

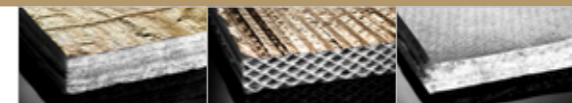
ACTIS HYBRID SOLUTIONS AND SYSTEMS

FOR ROOF, WALL, CEILING & FLOOR APPLICATIONS



ACTIS

TOMORROW'S INSULATION TODAY



	Timber dimensions (mm)	Timber centres (mm)	Other insulation	Reflective vapour control layer	Reflective breather membrane	HControl Hybrid	Hybris	Boost [®] Hybrid	Calculated U-values W/m ² K	Reference	
TIMBER FRAME WALL											
External Timber Frame with Brick Cladding											
HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	175 x 47	15% timber bridging (as standard)				✓	✓	✓	0.13	PF218	
HCONTROL HYBRID + 100 PIR + BOOST [®] HYBRID	140 x 38		✓			✓	✓	✓	0.13	PF217	
HCONTROL HYBRID + 90mm HYBRIS + BOOST [®] HYBRID	140 x 38					✓	✓	✓	0.14	PF201	
BOOST [®] HYBRID + 105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER*	140 x 38				✓		✓	✓	0.15	PF216	
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE*	140 x 38					✓	✓		0.15	PF215	
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38					✓	✓		0.16	PF214	
BOOST [®] HYBRID + 125mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER	140 x 38				✓		✓	✓	0.16	PF213	
HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38					✓	✓		0.17	PF212	
HCONTROL HYBRID + 105mm HYBRIS	140 x 38					✓	✓		0.18	PF210	
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	114 x 38					✓	✓		0.18	PF211	
BOOST [®] HYBRID + 125mm HYBRIS	140 x 38						✓	✓	0.18	PF209	
REFLECTIVE VAPOUR CONTROL LAYER + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38				✓	✓			0.19	PF208	
HCONTROL HYBRID + 50mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	89 x 38					✓	✓		0.20	PF207	
REFLECTIVE VAPOUR CONTROL LAYER + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38				✓	✓			0.21	PF206	
BOOST [®] HYBRID + 90mm HYBRIS	114 x 38						✓	✓	0.21	PF205	
125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38					✓	✓		0.22	PF204	
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	72 x 47					✓	✓		0.26	PF203	
125mm HYBRIS	140 x 38						✓	✓	0.26	PF202	
External Timber Frame with Timber Cladding											
HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	175 x 47		15% timber bridging (as standard)				✓	✓	✓	0.13	PF230
HCONTROL HYBRID + 105mm HYBRIS + BOOST [®] HYBRID	140 x 38					✓	✓	✓	0.14	PF229	
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38					✓	✓		0.16	PF228	
125mm HYBRIS + BOOST [®] HYBRID + REFLECTIVE VAPOUR CONTROL LAYER	140 x 38				✓		✓	✓	0.17	PF227	
HCONTROL HYBRID + 105mm HYBRIS	140 x 38					✓	✓		0.18	PF226	
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	114 x 38					✓	✓		0.18	PF225	
125mm HYBRIS + BOOST [®] HYBRID	140 x 38						✓	✓	0.19	PF224	
125mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	140 x 38				✓	✓			0.20	PF223	
105mm HYBRIS + BOOST [®] HYBRID	125 x 47						✓	✓	0.20	PF221	
105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	140 x 38				✓	✓			0.21	PF222	
125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38					✓	✓		0.23	PF220	
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	89 x 38					✓	✓		0.26	PF219	
External Timber Frame with Timber Cladding (example Dormer Cheek)											
HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	175 x 47	11% timber bridging (as standard)				✓	✓	✓	0.13	PF236	
HCONTROL HYBRID + 90mm HYBRIS + BOOST [®] HYBRID	125 x 47					✓	✓	✓	0.15	PF240	
HCONTROL HYBRID + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	150 x 47					✓	✓		0.15	PF241	
HCONTROL HYBRID + 50mm HYBRIS + BOOST [®] HYBRID ROOF	100 x 47					✓	✓	✓	0.17	PF362	
HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	125 x 47					✓	✓		0.17	PF238	
HCONTROL HYBRID + 90mm HYBRIS	125 x 47					✓	✓		0.18	PF237	
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	100 x 47					✓	✓		0.19	PF235	
105mm HYBRIS + BOOST [®] HYBRID ROOF	125 x 47						✓	✓	0.21	PF234	
90mm HYBRIS + BOOST [®] HYBRID ROOF	100 x 47						✓	✓	0.23	PF233	
105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	125 x 47					✓	✓		0.24	PF232	
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	100 x 47					✓	✓		0.26	PF231	
Ashlar Wall											
HCONTROL HYBRID + 170mm HYBRIS	200 x 47		600				✓	✓		0.14	PF248
HCONTROL HYBRID + 140mm HYBRIS	175 x 47					✓	✓		0.15	PF247	
HCONTROL HYBRID + 90mm HYBRIS	125 x 47					✓	✓		0.18	PF246	
185mm HYBRIS	225 x 47						✓	✓	0.18	PF298	

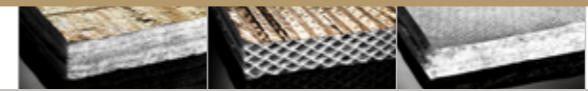
* Lightweight block finish

* U-values calculated with perimeter/area ratio = 0.5

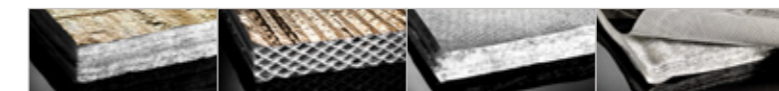
U-value calculations have been made according to EN ISO 6946, BR 443, BBA IB3. The solutions offered do not have a condensation risk according to BS 5250.

Calculations are based on slightly ventilated/ventilated roof build-ups and vented wall build-ups, and use standard construction products ie standard plasterboard, standard vapour control layer, standard breather membrane and standard foil faced foam board unless **HControl Hybrid**, **Boost[®] Hybrid** or a **reflective breather membrane** is used. Please use in conjunction with ACTIS current installation guidelines.

Other solutions are available, please contact Actis at solutions@insulation-actis.com or 01249 462 888.



	Timber dimensions (mm)	Timber centres (mm)	Other insulation	Reflective vapour control layer	Reflective breather membrane	HControl Hybrid	Hybris	Boost ^{TR} Hybrid	Calculated U-values W/m ² K	Reference
MASONRY WALL										
Solid Wall (Internal insulation)										
HCONTROL HYBRID + 140mm HYBRIS	175 x 47	600				✓	✓		0.15	PF252
HCONTROL HYBRID + 90mm HYBRIS	125 x 47					✓	✓		0.19	PF251
105mm HYBRIS	125 x 47						✓		0.28	PF250
HCONTROL HYBRID + 22mm (EPS) INSULATED PLASTERBOARD (2 X 38mm BATTENS)	38 x 38		✓			✓			0.28	PF249
Cavity Wall (Internal uninsulated cavity)										
HCONTROL HYBRID + 125mm HYBRIS	175 x 47	600				✓	✓		0.16	PF256
HCONTROL HYBRID + 90mm HYBRIS	125 x 47					✓	✓		0.19	PF255
90mm HYBRIS	114 x 38						✓		0.29	PF254
HCONTROL HYBRID (2 x 38mm BATTENS)	38 x 38					✓			0.30	PF253
Solid Wall (External insulation)										
125mm HYBRIS + BOOST ^{TR} HYBRID	175 x 47	600					✓	✓	0.16	PF259
105mm HYBRIS + BOOST ^{TR} HYBRID	150 x 47						✓	✓	0.18	PF258
75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	75 x 47				✓		✓	✓	0.30	PF363
Cavity Wall (External uninsulated cavity)										
140mm HYBRIS + BOOST ^{TR} HYBRID	175 x 47	600					✓	✓	0.16	PF262
125mm HYBRIS + BOOST ^{TR} HYBRID	150 x 47						✓	✓	0.18	PF261
50mm HYBRIS + REFLECTIVE BREATHER MEMBRANE (ASSOCIATED AIR CAVITY R=0.81M ² K/W)	75 x 47				✓		✓	✓	0.30	PF364



