



**SOPREMA**

Solutions for bituminous waterproofing



solutions for  
damp proofing  
waterproofing  
below  
grade

practical guide  
for below grade

Damp proofing and waterproofing systems  
for below grade.

**SOPREMA**  
GROUP

# buried walls duction



## risk of infiltration

### **Infiltration: prevention is better than cure!**

Damp and water infiltration in basements are very common problems, for which there is no truly effective remedy after the fact.

The solution needs to be preventive and will include the creation of a capillary break as well as serious protection of the below grade, completed if necessary by a peripheral drainage system.

## This SOPREMA guide proposes 3 solutions to be applied depending on several criteria

- Whether or not the space behind the outside wall is a habitable room.
- The wall consists of non-rendered masonry (breeze blocks), concrete or rendered masonry, with no lips\* or roughness.
- The surrounding soil is permeable (sand) or not very permeable (clay, silt).
- The degree of exposure of the foundations to water:
  - Average if the structure is in limited contact with runoff water.
  - High if the building is situated at the bottom of a valley or on a hill.

To find the most appropriate solution for your structure, select the relevant criteria using the selection guide (page 4) and then go to the page presenting the corresponding solution.

For any further information, see the reference technical documents:

- NF DTU 20.1 October 2008: small masonry unit walls.
- NF P 18-210 (DTU 23.1) May 1993: below grade.

\* Lips: irregularities in the surface of brick walls at the joints.

# what are the solutions?

## Stopping capillary rise

When foundations are built with small masonry units (breeze blocks, bricks), they must be protected against water rising by capillarity (DTU 20.1).

A reinforced concrete tie beam at ground floor or slabbing level across the thickness of the foundations will provide protection.

It must be open to the air and at least 5 cm above exterior grade. **(pict.1)**

In the absence of a concrete tie beam, a capillary break must be created with a capillary mat or course (technical characteristics according to standard NF EN14967), placed at least 0.15 m minimum above final exterior grade. **(pict.2)**

The damp proof course will be placed dry on a layer of finely floated cement mortar 2 cm thick and protected by a second layer of mortar of the same thickness.

The ends of the damp proof course segments must be overlapped at least 20 cm.

Note: the waterproofing membrane strip leveling course is CE marked in accordance with NF EN 14967.

## Ground water

The presence of a ground water table, whose level varies according to the precipitation requires construction of tanking in accordance with standard NF P 11-221-1. (DTU 14.1).

This is not dealt with in this guide: for a suitable solution, please contact **SOPREMA**.

(pict.1)



(pict.2)



# SELECTION GUIDE

Determine the system best suited to your structure

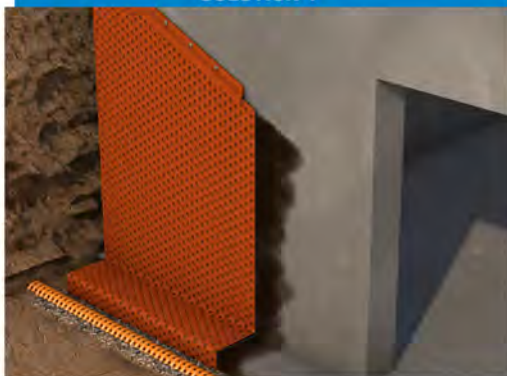
## DAMP PROOFING

### 1. Non-habitable rooms (2<sup>nd</sup> category wall)

- Non-rendered masonry (breeze blocks...) or concrete or rendered masonry.
- Permeable or not very permeable soil.
- Low exposure to water

- **Solution 1: Soprakote + Protecdrain (or Sopramur+ Protecdrain)**

SOLUTION 1



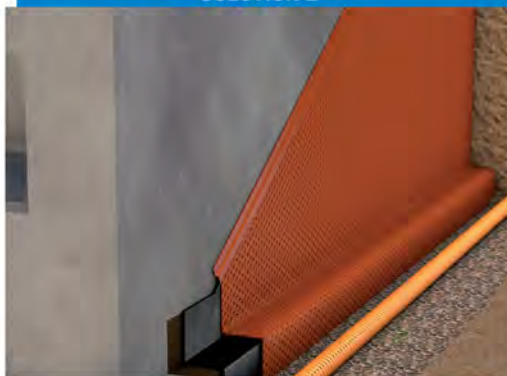
## WATERPROOFING

### 2. Habitable rooms (1<sup>st</sup> category wall)

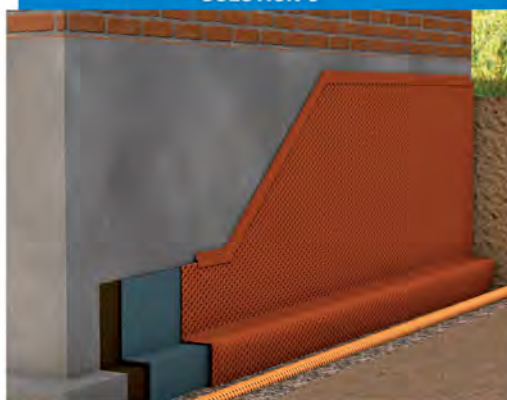
- Concrete or rendered masonry.
- Permeable or not very permeable soil.
- Low exposure to water.
- High exposure to water.

