



BuildAviator
LAND YOUR PROJECT

On-Site Compliance Support Pack

Project Name
Project Ref
Date

The House
XXXX-XXXX-XXXX
01/10/2018

On-Site Project Information and Compliance Support Pack

The On-Site Project Information and Compliance Support Pack by Build Aviator is designed to support you, your business and your sub-contractors onsite, to help you remain compliant throughout your project. By using the information contained within this document, you will be able to prove the building methods and techniques used during construction, the products implemented within the build and also show that the as-designed SAP assessment will meet the as-built assessment at the end of the project.

Sign-off inspection sheets are included to help you in achieving compliance.

This pack will support you in achieving sign off from Building Control, as well as assisting with warranty by showing proven methods and products have been used throughout the build.

This can also form a part of the handover pack between you and the homeowner to show what has been done during construction

Documents within this pack include:

FSAP summary report

- Product listing from FSAP
- U-Value Calculations
- Associated Registered Construction Designs and associated products (RCD's)
- On-site checklist
- Technical data sheets
- Air tightness testing support notes and advice
- Acoustic testing support notes and advice (where applicable)
- Sign off inspection sheets
- Value added products
- Useful contacts



Contents

Section 1 Project Summary

This is a summary of your project, including the overall compliance margin.

It also lists in brief any minor alterations/amendments that have been made to the specification in order to achieve compliance.

This also contains the SAP summary sheet which shows the compliance margin for each plot on the site.

Section 2 Specification

(Includes pages that require sign off)

This section details the full specification that has been used to produce the SAP report, it contains all Floor, Wall and Roof constructions as well as details for glazing and external doors. In addition to this a full specification for heating, hot water and ventilation is included. A list of Registered Construction Details (RCDs) that have been used in the assessment are also included here. For reference all RCDs that have been used are included in 'Appendix A'

Appendix A Registered Construction Details (RCDs) utilised in the assessment

The construction details that have been used within the assessment, including a construction specification, and clear image of how the junction should be built.

A version with a full Saint Gobain Building Distribution product specification is available with

Appendix B1 Air tightness testing notes (where applicable)

Comprehensive guidance from industry experts regarding common areas of weakness found when air tightness tests are required

Appendix B2 Acoustic testing notes (where applicable)

Guidance from industry experts regarding pre-test requirements for acoustic tests



Section 1

Project Summary



Project Name	The House
Project Number	XXXX-XXXX-XXXX
Revision	1
SAP Assessor	Gareth Thomas
Assessor Number	STRO032262

Project Status
SAP compliance achieved

Project Status Details

SAP compliance achieved, but assumptions have been made that require client review and response to finalise the calculations, please see details below;

Initial Specification:

Passing Specification:

4.55 % Pass on DER/TER



DISCLAIMER

The results in the attached schedule have been prepared based on drawings, specification and other correspondence provided, unless otherwise stated above. Any deviation from any of this document or the specifications will invalidate the SAP, DER, and TER results.

Project: The House
Company: Construction Ltd
Project State: Design Stage
Building Regulation Type & Year: Part L1a (2013)



Property Type	Plot	Built Form	TER	DER	Percentage Improvement	Total Floor Area	FEE	Air Perm	Building Regulations Results	DFEE - BR 2012	TFEE - BR 2012
House	The House	Detached	18.47	17.63	4.55%	113.58	53.55	5.01	Yes	53.60	61.50



Section 2

Specification Summary & U Value Calculations



Passing Specification - Design SAP Input Data Table					Revision - 1
	Description	Reference/ Source	U Value W/m²k	Element Type i.e. Block and Brick Wall	Specification
Fabric U-values (W/m²K)	Floor Type 1	Specification	0.16	Ground Floor	75mm Screed, 100mm Eurothane GP, 150mm Beam and Block
	Wall Type 1	Specification	0.24	Brick	PB&Skim, 100mm Fibolite 3.6n, 100mm Isover CWS32, 102.5mm Brick
	Wall Type 2	Specification	0.24	Brick to loft	PB&Skim, 100mm Fibolite 3.6n, 100mm Isover CWS32, 102.5mm Brick
	Wall Type 3	Specification	0.27	Insulated Stud	PB&Skim, 25mm Eurothane GP, 100mm Isover TF Batt 35 between studs
	Roof Type 1	Specification	0.11	Ins Joist	PB&Skim, 150mm Isover Spacesaver between Joists, 250mm Isover Spacesaver over
	Roof Type 2	Specification	0.13	Ins Rafter	PB&Skim, 150mm Eurothane GP between Rafters, 50mm Eurothane GP beneath
	Roof Type 3	Specification	0.11	Joist behind stud	PB&Skim, 150mm Isover Spacesaver between Joists, 250mm Isover Spacesaver over
	Windows Type 1	Specification	1.40	G Value - 0.46	
	Doors Type 1	Specification	1.40		
	Roof Window	Specification	1.40		
	y-value	0.0489	Build Aviator RCDs		
	Thermal Mass	Specification	Calculated Thermal Mass		
Ventilation	Airtightness m³/(hr.m²)	5.01			
	Mechanical Ventilation	Specification	Intermittent Fans		
Heating	Main Heating System	Specification	Logic Code Combi Esp1 38		
	Controls	Specification	Room Stat, TRVs		
	Water Heating	Specification	N/A - Combi Boiler		
Low Energy Lighting		Specification	100%		
Renewables		Specification	None		

Client/Developer's Signed Statement (Required at EPC lodgement)

To carry out the 'As Built' calculations and lodge EPC/s, we require signed confirmation that the project has been built to the specifications provided at design stage, with the following;

- Air Test certificate (unless we have been appointed to carry out the air test/s)
- Written confirmation of full address including postcode
- Signed and dated confirmation sheet, and details of new specification/s (If differs from those provided at design stage).
- MCS certificate
- Manufacturers data sheets detailing U values for windows
- Signed ACD checklist (if applicable)

I confirm that the dwelling has been built in accordance with the above construction specification details

Name	
Company	
Date	
Signature	

U Value Calculation

Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 10/09/2018 14:49
 Construction Type: Wall - 100mm Insulated Stud
 Calculation Method: BS EN ISO 6946

Wall Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.13	-	-	-
1	Skim	3	0.18	0.016667	-	-	-
2	Plasterboard Standard	12.5	0.21	0.059524	-	-	-
3	Eurothane GP	25	0.022	1.136364	-	-	-
4	Timber Frame Batt 35	100	0.035	2.857143	0.13	0.769	0.125
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=140.5\text{mm}$		$\Sigma=4.239697$			

Resistances

Lower Limit	Upper Limit	Average
3.516	3.781	3.648 m ² K/W

Wall U-value Corrections

No Correction Values

Wall U-value

U-value	0.274
U-value rounded	0.27 W/m ² K

U Value Calculation

Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 10/09/2018 14:49
 Construction Type: Wall - Full Fill 100mm 0.032
 Calculation Method: BS EN ISO 6946

Wall Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.13	-	-	-
1	Plaster Skim (Lightweight)	3	0.18	0.016667	-	-	-
2	Plasterboard Standard	12.5	0.21	0.059524	-	-	-
3	Plaster Dabs Cavity (15 mm)	15	-	0.17	0.43	0.035	0.2001
4	Fibolite 3.6n (140 mm)	140	0.24	0.583333	-	-	-
5	Isover CWS32	100	0.032	3.125	-	-	-
6	Brickwork Outer Leaf - BRE (102.5 mm)	102.5	0.77	0.133117	0.94	0.109	0.1712
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=373\text{mm}$		$\Sigma=4.25764$			

Resistances

Lower Limit	Upper Limit	Average
4.179	4.226	4.202 m ² K/W

Wall U-value Corrections

No Correction Values

Wall U-value

U-value	0.238
U-value rounded	0.24 W/m ² K

U Value Calculation

Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 10/09/2018 14:49
 Construction Type: Floor - Ground Floor
 Calculation Method: BS EN ISO 6946 / BS EN ISO 13370

Floor Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.17	-	-	-
1	Screed (1200)	75	0.41	0.182927	-	-	-
2	Eurothane GP	100	0.022	4.545455	-	-	-
3	Beam & Block	150	0.28	0.535714	1.13	0.133	0.1852
4	Underfloor Resistance	0	-	0.17	-	-	-
		$\Sigma=325\text{mm}$		$\Sigma=5.604095$			

Resistances

Lower Limit	Upper Limit	Average
5.411	5.525	5.468 m ² K/W

Soil Properties

Perimeter	35.39m
Area	66.08m ²
Wall Thickness	300mm
Ground Type - Default $\lambda=$	2W/mK
Rse	0.04
Resistance on solum Rg	0m ² K/W
The height of the floor above external ground level	0.2m
Depth of underfloor space below ground	0.2m
U-value of walls	1.5W/m ² K
Mean wind speed	5m/s
Wind shielding factor	0.05
Ventilation openings per metre length	0.0015m ² /m

