

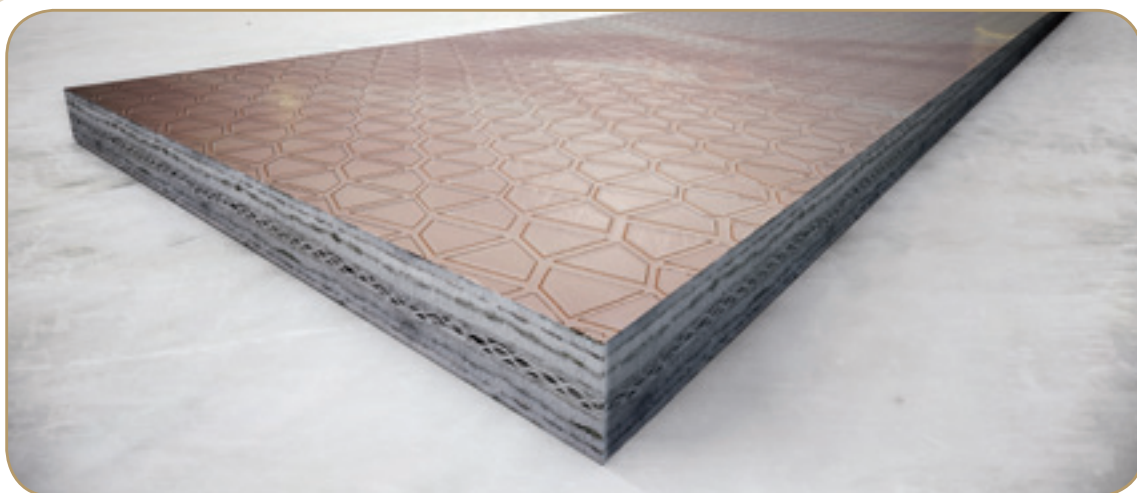


HControl Hybrid

=  + 

VAPOUR BARRIER
Z > 1000 MN.s/g

R=3.2
m².K/W
EN 16012 WITH
2 AIR VOIDS



HCONTROL HYBRID is a reflective vapour control layer with a built-in thermal performance for use on the warm side of any insulation material, behind the internal finish in roofs, walls and ceilings.



HCONTROL HYBRID provides dual performance within a single product : a vapour control layer and insulation, allowing a reduction in the number of installation steps whilst reducing the thickness of the main insulation to achieve the same required U-Value. It can be used in conjunction with any type of insulation.

HCONTROL HYBRID is available in rolls of 10m² (1600mm wide), 45mm thick.



DUAL PERFORMANCE



With a **Z-value > 1000 MNs/g**, $S_d > 200$ m, HCONTROL HYBRID blocks water vapour diffusion through the fabric of the building, thus preventing any risk of condensation.



HCONTROL HYBRID is airtight, so it acts as a barrier against air leakage and thermal convection.



Thanks to its sandwich assembly, its 45 mm thickness and its two low emissivity external faces of $\epsilon = 0,06$, HCONTROL HYBRID achieves a declared core R-value of **1,90 m².K/W** (with no air gaps – in direct contact) and an R value of **3,20 m².K/W** with 2 air voids of 20 mm (horizontal flow), as certified by VTT.

Combined with a second layer of insulation, HCONTROL HYBRID helps to keep the fabric element to a minimum thickness and saves space !

DUAL TESTING



HCONTROL HYBRID has been tested **in a laboratory** according to the following EN standards:

- **EN 13984** : « Flexible sheets for waterproofing. Plastic and rubber vapour control layers ».
- **EN 16012** : « Thermal insulation for buildings. Reflective insulation product. Determination of the declared thermal performance ».

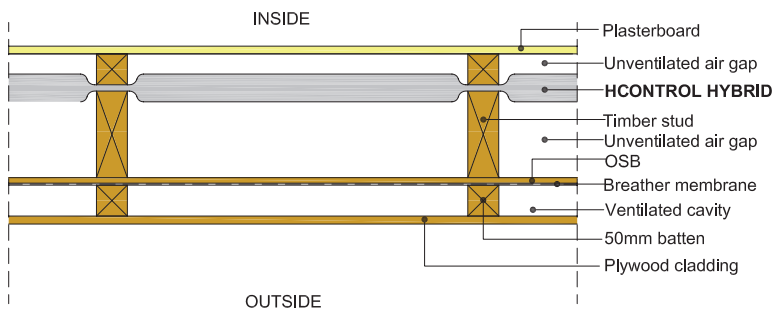


HCONTROL HYBRID has been tested **on site** by the Glasgow Caledonian University according to:

