Proctor Air®
Frequently Asked Questions

Proctor
Group

How "Breathable" is Proctor Air®?

While "Breathability" is a commonly used term, it is more technically accurate to refer to a material's "vapour permeability". As Proctor Air is air permeable as well as vapour permeable, it can certainly be argued that it does breathe, as it allows air movement, but this does not hold true for all "breathable" materials. In terms of vapour permeability, Proctor Air, with an Sd-value 0.015m and a vapour resistance of 0.075MNs/g, is one of the most vapour permeable membranes on the market, as well as benefitting from the additional advantage of air permeability.

What difference does air permeability make?

Proctor Air, in addition to having one of the lowest vapour resistance available, is also air permeable. Industry research concluded that air permeability, combined with very low vapour resistance, inhibits the formation of condensation in a pitched roof to the point where it's virtually impossible for condensation to occur under normal conditions.

Studies conducted by the BRE and Glasgow Caledonian University have concluded that not only does an air permeable roofing underlay outperform conventional airtight underlays, but may provide a higher air change rate than a roof ventilated according to the recommendations in BS5250.

Does Proctor Air suffer from "tenting"?

As anyone who's slept in a cheap tent can tell you, some vapour permeable fabrics can lose their water resistance if anything happens to touch the underside. Where the use of underlays fully supported on timber sarking board is standard practice, ensuring Proctor Air does not suffer from this effect was always an important consideration for the A. Proctor Group. In fact while the first generation of VPUs suffered from this problem, most modern roof underlays are unaffected by this phenomenon.

So vents aren't required?

The A. Proctor Group have undergone extensive testing to prove that ventilation is not required to the underside of the underlay.

The sole remaining situation where ventilation to the roofspace is required is in a cold roof with Plywood or OSB sarking. If in doubt, our team of technical experts can assist specifiers in achieving the most appropriate solution for their specific project.

How about high level vents?

Although non-ventilated roofs have been specified successfully for many years, recently BS5250, the NHBC technical standards and NFRC Technical Bulletin 6 have recommended that ridge only ventilation equivalent to 5mm per metre is used when vapour permeable underlays are specified. In both cases, the exception to this is where the underlay specified is both vapour AND air permeable.

Does Proctor Air "chatter" in the wind?

Wind blowing up into the eaves of a roof can cause a 'chatter' type noise with some types of underlay. Proctor Air is silent in such situations. As Proctor Air does not suffer from this problem, the membrane does not have to be pulled taut and does not have any special fixing instructions compared to that of