Floor U-value Corrections

Corrective Description	Correction Value
Vertical Edge Insulation	-0.023
$\Sigma=-0.023$	

Average Temperature - Underfloor Space

Internal Temperature	18°C
External Temperature	6°C
Average Temperature in Underfloor Space	7.59°C

Floor U-value

Ug - U-value of the Ground	0.916
Total U-value Corrections - Applied to Ug	-0.023
Uf - U-value of the Floor Corrected	0.893
Uf - U-value of the Floor	0.183
Ux - U-value for Ventilation Equivalent	0.306
U-value	0.159
U-value rounded	0.16 W/m²K

U Value Calculation

Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 10/09/2018 14:49
 Construction Type: Roof - Insulation at Joists
 Calculation Method: BS EN ISO 6946

Roof Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.1	-	-	-
1	Skim	3	0.18	0.016667	-	-	-
2	Plasterboard Standard	12.5	0.21	0.059524	-	-	-
3	Isover Spacesaver	150	0.044	3.409091	0.13	1.154	0.095
4	Isover Spacesaver	250	0.044	5.681818	-	-	-
-	External Surface Resistance	-	-	0.04	-	-	-

$\Sigma=415.5\text{mm}$

$\Sigma=9.307099$

Resistances

Lower Limit	Upper Limit	Average
8.773	9.033	8.903 m ² K/W

Roof U-value Corrections

No Correction Values

Roof U-value

U-value	0.112
U-value rounded	0.11 W/m ² K

U Value Calculation

Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 10/09/2018 14:49
 Construction Type: Roof - Insulation at Rafters
 Calculation Method: BS EN ISO 6946

Roof Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.1	-	-	-
1	Skim	3	0.18	0.016667	-	-	-
2	Plasterboard Standard	12.5	0.21	0.059524	-	-	-
3	Eurothane GP	50	0.022	2.272727	-	-	-
4	Eurothane GP	150	0.022	6.818182	0.13	1.154	0.095
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=215.5\text{mm}$		$\Sigma=9.307099$			

Resistances

Lower Limit	Upper Limit	Average
7.139	8.109	7.624 m ² K/W

Roof U-value Corrections

No Correction Values

Roof U-value

U-value	0.131
U-value rounded	0.13 W/m ² K

Registered Construction Details (RCDs)

Below is the full list of RCD's utilised by junction type within your project. Further information regarding these junctions is detailed within Appendix A and within your Quantity Take Off document.

This document acts as your on-site sign-off during construction, to confirm that you have built in accordance with these details. Sign-off is only once for the development.

Junction	Detail Reference	Description	ψ -Value (W/m ² K)
E2	ACD	Other lintels (including other steel lintels)	0.300
E3	E3MCFF1	Sill	0.016
E4	E4MCFF1	Jamb	0.011
E5	E5MCFF1	Ground floor (normal)	0.160
E6	E6MCFF1	Intermediate floor within a dwelling	0.000
E10	E10MCFF1	Eaves (insulation at ceiling)	0.107
E11	E11MCFF1	Eaves (Insulation at rafter level)	-0.002
E12	E12MCFF1	Gable (insulation at ceiling level)	0.055
E13	E13MCFF1	Gable (insulation at rafter level)	0.056
E16	E16MCFF1	Corner (normal)	0.054
E17	E17MCFF1	Corner (inverted)	-0.100
R1	Default	RIR Head	0.080
R2	Default	RIR Sill	0.060
R3	Default	RIR Jamb	0.080
R5	Default	RIR Ridge (inverted)	0.040
R6	Default	RIR Flat ceiling	0.060
R8	Default	Roof Wall (rafter)	0.060

See RCDs within Appendix A for full details

Site Manager:	<i>SIGN HERE</i>
Site Name:	The House
Plot Number:	ALL
Date:	<i>DATE HERE</i>



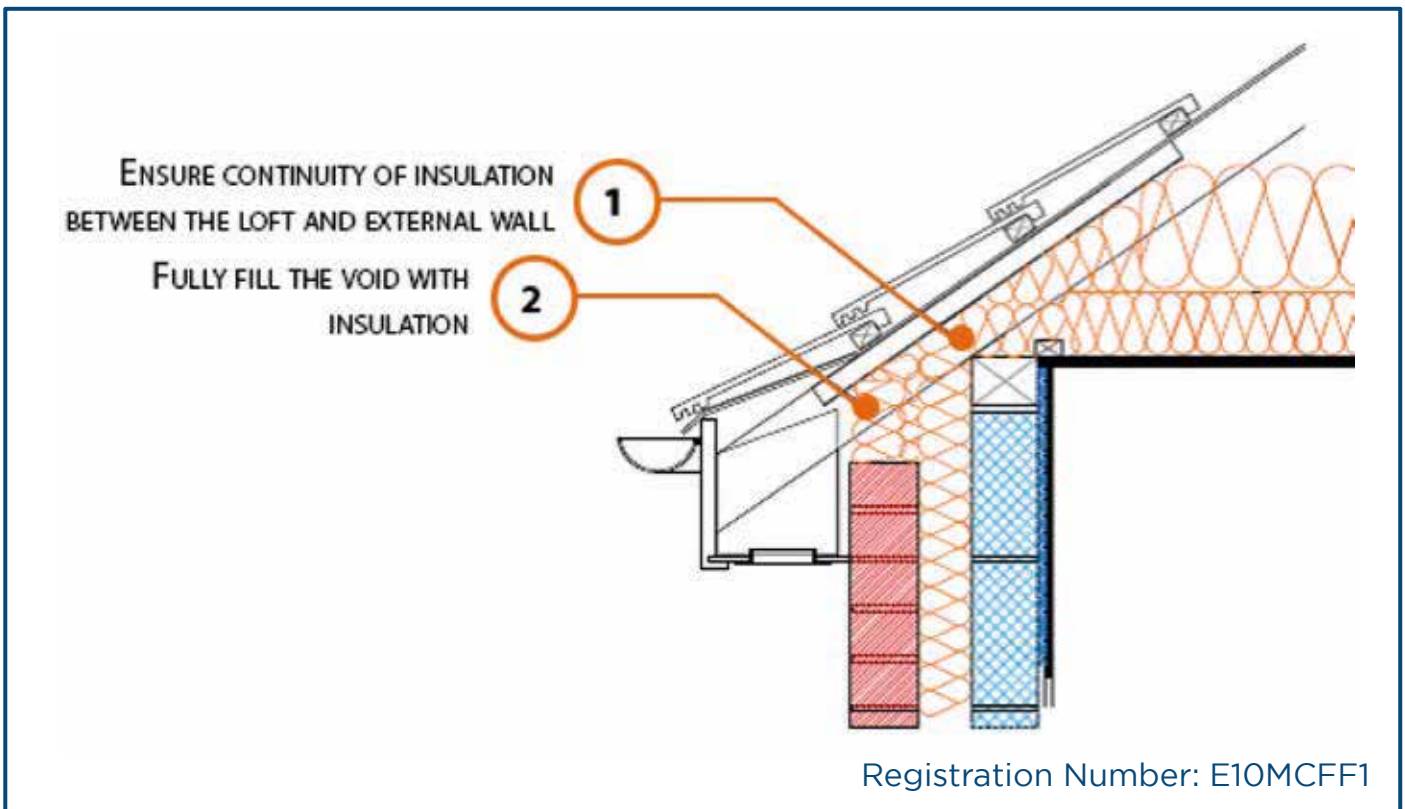
Appendix A

Details of all Registered Construction Details



E10MCFF1 - Pitched Roof Eaves

LABC Registered Construction Details Pitched Roof Eaves



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block ($\lambda = 0.28$ W/mK)

Full Fill Insulation

Pitched Roof Eaves

400mm insulation (0.044 W/mK) at Ceiling Level

Ventilated Loft

Calculated ψ values

	Inner leaf blockwork
	Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.101
100mm $\lambda = 0.032$	0.107
150mm $\lambda = 0.037$	0.111
150mm $\lambda = 0.032$	0.115

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Ensure gap between wall plate and eaves ventilator is fully filled to maintain continuity of insulation through the junction.
- Any vapour permeable roof underlay should be used in accordance with manufacturer's recommendations where it may be in contact with the insulation.
- The eaves insulation should not compromise the cross flow ventilation or free water drainage below timber battens.
- Fire resistance will also be required for room in roof situations.
- Fix ceiling plasterboard first and seal all gaps between ceiling and masonry then seal all penetrations through air barrier with flexible sealant.
- Read in conjunction with roof details E12 and E13.



