

ACTIS HYBRID SOLUTIONS AND SYSTEMS

FOR ROOF, WALL, CEILING & FLOOR APPLICATIONS



eurofins



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 + 105mm 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 + 60mm HYBRIS + BOOST [®] HYBRID ROOF | 100 x 47 | | | | | ✓ | ✓ | ✓ | 0.17 | PF239 | |
| 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 |
| 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE | 75 x 47 | | | | ✓ | | ✓ | | 0.30 | PF257 |
| 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 |
| 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE | 75 x 47 | | | | ✓ | | ✓ | | 0.30 | PF260 |



| | 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 + 205mm HYBRIS | 250 x 47 | | | ✓ | ✓ | | | 0.13 | PF266 |
| HCONTROL HYBRID + 140mm HYBRIS + BOOST ^{TR} HYBRID ROOF | 225 x 47 | | | ✓ | ✓ | | ✓ | 0.13 | PF265 |
| 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 + 185mm HYBRIS + BOOST ^{TR} HYBRID ROOF | 250 x 47 | 600 | | ✓ | ✓ | | ✓ | 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 | | | | ✓ | ✓ | | 0.16 | PF277 |
| 205mm HYBRIS | 275 x 47 | | | ✓ | ✓ | | 0.16 | PF280 | |
| HCONTROL HYBRID + 90mm HYBRIS + BOOST ^{TR} HYBRID ROOF | 150 x 47 | 400 | | ✓ | ✓ | | ✓ | 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 | | | | | | | | | |
| 205mm HYBRIS + BOOST ^{TR} HYBRID | 300 x 38 | 400 | | | ✓ | ✓ | | 0.11 | PF291 |
| 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 |
| 205mm HYBRIS | 300 x 38 | | | | ✓ | ✓ | | 0.15 | PF294 |
| 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.

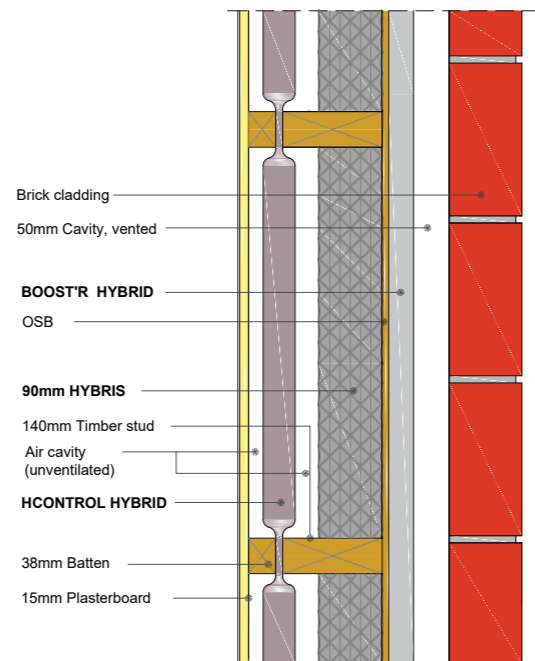
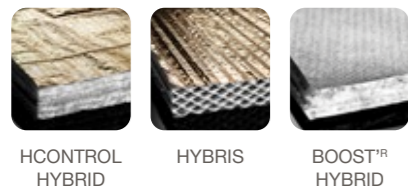
| min. stud size (mm) | Products used | U-value (W/m ² K) | Reference |
|---------------------|---|------------------------------|-----------|
| 175 x 47 | HCONTROL HYBRID + 125mm HYBRIS + BOOST [®] HYBRID | 0.13 | PF218 |
| 140 x 38 | HCONTROL HYBRID + 100 PIR + BOOST [®] HYBRID | 0.13 | PF217 |
| 140 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 + 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 [®] 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