	Timber dimensions (mm)	Timber centres (mm)	Other insulation	HControl Hybrid	Hybris	Boost ^{TR} Hybrid	Boost ^{TR} Hybrid Roof	Calculated U-values W/m ² K	Reference
FLAT ROOF									
Cold Flat Roof									
HCONTROL HYBRID + 195mm HYBRIS + BOOST ^{TR} HYBRID ROOF	275 x 47	400		✓	✓		✓	0.11	PF267
HCONTROL HYBRID + 140mm HYBRIS + BOOST ^{TR} HYBRID ROOF	225 x 47				✓		✓	0.13	PF265
HCONTROL HYBRID + 185mm HYBRIS	250 x 47				✓	✓		0.15	PF365
HCONTROL HYBRID + 155mm HYBRIS	175 x 47				✓	✓		0.16	PF264
170mm HYBRIS + BOOST ^{TR} HYBRID ROOF	225 x 47					✓	✓	0.16	PF263
Warm Flat Roof									
HCONTROL HYBRID + 150mm PIR (λ=0.025W/mK)	250 x 47	400	✓	✓				0.11	PF270
HCONTROL HYBRID + 120mm PIR (λ=0.025W/mK)	250 x 47			✓	✓			0.13	PF269
HCONTROL HYBRID + 90mm PIR (λ=0.025W/mK)	250 x 47			✓	✓			0.16	PF268
PITCHED ROOF									
Warm Pitched Roof (with insulation at sloping ceiling)									
HCONTROL HYBRID + 2x125mm HYBRIS + BOOST ^{TR} HYBRID ROOF	300 x 47	600		✓	✓		✓	0.09	PF299
HCONTROL HYBRID + 185mm HYBRIS + BOOST ^{TR} HYBRID ROOF	250 x 47				✓	✓	✓	0.11	PF273
HCONTROL HYBRID + 125mm HYBRIS + BOOST ^{TR} HYBRID ROOF	200 x 47				✓	✓	✓	0.13	PF272
HCONTROL HYBRID + 170mm HYBRIS	225 x 47				✓	✓		0.13	PF276
185mm HYBRIS + BOOST ^{TR} HYBRID ROOF	250 x 47				✓	✓		0.14	PF297
HCONTROL HYBRID + 90mm HYBRIS + BOOST ^{TR} HYBRID ROOF	150 x 47				✓	✓	✓	0.15	PF200
HCONTROL HYBRID + 140mm HYBRIS	175 x 47				✓	✓		0.15	PF275
170mm HYBRIS + BOOST ^{TR} HYBRID ROOF	225 x 47				✓	✓	✓	0.15	PF278
HCONTROL HYBRID + 75mm HYBRIS + BOOST ^{TR} HYBRID ROOF	150 x 47				✓	✓	✓	0.16	PF271
HCONTROL HYBRID + 125mm HYBRIS	175 x 47				✓	✓		0.16	PF274
155mm HYBRIS + BOOST ^{TR} HYBRID ROOF	200 x 47	400			✓		✓	0.16	PF277
HCONTROL HYBRID + 90mm HYBRIS + BOOST ^{TR} HYBRID ROOF	150 x 47				✓	✓	✓	0.16	PF281
HCONTROL HYBRID + 140mm HYBRIS	175 x 47				✓	✓		0.16	PF282
170mm HYBRIS + BOOST ^{TR} HYBRID ROOF	225 x 47					✓	✓	0.16	PF283
50mm HYBRIS + BOOST ^{TR} HYBRID ROOF	100 x 47					✓	✓	0.30	PF284
FLOORS									
Suspended Timber Floor									
185mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38	400			✓	✓		0.12	PF367
155mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38					✓	✓	0.13	PF290
170mm HYBRIS	250 x 38					✓		0.15	PF289
105mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38					✓	✓	0.15	PF288
125mm HYBRIS	200 x 38					✓		0.18	PF287
BOOST ^{TR} HYBRID	125 x 47						✓	0.23	PF285
90mm HYBRIS	125 x 47					✓		0.24	PF286
Exposed Floor									
50mm HYBRIS + 170mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38	400			✓	✓		0.11	PF295
50mm HYBRIS + 125mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38					✓	✓	0.13	PF296
140mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38					✓	✓	0.15	PF293
185mm HYBRIS	250 x 38					✓		0.16	PF368
155mm HYBRIS	250 x 38					✓		0.18	PF292

TIMBER FRAME WALL WITH BRICK CLADDING

HYBRIS is fitted between studs, faced internally with **HCONTROL HYBRID**, the vapour control layer and externally with **OSB** and **BOOST[®] HYBRID**, the breather membrane. A 50mm cavity separates the timber frame from the outer brick leaf.

min. stud size (mm)	Products used	U-value (W/m ² K)	Reference
175 x 47	HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	0.13	PF218
140 x 38	HCONTROL HYBRID + 100 PIR + BOOST [®] HYBRID	0.13	PF217
140 x 38	HCONTROL HYBRID + 90mm HYBRIS + BOOST [®] HYBRID	0.14	PF201
140 x 38	BOOST [®] HYBRID + 105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER*	0.15	PF216
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE*	0.15	PF215
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.16	PF214
140 x 38	BOOST [®] HYBRID + 125mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER	0.16	PF213
140 x 38	HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.17	PF212
140 x 38	HCONTROL HYBRID + 105mm HYBRIS	0.18	PF210
114 x 38	HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.18	PF211
140 x 38	BOOST [®] HYBRID + 125mm HYBRIS	0.18	PF209
140 x 38	REFLECTIVE VAPOUR CONTROL LAYER + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.19	PF208
89 x 38	HCONTROL HYBRID + 50mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.20	PF207
140 x 38	REFLECTIVE VAPOUR CONTROL LAYER + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.21	PF206
114 x 38	BOOST [®] HYBRID + 90mm HYBRIS	0.21	PF205
140 x 38	125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.22	PF204
72 x 47	HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	0.26	PF203
140 x 38	125mm HYBRIS	0.26	PF202

