TECHNOLOGY YOU CAN RELY ON FROM A BRAND YOU CAN TRUST

Proctor Air®

Roofing simplified

Housebuilder Cost Comparisons

Proctor Group

PROCTOR AIR® PHYSICAL PROPERTIES

Water Vapour Resistance:
0.075 MNs/g

Water Vapour Transmission:
0.015m Sd

Air Permeability (Average):
35 $m^3/m^2/hr$ @ 50Pa

Water Penetration
Class W1

Colour:
Purple (top)

Weight:
170gsm

Thickness:
0.67mm

Roll size: 1m x 50m
1.5 x 50m

Specification Details:

- BBA Certificate 24/7147
- No ventilation required below membrane
- No Vapour Control Layer Required
- 3 months UV exposure
- Provides temporary water resistant layer (Class W1)
- Fully supported or draped between rafters
- BS5534 Compliant

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 24/7147

PROCTOR AIR®

Proctor Air is an air permeable low resistance (APLR) underlay for pitched roof applications.

While the majority of APLRs in use today utilise an airtight, vapour permeable, film layer to achieve their performance, Proctor Air's SMS (Spunbond Meltblown Spunbond) structure allows high levels of airflow in addition to the transport of moisture vapour, making the formation of condensation virtually impossible.

Independent studies of the effect of air permeability have confirmed that lofts using air permeable underlays have more consistent air-flow through the roof than those found in traditionally ventilated lofts, according to BS5250, so whatever side of the vents/no vents debate you sit on, Proctor Air has it covered.

Its heavyweight 170gsm three-layer structure also containing a hydrophobic in every layer, gives a Class W1 rating under the latest EN13859-1 specifications.

NFRC
LEADING ROOFING EXCELLENCE

Released by the National Federation of Roofing Contractors in 2012, and most recently updated in 2019, Technical Bulletin TB06 outlines best practice for roof system installers. TB06 and TB45 "Control of Condensation in Pitched Roofs" published in 2022, align with the NHBC technical standards by recommending high-level ventilation where airtight type LR underlays are used.

As with the NHBC standard, however, it is recognised that this provision is unnecessary where the underlay is both vapour and air permeable.

SIMPLIFIED DETAILING & INSTALLATION

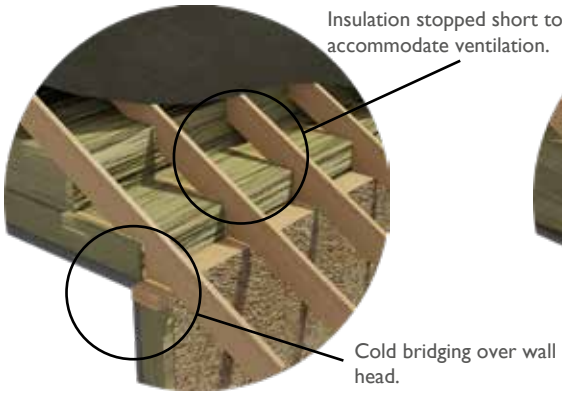
Proctor Air roofs do not require ventilation openings at the eaves, or at the ridge, regardless of the size, shape or layout of the roof. This is particularly important for complex or irregular roof shapes or room-in-the-roof constructions, where getting airflow evenly distributed throughout all of the roof voids can be a problem.

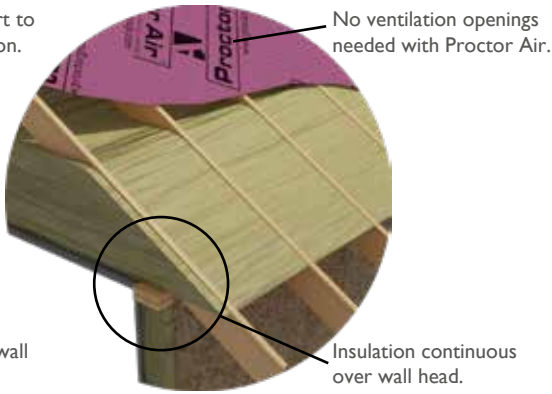
Omitting low level ventilation also means loft insulation can be placed further into the eaves. This makes it far simpler to detail the junction between the roof and wall insulation, minimising heat loss in this area.

