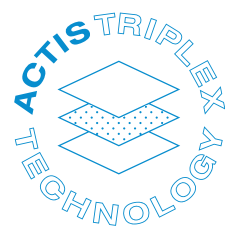


# ACTIS

## Eolis HC



REFLECTIVE INSULATION



22  
EN 13984 : 2013



# ACTIS

TOMORROW'S INSULATION TODAY

# EOLIS HC

## New Triplex Technology



**Eolis HC** is a reflective insulation with an integrated vapour barrier offering dual features within a single product, and making it possible to insulate and achieve airtightness in a single operation. For use on the warm side of any insulation material, behind the internal finish.

### KEY BENEFITS

#### SAVES TIME

- Faster Installation**  
reduction in installation time
- Saves time on site**  
light to handle, little to no mess to clear up
- Easier installation**  
self-adhesive lap, no precision cutting needed & flexible to fit

#### EASY AND QUICK INSTALLATION

**Eolis HC** is light and has no irritating fibres, making it easy to handle and install, saving time on site. It has an integrated self-adhesive lap for easily and quickly sealing joints.

It is quick and easy to fit into difficult areas because no precision cutting is required. The product is installed in a continuous layer which benefits in obtaining airtightness and an exceptional reduction in thermal bridging.

**Eolis HC** provides dual performance within a single product: a vapour barrier and insulation, allowing for a reduction in installation time as cutting insulation in-between timbers is not required.

**Eolis HC** has a thickness of 135mm and is available in 12m<sup>2</sup> rolls.

- Flexible
- Easy to store & transport
- Space saving

#### HEALTH AND SUSTAINABILITY

**Eolis HC** is made with 100% recyclable components. The unique structure of Triplex technology allows less material to be used to achieve the thickness of the insulation making it a more sustainable product.

- Clean and with no irritating fibres
- Rated A+ for indoor air quality
- Recyclable components
- No harmful chemicals
- Highly durable
- Minimal waste

#### COMFORT

The Triplex technology used in the **Eolis HC** solution provides thermal resistance of 5.67m<sup>2</sup> K/W with two air cavities\* (horizontal heat flow). Its reflective films reflect up to 90% of infrared radiation thus limiting overheating in summer.

\*Measured according to standard BS EN 16012.

- Energy saving
- No irritating fibres or chemicals
- No respiratory protection required during installation

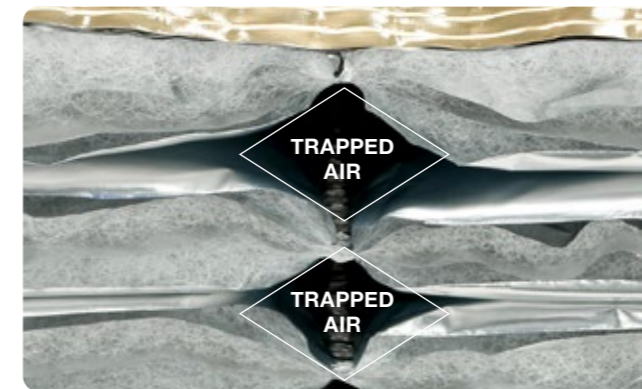
#### FIRE SAFETY

Fire safety precautions and limitations of use apply to **Eolis HC** products.

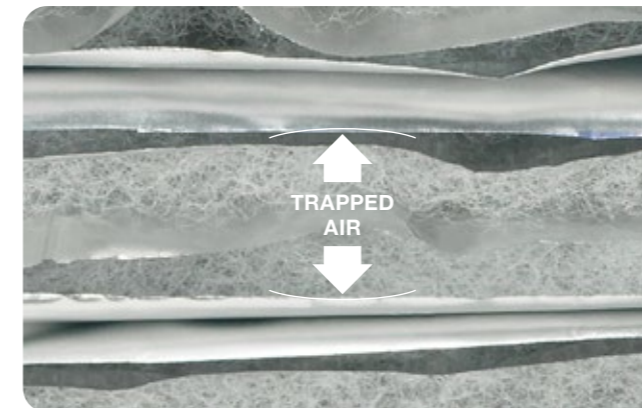
Please refer to product installation guidelines, fire safety information document and Building Regulation and industry guidance.