* Lightweight block finish

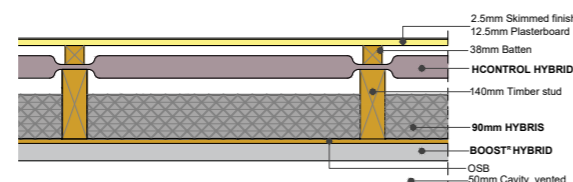
HYBRID SYSTEM SOLUTION

PF201: HCONTROL HYBRID + 90mm HYBRIS + BOOST[®] HYBRID

U-VALUE REACHED: 0.14 W/m²K



HCONTROL HYBRID HYBRIS BOOST[®] HYBRID



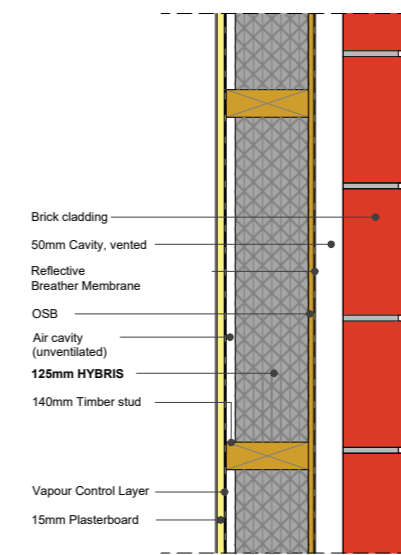
OTHER HYBRID CONFIGURATIONS

PF204: 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

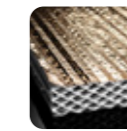
U-VALUE REACHED: 0.22 W/m²K



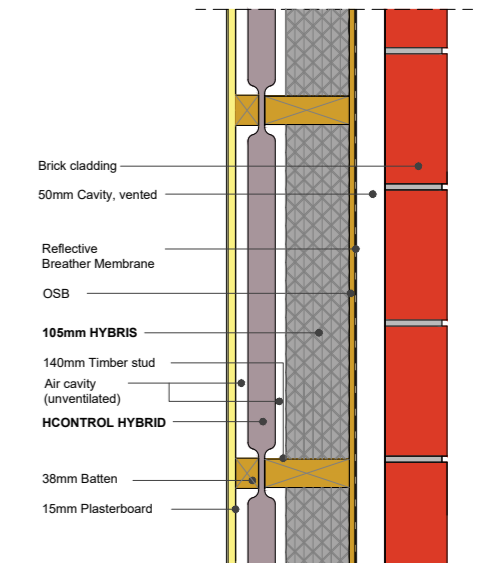
HYBRIS



HCONTROL HYBRID



HYBRIS



PF209: 125mm HYBRIS + BOOST[®] HYBRID

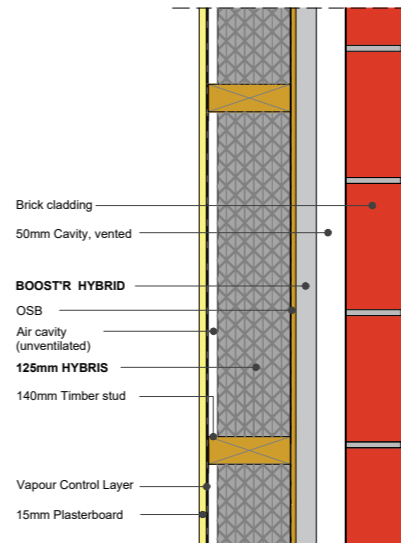
U-VALUE REACHED: 0.18 W/m²K



HYBRIS



BOOST[®] HYBRID



TIMBER FRAME WALL WITH TIMBER CLADDING

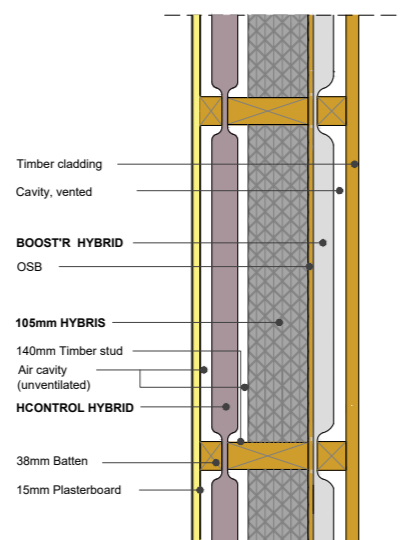
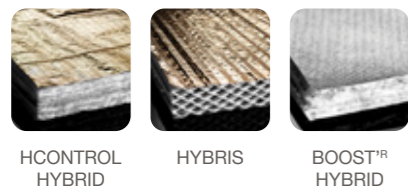
HYBRIS is fitted between studs, faced internally with **HCONTROL HYBRID**, the vapour control layer and externally with OSB and **BOOST[®] HYBRID**, the breather membrane, then a batten cavity before the external cladding.

min. stud size (mm)	Products used	U-value (W/m ² K)	Reference
External Timber Frame with timber cladding			
175 x 47	HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	0.13	PF230
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + BOOST [®] HYBRID	0.14	PF229
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.16	PF228
140 x 38	125mm HYBRIS + BOOST [®] HYBRID + REFLECTIVE VAPOUR CONTROL LAYER	0.17	PF227
140 x 38	HCONTROL HYBRID + 105mm HYBRIS	0.18	PF226
114 x 38	HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.18	PF225
140 x 38	125mm HYBRIS + BOOST [®] HYBRID	0.19	PF224
140 x 38	125mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	0.20	PF223
125 x 47	105mm HYBRIS + BOOST [®] HYBRID	0.20	PF221
140 x 38	105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	0.21	PF222
140 x 38	125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.23	PF220
89 x 38	HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	0.26	PF219
External Timber Frame with timber cladding (example Dormer Cheek)			
175 x 47	HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID	0.13	PF236
125 x 47	HCONTROL HYBRID + 90mm HYBRIS + BOOST [®] HYBRID	0.15	PF240
150 x 47	HCONTROL HYBRID + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.15	PF241
100 x 47	HCONTROL HYBRID + 50mm HYBRIS + BOOST [®] HYBRID ROOF	0.17	PF362
125 x 47	HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.17	PF238
125 x 47	HCONTROL HYBRID + 90mm HYBRIS	0.18	PF237
100 x 47	HCONTROL HYBRID + 75mm Hybris + REFLECTIVE BREATHER MEMBRANE	0.19	PF235
125 x 47	105mm HYBRIS + BOOST [®] HYBRID ROOF	0.21	PF234
100 x 47	90mm HYBRIS + BOOST [®] HYBRID ROOF	0.23	PF233
125 x 47	105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.24	PF232
100 x 47	HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	0.26	PF231

HYBRID SYSTEM SOLUTION

PF229: HCONTROL HYBRID + 105mm HYBRIS + BOOST[®] HYBRID

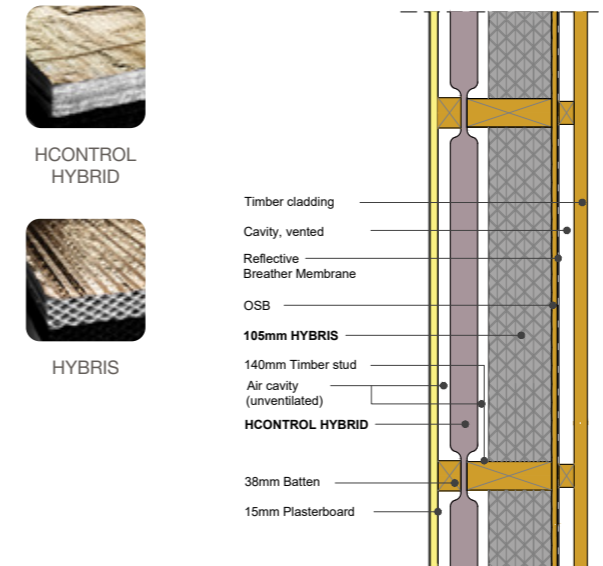
U-VALUE REACHED: 0.14 W/m²K



OTHER HYBRID CONFIGURATIONS

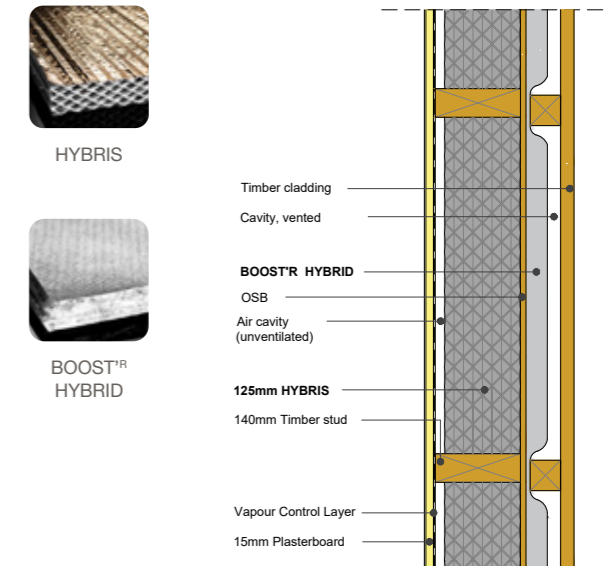
PF228: HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.16 W/m²K