- **Solution 2 : Aquadere® Stick + Colphene® 1500 + Protecdrain (ou Elastocol® 600 + Colphene® 1500 + Protecdrain ).**
- **Solution 3 : Aquadere® + Sopralene® Flam® Jardin + Protecdrain (ou Sopradère® + Sopralene® Flam® Jardin + Protecdrain).**

SOLUTION 2



SOLUTION 3



SOLUTION 1

Soprakote + Protecdrain

P.5

SOLUTION 2

Aquadere® Stick  
+ Colphene® 1500  
+ Protecdrain

P.6

SOLUTION 3

Aquadere®  
+ Sopralene Flam® Jardin  
+ Protecdrain

P.7

**Important:** it is necessary to protect the membrane against impacts (when backfilling the excavations with earth and against the risk of being dragged down when the backfill settles). This protection can also serve as drainage to collect and evacuate water in the vicinity of the foundations, in order to avoid water building up and stagnating next to the walls

# Sopraprote + Protecdrain



1



2



3



4



View

## Substrate

Non-rendered masonry (breeze blocks...) or concrete or rendered masonry. The substrates must be clean and dry.

## Primer

- 1 Apply a coat of Sopraprote diluted with 50% water (0.3 L/m<sup>2</sup>). Allow to dry.  
NB: as an alternative to Sopraprote, use Sopramur.

## Damp proofing

- 2 Apply 2 alternate-direction coats of Sopraprote (0.6 L/m<sup>2</sup> per coat). Allow to dry.  
NB: as an alternative to Sopraprote, use Sopramur.

## Protection

- 3 Apply a high density polyethylene dimpled membrane, **Protecdrain** (or **Protecdrain Filter**). This sheeting, intended to protect against impacts from backfill, is rolled out around the structure and mechanically fastened to the wall at the top of the strips using screws and washers, with 4 fastenings per metre (Protecdrain washers and nails) over the waterproofing.

## Finishing

- 4 Install and fasten the HDPE finishing strip (**Protecdrain profile**) on the upper edge of the dimpled membrane to divert the runoff water



Tools



Stir before using



Application



Primer drying



Tool cleaning



Primer Consumption



Packaging



Time before backfilling

# Aquadere® Stick + Colphene® 1500 + Protecdrain



## Substrate

Formed concrete or rendered masonry. The surface must be smooth and clean (no mirror surface, demoulding oil or laitance).

## Primer

1 After cleaning the substrate, apply the primer: **Aquadere® Stick** (0.25 L/m<sup>2</sup>) with a brush or roller. Allow to dry.

NB: as an alternative to **Aquadere® Stick**, use **Elastocol® 600** (0.8 L/m<sup>2</sup>).

## Self-adhesive waterproofing

2 Apply the self-adhesive membrane, **Colphene® 1500** in vertical strips with an overlap of 15 cm on each side. Smooth well after removing the silicone-coated paper on the underside. The membrane must go 15 cm over the finished floor and right down to cover the footing of the foundations. The vertical edges and corner (between the wall and the footing) are reinforced with a strip of **Colphene® 1500** at least 0.33 cm wide.

NB: the **Colphene® 1500** waterproofing membrane is CE marked in accordance with standard NF EN 13969.

## Protection

3 Apply a high density polyethylene dimpled membrane, **Protecdrain** (or **Protecdrain Filter**). This sheeting, intended to protect against impacts from backfill, is rolled out around the structure and mechanically fastened to the wall, at the top of the strips using screws and washers, with 4 fastenings per metre (**Protecdrain** washers and nail) over the waterproofing.)

## Finishing

4 Install and fasten the HDPE finishing strip (**Protecdrain profile**) on the upper edge of the dimpled membrane to divert the runoff water.

**Important: a collection drain is necessary at the bottom if there is a lot of runoff water.**



Tools



Stir before using



Application



Primer drying



Tool cleaning



Primer Consumption



Packaging



Time before backfilling

## Aquadere® + Sopralene Flam® Jardin + Protecdrain



### Substrate

Formed concrete or rendered masonry. The surface must be smooth and clean (no mirror effect, demoulding oil or laitance).

### Primer

- Apply the primer, **Aquadere®** (solvent-free product), with a brush or roller (0.25 L/m<sup>2</sup>). Allow to dry.

NB: as an alternative to **Aquadere®**, use **Sopradere®** (product containing solvents)

### Heat weldable waterproofing

- Fully adhere the **Sopralène Flam® Jardin** membrane by heat welding with a longitudinal overlap of 6 cm (vertical) welded and closed with a spatula. The membrane must go 15 cm over the finished floor and right down to cover the footing of the foundations. The vertical edges and corners (between the wall and the footing) are reinforced with a strip of **Sopralène Flam® 180** at least 0.25 cm wide.

NB: the **Sopralene Flam® 180** and **Sopralene® Flam Jardin** waterproofing membranes are CE marked in accordance with standard NF EN 13969.

### Protection

- Apply a high density polyethylene dimpled membrane, **Protecdrain** (or **Protecdrain Filter**). This sheeting, intended to protect against impacts from backfill, is rolled out around the structure and mechanically fastened to the wall at the top of the strips using screws and washers, with 4 fastenings per metre (**Protecdrain** washers and nails) over the waterproofing.

### Finishing

- Install and fasten the HDPE finishing strip (Protecdrain profile) on the upper edge of the dimpled membrane to divert the runoff water.

**Important: a collection drain is necessary at the bottom if there is a lot of runoff water.**



Tools



Stir before using



Application



Primer drying



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Primer Consumption



Packaging



Time before backfilling



## SOPREMA at your service

Looking for a sales contact in order to discuss a future project or a project that is under way? Any questions about the implementation of our product range?

Contact SOPREMA Export Department

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Email: [export@soprema.com](mailto:export@soprema.com)

Find all the information on [www.soprema.com](http://www.soprema.com)



## SOPREMA practical guides

All publications available on request



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