ACTIS
TIMBER FRAME APPLICATION GUIDE

HCONTROL HYBRID + HYBRIS SOLUTION

ACTIS
TOMORROW'S INSULATION TODAY

Timber frame construction can provide sustainable solutions for highly insulated, airtight homes that will meet the most onerous energy performance requirements.

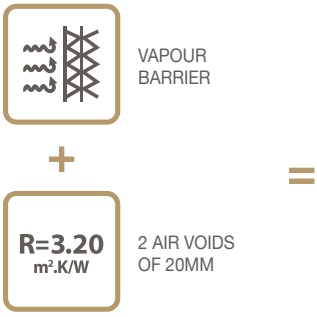
Actis has developed solutions for 'Hybrid' timber structures which uses a combination of insulation between and across timber studs, which together enhance the many advantages of this traditional way of construction in terms of thermal performance, speed, cost and quality.

This information sheet covers solutions with the following products:

HCONTROL HYBRID

A multifoil blanket insulation with built-in vapour control function, 45mm thick.

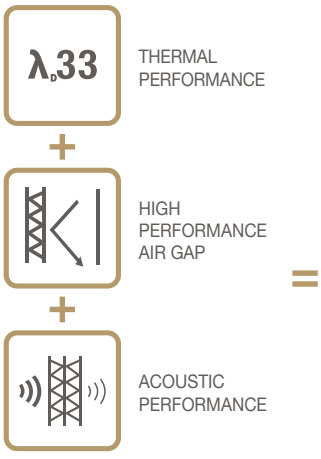
- Vapour control layer according to EN 13984 CE Z ≥ 1000MNs/g
- Airtight according to EN 12114
- Thermal performance measured according to EN 16012: Core R-value: R=1.90m²K/W Emissivity: e=0.06
- Real life testing according to ISO 8969
- Fully certified
- LABC and LABSS Registered Detail (RD461)
- NHBC accepted when used in accordance with the certification.



HYBRIS

A new reflective insulation product, providing an excellent thermal performance, further enhanced by low emissivity outer films. Available in thicknesses from 50-205mm.

- European Technical Approval No.13/0121 CE
- Vapour resistance: Z=450MNs/g
- Airtight according to EN 12114
- Thermal performance measured according to EN 16012: Thermal conductivity: λ=0.033 W/mK Emissivity (inner/outer): e=0.06 / 0.10
- Vapour Resistance: Z=450MNs/g
- Real life testing according to ISO 8969
- Fully certified
- LABC and LABSS Registered Detail (RD462)
- NHBC accepted when used in accordance with the certification.

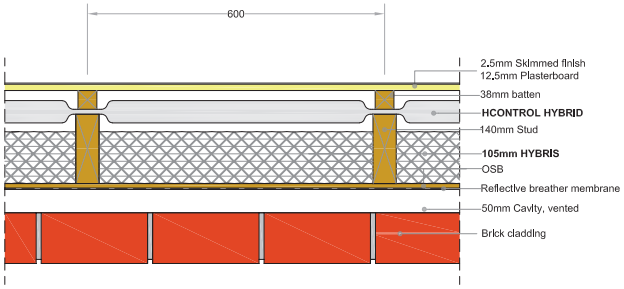


The following cross sectional drawing shows the main elements of this wall solution. These are:

- **HYBRIS insulation installed between timber studs**
- **HControl Hybrid installed internally across the face of timber studs**

Service battens to provide an integrated low-e service void, service void to assist follow up trades.

PF56: HCONTROL HYBRID + 105mm HYBRIS



U-VALUE REACHED: 0.16 W/m²K

SOLUTION MATRIX

Hybrid products combine airtightness and vapour control properties with insulation and therefore offer a complete solution against heat loss through the building fabric: low U-values, excellent thermal bridging and airtightness.

CONTRIBUTION TO THERMAL EFFICIENCY

The thermal efficiency of the building fabric is usually composed of:

45%
THERMAL TRANSMITTANCE (U-VALUE)

30%
AIRTIGHTNESS

25%
THERMAL BRIDGING

AIRTIGHTNESS

Through good design and execution, buildings with HCONTROL HYBRID can achieve an air permeability below 1m³/(h.m²) at 50Pa.

THERMAL BRIDGING

The type of thermal bridging that occurs at junctions is defined as linear thermal bridging (psi-value (Ψ)). All Ψ-values of the building envelope make up the overall thermal bridging heat loss – the Y-value.

Using thermal blankets, such as HCONTROL HYBRID helps to counteract thermal bridging and Y-values below 0.022 W/m²K can be achieved.