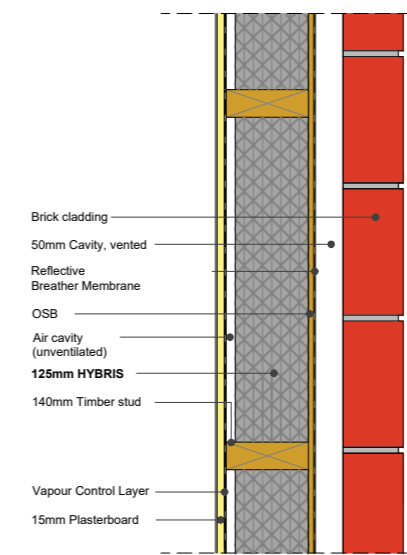
OTHER HYBRID CONFIGURATIONS

PF204: 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.22 W/m²K

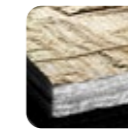


HYBRIS



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

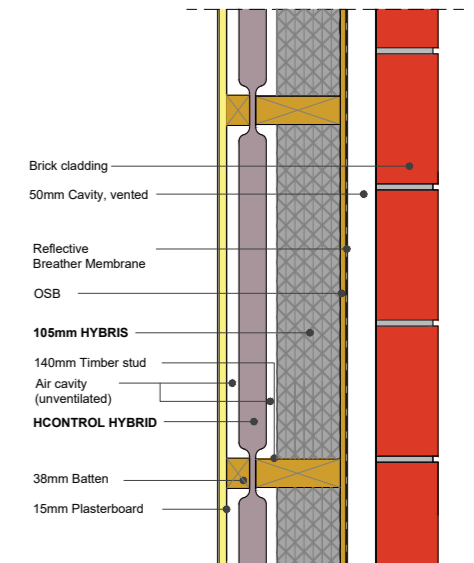
U-VALUE REACHED: 0.16 W/m²K



HCONTROL HYBRID



HYBRIS



PF209: 125mm HYBRIS + BOOST[®] HYBRID

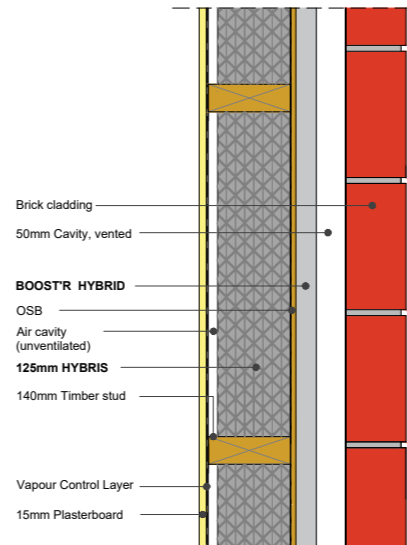
U-VALUE REACHED: 0.18 W/m²K



HYBRIS



BOOST[®] HYBRID



TIMBER FRAME WALL WITH TIMBER CLADDING

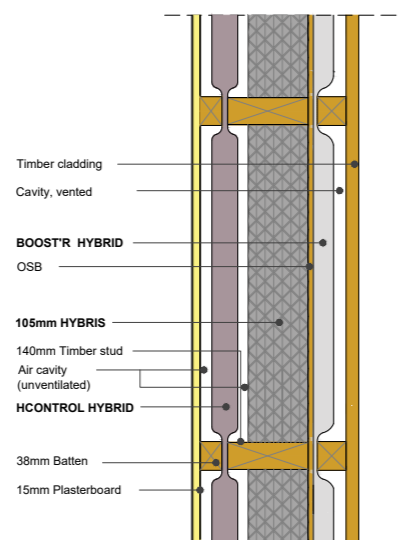
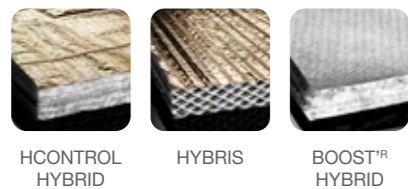
HYBRIS is fitted between studs, faced internally with **HCONTROL HYBRID**, the vapour control layer and externally with OSB and **BOOST[®] HYBRID**, the breather membrane, then a batten cavity before the external cladding.

| 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 + 60mm HYBRIS + BOOST [®] 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 [®] 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

