

# Installation Guide for Passive Purple<sup>®</sup> External



## 1. Area of use:

Passive Purple® External dries to form a permanently airtight protective weatherproof watertight and breathable membrane for the following uses on a building:

- External façade protection
- Airtightness
- Building fabric breathability
- Weatherproofing
- UV resistance

## 2. System:

Passive Purple® External is a liquid-applied protective membrane which is best applied to blockwork, OSB & MGO board, concrete, masonry, plaster/render, engineered wooden boards, tapes, membranes, aluminum, steel, and PVC.

It is also a lightweight, liquid applied, advanced fire-retardant membrane and a world leader in a new generation of environmentally sourced and produced liquid membrane solutions.

Passive Purple® External has a class-Bs1 fire rating allowing it to self-extinguish when ignited giving little to no contribution to the reproduction of flames and a high contribution to building safety on all building types from small garden offices through to skyscrapers.



Timber frame install.



Timber frame install.

## 3. Materials and tools commonly used:

- Stanley Knife, bag for waste.
- Masking tape.
- Vacuum cleaner (also for removing standing water).
- Non-shrink polyurethane foam and Passive Purple® External Brush.
- Airless pump + accessories + extension cord.
- Empty buckets, water for cleaning of tools.
- Handheld paddle mixer.
- Products: Passive Purple External, Passive Purple Brush, 3" paintbrush.
- Surface temperature meter, substrate must not be below 5°C.
- Personal safety equipment: Safety glasses, gloves, helmet, overalls, and masks.



Graco ST Max II 495 airless spray machine or similar.



Passive Purple External.

#### 4. Individual protection:

Consult the Materials Safety Data Sheet prior to application. Always work in well-ventilated areas. Avoid direct skin contact when product is in wet conditions. You are advised to wear eye protection, overalls, mouth mask, gloves, and safety wear during application.



Gloves.



Goggles.



Spray suit.

#### 5. Inspection and preparation:

**While Passive Purple® External is applied rapidly, the successful sealing depends on thorough preparation of the substrate. The following preparation instructions need to be followed.**

- Standing water, dust and free particles are removed with the vacuum cleaner. Passive Purple® External may be applied to humid surfaces.
- The ambient and substrate surface temperature must be above 5 degrees Celsius.
- Fill holes and gaps bigger than 2mm with Passive Purple External Brush or if larger above 7mm occur, then treat with foam or mortar. When using polyurethane foam, cut off the excess after hardening.
- For joints where movements are expected during the lifetime of the construction, apply Passive Purple External Brush over the joint which will then later be overcoated with Passive Purple External.
- Apply Passive Purple External Brush to connections such as inbetween the wall and damp course or joints and penetrations on the OSB/MGO or blockwork.



Vacuum all debris.



Timber frame install.

## 6. Setting up the airless spray machine:

**To open the tub of Passive Purple External® and mix till a smooth consistency with a handheld paddle mixer at low speed.**

- Place airless spray device above pail with product.
- Prime machine.
- Pump wastewater into waste bucket until product is circulating.
- Build up pressure to 120 – 150 bar.
- Repeat for spray hose/gun until product is circulating.
- A commonly used tip is the 517 spray tip
- After use, clean airless spray device with water, in the way same as set up.
- Clean filters.



**Graco ST Max II 495 airless spray machine or similar.**



**Graco ST Max II 495 airless spray machine or similar in process.**

## 7. Application:

- Open the pail of Passive Purple® External and mix for a smooth consistency with a handheld paddle mixer at low speed, do not add water or solvents.
- Passive Purple® External is then applied on the exposed façade as a protective, weatherproof & breather membrane as part of one motion up and down the surfaces to make it 2 passes in total.
- Total minimum consumption should be 0.75kg/m<sup>2</sup> or about 750 microns to be verified with a thickness gauge as described in paragraph 8 below (Wet film gauge).
- Apply using an airless spray machine, or alternatively a long-haired roller.
- During the drying process typically allow 24-48 hours to fully dry, (weather dependent).
- In case of using an airless spray machine for the application of Passive Purple® External spray at 30-60cm from the surface at a 90° angle on the surface, as to minimize overspray.
- Avoid (local) layer thickness of above 1500 micron for example in joints/openings in the surface which have not been prepared properly.
- Thickness is verified with a wet film thickness gauge, to ensure minimum total coverage of 750 micron. In general, when the substrate is not visible anymore, the coverage of min 750 micron is more than likely reached.
- Apply laps onto adjoining areas.



Timber frame.



External masonry work on bridge.



Timber frame.



Timber frame.



Gable end.

## 8. Joining with other airtightness systems:

If an area to be sealed with Passive Purple® External needs to be joined with another membrane, ensure that the membrane is sealed according to the membrane system manufacturer's specifications, so there is no gap on the sides of the membrane onto which Passive Purple® External will be sprayed.

In case of doubt, consult the technical department of Intelligent Membranes®.

If an area to be sealed with Passive Purple® External needs to be joined with another area where airtightness is achieved with engineered wooden boards with taped seams, any gap between the two areas needs to be treated as outlined in paragraph 4. If the joint is made between concrete or masonry structures and wooden framed walls or roofs that are subject to shrinking and other movements butyl tape should be provided before final application of Passive Purple® External.