- **ISO 9869** « Thermal insulation - Building elements - In-situ measurement of thermal resistance and thermal transmittance - Part 1 : Heat flowmeter method »

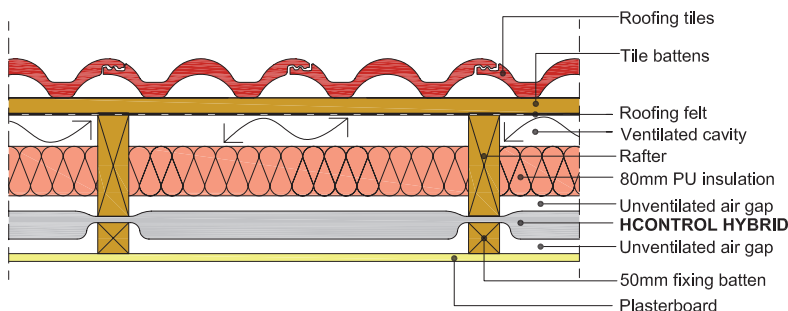


The following construction was used for thermal testing carried out on site in walls :



In walls once installed, the R Value of HCONTROL HYBRID with adjacent air cavities was measured at **3,45 m².K/W**, slightly over the laboratory measured R-value.

The following construction was used for thermal testing carried out on site in roofs :



In roofs once installed :

- The core R Value of HCONTROL HYBRID was measured at **2,36 m².K/W**.
- The R Value of HCONTROL HYBRID with adjacent air cavities was measured at **3,54 m².K/W**.

FULLY CERTIFIED



HCONTROL HYBRID is fully certified by two accredited bodies

HCONTROL HYBRID complies with **BS5250 – Code of Practice for Control of Condensation in Buildings** and helps to meet the requirements of **Approved Document L 2010 (England & Wales) and Section 6 (Scotland)**

USER FRIENDLY



- HCONTROL HYBRID is **classified A+** for internal air quality according to ISO 16000
- HCONTROL HYBRID is clean - does not generate dust or fibre
- HCONTROL HYBRID does not require earthing

QUICK AND EASY TO INSTALL

HCONTROL HYBRID can be stapled or nailed.



HCONTROL HYBRID can be cut with a cutter



The flexible properties of HCONTROL HYBRID enable fitting to any uneven surface, allowing a continual insulation, thus offering a high quality installation without air leakages.

HCONTROL HYBRID PROPERTIES

PRODUCT

PROPERTY	TEST METHOD	DECLARED VALUE
Thickness	EN 823	45mm
Weight/m ²	EN 1849-2	950 g/m ²
Length	EN 1848-2	6,25m
Width		1,6m
DECLARED THERMAL PERFORMANCE		
R Value of HCONTROL HYBRID + 2 air cavities after ageing	EN 16012	3,20m².K/W
R value of material		1,90m².K/W
Declared Emissivity after ageing		0,06
TENSILE STRENGTH		
Longitudinal direction	EN 12311-1 & EN 13859-1 annex C	>300 N/50mm
Transversal direction		>200 N/50mm
Elongation (Longitudinal)		>20%
Elongation (Transverse)		>5%
RESISTANCE TO TEARING, NAIL SHANK		
Longitudinal direction	EN 12310-1 & EN 13859-1 annex B	>150 N
Transversal direction		>150 N
JOINT STRENGTH	EN 12317 - 2	55 N/50mm
WATER VAPOUR TRANSMISSION		
Permeability (W)	EN 1931 set C	7,51 10 ⁻¹³ Kg/m ² .s.Pa
Vapour Resistance (Z)		≥1000 MNs/g
Diffusion eq.air layer thickness (Sd)		≥200 m
WATERTIGHTNESS	EN 1928 method A	Watertight, W1
AIR PERMEABILITY	EN 12114	Airtight
RESISTANCE TO IMPACT	EN 12691, method A	300 mm Drop height
FIRE RESISTANCE		Class F
AFTER AGEING		
RESISTANCE TO TEARING, NAIL SHANK		
Longitudinal direction	Before Testing ageing at 70°C/48h then EN 12310 - 1	250 N
Transversal direction		200 N
JOINT STRENGTH	Before Testing ageing at 70°C/48h then EN 123170 - 2	80 N/50mm
WATER VAPOUR TRANSMISSION		
Permeability (W)	EN 1931 set C	6,681 10 ⁻¹³ Kg/m ² .s.Pa
Vapour Resistance (Z)		≥1000 MNs/g
Diffusion eq.air layer thickness (Sd)		≥200 m
WATER TIGHTNESS	EN 1928 method A	Watertight, W1

All these values are certified by VTT