As building regulations look for ever lower U-values, up to 500mm of insulation may be needed at ceiling level. This makes ensuring a ventilation path at eaves even harder, and can involve using a double run of rafter trays. The temptation is to pull back the insulation but this could lead to what is known as a "cold bridge" at the ceiling level at the eaves which could lead to condensation and or black mould on the ceiling.

Eaves and Ridge ventilation is also not required when air permeable underlays are used on NHBC projects, which will require 5mm ridge ventilation, even when a vapour permeable underlay is specified. This additional ventilation is required to ensure higher initial moisture loads from wet trades can dry out, but the higher moisture transfer given by the air permeable structure means this isn't needed.

As well as being simpler to install and detail, omitting this opening means the ridge of the roof is never open to the weather during construction, as the air and vapour permeable underlay can be wrapped continuously over the ridges. This, combined with its "W1" weathertightness rating, allows Proctor Air to provide temporary weather protection. However if particularly extreme weather is anticipated, it's good practice to add a tarpaulin for additional protection during such conditions. The time the membrane is left exposed should also be kept to a minimum.





COST COMPARISONS

While the technical and practical benefits of the Proctor Air membrane are clear, at first glance the perceived higher cost compared to conventional felt and vents may appear to limit it's suitability to projects where specific non-standard project requirements must be met.

Considered more closely however, the various omissions and specification changes that can be made mean that this gap, based purely on material costs, narrows significantly.

This closer gap in material cost serves to emphasise the potential savings that can then be realised in terms of simplified design and installation, and reduced likelihood of condensation related problems and customer related call backs.

To illustrate this, this document breaks down material costings across twelve typical 2-5 bedroom houses, of a size and general layout typical of national and regional housebuilders in the UK.

Each of the houses assessed showed a reduction in the cost when using Proctor Air compared to traditional systems, with an average saving of £30.15. This comparison included a range of house types, ranging from 2 bed mid-terraced houses to 5 bedroom detached properties.

There is also an extra-over cost of material and labour for cutting in, fitting eaves vents, installing vent tiles, and having to dress these from inside the roof , all which are unnecessary when using Proctor Air.

Deducting these additional costs from the material cost of Proctor Air can further reduce the cost difference.

This report is provided for comparison purposes only, and should not be regarded as a quotation. Pricing information is correct as of May 2024 however please contact your local representative for detailed and up to date pricing.

These comparisons are provided between:

1. A conventional, airtight, non-permeable (Type HR) roofing underlay, with ventilation provided as per BS5250:2021. This system makes use of a double run of rafter trays to accommodate the depth of insulation required.

2. A non-ventilated roof system using Proctor Air

The cost of the outer roof covering and battens has been omitted from this comparison as it is common across both underlay configurations.

Labour and contractor mark-up is omitted from these main comparison tables.

DETAILED COMPARISONS

3 Bedroom, End Terrace (Gable)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	57.4	£49.94	
Vented Eaves	£0.40	lin.m	10.6	£4.24	
Ceiling - VCL + Plasterboard	£3.18	m^2	31.5	£100.17	
Rafter Trays (Doubled)	£1.66	lin.m	21.2	£35.19	
Proctor Air	£2.10	m^2	57.4		£120.54
Ceiling - Plasterboard Only	£2.00	m^2	31.5		£63.00
Total				£189.54	£183.54
Difference			**-£6.00**		

3 Bedroom, End Terrace (Hipped)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	58.6	£50.98	
Vented Eaves	£0.40	lin.m	15.8	£6.32	
Ceiling - VCL + Plasterboard	£3.18	m^2	31.5	£100.17	
Rafter Trays (Doubled)	£1.66	lin.m	31.6	£52.46	
Proctor Air	£2.10	m^2	58.6		£123.06
Ceiling - Plasterboard Only	£2.00	m^2	31.5		£63.00
Total				£209.93	£186.06
Difference			**-£23.87**		