## INNOVATIVE TRIPLEX TECHNOLOGY

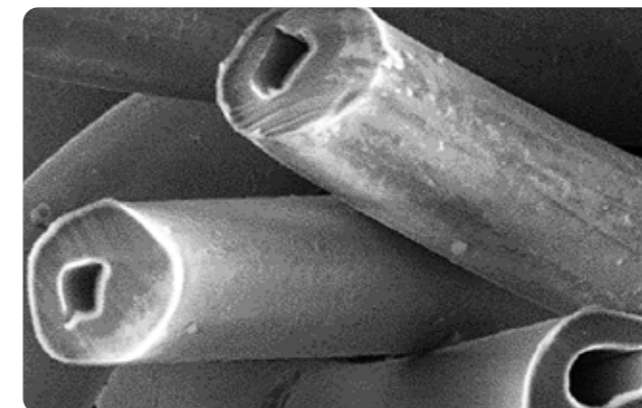
Using Actis's new patented Triplex technology, the unique structure of **Eolis HC** is made up of several oval-shaped cavities, enclosed between several reflective films, providing an exceptional thermal performance and a durable insulation suitable for all climatic conditions. The fibres in the cells of the product trap air to improve thermal performance while limiting thickness.



Air is trapped between two reflective membranes, thanks to the exclusive welding pattern.



The spiral and resilient fibres inside every Triplex cell traps air.



The fibres are hollow, trapping air inside.

#### FEATURES

- Unique technology
- Self-adhesive lap
- Flexible
- High thermal resistance
- Dual performance
- Inherently airtight
- Exceptional durability
- Reflective properties provide summer comfort and winter warmth
- Suitable for ≥ 100mm rafters (see solutions tables)

PROPERTY	TEST METHOD	DECLARED VALUE
Thickness	EN 823 @3Pa load	135mm +/- 5mm
Compressed product thickness	EN 823 @20kPa load	7mm
Weight	EN 1602	8.5 kg/m <sup>3</sup>
Length	EN 822	8m
Width (triplex + lap)		1.5m + 0.1m
DECLARED THERMAL PERFORMANCE		
Core thermal resistance	EN 16012	4.35m <sup>2</sup> K/W
Thermal resistance of product + 2 air cavities*		horizontal heat flow 5.67m <sup>2</sup> K/W
Thermal resistance of compressed product		0.25m <sup>2</sup> K/W
Declared emissivity (inner/outer)		0.05 / 0.10
TENSILE STRENGTH		
Longitudinal direction	EN 12311-2 & EN 13859-1 Annex C	>250 N/50mm
Transversal direction		>150 N/50mm
RESISTANCE TO TEARING, NAIL SHANK		
Longitudinal direction	EN12310-1 & EN 13589-1 Annex B	>150 N
Transversal direction		
PEEL STRENGTH OF TAPE	EN 11339	>20 N
WATER VAPOUR TRANSMISSION		
Diffusion eq.air layer thickness (Sd)	EN 1931	>120m
Vapour resistance (Z)		>600MNs/g
WATERTIGHTNESS	EN 13859-1	Watertight
AIR PERMEABILITY	EN 12114	Airtight
REACTION TO FIRE	EN 13501-1	Class F
DURABILITY	EN 13984	Test successful
HEAT CAPACITY		1580 J/kg.K
VOC EMISSIONS TO INDOOR AIR		BREEAM exemplary level

\*Calculated to BS EN 6946 with air gap of 20mm, horizontal heat flow.

# SYSTEM SOLUTION FOR WARM PITCHED ROOFS

**Eolis HC** is installed as a system solution together with PIR Insulated plasterboard within warm pitched roofs; **Eolis HC** blanket insulation is installed under rafters and fixed with timber cross battens.