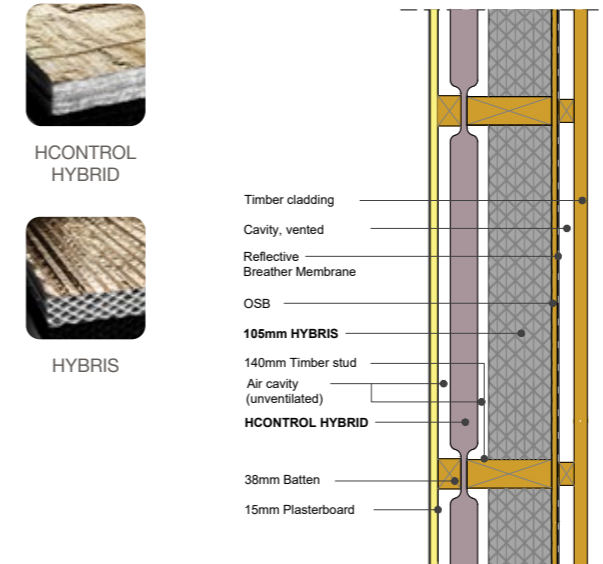
U-VALUE REACHED: 0.14 W/m²K



OTHER HYBRID CONFIGURATIONS

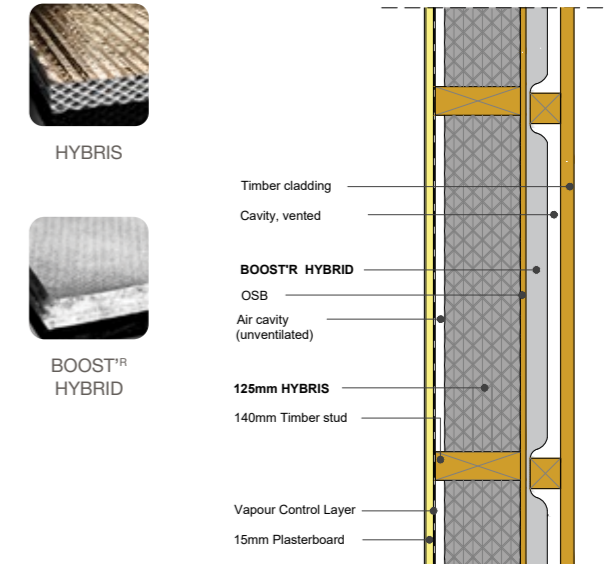
PF228: HCONTROL HYBRID + 105mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.16 W/m²K



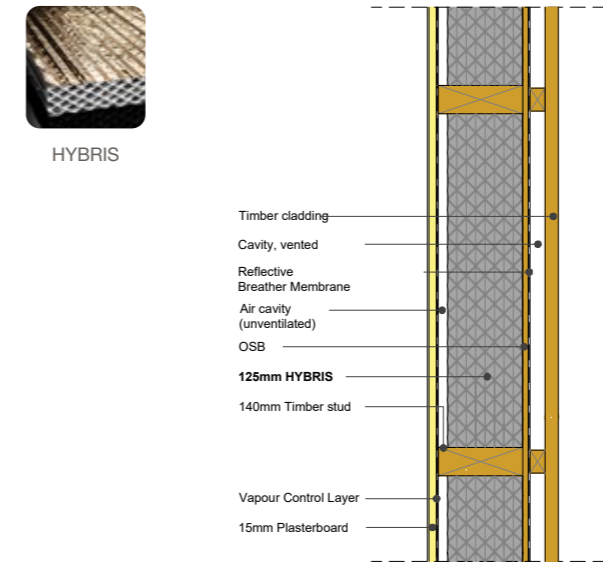
PF224: 125mm HYBRIS + BOOST[®] HYBRID

U-VALUE REACHED: 0.19 W/m²K



PF220: 125mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.23 W/m²K



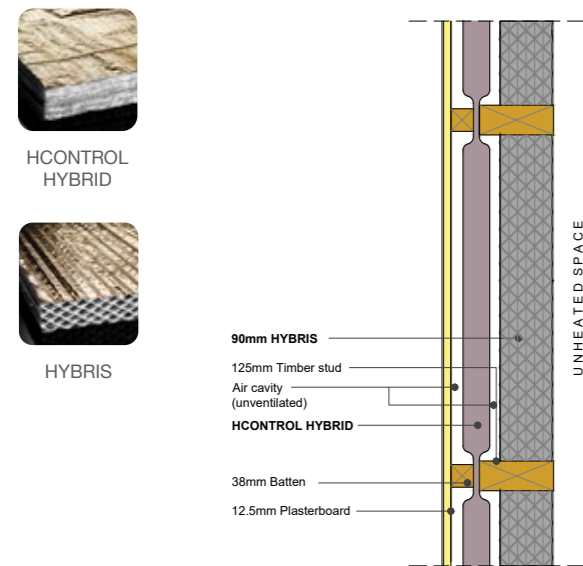
ASHLAR WALL

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 |

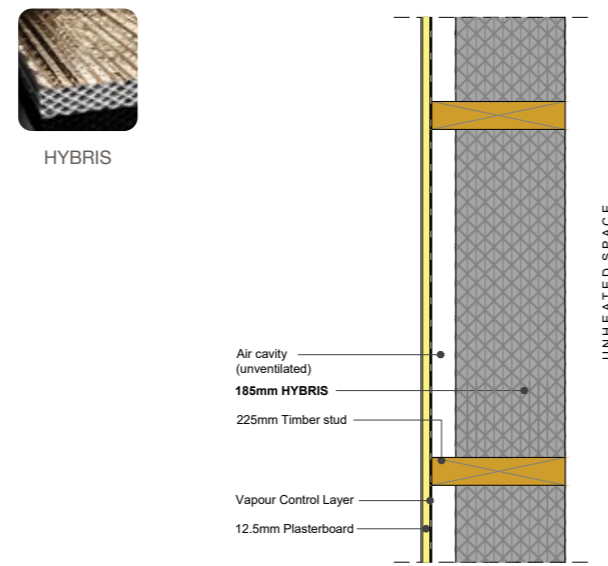
PF246: HCONTROL HYBRID + 90mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