This can unlock drastic improvements in SAP calculations:

- Cost savings
- Maximise site potential
- Flexibility in specification

			Brick Cladding (Vented)		Renderboard Cladding (Ventilated)	
U-value	Stud Size (mm)	45mm HControl Hybrid + Hybris (mm)	Standard Breather M	Reflective Breather M	Standard Breather M	Reflective Breather M
	72	0	0.30	0.26	0.33	0.30
		50	0.25	0.22	0.27	0.25
	89	50	0.23	0.20	0.24	0.22
	140	60	0.21	0.18	0.22	0.21
		75	0.20	0.17	0.20	0.20
		90	0.18	0.16	0.19	0.18
		105	0.18	0.16	0.18	0.18
	145	105	0.17	0.16	0.18	0.17
	184	125	0.16	0.14	0.17	0.16
		140	0.15	0.14	0.16	0.15
	195	155	0.15	0.13	0.15	0.15
	235	170	0.14	0.13	0.14	0.14
		185	0.13	0.12	0.14	0.13
		195	0.13	0.12	0.13	0.13
		205	0.13	0.12	0.13	0.13
Airtightness: < 1m³/h.m² at 50Pa is achievable						
Thermal Bridging: Y-value < 0.22 is achievable (due to excellent psi-values)						

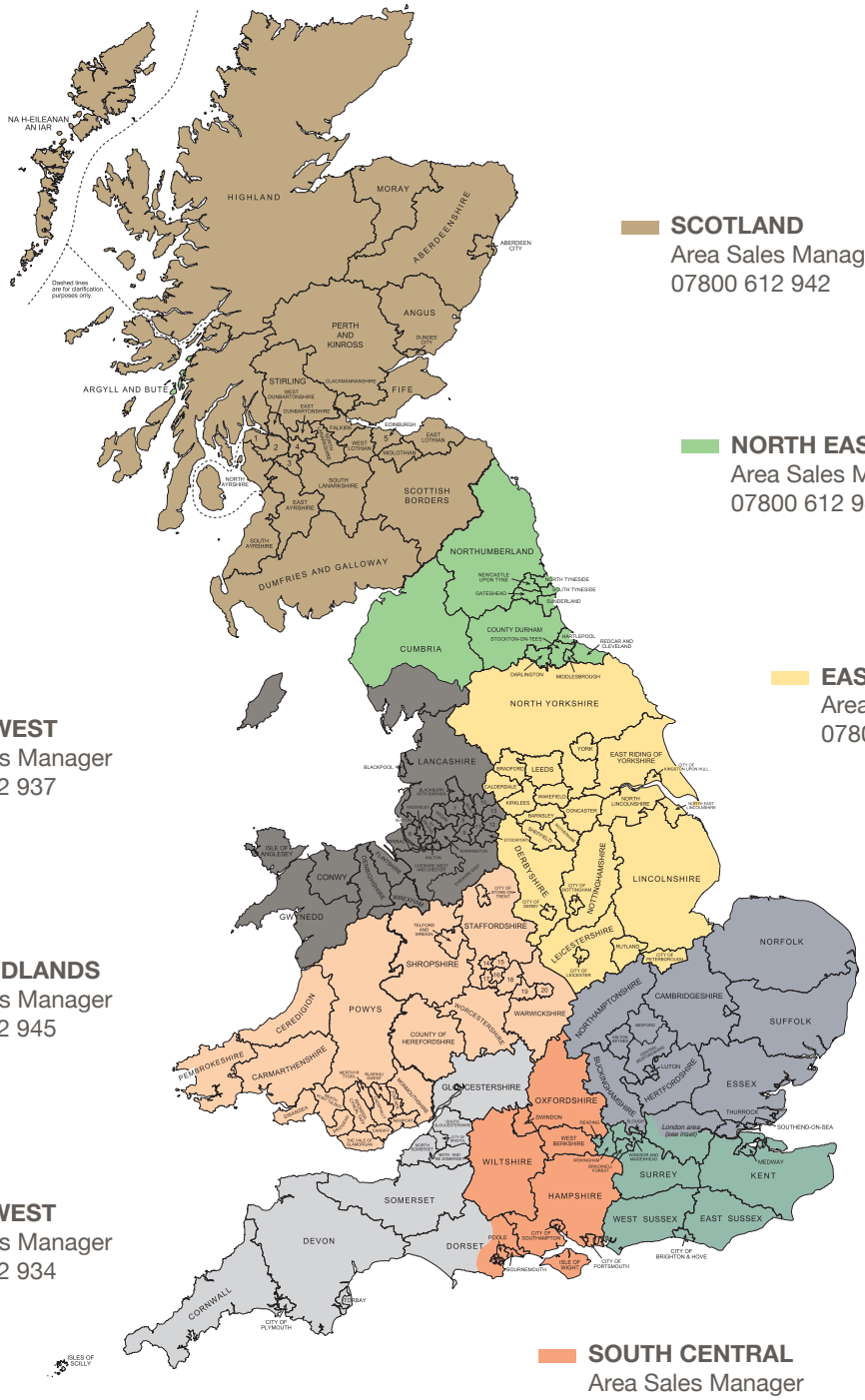
does not meet limiting U-value

does meet limiting U-value for England and Scotland

does meet limiting U-value for England

does meet limiting U-value for England, Scotland and Wales

YOUR CONTACTS FOR MORE INFORMATION



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U-VALUE SIMULATOR

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