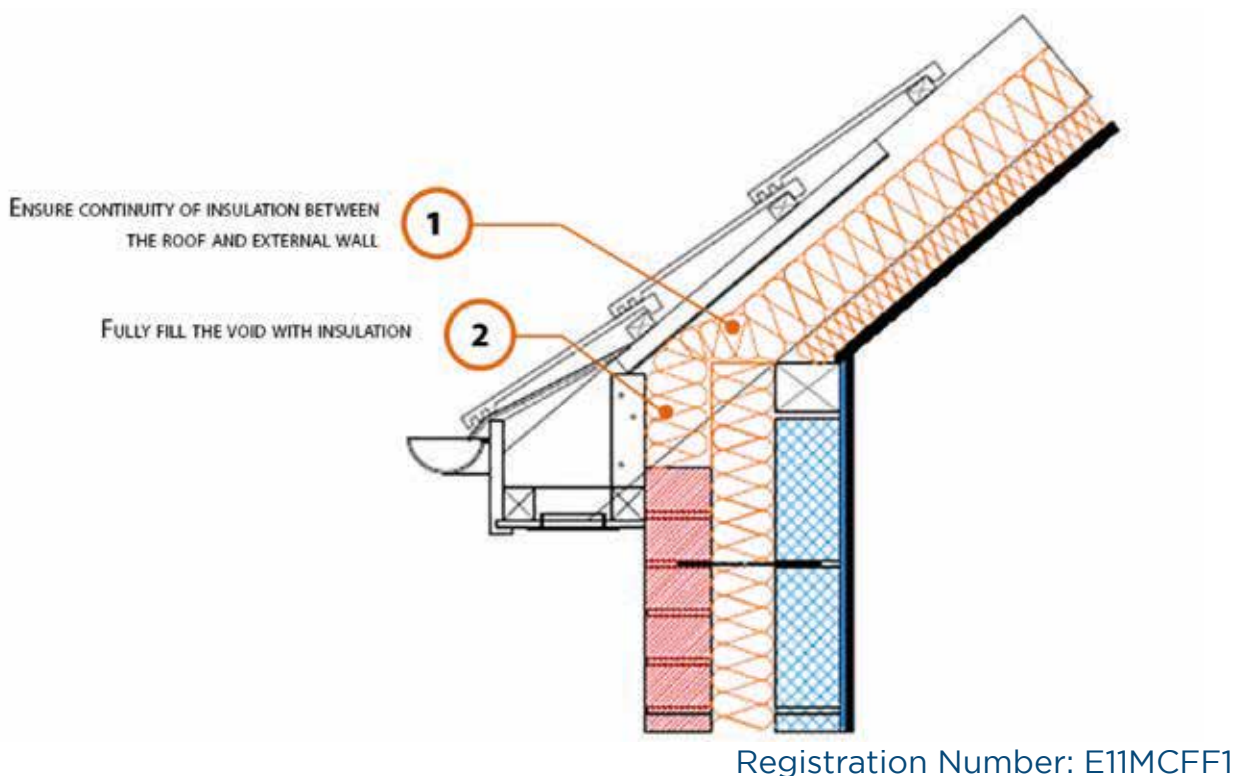
Product Specification

E10MCFF1 PITCHED ROOF EAVES	Masonry Cavity	E10	Full Fill
Trusses	Roof trusses specified and designed by Pasquills. Contact number: 02476 438691		
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		
Insulation at Ceiling Level Options - 400mm - 0.044 W/mK	Isover - Spacesaver - 200mm - 0.044 Knauf Insulation - Earthwool Loft Roll 44 - 200mm - 0.044 Knauf Insulation - Spaceblanket - 200mm - 0.044 Knauf Insulation - Eko Roll - 200mm - 0.044 Rockwool - Roll - 150mm & 100mm - 0.044		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

E11MCFF1 - Pitched roof Eaves, between and under Rafter Insulation

LABC Registered Construction Details Pitched Roof Eaves, between and under Rafter Insulation



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Pitched Roof Eaves

150mm insulation (0.022 W/mK) between rafters

50mm insulation (0.022 W/mK) beneath rafters

Calculated ψ values

	Inner leaf blockwork
	Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	-0.005
100mm $\lambda = 0.032$	-0.002
150mm $\lambda = 0.037$	0.004
150mm $\lambda = 0.032$	0.007

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Ensure gap between wall plate and eaves ventilator is fully filled to maintain continuity of insulation through the junction.
- The eaves insulation should not compromise the cross flow ventilation or free water drainage below timber battens.
- Consider whether a vapour control plasterboard or separate vapour control barrier is required.
- Fire resistance will also be required for room in roof situations.
- Ensure eaves ventilation does not compromise free water drainage below the tiling battens.
- Fix ceiling plasterboard first and seal all gaps between ceiling and masonry then seal all penetrations through air barrier with flexible sealant.
- Read in conjunction with roof details E12 and E13.



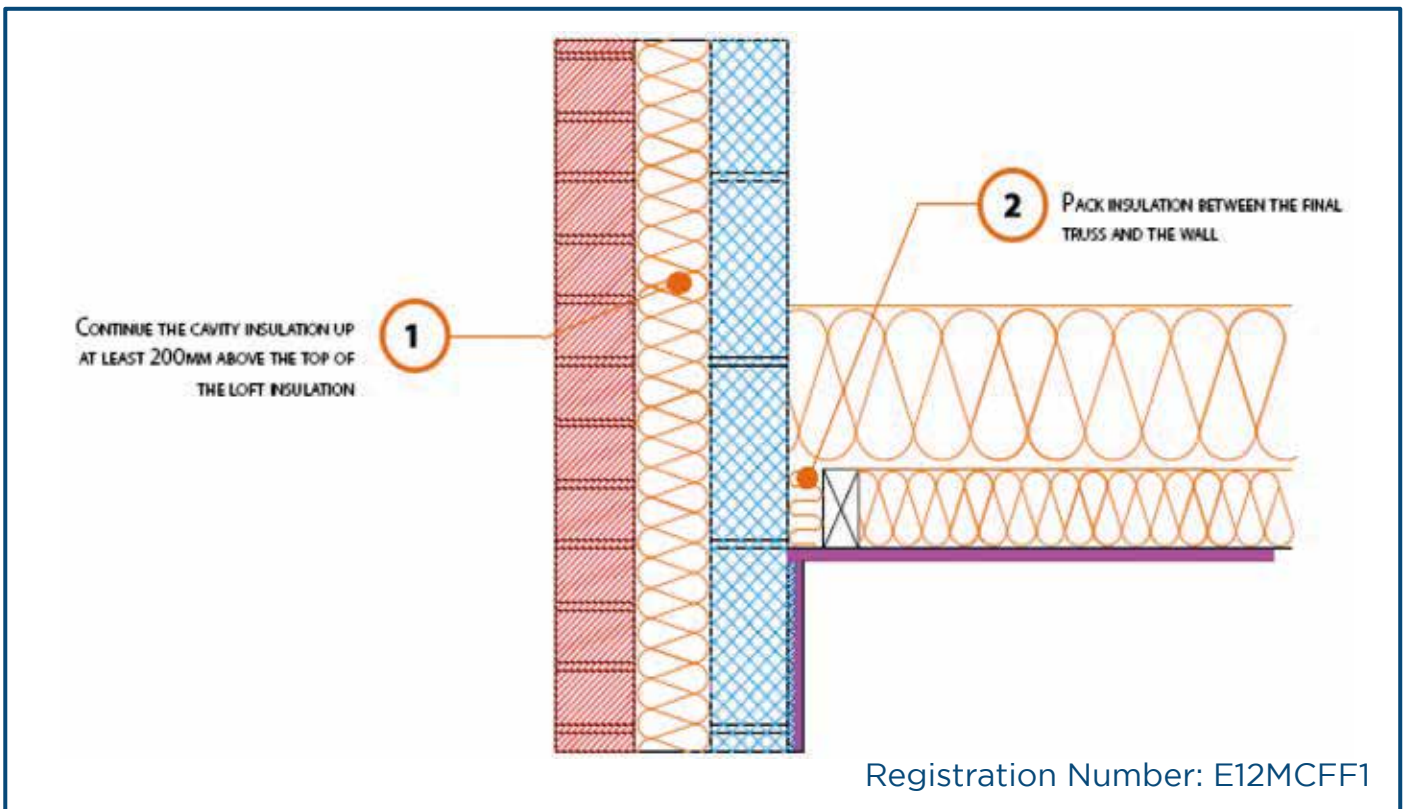
Product Specification

E11MCFF1 PITCHED ROOF EAVES, BETWEEN AND UNDER RAFTER INSULATION	Masonry Cavity	E11	Full Fill
Trusses	Roof trusses specified and designed by Pasquills. Contact number: 02476 438691		
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options < = 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		
Pitched Roof Gable Insulation Between rafters Options - 150mm - 0.022 W/mK	Kingspan - Thermapitch TP10 - 150mm - 0.022 Recticel - Eurothane GP - 150mm - 0.022		
Pitched Roof Gable Insulation Beneath rafters Options - 50mm - Max. 0.022 W/mK	Kingspan - Kooltherm K17 Insulated Plasterboard - 50mm - 0.020 Kingspan - Kooltherm K18 Insulated Plasterboard - 50mm - 0.020 Recticel - Eurothane PL - 62.5mm - 0.022		