PF298: 185mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



SOLID WALL WITH INTERNAL INSULATION

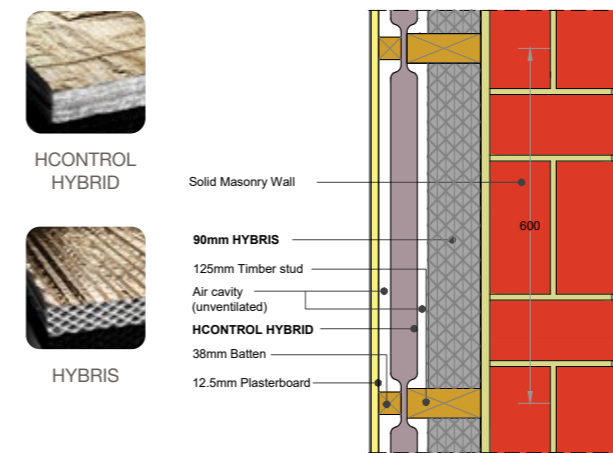
HCONTROL HYBRID and/or HYBRIS is installed on the internal side of a solid wall. Internal finish is standard plasterboard.

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 |

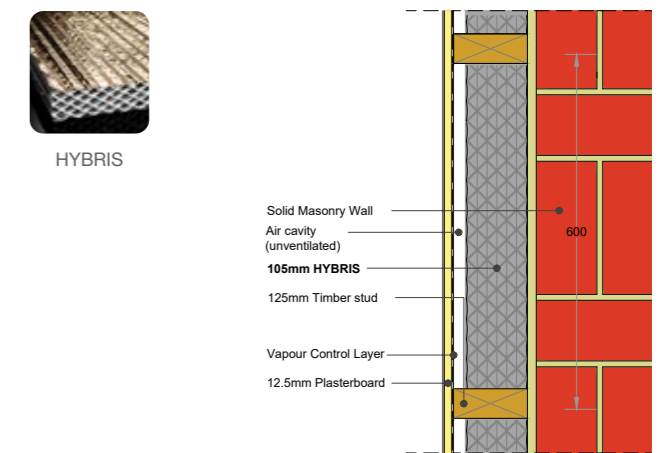
PF251: HCONTROL HYBRID + 90mm HYBRIS

U-VALUE REACHED: 0.19 W/m²K



PF250: 105mm HYBRIS

U-VALUE REACHED: 0.28 W/m²K



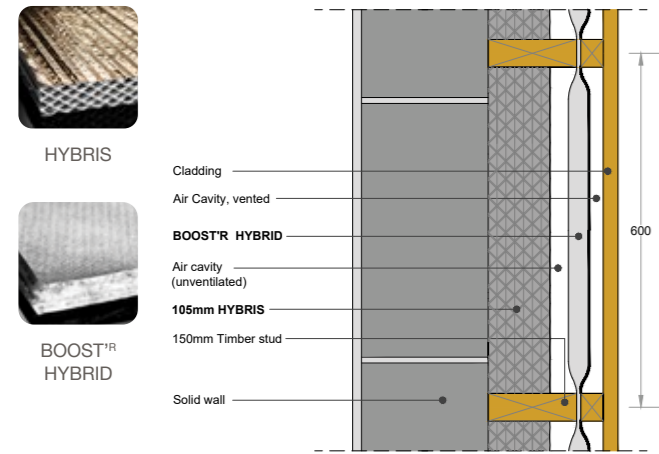
SOLID WALL WITH EXTERNAL INSULATION

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 | 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE | 0.30 | PF257 |
| 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 | 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE | 0.30 | PF260 |

