

# ACTIS HYBRID SOLUTIONS AND SYSTEMS

FOR ROOF, WALL, CEILING & FLOOR APPLICATIONS



**ACTIS**

TOMORROW'S INSULATION TODAY



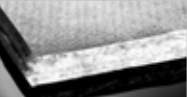
# WALL SOLUTIONS

	Timber dimensions (mm)	Timber centres (mm)	Other insulation
<b>TIMBER FRAME WALL</b>			
External Timber Frame with Brick Cladding			
HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	175 x 47	15% timber bridging (as standard)	✓
HCONTROL HYBRID + 100 PIR + BOOST <sup>®</sup> HYBRID	140 x 38		
HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID	140 x 38		
BOOST <sup>®</sup> HYBRID + 105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER*	140 x 38		
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE*	140 x 38		
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
BOOST <sup>®</sup> HYBRID + 105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER	140 x 38		
HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
HCONTROL HYBRID + 105mm HYBRIS	140 x 38		
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	114 x 38		
BOOST <sup>®</sup> HYBRID + 125mm HYBRIS	140 x 38		
REFLECTIVE VAPOUR CONTROL LAYER + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
HCONTROL HYBRID + 50mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	89 x 38		
REFLECTIVE VAPOUR CONTROL LAYER + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
BOOST <sup>®</sup> HYBRID + 90mm HYBRIS	114 x 38		
125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	72 x 47		
125mm HYBRIS	140 x 38		
External Timber Frame with Timber Cladding			
HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	175 x 47	15% timber bridging (as standard)	
HCONTROL HYBRID + 105mm HYBRIS + BOOST <sup>®</sup> HYBRID	140 x 38		
HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
125mm HYBRIS + BOOST <sup>®</sup> HYBRID + REFLECTIVE VAPOUR CONTROL LAYER	140 x 38		
HCONTROL HYBRID + 105mm HYBRIS	140 x 38		
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	114 x 38		
125mm HYBRIS + BOOST <sup>®</sup> HYBRID	140 x 38		
125mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	140 x 38		
105mm HYBRIS + BOOST <sup>®</sup> HYBRID	125 x 47		
105mm HYBRIS + REFLECTIVE VAPOUR CONTROL LAYER + REFLECTIVE BREATHER MEMBRANE	140 x 38		
125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	140 x 38		
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	89 x 38		
External Timber Frame with Timber Cladding (example Dormer Cheek)			
HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	175 x 47	11% timber bridging (as standard)	
HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID	125 x 47		
HCONTROL HYBRID + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	150 x 47		
HCONTROL HYBRID + 60mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	100 x 47		
HCONTROL HYBRID + 90mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	125 x 47		
HCONTROL HYBRID + 90mm HYBRIS	125 x 47		
HCONTROL HYBRID + 75mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	100 x 47		
105mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	125 x 47		
90mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	100 x 47		
105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	125 x 47		
HCONTROL HYBRID + REFLECTIVE BREATHER MEMBRANE	100 x 47		
Ashlar Wall			
HCONTROL HYBRID + 170mm HYBRIS	200 x 47	600	
HCONTROL HYBRID + 140mm HYBRIS	175 x 47		
HCONTROL HYBRID + 90mm HYBRIS	125 x 47		
185mm HYBRIS	225 x 47		

\* Lightweight block finish

Other solutions are available, please contact Actis at [solutions@insulation-actis.com](mailto:solutions@insulation-actis.com) or 01249 462 888.



						
Reflective vapour control layer	Reflective breather membrane	HControl Hybrid	Hybris	Boost <sup>TR</sup> Hybrid	Calculated U-values W/m <sup>2</sup> K	Reference
		✓	✓	✓	0.13	PF218
		✓	✓	✓	0.13	PF217
		✓	✓	✓	0.14	PF201
✓			✓	✓	0.15	PF216
	✓	✓	✓		0.15	PF215
	✓	✓	✓		0.16	PF214
✓			✓	✓	0.16	PF213
	✓	✓	✓		0.17	PF212
		✓	✓		0.18	PF210
	✓	✓	✓		0.18	PF211
✓	✓		✓	✓	0.18	PF209
	✓	✓	✓		0.19	PF208
✓	✓	✓	✓		0.20	PF207
			✓		0.21	PF206
	✓		✓	✓	0.21	PF205
	✓	✓	✓		0.22	PF204
		✓			0.26	PF203
			✓		0.26	PF202
		✓	✓	✓	0.13	PF230
		✓	✓	✓	0.14	PF229
	✓	✓	✓		0.16	PF228
✓			✓	✓	0.17	PF227
		✓	✓		0.18	PF226
	✓	✓	✓		0.18	PF225
			✓	✓	0.19	PF224
✓	✓		✓		0.20	PF223
✓			✓	✓	0.20	PF221
	✓		✓		0.21	PF222
	✓		✓		0.23	PF220
	✓	✓			0.26	PF219
		✓	✓	✓	0.13	PF236
		✓	✓	✓	0.15	PF240
	✓	✓	✓		0.15	PF241
		✓	✓	✓	0.17	PF239
	✓	✓	✓		0.17	PF238
		✓	✓		0.18	PF237
	✓	✓	✓		0.19	PF235
			✓	✓	0.21	PF234
			✓	✓	0.23	PF233
	✓		✓		0.24	PF232
	✓	✓			0.26	PF231
		✓	✓		0.14	PF248
		✓	✓		0.15	PF247
		✓	✓		0.18	PF246
			✓		0.18	PF298

\* 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<sup>TR</sup> Hybrid** or a **reflective breather membrane** is used. Please use in conjunction with ACTIS current installation guidelines.