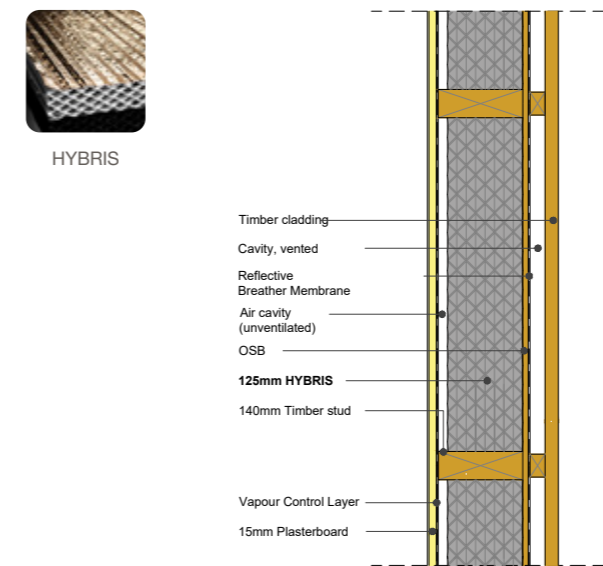
PF224: 125mm HYBRIS + BOOST[®] HYBRID

U-VALUE REACHED: 0.19 W/m²K



PF220: 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.23 W/m²K



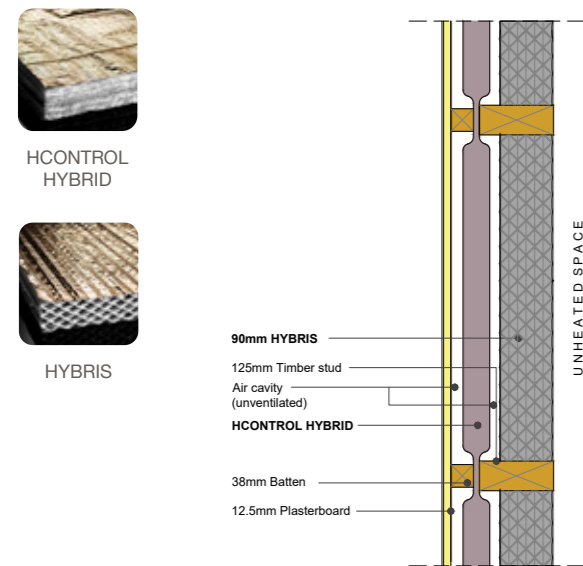
ASHLAR WALL

HYBRIS is fitted between studs and/or **HCONTROL HYBRID** onto the internal face of the studs, before standard plasterboard.

min. stud size (mm)	Products used	U-value (W/m ² K)	Reference
200 x 47	HCONTROL HYBRID + 170mm HYBRIS	0.14	PF248
175 x 47	HCONTROL HYBRID + 140mm HYBRIS	0.15	PF247
125 x 47	HCONTROL HYBRID + 90mm HYBRIS	0.18	PF246
225 x 47	185mm HYBRIS	0.18	PF298

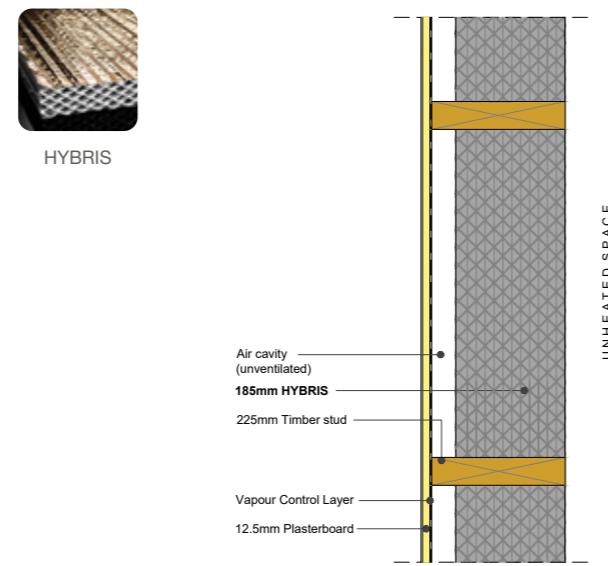
PF246: HCONTROL HYBRID + 90mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



PF298: 185mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



SOLID WALL WITH INTERNAL INSULATION

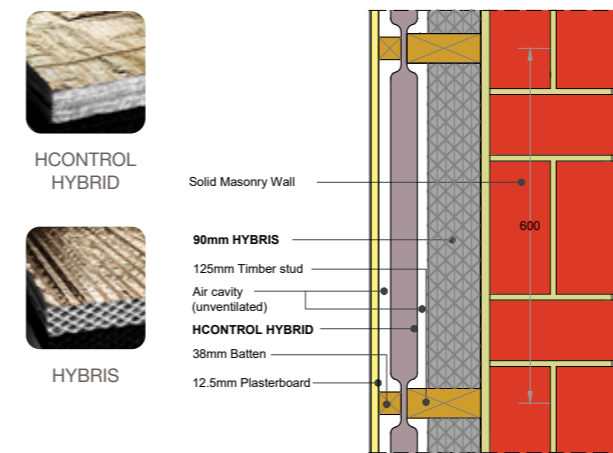
HCONTROL HYBRID and/or **HYBRIS** is installed on the internal side of a solid wall. Internal finish is standard plasterboard.

The existing solid masonry wall must be non-absorbent, in good condition, have a low moisture content and low driving rain load on the outside. If the existing wall does not meet these requirements, these solutions are not feasible. Please contact Actis Technical Department for further information and solutions for absorbent masonry walls.

min. stud size (mm)	Products used	U-value (W/m ² K)	Reference
Solid Wall			
Internal insulation			
175 x 47	HCONTROL HYBRID + 140mm HYBRIS	0.15	PF252
125 x 47	HCONTROL HYBRID + 90mm HYBRIS	0.19	PF251
125 x 47	105mm HYBRIS	0.28	PF250
38 x 38	HCONTROL HYBRID + 22mm (EPS) INSULATED PLASTERBOARD (2 X 38mm BATTENS)	0.28	PF249
Cavity Wall (uninsulated cavity)			
Internal Insulation			
175 x 47	HCONTROL HYBRID + 125mm HYBRIS	0.16	PF256
125 x 47	HCONTROL HYBRID + 90mm HYBRIS	0.19	PF255
114 x 38	90mm HYBRIS	0.29	PF254
38 x 38	HCONTROL HYBRID (2 X 38mm BATTENS)	0.30	PF253