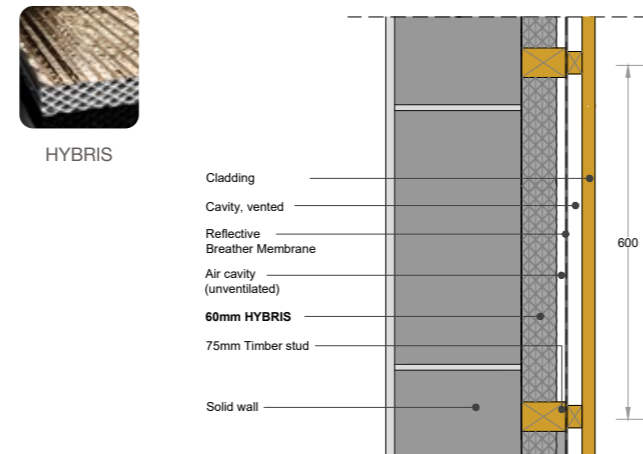
PF258: 105mm HYBRIS + BOOST[®] HYBRID

U-VALUE REACHED: 0.18 W/m²K



PF257: 60mm HYBRIS + REFLECTIVE BREATHER MEMBRANE

U-VALUE REACHED: 0.30 W/m²K



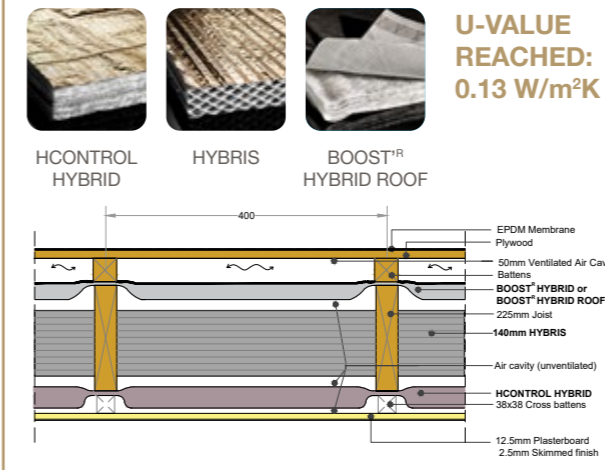
COLD FLAT ROOF *

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 |
| 250 x 47 | HCONTROL HYBRID + 205mm HYBRIS | 0.13 | PF266 |
| 225 x 47 | HCONTROL HYBRID + 140mm HYBRIS + BOOST [®] HYBRID ROOF | 0.13 | PF265 |
| 175 x 47 | HCONTROL HYBRID + 155mm HYBRIS | 0.16 | PF264 |
| 225 x 47 | 170mm HYBRIS + BOOST [®] HYBRID ROOF | 0.16 | PF263 |

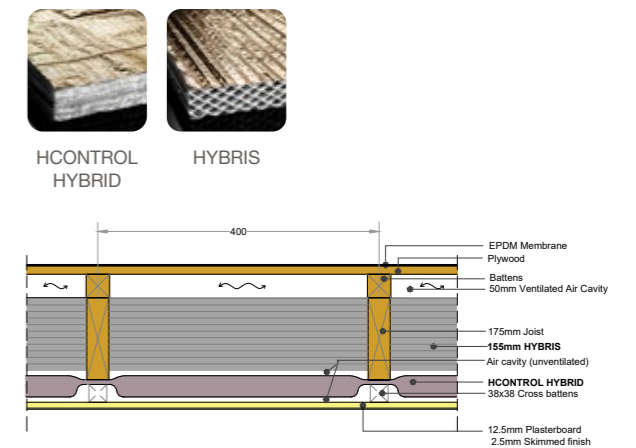
HYBRID SYSTEM SOLUTION

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



PF264: HCONTROL HYBRID + 155mm HYBRIS

U-VALUE REACHED: 0.16 W/m²K



WARM FLAT ROOFS *

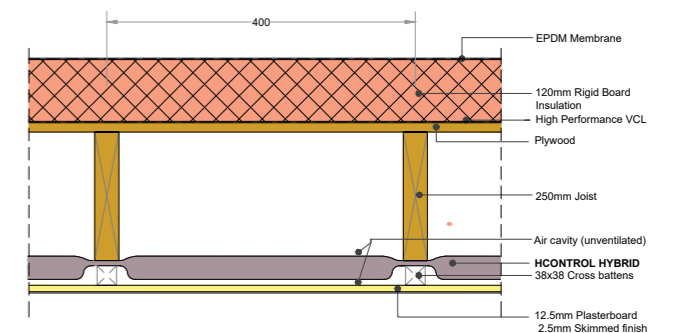
HCONTROL HYBRID can be installed to reduce the thickness of rigid board insulation, but only if specific circumstances apply, please contact ACTIS for further details.

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 | |
|--------------|---|--|---|-----------|-------|
| 250 x 47 | 600 | 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 | | 155mm HYBRIS + BOOST ^{TR} HYBRID ROOF | 0.16 | PF277 | |
| 275 x 47 | | 205mm HYBRIS | 0.16 | PF280 | |
| 150 x 47 | | 400 | 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 | |

