

# harcon

# VPU

VAPOUR PERMEABLE ROOFING UNDERLAY



**3** Weight options

Premium quality underlays with superb vapour permeability and very high water resistance.

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## VPU

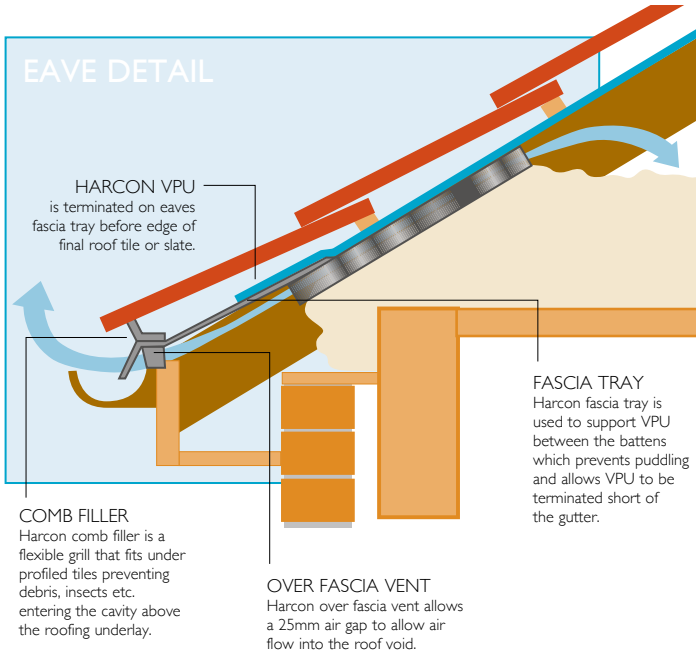
VAPOUR PERMEABLE ROOFING UNDERLAY

**Harcon VPU** is a range of low resistance vapour permeable, air barrier roofing underlay. Durable, flexible and lightweight, allowing for easy installation, all Harcon VPU's offer temporary protection against wind driven rain, snow and dust.

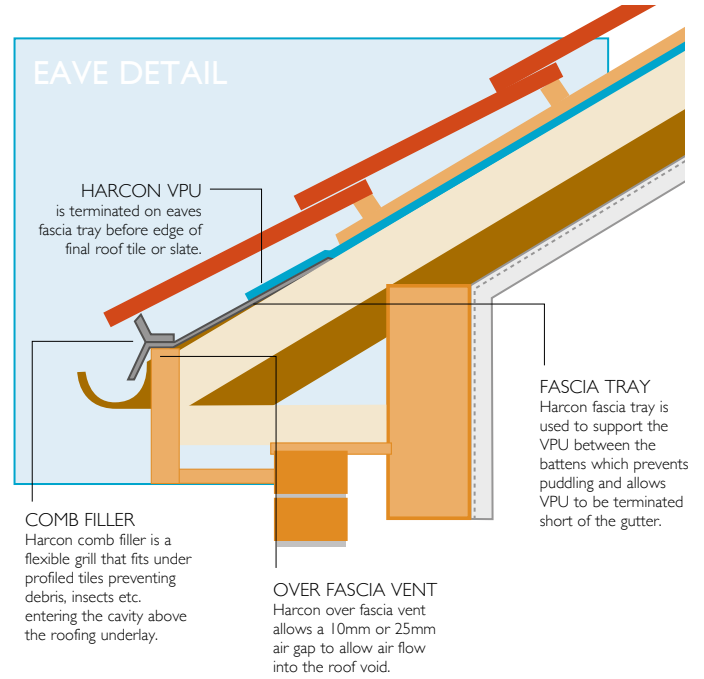
- Taped and non-taped sheet weight options
- Excellent resistance to water penetration
- Superb water vapour transmission properties
- BBA certified
- Exceptional nail and tear strength
- Complies with BS5534:2014 and the Construction Products Directive (89/106/EEC), underlays for discontinuous roofing



## TRADITIONAL COLD ROOF



## WARM ROOF



### Material

The Harcon VPU range of membranes has been expanded to include 92gsm, 125gsm and 208gsm sheet weights. The 92gsm and 125gsm membranes have a 3 layer composite structure with the vapour permeable film bonded between two layers of non-woven polypropylene. The 208gsm membrane has a 5 layer composite structure with the vapour permeable film bonded between three layers of non-woven polypropylene and one layer of re-enforced netting.