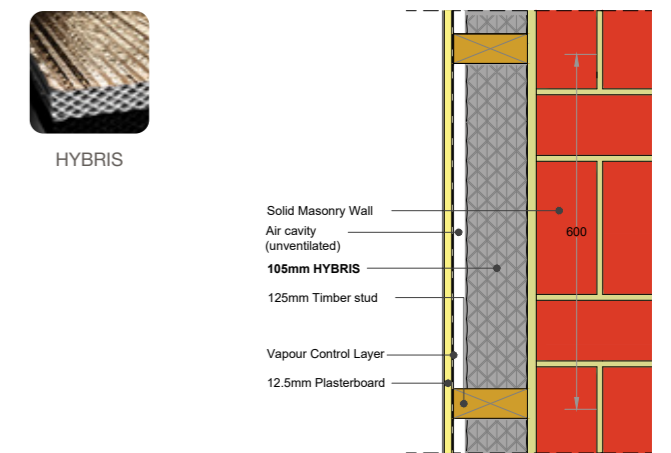
PF251: HCONTROL HYBRID + 90mm HYBRIS

U-VALUE REACHED: 0.19 W/m²K



PF250: 105mm HYBRIS

U-VALUE REACHED: 0.28 W/m²K



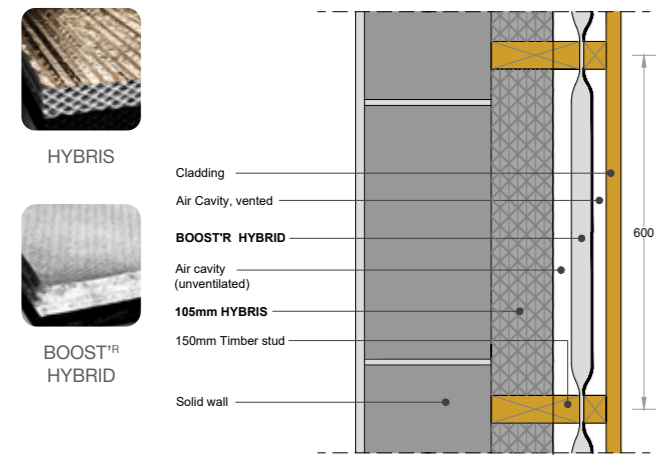
SOLID WALL WITH EXTERNAL INSULATION

BOOST[®] HYBRID and/or **HYBRIS** is installed on the external side of a solid wall, then a batten cavity before the external cladding.

min. stud size (mm)	Products used	U-value (W/m ² K)	Reference
Solid Wall			
External insulation			
175 x 47	125mm HYBRIS + BOOST [®] HYBRID	0.16	PF259
150 x 47	105mm HYBRIS + BOOST [®] HYBRID	0.18	PF258
75 x 47	75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.30	PF363
Cavity Wall (uninsulated cavity)			
External insulation			
175 x 47	140mm HYBRIS + BOOST [®] HYBRID	0.16	PF262
150 x 47	125mm HYBRIS + BOOST [®] HYBRID	0.18	PF261
75 x 47	50mm HYBRIS + REFLECTIVE BREATHER MEMBRANE (ASSOCIATED AIR CAVITY R=0.81m ² K/W)	0.30	PF364

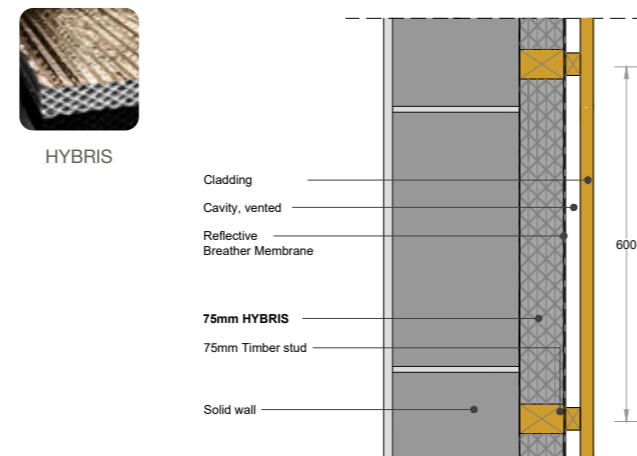
PF258: 105mm HYBRIS + BOOST[®] HYBRID

U-VALUE REACHED: 0.18 W/m²K



PF363: 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.30 W/m²K



COLD FLAT ROOF *

HCONTROL HYBRID, HYBRIS, BOOST[®] HYBRID or **BOOST[®] HYBRID ROOF** can be installed but please note in accordance with BS5250:2020 cold insulated flat roofs with a span greater than 5 metres should no longer be accepted and must be a warm or inverted roof design instead. However, the construction may still be vulnerable to condensation, for example BS6229 and Scottish Building Regulations do not recommend cold flat roofs.

Joist sizes	Products used	U-value (W/m ² K)	Reference
275 x 47	HCONTROL HYBRID + 195mm HYBRIS + BOOST [®] HYBRID ROOF	0.11	PF267
225 x 47	HCONTROL HYBRID + 140mm HYBRIS + BOOST [®] HYBRID ROOF	0.13	PF265
250 x 47	HCONTROL HYBRID + 185mm HYBRIS	0.15	PF365
175 x 47	HCONTROL HYBRID + 155mm HYBRIS	0.16	PF264
225 x 47	170mm HYBRIS + BOOST [®] HYBRID ROOF	0.16	PF263

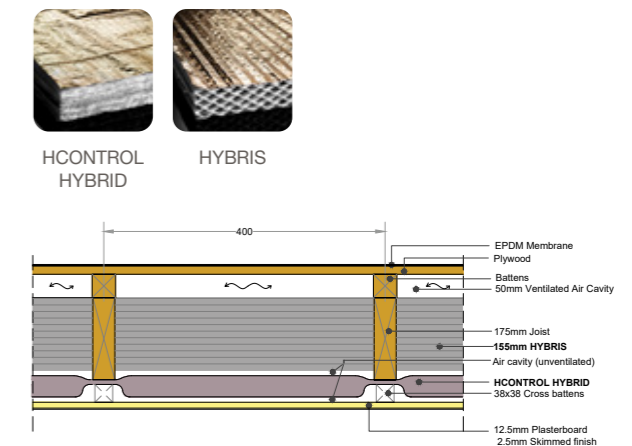
HYBRID SYSTEM SOLUTION

PF265: HCONTROL HYBRID + 140mm HYBRIS + BOOST[®] HYBRID ROOF

U-VALUE REACHED: 0.13 W/m²K

PF264: HCONTROL HYBRID + 155mm HYBRIS

U-VALUE REACHED: 0.16 W/m²K

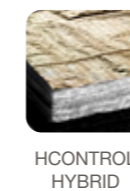


WARM FLAT ROOFS *

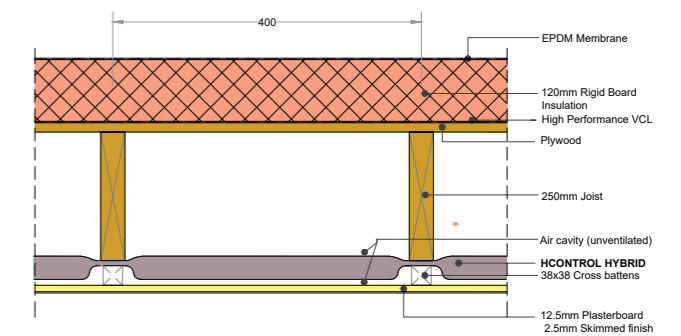
HCONTROL HYBRID can be installed to reduce the thickness of rigid board insulation, but only if specific circumstances apply, please contact ACTIS for further details.