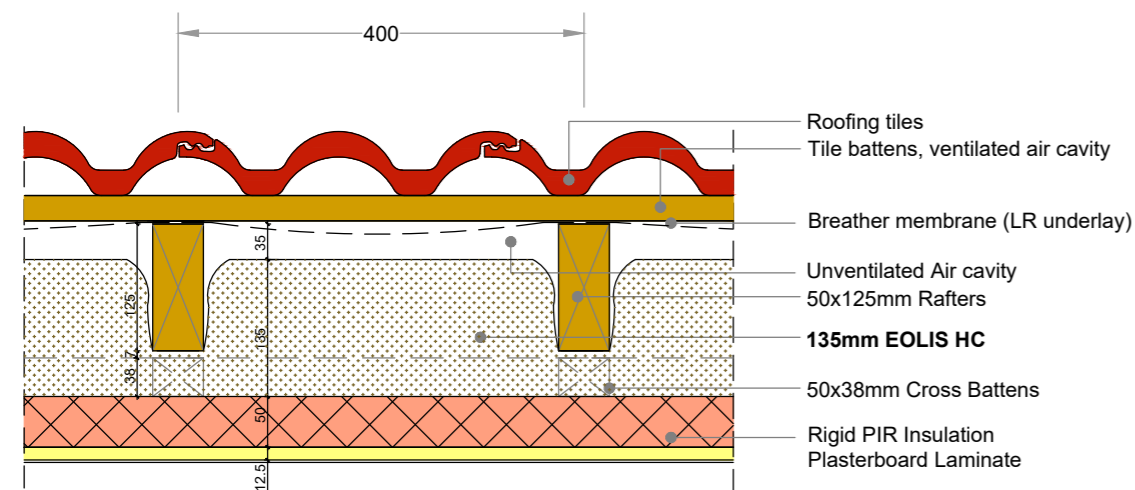
PIR Insulated plasterboard laminate is installed in a continuous layer to underside of battens.

## Installation with Breather Membrane (LR underlay)

Rafter size (mm)	Centres (mm)	Eolis HC (mm)	Batten size (mm)	PIR Insulated plasterboard (mm)	U-value (W/m <sup>2</sup> K)	Air cavity ventilation (below underlay)	No interstitial condensation	Reference
50 x 100	400	135	38 x 50	≥ 67.5	0.16	n/a	✓	PF381
50 x 100	400	135	50 x 50	≥ 62.5	0.16	n/a	✓	PF306
50 x 125	400	135	25 x 50	≥ 62.5	0.16	n/a	✓	PF307
50 x 125	400	135	38 x 50	≥ 62.5	0.16	n/a	✓	PF308
50 x 150	400	135	25 x 50	≥ 62.5	0.16	n/a	✓	PF315
50 x 150	400	135	25 x 50	≥ 72.5	0.15	n/a	✓	PF380
50 x 100	600	135	38 x 50	≥ 62.5	0.16	n/a	✓	PF310
50 x 100	600	135	50 x 50	≥ 57.5	0.16	n/a	✓	PF311
50 x 125	600	135	25 x 50	≥ 57.5	0.16	n/a	✓	PF312
50 x 125	600	135	38 x 50	≥ 57.5	0.16	n/a	✓	PF313
50 x 150	600	135	25 x 50	≥ 57.5	0.16	n/a	✓	PF314
50 x 150	600	135	25 x 50	≥ 67.5	0.15	n/a	✓	PF382

## PF308 Pitched roof

@ 400c U-value = 0.16 W/m<sup>2</sup>K



## System solution for existing warm pitched roofs with HR underlay

Warm pitched roofs with existing sarking felt (HR underlay) usually require 25mm ventilation on the warm side of the sarking felt, to avoid the risk of interstitial condensation, in accordance with BS5250.

