Data sheet

NHBC Standard Update 2024

In response to proposed changes to the NHBC Standards 2024, with effect 1st January 2024, Chapter 7.2 'Pitched Roofs', 7.2.15 'ventilation, vapour control and insulation' will provide new ventilation guidance for air permeable and air impermeable roof coverings, to align with the prescriptive guidance provided in BS5250 'Moisture management in buildings – Code of practice'.

VENTILATION REQUIREMENTS FOR AIR IMPERMEABLE, ROOF INTEGRATED SOLAR PANELS

The NHBC will classify any integrated solar installation as an air impermeable roof covering. Where integrated solar is used, the whole roof covering will be treated as air impermeable and the following ventilation recommendations should be followed to ensure NHBC compliance:

Cold Roof - High Resistance (HR) Underlay (Non-Breathable)

- Eaves / low level Ventilation - 10,000mm²/m underneath the underlay.
- Ridge / High level Ventilation - 5000mm²/m high level ridge ventilation. (Roof pitch above 35°, roof span exceeding 10m, mono pitch or lean-to roofs).

Cold Roof - Low Resistance (LR) Underlay (Vapour Permeable)

- Eaves / low level Ventilation - 7000mm²/m (normal ceiling) or 3000mm²/m(1) (well-sealed ceiling) underneath the underlay. In addition, 25mm deep counter battens with 25,000mm²/m eaves ventilation above the underlay and 5000mm²/m high level ridge ventilation.

(1) Alternatively, high level vent 5000mm²/m based on the longest horizontal dimension of the roof.

If using LR Underlay without batten space ventilation, the LR underlay should be treated as an HR Underlay, using 10,000mm²/m eaves ventilation underneath the underlay. An additional 5000mm²/m high level ridge ventilation is required if the roof is above 35° roof pitch, the span exceeds 10m, or is mono pitch or lean-to.

Warm Roof / Hybrid Roof - HR Underlay

Sleek, low-profile integrated solar that replaces the roof covering for an improved aesthetic and simple roof maintenance.

- Eaves / Low level ventilation - 25,000mm²/m underneath the underlay.
- Ridge / High Level ventilation - 5000mm²/m underneath the underlay.

The depth of the ventilated void should be minimum 25mm plus 15mm maximum allowable drape of the underlay. An AVCL is required to the warm side of the insulation.

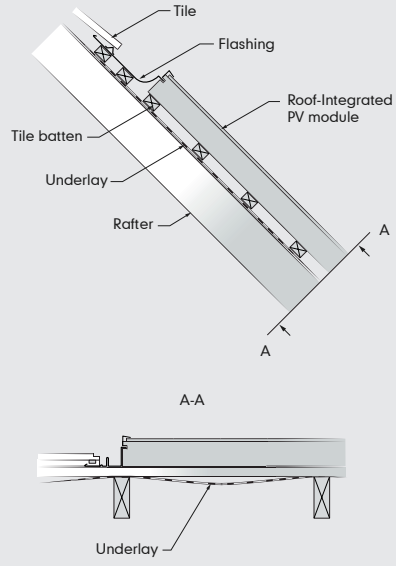

Figure 1. Cold Roof

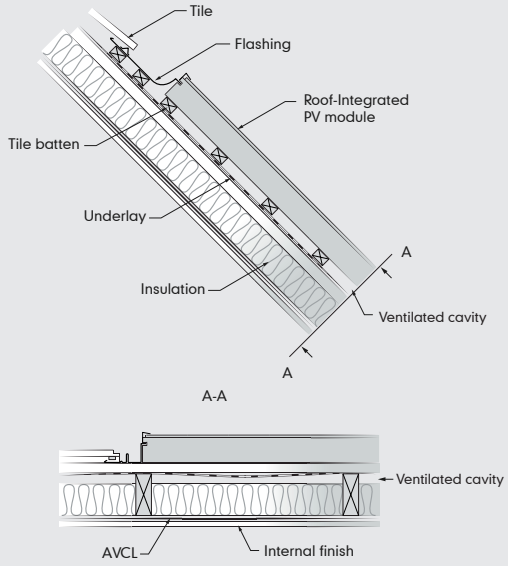

Figure 2. Warm Roof, HR Underlay

Warm Roof - LR Underlay

- Eaves / Low level ventilation - 25,000mm²/m above the underlay using 25mm deep counter battens.
- Ridge / High Level ventilation - 5000mm²/m above the underlay.