2 Bedroom, Mid Terrace

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	49.02	£42.65	
Vented Eaves	£0.40	lin.m	15.2	£6.08	
Ceiling - VCL + Plasterboard	£3.18	m^2	38.7	£123.07	
Rafter Trays (Doubled)	£1.66	lin.m	30.4	£50.46	
Proctor Air	£2.10	m^2	49.02		£102.94
Ceiling - Plasterboard Only	£2.00	m^2	38.7		£77.40
Total				£222.26	£180.34
Difference			**-£41.92**		

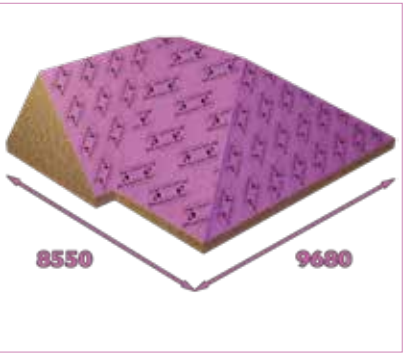
DETAILED COMPARISONS

4 Bedroom, Detached (Type 1)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	117.7	£102.40	
Vented Eaves	£0.40	lin.m	30.6	£12.24	
Ceiling - VCL + Plasterboard	£3.18	m^2	78.8	£250.58	
Rafter Trays (Doubled)	£1.66	lin.m	61.2	£101.59	
Proctor Air	£2.10	m^2	117.7		£247.17
Ceiling - Plasterboard Only	£2.00	m^2	78.8		£157.60
Total				£466.82	£404.77
Difference			**-£62.05**		

4 Bedroom, Detached (Type 2)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	120.36	£104.71	
Vented Eaves	£0.40	lin.m	32	£12.80	
Ceiling - VCL + Plasterboard	£3.18	m^2	79.7	£253.45	
Rafter Trays (Doubled)	£1.66	lin.m	64	£106.24	
Proctor Air	£2.10	m^2	120.36		£252.76
Ceiling - Plasterboard Only	£2.00	m^2	79.7		£159.40
Total				£477.20	£412.16
Difference			**-£65.04**		



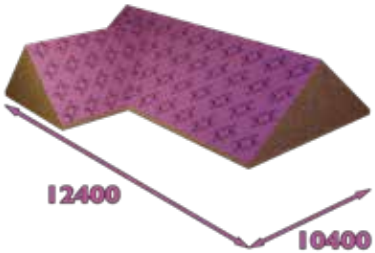
3 Bedroom, End Terrace

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	59.77	£52.00	
Vented Eaves	£0.40	lin.m	19.1	£7.64	
Ceiling - VCL + Plasterboard	£3.18	m^2	45.2	£143.74	
Rafter Trays (Doubled)	£1.66	lin.m	38.2	£63.41	
Proctor Air	£2.10	m^2	59.77		£125.52
Ceiling - Plasterboard Only	£2.00	m^2	45.2		£90.40
Total				£266.79	£215.92
Difference			**-£50.87**		

DETAILED COMPARISONS

5 Bedroom, Detached

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	131.62	£114.51	
Vented Eaves	£0.40	lin.m	23.9	£9.56	
Ceiling - VCL + Plasterboard	£3.18	m^2	84.6	£269.03	
Rafter Trays (Doubled)	£1.66	lin.m	47.8	£79.35	
Proctor Air	£2.10	m^2	131.62		£276.40
Ceiling - Plasterboard Only	£2.00	m^2	84.6		£169.20
Total				£472.45	£445.60
Difference			**-£26.84**		

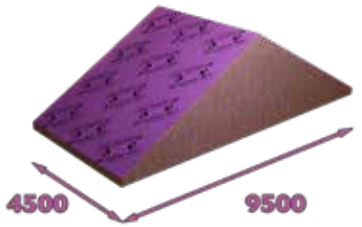


3 Bedroom, End Terrace (Type 1)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	61.6	£53.59	
Vented Eaves	£0.40	lin.m	11.2	£4.48	
Ceiling - VCL + Plasterboard	£3.18	m^2	45.7	£145.33	
Rafter Trays (Doubled)	£1.66	lin.m	22.4	£37.18	
Proctor Air	£2.10	m^2	61.6		£129.36
Ceiling - Plasterboard Only	£2.00	m^2	45.7		£91.40
Total				£240.58	£220.76
Difference			**-£19.82**		