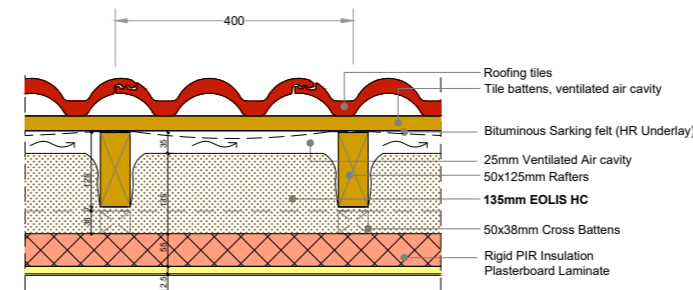
When ventilation of the air space is reduced and deviating from BS5250, then a condensation risk analysis in accordance with EN 15026 is required as stated within BBA certificate 22/6462.

Such an assessment carried out by Fraunhofer Institute for Building Physics IBP, using parameters deemed worst case scenario for UK applications, shows that there is no risk of condensation within a system using **Eolis HC** combined with PIR Insulated plasterboard.

This assessment report conducted by the Fraunhofer Institute for Building Physics IBP is available upon request.

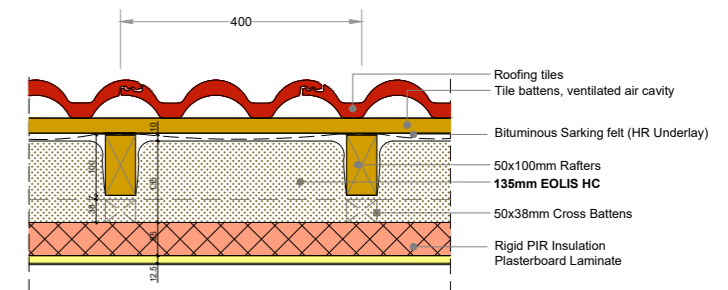
## PF386 Pitched roof

@400c U-value = 0.16 W/m<sup>2</sup>K



## PF383 Pitched roof

@400c U-value = 0.16 W/m<sup>2</sup>K



## Installation with Sarking Felt (HR underlay)

Rafter size (mm)	Centres (mm)	Eolis HC (mm)	Batten size (mm)	PIR Insulated plasterboard (mm)	U-value (W/m <sup>2</sup> K)	Air cavity ventilation (below underlay)	No interstitial condensation	Reference
50 x 100	400	135	38 x 50	≥ 67.5	0.16	n/a	✓*	PF383
50 x 100	400	135	50 x 50	≥ 67.5	0.16	< 25	✓*	PF384
50 x 125	400	135	25 x 50	≥ 67.5	0.16	< 25	✓*	PF385
50 x 125	400	135	38 x 50	≥ 67.5	0.16	> 25	✓	PF386
50 x 150	400	135	25 x 50	≥ 67.5	0.16	> 25	✓	PF387
50 x 100	600	135	38 x 50	≥ 67.5	0.16	n/a	✓*	PF388
50 x 100	600	135	50 x 50	≥ 67.5	0.16	< 25	✓*	PF389
50 x 125	600	135	25 x 50	≥ 67.5	0.16	< 25	✓*	PF390
50 x 125	600	135	38 x 50	≥ 67.5	0.16	> 25	✓	PF391
50 x 150	600	135	25 x 50	≥ 67.5	0.16	> 25	✓	PF392

### Notes

\*Interstitial condensation risk analysis in accordance with EN 15026 using WUFI software based on scenario deemed worst case for UK, sarking felt with  $s_d \leq 90m$  i.e.  $Z \leq 450MNs/g$ . Composite of foil faced rigid PIR insulation core (with thermal conductivity  $\lambda \leq 0.022 W/mk$ , faced on either side with foil  $s_d \geq 22.2m$  i.e.  $Z \geq 111MNs/g$ ) and 12.5mm plasterboard. PIR Insulated plasterboard support battens installed @600mm centres perpendicular to rafters.