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 24/7147

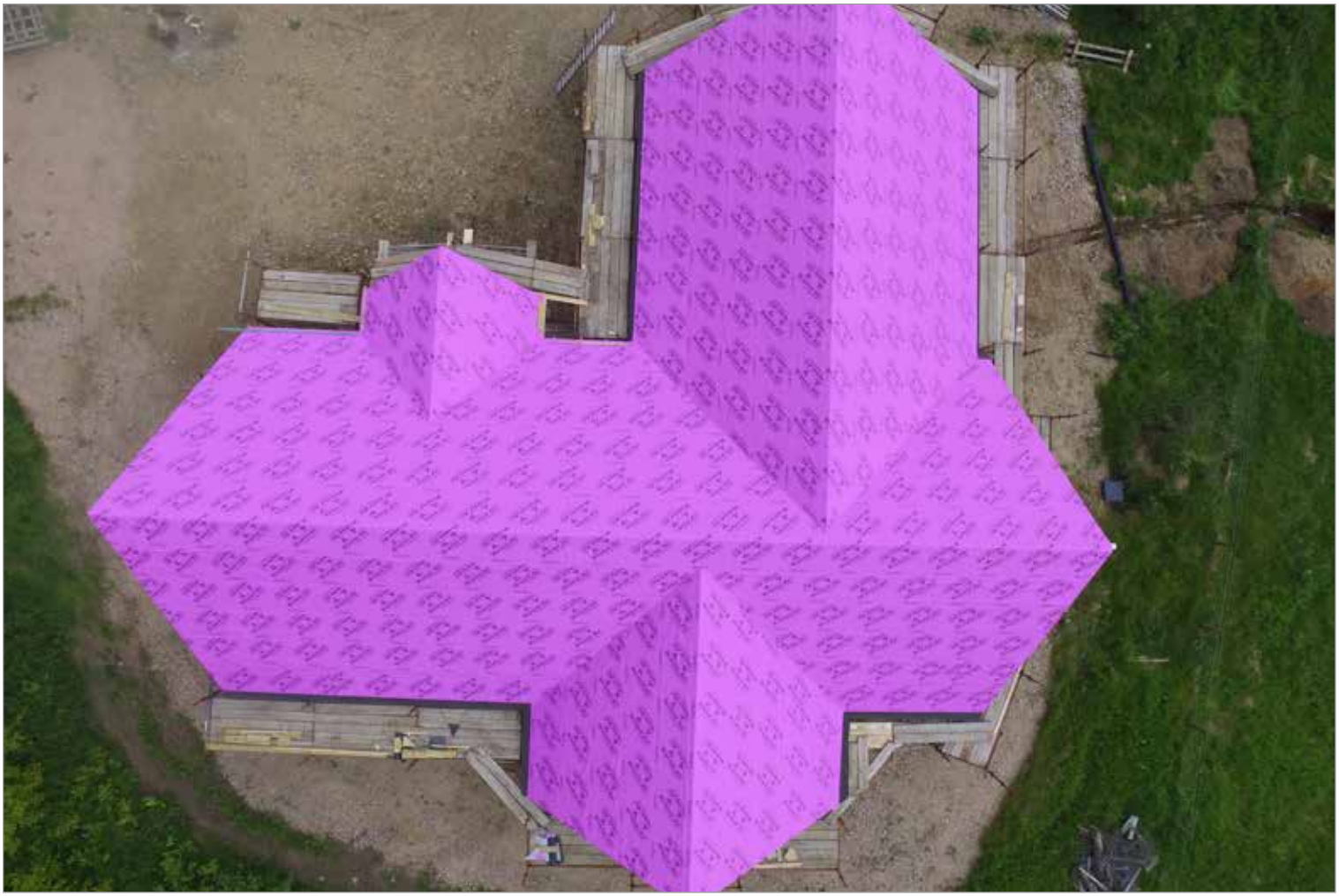
some underlays. Counterbattens can be provided to increase the air movement when used with close-fitting slates or tiles, or to provide drainage below the tile battens when used fully supported, but otherwise Proctor Air may simply be draped between the rafters as normal.

Can I use Proctor Air with timber treatments?

All three layers of the Proctor Air underlay have additives to increase the water hold out of the membrane. Timber treatments containing fungicides, insecticides and wood preservatives are extensively used in the building trade to protect rafters, sarking boards and tile battens. Treatments should be dry before installing Proctor Air.

What is the "drying out period"?

This is the period immediately after the building is completed, during which there are significantly higher amounts of moisture within the building. These include moisture in damp timber, from wet trades (concrete, plaster etc) and moisture that may have found its way in, prior to the building shell being wind and watertight. Although this moisture will eventually dry out, condensation is more likely to occur as it does so. This will usually be most apparent in the first winter when the building is heated. Proctor Air roofs are far less prone to this effect. See BBA Bulletin No1 - Roof Tile Underlay in Cold Roofs during the Drying Out Period.



Is Proctor Air expensive?

In terms of the cost per roll, Proctor Air is more expensive than a traditional non-breathable felt, however if we consider the costs associated with ventilation hardware using Proctor Air will save you money. Desktop studies of installation costs show that Proctor Air can offer savings when compared with either impermeable felt and full ventilation, or a lower specification VPU with high level ventilation only. The full cost report is available for download at www.proctorgroup. com.

What about severe weather conditions?

The British Board of Agrement has also issued an Information Bulletin (No. 2) relating to good site practice when using permeable roof underlays. This highlights:-

- An underlay is not a total waterproof barrier and if used as a temporary waterproof covering then rain penetration may occur
- In certain conditions, particularly if there is heavy rainfall combined with subsequent severe freeze/thaw conditions, an underlay should not be exposed for more than a few days.