PF269: HControl Hybrid + 120mm PIR (λ=0.025 W/mK)

U-VALUE REACHED: 0.13 W/m²K



Joist sizes	Products used	U-value (W/m ² K)	Reference
250 x 47	HCONTROL HYBRID + 150mm PIR	0.11	PF270
250 x 47	HCONTROL HYBRID + 120mm PIR	0.13	PF269
250 x 47	HCONTROL HYBRID + 90mm PIR	0.16	PF268



*Note: Please use in conjunction with Actis 'Flat Roof Guidelines'

WARM PITCHED ROOF WITH INSULATION AT SLOPING CEILING

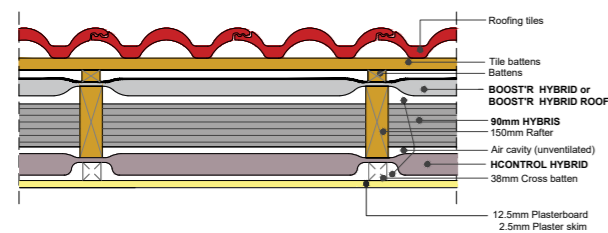
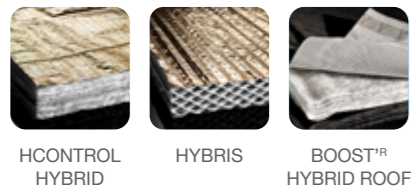
BOOST^{TR} HYBRID or **BOOST^{TR} HYBRID ROOF** is used as a breather membrane, **HYBRIS** is fitted between rafters and **HCONTROL HYBRID** is the vapour control layer, installed under rafter. Internal finish is standard plasterboard.

Rafter sizes	Timber centres (mm)	Products used	U-value (W/m ² K)	Reference
300 x 47	600	HCONTROL HYBRID + 2x125mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.09	PF299
250 x 47		HCONTROL HYBRID + 185mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.11	PF273
200 x 47		HCONTROL HYBRID + 125mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.13	PF272
225 x 47		HCONTROL HYBRID + 170mm HYBRIS	0.13	PF276
250 x 47		185mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.14	PF297
150 x 47		HCONTROL HYBRID + 90mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.15	PF200
175 x 47		HCONTROL HYBRID + 140mm HYBRIS	0.15	PF275
225 x 47		170mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.15	PF278
150 x 47		HCONTROL HYBRID + 75mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.16	PF271
175 x 47		HCONTROL HYBRID + 125mm HYBRIS	0.16	PF274
200 x 47	400	155mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.16	PF277
150 x 47		HCONTROL HYBRID + 90mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.16	PF281
175 x 47		HCONTROL HYBRID + 140mm HYBRIS	0.16	PF282
225 x 47		170mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.16	PF283
100 x 47		50mm HYBRIS + BOOST ^{TR} HYBRID ROOF	0.30	PF284

HYBRID SYSTEM SOLUTION

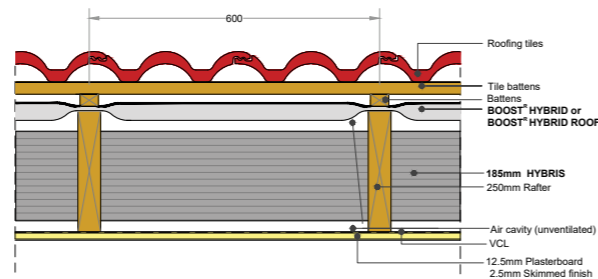
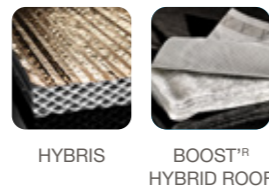
PF200: HCONTROL HYBRID + 90mm HYBRIS + BOOST^{TR} HYBRID ROOF

U-VALUE REACHED: 0.15 W/m²K



PF297: 185mm HYBRIS + BOOST^{TR} HYBRID ROOF

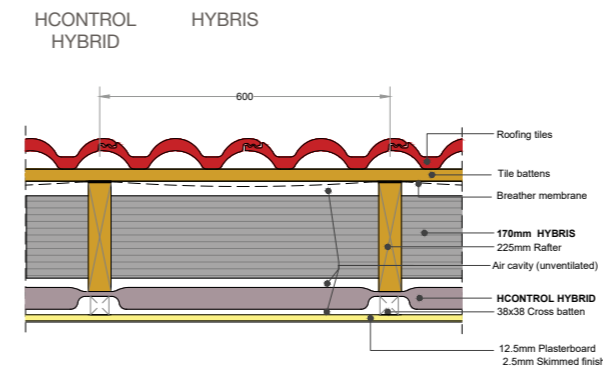
U-VALUE REACHED: 0.14 W/m²K



OTHER HYBRID CONFIGURATIONS

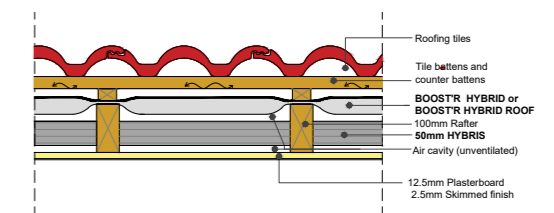
PF276: HCONTROL HYBRID + 170mm HYBRIS

U-VALUE REACHED: 0.13 W/m²K



PF284: HCONTROL HYBRID + 50mm HYBRIS

U-VALUE REACHED: 0.30 W/m²K



SUSPENDED TIMBER FLOOR

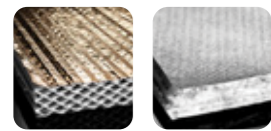
The floor construction is suspended above a ventilated void above ground. The underfloor space is enclosed around the perimeter with appropriate ventilation openings and a damp proof course (DPC) installed. **HYBRIS** is fitted between joists and can be faced externally with **BOOST^{TR} HYBRID**, the breather membrane.

Products used	Timber dimensions (mm)	Timber centres (mm)	U-values calculated from perimeter/area ratio						Reference
			0.2	0.3	0.4	0.5	0.6	0.7	
185mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38	400	0.11	0.11	0.12	0.12	0.12	0.12	PF367
155mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38		0.12	0.12	0.13	0.13	0.13	0.13	PF290
170mm HYBRIS	250 x 38		0.13	0.14	0.14	0.15	0.15	0.15	PF289
105mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38		0.13	0.14	0.15	0.15	0.15	0.16	PF288
125mm HYBRIS	200 x 38		0.16	0.17	0.18	0.18	0.19	0.19	PF287
BOOST ^{TR} HYBRID	125 x 47		0.19	0.21	0.23	0.23	0.24	0.24	PF285
90mm HYBRIS	125 x 47		0.20	0.22	0.23	0.24	0.24	0.25	PF286

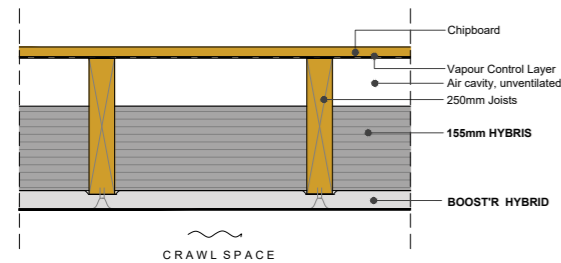
The following examples are based on perimeter/area ratio being 0.5:

PF290: 155mm HYBRIS + BOOST^{TR} HYBRID

U-VALUE REACHED: 0.13 W/m²K



HYBRIS BOOST^{TR} HYBRID

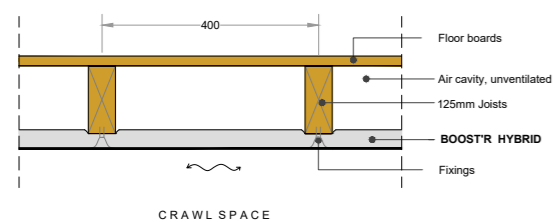


PF285: BOOST^{TR} HYBRID

U-VALUE REACHED: 0.23 W/m²K



BOOST^{TR} HYBRID

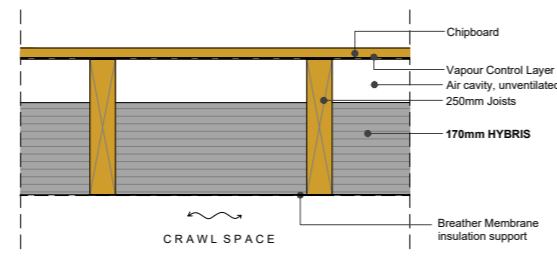


PF289: 170mm HYBRIS

U-VALUE REACHED: 0.15 W/m²K



HYBRIS

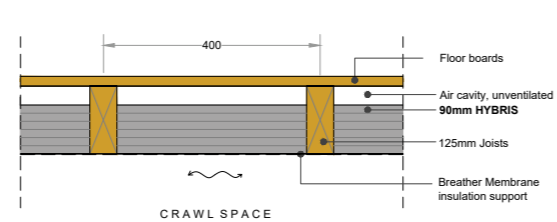


PF286: 90mm HYBRIS

U-VALUE REACHED: 0.24 W/m²K



HYBRIS



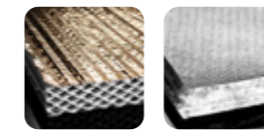
EXPOSED TIMBER FLOOR

HYBRIS is fitted between joists and can be faced externally with **BOOST^{TR} HYBRID**, the breather membrane.

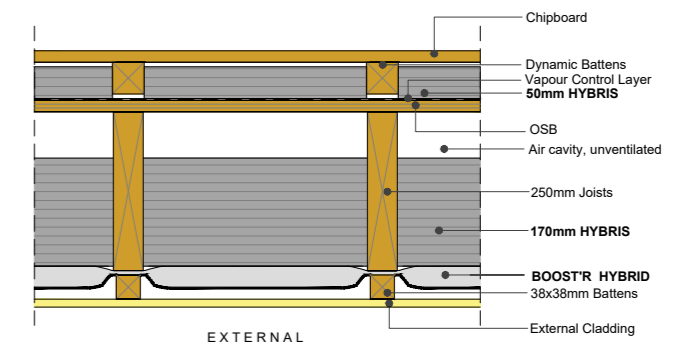
Products used	Timber dimensions (mm)	Timber centres (mm)	U-value (W/m ² K)	Reference
50mm HYBRIS + 170mm HYBRIS + BOOST ^{TR} HYBRID	250 x 38	400	0.11	PF295
50mm HYBRIS + 125mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38		0.13	PF296
140mm HYBRIS + BOOST ^{TR} HYBRID	200 x 38		0.15	PF293
185mm HYBRIS	250 x 38		0.16	PF368
155mm HYBRIS	250 x 38		0.18	PF292

PF295: 50mm HYBRIS + 170mm HYBRIS + BOOST^{TR} HYBRID

U-VALUE REACHED: 0.11 W/m²K



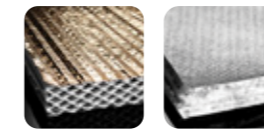
HYBRIS BOOST^{TR} HYBRID



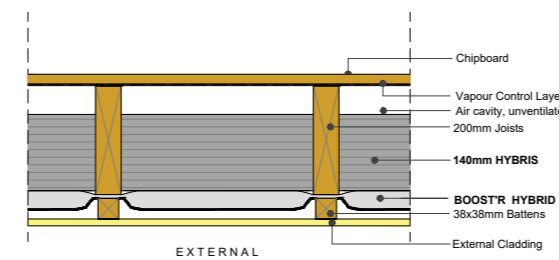
OTHER HYBRID CONFIGURATIONS

PF293: 140mm HYBRIS + BOOST^{TR} HYBRID

U-VALUE REACHED: 0.15 W/m²K



HYBRIS BOOST^{TR} HYBRID

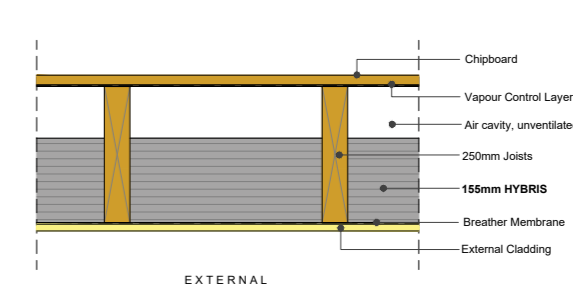


PF292: 155mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



HYBRIS



Schemes	Legislation Act	U-Value W/m ² K				
		Wall		Roof	Floor	
		External	Cavity			
England (from 15th June 2022)						
New Build	Notional	BRegs Part L		0.18	0.11	0.13
	Limiting			0.26	0.16	0.18
Existing	New & replaced, incl. extensions			0.18	0.15	0.18
	Renovation & upgrading retained elements	0.30	0.55	0.16	0.25	
	Retained threshold			0.70	0.35	0.70
Wales (from 23rd November 2022)						
New Build	Notional	BRegs Part L		0.13	0.11	0.11
	Limiting			Houses: 0.18 Flats: 0.21	0.13	0.15
Existing	New & replaced, incl. extensions			Houses: 0.18 Flats: 0.21	0.13	0.15
	Conversion, renovation, change of use	0.30	0.55	0.16	0.25	
	Retained threshold			0.70	0.35	0.70
Scotland (pre 1st February 2023)						
New Build	Notional	Section 6		0.15	0.09	0.12
	Limiting			0.17	0.12	0.15
Existing	Extensions, conversions, alterations	Same as limiting U-values for new build				
	Individual elements (localised areas)	0.70		0.35	0.70	

BUILDING REGULATIONS

Building Regulations require thermal elements within a building envelope to meet certain U-values. The target U-value depends on type of element, use of building and whether it is a new or an existing construction.

England, Wales and Scotland are now each responsible for their own Building Regulations and target U-values can therefore differ throughout the UK. The above table gives a summary of requirements for domestic buildings at time of printing (June 2022). If required this information can be confirmed with your local Building Control.

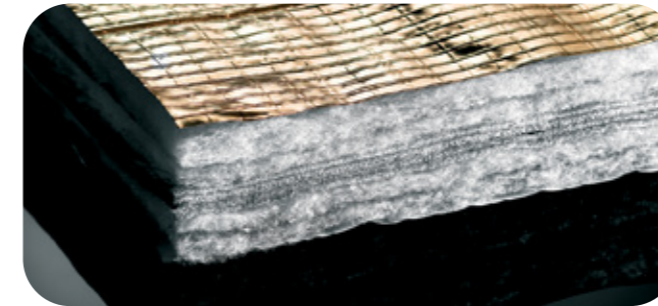
FIRE SAFETY

Fire safety precautions and limitations of use apply to ACTIS products. Please refer to product installation guidelines, fire safety information document and Building Regulation and industry guidance.

GOOD PRACTICE GUIDANCE

The solutions provided may require an independent vapour control layer or breather membrane product to reduce the risk of interstitial condensation. Where a vapour control layer is required, a product with a vapour resistance $Z > 500 \text{ MNs/g}$ should be used. Both vapour control layer and breather membrane need to be continuous and all joints sealed with adequate tape, to avoid air infiltration. To allow moist air to disperse into the atmosphere, the void between breather membrane and outer covering needs adequate ventilation. Please also refer to the installation guidelines.