# SYSTEM SOLUTION FOR TIMBER FRAME WALLS

**Eolis HC** blanket insulation is installed internally across studs and fixed with timber battens before internal plasterboard lining. Additional insulation may be fitted internally or externally. An air cavity separates the timber frame wall with breather membrane from the outer cladding.

## Timber Frame Wall with Brick Cladding

The water absorption coefficient (A-value) of the masonry wall cladding is important to evaluate the moisture protection of constructions. For masonry cladding with high A-value and

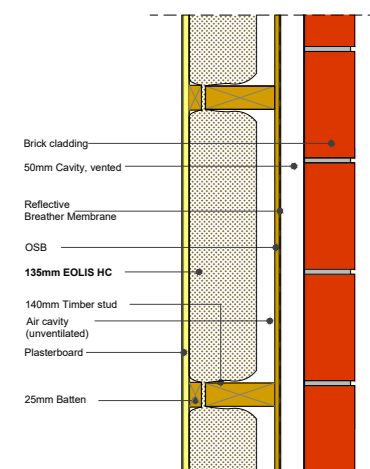
depending on the location of the project, the air ventilation rate between the breather membrane and the masonry wall cladding may be increased.

For further information please contact ACTIS Technical Department.

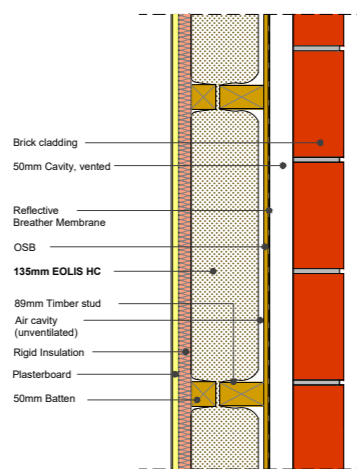
Timber size [mm]	Batten size [mm]	Timber centres [mm]	Internal insulation	EOLIS HC [mm]	Reflective Breather Membrane	U-value (W/m <sup>2</sup> K)	Reference
38 x 140	25	15% bridging (as standard)	-	135	✓	0.19	PF340
38 x 89	50		25mm EPS Insulation (λ=0.038 W/mK)		✓	0.18	PF342
38 x 140	25		25mm EPS Insulation (λ=0.038 W/mK)		✓	0.17	PF341
38 x 89	50		25mm PIR Insulation (λ=0.022 W/mK)		✓	0.16	PF345
38 x 140	25		25mm PIR Insulation (λ=0.022 W/mK)		✓	0.16	PF344

## Timber Frame Wall with Renderboard Cladding

Timber size [mm]	Batten size [mm]	Timber centres [mm]	Internal insulation	EOLIS HC [mm]	Reflective Breather Membrane	U-value (W/m <sup>2</sup> K)	Reference
38 x 140	25	15% bridging (as standard)	-	135	✓	0.22	PF347
38 x 89	50		50mm EPS Insulation (λ=0.038 W/mK)		✓	0.18	PF348
38 x 140	25		40mm EPS Insulation (λ=0.038 W/mK)		✓	0.18	PF349
38 x 89	50		25mm PIR Insulation (λ=0.022 W/mK)		✓	0.18	PF350
38 x 140	25		25mm PIR Insulation (λ=0.022 W/mK)		✓	0.17	PF352