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E12MCFF1 - Pitched Roof Gable, Insulation at Ceiling Level

LABC Registered Construction Details Pitched Roof Gable, Insulation at Ceiling Level



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Pitched Roof Gable

400mm insulation (0.044 W/mK) at Ceiling Level

Ventilated Loft

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.058
100mm $\lambda = 0.032$	0.055
150mm $\lambda = 0.037$	0.052
150mm $\lambda = 0.032$	0.050

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Read in conjunction with roof details E10 and E11.
- Fix ceiling plasterboard first and seal all gaps between ceiling and masonry then seal all penetrations through air barrier with flexible sealant.



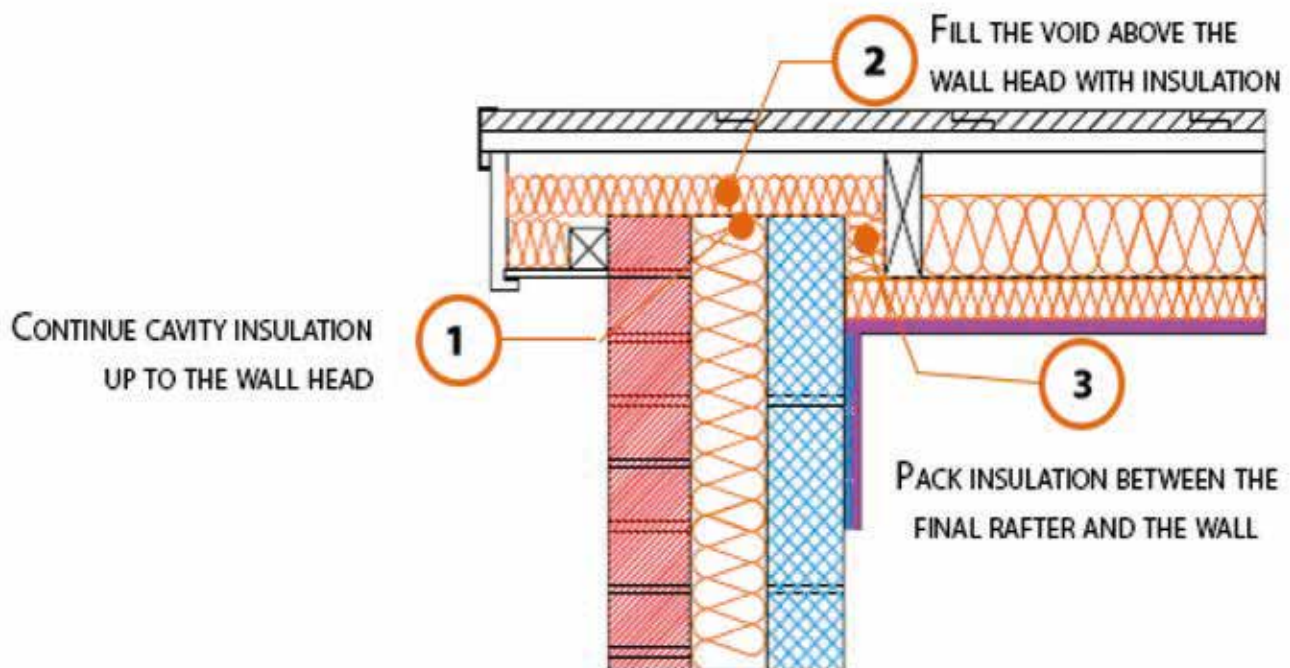
Product Specification

E12MCFF1 PITCHED ROOF GABLE, INSULATION AT CEILING LEVEL	Masonry Cavity	E12	Full Fill
Trusses	Roof trusses specified and designed by Pasquills. Contact number: 02476 438691		
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		
Insulation at Ceiling Level Options - 400mm - 0.044 W/mK	Isover - Spacesaver - 200mm - 0.044 Knauf Insulation - Earthwool Loft Roll 44 - 200mm - 0.044 Knauf Insulation - Spaceblanket - 200mm - 0.044 Knauf Insulation - Eko Roll - 200mm - 0.044 Rockwool - Roll - 150mm & 100mm - 0.044		

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E13MCFF1 - Pitched Roof Gable, between and under Rafter Insulation

LABC Registered Construction Details Pitched Roof Gable, between and under Rafter Insulation



Registration Number: E13MCFF1

Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Pitched Roof Gable

150mm insulation (0.022 W/mK) between rafters

50mm insulation (0.022 W/mK) beneath rafters

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.055
100mm $\lambda = 0.032$	0.056
150mm $\lambda = 0.037$	0.059
150mm $\lambda = 0.032$	0.058

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Any vapour permeable roof underlay should be used in accordance with manufacturer's recommendations where it may be in contact with the insulation.
- Consider whether a vapour control plasterboard or separate vapour control barrier is required.
- Fix ceiling plasterboard first and seal all gaps between ceiling and masonry then seal all penetrations through air barrier with flexible sealant.
- Ensure that the insulation between the rafters is tightly cut and packed and in contact with the under rafter insulation.



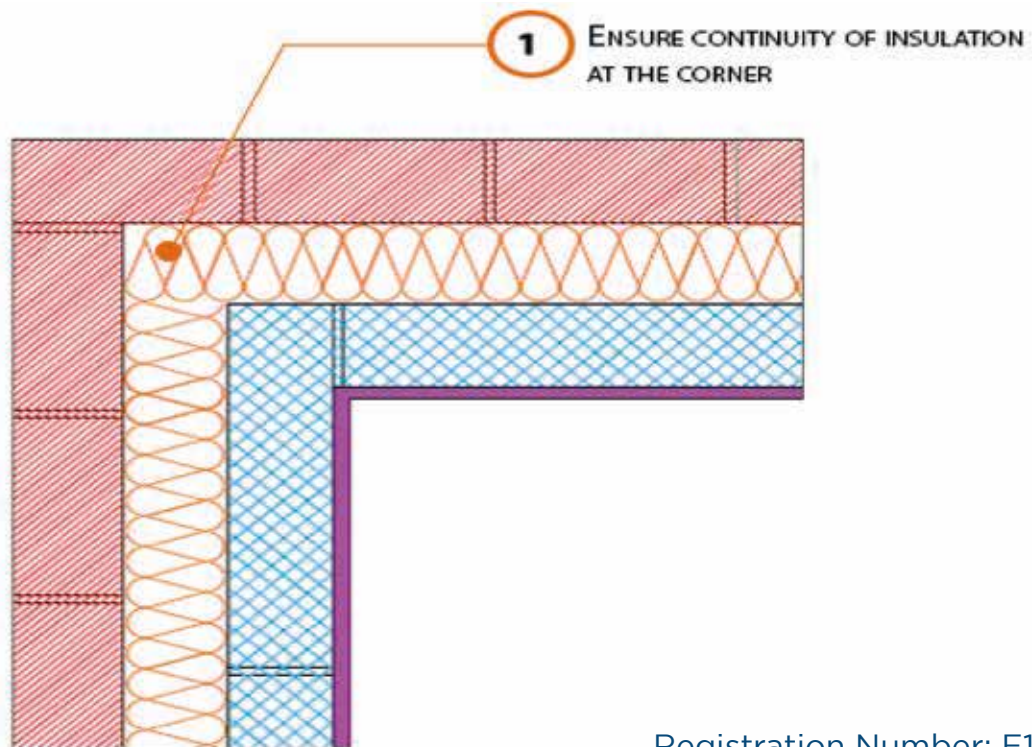
Product Specification

E13MCFF1 PITCHED ROOF GABLE, BETWEEN AND UNDER RAFTER INSULATION	Masonry Cavity	E13	Full Fill
Trusses	Roof trusses specified and designed by Pasquills. Contact number: 02476 438691		
Cavity Insulation Options - 100mm 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Pitched Roof Gable Insulation Between rafters Options - 150mm - 0.022 W/mK	Kingspan - Thermapitch TP10 - 150mm - 0.022 Recticel - Eurothane GP - 150mm - 0.022		
Pitched Roof Gable Insulation Beneath rafters Options - 50mm - Max. 0.022 W/mK	Kingspan - Kooltherm K17 Insulated Plasterboard - 50mm - 0.020 Kingspan - Kooltherm K18 Insulated Plasterboard - 50mm - 0.020 Recticel - Eurothane PL - 62.5mm - 0.022		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

E16MCFF1 - Normal Corner

LABC Registered Construction Details Normal Corner



Registration Number: E16MCFF1

Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Normal Corner

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.059
100mm $\lambda = 0.032$	0.054
150mm $\lambda = 0.037$	0.051
150mm $\lambda = 0.032$	0.046

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Seal all penetrations through air barrier with flexible sealant.