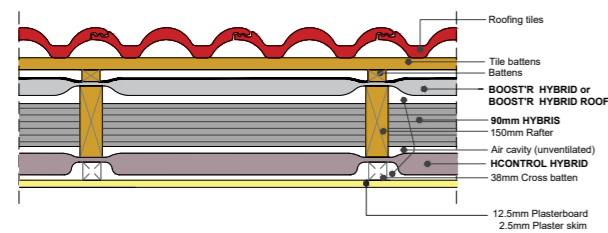
HYBRID SYSTEM SOLUTION

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

U-VALUE REACHED: 0.15 W/m²K



HCONTROL HYBRID HYBRIS BOOST^{TR} HYBRID ROOF

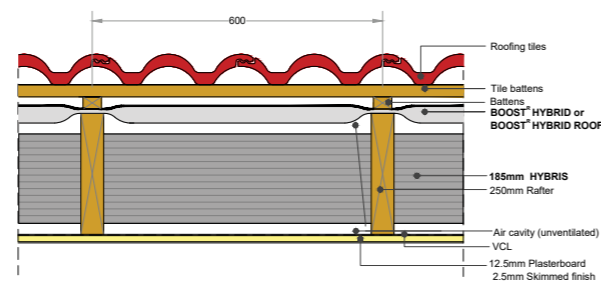


PF297: 185mm HYBRIS + BOOST^{TR} HYBRID ROOF

U-VALUE REACHED: 0.14 W/m²K



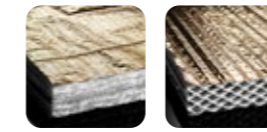
HYBRIS BOOST^{TR} HYBRID ROOF



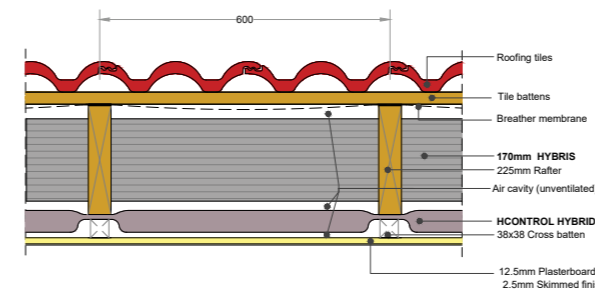
OTHER HYBRID CONFIGURATIONS

PF276: HCONTROL HYBRID + 170mm HYBRIS

U-VALUE REACHED: 0.13 W/m²K

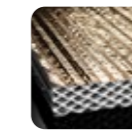


HCONTROL HYBRID HYBRIS

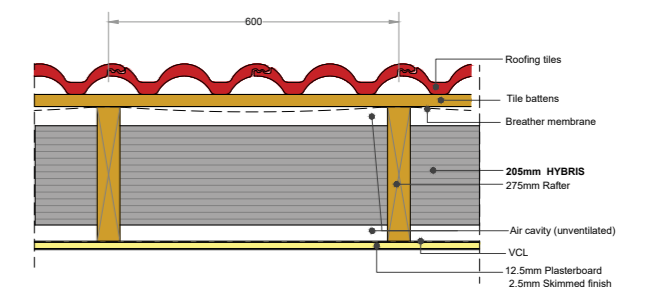


PF280: 205mm HYBRIS

U-VALUE REACHED: 0.16 W/m²K

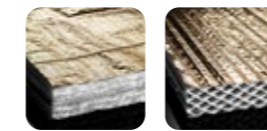


HYBRIS

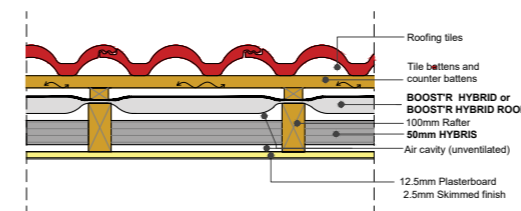


PF284: HCONTROL HYBRID + 50mm HYBRIS

U-VALUE REACHED: 0.30 W/m²K



HCONTROL HYBRID HYBRIS



SUSPENDED TIMBER FLOOR

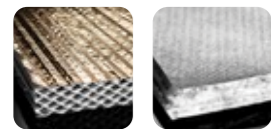
The floor construction is suspended above a ventilated void above ground. The underfloor space is enclosed around the perimeter with appropriate ventilation openings and a damp proof course (DPC) installed. **HYBRIS** is fitted between joists and can be faced externally with **BOOST^{TR} HYBRID**, the 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 | |
| 205mm HYBRIS + BOOST ^{TR} HYBRID | 300 x 38 | 400 | 0.10 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | PF291 |
| 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 |

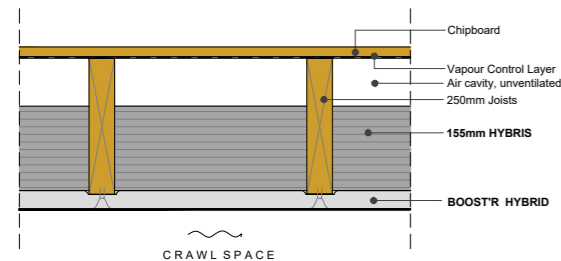
The following examples are based on perimeter/area ratio being 0.5:

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

U-VALUE REACHED: 0.13 W/m²K



HYBRIS BOOST^{TR} HYBRID

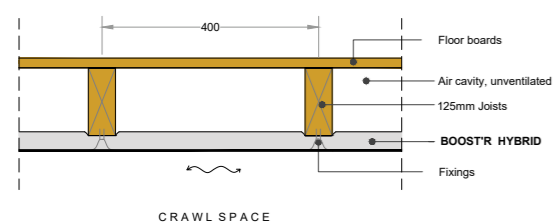


PF285: BOOST^{TR} HYBRID

U-VALUE REACHED: 0.23 W/m²K



BOOST^{TR} HYBRID

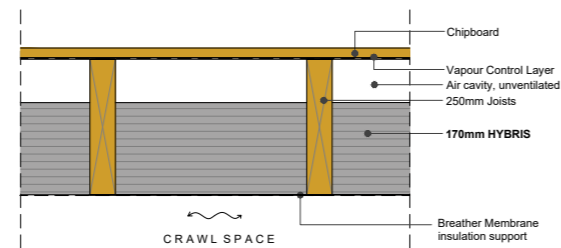


PF289: 170mm HYBRIS

U-VALUE REACHED: 0.15 W/m²K



HYBRIS

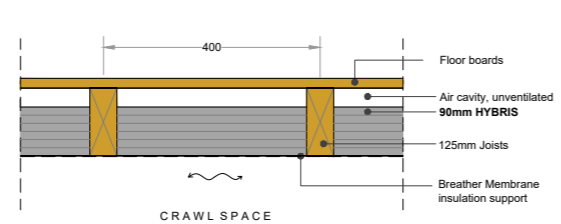


PF286: 90mm HYBRIS

U-VALUE REACHED: 0.24 W/m²K



HYBRIS



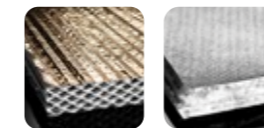
EXPOSED TIMBER FLOOR

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

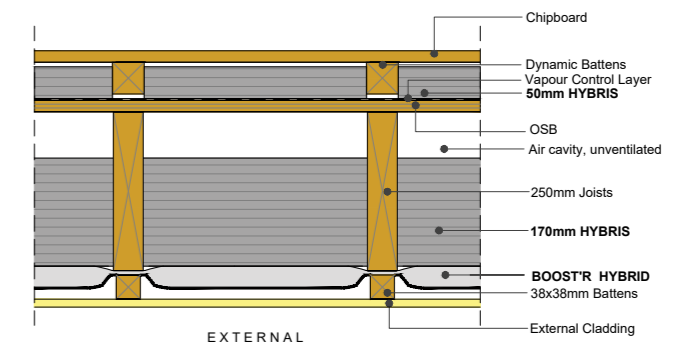
| Products used | Timber dimensions (mm) | Timber centres (mm) | U-value (W/m ² K) | Reference |
|---|------------------------|---------------------|------------------------------|-----------|
| 50mm HYBRIS + 170mm HYBRIS + BOOST ^{TR} HYBRID | 250 x 38 | 400 | 0.11 | PF295 |
| 50mm HYBRIS + 125mm HYBRIS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

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

U-VALUE REACHED: 0.11 W/m²K



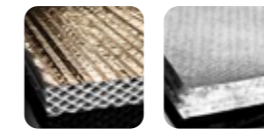
HYBRIS BOOST^{TR} HYBRID



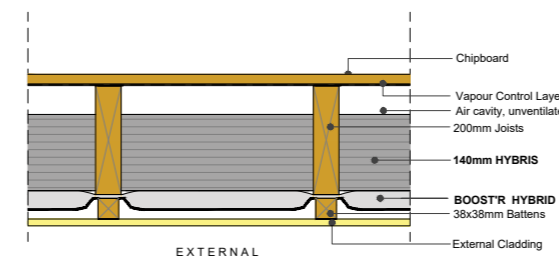
OTHER HYBRID CONFIGURATIONS

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

U-VALUE REACHED: 0.15 W/m²K

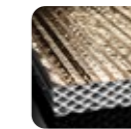


HYBRIS BOOST^{TR} HYBRID

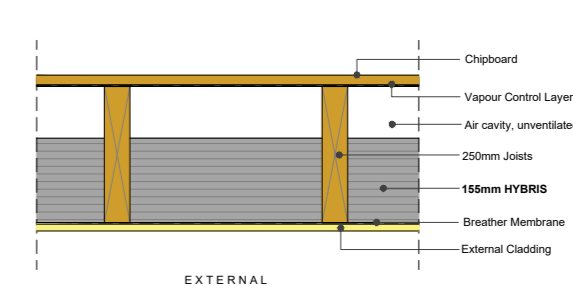


PF292: 155mm HYBRIS

U-VALUE REACHED: 0.18 W/m²K



HYBRIS



| Schemes | Legislation | | U-Value W/m ² K | | | | |
|---|-----------------------------------|--------------|----------------------------|-------|---------|---------|------|
| | Act | Wall | | | Roof | | Flat |
| | | External | Cavity | Party | Ceiling | Pitched | |
| England (pre 15th June 2022) | | | | | | | |
| 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 treshold | | 0.70 | | 0.35 | | |
| Wales (pre 23rd November 2022) | | | | | | | |
| 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 treshold | | 0.70 | | 0.35 | | |
| Scotland (pre 1st December 2022) | | | | | | | |
| 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.