PF340: Timber Frame Wall U-value = 0.19 W/m<sup>2</sup>K



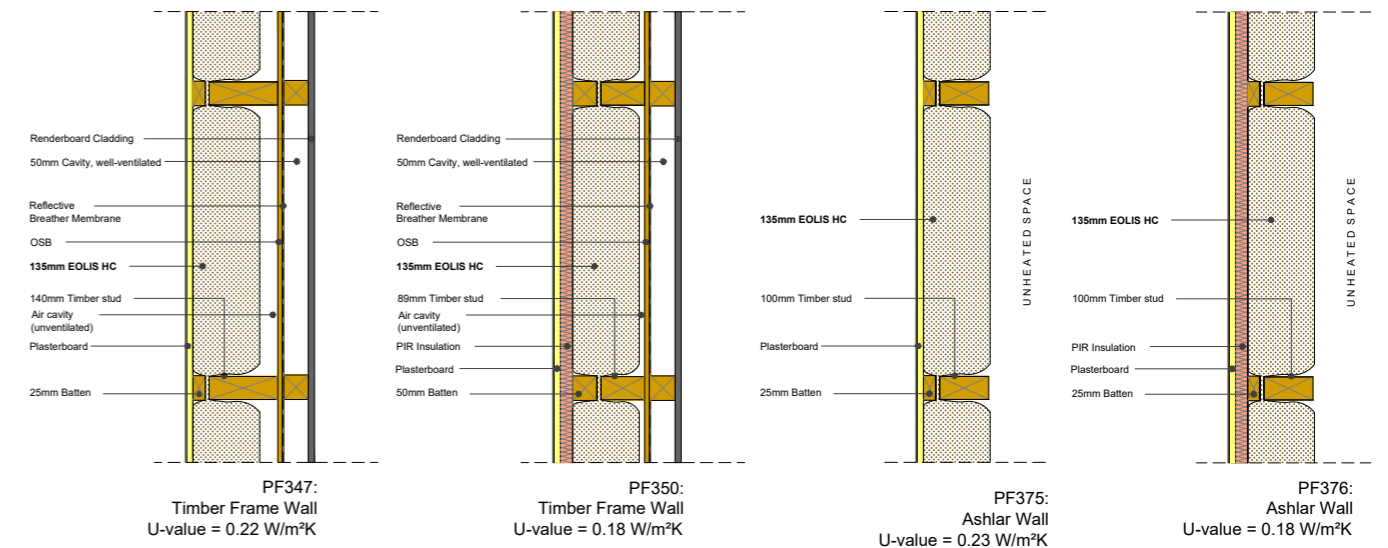
PF342: Timber Frame Wall U-value = 0.18 W/m<sup>2</sup>K

## Timber Frame Wall with Renderboard Cladding (example Dormer Cheek)

Timber size [mm]	Batten size [mm]	Timber centres [mm]	Internal insulation	EOLIS HC [mm]	Reflective Breather Membrane	U-value (W/m <sup>2</sup> K)	Reference
100 x 50	38 x 50	11% bridging (as standard)	-	135	no	0.24	PF370
125 x 50	25 x 38		-		no	0.23	PF369
100 x 50	38 x 50		30mm PIR Insulation (λ=0.022 W/mK)		no	0.18	PF374
125 x 50	25 x 50		25mm PIR Insulation (λ=0.022 W/mK)		no	0.18	PF373
100 x 50	38 x 50		40mm EPS Insulation (λ=0.038 W/mK)		no	0.18	PF378
125 x 50	25 x 50		50mm EPS Insulation (λ=0.038 W/mK)		no	0.18	PF379