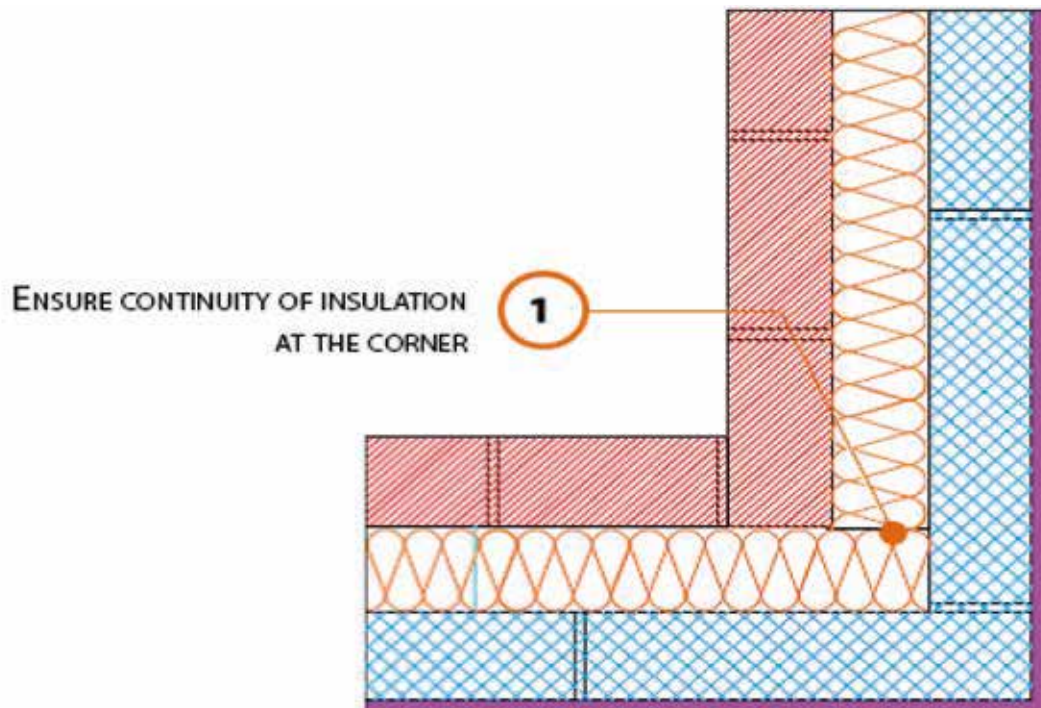
Product Specification

E16MCFF1 NORMAL CORNER	Masonry Cavity	E16	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

E17MCFF1 - Inverted Corner

LABC Registered Construction Details Inverted Corner



Registration Number: E17MCFF1

Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Inverted Corner

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	-0.111
100mm $\lambda = 0.032$	-0.100
150mm $\lambda = 0.037$	-0.076
150mm $\lambda = 0.032$	-0.067

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Seal all penetrations through air barrier with flexible sealant.



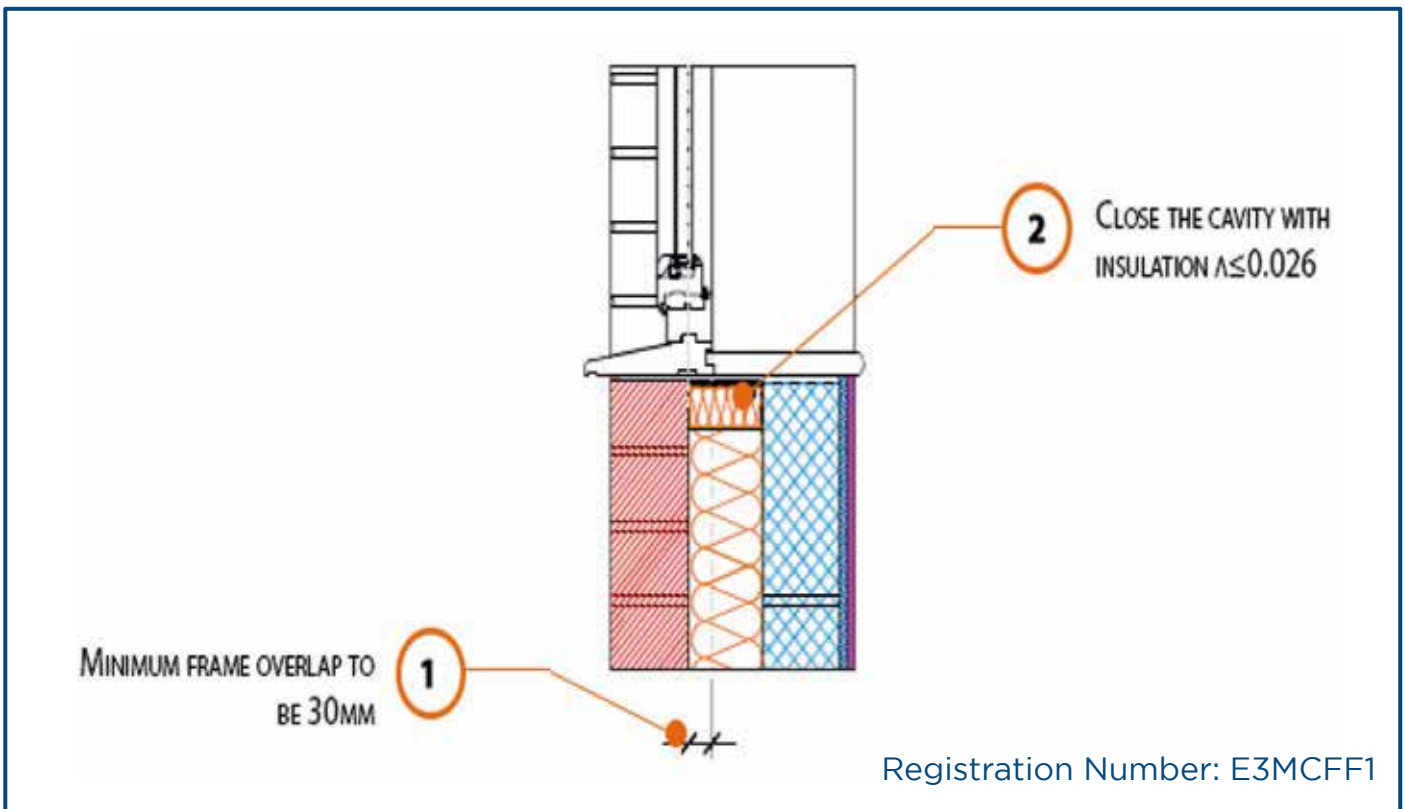
Product Specification

E17MCFF1 INVERTED CORNER	Masonry Cavity	E17	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

E3MCFF1 - Sill

LABC Registered Construction Details Sill



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Window Sill

Calculated ψ values

	Inner leaf blockwork
	Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.015
100mm $\lambda = 0.032$	0.016
150mm $\lambda = 0.037$	0.021
150mm $\lambda = 0.032$	0.021

Points to Watch

- Cavity should be closed with a proprietary cavity closer or block of insulation.
- Ensure the cavity closer is in contact with the insulation within the cavity and the window / door frame.
- Ensure cavities are kept clean of mortar snots and other debris during construction.
- A flexible sealant should be applied to the junction between the plaster / plasterboard, sill board and window frame member.
- Sealant should be added to the front and back of the sill board.
- Ensure that the damp proof course is correctly positioned.