# WALL, ROOF & FLOOR SOLUTIONS

	Timber dimensions (mm)	Timber centres (mm)	Other insulation
<b>MASONRY WALL</b>			
Solid Wall (Internal insulation)			
HCONTROL HYBRID + 140mm HYBRIS	140 x 38	600	
HCONTROL HYBRID + 90mm HYBRIS	125 x 47		
105mm HYBRIS	125 x 47		
HCONTROL HYBRID + 22mm (EPS) INSULATED PLASTERBOARD (2 X 38mm BATTENS)	38 x 38		✓
Cavity Wall (Internal uninsulated cavity)			
HCONTROL HYBRID + 125mm HYBRIS	175 x 47	600	
HCONTROL HYBRID + 90mm HYBRIS	125 x 47		
90mm HYBRIS	114 x 38		
HCONTROL HYBRID (2 x 38mm BATTENS)	38 x 38		
Solid Wall (External insulation)			
125mm HYBRIS + BOOST <sup>®</sup> HYBRID	175 x 47	600	
105mm HYBRIS + BOOST <sup>®</sup> HYBRID	150 x 47		
60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	75 x 47		
Cavity Wall (External uninsulated cavity)			
140mm HYBRIS + BOOST <sup>®</sup> HYBRID	175 x 47	600	
125mm HYBRIS + BOOST <sup>®</sup> HYBRID	150 x 47		
60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	75 x 47		

	Timber dimensions (mm)	Timber centres (mm)
<b>FLAT ROOF</b>		
Cold Flat Roof		
HCONTROL HYBRID + 195mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	275 x 47	400
HCONTROL HYBRID + 205mm HYBRIS	250 x 47	
HCONTROL HYBRID + 140mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	225 x 47	
HCONTROL HYBRID + 155mm HYBRIS	175 x 47	
170mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	225 x 47	
Warm Flat Roof		
HCONTROL HYBRID + 150mm PIR ( $\lambda=0.025W/mK$ )	250 x 47	400
HCONTROL HYBRID + 120mm PIR ( $\lambda=0.025W/mK$ )	250 x 47	
HCONTROL HYBRID + 90mm PIR ( $\lambda=0.025W/mK$ )	250 x 47	
<b>PITCHED ROOF</b>		
Warm Pitched Roof (with insulation at sloping ceiling)		
HCONTROL HYBRID + 185mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	250 x 47	600
HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	200 x 47	
HCONTROL HYBRID + 170mm HYBRIS	225 x 47	
185mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	250 x 47	
HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	150 x 47	
HCONTROL HYBRID + 140mm HYBRIS	175 x 47	
170mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	225 x 47	
HCONTROL HYBRID + 75mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	150 x 47	
HCONTROL HYBRID + 125mm HYBRIS	175 x 47	
155mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	200 x 47	
205mm HYBRIS	275 x 47	400
HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	150 x 47	
HCONTROL HYBRID + 140mm HYBRIS	175 x 47	
170mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	225 x 47	
50mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	100 x 47	
<b>FLOORS</b>		
Suspended Timber Floor		
205mm HYBRIS + BOOST <sup>®</sup> HYBRID	300 x 38	400
155mm HYBRIS + BOOST <sup>®</sup> HYBRID	250 x 38	
170mm HYBRIS	250 x 38	
105mm HYBRIS + BOOST <sup>®</sup> HYBRID	200 x 38	
125mm HYBRIS	200 x 38	
BOOST <sup>®</sup> HYBRID	125 x 47	
90mm HYBRIS	125 x 47	
Exposed Floor		
50mm HYBRIS + 170mm HYBRIS + BOOST <sup>®</sup> HYBRID	250 x 38	400
50mm HYBRIS + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	200 x 38	
140mm HYBRIS + BOOST <sup>®</sup> HYBRID	200 x 38	
205mm HYBRIS	300 x 38	
155mm HYBRIS	250 x 38	

						
Reflective vapour control layer	Reflective breather membrane	HControl Hybrid	Hybris	Boost <sup>®</sup> Hybrid	Calculated U-values W/m <sup>2</sup> K	Reference
		✓	✓		0.15	PF252
		✓	✓		0.19	PF251
			✓		0.28	PF250
		✓			0.28	PF249
		✓	✓		0.16	PF256
		✓	✓		0.19	PF255
			✓		0.29	PF254
		✓			0.30	PF253
			✓	✓	0.16	PF259
	✓		✓	✓	0.18	PF258
			✓		0.30	PF257
			✓	✓	0.16	PF262
			✓	✓	0.18	PF261
	✓		✓		0.30	PF260

						
Other insulation	HControl Hybrid	Hybris	Boost <sup>®</sup> Hybrid	Boost <sup>®</sup> Hybrid Roof	Calculated U-values W/m <sup>2</sup> K	Reference
	✓	✓		✓	0.11	PF267
	✓	✓			0.13	PF266
	✓	✓		✓	0.13	PF265
	✓	✓			0.16	PF264
		✓		✓	0.16	PF263
✓	✓				0.11	PF270
✓	✓				0.13	PF269
✓	✓				0.16	PF268
	✓	✓		✓	0.11	PF273
	✓	✓		✓	0.13	PF272
	✓	✓			0.13	PF276
	✓	✓		✓	0.14	PF297
	✓	✓		✓	0.15	PF200
	✓	✓			0.15	PF275
	✓	✓		✓	0.15	PF278
	✓	✓		✓	0.16	PF271
	✓	✓			0.16	PF274
	✓	✓		✓	0.16	PF277
		✓			0.16	PF280
	✓	✓		✓	0.16	PF281
		✓			0.16	PF282
		✓		✓	0.16	PF283
		✓		✓	0.30	PF284
		✓	✓		0.11	PF291
		✓	✓		0.13	PF290
		✓			0.15	PF289
		✓	✓		0.15	PF288
		✓			0.18	PF287
			✓		0.23	PF285
		✓			0.24	PF286
		✓	✓		0.11	PF295
		✓	✓		0.13	PF296
		✓	✓		0.15	PF293
		✓			0.15	PF294
		✓			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<sup>®</sup> 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 <sup>2</sup> K)	Reference
175 x 47	HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.13	PF218
140 x 38	HCONTROL HYBRID + 100 PIR + BOOST <sup>®</sup> HYBRID	0.13	PF217
140 x 38	HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.14	PF201
140 x 38	BOOST <sup>®</sup> 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 <sup>®</sup> HYBRID + 105mm 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 <sup>®</sup> 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 <sup>®</sup> 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<sup>®</sup> HYBRID**

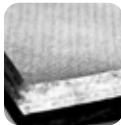
**U-VALUE REACHED: 0.14 W/m<sup>2</sup>K**