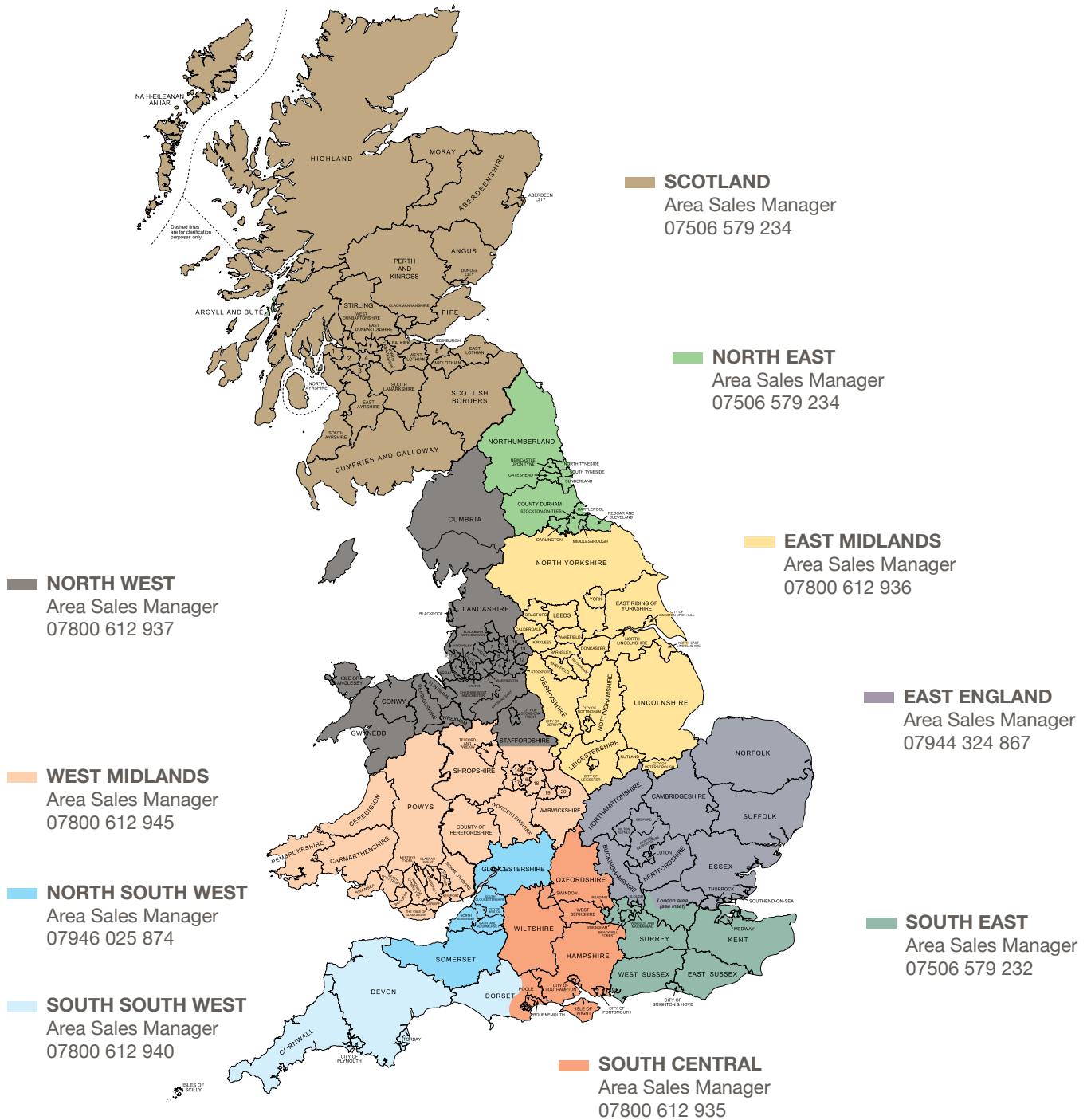
England, Wales and Scotland are now each responsible for their own Building Regulations and target U-values can therefore differ throughout the UK. The above table gives a summary of requirements for domestic buildings at time of printing (June 2022). If required this information can be confirmed with 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>500MNs/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.

| Schemes | Legislation | | U-Value W/m ² K | | | |
|--|--|--------------|---|--------------------|-------|------|
| | Act | 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. extentions | | 0.18 | | 0.15 | 0.18 |
| | Renovation & upgrading retained elements | | 0.30 | 0.55 | 0.16 | 0.25 |
| | Retained treshold | | 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. extentions | | Houses: 0.18 | Flats: 0.21 | 0.13 | 0.15 |
| | Conversion, renovation, change of use | | 0.30 | 0.55 | 0.16 | 0.25 |
| | Retained treshold | | 0.70 | | 0.35 | 0.70 |
| Scotland (from 1st December 2022) | | | | | | |
| 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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