## 9. Quality Control:

- Check visually to ensure complete coverage; If needed, apply an additional coat.
- Thickness is verified with a wet film thickness gauge for each layer, to ensure minimum total coverage of 750 microns.
- If required: use wet film thickness gauge to:
- Identify level and smooth patches of substrate.
- Select the appropriate side of the thickness gauge for thicknesses around 750 microns.



- Press the appropriate side of the gauge into the wet film immediately after the application.
- Remove gauge and inspect the underside of the comb fingers. The last wetted finger indicates the wet film thickness value printed by this finger.
- Repeat the measurement's to make a reasonable number of spot checks. As a rule of thumb one measurement should be taken for each 5m<sup>2</sup> of coating.

## 10. Don'ts:

- Do not apply Passive Purple<sup>®</sup> External on a polluted or dusty substrate.
- Do not dilute Passive Purple<sup>®</sup> External with water or solvents; avoid contact with any type of liquid during drying.
- Do not leave the lid off the container for long periods, please re-seal immediately after use.
- Do not use a heat source at close range to aid drying.
- In case of damage to the Passive Purple<sup>®</sup> External coating after drying, simply restore by cleaning the surface of the coating and re-applying an extra layer which is easily done with the brush.
- Do not apply Passive Purple<sup>®</sup> External whilst the substrate is under pressure: pressure testing must only be carried out once Passive Purple<sup>®</sup> External is fully cured.

## 11. Storage:

Store all containers in a dry frost free environment between 5°C and 35°C, avoid direct sunlight or contact with a heat source.

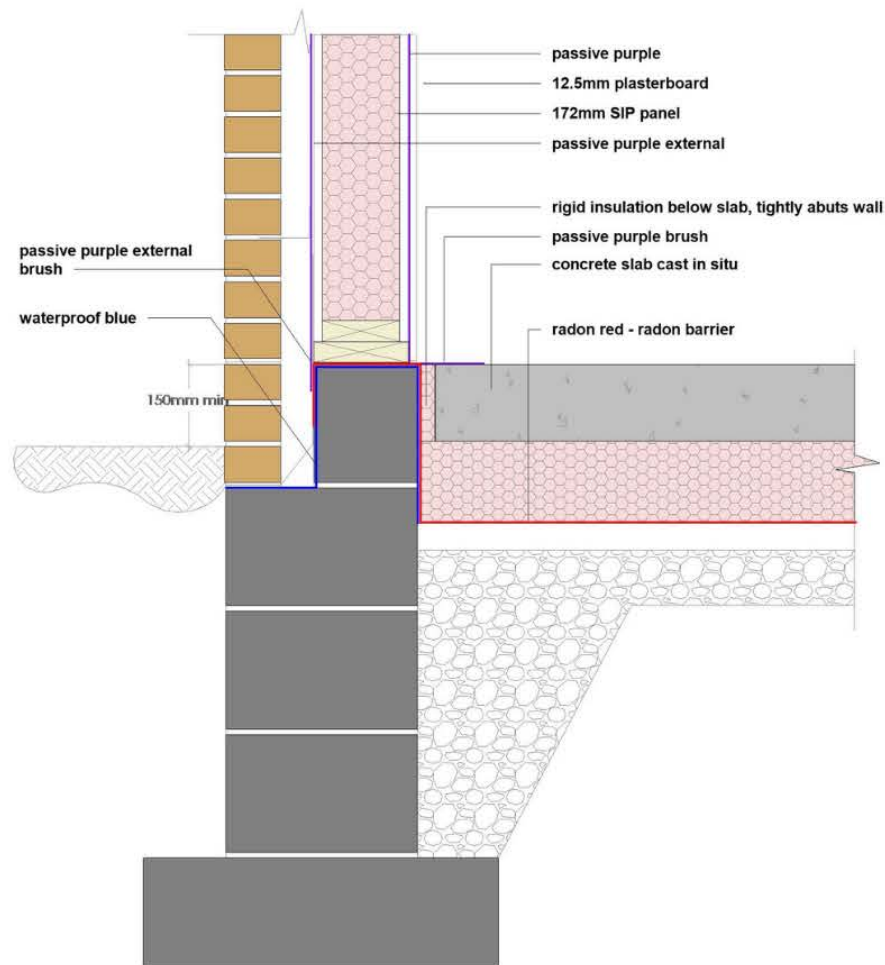
Seal part used containers by pushing down firmly in the center of the lid when closing, ensure lid is closed tightly.

Do not use product from damaged or broken containers.

Shelf life: product will keep for 12 months from date of manufacture if kept according to these instructions in unopened containers. See batch number for date of production: ddmmyxx (dd:day/mm:month/y:year/xx:productcode).

## Cavity Walls/Ceiling Connection :

Fill gaps bigger than 2mm with Passive Purple® External. Do the same for joints, pipes, cables, ducting, and all other penetrations.



### Precautions:

Consult the Materials Safety Data Sheet and the material compatibility sheet prior to application. Always work in well-ventilated areas. Avoid direct skin contact when product is in wet condition. You are advised to wear eye protection, face mask, gloves, and safety wear during application.

### Further advice:

This advice is based on the experience of the Intelligent Membranes® for further information, please contact our head office. Product sheets, safety data sheets and independent test reports are available on request.

Intelligent Membranes®

United Kingdom

Clopton Farm

Croydon

Cambridgeshire

SG8 0EF

INFO@INTELLIGENTMEMBRANES.CO.UK

WWW.INTELLIGENTMEMBRANES.COM

UK (+44) 01223 208174

Canada +1 (613) 927 1011

USA +1 (347) 220 8403