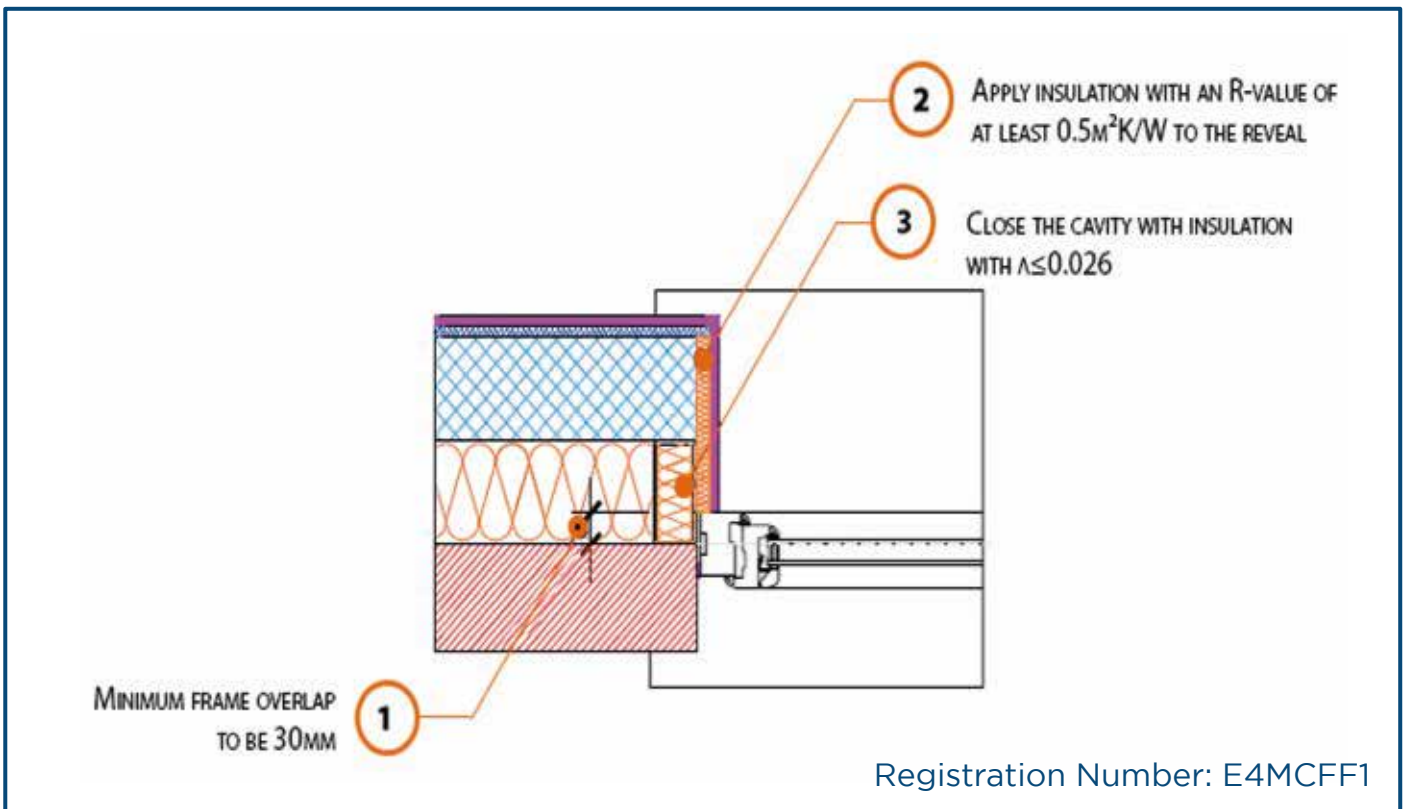
Product Specification

E3MCFF1 SILL	Masonry Cavity	E3	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Lightweight Concrete Block <= 0.60 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Cavity Closer <0.026 W/mK	Polypipe TDI Cavity Closer YBS Insulation Cavity Closer Dacatie Cavity Closer		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

E4MCFF1 - Jamb

LABC Registered Construction Details Jamb



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf

Ultra Lightweight Concrete Block $\lambda \leq 0.28 \text{ W/mK}$

Full Fill Insulation

Window Jamb

Calculated ψ values

	Inner leaf blockwork
	Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.010
100mm $\lambda = 0.032$	0.011
150mm $\lambda = 0.037$	0.016
150mm $\lambda = 0.032$	0.017

Points to Watch

- A flexible sealant should be used between all interfaces of the internal air barrier and the window / door frame members.
- Cavity should be closed with a proprietary cavity closer or block of insulation.
- Ensure the cavity closer is in contact with the insulation within the cavity and the window / door frame.
- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Ensure that the damp proof course is correctly positioned.
- This detail cannot be used if a checked reveal is proposed.



Product Specification

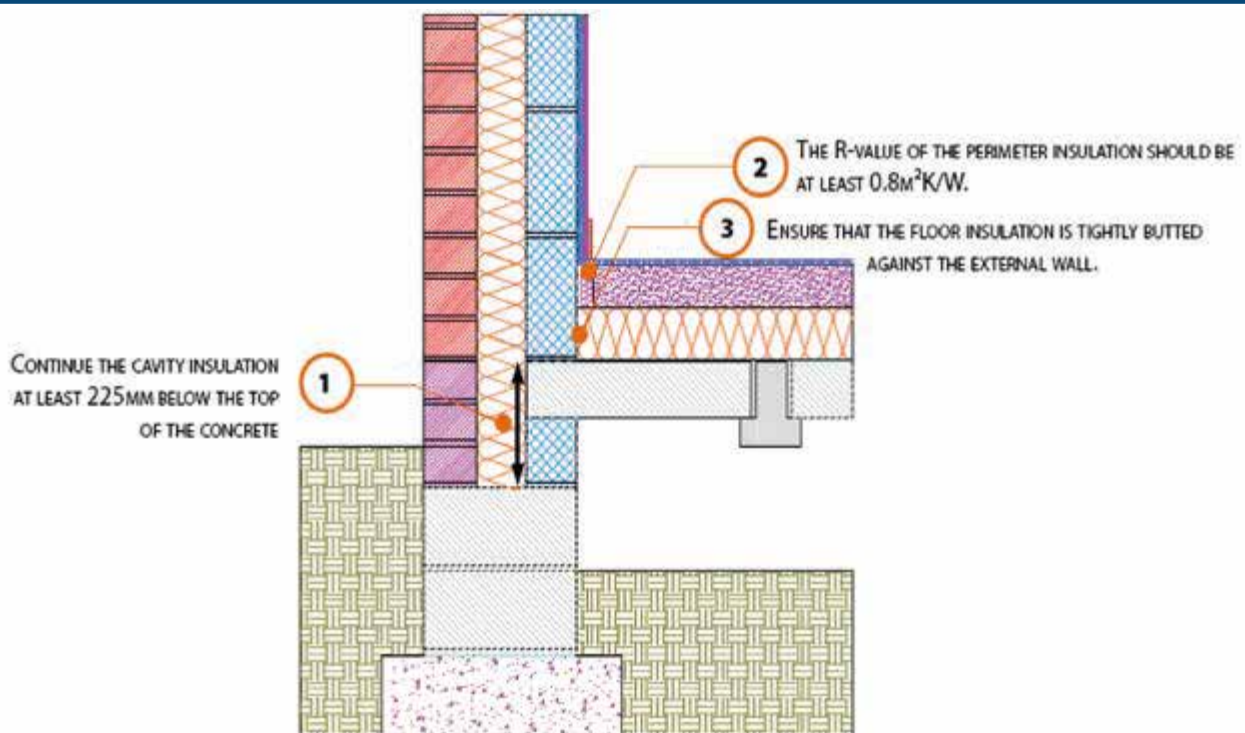
E4MCFF1 JAMB	Masonry Cavity	E4	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Thermal Laminate Board (Jamb)	British Gypsum - Thermaline Basic 30mm British Gypsum - Thermaline Plus 27mm British Gypsum - Thermaline Super 50mm British Gypsum - Thermaline PiR 38mm Kingspan - Insulated Plasterboard K17 37.5mm Kingspan - Insulated Plasterboard K18 37.5mm Recticel - Eurothane PL 37.5mm Siniat - GTEC Thermal 30mm Siniat - GTEC Thermal K 30mm Siniat - GTEC Thermal PiR 37.5mm Siniat - GTEC Thermal XP 27mm		
Cavity Closer <0.026 W/mK	Polypipe TDI Cavity Closer YBS Insulation Cavity Closer Dacatie Cavity Closer		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		

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E5MCFF1 - Suspended Beam and Block Floor, 100mm Insulation below screed

LABC Registered Construction Details

Suspended Beam and Block Floor, 100mm Insulation below screed



Registration Number: E5MCFF1

Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28\text{ W/mK}$

Beam and Block Floor

Lightweight Floor Block

100mm Insulation Below Screed (0.022 W/mK)

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.056
100mm $\lambda = 0.032$	0.056
150mm $\lambda = 0.037$	0.057
150mm $\lambda = 0.032$	0.057

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Damp proof membrane / air barrier should be lapped to damp proof course and plaster stop bead.
- Any service penetrations through the damp proof membrane / air barrier should be suitably sealed.
- Sub floor ventilation to be in accordance with manufacturers recommendations. A cavity barrier type sleeve should be used through the cavity.
- The wall insulation installed must be considered fit for purpose below the wall dpc in relation to water absorption.