HCONTROL HYBRID



HYBRIS



BOOST<sup>®</sup> HYBRID

Brick cladding

50mm Cavity, vented

**BOOST<sup>®</sup> HYBRID**

OSB

**90mm HYBRIS**

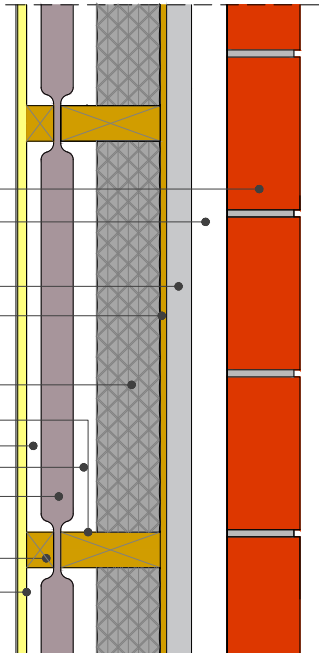
140mm Timber stud

Air cavity (unventilated)

**HCONTROL HYBRID**

38mm Batten

15mm Plasterboard



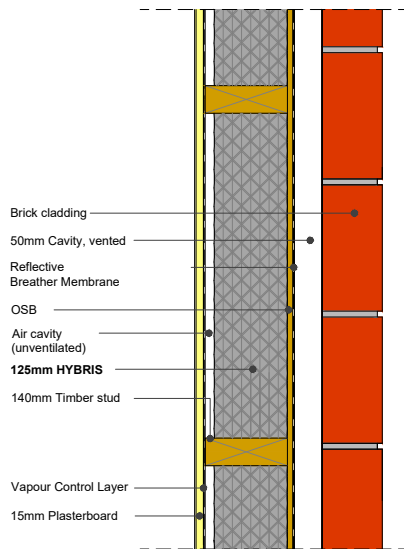
## OTHER HYBRID CONFIGURATIONS

PF204: 125mm HYBRIS  
+ REFLECTIVE BREATHER MEMBRANE

**U-VALUE REACHED: 0.22 W/m<sup>2</sup>K**



HYBRIS



PF214: HCONTROL HYBRID + 105mm HYBRIS  
+ REFLECTIVE BREATHER MEMBRANE

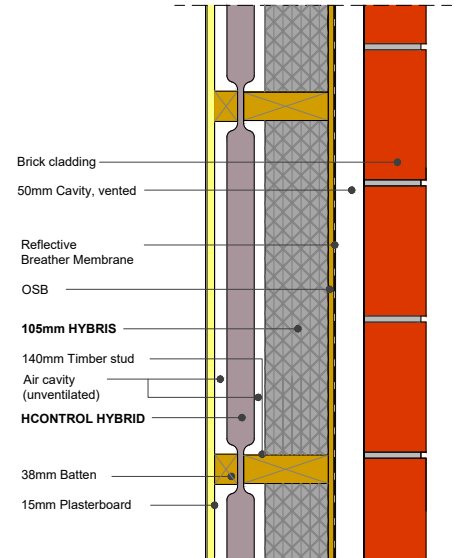
**U-VALUE REACHED: 0.16 W/m<sup>2</sup>K**



HCONTROL HYBRID



HYBRIS



PF209: 125mm HYBRIS + BOOST<sup>R</sup> HYBRID

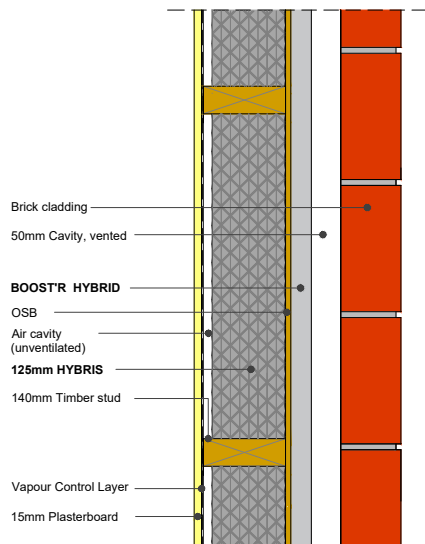
**U-VALUE REACHED: 0.18 W/m<sup>2</sup>K**



HYBRIS



BOOST<sup>R</sup> 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<sup>®</sup> HYBRID**, the breather membrane, then a batten cavity before the external cladding.

min. stud size (mm)	Products used	U-value (W/m <sup>2</sup> K)	Reference
External Timber Frame with timber cladding			
175 x 47	HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.13	PF230
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.14	PF229
140 x 38	HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.16	PF228
140 x 38	125mm HYBRIS + BOOST <sup>®</sup> 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 <sup>®</sup> 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 <sup>®</sup> 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 <sup>®</sup> HYBRID	0.13	PF236
125 x 47	HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.15	PF240
150 x 47	HCONTROL HYBRID + 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.15	PF241
100 x 47	HCONTROL HYBRID + 60mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.17	PF239
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 <sup>®</sup> HYBRID ROOF	0.21	PF234
100 x 47	90mm HYBRIS + BOOST <sup>®</sup> 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<sup>®</sup> HYBRID

**U-VALUE REACHED: 0.14 W/m<sup>2</sup>K**



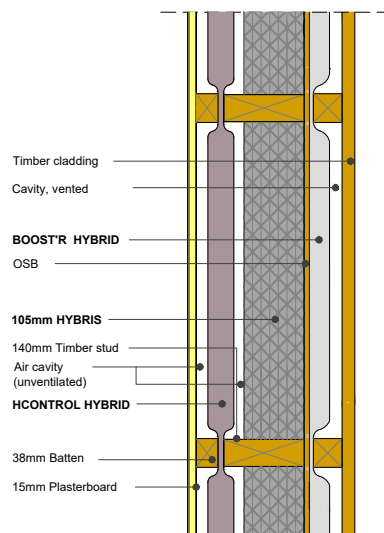
HCONTROL HYBRID



HYBRIS



BOOST<sup>®</sup> HYBRID





## OTHER HYBRID CONFIGURATIONS

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

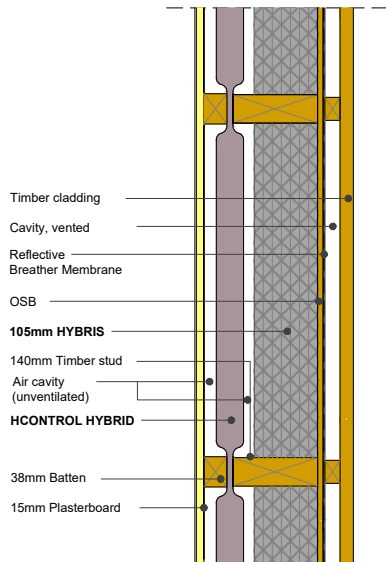
**U-VALUE REACHED: 0.16 W/m<sup>2</sup>K**