2 Bedroom, End Terrace

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	50.6	£44.02	
Vented Eaves	£0.40	lin.m	9.2	£3.68	
Ceiling - VCL + Plasterboard	£3.18	m^2	36.8	£117.02	
Rafter Trays (Doubled)	£1.66	lin.m	18.4	£30.54	
Proctor Air	£2.10	m^2	50.6		£106.26
Ceiling - Plasterboard Only	£2.00	m^2	36.8		£73.60
Total				£195.27	£179.86
Difference			**-£15.41**		



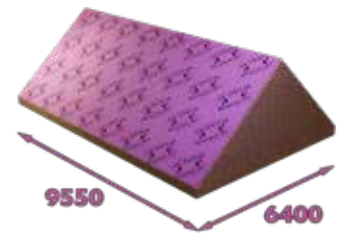
DETAILED COMPARISONS

3 Bedroom, End Terrace (Type 2)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	66.1	£57.51	
Vented Eaves	£0.40	lin.m	11.8	£4.72	
Ceiling - VCL + Plasterboard	£3.18	m^2	48.9	£155.50	
Rafter Trays (Doubled)	£1.66	lin.m	23.6	£39.18	
Proctor Air	£2.10	m^2	66.1		£138.81
Ceiling - Plasterboard Only	£2.00	m^2	48.9		£97.80
Total				£256.91	£236.61
Difference			**-£20.30**		

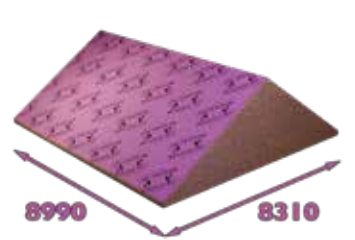
4 Bedroom, Detached (Type 1)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	94.2	£81.95	
Vented Eaves	£0.40	lin.m	19.1	£7.64	
Ceiling - VCL + Plasterboard	£3.18	m^2	51.8	£164.72	
Rafter Trays (Doubled)	£1.66	lin.m	38.2	£63.41	
Proctor Air	£2.10	m^2	94.2		£197.82
Ceiling - Plasterboard Only	£2.00	m^2	51.8		£103.60
Total				£317.73	£301.42
Difference			**-£16.31**		



4 Bedroom, Detached (Type 2)

Material	Price	Unit	Qty	Felt	Proctor Air
Felt	£0.87	m^2	104.74	£91.12	
Vented Eaves	£0.40	lin.m	17.98	£7.19	
Ceiling - VCL + Plasterboard	£3.18	m^2	63.8	£202.88	
Rafter Trays (Doubled)	£1.66	lin.m	35.96	£59.69	
Proctor Air	£2.10	m^2	104.74		£219.95
Ceiling - Plasterboard Only	£2.00	m^2	63.8		£127.60
Total				£360.89	£347.55
Difference			**-£13.34**		