Product Specification

E5MCFF1 SUSPENDED BEAM AND BLOCK FLOOR - 100MM INSULATION BELOW SCREED	Masonry Cavity	E5	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Lightweight Floorblock	Aggregate industries - Masterlite Pro - 0.057 Aggregate Industries - Envirobloc Lightweight - 0.057 Thomas Armstrong - Insulite - 0.042 Braceys - Medium Dense - 0.44 Breedon - Fyfestone Lightweight - 0.6 Cemex - 1400 Readyblock - 0.57 Cheshire Concrete Modulite - 0.46 Edenhall Lightweight - 0.038 Glendinning - Lightweight Aggregate - 0.45 Interfuse - Interlyte Ultra 900 - 0.31 Interfuse - Interlyte 1250 - 0.43 Interfuse - Interlyte 1350 - 0.45 Interfuse - Interlyte 1450 - 0.47 Lignacite - Ashlite - 0.47 Mona Precast - Monolight 100 - 0.5 Plasmor - Aglite Ultima - 0.31 Plasmor Stranlite - 0.41 Sellite - Lightweight Aggregate - 0.4 Skene Group - Glenxtralite 7.3 - 0.34 Skene Group - Glenxtralite 10.4 - 0.38 Skene Group - Glentherm - 0.51		

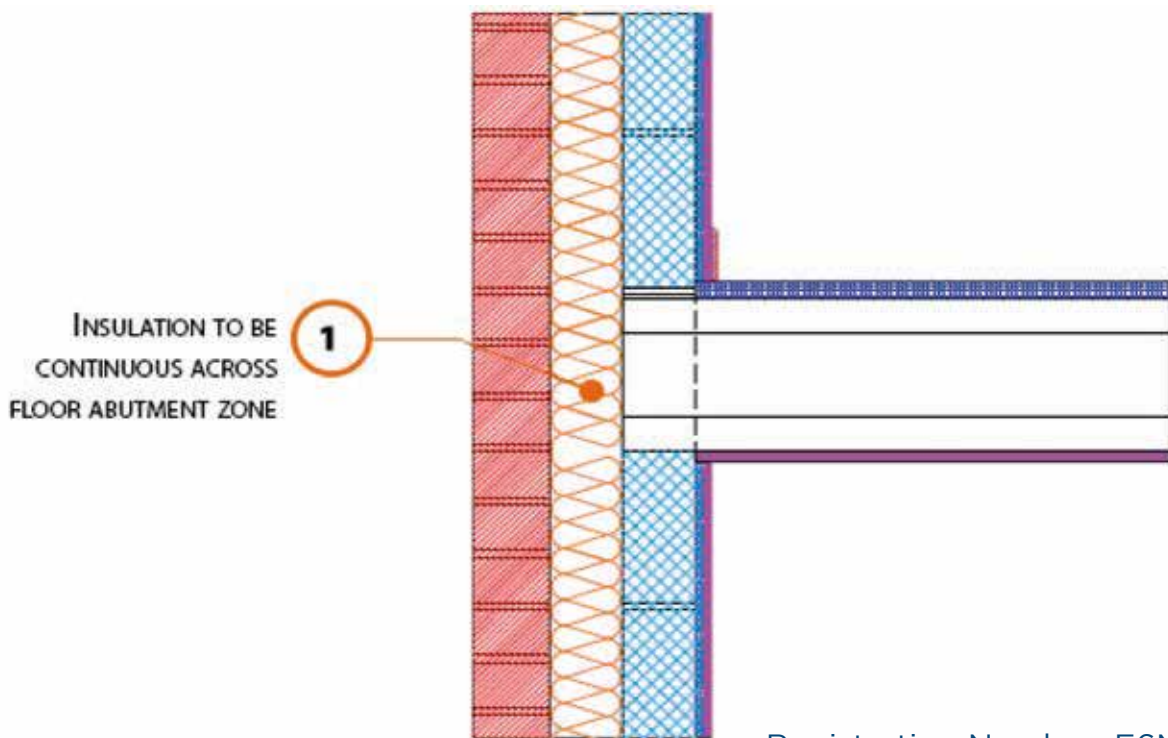
Lightweight Floorblock Continued...	Tarmac - Hemelite Ultra - 0.33 Tarmac - Hemelite Standard 3.6 - 0.45 Tarmac - Hemelite Standard 7.3 - 0.47 Tarmac - Hemelite Standard 10.4 - 0.49 WDL Concrete - Pumice Insulation - 0.285 WDL Concrete Medium Dense - 0.47 <i>Please ensure that any product selected meets the criteria for use within a block and beam floor situation</i>
Floor Insulation Options - 100mm - 0.022 W/mK	Kingspan - Thermafloor TF70 - 100mm Recticel - Eurothane GP - 100mm
Floor Edge Insulation Options - 25mm - 0.022 W/mK	Kingspan - Thermafloor TF70 - 25mm Recticel - Eurothane GP - 25mm
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)
Aircrete Foundation Block Options	Celcon - Foundation Block Forterra - Thermalite Trenchblock Thomas Armstrong - Airtec Foundation 140

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk



E6MCFF1 - Intermediate floor within a Dwelling

LABC Registered Construction Details Intermediate floor within a Dwelling



Build Up

External Masonry Cavity Wall

Masonry Outer Leaf ($\lambda = 0.77$)

Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK

Full Fill Insulation

Intermediate Timber Floor Within Dwelling

Timber Joist

Calculated ψ values

Inner leaf blockwork	
Ultra Lightweight Concrete Block $\lambda \leq 0.28$ W/mK	
Cavity Insulation	ψ -value W/mK
100mm $\lambda = 0.037$	0.001
100mm $\lambda = 0.032$	0.000
150mm $\lambda = 0.037$	0.001
150mm $\lambda = 0.032$	0.000

Points to Watch

- Ensure cavities are kept clean of mortar snots and other debris during construction.
- Seal between the wall air barrier and the floor above and below the connection with a flexible sealant.
- Seal all penetrations through the inner leaf with a flexible sealant or purpose made shoe, which should itself be sealed to the inner leaf.
- Joist hangers should be considered in preference to building timber joists into the inner leaf.
- Where engineered floor joists are used, careful attention should be paid to fixing filler pieces on both sides of the web between flanges.



Product Specification

E6MCFF1 INTERMEDIATE FLOOR WITHIN A DWELLING	Masonry Cavity	E6	Full Fill
Cavity Insulation Options - 100mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 100mm - 0.037 Rockwool - Cavity - 100mm - 0.037		
Cavity Insulation Options - 100mm - 0.032 W/mK	Isover - CWS 32 - 100mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 100mm - 0.032		
Cavity Insulation Options - 150mm - 0.037 W/mK	Knauf Insulation - Earthwool DriTherm Cavity Slab 37 Standard - 150mm - 0.037		
Cavity Insulation Options - 150mm - 0.032 W/mK	Isover - CWS 32 - 150mm - 0.032 Knauf Insulation - Earthwool DriTherm Cavity Slab 32 Ultimate - 75mm x 2 - 0.032		
Ultra Lightweight Concrete Block Options <= 0.28 W/mK	Aggregate Industries - Masterlite Ultra - 0.27 Cheshire Concrete - Laylite - 0.25 Interfuse - Interlyte Ultra - 0.23 Interfuse - Optilyte 0.19 Lignacite - Fibo 850 Commodity Blocks - 0.25 Llanharan Concrete - Lightweight - 0.25 Plasmor - Fibolite - 0.24 Sellite - Ultra Lightweight - 0.25 Skene Group - Glensupalite Ultra Lightweight Aggregate Block - 0.23 Thos. Armstrong - Ultralite Low Density Lightweight Aggregate Block - 0.25		
Wall Ties	Ancon - HRT4 ties (up to 10 metres maximum building height) Ancon - RT2 ties (up to 15 metres maximum building height) Ancon - ST1 ties (Any height)		
Timber Joists	I-beams / JJI Joists specified and designed by Pasquills. Contact number: 02476 438691		

For more information on the Build Aviator SAP, Material Estimating, Acoustic Testing and Air-tightness Testing services please visit www.buildaviator.co.uk

Appendix B1

Air Tightness Testing Notes



Air Tightness Testing Notes

The dwellings need to be largely completed for the test, with the envelope sealed as required to create the air-barrier. Carpets or other floor coverings do not have to be in place. The fan equipment requires 240v electrical supply, so the sockets ideally need to be live in the plots to be tested.