HCONTROL HYBRID



HYBRIS



PF224: 125mm HYBRIS + BOOST<sup>TR</sup> HYBRID

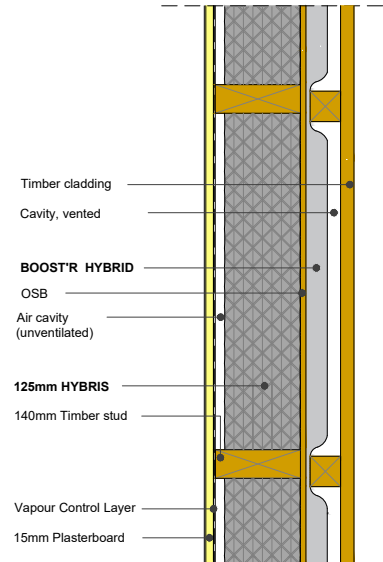
**U-VALUE REACHED: 0.19 W/m<sup>2</sup>K**



HYBRIS



BOOST<sup>TR</sup> HYBRID

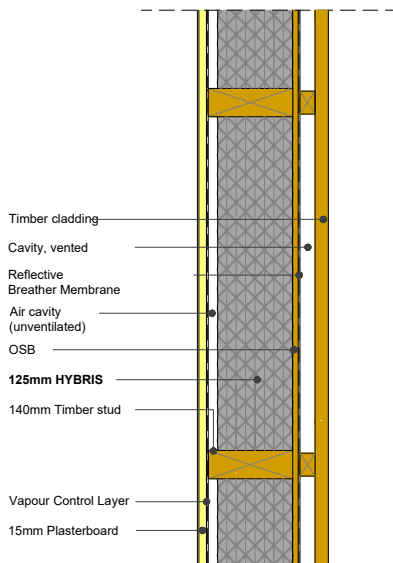


PF220: 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

**U-VALUE REACHED: 0.23 W/m<sup>2</sup>K**



HYBRIS



## 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 <sup>2</sup> 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

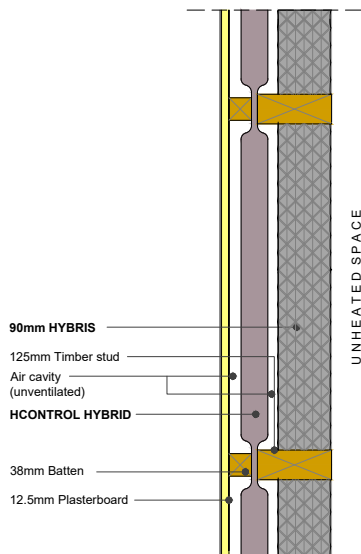
**U-VALUE REACHED: 0.18 W/m<sup>2</sup>K**



HCONTROL HYBRID



HYBRIS

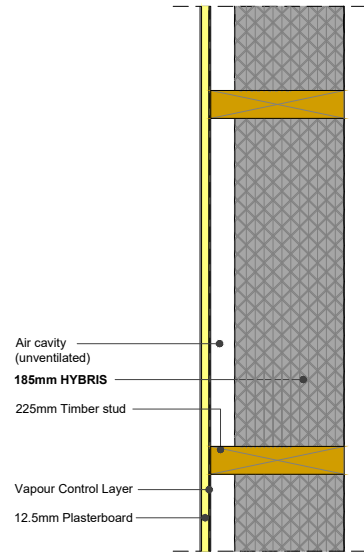


### PF298: 185mm HYBRIS

**U-VALUE REACHED: 0.18 W/m<sup>2</sup>K**



HYBRIS



## SOLID WALL WITH INTERNAL INSULATION

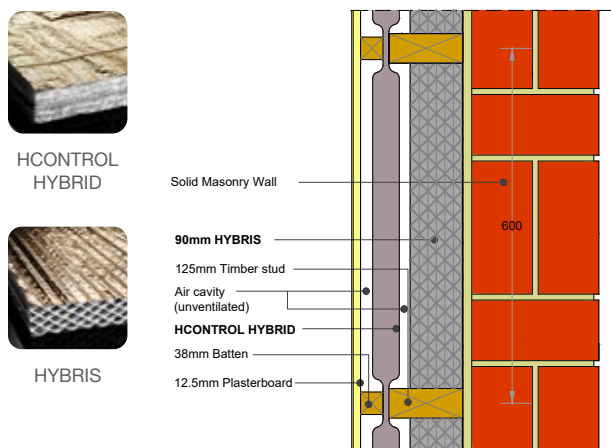
**HCONTROL HYBRID** and/or **HYBRIS** is installed on the internal side of a solid wall. Internal finish is standard plasterboard.

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 <sup>2</sup> K)	Reference
<b>Solid Wall</b>			
Internal insulation			
140 x 38	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
<b>Cavity Wall (uninsulated cavity)</b>			
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

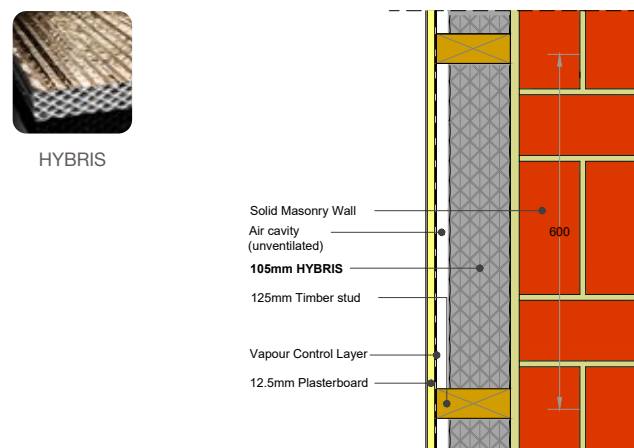
### PF251: HCONTROL HYBRID + 90mm HYBRIS