Harcon VPU is specifically designed to allow the ready transfer of water vapour to reduce the risk of condensation in the roof void. It is suitable for use in conventional cold and warm pitched roofs and in fully supported or unsupported (draped) applications.

In warm pitched roof applications where Harcon VPU has been installed, additional ventilation may be required to enclosed voids or cavities.

In cold pitched roofs where Harcon VPU has been installed, there may be no need to ventilate the roof space in cases where steps have been taken to prevent moisture diffusion into the roof void (please refer to BS 5250: 2011), as the vapour permeability of

the VPU membrane allows moisture to safely diffuse through the underlay. However, installers must always ensure that they are aware and compliant with any relevant specifications when specifying and installing a particular ventilation product for any given project (NHBC, NFRC, British Standards, local building controls etc.).

Harcon VPU is suitable for fully supported or unsupported roofing applications, and can also be used in conventional ventilated roof construction.

### Harcon VPU Taping Requirements

Recent changes to BS 5534: 2014 (Code of practice for slating and tiling for pitched roofs and vertical cladding) relating to wind uplift requirements, now require some membranes to be taped in highly exposed locations. Refer to tables for the appropriate taping requirements for Harcon VPU range of membranes.

### VPU Weight Options

- 92gsm budget weight
- 125gsm standard weight
- 208gsm heavy weight



Material Properties		208gsm* (RoofTX Extra)	125gsm* (Harcon VPU)		92gsm* (RoofTX Optima)		
Mass per unit area	EN 1849-2	208gsm (+/- 10gsm)	125gsm (+/- 12gsm)		92gsm (+/- 12gsm)		
Reaction to fire	EN 13501-1	Class D*	Class Dd2*		Class E, d2*		
Water vapour resistance Sd	EN 12572	0.029m (+/-0.01)	0.029m (+/-0.01)		0.029m (+/-0.01)		
Water penetration	EN 1928	Class W1	Class W1		Class W1		
Tensile strength	Before Ageing	MD 470N (-80N)	CD 300N (-60N)	MD 285N (-70N)	CD 300N (-60N)	MD 230N (-70N)	CD 125N (-30N)
	After Ageing	MD 470N (-80N)	CD 260N (-60N)	MD 470N (-80N)	CD 260N (-60N)	MD 190N (-80N)	CD 100N (-30N)
Elongation	Before Ageing	MD 20% (-5%)	CD 15% (-5%)	MD 20% (-5%)	CD 15% (-5%)	MD 65% (-20%)	CD 70% (-20%)
	After Ageing	MD 15% (-5%)	CD 10% (-5%)	MD 15% (-5%)	CD 10% (-5%)	MD 35% (-20%)	CD 40% (-20%)
Tear resistance	EN 12310-1	MD 300N (-70N)	CD 290N (-70N)	MD 125N (-25N)	CD 120N (-20N)	MD 75N (-40N)	CD 80N (-40N)
Flexibility at low temp.	EN 1109	No cracking at -40°C		No cracking at -40°C		No cracking at -40°C	

\*When tested to EN 11925-2

## HARCON VPU INSTALLATION (TYPICAL UNSUPPORTED ROOF APPLICATION)

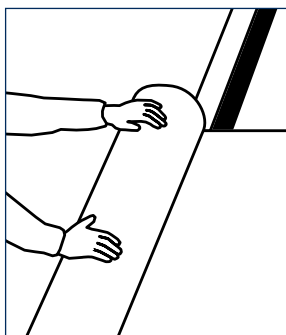
Harcon offer two installation options for their product range, as follows:

**Un-taped:** unroll the underlay such that the inner surface of the roll is facing uppermost. Tiling battens, and where appropriate counter battens, should be fixed over the membrane ensuring, where the membrane is unsupported, that there is sufficient drape to allow moisture and air movement. Where the membrane is required to be draped this should be more than 6mm and less than 25mm.