HControl Hybrid

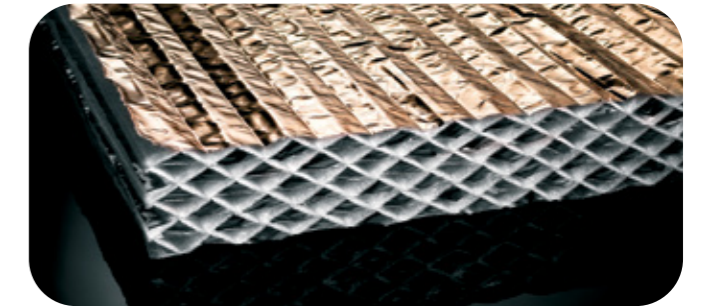


HCONTROL HYBRID is a thin multifoil insulation product with a built-in vapour control function and an unrivalled thermal performance.

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.



Hybris



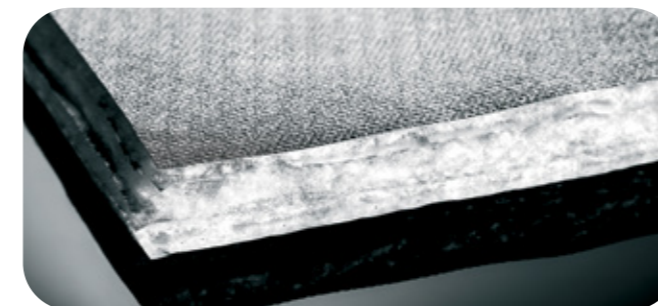
HYBRIS is an innovative and unique insulation product providing an excellent thermal performance.

The only reflective insulation in Europe to achieve Bronze Cradle to Cradle certification for its sustainability credentials.

HYBRIS is a reflective insulation product designed with a unique honeycomb structure made of shaped polyethylene foams glued to aluminium coated polyethylene foils.



Boost[®] Hybrid

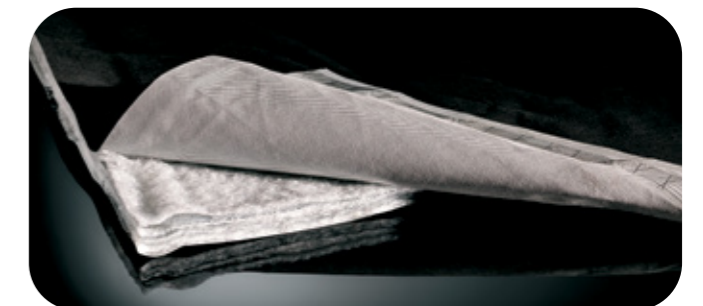


BOOST[®] HYBRID is a thin multifoil insulation product with a built-in breather membrane function and an exceptional thermal performance.

BOOST[®] HYBRID provides dual properties within a single product: A breathable membrane 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.



Boost[®] Hybrid Roof



BOOST[®] HYBRID ROOF is a multifoil insulation product with a built-in breather membrane function and an exceptional thermal performance.

BOOST[®] HYBRID ROOF is a variant of BOOST[®] HYBRID providing all the same features and benefits, but has been specifically designed for use on roofs. The water vapour permeable roofing underlay also acts as a wind barrier and has been created with a built in self-adhesive lap, facilitating the sealing of joints between adjacent sheets.



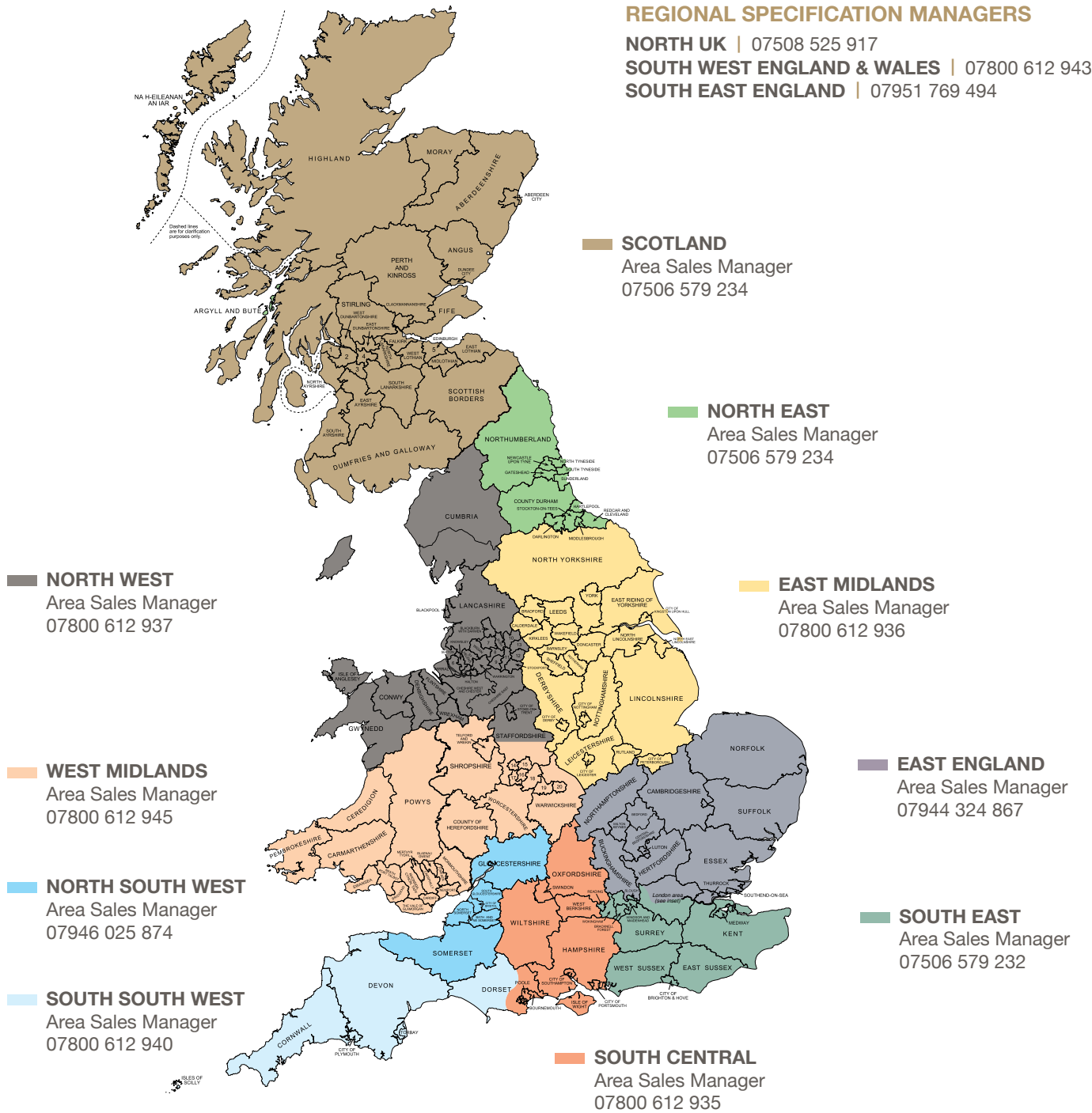
YOUR CONTACTS FOR MORE INFORMATION

REGIONAL SPECIFICATION MANAGERS

NORTH UK | 07508 525 917

SOUTH WEST ENGLAND & WALES | 07800 612 943

SOUTH EAST ENGLAND | 07951 769 494



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