**U-VALUE REACHED: 0.19 W/m<sup>2</sup>K**



### PF250: 105mm HYBRIS

**U-VALUE REACHED: 0.28 W/m<sup>2</sup>K**



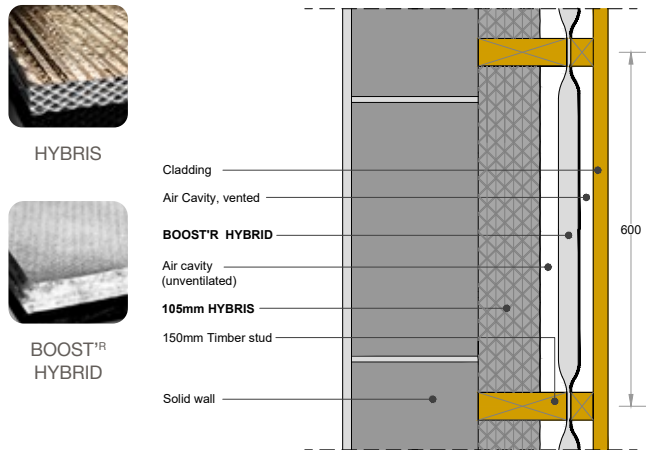
## SOLID WALL WITH EXTERNAL INSULATION

**BOOST<sup>®</sup> 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 <sup>2</sup> K)	Reference
<b>Solid Wall</b>			
External insulation			
175 x 47	125mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.16	PF259
150 x 47	105mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.18	PF258
75 x 47	60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.30	PF257
<b>Cavity Wall (uninsulated cavity)</b>			
External insulation			
175 x 47	140mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.16	PF262
150 x 47	125mm HYBRIS + BOOST <sup>®</sup> HYBRID	0.18	PF261
75 x 47	60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE	0.30	PF260

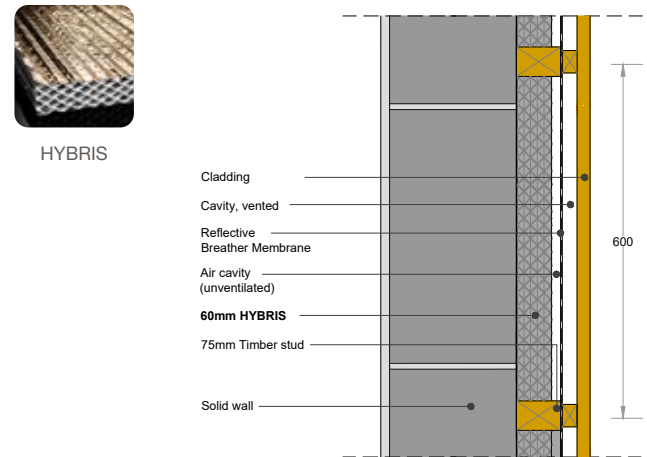
PF258: 105mm HYBRIS + BOOST<sup>®</sup> HYBRID

**U-VALUE REACHED: 0.18 W/m<sup>2</sup>K**



PF257: 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

**U-VALUE REACHED: 0.30 W/m<sup>2</sup>K**



# FLAT ROOF SOLUTIONS

## COLD FLAT ROOF \*

**HCONTROL HYBRID, HYBRIS, BOOST<sup>TR</sup> HYBRID or BOOST<sup>TR</sup> 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.

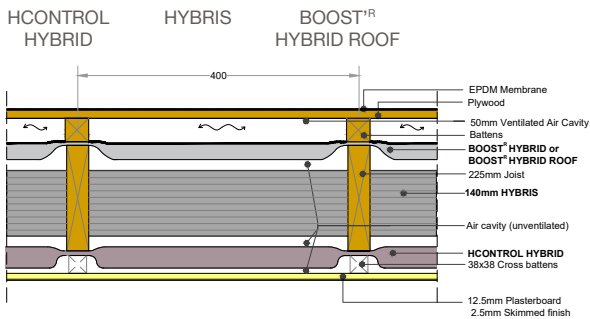
Joist sizes	Products used	U-value (W/m <sup>2</sup> K)	Reference
275 x 47	HCONTROL HYBRID + 195mm HYBRIS + BOOST <sup>TR</sup> HYBRID ROOF	0.11	PF267
250 x 47	HCONTROL HYBRID + 205mm HYBRIS	0.13	PF266
225 x 47	HCONTROL HYBRID + 140mm HYBRIS + BOOST <sup>TR</sup> HYBRID ROOF	0.13	PF265
175 x 47	HCONTROL HYBRID + 155mm HYBRIS	0.16	PF264
225 x 47	170mm HYBRIS + BOOST <sup>TR</sup> HYBRID ROOF	0.16	PF263

### HYBRID SYSTEM SOLUTION

PF265: HCONTROL HYBRID + 140mm HYBRIS + BOOST<sup>TR</sup> HYBRID ROOF



**U-VALUE REACHED: 0.13 W/m<sup>2</sup>K**

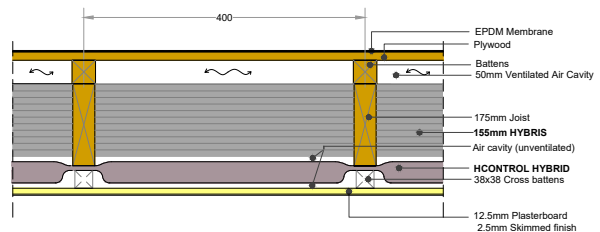


PF264: HCONTROL HYBRID + 155mm HYBRIS

**U-VALUE REACHED: 0.16 W/m<sup>2</sup>K**



HCONTROL HYBRID HYBRIS



## 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.

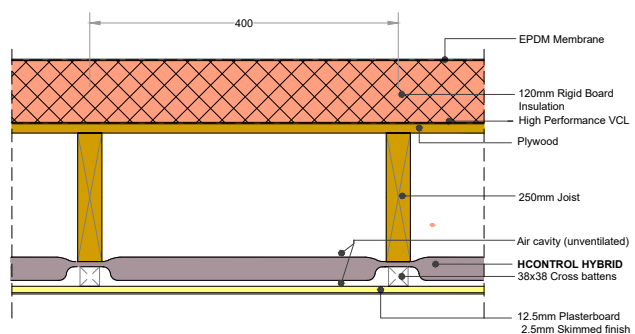
PF269: HControl Hybrid + 120mm PIR ( $\lambda=0.025$  W/mK)