An AVCL is required to the warm side of the insulation.

Hybrid Roof - LR Underlay

- Eaves / Low level ventilation - 7000mm²/m underneath the underlay to each cold void. In addition, 25mm deep counter battens with 25,000mm²/m eaves ventilation above the underlay.
- Ridge / High level ventilation - 5000mm²/m underneath the underlay to each cold void. In addition, 5000mm²/m high level ridge ventilation above the underlay.

An AVCL is required to the warm side of the insulation.

In all of the above situations it is imperative that all roof ventilation paths should remain clear and unobstructed for the duration of the serviceable building life.

Ventilation requirements for air impermeable roofs with integrated solar panels*

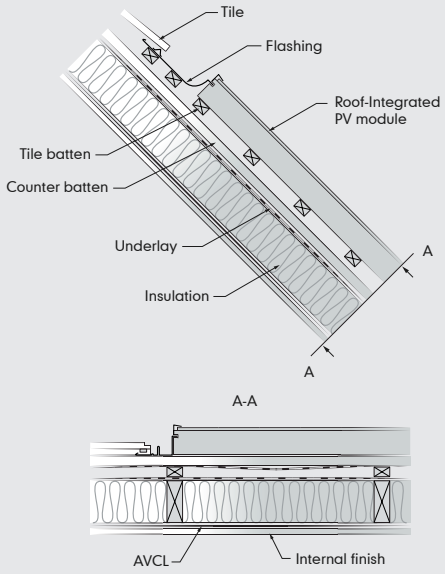

Figure 3. Warm Roof, LR Underlay

VENTILATION REQUIREMENTS FOR AIR IMPERMEABLE ROOFS WITH INTEGRATED SOLAR PANELS*

Roof	Underlay	Ceiling	Ventilation Provision	Roof Pitch	Ventilation Requirement			25mm deep counter-battens required (Y/N)	Air Vapour Control Layer (AVCL) Required (Y/N)	NHBC 2024 Guidance Tables
					Minimum eaves / low level ventilation (underneath underlay)	Minimum batten space ventilation using 25mm deep counterbattens (above underlay)	Minimum High level ventilation 5mm x longest horizontal dimension of roof.			
Cold Roof	HR Underlay	Any	Ventilated loft	10° to 15°	25mm	-	5mm	N	N	Table 11
	HR Underlay	Any	Ventilated loft	15° to 75°	10mm	-	5mm Roof pitch ≥ 35° / roof span ≥ 10 m / lean-to roof / mono pitch roof	N	N	Table 11
	LR Underlay	Normal	Ventilated loft & Batten cavity	15° to 75°	7mm	25mm	5mm	Y	N	Table 15
	LR Underlay	Well Sealed	Ventilated loft & Batten cavity	15° to 75°	3mm (or alternatively 5mm at high level)	25mm	5mm (Alternative to 3mm eaves ventilation)	Y	N	Table 15
	LR Underlay	Any	Treat as HR underlay (Ventilated loft)	15° to 75°	10mm	-	5mm Roof pitch ≥ 35° / roof span ≥ 10 m / lean-to roof / mono pitch roof	N	N	Table 11
Warm Roof	HR Underlay	Any	Ventilated void (Min. 25mm + drape**)	10° to 75°	25mm	-	5mm	N	Y	Table 12
	LR Underlay	Any	Ventilated Batten cavity	10° to 75°	-	25mm	5mm	Y	Y	Table 16
Hybrid Roof	HR Underlay	Any	Ventilated void (Min. 25mm + drape**)	10° to 75°	25mm	-	5mm	N	Y	Table 12
	LR Underlay	Any	Ventilate each cold void & Batten cavity	15° to 75°	7mm (Provided to each cold void)	25mm	5mm (Including at high level to each cold void)	Y	Y	Table 16

* In accordance with NHBC 2024 Standards & BS5250:2021 Management of moisture in buildings - Code of practice

** 15mm maximum allowable drape of the underlay

Tell me more

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