-adhesive membranes**. They are extremely easy to apply because no blowtorch is required and, thanks to their **bond strength** and use of special primers, they adhere perfectly to substrates. All these characteristics allow you to work **quickly** and in **maximum safety**.

The system is **so simple to apply** it means you can always be sure of obtaining excellent results.

### The Mapethene system

- A Substrate
- B Mapethene Primer - Mapethene Primer W
- C Mapethene HT membrane - Mapethene LT membrane





# Application of Mapethene membranes

*Important steps for the correct application  
of Mapethene membranes*

## 1. Substrate preparation

After preparing the substrate as specified (refer to the relative Technical Data Sheet for each product), apply **Mapethene Primer W** or **Mapethene Primer** one-component, solvent-free bitumen emulsions.

Choose the most suitable primer according to the type of membrane to be applied and the surrounding temperature at the time of application. **Mapethene Primer W** and **Mapethene Primer** both have a fluid consistency, making them much easier to apply with a flat brush or roller.

## 2. Waterproofing

After priming the substrate, proceed with application of the **Mapethene LT** or **Mapethene HT** membrane:

- remove around 30 cm of the protective film
- line up the membrane in the direction it is to be applied
- apply the membrane to the substrate; start from the highest point when applying membranes on vertical surfaces
- gradually remove the protective film so that the membrane adheres evenly to the substrate.
- Each sheet overlaps the adjacent one by at least 5 cm and the water-tightness of the membrane is guaranteed even further thanks to the vulcanised selvedge along the outer edge. Continue with application of the membrane by lining it up along the HDPE film of the membrane already applied, remove the protective film from the overlapping selvedge and proceed with application of the adjacent length of membrane.

**Important: make sure the joints between the pieces of membrane are staggered and go over the overlaps carefully with a rubber roller.**

### Mapethene Primer W



One-component primer for membranes applied at low temperatures

### Mapethene Primer



Solvent-free bitumen primer

### Mapethene LT



Membrane suitable for application at low temperatures down to -5°C

### Mapethene HT



Membrane suitable for application at high temperatures up to +45°C





# EVERYTHING'S OK WITH MAPEI

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