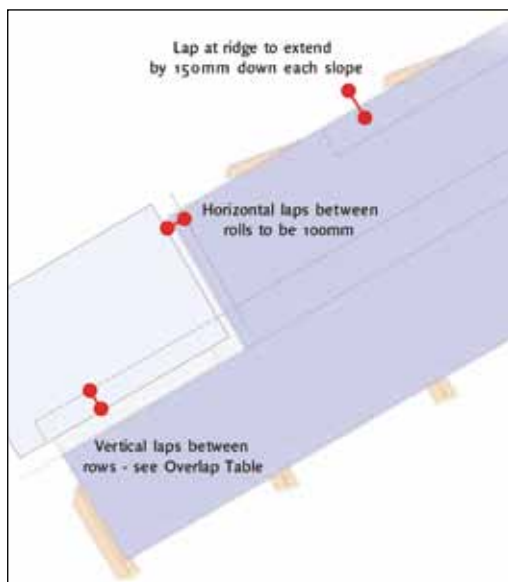
Harcon VPU is unrolled horizontally across the roof starting at the eaves. Subsequent rows of membrane should be lapped over the underlying row to shed water out and down the slope.

Sufficient vertical overlap should also be allowed - see table below for overlap requirements.

### Unrolling



### Overlap Detail



**Taped:** unroll the underlay such that the inner surface of the roll is facing uppermost. Where the membrane is unsupported, ensure there is sufficient drape to allow moisture and air movement. Where the membrane is required to be draped this should be more than 6mm and less than 25mm. Harcon VPU is unrolled horizontally across the roof starting at the eaves. Subsequent rows of membrane should be lapped over the underlying row to shed water out and down the slope. Sufficient vertical overlap should also be allowed - see table below for overlap requirements..

Once the lapped underlay is in position tape should be applied to the upper face of the lower layer of underlay, approximately 50mm from the upper edge. Tiling battens should now be fixed over the membrane ensuring any drape is maintained.

Once the full length of underlay has been treated and both layers are in position, the protective covering over the tape strip should be removed and the two layers of underlay brought together. Compression of the tape between the two layers may be assisted by having a colleague providing some resistance behind the underlay, from within the roof space. Tiling battens, and where appropriate counter battens, should be now fixed over the membrane ensuring that any drape is maintained.

Where softwood boarding or timber sheeting is used below the underlay, counter battens are typically required to provide effective drainage below the battens. Where timber counter battens are positioned above the underlay, there is no need to tape overlaps to resist wind uplift. Brett Martin can also supply suitable double sided overlap tape if required.

### Minimum Overlaps

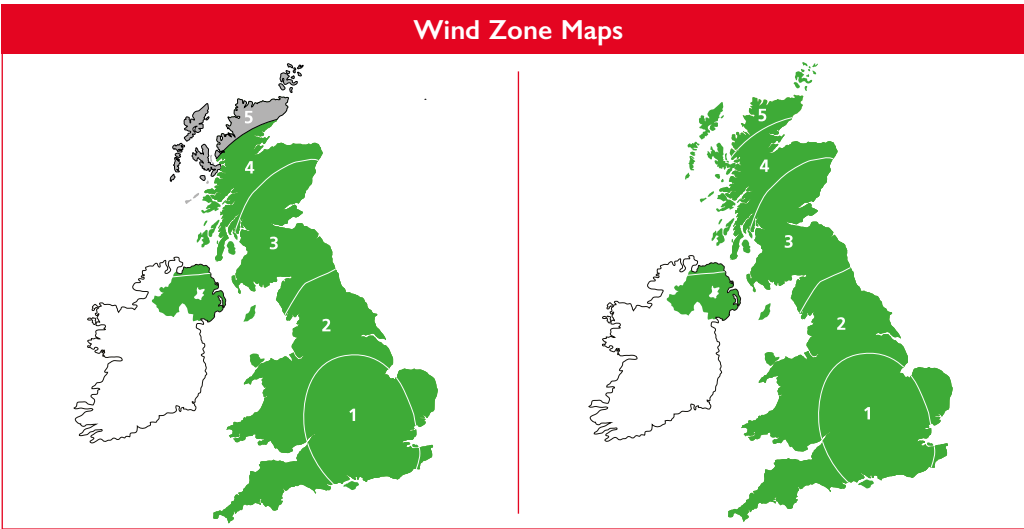
Roof Pitch °	Horizontal Lap mm (Parallel to eaves) Unsupported	Horizontal Lap mm (Parallel to eaves) Supported	Vertical Lap mm
12.5 - 14	225	150	100
15 - 34	150	100	100
35+	100	75	100

For full fixing instructions refer to BBA certificate numbers 04/4145 and 03/4003.  
Further information and a copy of the BBA certificate can be obtained from our technical department.