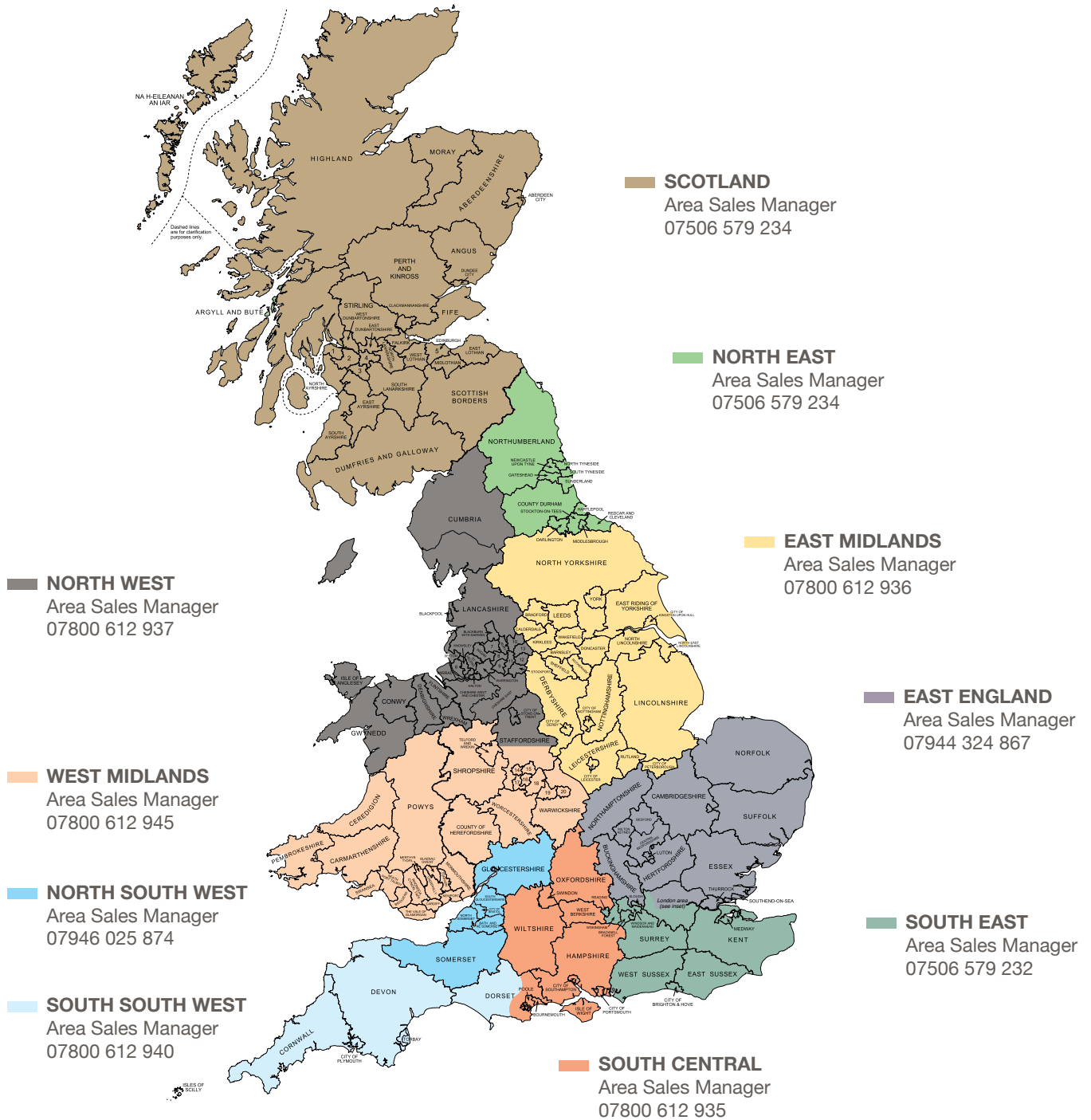
## Ashlar Wall

Timber size [mm]	Batten size [mm]	Timber centres [mm]	Internal insulation	EOLIS HC [mm]	Reflective Breather Membrane	U-value (W/m <sup>2</sup> K)	Reference
100 x 50	25 x 38	600	-	135	n/a	0.23	PF375
100 x 50	25 x 50		25mm PIR Insulation (λ=0.022 W/mK)		n/a	0.18	PF376
100 x 50	25 x 50		45mm EPS Insulation (λ=0.038 W/mK)		n/a	0.18	PF377



For further information please refer to installation guidelines or contact [ACTIS Technical Department](#).

# YOUR CONTACTS FOR MORE INFORMATION



## REGIONAL SPECIFICATION MANAGERS

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**SOUTH WEST ENGLAND & WALES** | 07800 612 943  
**SOUTH EAST ENGLAND** | 07951 769 494

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