Are your dwellings ready for the air test? To ensure compliance with the building regulations certain conditions should be in place prior to the engineer attending site. Examples are below, but attached is a comprehensive check list identifying areas to be permanently sealed.

- The building envelope should be in a finished state (ready to be occupied), i.e. doors, windows (any cladding if applicable) should be fitted
- Skirting boards fitted and sealed
- Door and window thresholds and frames are sealed
- Light fittings fitted and down lighters sealed
- Sockets and Light switches fitted
- Access panels and loft hatches fitted
- Bath panels fitted and sealed
- Plumbing fittings permanently sealed
- Any boxed in elements are sealed i.e. waste pipe/soil pipe/duct work for MVHR systems

New Build houses require an Air Tightness test.
Have you booked yours?
Contact us to arrange this on 0333 332 1518



Air Tightness Testing Notes

Example of the Common Areas of Leakage

- Roof Lights
- Through eaves
- Gaps around pipes to cold water and/or heating header tanks
- Cracks or holes through a masonry inner leaf
- Hole around the top of a soil stack
- Through MVHR or warm air heating systems; around terminals
- Around and through recessed spotlights
- Around wall mounted fan or radiant heaters; around and through fused spurs and pull switches
- Around loft hatches
- Around water and heating pipes that penetrate into hollow floor voids and partition walls
- Around waste pipes passing into floor voids or boxed in soil stacks
- Around boiler flues
- Around supplies from external meter boxes
- Around waste pipes, gas and water supplies, cables, which penetrate the lower floor and through walls
- Through gaps behind plasterboard on dabs or hollow studwork walls
- Between and around sections of suspended floors
- Along the top and bottom edges of skirting boards
- Through and around doors - particularly double doors
- Through windows and/or hollow window frames
- Beneath inner window sills and around window frames
- Around and through wall-mounted extract fans, cooker hood vents, tumble dryer vents
- Beneath doors and doorframes



It is recommended that the building fabric has a suitably robust air barrier installed. In the event that the final finishes are used as the air barrier this is a simple check list which simplifies what needs to be sealed prior to the air testing. In some cases you may not be able to seal all items listed.

Item No	Item Description	Tradesperson Responsible	Tick Once Complete
1	SEAL ALL SKIRTING BOARDS	1	
2	SEAL SKIRTING BOARDS UNDER THE KITCHEN UNITS, OR SEAL PLASTERBOARD TO FLOOR	1 6	
3	SILICONE SEAL KITCHEN WASTE PIPES	2 3	
4	SEAL KITCHEN BOILER PIPES AND FLUE PIPES	5	
5	ONCE THE FAN KITCHEN EXTRACT IS INSTALLED IT NEEDS A TIGHT SEAL	3 4 6	
6	INSTALL ALL KITCHEN LIGHTS AND LIGHT/ SOCKET FACE PLATES	4	
7	SEAL AROUND GROUND FLOOR TOILET WASTE PIPES AND WATER PIPES	2	
8	SEAL AROUND ALL BOXING IN THE GROUND FLOOR TOILET	1	
9	ALL WINDOWS NEED TO BE SEALED AND WINDOW SILL BOARDS NEED A SILICONE SEAL	1	
10	RADIATOR - SEAL AROUND THE BACK OF THE PUSH-FIT CAPS AND FLEX PIPES	5	
11	DOOR THRESHOLD NEEDS TO BE SEALED	1	
12	DOOR RUBBER DRAUGHT EXCLUDER NEEDS TO BE INSTALLED	1	
13	ANY FLOOR PENETRATIONS FOR ELECTRICAL CABLES NEED TO BE SEALED WITH SILICONE	4	
14	UPSTAIRS BATHROOM PIPEWORK UNDER BATH NEEDS TO BE SEALED	2	
15	UNDER BATH - PLASTERBOARD NEEDS SEALING TO FLOOR	2 6	
16	WASTE PIPE BOXING IN UPSTAIRS BATHROOM THAT GOES TO THE LOFT/ EXTERNAL- SEAL	1	
17	BATHROOM EXTRACT NEEDS SEALING TO THE WALL	4	
18	BATH PANEL NEEDS FITTING AND SEALING	2	
19	ANY MDF BOXING IN UPSTAIRS BATHROOM IS TO BE SEALED WITH SILICONE	1	
20	LOFT HATCH NEEDS TO BE INSTALLED	1	
21	LOFT HATCH NEEDS TO BE SEALED WITH CAULK AROUND THE FRAME	1	
22	NO LARGE HOLES OR VOIDS CUT IN PLASTERBOARD ARE TO BE LEFT UNSEALED	2 4 6	
23	NO LARGE VOIDS BEHIND RADIATORS IF PLASTIC CAPS ARE NOT INSTALLED- SEAL	5	

- 1 Joiner
- 2 Plumber
- 3 Kitchen Fitter
- 4 Electrician
- 5 Heating Engineer
- 6 Plasterer



Appendix B2

Acoustic Testing Notes



Acoustic Testing Notes

A Pre-Completion Sound Insulation Test (PCT) is required for all **New Build** flats and attached houses which have not been registered and built using the **Robust Details** scheme. In addition, any project where houses or flats for residential use have been created via a Material Change of Use (MCOU), (e.g. a former office building converted into residential flats) will require mandatory testing. Regardless of whether the project is new build or MCOU, if Rooms for Residential Purposes (RFRP) have been created, such as hotels or student halls of residence, testing is also compulsory.

Not all properties require testing but the amount of tests can become confusing! Simply put, for every 10 units constructed with the same wall and/or floor, acting as a separating partition, the sample test ratio is 1:10. This rate requires a "set of tests" to be undertaken.

- For houses the set of tests consists of 2 airborne tests of a party wall.
- For flats with separating floors only, the set consists of 2 floor airborne and 2 floor impact tests.
- If the flats also have party walls then they also have to be tested, 2 floor airborne, 2 floor impact & 2 walls.

We said it was confusing! That's why it's important to identify your Building Control provider at an early stage and agree if there's a need for testing. Building Control will help by assessing your scheme. They will advise on the plots, and the rooms within the plots, which will require testing.

Make Sure You Pass the Test

Passing your sound test should not be an issue provided that the rules of sound insulation are followed. In order to meet and pass the test requirements, separating walls and floors must be constructed in a way that pays particular attention to the three acoustic elements: **Mass, Isolation and Air Tightness**.



We do see failure for all sorts of reasons but there's usually a reason for it:

Poor design - Something went wrong at design stage where the requirements have not been completely understood by the person responsible for the plans. The builder has built it in accordance with the details, but the detail was too weak to pass the minimum performance standards.

Poor workmanship - On this occasion the construction has not been in accordance with the plans and/or specified products have been substituted by the builder.

Poor design and poor workmanship - A combination of both of the reasons above!

Take a look at the checklist below to see if you are ready to test:

Item No	Item Description	Tradesperson Responsible	Tick Once Complete
1	IS THERE 240V MAINS POWER AND LIGHTING AVAILABLE WITHIN THE ROOMS TO BE TESTED?	2	
2	ARE ALL WALL SURFACES IN ROOMS, ON BOTH SIDE OF THE PARTITION TO BE TESTED, COMPLETE?	1 3 4	
3	ARE FLOOR AND CEILING SURFACES COMPLETE?	1 3 4	
4	ARE WINDOWS INSTALLED WITH LOCKING MECHANISMS IN PLACE?	1 4	
5	ARE ALL TRICKLE VENTS IN PLACE OR WILL THEY BE TEMPORARILY LOCKED?	1 4	
6	ARE ALL TV, POWER, TELEPHONE SOCKETS & SWITCHES ETC. IN PLACE?	2	
7	ARE ROOM AND FRONT DOORS FITTED?	1 4	
8	ARE ALL ROOMS UNFURNISHED?	4	
9	WILL SAFE, UNOBSTRUCTED ACCESS TO BOTH SIDES OF TEST PARTITIONS BE AVAILABLE?	4	
10	HAVE TEMPORARY FLOOR FINISHES, SUCH AS CARPETS, BEEN REMOVED OR PULLED BACK TO EXPOSE AT LEAST 50% OF THE FLOOR SURFACE (NOTE IF FLOOR TYPE 1, OK TO TEST WITH SOFT FLOOR COVERING IN PLACE).	4	
11	WILL SMOKE ALARM DETECTORS/OTHER ALARM SYSTEMS DEACTIVATED DURING TESTS (SO AS NOT TO BEEP INTERMITTENTLY)	2 4	
12	HAVE YOU ENSURED THAT ROOMS TO BE TESTED WILL BE CLEAR OF BUILDING MATERIALS?	4	

- 1 Joiner
- 2 Electrician
- 3 Plasterer
- 4 Site Manager