# VAPOUR PERMEABLE ROOFING UNDERLAY TAPING REQUIREMENTS

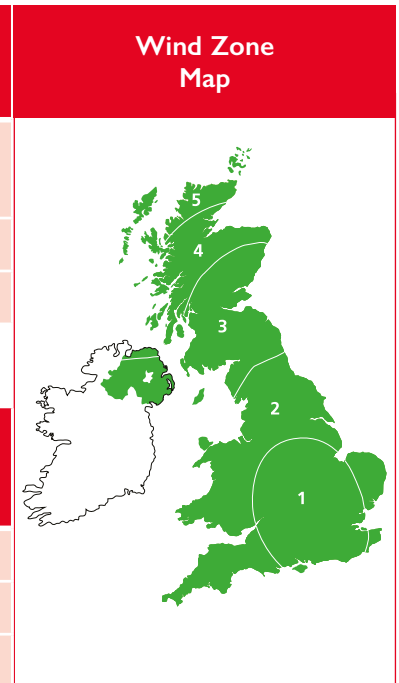
## 92gsm Budget Weight VPU (RoofTX Optima)

Batten Gauge	Declared wind uplift resistance PD (Pa) (un-taped overlaps)	Declared wind uplift resistance PD (Pa) (taped overlaps)	Zone Suitability
≤ 345mm	700	1579	1 to 4 (Important: overlaps require taping in Zones 3, 4 & 5)
≤ 250mm	1600	No taping required	1 to 5
≤ 100mm	>1600	No taping required	1 to 5



## 125gsm Standard Weight VPU (Harcon VPU)

Batten Gauge	Declared wind uplift resistance PD (Pa) (un-taped overlaps)	Declared wind uplift resistance PD (Pa) (taped overlaps)	Zone Suitability
≤ 345mm	1080	>1600	1 to 5 (Important: overlaps require taping in Zones 3, 4 & 5)
≤ 250mm	2170	No taping required	1 to 5
≤ 100mm	>2170	No taping required	1 to 5



## 208gsm Heavy Weight VPU (RoofTX Extra)

Batten Gauge	Declared wind uplift resistance PD (Pa) (un-taped overlaps)	Declared wind uplift resistance PD (Pa) (taped overlaps)	Zone Suitability
≤ 345mm	2040	No taping required	1 to 5
≤ 250mm	>2040	No taping required	1 to 5
≤ 100mm	>2040	No taping required	1 to 5

**Taping of overlaps should be undertaken in accordance with the instructions on roll insert.**

**NOTE 1:** In the table above, green indicates that the zone is suitable and light grey indicates that it is not suitable.

**NOTE 2:** Zone suitability applies only for underlays in applications where a well-sealed ceiling is present, ridge height is not greater than 15m, roof pitch is between 12.5° and 70°, site altitude is not greater than 100m, and no significant site topography is present. Other applications might require underlays with greater wind uplift resistance and it is advisable to seek professional advice.

**NOTE 3:** Zones 3 and 4 apply to Northern Ireland.

**NOTE 4:** Where softwood boarding or timber sheeting is used below the underlay, counter battens are typically required to provide effective drainage below the battens. Where timber battens are positioned above the underlay, there is no need to tape overlaps to resist wind uplift where timber sheeting is used below the underlay.

Ariel can also supply a suitable double sided overlap tape, if required.

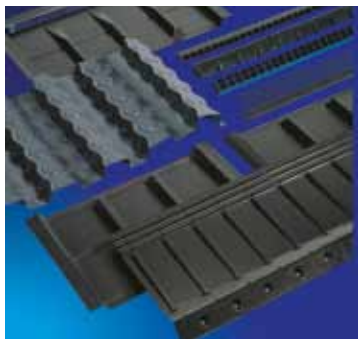
Harcon comprises a complete range  
of roof ventilation and drainage products

# Corovent®      Corodrain®

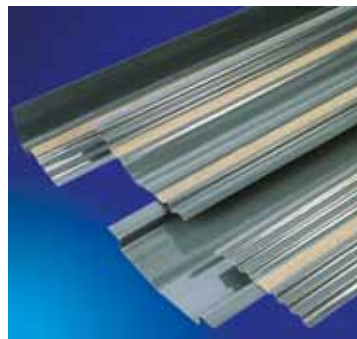
Roof Ventilation                      Roof Drainage



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VPU and NPU membranes

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Email: [info@arielplastics.com](mailto:info@arielplastics.com)

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