BUILDER ONE HOUSETYPES

			3 Bedroom, End Terrace (Gable)			3 Bedroom, End Terrace (Hipped)			2 Bedroom, Mid Terrace			4 Bedroom Detached, Type 1			4 Bedroom Detached, Type 2			3 Bedroom, End Terrace		
Material	Price	Unit	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air
Felt	£0.87	m^2	57.4	£49.94		58.6	£50.98		49.02	£42.65		117.7	£102.40		120.36	£104.71		59.77	£52.00	
Vented Eaves	£0.40	lin.m	10.6	£4.24		15.8	£6.32		15.2	£6.08		30.6	£12.24		32	£12.80		19.1	£7.64	
Ceiling - VCL + Plasterboard	£3.18	m^2	31.5	£100.17		31.5	£100.17		38.7	£123.07		78.8	£250.58		79.7	£253.45		45.2	£143.74	
Rafter Trays (Doubled)	£1.66	lin.m	21.2	£35.19		31.6	£52.46		30.4	£50.46		61.2	£101.59		64	£106.24		38.2	£63.41	
Proctor Air	£2.10	m^2	57.4		£120.54	58.6		£123.06	49.02		£102.94	117.7		£247.17	120.36		£252.76	59.77		£125.52
Ceiling - Plasterboard Only	£2.00	m^2	31.5		£63.00	31.5		£63.00	38.7		£77.40	78.8		£157.60	79.7		£159.40	45.2		£90.40
Total				£189.54	£183.54		£209.93	£186.06		£222.26	£180.34		£466.82	£404.77		£477.20	£412.16		£266.79	£215.92
Difference			**-£6.00**			**-£23.87**			**-£41.92**			**-£62.05**			**-£65.04**			**-£50.87**		

AVERAGE COST SAVING
-£41.62

BUILDER TWO HOUSETYPES

			5 Bedroom, Detached			3 Bedroom, End Terrace, Type 1			2 Bedroom, End Terrace			3 Bedroom, End Terrace, Type 2			4 Bedroom, Detached, Type 1			4 Bedroom, Detached, Type 2		
Material	Price	Unit	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air	Qty	Felt	Proctor Air
Felt	£0.87	m^2	131.62	£114.51		61.6	£53.59		50.6	£44.02		66.1	£57.51		94.2	£81.95		104.74	£91.12	
Vented Eaves	£0.40	lin.m	23.9	£9.56		11.2	£4.48		9.2	£3.68		11.8	£4.72		19.1	£7.64		17.98	£7.19	
Ceiling - VCL + Plasterboard	£3.18	m^2	84.6	£269.03		45.7	£145.33		36.8	£117.02		48.9	£155.50		51.8	£164.72		63.8	£202.88	
Rafter Trays (Doubled)	£1.66	lin.m	47.8	£79.35		22.4	£37.18		18.4	£30.54		23.6	£39.18		38.2	£63.41		35.96	£59.69	
Proctor Air	£2.10	m^2	131.62		£276.40	61.6		£129.36	50.6		£106.26	66.1		£138.81	94.2		£197.82	104.74		£219.95
Ceiling - Plasterboard Only	£2.00	m^2	84.6		£169.20	45.7		£91.40	36.8		£73.60	48.9		£97.80	51.8		£103.60	63.8		£127.60
Total				£472.45	£445.60		£240.58	£220.76		£195.27	£179.86		£256.91	£236.61		£317.73	£301.42		£360.89	£347.55
Difference			**-£26.84**			**-£19.82**			**-£15.41**			**-£20.30**			**-£16.31**			**-£13.34**		

AVERAGE COST SAVING
-£18.67

A. PROCTOR GROUP: SUPPORT & SERVICES

The A. Proctor Group have a specialist team of highly qualified and experienced technical staff, able to offer a wide range of support & services. Our services are regularly used by all sectors of the construction industry, from national housebuilders to architectural practices and self builders. We offer advice at all stages of the building process, from design work to on site support.

U-VALUE CALCULATIONS & CONDENSATION RISK ANALYSIS

U-value Calculations evaluate the thermal performance of a building element, such as a roof, floor or wall.

A Condensation Risk Analysis evaluates the likelihood of interstitial condensation in your roof or wall construction.

These calculations are regularly required by building control to demonstrate compliance with building regulation requirements. We also have a free online calculation tool available which can provide project specific calculations using data from an extensive library of building materials.

You can save multiple calculations for a project, collaborate with other users in your team, and send your calculations for review by our experts before printing off fully compliant reports for building control. The calculator can also use postcode specific climate data to generate condensation risk analyses using the ISO13788 Glaser method.

TOOLBOX TALKS & CPD

Our on-site toolbox talks ensure the entire project team is confident working with our materials and has a full understanding of how they work and the benefits they bring to the projects. These talks also cover best installation practice and common site issues.

We also have a wide range of CPD materials available both as online or in-person presentation or on-demand video.

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Proctor Group

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