**U-VALUE REACHED: 0.13 W/m<sup>2</sup>K**



HCONTROL HYBRID

Joist sizes	Products used	U-value (W/m <sup>2</sup> 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<sup>®</sup> HYBRID** or **BOOST<sup>®</sup> 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 <sup>2</sup> K)	Reference
250 x 47	600	HCONTROL HYBRID + 185mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.11	PF273
200 x 47		HCONTROL HYBRID + 125mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.13	PF272
225 x 47		HCONTROL HYBRID + 170mm HYBRIS	0.13	PF276
250 x 47		185mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.14	PF297
150 x 47		HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.15	PF200
175 x 47		HCONTROL HYBRID + 140mm HYBRIS	0.15	PF275
225 x 47		170mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.15	PF278
150 x 47		HCONTROL HYBRID + 75mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.16	PF271
175 x 47		HCONTROL HYBRID + 125mm HYBRIS	0.16	PF274
200 x 47		155mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.16	PF277
275 x 47		205mm HYBRIS	0.16	PF280
150 x 47	400	HCONTROL HYBRID + 90mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.16	PF281
175 x 47		HCONTROL HYBRID + 140mm HYBRIS	0.16	PF282
225 x 47		170mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.16	PF283
100 x 47		50mm HYBRIS + BOOST <sup>®</sup> HYBRID ROOF	0.30	PF284

### HYBRID SYSTEM SOLUTION

PF200: HCONTROL HYBRID + 90mm HYBRIS + BOOST<sup>®</sup> HYBRID ROOF

U-VALUE REACHED: 0.15 W/m<sup>2</sup>K



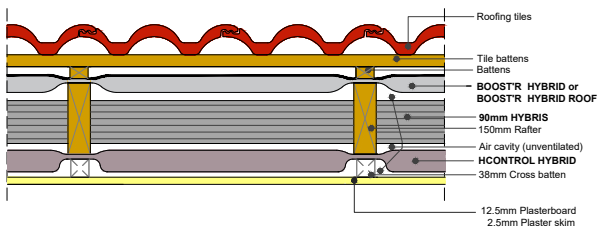
HCONTROL HYBRID



HYBRIS



BOOST<sup>®</sup> HYBRID ROOF



PF297: 185mm HYBRIS + BOOST<sup>®</sup> HYBRID ROOF

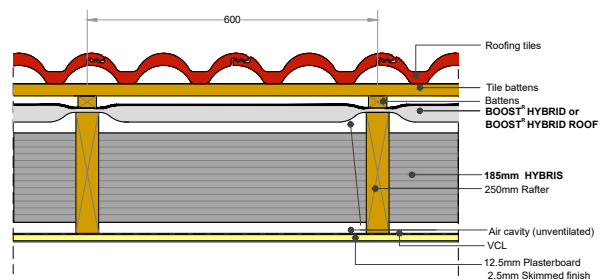
U-VALUE REACHED: 0.14 W/m<sup>2</sup>K



HYBRIS



BOOST<sup>®</sup> HYBRID ROOF



# PITCHED ROOF SOLUTIONS

## OTHER HYBRID CONFIGURATIONS

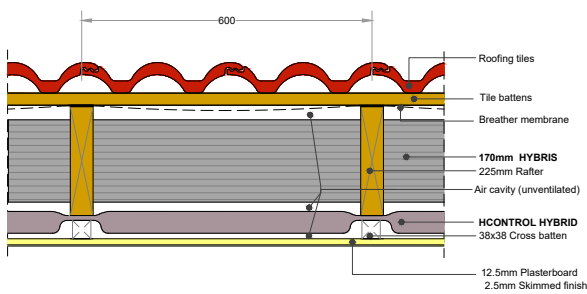
PF276: HCONTROL HYBRID + 170mm HYBRIS

**U-VALUE REACHED: 0.13 W/m<sup>2</sup>K**



HCONTROL HYBRID

HYBRIS

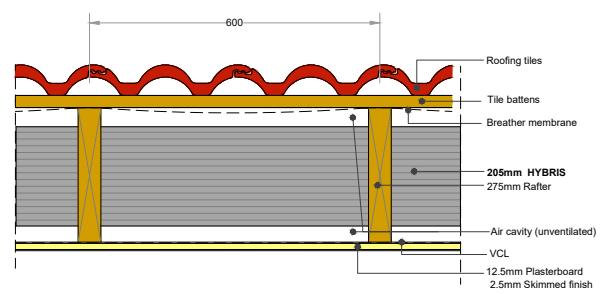


PF280: 205mm HYBRIS

**U-VALUE REACHED: 0.16 W/m<sup>2</sup>K**



HYBRIS



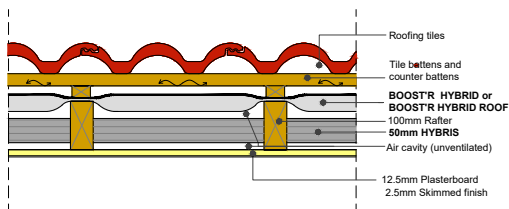
PF284: HCONTROL HYBRID + 50mm HYBRIS

**U-VALUE REACHED: 0.30 W/m<sup>2</sup>K**



HCONTROL HYBRID

HYBRIS



## SUSPENDED TIMBER FLOOR

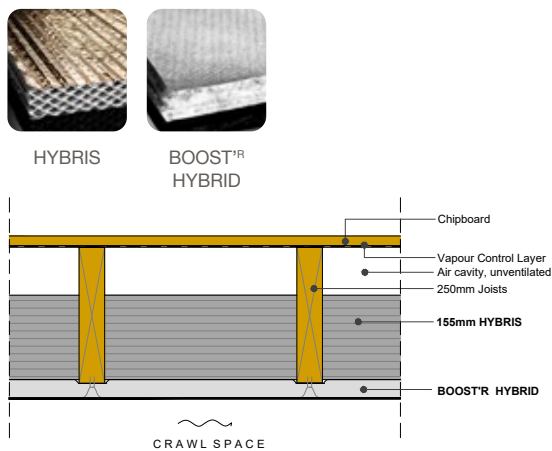
The floor construction is suspended above a ventilated void above ground. The underfloor space is enclosed around the perimeter with appropriate ventilation openings and a damp proof course (DPC) installed. **HYBRIS** is fitted between joists and can be faced externally with **BOOST<sup>®</sup> HYBRID**, 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	
Ratio									
205mm HYBRIS + BOOST <sup>®</sup> HYBRID	300 x 38	400	0.10	0.11	0.11	0.11	0.11	0.11	PF291
155mm HYBRIS + BOOST <sup>®</sup> 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 <sup>®</sup> 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 <sup>®</sup> 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:

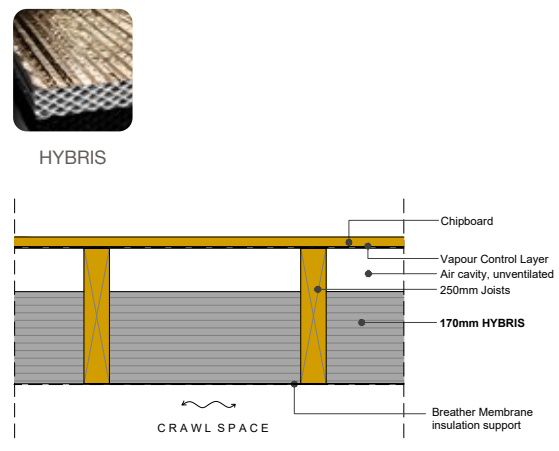
PF290: 155mm HYBRIS + BOOST<sup>®</sup> HYBRID

**U-VALUE REACHED: 0.13 W/m<sup>2</sup>K**



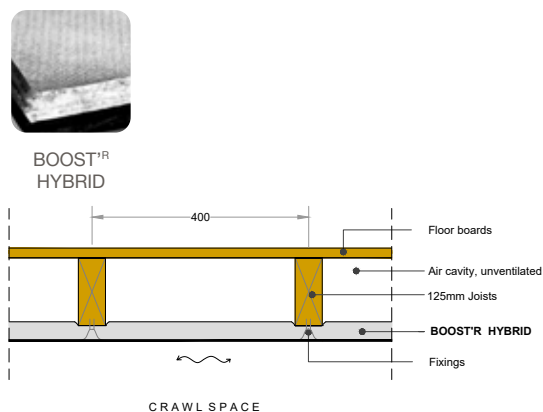
PF289: 170mm HYBRIS

**U-VALUE REACHED: 0.15 W/m<sup>2</sup>K**



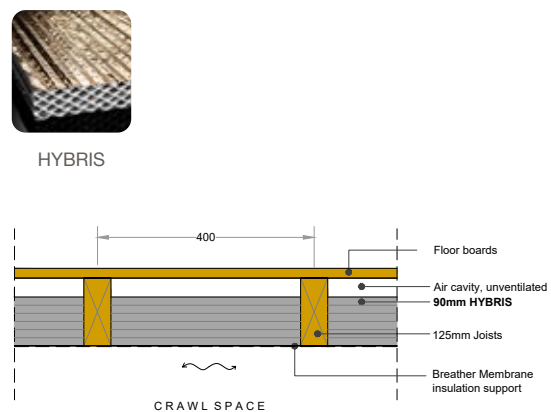
PF285: BOOST<sup>®</sup> HYBRID

**U-VALUE REACHED: 0.23 W/m<sup>2</sup>K**



PF286: 90mm HYBRIS

**U-VALUE REACHED: 0.24 W/m<sup>2</sup>K**



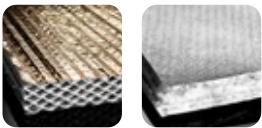
## EXPOSED TIMBER FLOOR

**HYBRIS** is fitted between joists and can be faced externally with **BOOST<sup>TR</sup> HYBRID**, the breather membrane.

Products used	Timber dimensions (mm)	Timber centres (mm)	U-value (W/m <sup>2</sup> K)	Reference
50mm HYBRIS + 170mm HYBRIS + BOOST <sup>TR</sup> HYBRID	250 x 38	400	<b>0.11</b>	PF295
50mm HYBRIS + 125mm HYBRIS + BOOST <sup>TR</sup> HYBRID	200 x 38		<b>0.13</b>	PF296
140mm HYBRIS + BOOST <sup>TR</sup> HYBRID	200 x 38		<b>0.15</b>	PF293
205mm HYBRIS	300 x 38		<b>0.15</b>	PF294
155mm HYBRIS	250 x 38		<b>0.18</b>	PF292

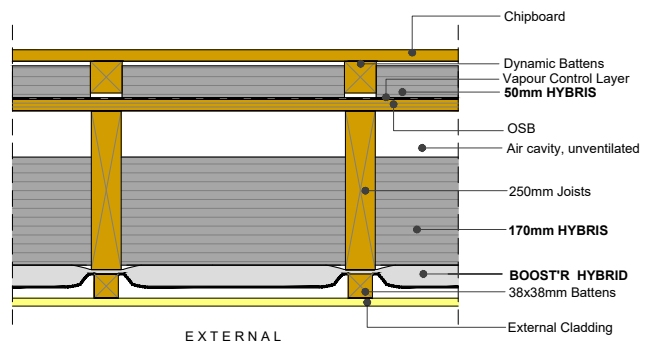
PF295: 50mm HYBRIS + 170mm HYBRIS + BOOST<sup>TR</sup> HYBRID

**U-VALUE REACHED: 0.11 W/m<sup>2</sup>K**



HYBRIS

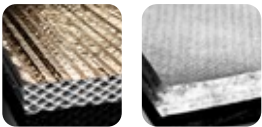
BOOST<sup>TR</sup> HYBRID



### OTHER HYBRID CONFIGURATIONS

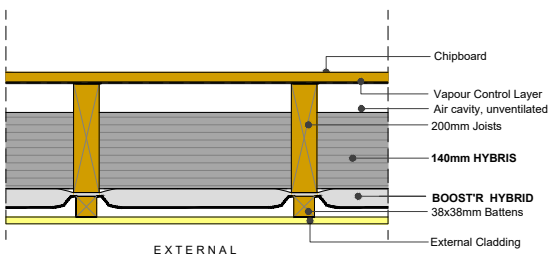
PF293: 140mm HYBRIS + BOOST<sup>TR</sup> HYBRID