BS 5534

APLR underlays should not be considered as waterproof membranes, based on their function as secondary protection below slates or tiles.

As per section 4.9 Roofing Underlay and Clause 4.9.1 e) 'provide temporary weather protection before the installation of the primary roof covering. An exposed underlay is subjected to UV light which might lead to premature failure; therefore, the exposure periods should be kept to a minimum. In certain conditions, particularly if there is persistent heavy rainfall combined with subsequent sever freeze/thaw conditions, an underlay should not be exposed for more than a few days.

Note 2: *If an underlay has to be left without a roof covering for a period of time when adverse weather rainfall and weather is expected, a tarpaulin or similar protective sheeting may be used to protect the underlay until such time that the roof covering can be completed.'*

A full copy of this BBA Information Bulletin No.2 - Permeable Roof Tile Underlay Guide to Good Site Practice is available from the BBA web site: www.bbacerts.co.uk.

Why is the NHBC Standards statement different between the two Product Sheets?

Product Sheet 1 – which is for Non-Ventilated Cold Pitched Roofs – states that with Proctor Air, it "*can satisfy the relevant requirements of Chapter 7.2 without the need for additional high-level ventilation.*"

However, you will see on Product Sheet 2 – Warm Non-Ventilated Roofs and Cold Ventilated Roofs – that the statement does not specifically include "without additional high level ventilation". High Level ventilation is a typical NHBC requirement for ventilated cold pitched roofs which would also be ventilated at eaves level. This does not apply to non-ventilated warm roofs, therefore the statement is slightly different depending on application.

PROCTOR AIR BBA FAQ'S

Can Proctor Air be used in all Wind Zones?

Yes. Proctor Air is one of the very few membranes which is used in Wind Zones 1-4 **without the requirement for additional measures** such as taping the joints or additional battens. This will be required in Zone 5, however it would be more typical in Zone 5 for slates to be used with sarking. As the membrane is fully supported in this case, wind uplift is not an issue.

Although Ireland is not covered by the BBA certificate, the following wind zones for Ireland shows that Proctor Air is compliant for all areas as well as the maximum being Zone 4.

Mullen Burst Strength – What is this?

Mullen Burst strengths are now also being added into certificates and is a measure of how robust membranes are during the construction phase.

We have an excellent result for Proctor Air. This helps during the construction phase and will 'resist the loads associated with the installation of the roof'.

Water Resistance

Proctor Air has a confirmed classification of W1.

The BBA also states that the Hydrostatic Head is a pass and is greater than 1m. This is not quoted in all certificates and is a good indication of water hold out and compliance with NFRC Technical Bulletin 6, which is referred to in BS5534.

How is the air permeability stated?

The BBA confirms the air permeability as being $20m^3/m^2.h$ @50 Pa and is confirmed as a PASS. It says > than or equal to 20, as this is the minimum requirement to be able to claim a membrane as being air permeable under BS 5534.

We have carried out extensive testing and from this, declare a nominal value of $35m^3/m^2.h$@50Pa which complies with NHBC requirements.

What does the Slip Resistance mean?

This is a newer addition to BBA certificates where they have assessed the slip resistance of the underlays. This is not part of the harmonised standards but are included to ensure health and safety of operatives. The figures for Proctor Air are higher compared to similar membranes, with the statement in clause 4.1.2 that Proctor Air **'has a high coefficient of friction, giving a slip resistance surface for increased safety during the installation of the covering'.**

Note- Normal safe roofing practices still should be observed.

Is a VCL required?

No – Clause 9.1.8 of BBA certificate 24/7417 confirms that a vapour control layer is not required in a cold roof application.

Note – in a warm roof construction, you do need to use either a high resistance insulation/thermal laminate or a vapour check, this could be vapour check plasterboard. In most cases foam insulation, i.e. PIR, will be used which means no VCL is required.

Can PV panels be used with Proctor Air?

Yes. The BBA includes the use of photovoltaic panels. This is the only certificate which mentions PV panels which will be treated in the same way as any other tight-fitting outer covering i.e. ventilation below the panels (in the batten cavity) will be required.