**U-VALUE REACHED: 0.15 W/m<sup>2</sup>K**



HYBRIS

BOOST<sup>TR</sup> HYBRID

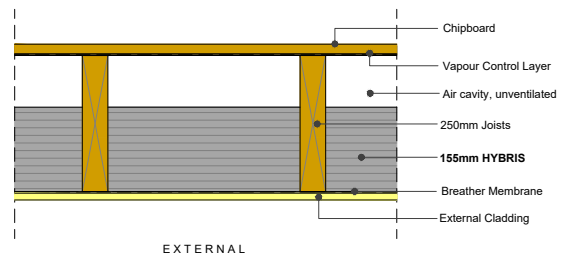


PF292: 155mm HYBRIS

**U-VALUE REACHED: 0.18 W/m<sup>2</sup>K**



HYBRIS



Schemes		Legislation	U-Value W/m <sup>2</sup> K				
		Act	Wall			Roof	
			External	Cavity	Party	Ceiling	Pitched
<b>England (pre 15th June 2022)</b>							
New Build	Notional	BRegs Part L	0.18			0.13	
	Limiting		0.30		0.20	0.20	
Existing	New & replaced		0.28			0.16	0.18
	Retained		0.30	0.55		0.16	0.18
	Retained threshold		0.70			0.35	
<b>Wales (pre 23rd November 2022)</b>							
New Build	Notional	BRegs Part L	0.18			0.13	
	Limiting		0.21		0.20	0.15	
Existing	New & replaced		0.21			0.15	
	Conversion & renovation		0.30	0.55		0.16	0.18
	Retained threshold		0.70			0.35	
<b>Scotland (pre 1st December 2022)</b>							
New Build	Notional	Section 6	0.17			0.20	0.11
	Limiting (average)		0.22			0.15	
	Limiting (individual)		0.70			0.35	
Existing	Extensions (Wall>0.70, Roof>0.25)		0.17			0.11	0.13
	Extensions (Wall<0.70, Roof<0.25)		0.22			0.15	0.18
	Conversions (average)		0.30			0.25	
	Individual elements		0.70			0.35	

## 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.

## GOOD PRACTICE GUIDANCE

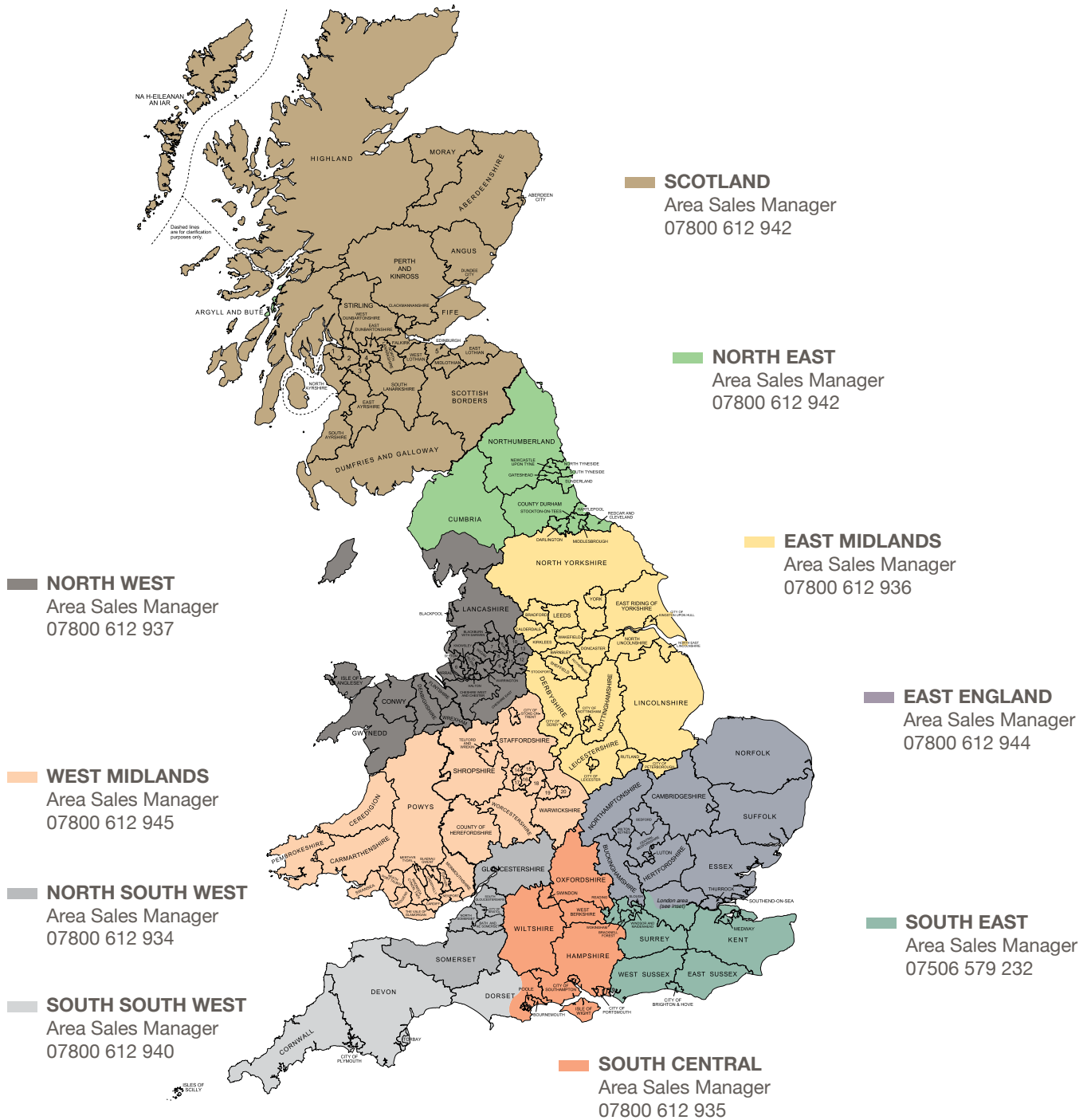
The solutions provided may require an independent vapour control layer or breather membrane product to reduce the risk of interstitial condensation. Where a vapour control layer is required, a product with a vapour resistance  $Z > 500 \text{ MNs/g}$  should be used. Both vapour control layer and breather 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.



# BUILDING REGULATIONS

Schemes		Legislation	U-Value W/m <sup>2</sup> K			
		Act	Wall		Roof	Floor
			External	Cavity		
<b>England (from 15th June 2022)</b>						
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
<b>Wales (from 23rd November 2022)</b>						
New Build	Notional	BRegs Part L	0.13		0.11	0.11
	Limiting		<b>Houses: 0.18</b>	<b>Flats: 0.21</b>	0.13	0.15
Existing	New & replaced, incl. extensions		<b>Houses: 0.18</b>	<b>Flats: 0.21</b>	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
<b>Scotland (from 1st December 2022)</b>						
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

# 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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